

## **Historic, Archive Document**

Do not assume content reflects current scientific knowledge, policies, or practices.

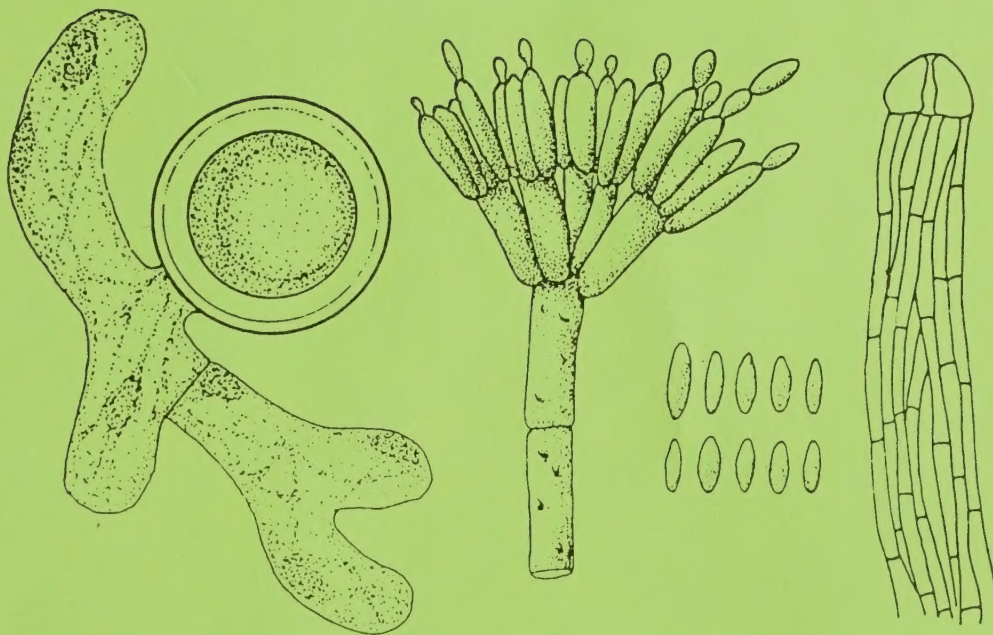


Reserve  
aSB942  
.H86  
1986

# USDA-ARS COLLECTION OF ENTOMOPATHOGENIC FUNGAL CULTURES

## Catalog of Strains

October 1986



RICHARD A. HUMBER, Curator  
RICHARD S. SOPER, Research Leader

USDA-ARS PLANT PROTECTION RESEARCH UNIT  
BOYCE THOMPSON INSTITUTE AT CORNELL UNIVERSITY  
TOWER ROAD, ITHACA, NEW YORK 14853-0331

Phone: 607-257-2030

**United States  
Department of  
Agriculture**

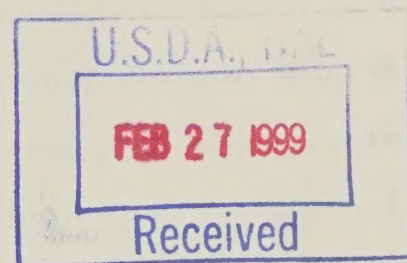


**National Agricultural Library**

# USDA-ARS COLLECTION OF ENTOMOPATHOGENIC FUNGAL CULTURES

## Catalog of Strains

October 1986



RICHARD A. HUMBER, Curator  
RICHARD S. SOPER, Research Leader

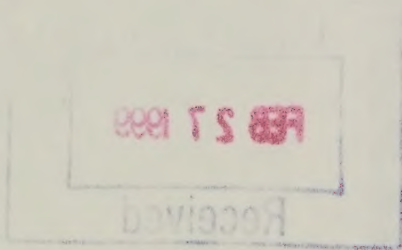
USDA-ARS PLANT PROTECTION RESEARCH UNIT  
BOYCE THOMPSON INSTITUTE AT CORNELL UNIVERSITY  
TOWER ROAD, ITHACA, NEW YORK 14853-0331

Phone: 607-257-2030

USDA-ARS COLLECTION OF  
EXTRAPATHOGENIC FUNGAL CULTURES

Catalog of Strains

Volume 19



RICHARD A. JAIN & J. WARD  
P. O. BOX 2000, TAMPA, FL 33620

FOR THE PLANT PROTECTION RESEARCH UNIT  
HUGH FRANKLIN BRIDGES AT ARS, TAMPA, FL 33620  
TOWN HALL, TAMPA, FL 33602

Plant Pathology

## CONTENTS

<b>ARS COLLECTION OF ENTOMOPATHOGENIC FUNGI (ARSEF)</b> .....	iv
History and Purpose of this Collection.....	iv
Identification and Acknowledgement of ARSEF Strains in Publications.....	iv
Catalog Supplements and Revisions.....	v
Free Exchange and Deposition of Cultures.....	v
Diagnostic Services for Cultures and Specimens.....	v
Applicability of USDA Plant Quarantine and Environmental Protection Agency Regulations to ARSEF Cultures Used Within the United States of America.....	v
<b>ORDERING INFORMATION</b> .....	vi
Academic, Governmental, and other Non-Profit Institutions.....	vi
Commercial and Industrial Institutions.....	vi
Terms of Shipment.....	vi
<b>ARRANGEMENT OF STRAIN DATA</b> .....	vii
<b>ABBREVIATIONS</b> .....	vii
<b>LISTING OF CULTURES BY SPECIES</b> .....	1
<b>INDEXES</b> .....	39
By Original Host or Substrate.....	39
By Geographical Origin.....	43
By ARSEF Number.....	47

## ARS COLLECTION OF ENTOMOPATHOGENIC FUNGI (ARSEF)

### HISTORY AND PURPOSE OF THIS COLLECTION

The goal of the ARS Collection of Entomopathogenic Fungi is to provide fundamental support for basic and applied research on the fungal pathogens of invertebrates. Since its establishment in the early 1970's, this Collection has served as a general research resource for the isolation, collection, preservation, and distribution of fungal strains from insects and other arthropods. Special emphasis has always been placed on acquiring and distributing strains being studied actively for development as potential agents in biological control programs. Basic research associated with the Collection includes fungal systematics, fungal cytology, pathobiology, and methodology for fungal cryo-preservation. The Culture Collection and its associated collection of microscope slides and herbarium specimens provide invaluable support for taxonomic research on and the diagnoses of the fungal pathogens of invertebrates. Identification services for specimens and/or cultures have always been available free of charge to any laboratories requesting them.

Every effort is made to provide users with pure and accurately identified fungal cultures. Any uncertainties about these identifications of specific strains not stated in this catalog will be communicated to recipients of these cultures. The Curator of the Collection is grateful for all correspondence about nomenclatural or taxonomic changes or possible misidentifications involving any ARSEF strains.

The Collection is maintained by the USDA-ARS Plant Protection Research Unit (PPRU) which is located in and affiliated with the Boyce Thompson Institute for Plant Research (BTI) on the campus of Cornell University (Ithaca, New York). The PPRU, BTI Biological Control Program, and Cornell University's Department of Entomology together constitute the Insect Pathology Resource Center, one of the world's largest groups for the studies of Insect Pathology.

This culture collection, with strains originally designated with the prefix UMO, began as Richard Soper's working research collection and was housed at the USDA-ARS Plant, Soil, and Water Laboratory on the campus of the University of Maine (Orono, Maine). The UMO prefix was later changed to RS (for the project leader, Richard Soper), a location-independent designator. In 1978, this collection was moved to the newly created USDA-ARS Insect Pathology Research Unit (IPRU) in the Boyce Thompson Institute on the campus of Cornell University in Ithaca, New York. The mission of the IPRU was to study of the fungal pathogens of insects and the use of these fungi for the control of insect pests. In the Ithaca location, the IPRU established strong collaborative relationships with other laboratories studying insect fungi in the Boyce Thompson Institute and the Department of Entomology at Cornell University. Understandably, the collection grew rapidly both in the absolute numbers of strains and in the taxonomic diversity of its holdings. On 1 October 1985 the Insect Pathology Research Unit was administratively amalgamated with several other Agricultural Research Service units on the Cornell campus to form the Plant Protection Research Unit.

With the formation of the PPRU, the ARSEF Collection acquired a secondary goal in the accessioning and study of fungal pathogens of nematodes. Since the early 1980's all strains in the collection have been stored by immersion in liquid nitrogen at -196°C. A series of catalogs organized by accession numbers has been issued, but the current size and usage of the collection has demanded a shift to a catalog organized by fungal taxa with indices listing the holdings by their original substrates and geographical origins as well as numerically by accession number.

By the summer of 1985, the collection had grown to ca. 2000 strains, and was the third largest collection of microbial germplasm in the US Department of Agriculture's Agricultural Research Service. The large proportion of international activity in both accessions and distributions clearly indicates the relative success in achieving the Collection's goal to support and encourage global research on fungal pathogens of arthropods. The size and maintenance expense of the Collection imposed an increasingly formal structure. A system of charges to commercial or frequent nonprofit users of the Collection was necessarily instituted to defray some of the maintenance expenses while still retaining the commitment to the free-of-charge distribution for most culture requests. Secondly, the catalog was reorganized to its present format. Thirdly, the Collection was registered with the World Data Center on Microorganisms (University of Queensland) under the designator prefix ARSEF (thus reflecting the institutionalized nature of this Collection).

### IDENTIFICATION AND ACKNOWLEDGEMENT OF ARSEF STRAINS IN PUBLICATIONS

Accession numbers of strains from commercial culture collections such as the American Type Culture Collection (ATCC), Centraalbureau voor Schimmelcultures (CBS), or Commonwealth Mycological Institute (IMI), are listed in this catalog for sake of complete information only. Representation of these cultures as ATCC, CBS, or



**IMI cultures is a violation of trademark laws; persons doing so are subject to prosecution.** Any cultures received from ARSEF should be referred to by their ARSEF numbers only.

The PPRU would appreciate receiving reprints of publications using ARSEF cultures. In publications, please acknowledge the USDA-ARS Plant Protection Research Unit and refer to all fungi obtained from this Collection by their ARSEF numbers.

#### CATALOG SUPPLEMENTS AND REVISIONS

It is expected that an this catalog will be revised and reprinted on approximately 3-year intervals. A supplemental listing of all accessions not yet in the main catalog will be organized by fungus species, host, geographical origin, and ARSEF number. Additional copies of this catalog and/or its supplement will be available without charge upon request to the PPRU or the Curator of the Collection.

#### FREE EXCHANGE AND DEPOSITION OF CULTURES

The ARS Plant Protection Research Unit (PPRU) encourages deposition of entomopathogenic fungal cultures with the ARSEF Collection, particularly of strains used in published studies. Depositors may, for a reasonable and mutually agreed period of time, reserve the right to limit redistribution of any culture deposited with ARSEF. Depositors can receive subcultures of their depositions at any time; these cultures do not affect any allowances of free cultures.

Please contact the PPRU before sending cultures from countries other than the United States; we will provide the appropriate permit for the importation of fungi to the US.

When depositing cultures with ARSEF, include as much of the following information as possible:

1. Scientific name (and taxonomic authority) of the fungus.
2. Common and scientific name of the host (with the taxonomic authority for the scientific name).
3. Order and family of host. ***THIS IS ESPECIALLY IMPORTANT!***
4. Date and site of collection.
5. Name of collector.
6. Date and name of isolator.
7. Any pertinent collection, accession, or other identification number(s) applied by the collector or sender.
8. Medium on which a culture is sent.
9. Any known special requirements for medium or growth conditions (temperature, pH, etc.).

Exchanges of cultures between the PPRU Collection of Entomopathogenic Fungal Cultures and other research or general collections of fungal cultures are encouraged and are not subject to numerical limits.

#### DIAGNOSTIC SERVICES FOR CULTURES AND SPECIMENS

Specimens and/or cultures of unidentified fungi isolated from insects or other invertebrates can be submitted to the PPRU for diagnosis of fungal pathogens. This diagnostic service is regarded as an important ancillary function of the ARS Collection of Entomopathogenic Fungi, and is provided without charge. Identifications and information about the disposition of specimens is returned to the sender by mail.

#### APPLICABILITY OF USDA PLANT QUARANTINE AND ENVIRONMENTAL PROTECTION AGENCY REGULATIONS TO ARSEF CULTURES USED WITHIN THE UNITED STATES OF AMERICA

The use or release to the environment of nonindigenous microbes in any way outside of a restricted laboratory setting is covered by comprehensive regulations by the USDA Animal and Plant Health Inspection Sercies (APHIS) and by the Environmental Protection Agency. The procurement of any permits for such usage of ARSEF cultures is the sole responsibility of the investigator. Provision of cultures by the USDA-ARS Plant Protection Research Unit in no way authorizes the use of these cultures for any such regulated purposes. Any questions about the allowable uses of these cultures should be clarified by consultation with the appropriate regulatory agency.

## ORDERING INFORMATION

All requests for cultures should be sent directly to the Curator of the ARS Collection of Entomopathogenic Fungi.

### **Academic, Governmental, and other Non-Profit Institutions**

**1-5 cultures** (up to 7 per calendar year) **no charge**

**6 or more per order** (or 8 or more per calendar year) **US\$ 25.00 per strain**

Users from non-profit institutions can receive five (5) cultures without charge in any six (6) month period, up to 7 (seven) cultures in any calendar year. Requests in excess of these limits will be charged at the rate of US\$ 25.00 per additional strain requested. Requests from commercially sponsored research programs being undertaken by nonprofit institutions are charged at the commercial/industrial rate and are not subject to numerical limits.

### **Commercial and Industrial Institutions**

**US\$ 50.00 per strain**

This category includes requests from non-profit institutions working on commercially supported contractual projects (such as screening programs). Cultures will be charged at the rate of US\$ 50.00 per strain requested. There are no limits on the number of cultures which can be shipped or requested.

Commercial or industrial firms supporting research at the ARS Insect Pathology Research Unit are entitled to free access to cultures pertinent to contracted projects; all other requests will be chargeable at the current rate.

### **Terms of Shipment**

**Permits for Shipment:** Culture recipients are responsible for arrangement of all required interstate transit or importation permits before shipment of strains. Cultures being sent to ARSEF from outside the United States for identification and/or deposition require an importation permit on the outside of the package; copies of this permit can be requested from the Curator.

**Billings** for cultures will be issued through the Boyce Thompson Institute. **Wherever possible, however, we encourage prepayment for cultures; checks or money orders for strains must be made out to the Boyce Thompson Institute but sent directly to the Curator of the ARS Collection of Entomopathogenic Fungi.** Consult the Curator of the Collection in any question about fees due for any particular shipment.

**ARSEF requests confirmation of receipt and viability of cultures shipped.** Strains that are inviable upon receipt will be replaced. ARSEF reserves the right to refuse to ship strains without a reasonable chance that they will be viable upon receipt.

Neither the ARSEF, the ARS Plant Protection Research Unit, nor the Boyce Thompson Institute will be liable for damages arising from the misidentification of strains.

ARRANGEMENT OF STRAIN DATA

The following examples provide a guide to the arrangement and interpretation of collection data included in this catalog.

**ERYNIA RADICANS** (Brefeld) Humber, Ben-Ze'ev, & Kenneth in Humber & Ben-Ze'ev

72 RG Kenneth 3046 < ATCC 24493 < DM MacLeod IPRI 487. *Lambdina fiscellaria* [Lepidopt.: Geometridae]. Rec'd Jan 1979. Canada: Newfoundland.

72

RG Kenneth 3046

&lt; ATCC 24493 &lt; DM MacLeod IPRI 487.

*Lambdina fiscellaria*  
[Lepidopt.: Geometridae].

Rec'd Jan 1979.

Canada: Newfoundland.

ARSEF accession number

ARSEF received the culture from RG Kenneth, whose accession number for this strain is 3046.

RG Kenneth received this culture from the ATCC which received it from DM MacLeod as IPRI 487.

Host [with order and family] from which the culture was isolated.

Date culture received by ARSEF.

Country and province from which the culture was originally isolated.

**CULICINOMYCES CLAVISPORUS** Couch, Romney & Rao

946 UAMH 4618 < M Goettel (= ATCC 52635 = CBS 755.83 = IMI 280342). Larvae, *Culiseta inornata* [Dipt.: Culicidae]. 12-19 Aug 1982. Canada: N of Devon, Alberta.

946

UAMH 4618 &lt; M Goettel

(= ATCC 52635 = CBS 755.83

= IMI 280342)

Larvae, *Culiseta inornata* [Dipt.: Culicidae].

12-19 Aug 1982.

Canada: N of Devon, Alberta.

ARSEF accession number

Culture isolated by M Goettel was received from UAMH.

Additional accession numbers for strain in other culture collections.

Stage and host (with order, family) from which the culture was isolated.

Date during which the culture was isolated.

Country, locality, and province from which culture was isolated.

ABBREVIATIONS

- ARSEF** Collection of Entomopathogenic Fungi, USDA-ARS Plant Protection Research Unit, Boyce Thompson Institute at Cornell University, Tower Road, Ithaca, New York 14853, USA.
- ATCC** American Type Culture Collection, 12301 Parklawn Drive, Rockville, Maryland 20852, USA.
- CBS** Centraalbureau voor Schimmelcultures, PO Box 273, 3740 AG, Baarn, The Netherlands.
- CNPAF** National Center for Agricultural Research on Rice and Beans, EMBRAPA, Goiânia, Goiás, Brazil.
- CNPS** National Center for Agricultural Research on Soybeans, EMBRAPA, Londrina, Paraná, Brazil.
- CP** Strains isolated during joint US-Brazil program on study of insect pests of cowpeas; Title XII program funded by US-AID.
- EM** Dept. of Entomology, CSIRO, PO Box 1700, Canberra ACT 2601, Australia.
- GCRI** Institute for Horticultural Research (formerly, Glasshouse Crops Research Institute), Worthing Road, Littlehampton, W. Sussex BN17 6LP, England (UK).
- IMI** Commonwealth Mycological Institute, Ferry Lane, Kew, Surrey TW9 3AF, England. (Formerly, Imperial Mycological Institute).
- INRA** Station de Recherches de Lutte Biologique et Biocoenotique, INRA (Institut National de la Recherche Agronomique), La Minière - 78280 Guyancourt, France.
- IPLB** Unité de Lutte Biologique, Institut Pasteur, 28 Rue du Dr. Roux, 75724 Paris, France.
- IPRI** Forest Pest Research Institute, Environment Canada, PO Box 490, Sault Ste. Marie, Ontario P6A 5M7, Canada. (Formerly known as Insect Pathology Research Institute)
- IRRI** International Rice Research Institute, P.O. Box 933, Manila, Philippines.
- MN** Cultures isolated at INRA laboratories, La Minière, France, under program sponsored by the US Dept. of Agriculture, Agricultural Research Service, European Parasite Laboratory, France.
- NRRL** Agricultural Research Culture Collection, Northern Regional Research Center (formerly, Northern Regional Research Laboratory), USDA Agricultural Research Service, 1815 N. University, Peoria, Illinois 61604, USA.
- RSA** Rancho Santa Ana Botanic Garden, 1500 North College Ave., Claremont, California 91711, USA.
- UAMH** University of Alberta Mold Herbarium and Culture Collection, University of Alberta, Alberta T6G 2H7, Canada.



**ACREMONIUM BERKELEYANUM** (Karsten) Gams

2067 G Carroll RSRS 0/34. *Lymantria dispar* [Lepidopt.: Lymantriidae], egg mass. Rec'd Dec 1985. USA: Dexter, Lane Co., Oregon.

**ACREMONIUM FURCATUM** F&R Moreau ex Gams

1372 TJ Poprawski MN-083. Egg, *Hypera postica* [Coleopt.: Curculionidae]. 21 Jun 1983. France: Choisy-en-Brie.

**ACREMONIUM** nr. **ROSEUM** (Oudemans) Gams

1964 B Magalhães, J Lord CP-190. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 23 Jul 1985. Brazil: Nordeste.

**ACRODONTIUM CRATERIFORME** (van Beyma) de Hoog

2070 G Carroll. *Lymantria dispar* [Lepidopt.: Lymantriidae], egg mass. Rec'd Dec 1985. USA: Dexter, Lane Co., Oregon.

**APHANOCLADIUM ALBUM** (Preuss) Gams

1329 TJ Poprawski MN-085. Egg, *Hypera postica* [Coleopt.: Curculionidae]. 5 Jun 1983. France: Chichery.

2068 G Carroll RSRO 120/284. *Lymantria dispar* [Lepidopt.: Lymantriidae], egg mass. Rec'd Dec 1985. USA: Dexter, Lane Co., Oregon.

2161 B Muthappa PNG-12717. *Anoplolepis longipes* [Hymenopt.: Formicidae]. Rec'd May 1986. Papua New Guinea.

**APHANOCLADIUM GAMSIANUM** Humber & Rombach (sp. nov., unpublished)

2053 MC Rombach 071185-3 < SB Ahn E1-7. *Nilaparvata lugens* [Homopt.: Delphacidae]. Sept 1985. Rep. of Korea.

**APHANOMYCES** sp.

2005 BA Jaffee Lag3 (= ATCC 58381). *Xiphinema* sp. [Nematoda]. 9 Jul 1984. Pennsylvania: Adams County.

**ASCHERSONIA ALEYRODIS** Webber

341 I Majchrowicz. *Dialeurodes citri*? [Homopt.: Aleyrodidae] on citrus. Oct 1978. USA: Lake Alfred, Florida.

342 I Majchrowicz. *Dialeurodes citri*? [Homopt.: Aleyrodidae] on citrus. Oct 1978. USA: Lake Alfred, Florida.

430 RS Soper. Homopt.: Aleyrodidae. 9 Jan 1980. USA: Lake Alfred, Florida.

432 RS Soper. Homopt.: Aleyrodidae. 9 Jan 1980. USA: Lake Alfred, Florida.

992 J Aoki Asch-1 < K Oshima. *Dialeurodes citri* [Homopt.: Aleyrodidae]. Japan: Saga Prefecture.

1031 R Hall GCRI 66-82. Homopt.: Aleyrodidae. 1982. Colombia.

2154 MC Rombach 220386-1. *Aglaia odoratissima* [Homopt.: Aleyrodidae]. 3 Mar. 1986. Indonesia: Botanical Gardens, Bogor, Java.

**ASCHERSONIA GOLDIANA** Saccardo & Ellis

343 I Majchrowicz. *Dialeurodes citri*? [Homopt.: Aleyrodidae]. Oct 1978. USA: Lake Alfred, Florida.

431 RS Soper. Homopt.: Aleyrodidae. 9 Jan 1980. USA: Lake Alfred, Florida.

**ASCHERSONIA TURBINATA** (Berkeley) Petch

1030 R Hall GCRI 67-82. Homopt.: Aleyrodidae. 1982. Colombia.

**ASCOSPHAERA AGGREGATA** Skou

689 JD Vandenberg. *Megachile rotundata* [Hymenopt.: Megachilidae]. Sept 1981. USA: Lovelock, Nevada.

690 JD Vandenberg. *Megachile rotundata* [Hymenopt.: Megachilidae]. Sept 1981. USA: Ontario, Oregon.

**ASCOSPHAERA APIS** (Maassen ex Claussen) Olive & Spiltoir

691 JD Vandenberg. *Apis mellifera* [Hymenopt.: Apidae]. Jun 1979. USA: Corvallis, Oregon.

692 JD Vandenberg. *Apis mellifera* [Hymenopt.: Apidae]. Jul 1981. USA: Corvallis, Oregon.

**ASCOSPHAERA ATRA** Skou & Hackett

693 JD Vandenberg. *Megachile rotundata* [Hymenopt.: Megachilidae]. Jun 1979. USA: Ontario, Oregon.

**ASCOSPHAERA MAJOR** (Proekschl & Zobl) Skou

694 JD Vandenberg < J Skou. Honey or Leaf-cutting bee [Hymenoptera]. 1970. Denmark.

**ASCOSPHAERA PROLIPERDA** Skou

695 JD Vandenberg < J Skou. *Megachile centuncularis* [Hymenopt.: Megachilidae]. 1970. Denmark

696 JD Vandenberg. *Megachile rotundata* [Hymenopt.: Megachilidae]. Jul 1981. USA: Corvallis, Oregon.

**ASPERGILLUS** sp.

1152 TJ Poprawski 83-15. *Melanoplus* [Orthopt.: Acrididae]. 29 Sept 1983. Spain: Córdoba.

**ASPERGILLUS FLAVUS** Link: Fries

- 1003 J Aoki Asp-11. *Bombyx mori* [Lepidopt.: Bombycidae]. Japan: Fuchu City, Tokyo.  
 1010 J Aoki Asp-26. *Bombyx mori* [Lepidopt.: Bombycidae]. Japan: Fuchu City, Tokyo.  
 2157 B Muthappa PNG-12713. *Anoplolepis longipes* [Hymenopt.: Formicidae]. Rec'd May 1986. Papua New Guinea.  
 2158 B Muthappa PNG-12714. *Anoplolepis longipes* [Hymenopt.: Formicidae]. Rec'd May 1986. Papua New Guinea.  
 2159 B Muthappa PNG-12715. *Anoplolepis longipes* [Hymenopt.: Formicidae]. Rec'd May 1986. Papua New Guinea.

**ASPERGILLUS** nr. **PARASITICUS** Speare

- 2173 MC Rombach 140486-1 < H Bedu Rewa. Large palm weevil [Coleopt.: Curculionidae]. 14 Apr 1986. Indonesia: Baritwuring, near Ulung Pandang, Java. This strain was isolated from host exterior; cultures from interior hyphal bodies gave a *Metarhizium* sp., ARSEF 2210.

**BASIDILOBOLUS** sp.

- 270 RK Benjamin < C Emmons 2501. Dung of *Bufo marinus*. USA: Bethesda, Maryland.  
 271 RK Benjamin < C Emmons 2502 < Lie-Kian-Joe. Frog dung. Indonesia?  
 2048 D TeStrake TL-10. Lizard dung. 19 May 1983. USA: Tampa, Florida.  
 2049 D TeStrake TL-12. Lizard dung. 6 Jun 1983. USA: Tampa, Florida.  
 2050 D TeStrake TL-13. Lizard dung. 12 Sept 1983. USA: Tampa, Florida.  
 2051 D TeStrake TT-5. Toad dung. 11 May 1985. USA: Tampa, Florida  
 2052 D TeStrake TT-9. Toad dung. 14 Sept 1984. USA: Tampa, Florida.

**BASIDILOBOLUS HAPTOSPORUS** Drechsler

Synonym: *Basidiobolus meristosporus* Drechsler. This species is known to cause human mycoses. Exercise caution to avoid inhalation of conidia or contact with cuts or abrasions.

- 261 RK Benjamin RSA-228 < NRRL 1232 < C Emmons. From human mycosis (*Mycologia* 49: 1-10. 1957). Indonesia.  
 262 RK Benjamin RSA-964. Oak leaf mold. 10 May 1960. USA: Rancho Santa Ana Bot. Garden, Claremont, Los Angeles Co., California.  
 263 RK Benjamin RSA-1269. Lizard dung. 4 Apr 1963; rec'd Nov 1978. Mexico: La Suerte, Baja California.  
 264 RK Benjamin RSA-2252. Soil under Fremontodendron. 15 Sept 1976; rec'd Nov 1978. USA: Rancho Santa Ana Bot. Garden, Claremont, Los Angeles Co., California.  
 272 RK Benjamin < CW Emmons 2505 < Lie Kian Joe. Human mycosis. Rec'd Nov 1978. Indonesia.  
 273 RK Benjamin < CW Emmons 2507 < Deshpande. Human mycosis. Rec'd Nov 1978.  
 1347 S Balazy1580b [as *Erynia* ?ovispora]. Brachyceran fly [Dipt.] attached to decayed wood in a brook. 11 Aug 1983. Poland: Wielkopolski Nat. Park.

**BASIDILOBOLUS MICROSPORUS** Benjamin

- 265 RK Benjamin RSA-962. Lizard dung. 5 Apr 1960. USA: 5 mi NW of Agua Caliente Hot Springs, San Diego Co., California.  
 266 **Type Culture.** RK Benjamin RSA-977. Lizard dung. 22 Apr 1960. USA: 1 mi E of Tecopa Pass, Inyo Co., California.  
 267 RK Benjamin RSA-982. Duff under debris outside packrat nest. 23 May 1960. USA: Iron Mt., 10 mi W of Barstow, San Bernardino Co., California.  
 268 RK Benjamin RSA-1737. Lizard dung. 6 May 1962. USA: 10 mi S of Weldon on road to Kelso valley, Kern Co., California.  
 269 RK Benjamin RSA-2088. Rodent dung. 29 Jul 1974. USA: Cajon Pass, San Bernardino Co., California.

**BASIDILOBOLUS RANARUM** Eidam

- 260 RK Benjamin RSA-334. Toad dung. 27 Apr 1954; rec'd Nov 1978. USA: Rancho Santa Ana Bot. Garden, Claremont, California.  
 1139 M Shimazu F-57. *Dendrolimus spectabilis* [Lepidopt.: Lasiocampidae]. Japan: Saitama.

**BEAVERIA** sp.

- 590 J Lenné. *Mocis* sp. [Lepidopt.: Noctuidae]. Rec'd 13 Apr 1981. Colombia: Carimagua.  
 1040 J Aoki Beau-2 < K Kawakami. *Bombyx mori* [Lepidopt.: Bombycidae]. Rec'd Sept 1983. Japan: Sugunami, Tokyo.  
 1195 TJ Poprawski MN-001. Nymph, *Adelphocoris* sp. [Heteropt.: Miridae]. 18 May 1983. Italy: Vetralla.  
 1196 TJ Poprawski MN-002. Nymph, *Adelphocoris* sp. [Heteropt.: Miridae]. 20 May 1983. Italy: Vetralla.  
 1197 TJ Poprawski MN-004. Nymph, *Adelphocoris* sp. [Heteropt.: Miridae]. 20 May 1983. Italy: Vetralla.  
 1198 TJ Poprawski MN-005. Nymph, *Adelphocoris* sp. [Heteropt.: Miridae]. 20 May 1983. Italy: Vetralla.  
 1199 TJ Poprawski MN-013. Nymph, *Adelphocoris* sp. [Heteropt.: Miridae]. 23 May 1983. Italy: Manciano.  
 1200 TJ Poprawski MN-014. Nymph, *Adelphocoris* sp. [Heteropt.: Miridae]. 23 May 1983. Italy: Manciano.  
 1201 TJ Poprawski MN-023. Nymph, *Adelphocoris* sp. [Heteropt.: Miridae]. 27 May 1983. Italy: Manciano.  
 1202 TJ Poprawski MN-024. Nymph, *Adelphocoris* sp. [Heteropt.: Miridae]. 27 May 1983. Italy: Vetralla.  
 1203 TJ Poprawski MN-025. Nymph, *Adelphocoris* sp. [Heteropt.: Miridae]. 27 May 1983. Italy: Vetralla.  
 1204 TJ Poprawski MN-026. Nymph, *Adelphocoris* sp. [Heteropt.: Miridae]. 27 May 1983. Italy: Vetralla.  
 1205 TJ Poprawski MN-027. Nymph, *Adelphocoris* sp. [Heteropt.: Miridae]. 27 May 1983. Italy: Vetralla.  
 1206 TJ Poprawski MN-028. Nymph, *Adelphocoris* sp. [Heteropt.: Miridae]. 27 May 1983. Italy: Vetralla.  
 1207 TJ Poprawski MN-030. Nymph, *Adelphocoris* sp. [Heteropt.: Miridae]. 27 May 1983. Italy: Vetralla.  
 1208 TJ Poprawski MN-034. Nymph, *Adelphocoris* sp. [Heteropt.: Miridae]. 27 May 1983. Italy: Piancastragnaio.  
 1209 TJ Poprawski MN-035. Nymph, *Adelphocoris* sp. [Heteropt.: Miridae]. 22 May 1983. Italy: Acquapendente.  
 1210 TJ Poprawski MN-037. Nymph, *Adelphocoris* sp. [Heteropt.: Miridae]. 25 May 1983. Italy: Acquapendente.  
 1211 TJ Poprawski MN-038. Nymph, *Adelphocoris* sp. [Heteropt.: Miridae]. 25 May 1983. Italy: Acquapendente.  
 1213 TJ Poprawski MN-046. Nymph, *Adelphocoris* sp. [Heteropt.: Miridae]. 25 May 1983. Italy: Acquapendente.  
 1214 TJ Poprawski MN-047. Nymph, *Adelphocoris* sp. [Heteropt.: Miridae]. 25 May 1983. Italy: Acquapendente.  
 1215 TJ Poprawski MN-049. Nymph, *Adelphocoris* sp. [Heteropt.: Miridae]. 25 May 1983. Italy: Acquapendente.  
 1216 TJ Poprawski MN-050. Nymph, *Adelphocoris* sp. [Heteropt.: Miridae]. 1 Jun 1983. Italy: Acquapendente.  
 1218 TJ Poprawski MN-051. Nymph, *Adelphocoris* sp. [Heteropt.: Miridae]. 1 Jun 1983. Italy: Acquapendente.  
 1219 TJ Poprawski MN-052. Nymph, *Adelphocoris* sp. [Heteropt.: Miridae]. 1 Jun 1983. Italy: Acquapendente.

**BEAUVERIA** sp. (continued)

- 1220 TJ Poprawski MN-057. Nymph, *Adelphocoris* sp. [Heteropt.: Miridae]. 7 Jun 1983. Italy: Acquapendente.  
 1221 TJ Poprawski MN-059. Nymph, *Adelphocoris* sp. [Heteropt.: Miridae]. 7 Jun 1983. Italy: Acquapendente.  
 1222 TJ Poprawski MN-060. Nymph, *Adelphocoris* sp. [Heteropt.: Miridae]. 7 Jun 1983. Italy: Acquapendente.  
 1224 TJ Poprawski MN-061. Nymph, *Adelphocoris* sp. [Heteropt.: Miridae]. 7 Jun 1983. Italy: Acquapendente.  
 1327 TJ Poprawski MN-084. Egg, *Hypera postica* [Coleopt.: Curculionidae]. 16 May 1983. France: St. Laurent.  
 1681 M Shimazu F-333. *Shirahoshizo insidiosus* [Coleopt.: Curculionidae]. 27 Jan 1982. Japan: Takao, Tokyo.  
 1685 M Shimazu F-450. *Lachnosterna morosa* [Coleopt.: Scarabaeidae]. Japan: Ibaraki.  
 2164 B Muthappa PNG-12723. Homopt.: Membracidae. Rec'd May 1986. Papua New Guinea.

**BEAUVERIA AMORPHA** (Hoehnel) Samson & Evans

- 1682 M Shimazu F-357(11). *Anomala cuprea* [Coleopt.: Scarabaeidae]. 20 Nov 1980. Japan: Nagano.

**BEAUVERIA BASSIANA** (Balsamo) Vuillemin

- 1 PW Schaefer (= ATCC 24318). *Malacosoma americana* [Lepidopt.: Lasiocampidae]. 18 Apr 1972. USA: Chapin Beach, Dennis, Massachusetts.  
 32 JE Henry. Grasshopper [Orthopt.: Acrididae]. 12 Jul 1973. USA: Montana.  
 149 M Wojciechowska 28. *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. Rec'd Jul 1977. France.  
 150 M Wojciechowska 24. Elaterid beetle [Coleopt.]. Rec'd Jul 1977. France.  
 151 M Wojciechowska 17. *Cydia pomonella* [Lepidopt.: Tortricidae]. Rec'd Jul 1977. France.  
 152 M Wojciechowska 310-76. *Pamphilius* [Hymenopt.: Pamphiliidae]. Rec'd Jul 1977. Soviet Union.  
 153 M Wojciechowska 2-72. *Chrysopa* [Neuropt.: Chrysopidae]. Rec'd Jul 1977. Soviet Union.  
 154 M Wojciechowska 51-75. *Pamphilius* [Hymenopt.: Pamphiliidae]. Rec'd Jul 1977. Soviet Union.  
 155 M Wojciechowska 75-67. *Lymantria dispar* [Lepidopt.: Lymantriidae]. Rec'd Jul 1977. Soviet Union.  
 156 M Wojciechowska 1092. *Ichneumon* wasp [Hymenopt.: Ichneumonidae] parasitic on lepidopteran. Rec'd Jul 1977. Poland.  
 157 M Wojciechowska 1110. *Anthicus floralis* [Coleopt.: Anthicidae]. Rec'd Jul 1977. Poland.  
 158 M Wojciechowska N-2. Soil. Rec'd Jul 1977. Poland.  
 159 M Wojciechowska 70. Rec'd Jul 1977. Czechoslovakia.  
 160 M Wojciechowska 72. Rec'd Jul 1977. Czechoslovakia.  
 201 JD Vandenberg. *Diabrotica undecimpunctata* [Coleopt.: Chrysomelidae]. 22 Oct 1977. USA: Corvallis, Oregon.  
 220 From Boverin formulation < O Alyoshina. Rec'd Jun 1978. Soviet Union.  
 252 C Madore. *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae] in greenhouse culture. 14 Sept 1978. USA: Orono, Maine.  
 275, 276, 277, 278, 279, 280, 281, 282 Single spore isolates of ARSEF 252. 4 Dec 1978.  
 283 D Roberts, single spore isolate from Boverin formulation < O Alyeshina. 2 Dec 1978. Soviet Union.  
 284 DW Roberts N-2 < Boverin formulation < O Alyeshina (Moscow, USSR). Single spore isolate. Apr 1978.  
 285 DW Roberts 1110 < Boverin formulation < O Alyeshina (Moscow, USSR). Single spore isolate. Apr 1978.  
 286 DW Roberts BSS-1 < Boverin formulation < O Alyeshina (Moscow, USSR). Single spore isolate. Apr 1978.  
 287 DW Roberts BSS-2 < Boverin formulation < O Alyeshina (Moscow, USSR). Single spore isolate. Apr 1978.  
 288 DW Roberts BSS-3 < Boverin formulation < O Alyeshina (Moscow, USSR). Single spore isolate. Apr 1978.  
 289 DW Roberts BSS-4 < Boverin formulation < O Alyeshina (Moscow, USSR). Single spore isolate. Apr 1978.  
 290 DW Roberts BSS-5 < Boverin formulation < O Alyeshina (Moscow, USSR). Single spore isolate. Apr 1978.  
 291 DW Roberts 3T < Boverin formulation < O Alyeshina (Moscow, USSR). Single spore isolate. Apr 1978.  
 292 DW Roberts < Boverin formulation < O Alyeshina (Moscow, USSR). Single spore isolate. Apr 1978.  
 293 DW Roberts < C McCoy. Coleopt. ? USA.  
 295 DW Roberts < EMCAPA Fitopatologia Chl-2. 2 Nov 1978. Brazil.  
 296 DW Roberts < E West-Davidson CLB-2. 1967. USA: Oregon.  
 299 R Hedlund. *Lymantria dispar* [Lepidopt.: Lymantriidae]. Jun 1978. Rumania: 1 km W of Pasarea, Muntenia.  
 300 RS Soper. *Nysius vinitor* [Hemipt.: Lygaeidae]. 17 Jan 1979. Australia: Tamworth, New South Wales.  
 301 DW Roberts < B Schaefferberg. Coleopt. Poland. Strain reported to be ascogenous.  
 302 DW Roberts Bbass-2 < K Kawakami. 1967. Japan.  
 303 DW Roberts Bbass-3 < K Kawakami. 1967. Japan.  
 304 DW Roberts Bbass-4 < K Kawakami. 1967. Japan.  
 305 DW Roberts Bbass-5 < K Kawakami. 1967. Japan.  
 306 DW Roberts Sg8. USA: Ohio.  
 307 DW Roberts SH-8. USA: Ohio.  
 308 DW Roberts I Far < K Kawakami. Japan  
 317 R LeBrun. *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. Rec'd Feb 1979. USA: Rhode Island.  
 318 R LeBrun. Coleopt.: Cerambycidae. USA: Rhode Island.  
 319 R LeBrun. Coleopt.: Cerambycidae. Mexico.  
 320 G Buckingham. *Mesovelia mulsanti* [Hemipt.: Veliidae]. USA: Gainesville, Florida.  
 325 RS Soper. Coleopt.: Nitidulidae, on maize. 14 Feb 1979. Australia: Atherton, Queensland.  
 326 R Teakle M-168. *Chilo plejadellus* [Lepidopt.: Pyralidae]. Australia: Brisbane, Queensland.  
 333 DW Roberts < B Schaefferberg. Single spore isolates from ARSEF 301 ("ascogenous" strain reported by Schaefferberg). Poland.  
 334 DW Roberts < B Schaefferberg. Single spore isolates from ARSEF 301 ("ascogenous" strain reported by Schaefferberg). Poland.  
 335 DW Roberts < B Schaefferberg. Single spore isolates from ARSEF 301 ("ascogenous" strain reported by Schaefferberg). Poland.  
 336 C Russel. *Chalcodermis aeneus* [Coleopt.: Curculionidae]. 25 Aug 1978. USA: Georgia.  
 337 C Russel. *Chalcodermis aeneus* [Coleopt.: Curculionidae]. 25 Aug 1978. USA: Georgia.  
 338 T Nash MIT1. *Neodiprion pini* [Hymenopt.: Diprionidae].  
 340 G Zimmermann. *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. 1965; rec'd Mar 1979. FR Germany.  
 344 J Lindgren. *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. 8 Feb 1979. USA: Yakima, Washington.  
 350 I Abalis

**BEAUVERIA BASSIANA** (continued)

- 353 C Gordon. *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. May 1978. USA: Orono, Maine.
- 356 RS Soper Bb-1 (= R Milner FI-49). Grasshopper [Orthopt.: Acrididae]. 31 Jan 1979. Australia: Armidale, New South Wales
- 357 RS Soper Bb-2 (= R Milner FI-50). Grasshopper [Orthopt.: Acrididae]. 31 Jan 1979. Australia: Armidale, New South Wales.
- 384 ?J Fargues, INRA. *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. Rec'd Sept 1979. France.
- 412 C McCoy. *Diaprepes abbreviatus* [Coleopt.: Curculionidae]. 27 Jul 1979. USA: Apopka, Florida.
- 413 C McCoy. *Araecerus fasciculatus* [Coleopt.: Anthribidae]. 8 May 1979. USA: Fruitland Park, Florida.
- 416 C McCoy. *Diaprepes abbreviatus* [Coleopt.: Curculionidae]. 20 Jul 1979. USA: Apopka, Florida.
- 433 (?C McCoy). *Diaprepes abbreviatus* [Coleopt.: Curculionidae]. 14 Jan 1980.
- 474 C Bayan. Rec'd May 1980. Poland.
- 477 RA Daoust Bb-Z1. *Zulia enteriana* [Homopt.: Cercopidae]. 26 Jan 1980. Brazil: Mato Grosso do Sul.
- 501 R Jones. Larva, *Ostrinia nubilalis* [Lepidopt.: Pyralidae]. Rec'd 11 Aug 1980. PRChina.
- 502 R Jones. Larva, *Ostrinia nubilalis* [Lepidopt.: Pyralidae]. Rec'd 11 Aug 1980. PRChina.
- 503 RS Soper, R Humber. *Carpocapsa pomonella* [Lepidoptera]. 12 Aug 1980. Yugoslavia: orchard near Zabari.
- 504 RS Soper. Chrysomelid beetle [Coleopt.]. 12 Aug 1980. Yugoslavia: orchard behind bus station, Zabari.
- 505 R Humber. *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. 14 Aug 1980. Yugoslavia: road marker 119 on M22, nr Srbobran.
- 506 RS Soper, R Humber. *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. 14 Aug 1980. Yugoslavia: road marker 82 on M22, Freketic, nr Srbobran.
- 507 RS Soper, C Sidor. *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. 16 Aug 1980. Yugoslavia: between Putnici and Indjija.
- 509 C Sidor. *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. 18 Aug 1980. Yugoslavia: Nedeljanec, nr. Varazdin, Croatia.
- 510 RS Soper, R. Humber. *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. 26 Aug 1980. Yugoslavia: Forestry Inst. nursery, E of Pec, nr Crno Brdo.
- 533 R Jones. *Ostrinia nubilalis* [Lepidopt.: Noctuidae]. Rec'd 14 Aug 1980. PRChina
- 534 MG Ward. *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae], from established laboratory colony. Oct 1980. USA: Boyce Thompson Inst., Ithaca.
- 535 MG Ward. *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae], from newly established BTI laboratory colony (beetles from Riverhead, Long Island, New York). Oct 1980. USA: New York.
- 536 MG Ward. Leaf wash, 16 days after spray of ARSEF 252. Sept 1980. USA: Agway Res. Farm, Tully, New York.
- 537 DW Roberts. Unidentified lepidopteran larva on lychee. 20 Aug 1980. Thailand.
- 547 RS Soper. *Pachybrachis palliacarnis* [Coleopt.: Chrysomelidae]. Malaysia.
- 560 RS Soper 8132. Rice bug, *Leptocorisa* sp. [Hemipt.: Leptocorisidae]. 2 Mar 1981. Indonesia: SE of Mataram, Lombok Island.
- 566 RS Soper 81226-3. *Leptocorisa* sp. [Hemipt.: Leptocorisidae] on rice. 26 Feb 1981. Indonesia: Sleman Distr., N of Yogyakarta, Java
- 652 DW Roberts 101981-1. *Ostrinia nubilalis* [Lepidopt.: Pyralidae]. 19 Oct 1981. PRChina: Beijing.
- 654 DW Roberts 102081-2. *Nilaparvata lugens* [Homopt.: Delphacidae]. 20 Oct 1981. PRChina: Wuhan, Hupei.
- 679 DW Roberts 102081-1. *Nilaparvata lugens* [Homopt.: Delphacidae]. 20 Oct 1981. PRChina: Wuhan, Hupei.
- 681 EA Gula < Boverin, experimental formulation < O Alyeshina. Originally rec'd from USSR June 1978; rec'd from Gula Jan 1982. Soviet Union.
- 708 Li Hung-Kei. *Nephotettix bipunctatus cincticeps* [Homopt.: Cicadellidae]. PRChina.
- 709 Li Hung-Kei. *Nilaparvata lugens* [Homopt.: Delphacidae]. PRChina.
- 710 ST Jaronski. *Eristalis latifrons* [Dipt.: Syrphidae]. USA.
- 714 DW Roberts 102181-1. *Nilaparvata lugens* [Homopt.: Delphacidae]. 21 Oct 1981. PRChina: Wuhan, Hupei.
- 717 RS Soper. *Nilaparvata lugens* [Homopt.: Delphacidae]. 11 Nov 1981. PRChina: Wuhan, Hupei.
- 718 RS Soper. *Bombyx mori* [Lepidopt.: Bombycidae]. 11 Nov 1981. PRChina: Hangzhou, Zhejiang.
- 719 RS Soper. *Nilaparvata lugens* [Homopt.: Delphacidae]. PRChina: Wuhan, Hupei.
- 721 T Clark. *Diabrotica* sp. [Coleopt.: Chrysomelidae]. Feb 1982. Colombia: ?CIAT, Cali.
- 730 RA Daoust CP-1. Hornet [Hymenopt.: Vespidae]. 25 Nov 1981. Brazil: Costa do Arapapa, Amazonas.
- 731 RA Daoust CP-5. *Cerotoma arcuata* [Coleopt.: Chrysomelidae]. 25 Nov 1981. Brazil: Costa do Surubin, Cristo Rei, Amazonas.
- 732 RA Daoust CP-6. *Cerotoma arcuata* [Coleopt.: Chrysomelidae]. 25 Nov 1981. Brazil: Costa do Surubin, Cristo Rei, Amazonas.
- 733 RA Daoust CP-7. *Chalcodermus aeneus* [Coleopt.: Curculionidae]. 6 Jan 1982. Brazil: CNPAF, Goiaânia, Goiás.
- 734 G Pereira Rios CP-9. *Chalcodermus aeneus* [Coleopt.: Curculionidae]. 6 Jan 1982. Brazil: CNPAF, Goiaânia, Goiás.
- 735 RA Daoust CP-14. *Chalcodermus aeneus* [Coleopt.: Curculionidae]. 15 Jan 1982. Brazil: CNPAF, Goiaânia, Goiás.
- 736 G Pereira Rios CP-10. *Chalcodermus aeneus* [Coleopt.: Curculionidae]. 6 Jan 1982. Brazil: CNPAF, Goiaânia, Goiás
- 737 E Ferreira CP-20. Hemipt.: Pentatomidae. 26 Feb 1982. Brazil: CNPAF, Goiaânia, Goiás.
- 738 RA Daoust CP-23. *Chalcodermus aeneus* [Coleopt.: Curculionidae]. 9 Feb 1982. Brazil: CNPAF, Goiaânia, Goiás.
- 739 RA Daoust CP-27. *Diabrotica speciosa* [Coleopt.: Chrysomelidae]. 3 Feb 1982. Brazil: CNPAF, Goiaânia, Goiás.
- 751 P Jolivet. Galucerine beetle [Coleopt.: Chrysomelidae]. Apr 1982. North Vietnam: Cuc Phuong Forest.
- 752 RA Daoust CP-34. *Diabrotica speciosa* [Coleopt.: Chrysomelidae]. 15 Feb 1982. Brazil: CNPAF, Goiaânia, Goiás.
- 753 RS Soper CP-36. *Aracanthus* sp. [Coleopt.: Curculionidae]. 24 Mar 1982. Brazil: Brejo Santo, Ceará.
- 754 RA Daoust CP-38. Coleopt. 4 Apr 1982. Brazil: CNPAF, Goiaânia, Goiás.
- 756 RA Daoust CP-4. *Cerotoma arcuata* [Coleopt.: Chrysomelidae]. 25 Nov 1981. Brazil: Costo do Surubin, Cristo Rei, Amazonas.
- 757 RA Daoust CP-35. Coleopt.: Tenebrionidae. 23 Mar 1982. Brazil: Missão Velha, Ceará.
- 758 RA Daoust CP-29. *Diabrotica speciosa* [Coleopt.: Chrysomelidae]. 1 Mar 1982. Brazil: CNPAF, Goiaânia, Goiás.
- 783 RA Daoust, J Pratagil, F Edson de Araújo CP-59. Coleopt.: Tenebrionidae. 6 May 1982. Brazil: Barbalha, Ceará.
- 784 RA Daoust CP-47. Adult elaterid [Coleopt.]. 30 Apr 1982. Brazil: Novo Oriente, Ceará.
- 785 RA Daoust CP-46. Coleopt.: Cerambycidae. 29 Apr 1982. Brazil: Caucaia, Ceará.
- 786 RA Daoust, F Edson de Araújo CP-51. *Crimissa* sp. [Coleopt.: Chrysomelidae]. 6 May 1982. Brazil: 20 km N of Pacajus, Ceará.
- 787 RA Daoust, F Edson de Araújo CP-58. Coleopt.: Tenebrionidae. 6 May 1982. Brazil: Barbalha, Ceará.
- 788 RA Daoust, F Edson de Araújo CP-50. *Crimissa* sp. [Coleopt.: Chrysomelidae]. 3 May 1983. Brazil: 20 km N of Pacajus, Ceará.
- 792 W Ramoska. Adult, *Blissus leucopterus* [Hemipt.: Lygaeidae]. Summer 1981. USA: Riley County, Kansas.
- 793 G Kuter 102. Soil saprobe from sugar maple leaf litter. 1975. USA: Univ. Wisconsin Arboretum, Abraham's Woods, Green Co., Wisconsin.
- 796 B Vasquez Romero. Earwig [Dermaptera]. Jul 1982. Colombia: Inst. Colombiana Agropecuario, Villavicencio.
- 804 RA Daoust CP-48. Coleopt.: Elateridae. 30 Apr 1982. Brazil: Novo Oriente, Ceará.



**BEAUVERIA BASSIANA** (continued)

- 805 L Saraiva Teixeira CP-49. *Crimissa* sp. [Coleopt.: Chrysomelidae]. 3 May 1982. Brazil: Pacajus, Ceará.
- 806 S Martins dos Santos CP-53. *Deois flavopicta* [Homopt.: Cercopidae]. 4 May 1982. Brazil: CNPAF, Goiânia, Goiás.
- 809 S Martins dos Santos CP-61. *Diabrotica speciosa* [Coleopt.: Chrysomelidae]. 28 Jun 1982. Brazil: CNPAF, Goiânia, Goiás.
- 812 G Soares 3 < G Euverte. *Corythucha ciliata* [Hemipt.: Tingidae]. 18 Feb 1981. France: Avignon.
- 813 G Soares 6. *Otiorynchus sulcatus* [Coleopt.: Curculionidae]. 5 Mar 1982. France: Plougastel-Daoulas.
- 814 G Soares 10. *Otiorynchus sulcatus* [Coleopt.: Curculionidae]. 5 Mar 1982. France: Plougastel-Daoulas.
- 815 G Soares 12. *Otiorynchus sulcatus* [Coleopt.: Curculionidae]. 5 Mar 1982. France: Plougastel-Daoulas.
- 816 G Soares 20 < JP Aeschlimann. *Sitona discoideus* [Coleopt.: Curculionidae]. 29 Mar 1982. France: Montpellier.
- 842 *Metasmius* [Coleopt.: Curculionidae]. Colombia.
- 843 D Jansen. Pupa [Lepidopt.: Saturniidae]. Costa Rica.
- 886 D Coutinot Bb-A34. *Lygus* [Hemipt.: Miridae]. Sept 1982. Spain: Burgos.
- 928 S Martins dos Santos CP-63. *Diabrotica speciosa* [Coleopt.: Chrysomelidae]. 27 Jul 1982. Brazil: CNPAF, Goiânia, Goiás.
- 930 S Martins dos Santos CP-68. *Cerotoma arcuata* [Coleopt.: Chrysomelidae]. 15 Dec 1982. Brazil: CNPAF, Goiânia, Goiás.
- 931 H da Silva Coelho CP-69. *Cerotoma arcuata* [Coleopt.: Chrysomelidae]. 20 Dec 1982. Brazil: CNPAF, Goiânia, Goiás.
- 933 E Ferreira CP-71. *Tibraca limbativentres* [Hemipt.: Pentatomidae]. 20 Dec 1982. Brazil: CNPAF, Goiânia, Goiás.
- 934 RA Daoust CP-72. *Cerotoma arcuata* [Coleopt.: Chrysomelidae]. 25 Jan 1983. Brazil: CNPAF, Goiânia, Goiás.
- 937 E Ferreira CP-76. *Diabrotica speciosa* [Coleopt.: Chrysomelidae]. 3 Mar 1983. Brazil: F Itamaraty, Ponta Porã, Mato Grosso do Sul.
- 938 E Ferreira CP-77. *Diabrotica speciosa* [Coleopt.: Chrysomelidae]. 3 Mar 1983. Brazil: F Itamaraty, Ponta Porã, Mato Grosso do Sul.
- 941 RA Daoust, B Magalhães CP-82. *Chalcodermus* sp. [Coleopt.: Curculionidae]. 16 Mar 1983. Brazil: Ponta Porã, Mato Grosso do Sul.
- 942 RA Daoust, B Magalhães CP-83. *Chalcodermus* sp. [Coleopt.: Chrysomelidae]. 16 Mar 1983. Brazil: Ponta Porã, Mato Grosso do Sul.
- 943 RA Daoust, B Magalhães CP-84. *Chalcodermus* sp. [Coleopt.: Chrysomelidae]. 16 Mar 1983. Brazil: Ponta Porã, Mato Grosso do Sul.
- 944 RA Daoust, B Magalhães CP-85. Stink bug [Hemipt.: Pentatomidae]. 16 Mar 1983. Brazil: Ponta Porã, Mato Grosso do Sul.
- 945 RA Daoust, B Magalhães CP-86. [Homopt.: Cicadellidae]. 16 Mar 1983. Brazil: Ponta Porã, Mato Grosso do Sul.
- 946 RA Daoust, B Magalhães CP-87. *Diabrotica* sp. [Coleopt.: Chrysomelidae]. 15 Mar 1983. Brazil: Ponta Porã, Mato Grosso do Sul.
- 947 RA Daoust, B Magalhães CP-88. *Diabrotica* sp. [Coleopt.: Chrysomelidae]. 15 Mar 1983. Brazil: Ponta Porã, Mato Grosso do Sul.
- 948 RA Daoust, B Magalhães CP-89. *Diabrotica* sp. [Coleopt.: Chrysomelidae]. 15 Mar 1983. Brazil: Ponta Porã, Mato Grosso do Sul.
- 949 RA Daoust, B Magalhães CP-90. *Diabrotica* sp. [Coleopt.: Chrysomelidae]. 15 Mar 1983. Brazil: Ponta Porã, Mato Grosso do Sul.
- 950 RA Daoust, B Magalhães CP-91. *Diabrotica* sp. [Coleopt.: Chrysomelidae]. 15 Mar 1983. Brazil: Ponta Porã, Mato Grosso do Sul.
- 951 RA Daoust, B Magalhães CP-92. *Cerotoma* sp. [Coleopt.: Chrysomelidae]. 15 Mar 1983. Brazil: Ponta Porã, Mato Grosso do Sul.
- 952 RA Daoust, B Magalhães CP-93. Coleopt.: Carabidae. 15 Mar 1983. Brazil: Ponta Porã, Mato Grosso do Sul.
- 953 RA Daoust, B Magalhães CP-98. *Chalcocermus* sp. [Coleopt.: Curculionidae]. 16 Mar 1983. Brazil: Ponta Porã, Mato Grosso do Sul.
- 956 S Martins dos Santos CP-101. *Diabrotica* sp. [Coleopt.: Chrysomelidae]. 27 Apr 1983. Brazil: CNPAF, Goiânia, Goiás.
- 957 RA Daoust CP-102. Hymenopt.: ?Megachilidae. 6 Jun 1983. Brazil: CNPAF, Goiânia, Goiás.
- 958 S Martínez de Carvalho CP-104. *Diabrotica speciosa* [Coleopt.: Chrysomelidae]. 6 Jan 1983. Brazil: Londrina, Paraná.
- 959 S Martínez de Carvalho CP-105. *Spodoptera frugiperda* [Lepidopt.: Noctuidae]. 6 Jan 1983. Brazil: Londrina, Paraná.
- 982 RA Daoust, B Magalhães CP-95. *Diabrotica* sp. [Coleopt.: Chrysomelidae]. 17 Mar 1983. Brazil: Ponta Porã, Mato Grosso do Sul.
- 987 J Aoki Beau-1. *Bombyx mori* [Lepidopt.: Bombycidae]. Japan: Fuchu City, Tokyo.
- 1001 J Aoki Beau-5 < K Katagiri. *Dioryctria splendidella* [Lepidopt.: Pyralidae]. Dec 1968. Japan: Hachioji City, Tokyo.
- 1007 J Aoki Beau-3. *Bombyx mori* [Lepidopt.: Bombycidae]. Japan: Fuchu City, Tokyo.
- 1016 M McGiffen. Plum curculio, *Conotrachelus nenuphar* [Coleopt.: Curculionidae]. Nov 1983. USA.
- 1017 H Whitney R-599. *Dendroctonus rufipennis* [Coleopt.: Scolytidae]. Jun 1975. Canada: Hixon, British Columbia.
- 1038 G Riba. *Ostrinia nubilalis* [Lepidopt.: Pyralidae]. Fall 1983. USA: Agway Res. Farm, Tully, New York.
- 1039 Leslie Allee. *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae], from control plot for ARSEF 252 spray tests. Fall 1983. USA: Agway Res. Farm, Tully, New York.
- 1041 J Aoki Isa-1 < S Miyajima. *Psacotheta hilaris* [Coleopt.: Cerambycidae]. Oct 1981. Japan: Nagakute, Aichi.
- 1053 F Moscardi CNPS-14. Grasshopper [Orthopt.: Acrididae]. 1983. Brazil: Londrina, Paraná.
- 1054 F Moscardi CNPS-15. *Nezara viridula* [Hemipt.: Pentatomidae]. 1983. Brazil: Londrina, Paraná.
- 1060 F Moscardi CNPS-31. *Diabrotica speciosa* [Coleopt.: Chrysomelidae]. 1983. Brazil: Londrina, Paraná.
- 1061 F Moscardi CNPS-32. Coffeebean borer [Coleopt.: Curculionidae]. 1983. Brazil: Londrina, Paraná.
- 1073 TJ Poprawski 83-48. *Otiorynchus sulcatus* [Coleopt.: Curculionidae]. Jul 1983. France: Les Thilliers-en-Vexin.
- 1074 TJ Poprawski 83-49. *Otiorynchus sulcatus* [Coleopt.: Curculionidae]. 21 Jul 1983. France: Les Thilliers-en-Vexin.
- 1075 TJ Poprawski 83-54. *Otiorynchus sulcatus* [Coleopt.: Curculionidae]. 21 Jul 1983. France: Les Thilliers-en-Vexin.
- 1079 *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. USA: Washington.
- 1081 L Allee. *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae], from high rate plot for ARSEF 252 spray tests. Fall 1983. USA: Agway Res. Farm, Tully, New York.
- 1098 Y Ando. *Nephotettix cincticeps* [Homopt.: Cicadellidae]. 20 Feb 1983. Japan: Tsukuba, Ibaraki.
- 1103 K Deseò 8 < Goidanich. *Cossus cossus* [Lepidopt.: Cossidae]. Jun 1981. Italy: Bologna.
- 1104 K Deseò 10 < Goidanich. *Cossus cossus* [Lepidopt.: Cossidae]. June 1981. Italy: Bologna.
- 1105 K Deseò 17. Larva, *Zeuzera pyrina* [Lepidopt.: Cossidae]. Jan 1982. Italy: Galliera.
- 1106 K Deseò 25 < Chianella. *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. Feb 1982. Italy: Sicily.
- 1107 K Deseò 26 < Becchi. *Lobesia botrana* [Lepidopt.: Tortricidae]. Mar 1982. Italy: Modena.
- 1109 K Deseò 29 < Pasqualini. *Cydia pomonella* [Lepidopt.: Tortricidae]. Apr 1982. Italy: Ferrara.
- 1110 K Deseò 31 < Becchi. *Lobesia botrana* [Lepidopt.: Tortricidae]. Apr 1982. Italy: Modena.
- 1113 K Deseò 38. *Galleria mellonella* [Lepidopt.: Pyralidae]. Jun 1982. Italy: Bologna.
- 1114 K Deseò 39. *Galleria mellonella* [Lepidopt.: Pyralidae]. Jun 1982. Italy: Bologna.
- 1115 K Deseò 40a < Celli. *Leucoptera scitella* [Lepidopt.: Lyonetiidae]. Aug 1982. Italy: Ravenna.
- 1117 K Deseò 41 < Celli. *Leucoptera scitella* [Lepidopt.: Lyonetiidae]. Aug 1982. Italy: Ravenna.
- 1118 K Deseò 45 < Maini. Larva, *Sesamia cretica* [Lepidopt.: Noctuidae]. Sept 1982. Italy: Forlì.
- 1119 K Deseò 47. From soil sample, baited by *Galleria mellonella*. Oct 1982. Italy: Modena.
- 1121 K Deseò 81 < Chianella. *Ostrinia nubilalis* [Lepidopt.: Pyralidae]. Mar 1982. Italy: Padua.

**BEAUVERIA BASSIANA** (continued)

- 1122 K Deseñ 83. *Cydia pomonella* [Lepidopt.: Tortricidae]. Mar 1983. Italy: Bologna.
- 1149 TJ Poprawski 83-79. *Heliothis armigera* [Lepidopt.: Noctuidae]. 4 Aug 1983. Spain: Córdoba.
- 1150 TJ Poprawski 83-37. Tachinid [Dipt.] parasite of *Sitona lineatus* [Coleopt.: Curculionidae]. 17 Nov 1983. France: Senneville.
- 1151 TJ Poprawski 83-05. *Delia radicum* [Dipt.: Anthomyiidae]. 24 Aug 1983. Canada: L'Acadie, Québec.
- 1153 TJ Poprawski 074. *Sitona discoideus* [Coleopt.: Curculionidae]. Jan 1984. Morocco: Jramna.
- 1154 TJ Poprawski 072. *Sitona discoideus* [Coleopt.: Curculionidae]. 25 Jan 1984. Morocco: Jramna.
- 1155 TJ Poprawski 073. *Sitona discoideus* [Coleopt.: Curculionidae]. Jan 1984. Morocco: Jramna.
- 1156 TJ Poprawski 83-639. *Sitona lineatus* [Coleopt.: Curculionidae]. 22 Oct 1983. France: Guyancourt.
- 1157 TJ Poprawski 83-619. *Sitona lineatus* [Coleopt.: Curculionidae]. Oct 1983. France: Senneville.
- 1158 TJ Poprawski 83-634. *Sitona lineatus* [Coleopt.: Curculionidae]. Dec 1983. France: Vernon.
- 1159 TJ Poprawski 83-615. *Sitona lineatus* [Coleopt.: Curculionidae]. Oct 1983. France: Senneville.
- 1160 TJ Poprawski 83-614. *Sitona lineatus* [Coleopt.: Curculionidae]. Oct 1983. France: Senneville.
- 1161 TJ Poprawski 83-626. *Sitona lineatus* [Coleopt.: Curculionidae]. Dec 1983. France: Mantes la Jolie.
- 1162 TJ Poprawski 83-623. *Sitona lineatus* [Coleopt.: Curculionidae]. Dec 1983. France: Limay.
- 1163 TJ Poprawski 83-071a. *Sitona discoideus* [Coleopt.: Curculionidae]. Jan 1984. Morocco: Jramna.
- 1164 TJ Poprawski 070. *Sitona discoideus* [Coleopt.: Curculionidae]. Jan 1984. Morocco: Jramna.
- 1165 TJ Poprawski 83-621. *Sitona lineatus* [Coleopt.: Curculionidae]. Oct 1983. France: Senneville.
- 1166 TJ Poprawski 83-77. *Heliothis armigera* [Lepidopt.: Noctuidae]. 1 Aug 1983. Spain: Córdoba.
- 1167 TJ Poprawski 83-701. *Sitona lineatus* [Coleopt.: Curculionidae]. 15 Nov 1983. France: Senneville.
- 1168 TJ Poprawski 83-702. *Sitona lineatus* [Coleopt.: Curculionidae]. 10 Oct 1983. France: Senneville.
- 1169 TJ Poprawski 83-703. *Sitona lineatus* [Coleopt.: Curculionidae]. 15 Dec 1983. France: Senneville.
- 1170 TJ Poprawski 83-704. *Sitona lineatus* [Coleopt.: Curculionidae]. 23 Nov 1983. France: Senneville.
- 1171 TJ Poprawski MN-A2. *Sitona discoideus* [Coleopt.: Curculionidae]. 8 Feb 1984. Morocco: Achouria.
- 1172 TJ Poprawski MN-A4. *Sitona discoideus* [Coleopt.: Curculionidae]. 8 Feb 1984. Morocco: Achouria.
- 1173 TJ Poprawski MN-A5. *Sitona discoideus* [Coleopt.: Curculionidae]. 16 Feb 1984. Morocco: Achouria.
- 1174 TJ Poprawski MN-A6. *Sitona discoideus* [Coleopt.: Curculionidae]. Feb 1984. Morocco: Achouria.
- 1175 TJ Poprawski MN-A7. *Sitona discoideus* [Coleopt.: Curculionidae]. 10 Feb 1984. Morocco: Achouria.
- 1176 TJ Poprawski MN-J1. *Sitona discoideus* [Coleopt.: Curculionidae]. 8 Jan 1984. Morocco: Jorf.
- 1177 TJ Poprawski MN-J2. *Sitona discoideus* [Coleopt.: Curculionidae]. 8 Jan 1984. Morocco: Jorf.
- 1178 TJ Poprawski MN-J3. *Sitona discoideus* [Coleopt.: Curculionidae]. 7 Feb 1984. Morocco: Jorf.
- 1179 TJ Poprawski MN-J4. *Sitona discoideus* [Coleopt.: Curculionidae]. 2 Dec 1983. Morocco: Jorf.
- 1180 TJ Poprawski MN-J5. *Sitona discoideus* [Coleopt.: Curculionidae]. 2 Dec 1983. Morocco: Jorf.
- 1181 TJ Poprawski MN-J6. *Sitona discoideus* [Coleopt.: Curculionidae]. 10 Feb 1984. Morocco: Jorf.
- 1182 TJ Poprawski 83-616. *Sitona discoideus* [Coleopt.: Curculionidae]. Dec 1983. France: Senneville.
- 1183 TJ Poprawski MN-J7. *Sitona discoideus* [Coleopt.: Curculionidae]. 16 Feb 1984. Morocco: Jorf.
- 1185 TJ Poprawski < INRA Bb-142. *Sitona discoideus* [Coleopt.: Curculionidae]. May 1977. France: Viols-le-Fort.
- 1186 TJ Poprawski < INRA Bb-195. *Caryedon serratus* [Coleopt.: Bruchidae]. 6 Jun 1983. France: La Minière.
- 1188 TJ Poprawski MN-E1. *Sitona discoideus* [Coleopt.: Curculionidae]. Feb 1984. Morocco: Elbaya.
- 1189 TJ Poprawski MN-A1. *Sitona discoideus* [Coleopt.: Curculionidae]. Feb 1984. Morocco: Achouria.
- 1190 TJ Poprawski MN-A3. *Sitona discoideus* [Coleopt.: Curculionidae]. Feb 1984. Morocco: Achouria.
- 1191 TJ Poprawski MN-645. *Sitona discoideus* [Coleopt.: Curculionidae]. Dec 1983. France: Orléans.
- 1192 TJ Poprawski MN-646. *Sitona discoideus* [Coleopt.: Curculionidae]. Dec 1983. France: Anet.
- 1193 TJ Poprawski MN-647. *Sitona discoideus* [Coleopt.: Curculionidae]. Dec 1983. France: Ecos.
- 1194 TJ Poprawski MN-648. *Sitona lineatus* [Coleopt.: Curculionidae]. Dec 1983. France: Meulan.
- 1269 M Rombach Pal-2. Philippines: Palawan.
- 1270 M Rombach Philippines: IRRRI, Los Baños, Manila.
- 1306 TJ Poprawski 83-611. *Sitona lineatus* [Coleopt.: Curculionidae]. Oct 1983. France: Senneville.
- 1309 TJ Poprawski MN-A8. *Sitona discoideus* [Coleopt.: Curculionidae]. 8 Feb 1984. Morocco: Achouria.
- 1311 TJ Poprawski MN-A10. *Sitona discoideus* [Coleopt.: Curculionidae]. 8 Feb 1984. Morocco: Achouria.
- 1312 TJ Poprawski MN-A11. *Sitona discoideus* [Coleopt.: Curculionidae]. 8 Feb 1984. Morocco: Achouria.
- 1313 TJ Poprawski MN-A12. *Sitona discoideus* [Coleopt.: Curculionidae]. 8 Feb 1984. Morocco: Achouria.
- 1314 TJ Poprawski MN-070a. *Heliothis virescens* [Lepidopt.: Noctuidae]. 6 Mar 1984. France: La Minière.
- 1315 TJ Poprawski MN-070b. *Heliothis virescens* [Lepidopt.: Noctuidae]. 6 Mar 1984. France: La Minière.
- 1316 TJ Poprawski MN-070c. *Heliothis virescens* [Lepidopt.: Noctuidae]. 6 Mar 1984. France: La Minière.
- 1317 TJ Poprawski MN-074a. *Lygus ?lineolaris* [Hemipt.: Miridae]. 18 Mar 1983. France: Choisy-en-Brie.
- 1318 TJ Poprawski MN-074b. *Lygus ?lineolaris* [Hemipt.: Miridae]. 18 Mar 1983. France: Choisy-en-Brie.
- 1319 TJ Poprawski MN-076. *Lygus ?lineolaris* [Hemipt.: Miridae]. 30 Mar 1983. France: Senneville.
- 1320 TJ Poprawski MN-078. *Lygus ?lineolaris* [Hemipt.: Miridae]. 30 Mar 1983. France: Senneville.
- 1321 TJ Poprawski MN-079b. *Lygus ?lineolaris* [Hemipt.: Miridae]. 30 Mar 1983. France: Senneville.
- 1322 TJ Poprawski MN-079c. *Lygus ?lineolaris* [Hemipt.: Miridae]. 30 Mar 1983. France: Senneville.
- 1323 TJ Poprawski MN-079d. *Lygus ?lineolaris* [Hemipt.: Miridae]. 30 Mar 1983. France: Senneville.
- 1324 TJ Poprawski MN-079e. Nymph, *Lygus ?lineolaris* [Hemipt.: Miridae]. 30 Mar 1983. France: Senneville.
- 1325 TJ Poprawski MN-079f. Nymph, *Lygus ?lineolaris* [Hemipt.: Miridae]. 30 Mar 1983. France: Senneville.
- 1326 TJ Poprawski MN-080. Grasshopper [Orthopt.: Acrididae]. 27 Jun 1983. France: Prade.
- 1359 S Balazy 1597a. Poland.
- 1389 TJ Poprawski MN-088. *Hypera postica* [Coleopt.: Curculionidae]. 16 May 1984. France: Baron.
- 1394 TJ Poprawski MN-071. Nymph, *Lygus* sp. [Hemipt.: Miridae]. 18 Aug 1983. France: Choisy-en-Brie.
- 1395 TJ Poprawski MN-075. Nymph, *Lygus* sp. [Hemipt.: Miridae]. 23 Aug 1983. France: St. Denis du Pin.
- 1396 TJ Poprawski MN-077a. Nymph, *Lygus* sp. [Hemipt.: Miridae]. 30 Aug 1983. France: Senneville.

**BEAUVERIA BASSIANA** (continued)

- 1397 TJ Poprawski MN-077b. Nymph, *Lygus* sp. [Hemipt.: Miridae]. 30 Aug 1983. France: Senneville.
- 1398 TJ Poprawski MN-086. *Hypera postica* [Coleopt.: Curculionidae]. 16 May 1984. France: Marsanne.
- 1399 TJ Poprawski MN-087. *Hypera postica* [Coleopt.: Curculionidae]. Mar 1984. France: Marsanne.
- 1404 TJ Poprawski MN-092a. Nymph, *Lygus* sp. [Hemipt.: Miridae]. 9 Sept 1983. France: Fort la Latte.
- 1405 TJ Poprawski MN-092b. Nymph, *Lygus* sp. [Hemipt.: Miridae]. 9 Sept 1983. France: Fort la Latte.
- 1406 TJ Poprawski MN-093a. Nymph, *Lygus* sp. [Hemipt.: Miridae]. 7 Sept 1983. France: Fort la Latte.
- 1407 TJ Poprawski MN-093b. Nymph, *Lygus* sp. [Hemipt.: Miridae]. 7 Sept 1983. France: Fort la Latte.
- 1408 TJ Poprawski MN-094a. Nymph, *Lygus* sp. [Hemipt.: Miridae]. 7 Sept 1983. France: Fort la Latte.
- 1409 TJ Poprawski MN-094b. Nymph, *Lygus* sp. [Hemipt.: Miridae]. 7 Sept 1983. France: Fort la Latte.
- 1410 TJ Poprawski MN-095. Nymph, *Lygus* sp. [Hemipt.: Miridae]. 7 Sept 1983. France: Fort la Latte.
- 1411 TJ Poprawski MN-096a. Nymph, *Lygus* sp. [Hemipt.: Miridae]. 7 Sept 1983. France: Fort la Latte.
- 1412 TJ Poprawski MN-096b. Nymph, *Lygus* sp. [Hemipt.: Miridae]. 7 Sept 1983. France: Fort la Latte.
- 1413 TJ Poprawski MN-097. Nymph, *Lygus* sp. [Hemipt.: Miridae]. 13 Oct 1983. France: Senneville.
- 1414 TJ Poprawski MN-099. Nymph, *Lygus* sp. [Hemipt.: Miridae]. May 1984. France: Senneville.
- 1450 F Moscardi CP-125. *Sternecus subsignatus* [Hemipt.: Pentatomidae]. 27 Mar 1984. Brazil: Londrina, Paraná.
- 1453 RA Daoust CP-143. *Diabrotica speciosa* [Coleopt.: Chrysomelidae]. 30 Mar 1984. Brazil: Francisco Beltrão, Paraná.
- 1454 RA Daoust CP-144. *Diabrotica speciosa* [Coleopt.: Chrysomelidae]. 28 Mar 1984. Brazil: Cascavel, Paraná.
- 1455 RA Daoust CP-145. *Diabrotica speciosa* [Coleopt.: Chrysomelidae]. 28 Mar 1984. Brazil: Cascavel, Paraná.
- 1456 RA Daoust CP-146. *Diabrotica speciosa* [Coleopt.: Chrysomelidae]. 30 Apr 1984. Brazil: Augusto Pestana, Ijuí, Rio Grande do Sul.
- 1457 RA Daoust CP-147. *Podisus* sp. [Coleopt.: Chrysomelidae]. 28 Mar 1984. Brazil: Cascavel, Paraná.
- 1458 RA Daoust CP-148. *Ceratomya* sp. [Coleopt.: Chrysomelidae]. 28 Mar 1984. Brazil: Cascavel, Paraná.
- 1459 RA Daoust CP-149. *Diabrotica speciosa* [Coleopt.: Chrysomelidae]. Brazil: Augusto Pestana, Ijuí, Rio Grande do Sul.
- 1460 RA Daoust CP-150. *Diabrotica speciosa* [Coleopt.: Chrysomelidae]. Brazil: Augusto Pestana, Ijuí, Rio Grande do Sul.
- 1461 RA Daoust CP-151. *Diabrotica speciosa* [Coleopt.: Chrysomelidae]. 29 Mar 1984. Brazil: Capitão Leônidas Marques, Rio Grande do Sul.
- 1462 RA Daoust CP-152. *Diabrotica speciosa* [Coleopt.: Chrysomelidae]. 28 Mar 1984. Brazil: Cascavel, Paraná.
- 1463 RA Daoust CP-153. *Diabrotica speciosa* [Coleopt.: Chrysomelidae]. 28 Mar 1984. Brazil: Cascavel, Paraná.
- 1464 RA Daoust CP-154. *Diabrotica speciosa* [Coleopt.: Chrysomelidae]. 3 Apr 1984. Brazil: Augusto Pestana, Ijuí, Rio Grande do Sul.
- 1465 RA Daoust CP-155. *Diabrotica speciosa* [Coleopt.: Chrysomelidae]. 3 Apr 1984. Brazil: Augusto Pestana, Ijuí, Rio Grande do Sul.
- 1466 RA Daoust CP-156. *Diabrotica speciosa* [Coleopt.: Chrysomelidae]. 31 Mar 1984. Brazil: Sto. Antonio do Sudoeste, Paraná.
- 1467 RA Daoust CP-157. *Ceratomya* sp. [Coleopt.: Chrysomelidae]. 2 Apr 1984. Brazil: São Carlos, Santa Catarina.
- 1468 RA Daoust CP-158. Bee [Hymenopt.: Apoidea]. 2 Apr 1984. Brazil: São Carlos, Santa Catarina.
- 1469 BP Magalhães, RA Daoust CP-159. *Diabrotica speciosa* [Coleopt.: Chrysomelidae]. 31 Mar 1984. Brazil: Sto. Antonio do Sudoeste, Paraná.
- 1470 BP Magalhães, RA Daoust, M Pinat CP-160. *Diabrotica speciosa* [Coleopt.: Chrysomelidae]. 2 Apr 1984. Brazil: Chapecó, Santa Catarina.
- 1471 BP Magalhães, RA Daoust, M Pinat CP-161. *Diabrotica speciosa* [Coleopt.: Chrysomelidae]. 2 Apr 1984. Brazil: Chapecó, Santa Catarina.
- 1472 BP Magalhães, RA Daoust, M Pinat CP-162. *Diabrotica speciosa* [Coleopt.: Chrysomelidae]. 2 Apr 1984. Brazil: Chapecó, Santa Catarina.
- 1473 BP Magalhães, RA Daoust, M Pinat CP-163. *Nezara viridula* [Hemipt.: Pentatomidae]. 2 Apr 1984. Brazil: Chapecó, Santa Catarina.
- 1474 BP Magalhães, RA Daoust, M Pinat CP-164. *Nezara viridula* [Hemipt.: Pentatomidae]. 2 Apr 1984. Brazil: Chapecó, Santa Catarina.
- 1475 RA Daoust, B Magalhães CP-165. *Diabrotica speciosa* [Coleopt.: Chrysomelidae]. 3 Apr 1984. Brazil: Augusto Pestana, Ijuí, Rio Grande do Sul.
- 1476 S Martins dos Santos CP-166. *Diabrotica speciosa* [Coleopt.: Chrysomelidae]. 25 Apr 1984. Brazil: Goiás
- 1478 S Batista Alves 256. *Euschistus heros* [Hemipt.: Pentatomidae]. Rec'd Jul 1984. Brazil: Goiás.
- 1479 S Batista Alves 246. *Stenomoma decora* [Lepidopt.: Stenomidae] on cacao. Rec'd Jul 1984. Brazil: Bahia.
- 1480 S Batista Alves 252. *Hypothenemus hampei* [Coleopt.: Scolytidae]. Rec'd Jul 1984. Brazil: São Paulo.
- 1483 S Batista Alves 61. *Cosmopolites sordidus* [Coleopt.: Curculionidae]. Rec'd Jul 1984. Brazil: Espírito Santo.
- 1484 S Batista Alves 196. *Diatraea saccharalis* [Lepidopt.: Pyralidae]. Rec'd Jul 1984. Brazil: Pernambuco.
- 1491 G Soares INRA Bb-169. *Sitona humeralis* [Coleopt.: Curculionidae]. Mar 1981. France: Latignon.
- 1509 I Majchrowicz 56. *Pyrrhalta luteola* [Coleopt.: Chrysomelidae]. 14 Jun 1984. France: Entraiques, Vaucluse.
- 1510 I Majchrowicz 58. *Pyrrhalta luteola* [Coleopt.: Chrysomelidae]. 14 Jun 1984. France: Entraiques, Vaucluse.
- 1511 I Majchrowicz 75. *Pyrrhalta luteola* [Coleopt.: Chrysomelidae]. 15 Jun 1984. France: Entraiques, Vaucluse.
- 1512 TJ Poprawski MN-102a. Adult, *Spodoptera littoralis* [Lepidopt.: Noctuidae]. 21 Jun 1984. France: La Minière.
- 1513 TJ Poprawski MN-102b. *Spodoptera littoralis* [Lepidopt.: Noctuidae]. 21 Jun 1984. France: La Minière.
- 1514 TJ Poprawski MN-103a. Pupa, *Musca autumnalis* [Dipt.: Muscidae]. 13 Jun 1984. France: Le Trait.
- 1515 TJ Poprawski MN-107. *Hypera postica* [Coleopt.: Curculionidae]. 19 Jun 1984. France: Le Trait.
- 1516 TJ Poprawski MN-108. Nymph, *Adelphocoris* sp. [Hemipt.: Miridae]. 19 Aug 1984. France: Senneville.
- 1517 TJ Poprawski MN-109. Nymph, *Adelphocoris* sp. [Hemipt.: Miridae]. 16 Jun 1984. France: Dagny.
- 1518 TJ Poprawski MN-111. *Pyrrhalta luteola* [Coleopt.: Chrysomelidae]. 27 Jun 1984. France: Entraique, Vaucluse.
- 1519 TJ Poprawski MN-112. *Pyrrhalta luteola* [Coleopt.: Chrysomelidae]. 27 Jun 1984. France: Entraique, Vaucluse.
- 1520 TJ Poprawski MN-117a. Nymph, *Lygus* sp. [Hemipt.: Miridae]. 27 Jun 1984. France: Prades.
- 1521 TJ Poprawski MN-117b. Nymph, *Lygus* sp. [Hemipt.: Miridae]. 27 Jun 1984. France: Prades.
- 1523 TJ Poprawski MN-122. Nymph, *Adelphocoris* sp. [Hemipt.: Miridae]. 5 Jul 1984. France: Ronce.
- 1524 TJ Poprawski MN-123. Nymph, *Adelphocoris* sp. [Hemipt.: Miridae]. 5 Jul 1984. France: Ronce.
- 1525 TJ Poprawski MN-124a. Nymph, *Adelphocoris* sp. [Hemipt.: Miridae]. 5 Jul 1984. Italy: Manciano.
- 1526 TJ Poprawski MN-124b. Nymph, *Adelphocoris* sp. [Hemipt.: Miridae]. 5 Jul 1984. Italy: Manciano.
- 1527 TJ Poprawski MN-125. *Adelphocoris* sp. [Hemipt.: Miridae]. 5 Jul 1984. Italy: Manciano.
- 1528 TJ Poprawski MN-126. Nymph, *Adelphocoris* sp. [Hemipt.: Miridae]. 5 Jul 1984. Italy: Davieto.
- 1529 TJ Poprawski MN-127a. Nymph, *Adelphocoris* sp. [Hemipt.: Miridae]. 5 Jul 1984. Italy: Davieto.
- 1531 TJ Poprawski MN-127a(bis). Nymph, *Adelphocoris* sp. [Hemipt.: Miridae]. 5 Jul 1984. Italy: Davieto.
- 1533 TJ Poprawski MN-128a. Nymph, *Adelphocoris* sp. [Hemipt.: Miridae]. 11 Jul 1984. Austria: Burgenland.
- 1534 TJ Poprawski MN-128b. Nymph, *Adelphocoris* sp. [Hemipt.: Miridae]. 11 Jul 1984. Austria: Burgenland.
- 1535 TJ Poprawski MN-130a. Nymph, *Adelphocoris* sp. [Hemipt.: Miridae]. 11 Jul 1984. Austria: Burgenland.
- 1536 TJ Poprawski MN-130b. Nymph, *Adelphocoris* sp. [Hemipt.: Miridae]. 11 Jul 1984. Austria: Burgenland.

**BEAUVERIA BASSIANA** (continued)

- 1537 TJ Poprawski MN-131a. Nymph, *Adelphocoris* sp. [Hemipt.: Miridae]. 11 Jul 1984. Austria: Burgenland.
- 1538 TJ Poprawski MN-131b. Nymph, *Adelphocoris* sp. [Hemipt.: Miridae]. 11 Jul 1984. Austria: Burgenland.
- 1539 TJ Poprawski MN-132. Nymph, *Adelphocoris* sp. [Hemipt.: Miridae]. 11 Jul 1984. Austria: Burgenland.
- 1540 TJ Poprawski MN-133a. Nymph, *Adelphocoris* sp. [Hemipt.: Miridae]. 11 Jul 1984. Austria: Burgenland.
- 1553 RS Soper. *Nephotettix bipunctata cincticeps* [Homopt.: Cicadellidae]. 5 Jul 1984. Japan: CIBA-Geigy facilities, Osaka.
- 1554 RS Soper. *Nephotettix bipunctata cincticeps* [Homopt.: Cicadellidae]. 5 Jul 1984. Japan: CIBA-Geigy facilities, Osaka.
- 1555 RS Soper. *Nephotettix bipunctata cincticeps* [Homopt.: Cicadellidae]. 5 Jul 1984. Japan: CIBA-Geigy facilities, Osaka.
- 1556 RS Soper. *Nephotettix bipunctata cincticeps* [Homopt.: Cicadellidae]. 5 Jul 1984. Japan: CIBA-Geigy facilities, Osaka.
- 1558 K Deseö 8 < Goidanich. *Cossus cossus* [Lepidopt.: Cossidae]. June 1981. Italy: Bologna.
- 1559 K Deseö 88 < Campadell. *Aromia moscata* [Coleopt.: Cerambycidae]. Feb 1984. Italy: Solarolo.
- 1560 K Deseö 89 < Campadelli. *Aromia moscata* [Coleopt.: Cerambycidae]. Feb 1984. Italy: Solarolo.
- 1561 K Deseö 90 < Campadelli. *Aromia moscata* [Coleopt.: Cerambycidae]. Feb 1984. Italy: Solarolo.
- 1562 K Deseö 91 < Campadelli. *Aromia moscata* [Coleopt.: Cerambycidae]. Feb 1984. Italy: Solarolo.
- 1563 K Deseö 92 < Campadelli. *Aromia moscata* [Coleopt.: Cerambycidae]. Feb 1984. Italy: Solarolo.
- 1564 K Deseö 103 < Cortellini. *Hyphantria cunea* [Lepidopt.: Arctiidae]. Mar 1984. Italy: Cade, Reggio.
- 1565 K Deseö 109 < Cortellini. *Hyphantria cunea* [Lepidopt.: Arctiidae]. Mar 1984. Italy: Cade, Reggio.
- 1566 S Keller D155. Coleopt.: Scolytidae. 14 Aug 1984. Switzerland: Siblingen, Schaffhausen.
- 1567 S Keller D156. Coleopt.: Scolytidae. 14 Aug 1984. Switzerland: Siblingen, Schaffhausen.
- 1619 L Allee. Adult, *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. From control plot for ARSEF 252 spray tests. 6 Aug 1984. USA: Agway Res. Farm, Tully, New York.
- 1620 L Allee. Adult, *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. From high rate plot for ARSEF 252 spray tests. 6 Aug 1984. USA: Agway Res. Farm, Tully, New York.
- 1621 L Allee. Adult, *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. From high rate plot for ARSEF 252 spray tests. 6 Aug 1984. USA: Agway Res. Farm, Tully, New York.
- 1622 L Allee. Larva (4th instar), *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. From low rate plot for ARSEF 252 spray tests. 27 Jul 1984. USA: Agway Res. Farm, Tully, New York.
- 1623 L Allee. Larva (4th instar), *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. From low rate plot for ARSEF 252 spray tests. 27 Jul 1984. USA: Agway Res. Farm, Tully, New York.
- 1624 L Allee. Larva (2nd instar), *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. From high rate plot for ARSEF 252 spray tests. 30 Jul 1984. USA: Agway Res. Farm, Tully, New York.
- 1627 TJ Poprawski MN-0104. Caterpillar [Lepidopt.: Noctuidae]. 13 Jun 1984. Hungary: Gödöllő.
- 1628 TJ Poprawski MN-0105. Caterpillar [Lepidopt.: Noctuidae]. 13 Jun 1984. Hungary: Gödöllő.
- 1629 TJ Poprawski MN-0106. Caterpillar [Lepidopt.: Noctuidae]. 13 Jun 1984. Hungary: Gödöllő.
- 1635 TJ Poprawski MN-0133. Nymph, *Adelphocoris* sp. [Hemipt.: Miridae]. 27 Jun 1984. Austria: Burgenland.
- 1636 TJ Poprawski MN-0134. Nymph, *Adelphocoris* sp. [Hemipt.: Miridae]. 11 Jul 1984. Austria: Burgenland.
- 1637 TJ Poprawski MN-0135a. Nymph, *Adelphocoris* sp. [Hemipt.: Miridae]. 13 Jul 1984. Austria: Burgenland.
- 1638 TJ Poprawski MN-0135b. Nymph, *Adelphocoris* sp. [Hemipt.: Miridae]. 13 Jul 1984. Austria: Burgenland.
- 1640 TJ Poprawski MN-0137. Nymph, *Adelphocoris* sp. [Hemipt.: Miridae]. 13 Jul 1984. Austria: Burgenland.
- 1643 TJ Poprawski MN-0140. Nymph, *Adelphocoris* sp. [Hemipt.: Miridae]. 13 Jul 1984. Austria: Burgenland.
- 1647 TJ Poprawski MN-0143. *Sitona* sp. [Coleopt.: Curculionidae]. 22 Aug 1984. France: Orval.
- 1648 TJ Poprawski MN-0144. Adult, *Lygus* [Hemipt.: Miridae]. 22 Aug 1984. France: Charente.
- 1649 TJ Poprawski MN-0145. *Lygus* sp. [Hemipt.: Miridae]. 22 Aug 1984. France: Drôme.
- 1650 TJ Poprawski MN-0146. Adult, *Adelphocoris* [Hemipt.: Miridae]. 22 Aug 1984. France: St. Denis du Pin.
- 1651 122-1. From Abbott Laboratories 1984 formulation of ARSEF 252 for spray tests against *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. Material used in Rhode Island and New York.
- 1652 106(2). From Abbott Laboratories 1984 formulation of ARSEF 252 for spray tests against *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae].
- 1653 114(2). From Abbott Laboratories 1984 formulation of ARSEF 252 for spray tests against *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. Material used in Washington State and NY.
- 1654 112. From Abbott Laboratories 1984 formulation of ARSEF 252 for spray tests against *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. Material used in Maine, N Dakota, and New York.
- 1677 M Shimazu F-185. Pine caterpillar, *Dendrolimus spectabilis* [Lepidopt.: Lasiocampidae]. 26 Jul 1976. Japan: Ishikawa.
- 1678 M Shimazu F-237. *Moechotypa diphysis* [Coleopt.: Cerambycidae]. Aug 1978. Japan: Tsushima, Nagasaki.
- 1679 M Shimazu F-263. Pine sawyer, *Monoctonus alternatus* [Coleopt.: Cerambycidae]. 25 Aug 1978. Japan: Kumamoto.
- 1683 M Shimazu F-359. *Anomala cuprea* [Coleopt.: Scarabaeidae]. 20 Nov 1980. Japan: Nagano.
- 1689 S Jaronski AARC 8401-A(1). From Abbott Laboratories formulation of ARSEF 252 for spray tests against Colorado potato beetle [*Leptinotarsa decemlineata*. Coleopt.: Chrysomelidae]. 1984.
- 1690 S Jaronski AARC 8401-A(2). From Abbott Laboratories formulation of ARSEF 252 for spray tests against Colorado potato beetle [*Leptinotarsa decemlineata*. Coleopt.: Chrysomelidae]. 1984.
- 1691 S Jaronski AARC 8401-B. From Abbott Laboratories formulation of ARSEF 252 for spray tests against Colorado potato beetle [*Leptinotarsa decemlineata*. Coleopt.: Chrysomelidae]. 1984.
- 1692 S Jaronski AARC 8401-D. From Abbott Laboratories formulation of ARSEF 252 for spray tests against Colorado potato beetle [*Leptinotarsa decemlineata*. Coleopt.: Chrysomelidae]. 1984.
- 1704 L Allee 84-1. *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. From low rate plot for ARSEF 252 spray tests. 15 Aug 1984. USA: Agway Res. Farm, Tully, New York.
- 1705 L Allee 84-3. *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. From low rate plot for ARSEF 252 spray tests. 15 Aug 1984. USA: Agway Res. Farm, Tully, New York.
- 1706 L Allee 84-4. *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. From low rate plot for ARSEF 252 spray tests. 8 Aug 1984. USA: Agway Res. Farm, Tully, New York.

**BEAUVERIA BASSIANA** (continued)

- 1707 L Allee 84-5. *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. From control plot for ARSEF 252 spray tests. 15 Aug 1984. USA: Agway Res. Farm, Tully, New York.
- 1708 L Allee 84-7. *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. From control plot for ARSEF 252 spray tests. 8 Aug 1984. USA: Agway Res. Farm, Tully, New York.
- 1709 L Allee 84-8. *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. From high rate plot for ARSEF 252 spray tests. 8 Aug 1984. USA: Agway Res. Farm, Tully, New York.
- 1710 L Allee 84-9. *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. From high rate plot for ARSEF 252 spray tests. 8 Aug 1984. USA: Agway Res. Farm, Tully, New York.
- 1711 L Allee 84-10. *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. From high rate plot for ARSEF 252 spray tests. 15 Aug 1984. USA: Agway Res. Farm, Tully, New York.
- 1712 L Allee 84-11. *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. From high rate plot for ARSEF 252 spray tests. 15 Aug 1984. USA: Agway Res. Farm, Tully, New York.
- 1713 L Allee 84-12. *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. From high rate plot for ARSEF 252 spray tests. 15 Aug 1984. USA: Agway Res. Farm, Tully, New York.
- 1721 L Allee 84-13. *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae] recovered as cadaver from field. From high rate plot for ARSEF 252 spray tests. Aug 1984. USA: Agway Res. Farm, Tully, New York.
- 1722 L Allee 84-19. *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae] recovered as cadaver from field. From low rate plot for ARSEF 252 spray tests. Aug 1984. USA: Agway Res. Farm, Tully, New York.
- 1723 L Allee 84-20. *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae] recovered as cadaver from field. From high rate plot for ARSEF 252 spray tests. Aug 1984. USA: Agway Res. Farm, Tully, New York.
- 1747 124. From Abbott Laboratories 1984 formulation of ARSEF 252 for spray tests against *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. Material used in Washington State.
- 1748 Bb 029-13, "3 of 4". From Abbott Laboratories 1983 formulation of ARSEF 252 for spray tests against *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. Material used in NY, stored at 4°C and tested for viability in 1984.
- 1749 L Allee 84-16. *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. From low rate plot for ARSEF 252 spray tests. Aug 1984. USA: Agway Res. Farm, Tully, New York.
- 1750 L Allee 84-18. *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. From low rate plot for ARSEF 252 spray tests. Aug 1984. USA: Agway Res. Farm, Tully, New York.
- 1775 L Allee 84-22. *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae], cadaver dug from soil. From control plot for ARSEF 252 spray tests. 1 Nov 1984. USA: Agway Res. Farm, Tully, New York.
- 1776 L Allee 84-23. *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae], cadaver dug from soil. From control plot for ARSEF 252 spray tests. 1 Nov 1984. USA: Agway Res. Farm, Tully, New York.
- 1777 L Allee 84-24. *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae], cadaver dug from soil. From insecticide-treated plot for ARSEF 252 spray tests. 1 Nov 1984. USA: Agway Res. Farm, Tully, New York.
- 1778 L Allee 84-25. *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae], cadaver dug from soil. From low rate plot for ARSEF 252 spray tests. 1 Nov 1984. USA: Agway Res. Farm, Tully, New York.
- 1779 L Allee 84-26. *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae], cadaver dug from soil. From low rate plot for ARSEF 252 spray tests. 1 Nov 1984. USA: Agway Res. Farm, Tully, New York.
- 1780 L Allee 84-27. *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae], cadaver dug from soil. From high rate plot for ARSEF 252 spray tests. 1 Nov 1984. USA: Agway Res. Farm, Tully, New York.
- 1781 L Allee 84-28. *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae], cadaver dug from soil. From high rate plot for ARSEF 252 spray tests. 1 Nov 1984. USA: Agway Res. Farm, Tully, New York.
- 1782 102a. From Abbott Laboratories 1984 formulation of ARSEF 252 for spray tests against *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. Material used in Washington State.
- 1783 104, 106. From Abbott Laboratories 1984 formulation of ARSEF 252 for spray tests against *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. Material used in Washington State and N Dakota.
- 1788 NK Maniania MN-0147. Larva, *Heliothis virescens* [Lepidopt.: Noctuidae]. Isolated 14 Nov 1984. Spain.
- 1789 NK Maniania MN-0148a. Adult, *Adelphocoris* sp. [Hemipt.: Miridae]. Isolated 22 Aug 1984. France: St. Laurent de la Prée.
- 1790 NK Maniania MN-148b. Adult, *Adelphocoris* sp. [Hemipt.: Miridae]. Isolated 22 Aug 1984. France: St. Laurent de la Prée.
- 1791 NK Maniania MN-149. Adult, *Adelphocoris* sp. [Hemipt.: Miridae]. Isolated 22 Aug 1984. France: St. Laurent de la Prée.
- 1792 NK Maniania MN-0150a. Adult, *Adelphocoris* sp. [Hemipt.: Miridae]. Isolated 22 Aug 1984. France: Fiancey.
- 1793 NK Maniania MN-0150b. Adult, *Adelphocoris* sp. [Hemipt.: Miridae]. Isolated 22 Aug 1984. France: Fiancey.
- 1794 NK Maniania MN-0150c. Adult, *Adelphocoris* sp. [Hemipt.: Miridae]. Isolated 22 Aug 1984. France: Fiancey.
- 1795 NK Maniania MN-0151. Adult, *Adelphocoris* sp. [Hemipt.: Miridae]. Isolated 22 Aug 1984. France: Marsanne.
- 1796 NK Maniania MN-0152a. Adult, *Adelphocoris* sp. [Hemipt.: Miridae]. Isolated 22 Aug 1984. France: Choisy-en-Brie.
- 1797 NK Maniania MN-0152b. Adult, *Adelphocoris* sp. [Hemipt.: Miridae]. Isolated 22 Aug 1984. France: Choisy-en-Brie.
- 1798 NK Maniania MN-0152c. Adult, *Adelphocoris* sp. [Hemipt.: Miridae]. Isolated 22 Aug 1984. France: Choisy-en-Brie.
- 1799 NK Maniania MN-0152d. Adult, *Adelphocoris* sp. [Hemipt.: Miridae]. Isolated 22 Aug 1984. France: Choisy-en-Brie.
- 1800 NK Maniania MN-0154. Adult, *Adelphocoris* sp. [Hemipt.: Miridae]. Isolated 22 Aug 1984. France: Septeuil.
- 1801 NK Maniania MN-0155. Adult, *Adelphocoris* sp. [Hemipt.: Miridae]. Isolated 22 Aug 1984. France: Septeuil.
- 1802 NK Maniania MN-0156. Adult, *Lygus* sp. [Hemipt.: Miridae]. Isolated 14 Nov 1984. Greece: Heronia.
- 1803 NK Maniania MN-0157. Adult, *Lygus* sp. [Hemipt.: Miridae]. Isolated 14 Nov 1984. Greece: Heronia.
- 1804 NK Maniania MN-0158a. Adult, *Lygus* sp. [Hemipt.: Miridae]. Isolated 14 Nov 1984. Spain: Bahabon de Esgueva.
- 1805 NK Maniania MN-0158b. Adult, *Lygus* sp. [Hemipt.: Miridae]. Isolated 14 Nov 1984. Spain: Bahabon de Esgueva.
- 1806 NK Maniania MN-0158c. Adult, *Lygus* sp. [Hemipt.: Miridae]. Isolated 14 Nov 1984. Spain: Bahabon de Esgueva.
- 1807 NK Maniania MN-0159a. Adult, *Lygus* sp. [Hemipt.: Miridae]. Isolated 14 Nov 1984. Spain: Bahabon de Esgueva.
- 1808 NK Maniania MN-0159b. Adult, *Lygus* sp. [Hemipt.: Miridae]. Isolated 14 Nov 1984. Spain: Bahabon de Esgueva.
- 1809 NK Maniania MN0160. Adult, *Lygus* sp. [Hemipt.: Miridae]. Isolated 14 Nov 1984. Spain: Bocequillas.
- 1810 NK Maniania MN-0161. Adult, *Lygus* sp. [Hemipt.: Miridae]. Isolated 14 Nov 1984. Spain: Bahabon de Esgueva.
- 1811 NK Maniania MN-0167c. Adult, *Sitona discoideus* [Coleopt.: Curculionidae]. Isolated 2 Jan 1985. Morocco: Jorf.

**BEAUVERIA BASSIANA** (continued)

- 1812 NK Maniania MN-0163. Adult, *Lygus* sp. [Hemipt.: Miridae]. Isolated 14 Nov 1984. Greece: Thessaloniki.
- 1813 NK Maniania MN-0164a. Adult, *Lygus* sp. [Hemipt.: Miridae]. Isolated 14 Nov 1984. Spain: Bahabon de Esgueva.
- 1814 NK Maniania MN-0164b. Adult, *Lygus* sp. [Hemipt.: Miridae]. Isolated 14 Nov 1984. Spain: Bahabon de Esgueva.
- 1815 NK Maniania MN-0165. Adult, *Sitona discoideus* [Coleopt.: Curculionidae]. Isolated 2 Jan 1985. Morocco: Jorf.
- 1816 NK Maniania MN-0166a. Adult, *Sitona discoideus* [Coleopt.: Curculionidae]. Isolated 2 Jan 1985. Morocco: Hauteban.
- 1817 NK Maniania MN-0166b. Adult, *Sitona discoideus* [Coleopt.: Curculionidae]. Isolated 2 Jan 1985. Morocco: Hauteban.
- 1818 NK Maniania MN-0166c. Adult, *Sitona discoideus* [Coleopt.: Curculionidae]. Isolated 2 Jan 1985. Morocco: Hauteban.
- 1819 NK Maniania MN-0166d. Adult, *Sitona discoideus* [Coleopt.: Curculionidae]. Isolated 2 Jan 1985. Morocco: Hauteban.
- 1820 NK Maniania MN-0167a. Adult, *Sitona discoideus* [Coleopt.: Curculionidae]. Isolated 2 Jan 1985. Morocco: Jorf.
- 1821 NK Maniania MN-0167b. Adult, *Sitona discoideus* [Coleopt.: Curculionidae]. Isolated 2 Jan 1985. Morocco: Jorf.
- 1822 NK Maniania MN-0162. Adult, *Lygus* sp. [Hemipt.: Miridae]. Isolated 14 Nov 1984. Greece: Thessaloniki.
- 1831 S Batista Alves 63. *Atta* sp. [Hymenopt.: Formicidae]. Rec'd Jan 1985. Brazil: ?São Paulo.
- 1832 S Batista Alves 197. *Diatraea saccharalis* [Lepidopt.: Pyralidae]. Rec'd Jan 1985. Brazil: São Paulo(?).
- 1833 S Batista Alves 267. *Cosmopolites* sp. [Coleopt.: Curculionidae]. Rec'd Jan 1985. Brazil: São Paulo(?).
- 1834 S Batista Alves 268. *Diatraea saccharalis* [Lepidopt.: Pyralidae]. Rec'd Jan 1985. Brazil: São Paulo(?).
- 1836 S Batista Alves 309. *Therastia meticulosalis* [?]. Rec'd Jan 1985. Brazil: São Paulo(?).
- 1838 102b(2). From Abbott Laboratories 1984 formulation of ARSEF 252 for spray tests against *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. Material used in Maine, Rhode Island, and Washington State.
- 1839 106. From Abbott Laboratories 1984 formulation of ARSEF 252 for spray tests against *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. Material used in Maine and N Dakota.
- 1842 Bb 028-5f. From Abbott Laboratories 1983 formulation of ARSEF 252 for spray tests against *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. Material used in Maine, Massachusetts, New York, Rhode Island, and Washington.
- 1843 Bb 028-138. From Abbott Laboratories 1983 formulation of ARSEF 252 for spray tests against *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. Material used in Rhode Island and Washington.
- 1844 Bb 028-148. From Abbott Laboratories 1983 formulation of ARSEF 252 for spray tests against *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. Material used in Maine and Massachusetts.
- 1845 Bb 028-150. From Abbott Laboratories 1983 formulation of ARSEF 252 for spray tests against *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. Material used in New York.
- 1846 Bb 028-13. From Abbott Laboratories 1983 formulation of ARSEF 252 for spray tests against *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. Material used in Maine and New York in 1983; also used in NY in 1984 after storage at 4°C.
- 1848 HS Whitney R-629 < H Moeck. *Rhizophagus grandis* [Coleopt.: Rhizophagidae]. Sept 1984. Belgium.
- 1849 HS Whitney R-630 < H Moeck. *Dendroctonus ponderosae* [Coleopt.: Scolytidae]. Oct 1984. Canada: Rise Creek, British Columbia.
- 1850 HS Whitney R-633 < I Otvos. *Choristoneura* [Lepidopt.: Tortricidae]. Jun 1983. Canada: Terrace, British Columbia.
- 1852 H Whitney, P Spencer R-634. *Dryocoetes confusus* [Coleopt.: Scolytidae]. Jun 1984. Canada: Top of the World Park, British Columbia.
- 1853 HS Whitney R-636 < H Moeck. *Dendroctonus ponderosae* [Coleopt.: Scolytidae], lab-reared larvae. 5 Oct 1984. Canada: British Columbia.
- 1854 HS Whitney R-637 < HA Moeck. *Pytho* sp. [Coleopt.: Pythidae] associated with *Dendroctonus ponderosae* [Coleopt.: Scolytidae]. Oct 1984. Canada: Rise Creek, Lye Lake, British Columbia.
- 1855 HS Whitney R-640 < P Spencer. *Ips* sp. [Coleopt.: Scolytidae]. Jul 1984. Canada: Christina Lake, British Columbia.
- 1864 NK Maniania MN-1068. *Delia antiqua* [Dipt.: Anthomyiidae]. 5 Feb 1985. France: La Minière.
- 1865 NK Maniania MN-0169. *Delia antiqua* [Dipt.: Anthomyiidae]. 5 Feb 1985. France: La Minière.
- 1866 NK Maniania MN-0170. *Delia antiqua* [Dipt.: Anthomyiidae]. 2 Feb 1985. France: La Minière.
- 1886 H David. *Chilo infuscatellus* [Lepidopt.: Pyralidae] on sugarcane. Rec'd Jun 1985. India: Coimbatore.
- 1889 1985-3-69. From Abbott Laboratories 1985 formulation of ARSEF 252 for spray tests against *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae].
- 1953 B Magalhães, J Lord CP-178. Hymenopt.: Vespidae. 23 Jul 1985. Brazil: Santana do Ipanema, Alagoas.
- 1954 B Magalhães, J Lord CP-179. *Diabrotica speciosa* [Coleopt.: Chrysomelidae]. 23 Jul 1985. Brazil: Santana do Ipanema, Alagoas.
- 1955 B Magalhães, J Lord CP-180. Dipt.: Muscidae. 23 Jul 1985. Brazil: Santana do Ipanema, Alagoas.
- 1956 B Magalhães, J Lord CP-181. *Coleoméqilla maculata* [Coleopt.: Coccinellidae]. 22 Jul 1985. Brazil: União dos Palmares, Alagoas.
- 1959 B Magalhães, J Lord CP-185. Orthopt.: Acrididae. 24 Jul 1985. Brazil: Ribeira do Pombal, Bahia.
- 1960 B Magalhães, J Lord CP-186. Hymenopt.: Formicidae. 24 Jul 1985. Brazil: Ribeira do Pombal, Bahia.
- 1961 B Magalhães, J Lord CP-187. *Diabrotica speciosa* [Coleopt.: Chrysomelidae]. 24 Jul 1985. Brazil: Ribeira do Pombal, Bahia.
- 1962 B Magalhães, J Lord CP-188. Cyclorrhaphan fly [Dipt.]. 24 Jul 1985. Brazil: Ribeira do Pombal, Bahia.
- 1963 B Magalhães, J Lord CP-189. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 23 Jul 1985. Brazil: Arapiraca, Alagoas.
- 1965 B Magalhães, J Lord CP-191. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 25 Jul 1985. Brazil: Ribeira do Pombal, Bahia.
- 1966 D Gabriel CP-168. *Anthonomus grandis* [Coleopt.: Curculionidae]. 25 Jul 1985. Brazil: Fazenda St. Genebra, Campinas, São Paulo.
- 1969 KV Raman. *Premnotypes suturicallus* [Coleopt.: Curculionidae]. 1985. Peru: International Potato Center, Lima.
- 1971 H da Silva Coelho CP-124. Coleopt.: Chrysomelidae. 12 Mar 1984. Brazil: CNPAF, Goiânia, Goiás.
- 1973 TJ Poprawski MN-0175. Hemipt.: Pentatomidae. 11 Jul 1985. Austria: Burgenland.
- 1974 TJ Poprawski MN-0177. Hemipt.: Pentatomidae. 16 Jul 1985. Austria: Burgenland.
- 1975 TJ Poprawski MN-0178. Coleopt.: Carabidae. 8 Jul 1985. France: St. Genys.
- 1976 TJ Poprawski MN-0179. Hymenopt.: Formicidae: Myrmicinae. 11 Jul 1985. France: St. Genys.
- 1977 TJ Poprawski MN-0180. Hymenopt.: Formicidae: Myrmicinae. 11 Jul 1985. France: St. Genys.
- 1978 TJ Poprawski MN-0181. Hymenopt.: Formicidae: Myrmicinae. 11 Jul 1985. France: St. Genys.
- 1979 TJ Poprawski MN-0182. Hymenopt.: Formicidae: Myrmicinae. 11 Jul 1985. France: St. Genys.
- 1980 TJ Poprawski MN-0183. Coleopt. 11 Jul 1985. France: St. Genys.
- 1982 TJ Poprawski MN-0185. Egg, *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. 26 Jul 1985. France: La Repara.
- 1984 TJ Poprawski MN-0187. Hemipt.: Pentatomidae. 14 Aug 1985. France: Drôme.
- 1988 TJ Poprawski MN-0176. Nabis sp. [Hemipt.: Nabidae]. 8 Aug 1985. Austria: Burgenland.
- 2010 M Yasem de Romero. *Cycloneda sanguinea* [Coleopt.: Coccinellidae]. 1984; rec'd Oct 1985. Argentina: Tucumán.
- 2011 M Yasem de Romero. *Nezara viridula* [Hemipt.: Pentatomidae]. 1984; rec'd Oct 1985. Argentina: Tucumán.

**BEAUVERIA BASSIANA** (continued)

- 2030 HS Whitney CPB-1. *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae]. From low rate plot (2) for ARSEF 252 spray tests. Oct 1985. USA: Agway Res. Farm, Tully, New York.
- 2031 HS Whitney CPB-2. *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae], dry adult in soil. From low rate plot (2) for ARSEF 252 spray tests. Oct 1985. USA: Agway Res. Farm, Tully, New York.
- 2032 HS Whitney CPB-3. *Leptinotarsa decemlineata* [Coleopt.: Chrysomelidae], moist adult in soil. From low rate plot (2) for ARSEF 252 spray tests. Oct 1985. USA: Agway Res. Farm, Tully, New York.
- 2033 HS Whitney CPB-multi. *Coccinella* sp. [Coleopt.: Coccinellidae]. From low rate plot (2) for ARSEF 252 spray tests. Oct 1985. USA: Agway Res. Farm, Tully, New York.
- 2034 HS Whitney CPB-multi(2). *Coccinella* sp. [Coleopt.: Coccinellidae]. From low rate plot (2) for ARSEF 252 spray tests. Oct 1985. USA: Agway Res. Farm, Tully, New York.
- 2040 MC Rombach 171085-1 < SB Ahn E5-1. Weevil [Coleopt.: Curculionidae]. Oct 1985. Korea.
- 2041 MC Rombach 281085-1. *Cnaphalocrocis medinalis* [Lepidopt.: Pyralidae], larva. 28 Oct 1985. Philippines: IRRI, Los Baños, Manila.
- 2054 G Carroll. *Lymantria dispar* [Lepidopt.: Lymantriidae], egg mass. Rec'd Dec 1985. USA: Dexter, Lane Co., Oregon.
- 2075 J Lord, BP Magalhães CP-183. *Cerotoma arcuata* [Coleopt.: Chrysomelidae]. 1985. Brazil: CNPAF, Goiânia, Goiás.
- 2079 J Lord, BP Magalhães CP-198. *Sistena* sp. [??: ??]. 1985. Brazil: CNPAF, Goiânia, Goiás.
- 2191 JFS Martins CP-201. *Oebalus poecilus* [Hemipt.: Pentatomidae]. Rec'd Jun 1986. Brazil: Fazenda palmital, CNPAF, Goiânia, Goiás.
- 2199 M Bryan < M Hattan. *Hypera postica* [Coleopt.: Curculionidae]. 12 May 1986. USA: Undilla, Otoe Co., Nevada.
- 2200 M Bryan < JL King. *Hypera postica* [Coleopt.: Curculionidae]. 25 Apr 1986. USA: Bush River, Newberry Co., S Carolina.

**BEAUVERIA BRONGNIARTII** (Saccardo) Petch

Major synonyms: *Beauveria tenella* (Saccardo) MacLeod, *Beauveria densa* (Link: Fries) Picard.

- 617 = ATCC 26156 < P Ferron. *Melolontha melolontha* [Coleopt.: Scarabaeidae]. 1971. France.
- 656 D Roberts 101481-5. *Nephotettix bipunctata cincticeps* [Homopt.: Cicadellidae]. 14 Oct 1981. PRChina: Hunan.
- 678 DW Roberts 101481-4-1. *Nephotettix bipunctata cincticeps* [Homopt.: Cicadellidae]. 14 Oct 1981. PRChina: Hunan.
- 979 RA Hall GCRI 64-82 < J Fargues. *Melolontha melolontha* [Coleopt.: Scarabaeidae]. France.
- 985 J Aoki Beau-22 < T Kushida. *Anomala costata* [Coleopt.: Scarabaeidae]. Nov 1971. Japan: Hachioji City, Tokyo.
- 1067 TJ Poprawski < S Keller 117. Adult, *Melolontha melolontha* [Coleopt.: Scarabaeidae]. 10 May 1982. Switzerland: Buhwil, Thurgau.
- 1068 TJ Poprawski < S Keller 118. Adult, *Melolontha melolontha* [Coleopt.: Scarabaeidae]. 10 May 1982. Switzerland: Buhwil, Thurgau.
- 1069 TJ Poprawski < S Keller 119. *Melolontha melolontha* [Coleopt.: Scarabaeidae]; mixture of 3 strains. Switzerland.
- 1070 TJ Poprawski < S Keller 120. Adult, *Melolontha melolontha* [Coleopt.: Scarabaeidae]. 15 Jul 1982. Switzerland: Breitenloo, Thurgau.
- 1071 TJ Poprawski < S Keller 125. Larva (2nd instar), *Melolontha melolontha* [Coleopt.: Scarabaeidae]. 6 Jan 1983. Switzerland: Bleiken, Thurgau.
- 1072 TJ Poprawski < S Keller 126. Larva (2nd instar), *Melolontha melolontha* [Coleopt.: Scarabaeidae]. Switzerland.
- 1076 S Keller 131. *Melolontha melolontha* [Coleopt.: Scarabaeidae]. 6 Jan 1983. Switzerland: Istighofen, Thurgau.
- 1077 S Keller 134. *Melolontha melolontha* [Coleopt.: Scarabaeidae]. 8 Dec 1983. Switzerland: Bleiken, Thurgau.
- 1360 S Balazy 1599. Rec'd 1984. Poland.
- 1366 S Balazy 1599a. Rec'd 1984. Poland.
- 1431 MC Rombach. *Niphonoclea* [Coleopt.: Cerambycidae] on leaf litter. Apr 1984. Philippines: Univ. Philippines Botanical Garden, Los Baños.
- 1630 TJ Poprawski MN-0118a. Larva, *Calliphora* sp. [Dipt.: Calliphoridae]. 27 Jun 1984. France: Sèvres.
- 1676 M Shimazu F-77. *Anomala costata* [Coleopt.: Scarabaeidae]. 11 Oct 1971. Japan: Daimon, Nagano.
- 1680 M Shimazu F-313. Yellow-spotted longicorn beetle, *Psacotha hilaris* [Coleopt.: Cerambycidae]. 25 Aug 1978. Japan: Takao, Tokyo.
- 1829 S Batista Alves 258. *Castnia licus* [Lepidopt.: Castniidae]. Brazil: Pernambuco.
- 1830 S Batista Alves 210. *Diatraea saccharis* [Lepidopt.: Pyralidae]. Brazil: São Paulo.
- 1835 S Batista Alves *Anthonomus grandis* [Coleopt.: Curculionidae].
- 1871 S Keller 165. *Melolontha melolontha* [Coleopt.: Scarabaeidae]. Used in 1985 field trials against cockchafers. Switzerland.
- 1872 S Keller 166. *Melolontha melolontha* [Coleopt.: Scarabaeidae]. Used in 1985 field trials against cockchafers. Switzerland.
- 1873 S Keller 167. *Melolontha melolontha* [Coleopt.: Scarabaeidae]. Used in 1985 field trials against cockchafers. Switzerland.
- 1874 S Keller 168. *Melolontha melolontha* [Coleopt.: Scarabaeidae]. Used in 1985 field trials against cockchafers. Switzerland.
- 1875 S Keller 169. *Melolontha melolontha* [Coleopt.: Scarabaeidae]. Used in 1985 field trials against cockchafers. Switzerland.

**CALCARISPORIUM OVALISPORUM** (Petch) de Hoog

- 1907 MC Rombach. *Nilaparvata lugens* [Homopt.: Delphacidae]. Apr 1985. Solomon Islands: nr. Metapona, Guadalcanal.
- 2035 MC Rombach Cov-2. Hyperparasite of *Hirsutella citriformis* on *Nilaparvata lugens* [Homopt.: Delphacidae]. 1985. Solomon Islands: Guadalcanal.
- 2036 MC Rombach Cov-5. Hyperparasite of *Hirsutella citriformis* on *Nilaparvata lugens* [Homopt.: Delphacidae]. 1985. Solomon Islands: Guadalcanal.

**CANDIDA** sp.

- 1857 JM Verrett. *Periplaneta americana* [Dictyopt.: Blattellidae], from laboratory colony. Feb 1985. USA: New Orleans, Louisiana.
- 1877 TB Clark. *Blattella germanica* [Dictyopt.: Blattellidae], from laboratory colony. Rec'd 12 Oct 1983. USA: Beltsville, Maryland.
- 1924 H deBarjac. *Blattella germanica* [Dictyopt.: Blattellidae], from laboratory colony. Rec'd Jun 1985. USA: New Jersey.
- 1925 H deBarjac. *Blattella germanica* [Dictyopt.: Blattellidae], from laboratory colony. Rec'd Jun 1985. USA: New Jersey.
- 1926 H deBarjac. *Blattella germanica* [Dictyopt.: Blattellidae], from laboratory colony. Rec'd Jun 1985. USA: New Jersey.

**CATENARIA ANGUILLULAE** Sorokin

- 2015 BA Jaffee Ca-2 (= ATCC 58382). *Xiphinema* sp. [Nematoda]. 18 Jun 1984. USA: Adams County, Pennsylvania.

**CHRYSOSPORIUM** sp.

- 2063 (as *Renispora flavissima*) G Carroll. *Lymantria dispar* [Lepidopt.: Lymantriidae], egg mass. Rec'd Dec 1985. USA: Dexter, Lane Co., Oregon.

**COELOMYCIDIUM SIMULII** Debaisieux

218 L Bauer. *Simulium venustum* [Dipt.: Simuliidae]. 24 May 1978. USA: Otter Pond Creek, Milford, Maine.

**CONIDIOBOLUS** sp.

- 92 JD Vandenberg. Larva, *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 7 Jul 1976. USA: W side of second Musquacook lake, Maine.  
 93 JD Vandenberg. Larva, *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 7 Jul 1976. USA: W side of second Musquacook lake, Maine.  
 94 JD Vandenberg. Larva, *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 7 Jul 1976. USA: W side of second Musquacook lake, Maine.  
 147 JD Vandenberg. Larva, *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 26 Jun 1977. USA: Carroll, Maine.  
 148 JD Vandenberg. Larva, *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 20 Jun 1977. USA: Maine.  
 211 DW Roberts. *Nilaparvata lugens* [Homopt.: Delphacidae]. 27 Mar 1978. India: Hyderabad.  
 517 DW Roberts 82380-19. *Nilaparvata lugens* [Homopt.: Delphacidae]. 23 Aug 1980. Malaysia: Bumbong Lima.  
 522 DW Roberts 82180-7b. *Nilaparvata lugens* [Homopt.: Delphacidae]. 21 Sept 1980. Malaysia.  
 564 RS Soper 8133-1/BPH2. *Nilaparvata lugens* [Homopt.: Delphacidae]. 3 Mar 1981. Indonesia: Experiment Sta., Maros, S. Sulawesi.  
 595 RS Soper 81227-2. *Nilaparvata lugens* [Homopt.: Delphacidae]. 27 Feb 1981. Indonesia: Batul-Sewon, Central Java.  
 596 RS Soper 81226-1. *Nilaparvata lugens* [Homopt.: Delphacidae]. 26 Feb 1981. Indonesia: Batul-Sewon, Central Java.  
 597 RS Soper 8133-1. *Nephotettix bipunctata cincticeps* [Homopt.: Cicadellidae]. 3 Mar 1981. Indonesia: Experiment Sta., Maros, South Sulawesi.  
 604 RS Soper 8133-2. *Sogatella furcifera* [Homopt.: Delphacidae]. 3 Mar 1981. Indonesia: Sulawesi, Pangkep, South Sulawesi.  
 605 RS Soper 8133-1. *Nephotettix bipunctata cincticeps* [Homopt.: Cicadellidae]. 3 Mar 1981. Indonesia: Maros Res. Sta., South Sulawesi.  
 606 RS Soper 8133-1. *Nephotettix bipunctata cincticeps* [Homopt.: Cicadellidae]. 3 Mar 1981. Indonesia: Maros Res. Sta., South Sulawesi.  
 995 J Aoki Ent-9 < M Shimazu. *Rhopalosiphum splendidella* [Homopt.: Aphididae]. Apr 1976. Japan: Chikugo, Fukuoka.  
 1444 M Smith L-05:001. Soil/plant detritus. 1984. England: Marshy area by pool, Univ. of Keele, Keele, Staffordshire.  
 1445 M Smith K-13:004. Soil/plant detritus. 1984. England: Turf behind Keele Hall, Univ. of Keele, Keele, Staffordshire.  
 1477 S Martins dos Santos CP-167. Orthopt.: Tettigoniidae. 25 Apr 1984. Brazil: CNPAF, Goiânia, Goiás.  
 1485 M Smith N-01:141. Soil/plant detritus. 1984. England: Marshy area by pool, Univ. of Keele, Keele, Staffordshire.  
 1486 M Smith O-08:017. Soil/plant detritus. 1984. England: Wheat field, Univ. of Keele, Keele, Staffordshire.  
 1487 M Smith Q-01:119. Soil/plant detritus. 1984. England: Marshy area by pool, Univ. of Keele, Keele, Staffordshire.  
 1488 M Smith I-01:020. Soil/plant detritus. 1984. England: Marshy area by pool, Univ. of Keele, Keele, Staffordshire.  
 1672 GM Thomas. Sowbug, *Porcellio* [Malacostraca: Isopoda]. 5 Jun 1984. USA: California.  
 1967 T. Burger. *Schizaphis graminum* [Homopt.: Aphididae], laboratory colony. Aug 1985. USA: Niles, Michigan.  
 2130 I Sivcev 160/85. *Brevicoryne brassicae* [Homopt.: Aphididae]. 2 Oct 85. Yugoslavia: Zemun.  
 2147 M Naves. *Deois flavopicta* [Homopt.: Cercopidae]. 4 Mar 1986. Brazil: Mato Grosso do Sul.  
 2148 M Naves. *Deois flavopicta* [Homopt.: Cercopidae]. 21 Mar 1986. Brazil: Mato Grosso do Sul.  
 2193 S Martins dos Santos CP-203. Hymenoptera. 19 May 1986. Brazil: CNPAF, Goiânia, Goiás.

**CONIDIOBOLUS ADIAERETUS** Drechsler

451 Type culture. ATCC 12589 < C Drechsler (= CBS 136.57). Plant detritus.

**CONIDIOBOLUS APICULATUS** (Thaxter) Remaudière & Keller

These strains conform with the basic morphological features of Thaxter's *Empusa apiculata* and have been confirmed by nuclear characteristics to be species of *Conidiobolus*. Other strains referable to this species have been confirmed by nuclear characters to belong in *Entomophaga* (q.v.).

- 1662 S Keller 478 < JP Latgé IPLB 698.  
 1664 S Keller 480 < JP Latgé IPLB 877.  
 1665 S Keller 482 < JP Latgé IPLB 1027.

**CONIDIOBOLUS BANGALORENSIS** Srinivasan & Thirumalachar

449 Type culture. ATCC 16576 < MC Srinivasan & MJ Thirumalachar HACC 190. Plant detritus. India: Bangalore. 1967.

**CONIDIOBOLUS BREFELDIANUS** Couch

452 Type culture. ATCC 28847 < JN Couch. USA.

**CONIDIOBOLUS CORONATUS** (Costantin) Batko

Major Synonyms: *Delacroixia coronata* (Cost.) Saccardo, *Entomophthora coronata* (Cost.) Kevorkian, *Conidiobolus coronatus* (Cost.) Srinivasan & Thirumalachar, *Conidiobolus villosus* Martin. This species is known to cause mycoses of humans and other vertebrates. Exercise caution to avoid inhalation of conidia or contact with cuts or abrasions.

- 205 ATCC 28691 < DS King. Plant detritus; isolated during PhD thesis research. Rec'd Mar 1978. USA.  
 206 ATCC 32867 < F Mariat (Inst. Pasteur) 951.72. Human mycosis (1974, Bull. Soc. Franç. Mycol. Med. 170: 113-116). Rec'd Mar 1978. Nigeria.  
 274 BE Tucker 171. Soil from roots under *Helosia* (Balanophoraceae). Costa Rica: Costa Mata (9.783°N, 83.999°W).  
 349 RS Soper. *Nilaparvata lugens* [Homopt.: Delphacidae]. 16 Feb 1979. Australia: Cairns, Queensland.  
 405 DW Roberts. *Nilaparvata lugens* [Homopt.: Delphacidae]. Nov 1979. Philippines: IRRRI greenhouse, Lecheria, Calamba, Laguna.  
 406 DW Roberts. *Nilaparvata lugens* [Homopt.: Delphacidae]. Nov 1979. Philippines: IRRRI greenhouse, Parian, Calamba, Laguna.  
 418 DW Roberts A. *Nilaparvata lugens* [Homopt.: Delphacidae]. Nov 1979. Philippines: IRRRI greenhouse, Lecheria, Calamba, Laguna.  
 419 DW Roberts B. Homopt.: Cicadellidae. Nov 1979. Philippines: Lecheria, Calamba, Laguna.  
 420 DW Roberts C. Homopt.: Cicadellidae. Nov 1979. Philippines: Lecheria, Calamba, Laguna.  
 421 DW Roberts E. Homopt.: Cicadellidae. Nov 1979. Philippines: Parian, Calamba, Laguna.  
 422 DW Roberts F. Homopt.: Cicadellidae. Nov 1979. Philippines: Lecheria, Calamba, Laguna.  
 471 J Walker. Casing soil from culture of common mushroom, *Agaricus bisporus* [Hymenomycetes: Agaricales]. Apr 1978. Australia: McGrath's Hill, nr. Rydalmere, New South Wales.  
 511 DW Roberts 81380-4. *Nilaparvata lugens* [Homopt.: Delphacidae]. 13 Aug 1980. Philippines: IRRRI, Los Baños, Manila.  
 512 DW Roberts 82180-4a. *Nilaparvata lugens* [Homopt.: Delphacidae]. 21 Aug 1980. Malaysia.



**CONIDILOBOLUS CORONATUS** (continued)

- 514 DW Roberts 821870-7c. *Nilaparvata lugens* [Homopt.: Delphacidae]. 21 Aug 1980. Malaysia.  
 520 DW Roberts 82380-20. *Nephotettix bipunctata cincticeps* [Homopt.: Cicadellidae]. 23 Aug 1980. Malaysia.  
 523 DW Roberts 82380-22. *Nilaparvata lugens* [Homopt.: Delphacidae]. 23 Aug 1980. Malaysia.  
 524 DW Roberts 82180-4c. *Nilaparvata lugens* [Homopt.: Delphacidae]. 21 Aug 1980. Malaysia.  
 525 DW Roberts 82380-23. *Nilaparvata lugens* [Homopt.: Delphacidae]. 28 Aug 1980. Thailand: Chainat Rice Exp. Sta., N of Bangkok.  
 528 DW Roberts 82980-1. *Nilaparvata lugens* [Homopt.: Delphacidae]. 28 Aug 1980. Thailand: NBRC cages.  
 563 RS Soper 8133-1/BPH-2. *Nilaparvata lugens* [Homopt.: Delphacidae]. 3 Mar 1981. Indonesia: Exp. Sta., Maros, S. Sulawesi.  
 565 RS Soper 8133-1/BPH-1. *Nilaparvata lugens* [Homopt.: Delphacidae]. 3 Mar 1981. Indonesia: Exp. Sta., Maros, S. Sulawesi.  
 567 RS Soper 81224-2. Spider [Arachnida: Araneida]. 24 Feb 1981. Indonesia: Diski Village, Deliserdang (Medan), N Sumatra.  
 655 DW Roberts 102381-6. *Nilaparvata lugens* [Homopt.: Delphacidae]. 23 Oct 1981. PRC: Guanzhou, Kwon Tung.  
 997 J Aoki Ent-11 < M Shimazu. *Nilaparvata lugens* [Homopt.: Delphacidae]. Jul 1976. Japan: Chikugo, Fukuoka.  
 1147 L Rivera-Vargas. Mushroom, *Volvariella volvacea* [Hymenomycetes: Agaricales], as culture contaminant. 1984. Puerto Rico: Mayagüez.  
 1572 S Keller 490. *Ceutorhynchus napi* [Coleopt.: Curculionidae]. 14 Jun 1984. Switzerland: Zürich.  
 1573 S Keller 491. *Ceutorhynchus napi* [Coleopt.: Curculionidae]. 14 Jun 1984. Switzerland: Zürich.  
 1574 S Keller 493. *Ceutorhynchus napi* [Coleopt.: Curculionidae]. 14 Jun 1984. Switzerland: Zürich.  
 1575 S Keller 494. *Ceutorhynchus napi* [Coleopt.: Curculionidae]. 14 Jun 1984. Switzerland: Zürich.  
 1736 N Wilding 4. Reisolate of NW3 (originally from *Myzus persicae* [Homopt.: Aphididae]) passed through larva of *Galleria mellonella* [Lepidopt.: Pyralidae]. Feb 1969. England: Rothamsted Exp. Sta., Harpenden, Hertfordshire.  
 1737 N Wilding 5. Reisolate of NW3 (originally from *Myzus persicae* [Homopt.: Aphididae]) passed through larva of *Galleria mellonella* [Lepidopt.: Pyralidae]. Feb 1969. England: Rothamsted Exp. Sta., Harpenden, Hertfordshire.  
 1738 N Wilding 32 < C Dedyrver. Reisolate from *Acyrtosiphon pisum* [Homopt.: Aphididae]. 3 Sept 1984. ?France.  
 1876 DG Holdom DH-2. *Nilaparvata lugens* [Homopt.: Delphacidae]. 8 Mar 1985. Indonesia: Cikampek, W Java.

**CONIDILOBOLUS** nr. **CORONATUS** (Costantin) Batko

Primary and secondary conidial morphologies all of these species all match those of *C. coronatus* but no villose conidia were observed.

- 598 RS Soper 8135. *Nilaparvata lugens* [Homopt.: Delphacidae]. 5 Mar 1981. Indonesia: Greenhouse, Bogor, Java.  
 599 RS Soper 81227-4. *Nilaparvata lugens* [Homopt.: Delphacidae]. 27 Feb 1981. Indonesia: Bantul Distr., Central Java.  
 600 RS Soper 81227-3. *Nilaparvata lugens* [Homopt.: Delphacidae]. 27 Feb 1981. Indonesia: Pendo Wo Har Djo, Sleman Distr., Central Java.  
 602 RS Soper 8133-2. *Sogatella furcifera* [Homopt.: Delphacidae]. 3 Mar 1981. Indonesia: Shlaweshi, Pangkep, S Sulawesi.  
 1742 DW Roberts, MC Rombach 26102a. *Nilaparvata lugens* [Homopt.: Delphacidae]. India: Hyderabad, Andhra Pradesh.  
 1743 DW Roberts, MC Rombach 26104. *Nilaparvata lugens* [Homopt.: Delphacidae]. India: Madurai, Tamil Nadu.  
 1884 J Brunet CP-173. *Mocis latipes* [Lepidopt.: Noctuidae]. 23 Apr 1985. Brazil: CNPAF, Goiânia, Goiás.

**CONIDILOBOLUS** nr. **LACHNODES** Drechsler

- 700 DW Roberts 102381-2. *Nilaparvata lugens* [Homopt.: Delphacidae]. 23 Oct 1981. PRC: Guanzhou, Kwon Tung.

**CONIDILOBOLUS OBSCURUS** (Hall & Dunn) Remaudière & Keller

Synonyms: *Entomophthora obscura* Hall & Dunn, *Entomophthora thaxteriana* Petch, *Entomophthora ignobilis* Hall & Dunn.

- 67 G Remaudière IPLB 602. *Myzus ascalonicus* [Homopt.: Aphididae]. 13 May 1975. France.  
 74 RG Kenneth 3043 < CBS 182.60 (= ATCC 24418) < IM Hall. *Therioaphis trifolii maculata* [Homopt.: Aphididae]. USA.  
 97 N Wilding 6 < C Dedyrver. *Metapolophium dirhodum* [Homopt.: Aphididae]. Apr 1976. France: Le Rheu, nr. Rennes, Brittany.  
 121 J Latgé, G Remaudière 20. *Uroleucon* [Homopt.: Aphididae] on *Solidago* (Asteraceae). 25 Aug 1976. Canada: Chute aux Galets, Québec.  
 122 J Latgé, G Remaudière 21. *Uroleucon* [Homopt.: Aphididae] on *Solidago* (Asteraceae). 25 Aug 1976. Canada: Chute aux Galets, Québec.  
 124 J Latgé, G Remaudière 54. *Aphis* [Homopt.: Aphididae] on *Cornus* (Cornaceae). 26 Aug 1976. Canada: St. Gédéon, Québec.  
 125 JP Latgé, G Remaudière 66. *Rhopalosiphum padi* [Homopt.: Aphididae] on *Prunus pennsylvanicus* (Rosaceae). 28 Aug 1976. Canada: Mt. Tremblant Prov. Park, Québec.  
 129 N Wilding 10. *Myzus persicae* [Homopt.: Aphididae] on potatoes. 11 Aug 1976. USA: Rogers Farm, Stillwater (Orono), Maine.  
 133 G Remaudière IPLB 542. *Aphis armata* [Homopt.: Aphididae] on *Digitalis purpurea*. France: Le Roskopf, Moselle.  
 174 FR Holbrook. *Macrosiphum euphorbiae* [Homopt.: Aphididae] on potatoes. 7 Jul 1977. USA: Rogers Farm, Stillwater (Orono), Maine.  
 175 FR Holbrook. *Macrosiphum euphorbiae* [Homopt.: Aphididae] on potatoes. 7 Jul 1977. USA: Rogers Farm, Stillwater (Orono), Maine.  
 182 FR Holbrook. *Macrosiphum euphorbiae* [Homopt.: Aphididae]. 10 Aug 1977. USA: Maine.  
 243 I Majchrowicz. *Aphis*? [Homopt.: Aphididae]. Rec'd 6 Sept 1978. Poland: ?Szczecin.  
 354 RJ Milner EM-535. *Acyrtosiphon kondoi* [Homopt.: Aphididae]. 15 May 1975. Australia: Glen Innes, New South Wales.  
 355 RJ Milner 543 < JP Latgé IPLB 542. *Aphis* [Homopt.: Aphididae]. Produces azygospores. France.  
 434 JP Latgé IPLB 722. *Aphis* [Homopt.: Aphididae]. Rec'd 1980. France.  
 824 (= RS-354) RJ Milner 535. *Acyrtosiphon kondoi* [Homopt.: Aphididae]. 15 May 1978. Australia: Glen Innes, New South Wales.  
 832 RJ Milner 566 < P Cameron. *Acyrtosiphon pisum* [Homopt.: Aphididae]. 25 May 1979. New Zealand: Res. Sta., Pukekohe.  
 834 RJ Milner 591 < D Crawford. *Acyrtosiphon pisum* [Homopt.: Aphididae]. 25 Jun 1980. Australia: Riverina Agr. Coll., Wagga Wagga, New South Wales.  
 839 RJ Milner 629. *Acyrtosiphon kondoi* [Homopt.: Aphididae]. 24 Jun 1981. Australia: Numerella Sta., nr. Cooma, New South Wales.  
 1131 M Shimazu F-25. *Rhopalosiphum padi* [Homopt.: Aphididae]. Rec'd Oct 1984. Japan: Fukuoka.  
 1146 M Shimazu F-382. *Brevicoryne brassicae* [Homopt.: Aphididae]. Japan: Shizuoka.  
 1741 N Wilding 90. *Acyrtosiphon pisum* [Homopt.: Aphididae], infected from in vivo lab culture. Jan 1979. England: Rothamsted Exp. Sta., Harpenden, Hertfordshire.

**CONIDILOBOLUS OSMODES** Drechsler

- 79 RG Kenneth 3080(3) < A Uziel. Larva, *Hypera variabilis* [Coleopt.: Curculionidae]. Mar 1976. Israel: Sde Eliyahu.  
 447 **Type culture.** ATCC 12590, replacement from DS King M-7 < ATCC 12590 < C Drechsler. Plant detritus. 20 Dec 1950. USA: Laplace, Louisiana.

**CONIDIOPHOLUS PAULUS** Drechsler

450 Type culture. ATCC 12942 (= CBS 140.57) < C Drechsler. Plant detritus. 18 Nov 1954. USA: Park Falls, Wisconsin.

**CONIDIOPHOLUS PUMILUS** Drechsler

453 Type culture. ATCC 12584, replacement from DS King C-32 < CBS 152.56 < ATCC 12584 < C Drechsler. Plant detritus. 28 Feb 1952. USA: Arlington, Virginia.

**CONIDIOPHOLUS RHYSOSPORUS** Drechsler

448 ATCC 12588 < C Drechsler (= CBS 157.56). Plant detritus. 20 Dec 1952. USA: Laplace, Louisiana.

**CONIDIOPHOLUS THROMBOIDES** Drechsler

Major Synonyms: *Entomophthora virulenta* Hall & Dunn, *Entomophthora pyriformis* Thoizon, *Entomophthora destruens* Weiser & Batko.

- 2 FR Holbrook. Myzus persicae [Homopt.: Aphididae]. May 1972. USA: Greenhouse, Aroostook St. Farm, Presque Isle, Maine.  
 5 RS Soper. Dipt.: Heleomyzidae. 31 Jul 1972. USA: Aroostook St. Farm, Presque Isle, Maine.  
 15 ATCC 14270 (as *Entomophthora virulenta*) < IM Hall. Therioaphis trifolii maculata [Homopt.: Aphididae]. Rec'd Oct 1972. USA: California.  
 22 J Henry. Grasshopper [Orthopt.: Acrididae]. 1973. USA: Montana.  
 29 IM Hall (as *Entomophthora virulenta*). Therioaphis trifolii maculata [Homopt.: Aphididae]. USA: California.  
 39 RS Soper. Myzus persicae [Homopt.: Aphididae]. 12 Mar 1973. USA: Homestead, Florida.  
 40 Macrosiphum euphorbiae [Homopt.: Aphididae]. Single conidium isolate. 1973. USA: Aroostook St. Farm, Presque Isle, Maine.  
 41 Myzus persicae [Homopt.: Aphididae]. Aug 1974. USA: Aroostook St. Farm, Presque Isle, Maine.  
 42 N Wilding 3. Aphis fabae [Homopt.: Aphididae]. Jul 1973. England: Woburn, Bedfordshire.  
 57 RS Soper. Myzus persicae [Homopt.: Aphididae]. 29 Aug 1975. USA: Rogers Farm, Stillwater (Orono), Maine.  
 58 Aphid [Homopt.: Aphididae]. Rec'd May 1975. Soviet Union.  
 59 Aphid [Homopt.: Aphididae]. Rec'd Jul 1975. Soviet Union.  
 63 Myzus persicae [Homopt.: Aphididae]. Rec'd Oct 1975. Soviet Union.  
 70 G Remaudière IPLB 4 < R Krejzová. Culex pipiens [Dipt.: Culicidae]. Czechoslovakia.  
 73 RG Kenneth 3040 < ATCC 24419 (as *Entomophthora pyriformis*) < DM MacLeod IPRI 28 < G Thoizon. Rhopalosiphum insertum [Homopt.: Aphididae]. France: La Varenne, Val-de-Marne.  
 83 RG Kenneth 3086 < A Uziel. Aphis gossypii [Homopt.: Aphididae]. 1976. Israel: Sde Eliyahu.  
 84 I Majchrowicz 14. Reisolate from RS-22. Rec'd Jul 1976. Poland.  
 85 I Majchrowicz 14. Reisolate from RS-22. Rec'd Jul 1976. Poland.  
 86 I Majchrowicz 17. Fly [Diptera]. Sept 1974; rec'd Jul 1976. Poland: Wielkopolski Nat. Park.  
 87 I Majchrowicz 17. Fly [Diptera]. Sept 1974, rec'd Jul 1976. Poland: Wielkopolski Nat. Park..  
 99 N Wilding ET-8 < E Voronina (Leningrad). Myzus persicae [Homopt.: Aphididae]. 1963. Soviet Union.  
 100 N Wilding ET-9 < E Voronina (Leningrad). Acyrthosiphum pisum [Homopt.: Aphididae]. 1963. Soviet Union.  
 101 N Wilding Ev-1. Cavariella theobaldi [Homopt.: Aphididae], from lab culture. 20 Sept 1968. England: Rothamsted Exp. Sta., Harpenden, Hertfordshire.  
 102 N Wilding Ev-2. Cavariella theobaldi [Homopt.: Aphididae], from lab culture. 20 Sept 1968. England: Rothamsted Exp. Sta., Harpenden, Hertfordshire.  
 115 (= ARSEF 15) ATCC 14270 < IM Hall (as *Entomophthora virulenta*). Therioaphis trifolii maculata [Homopt.: Aphididae]. USA: California.  
 120 JP Latgé, G Remaudière 19. Uroleucon [Homopt.: Aphididae] on Solidago (Asteraceae). 25 Aug 1976. Canada: Chute aux Galets, Québec.  
 194 I Ben-Ze'ev 38. Aphis gossypii [Homopt.: Aphididae] on pomegranate. Apr 1976. Israel: Sde Eliyahu.  
 208 G Hartmann (Univ. Rhode Island) < ATCC 14270. Therioaphis trifolii maculata [Homopt.: Aphididae]. Rec'd Mar 1978. USA: California.  
 242 I Majchrowicz. Aphis fabae [Homopt.: Aphididae] on sugar beet. Rec'd 6 Sept 1978. Poland: ?Szczecin.  
 244 I Majchrowicz. Aphis fabae [Homopt.: Aphididae] on sugar beet. Rec'd 6 Sept 1978. Poland: ?Szczecin.  
 245 I Majchrowicz. Aphis fabae [Homopt.: Aphididae] on sugar beet. Rec'd 6 Sept 1978. Poland: ?Szczecin.  
 246 I Majchrowicz. Aphis fabae [Homopt.: Aphididae] on sugar beet. Rec'd 6 Sept 1978. Poland: ?Szczecin.  
 247 I Majchrowicz. Aphis fabae [Homopt.: Aphididae] on sugar beet. Rec'd 6 Sept 1978. Poland: ?Szczecin.  
 248 I Majchrowicz < E Voronina. Aphid [Homopt.: Aphididae]. Rec'd 6 Sept 1978. Soviet Union.  
 249 I Majchrowicz < E Voronina. Aphid [Homopt.: Aphididae]. Rec'd 6 Sept 1978. Soviet Union.  
 250 I Majchrowicz < E Voronina. Aphid [Homopt.: Aphididae]. Rec'd 6 Sept 1978. Soviet Union.  
 363 RJ Milner EM-503 < N Wilding 2. Cavariella theobaldi [Homopt.: Aphididae]. England: Rothamsted Exp. Sta., Harpenden, Hertfordshire.  
 630 I Majchrowicz 106. Aphis fabae [Homopt.: Aphididae]. 16 Jul 1981. Poland: Gumienice.  
 631 I Majchrowicz 107. Aphis fabae [Homopt.: Aphididae]. 16 Jul 1981. Poland: Szczecin.  
 632 I Majchrowicz 110. Aphis fabae [Homopt.: Aphididae]. 25 Jul 1981. Poland: Gryfino.  
 633 I Majchrowicz 109. Aphis fabae [Homopt.: Aphididae]. 23 Jul 1981. Poland: Stanpanel.  
 634 I Majchrowicz 111. Aphis fabae [Homopt.: Aphididae]. 27 Jul 1981. Poland: Szczecin.  
 635 I Majchrowicz 108. Aphis fabae [Homopt.: Aphididae]. 18 Jul 1981. Poland: Szczecin.  
 649 JS Ferguson. Myzus persicae [Homopt.: Aphididae]. 7 Aug 1981. USA: Arlington Exp. Farm, Columbia Co., Wisconsin.  
 1006 J Aoki Ent-15 < H Tomiyama. Aphid [Homopt.: Aphididae]. Nov 1976. Japan: Fuchu City, Tokyo.  
 1733 N Wilding 1. Cavariella theobaldi [Homopt.: Aphididae]. 20 Sept 1968. England: Rothamsted Exp. Sta., Harpenden, Hertfordshire.  
 1734 N Wilding 2. Cavariella theobaldi [Homopt.: Aphididae]. 20 Sept 1968. England: Rothamsted Exp. Sta., Harpenden, Hertfordshire.  
 1735 N Wilding 8. Aphis fabae [Homopt.: Aphididae]. Jul 1973. England: Woburn Farm, Bedfordshire.

**CORDYCEPS HETEROPODA** Kobayasi

1880 K Chandler, RA Humber. Cicadetta puer [Homopt.: Cicadidae]. 22 Feb 1985. Australia: nr. Cairns, Queensland.

**CULICINOMYCES BISPORALIS** Sigler, Frances & Panter (sp. nov. inedit.)

- 1948 S Frances MM-1 (= UAMH 5174). Larva, Aedes kochi [Dipt.: Culicidae]. 4 Jun 1985. Australia: Millaa Millaa, Queensland.  
 1949 S Frances MM-2 (= UAMH 5175). Larva, Aedes kochi [Dipt.: Culicidae]. 8 Jun 1985. Australia: Millaa Millaa, Queensland.

**CULICINOMYCES CLAVISPORUS** Couch, Romney & Rao

[Specific name originally published as "clavosporus"; orthographic correction by Goettel et al., 1984, *Mycologia* 76: 614-625]

Collection and accession histories of all North Carolina strains are confused and are now apparently untraceable.

- 360 DW Roberts < JN Couch. *Anopheles quadrimaculatus* [Dipt.: Culicidae]. USA: University Lake, Chapel Hill, North Carolina.  
 372 JN Couch (= UAMH 4848). *Anopheles quadrimaculatus* [Dipt.: Culicidae]. USA: University Lake, Chapel Hill, North Carolina.  
 582 SV Romney. *Anopheles quadrimaculatus* [Dipt.: Culicidae], single spore isolate #1. Rec'd Apr 1981. USA: University Lake, Chapel Hill, North Carolina.  
 583 SV Romney. *Anopheles quadrimaculatus* [Dipt.: Culicidae], single spore isolate #2. Rec'd Apr 1981. USA: University Lake, Chapel Hill, North Carolina.  
 584 SV Romney (= UAMH 4850). *Anopheles quadrimaculatus* [Dipt.: Culicidae], single spore isolate #3. Rec'd Apr 1981. USA: University Lake, Chapel Hill, North Carolina.  
 585 SV Romney. *Anopheles quadrimaculatus* [Dipt.: Culicidae], single spore isolate #4. Rec'd Apr 1981. USA: University Lake, Chapel Hill, North Carolina.  
 644 AW Sweeney 298a. Larva, *Anopheles amictus hillii* [Dipt.: Culicidae]. Rec'd Oct 1981. Australia: Sydney, New South Wales.  
 645 AW Sweeney 298b. Larva, *Anopheles amictus hillii* [Dipt.: Culicidae]. Rec'd Oct 1981. Australia: Sydney, New South Wales.  
 706 A Knight (= UAMH 4851). Mosquito larva [Dipt.: Culicidae]. Rec'd Feb 1982. USA: North Carolina.  
 964 UAMH 4618 < M Goettel (= ATCC 52635 = CBS 755.83 = IMI 280342). Larvae, *Culiseta inornata* [Dipt.: Culicidae]. 12-19 Aug 1982. Canada: N of Devon, Alberta.  
 1260 UAMH 4854 < M Goettel. Larvae, *Culiseta inornata* [Dipt.: Culicidae]. Jul 1983; rec'd May 1984. Canada: Alberta.

**ENTOMOPHAGA** sp.

- 393 S Keller 114 (as *Entomophthora aulicae*). *Tipula* [Dipt.: Tipulidae]. Rec'd Oct 1979. Switzerland.  
 1126 DW Roberts 020184-2a. *Nephotettix bipunctata cincticeps* [Homopt.: Cicadellidae]. 2 Jan 1984. Philippines: IRRI, Los Baños, Manila.  
 1230 DW Roberts CP-130. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 9 Apr 1984. Brazil: CNPAF, Goiânia, Goiás.  
 1881 DW Roberts, MC Rombach 110485-2. *Nilaparvata lugens* [Homopt.: Delphacidae] on cacao. 11 Apr 1985. Solomon Islands: nr. Honiara, Guadalcanal.  
 2083 (DG Holdom. Grasshopper [Orthopt.: Acrididae]. 30 Dec 1985. Indonesia: CIBA-Geigy R&D Str., Cikampek, Java.  
 2189 S Martins dos Santos CP-199. *Hortencia* sp. 21 Feb 1986. Brazil: Fazenda palmital, Brasabrantas, Goiás.

**ENTOMOPHAGA APICULATA** (Thaxter) Humber

These strains conform with the basic morphological features of Thaxter's *Empusa apiculata* and have been confirmed by nuclear characteristics to be species of *Entomophaga*. Other strains referable to this species have been confirmed by nuclear characters to belong in *Conidiobolus* (q.v.).

- 196 M Gustafsson (= CBS 207.66). Sweden.  
 395 S Keller. Larva, leaf wasp [Hymenoptera]. Aug 1976. Switzerland.  
 919 S Keller 450. Dipt.: Sciaridae. Nov 1982. Switzerland: Zürich.  
 927 S Keller 449. Dipt.: Sciaridae. Switzerland: Zürich.  
 1660 S Keller 449. Dipt.: Sciaridae. Switzerland: Zürich.  
 1661 S Keller 450. Dipt.: Sciaridae. Switzerland: Zürich.

**ENTOMOPHAGA ASIATICA** Humber, Soper & Shimazu in Humber (sp. nov., unpublished)

- 1659 RS Soper, M Shimazu F-457. *Parapodisma* [Orthopt.: Acrididae]. Jun 1984. Japan: Fukui.

**ENTOMOPHAGA AULICAE** (Reichardt in Bail) Humber

Major Synonyms: *Entomophthora aulicae* (Reichardt in Bail) Fresenius, *Entomophthora egressa* MacLeod & Tyrell in Otvos et al. (nomenclaturally invalid). This taxon appears to be a species complex; insufficient information is now available to segregate this complex in any major way; however, see *Entomophaga maimaiga*. The strains listed here may be expected eventually to be reassigned to species other than *E. aulicae*.

- 51 JD Vandenberg. *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 16 Jun 1975. USA: Shin Pond, nr. Patten, Maine.  
 164 JD Vandenberg. *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 14 Jul 1977. USA: Maine.  
 165 JD Vandenberg. *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 15-28 Jul 1977. USA: Sherman, Maine.  
 166 JD Vandenberg. *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 14 Jul 1977. USA: nr. Carroll, Maine.  
 167 JD Vandenberg. *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 14 Jul 1977. USA: nr. Carroll, Maine.  
 168 JD Vandenberg. *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 14 Jul 1977. USA: nr. Carroll, Maine.  
 172 JD Vandenberg. *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 15-28 Jul 1977. USA: Shin Pond, nr. Patten, Maine.  
 198 RG Kenneth 3136 < J Aoki. *Aedia leucomelas* [Lepidopt.: Noctuidae] on sweet potato. 29 Oct 1976. Japan.  
 251 JG Hamm. *Heliopsis*? [Lepidopt.: Noctuidae]. Rec'd Sept 1978. USA: Coastal Plain Exp. Sta., Tifton, Georgia.  
 998 (?= ARSEF 198) J Aoki Ent-14 < A Ohkawa. *Aedia leucomelas* [Lepidopt.: Lasiocampidae]. Oct 1976. Japan: Fuchu City, Tokyo.  
 1140 M Shimazu F-339. Lepidopteran. Japan: Ibaraki.  
 1141 M Shimazu F-340. Lepidopt.: Arctiidae. Japan: Ibaraki.  
 1142 M Shimazu F-343. *Dendrolimus spectabilis* [Lepidopt.: Lasiocampidae]. Japan: Ibaraki.  
 1655 (= ARSEF 1142) M Shimazu F-343a. *Dendrolimus spectabilis* [Lepidopt.: Lasiocampidae]. Rec'd Oct 1984. Japan: Ibaraki.  
 1656 (= ARSEF 1140) M Shimazu F-339. Lepidoptera. Rec'd Oct 1984. Japan: Ibaraki.  
 1657 M Shimazu F-327. *Mamestra brassicae* [Lepidopt.: Noctuidae]. Japan.  
 1751 J Mitsuhashi Emb-1. *Mamestra brassicae* [Lepidoptera: Noctuidae]. 29 Oct 1984. Japan: Ibaraki.  
 1990 D Tyrrell (FPMI 491). *Lambdina fiscellaria lugubrosa* [Lepidopt.: Geometridae]. 1972. Canada: British Columbia.  
 1991 D Tyrrell (FPMI 458). *Lambdina fiscellaria* [Lepidopt.: Geometridae]. 1970. Canada: Newfoundland.  
 1992 D Tyrrell (FPMI 889). *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 1970. Canada: Ontario.  
 1993 D Tyrrell (FPMI 771). *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 1984. Canada: Ontario.  
 1994 D Tyrrell (FPMI 776). *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 1984. Canada: Ontario.  
 1995 D Tyrrell (FPMI 777). *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 1984. Canada: Ontario.  
 1997 D Tyrrell (FPMI 894). *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 1985. Canada: Ontario.  
 1998 D Tyrrell (FPMI 877). *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 1979. Canada: Ontario.

**ENTOMOPHAGA AULICAE** (continued)

- 1999 D Tyrrell (FPMI 576). *Pseudaletia* sp. [Lepidopt.: Tortricidae]. 1975. Canada: Ontario.  
 2000 D Tyrrell (FPMI 513). *Enyppia griseata* [Lepidopt.: Geometridae]. 1973. Canada: British Columbia.

**ENTOMOPHAGA AUSTRALIENSIS** Humber (sp. nov., unpublished)

- 328 RS Soper P-38. *Cicadella* [Homopt.: Cicadellidae] on rice. Feb 1979. Australia: Arriga, Queensland.  
 331 RS Soper, K Chandler. *Cicadetta puer* [Homopt.: Cicadidae] in sugarcane. 14 Feb 1979. Australia: Cairns, Queensland.  
 332 RS Soper, K Chandler. *Cicadetta puer* [Homopt.: Cicadidae] in sugarcane. 14 Feb 1979. Australia: Cairns, Queensland.  
 581 RS Soper 81223-1. *Nilaparvata lugens* [Homopt.: Delphacidae]. 23 Feb 1981. Indonesia: Deliserdang Distr., North Sumatra.  
 657 DW Roberts 101081-4. *Nilaparvata lugens* [Homopt.: Delphacidae]. 10 Oct 1981. PRC: Jansui, Jiangsu.  
 659 DW Roberts 101081-6-2. *Recilia dorsalis* [Homopt.: Cicadellidae]. 10 Oct 1981. PRC: Jansui, Jiangsu.  
 743 RS Soper CP-33. Leafhopper [Homopt.: Cicadellidae]. 10 Mar 1982. Brazil: CNPAF, Goiânia, Goiás.  
 791 DW Roberts, RA Daoust CP-44. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 7 May 1982. Brazil: 4 km from Goianinha, Rio Grande do Norte.  
 1888 RS Soper. Homopt.: Cicadellidae. 10 Mar 1982; reisolated May 1985. Brazil: CNPAF, Goiânia, Goiás.  
 1920 P Taylor. Reisolate of ARSEF 331 passed through *Sogatodes oryzicola* [Homopt.: Delphacidae]. Jul 1985.

**ENTOMOPHAGA CALOPTENI** (Bessey) Humber (comb. nov. inedit.)

This species corresponds to *Entomophaga grylli* pathotype 2 [Soper et al., 1983, *Envir. Entomol.* 12: 270-273]. Cultures are all in liquid tissue culture medium and produce only vegetative protoplasts. Only resting spores are produced by infected grasshoppers.

- 383 DM MacLeod, RA Humber. *Melanoplus flavidus* [Orthopt.: Acrididae]. 3 Aug 1979. USA: Wyoming: Sheridan.  
 390 RS Soper, RA Humber. *Melanoplus bivittatus* [Orthopt.: Acrididae]. 3 Aug 1977. USA: Wyoming: Sheridan.  
 408 RA Humber. *Melanoplus bivittatus* [Orthopt.: Acrididae]. 2 Aug 1979. USA: Broadus, Montana.  
 497 RA Humber, BJ Martinell. *Melanoplus bivittatus* [Homopt.: Acrididae]. 27 Jun 1979. USA: Eagar, Arizona.  
 498 RA Humber, BJ Martinell. *Melanoplus bivittatus* [Homopt.: Acrididae]. 5 Jul 1979. USA: White River, South Dakota.  
 500 RA Humber, BJ Martinell. *Melanoplus bivittatus* [Homopt.: Acrididae]. Isolated from germinating resting spores injected into *Locusta migratoria*. 1980. USA: Harwood Ditch, nr. Fargo, North Dakota.  
 623 BJ Martinell 004b. *Melanoplus cuneatus* [Orthopt.: Acrididae]. 18 Jun 1981. USA: Southwater Canyon, Arizona.  
 625 BJ Martinell 014b. *Melanoplus packardii* [Orthopt.: Acrididae]. 1 Jul 1981. USA: Eagar, Arizona.  
 626 BJ Martinell 004a. *Melanoplus cuneatus* [Orthopt.: Acrididae]. 18 Jun 1981. USA: Southwater Canyon, Arizona.  
 646 BJ Martinell. *Melanoplus cuneatus* [Homopt.: Acrididae]. Isolated from germinating resting spores. 1 Jul 1981. USA: Eagar, Arizona.  
 766 RS Soper, BJ Martinell 36. *Melanoplus bivittatus* [Orthopt.: Acrididae]. 27 Jul 1982. USA: Eagar, Arizona.  
 2168 WA Ramoska. Ungerminated resting spores retrieved from *Melanoplus differentialis* [Orthopt.: Acrididae]. 1985. USA: Manhattan, Kansas.

**ENTOMOPHAGA GIGANTEA** (Keller) Humber (comb. nov. inedit.)

[Synonyms: *Entomophthora gigantea* Keller, *Conidiobolus giganteus* (Keller) Remaudière & Keller]

- 214 S Keller 74. *Tipula paludosa* [Dipt.: Tipulidae]. Rec'd May 1978. Switzerland.  
 215 S Keller 75. *Tipula paludosa* [Dipt.: Tipulidae]. Rec'd May 1978. Switzerland.  
 403 S Keller 36. *Tipula paludosa* [Dipt.: Tipulidae]. 8 Sept 1976, rec'd Dec 1979. Switzerland.

**ENTOMOPHAGA GRYLLI** (Fresenius) Humber

A species complex; no verified strains of *E. grylli* have been cultured. See **ENTOMOPHAGA ASIATICA**, **ENTOMOPHAGA CALOPTENI**, **ENTOMOPHAGA MACLEODII**, and **ENTOMOPHAGA PRAXIBULI** for strains of other species of this complex.

**ENTOMOPHAGA MACLEODII** Humber (sp. nov., unpublished)

This species corresponds to *Entomophaga grylli* pathotype 1 [Soper et al., 1983, *Envir. Entomol.* 12: 270-273]. Cultures are all in liquid tissue culture medium and produce only vegetative protoplasts. Infected grasshoppers produce primarily conidia; some individuals produce resting spores.

- 375 DM McLeod IPRI 647. *Dissosteira carolina* [Orthopt.: Acrididae]. 1977. Canada: Iron Bridge, Ontario.  
 376 DM McLeod IPRI 625. *Dissosteira carolina* [Orthopt.: Acrididae]. 1978. Canada: Iron Bridge, Ontario.  
 382 RS Soper. *Dissosteira carolina* [Orthopt.: Acrididae]. Aug 1979. USA: 12 Redwood Lane, Ithaca, New York.  
 496 RA Humber, BJ Martinell. *Camnula pellucida* [Orthopt.: Acrididae]. 28 Jun 1980. USA: Rodeo fairground, Alpine, Arizona.  
 499 RA Humber, BJ Martinell, RS Soper. *Dissosteira carolina* [Orthopt.: Acrididae]. 17 Jul 1980. USA: Ithaca, New York.  
 618 BJ Martinell 003. *Camnula pellucida* [Orthopt.: Acrididae]. 16 Jun 1981. USA: Rodeo fairgrounds, Alpine, Arizona.  
 619 BJ Martinell 001. *Camnula pellucida* [Orthopt.: Acrididae]. 16 Jun 1981. USA: Forest Service plot A, Alpine, Arizona.  
 620 BJ Martinell 006. *Camnula pellucida* [Orthopt.: Acrididae]. 27 Jun 1981. USA: Judd Dam, plot B, Alpine, Arizona.  
 621 BJ Martinell 010. *Camnula pellucida* [Homopt.: Acrididae]. 29 Jun 1981. USA: Alpine plot A, Alpine, Arizona.  
 624 BJ Martinell 011. *Camnula pellucida* [Orthopt.: Acrididae]. 29 Jun 1981. USA: Judd Dam, site A, Alpine, Arizona.  
 628 BJ Martinell 008. *Camnula pellucida* [Orthopt.: Acrididae]. 27 Jun 1981. USA: Alpine plot B, Alpine, Arizona.  
 629 BJ Martinell 002. *Camnula pellucida* [Orthopt.: Acrididae]. 23 Jun 1981. USA: Forest Service field, Alpine, Arizona.  
 765 BJ Martinell 41. *Camnula pellucida* [Orthopt.: Acrididae]. 28 Jul 1982. USA: Judd Dam, Alpine, Arizona.  
 767 BJ Martinell 1. *Camnula pellucida* [Orthopt.: Acrididae]. 18 Jul 1982. USA: Jepson, Alpine, Arizona.  
 768 BJ Martinell 3. *Camnula pellucida* [Orthopt.: Acrididae]. 18 Jul 1982. USA: Rodeo fairgrounds, Alpine, Arizona.  
 769 BJ Martinell 13. *Camnula pellucida* [Orthopt.: Acrididae]. 23 Jul 1982. USA: ELC flats, nr. Alpine, Arizona.  
 770 BJ Martinell 20. *Melanoplus bivittatus* [Orthopt.: Acrididae], injected with *Entomophaga macleodii* from *Camnula pellucida*. 23 Jul 1982. USA: Alpine, Arizona.  
 771 BJ Martinell 21. *Melanoplus bivittatus* [Orthopt.: Acrididae], injected with *Entomophaga macleodii* from *Camnula pellucida*. 23 Jul 1982. USA: Alpine, Arizona.  
 772 BJ Martinell 12. *Melanoplus packardii* [Orthopt.: Acrididae], injected with *Entomophaga macleodii* from *Camnula pellucida*. 18 Jul 1982. USA: Alpine, Arizona.  
 773 BJ Martinell 10. *Camnula pellucida* [Orthopt.: Acrididae]. 18 Jul 1982. USA: Rodeo fairground, Alpine, Arizona.  
 774 BJ Martinell 25. *Camnula pellucida* [Orthopt.: Acrididae]. 23 Jul 1982. USA: ELC flats, nr. Alpine, Arizona.

**ENTOMOPHAGA MACLEODII** (continued)

- 775 RS Soper, BJ Martinell 11. *Melanoplus packardii* [Orthopt.: Acrididae], injected with *Entomophaga macleodii* from *Camnula pellucida*. 18 Jul 1982. USA: Alpine, Arizona.
- 776 RS Soper, BJ Martinell 8. *Melanoplus bivittatus* [Orthopt.: Acrididae], injected with *Entomophaga macleodii* from *Camnula pellucida*. 18 Jul 1982. USA: Alpine, Arizona.
- 777 BJ Martinell 28. *Camnula pellucida* [Orthopt.: Acrididae]. 25 Jul 1982. USA: Judd Dam, nr. Alpine, Arizona.
- 778 BJ Martinell 23. *Camnula pellucida* [Orthopt.: Acrididae]. 23 Jul 1982. USA: ELC flats, nr. Alpine, Arizona.
- 779 BJ Martinell 22. *Camnula pellucida* [Orthopt.: Acrididae]. 23 Jul 1982. USA: ELC flats, nr. Alpine, Arizona.

**ENTOMOPHAGA MAIMAIGA** Humber, Shimazu, & Soper in Soper, Shimazu, Humber, Ramos, & Hajek (sp. nov., unpublished)

This species is a member of the *Entomophaga aulicae* species complex.

- 1390 RS Soper 84626-3 (conidial inoculum). *Lymantria dispar* [Lepidopt.: Lymantriidae]. 26 Jun 1984. Japan: Fukui Prefecture.
- 1391 RS Soper 84626-7-1 (from resting spores). *Lymantria dispar* [Lepidopt.: Lymantriidae]. 26 Jun 1984. Japan: Fukui Prefecture.
- 1400 RS Soper 84626-7 (conidial inoculum). *Lymantria dispar* [Lepidopt.: Lymantriidae]. 26 Jun 1984. Japan: Fukui Prefecture.
- 1658 M Shimazu F-446. *Lymantria dispar* [Lepidopt.: Lymantriidae]. 26 Jun 1984. Japan: Ishikawa.
- 1746 Reisolate of ARSEF 1400 after passage through *Lymantria dispar* [Lepidopt.: Lymantriidae]. 28 Nov 1984.

**ENTOMOPHAGA MAJOR** (Thaxter) Humber (comb. nov., unpublished)

- 391 S Keller 21. Spittlebug [Homopt.: Cercopidae]. Rec'd Oct 1979. Switzerland.

**ENTOMOPHAGA PRAXIBULI** Humber, Milner, & Soper in Humber (sp. nov., unpublished)

This species is a member of the *Entomophaga grylli* species complex. Cultures are all as vegetative protoplasts in liquid tissue culture medium

- 840 RS Soper. *Praxibulus* [Orthopt.: Acrididae]. 1983. Australia: Warwibinda, New South Wales.
- 2084 M Ramos. Reisolate of RS 840 from *Melanoplus differentialis* [Orthopt.: Acrididae] after injection of germinating conidia. 6 Feb 1986.

**ENTOMOPHAGA TABANIVORA** (Anderson & Magnarelli) Humber

- 627 BA Mullens. *Atylotus thoracis* [Dipt.: Tabanidae]. 16 Jul 1981. USA: Landers Corners Bog, Cortland Co., New York.

**"ENTOMOPHTHORA"** sp. (in the broad sense)

- 216 G Zimmerman 1. 27 Mar 1978. FRGermany: Darmstadt.
- 365 RS Soper. *Cicadetta puer* [Homopt.: Cicadidae]. 13 Feb 1979. Australia: Cairns, Queensland.
- 999 J Aoki Ent-45 < T Kobayashi. Aphid [Homopt.: Aphididae]. June 1981. Japan.
- 1426 RS Soper 8465-1. Aphid [Homopt.: Aphididae] on rose. 6 May 1984. Yugoslavia: Plant Prot. Inst., Zemun.

**ENTOMOPHTHORA CULICIS** (Braun) Fresenius

- 387 S Keller 55. Gnat [Dipt.: ?Chironomidae]. Rec'd Oct 1979. Switzerland
- 780 JP Kramer. *Chironomus decorus* [Dipt.: Chironomidae]. Jul 1981. USA: US Dept. of Interior fish hatchery pond #3, Ithaca, New York

**ENTOMOPHTHORA MUSCAE** (Cohn) Fresenius

Cultures are all in liquid tissue culture medium and produce only vegetative protoplasts. This taxon is a complex whose members are distinguished primarily by conidial characters (size, number and size of nuclei) and host range [see S Keller, 1984, Mitt. Schweiz. Entomol. Ges. 57: 131-132]. Insufficient information is now available to segregate this complex so the strains listed here may eventually be referred to species other than *E. muscae*.

- 392 S Keller 39. Fly [Diptera]. Rec'd Oct 1979. Switzerland.
- 454 RA Humber < JP Kramer. *Musca domestica* [Dipt.: Muscidae], from laboratory colony. Mar 1980. USA: Ithaca, New York.
- 556 RA Humber. *Musca domestica* [Dipt.: Muscidae]. From JP Kramer's laboratory colony, isolated on 4th day after infection. 11 Mar 1981. USA: New York. Originally listed as ARSEF 556a.
- 557 BJ Martinell. *Musca domestica* [Dipt.: Muscidae]. 10 Mar 1981. USA: Fly on window, Boyce Thompson Institute, Ithaca, New York.
- 651 BJ Martinell < DE McCabe. *Pollenia rudis* [Dipt.: Calliphoridae]. 5 Nov 1981. USA: Keuka Park, New York.
- 707 RA Humber. *Delia platura* [Diptera], from N Wilding's greenhouse colony. 20 Feb 1982. England: Rothamsted Exp. Sta., Harpenden, Hertfordshire.
- 803 JD Vandenberg. *Musca domestica* [Dipt.: Muscidae]. Fungus with 4-8 nuclei/conidium. 15 Oct 1982. USA: 115 Middaugh Rd., Brooktondale (Caroline), New York.
- 826 DC Steinkraus. Dipt.: Syrphidae. 1982. USA: Ithaca, New York.
- 969 BA Mullens. *Musca domestica* [Dipt.: Muscidae]. Sept 1983. USA: Riverside, California.
- 2014 RA Humber. *Musca domestica* [Dipt.: Muscidae]. From JP Kramer's laboratory colony, isolated on 3rd day after infection. 10 Mar 1981. USA: Ithaca, New York. Originally listed as ARSEF 556b.
- 2087 T Poprawski 0195. Adult fly [Dipt.: Anthomyiidae]. 30 Sep 1986. France: Behoust.
- 2088 T Poprawski 0196. Adult fly [Dipt.: Anthomyiidae]. 30 Sep 1986. France: Behoust.
- 2089 T Poprawski 0197. Adult, *Delia* sp. [Dipt.: Anthomyiidae]. 30 Sep 1986. France: Behoust.
- 2090 T Poprawski 0198. Adult, *Delia* sp. [Dipt.: Anthomyiidae]. 30 Sep 1986. France: Behoust.
- 2172 B Mullens. *Musca domestica* [Dipt.: Muscidae]. May 1986. USA: Riverside, California.

**ENTOMOPHTHORA** nr. **PLANCHONIANA** Cornu

- 1860 DG Holdom UQE-2-2. *Acyrtosiphon kondoi* [Homopt.: Aphididae]. Dec 1982. Australia: Lockyer Valley, Queensland.
- 1862 DG Holdom UQE-15. *Acyrtosiphon kondoi* [Homopt.: Aphididae]. Jan 1983. Australia: Lockyer Valley, Queensland.
- 1863 DG Holdom UQE-21. *Acyrtosiphon kondoi* [Homopt.: Aphididae]. Jan 1983. Australia: Lockyer Valley, Queensland.
- 1927 DG Holdom. *Myzus persicae* [Homopt.: Aphididae]. Jul/Aug 1984. Australia: Brisbane, Queensland.

**ERYNIA species (unidentified; accessioned without verification of identification or with cultures failing to produce key diagnostic characters)**

- 658 DW Roberts 101481-1. *Nilaparvata lugens* [Homopt.: Delphacidae]. 14 Oct 1981. PRChina: Zhijiang.  
 876 DW Roberts CP-106. Small fly [Dipt.]. 15 Apr 1984. Brazil: Barbalha, Ceará.  
 880 DW Roberts CP-110. Small fly [Dipt.]. 15 Apr 1984. Brazil: Barbalha, Ceará.  
 983 J Aoki Ent-18 < H Tomiyama. *Plutella xylostella* [Lepidopt.: Plutellidae]. Nov 1976. Japan.  
 1052 J Aoki Ent-42 < M Shimazu. Host? Japan: Fukuoka.  
 1143 M Shimazu F-344. *Eana argentana* [Lepidopt.: Tortricidae]. Japan: Hokkaido.  
 1241 DW Roberts CP-141. Caterpillar [Lepidoptera]. 13 Apr 1984. Brazil: CNPAF, Goiânia, Goiás.  
 1265 M. Shimazu Ent-7 < H Tomiyama. *Mamestra brassicae* [Lepidopt.: Noctuidae]. Nov 1975. Japan.  
 1266 J Aoki Ent-34 < M Shimazu. Host? Japan: Chikugo, Fukuoka.  
 1267 J Aoki Ent-37 < M Shimazu. Host? Japan: Chikugo, Fukuoka.  
 1338 S Balazy 1559. Brachyceran fly [Dipt.]. 22 May 1983. Poland: Bialowieza Nat. Park.  
 1666 M McGuire T<sub>3</sub>. *Therioaphis trifolii maculata* [Homopt.: Aphididae]. May 1984. USA: Illinois.  
 2027 J Harper. Larva (4th instar), *Pseudoplusia includens* [Lepidopt.: Noctuidae]. Rec'd Oct 1985. USA: Auburn, Alabama.  
 2097 D Holdom. (?) *Hydrellia* sp. [Dipt.: Ephydriidae]. 13 Feb 1986. Indonesia: CIBA-Geigy R&D Sta., Cikampek, Java.

**ERYNIA AMERICANA (Thaxter) Remaudière & Hennebert**

- 742 RS Soper CP-32. Fly [Dipt.]. 10 Mar 1982. Brazil: CNPAF, Goiânia, Goiás.  
 1240 DW Roberts 840330-2A, CP-140. Fly [Dipt.]. 30 Mar 1984. Brazil: Francisco Beltrão, Paraná.  
 1242 DW Roberts, RA Daoust, B Magalhães 840330-1A, CP-142. Fly [Dipt.]. 30 Mar 19 84. Brazil: Francisco Beltrão, Paraná.  
 2192 S Martins dos Santos CP-202. Diptera. 24 Apr 1986. Brazil: CNPAF, Goiânia, Goiás.  
 2194 S Martins dos Santos CP-204. Diptera. 21 May 1986. Brazil: CNPAF, Goiânia, Goiás.

**ERYNIA ANGLICA (Petch) Ben-Ze'ev**

[Major Synonyms: *Entomophthora elateridiphaga* Turian, *Zoophthora elateridiphaga* (Turian) Ben-Ze'ev & Kenneth, *Erynia elateridiphaga* (Turian) Humber, Ben-Ze'ev & Kenneth in Humber & Ben-Ze'ev]

- 396 S Keller 396. *Agriotes sputator* [Coleopt.: Elateridae]. May 77. Switzerland.  
 916 S Keller 411. *Notostira elongata* [Hemipt.: Miridae]. 25 Aug 82. Switzerland.  
 918 S Keller 470. *Agriotes sputator* [Coleopt.: Elateridae]. 6 May 83. Switzerland.  
 926 S Keller 426. *Notostira elongata* [Hemipt.: Miridae]. 25 Aug 82. Switzerland.  
 1739 N Wilding 85. *Trechus quadristriatus* [Coleopt.: Carabidae]. 5 Sept 1984. England: Rothamsted Exp. Sta., Harpenden.

**ERYNIA APHIDIS (Hoffmann in Fresenius) Humber & Ben-Ze'ev**

[Synonym: *Zoophthora aphidis* (Hoffm.) Batko. Not identical with *Entomophthora aphidis* sensu Thaxter, now *Erynia neoaphidis*]

- 425 S Keller 1984. *Anoecia corni* [Homopt.: Aphididae]. Switzerland.

**ERYNIA AQUATICA (Anderson & Ringo in Anderson & Anagnostakis) Humber**

- 750 R Lawlor. Adult, *Aedes* [Dipt.: Culicidae]. 13 May 1982. USA: Cambridge, New York  
 764 R Lawlor. Mosquito [Dipt.: Culicidae]. Jun 1982. USA: Ithaca, New York

**ERYNIA BLUNCKII (Lakon in Zimmerman) Remaudière & Hennebert**

- 217 G Zimmerman (= ATCC 34698 = IMI 211910 = Inst. f. Schädlingsbekämpfung 2). Larva, *Plutella maculipennis* [Lepidopt.: Plutellidae]. 27 Mar 1978. FRGermany: Darmstadt (Gross-Bieberau).  
 915 S Keller 426. *Athalia rosae* [Coleopt.: Elateridae]. 1 Sept 1982. Switzerland.  
 917 S Keller 425. *Athalia rosae* [Coleopt.: Elateridae]. 1 Sept 1982. Switzerland.  
 920 S Keller 430. *Athalia rosae* [Coleopt.: Elateridae]. 1 Sept 1982. Switzerland: Zürich.  
 1000 J Aoki Ent30 < H Tomiyama. *Plutella xylostella* [Lepidopt.: Plutellidae]. Nov 1977. Japan.  
 1004 J Aoki Ent35 < M Shimazu. Japan: Chikugo, Fukuoka.  
 1135 M Shimazu. *Plutella xylostella* [Lepidopt.: Plutellidae]. Japan: Tokyo.  
 1715 S Keller 514. *Athalia rosae* [Coleopt.: Elateridae]. 3 Oct 1984. Switzerland: Zürich.  
 1716 S Keller 515. *Athalia rosae* [Coleopt.: Elateridae]. 3 Oct 1984. Switzerland: Zürich.  
 1717 S Keller 516. *Athalia rosae* [Coleopt.: Elateridae]. 3 Oct 1984. Switzerland: Zürich.  
 1718 S Keller 517. *Athalia rosae* [Coleopt.: Elateridae]. 3 Oct 1984. Switzerland: Zürich.

**ERYNIA BULLATA Thaxter & MacLeod in Humber**

- 116 RS Soper (= ATCC 24298 < ARSEF 9, as *Entomophthora bullata*). Adult, green bottle fly [Dipt.: Calliphoridae]. Aug 1972. USA: Eastham, Massachusetts.

**ERYNIA CONICA (Nowakowski) Remaudière & Hennebert**

- 1439 N Hywel-Jones H84178-2. *Simulium argyreatum* [Dipt.: Simuliidae]. Jun 1984. England: Fingle Bridge, Dartmoor Natl. Park, Devon.  
 1752 S Keller 527. Black fly [Dipt.: Simuliidae]. 24 Oct 1984. Switzerland: Zürich.  
 1753 S Keller 528. Black fly [Dipt.: Simuliidae]. 24 Oct 1984. Switzerland: Zürich.  
 1755 S Keller 530. Black fly [Dipt.: Simuliidae]. 24 Oct 1984. Switzerland: Zürich.

**ERYNIA CURVISPORA (Nowakowski) Nowakowski**

- 802 E Cuebas-Incle. *Simulium* [Dipt.: Simuliidae]. 24 Jul 1984. USA: Dryden Lake, Dryden, New York  
 1754 S Keller 529. Black fly [Dipt.: Simuliidae]. 24 Oct 1984. Switzerland: Zürich.

**ERYNIA** nr. **DELPHACIS** (Hori) Humber

- 2132 D Holdom 180286. Hemipt.: Miridae. 18 Feb 1986. Indonesia: CIBA-Geigy R&D Sta., Cikampek, Java.  
 2146 D Holdom 100286-2. Hemipt.: Miridae. 10 Feb 1986. Indonesia: CIBA-Geigy R&D Sta. Cikampek, Java.

**ERYNIA DELPHACIS** (Hori) Humber

- 134 M Shimazu. *Nilaparvata lugens* [Homopt.: Delphacidae]. 1975. Japan: Chikugo, Fukuoka  
 458 RS Soper. *Nephotettix cincticeps* [Homopt.: Cicadellidae]. 5 May 1980. Philippines: IRRI, Los Baños, Manila.  
 459 RS Soper. *Nephotettix cincticeps* [Homopt.: Cicadellidae]. 5 May 1980. Philippines: IRRI, Los Baños, Manila.  
 460 RS Soper. *Nephotettix cincticeps* [Homopt.: Cicadellidae]. 5 May 1980. Philippines: IRRI, Los Baños, Manila.  
 461 RS Soper. *Nephotettix cincticeps* [Homopt.: Cicadellidae]. 5 May 1980. Philippines: IRRI, Los Baños, Manila.  
 478 RS Soper. *Nephotettix cincticeps* [Homopt.: Cicadellidae]. 5 May 1980. Philippines: IRRI, Los Baños, Manila  
 575 RS Soper 810302-1. *Nilaparvata lugens* [Homopt.: Delphacidae]. 2 Mar 1981. Indonesia: Desa Dasan Tereng, Kecamatan Narmada, Lombok Island.  
 579 RS Soper 810302-1. *Nilaparvata lugens* [Homopt.: Delphacidae]. 2 Mar 1981. Indonesia: Desa Dasan Tereng, Kecamatan Narmada, Lombok Island.  
 580 RS Soper 81223-1. *Nilaparvata lugens* [Homopt.: Delphacidae]. 23 Feb 1981. Indonesia: District Deliserdang, Kecamatan Tanjung, Bangun village, N. Sumatra.  
 593 RS Soper 810303-2. Whitebacked plant hopper, *Sogatella furcifera* [Homopt.: Delphacidae]. 3 Mar 1981. Indonesia: Shlawesi, Pangkep Kaba, S. Sulawesi Island.  
 603 RS Soper 810303-2. Whitebacked plant hopper, *Sogatella furcifera* [Homopt.: Delphacidae]. 3 Mar 1981. Indonesia: Shlawesi, Pangkep Kaba, S. Sulawesi Island.  
 660 DW Roberts 101081-6-2. *Recilia dorsalis* [Homopt.: Cicadellidae]. 10 Oct 1981. PRChina: Jiangsu.  
 664 DW Roberts 100881-4-3. *Nilaparvata lugens* [Homopt.: Delphacidae]. 8 Oct 1981. PRChina: Chansha, Hunan.  
 665 DW Roberts 102181-9. *Nilaparvata lugens* [Homopt.: Delphacidae]. 21 Oct 1981. PRChina: Wuhan, Hupei.  
 666 DW Roberts 102181-1. *Nilaparvata lugens* [Homopt.: Delphacidae]. 21 Oct 1981. PRChina: Wuhan, Hupei.  
 667 DW Roberts 102181-6. *Nilaparvata lugens* [Homopt.: Delphacidae]. 21 Oct 1981. PRChina: Wuhan, Hupei.  
 668 DW Roberts 101081-3. *Nilaparvata lugens* [Homopt.: Delphacidae]. 10 Oct 1981. PRChina: Nanjing, Jiangsu.  
 669 DW Roberts 102181-2. *Nilaparvata lugens* [Homopt.: Delphacidae]. 21 Oct 1981. PRChina: Wuhan, Hupei.  
 670 DW Roberts 101381-1. *Nilaparvata lugens* [Homopt.: Delphacidae]. 13 Oct 1981. PRChina: Hangzhou, Zhejiang.  
 671 DW Roberts 102381-3. *Nilaparvata lugens* [Homopt.: Delphacidae]. 23 Oct 1981. PRChina: Guanzhou, Kwon Tung.  
 672 DW Roberts 101081-5-3. *Nilaparvata lugens* [Homopt.: Delphacidae]. 10 Oct 1981. PRChina: Nanjing, Jiangsu.  
 673 DW Roberts 100981-3. *Nilaparvata lugens* [Homopt.: Delphacidae]. 9 Oct 1981. PRChina: Nanjing, Jiangsu.  
 674 DW Roberts 100981-4. *Nilaparvata lugens* [Homopt.: Delphacidae]. 9 Oct 1981. PRChina: Nanjing, Jiangsu.  
 676 DW Roberts 102181-5. *Nilaparvata lugens* [Homopt.: Delphacidae]. 21 Oct 1981. PRChina: Wuhan, Hupei.  
 682 DW Roberts 101081-2-3. *Nilaparvata lugens* [Homopt.: Delphacidae]. 10 Oct 1981. PRChina: Jiangsu.  
 686 DW Roberts 101081-1. *Nilaparvata lugens* [Homopt.: Delphacidae]. 10 Oct 1981. PRChina: Jiangsu.  
 698 RS Soper?. *Nilaparvata lugens* [Homopt.: Delphacidae]. 11 Apr 81. PRChina: Wuhan, Hupei  
 713 DW Roberts 102181-4. *Nilaparvata lugens* [Homopt.: Delphacidae]. 21 Oct 1981. PRChina: Wuhan, Hupei.  
 716 DW Roberts 100981-1. *Nilaparvata lugens* [Homopt.: Delphacidae]. 9 Oct 1981. PRChina: Nanjing, Jiangsu.  
 1101 M Shimazu. *Nilaparvata lugens* [Homopt.: Delphacidae]. Japan: Chikugo, Fukuoka.  
 1124 M Shimazu F-16. *Nilaparvata lugens* [Homopt.: Delphacidae]. Japan: Chikugo, Fukuoka.  
 1132 M Shimazu F-32. *Nilaparvata lugens* [Homopt.: Delphacidae]. Japan: Chikugo, Fukuoka.  
 1133 M Shimazu F-33. *Nilaparvata lugens* [Homopt.: Delphacidae]. Japan: Chikugo, Fukuoka.  
 1238 DW Roberts CP-138. Leaf hopper [Homopt.: Cicadellidae]. 12 Apr 1984. Brazil: Goiânia, Goiás.  
 1264 M Shimazu Ent-6. *Nilaparvata lugens* [Homopt.: Delphacidae]. Japan: Chikugo, Fukuoka  
 1268 M Shimazu F-56. *Nilaparvata lugens* [Homopt.: Delphacidae]. Japan: Chikugo, Fukuoka.  
 1570 F Messina. *Lygus* [Heteropt.: Miridae]. 31 Aug 1984. USA: Ithaca, New York.  
 1730 DW Roberts, M Rombach 842610-8. *Nilaparvata lugens* [Homopt.: Delphacidae]. 26 Oct 1984. India: Hyderabad.  
 1731 DW Roberts, M Rombach 842610-5. *Nilaparvata lugens* [Homopt.: Delphacidae]. 26 Oct 1984. India: Hyderabad.  
 1936 SP, SG Wraight Q-1. Brown leafhopper [Homopt.: Cicadellidae]. 31 May 1985. Brazil: CNPAF, Goiânia, Goiás.  
 2028 J Harper. *Spissistilus festinus* [Homopt.: Membracidae]. Rec'd Oct 1985. USA: Auburn, Alabama.  
 2046 Reisolat of ARSEF 579 after passage through *Sogatodes oryzicola* [Homopt.: Delphacidae]. Nov 1985.  
 2047 Reisolat of ARSEF 579 after passage through *Nilaparvata lugens* [Homopt.: Delphacidae]. Nov 1985.  
 2091 D Holdom 200186-2. *Nilaparvata lugens* [Homopt.: Delphacidae]. 20 Jan 1986. Indonesia: CIBA-Geigy R&D Sta. Cikampek, Java.  
 2092 D Holdom 260186-1. *Sogatella furcifera* [Homopt.: Delphacidae]. 26 Jan 1986. Indonesia: CIBA-Geigy R&D Sta. Cikampek, Java.  
 2093 D Holdom 260186-2. *Sogatella furcifera* [Homopt.: Delphacidae]. 26 Jan 1986. Indonesia: CIBA-Geigy R&D Sta. Cikampek, Java.  
 2094 D Holdom 270186. *Sogatodes pusanus* [Homopt.: Delphacidae]. 27 Jan 1986. Indonesia: CIBA-Geigy R&D Sta. Cikampek, Java.  
 2095 D Holdom 020286. *Sogatella fucifera* [Homopt.: Delphacidae]. 2 Feb 1986. Indonesia: CIBA-Geigy R&D Sta. Cikampek, Java.  
 2096 D Holdom 060286. *Sogatella furcifera* [Homopt.: Delphacidae]. 6 Feb 1986. CIBA-Geigy R&D Sta. Cikampek,Java.

**ERYNIA DIPTERIGENA** (Thaxter) Remaudière & Hennebert

- 131 N Wilding 1. Small fly [Dipt.]. 24 Aug 1976. USA: Stillwater (nr. Orono), Maine.  
 397 S Keller 92. Small nematoceran fly [Dipt.]. 5 Jun 1978. Switzerland.  
 1720 S Keller 521. Small fly [Dipt.]. 18 Oct 1984. Switzerland: Trasadingen.  
 1887 M Shimazu. Small fly [Dipt.: ?Sciaridae]. Jun 1985. USA: Allegany St. Park, Salamanca, New York.  
 1923 M Shimazu. FE-1 Small fly [Dipt.: ?Sciaridae]. Jun 1985. USA: Allegany St. Park, Salamanca, New York.

**ERYNIA** nr. **ECHINOSPORA** (Thaxter) Remaudière & Hennebert

- 138 RGKenneth 3098 < S Biton. Fly [Diptera] on citrus leaf. Israel: Det-Dagan.

**ERYNIA ITHACENSIS** Kramer

- 663 Type culture. J Kramer. *Symphoromyia hirta* [Dipt.: Rhagionidae]. Jun/Jul 1980. USA: West Danby, New York.

**ERYNIA ITHACENSIS** (continued)

- 1339 S Balazy 1561. Host? 22 May 1983. Poland: Bialowieza Nat. Park.  
 1340 S Balazy 1561a. Host? 22 May 1983. Poland: Bialowieza Nat. Park.

**ERYNIA KONDOIENSIS** Milner, Mahon & Brown

- 825 RJ Milner EM-507 < R Teakle. *Acyrtosiphon kondoi* [Homopt.: Aphididae]. 10 May 1977. Australia: Brisbane, Queensland.  
 828 RJ Milner EM-598 < RD Hughes. *Acyrtosiphon kondoi* [Homopt.: Aphididae]. 31 Jul 1980. Australia: Dubbo, New South Wales.  
 837 RJ Milner EM-600 < RD Hughes. *Acyrtosiphon kondoi* [Homopt.: Aphididae]. 31 Jul 1980. Australia: Dubbo, New South Wales.

**ERYNIA LANCEOLATA** (Keller) Humber & Ben-Ze'ev

- 426 S Keller 115. Nematoceran fly [Dipt.]. Switzerland: Rickenbach.  
 468 S Keller 95 < G Remaudière. Small brachyceran fly [Dipt.]. Oct 1977. France.  
 469 S Keller 115. Nematoceran fly [Dipt.]. Switzerland: Rickenbach.

**ERYNIA NEOAPHIDIS** Remaudière & Hennebert

Described for *Entomophthora aphidis* Hoffman in Fres. sensu Thaxter; not synonymous with *Erynia aphidis* (Hoffm.) Remaud. & Henneb.

- 78 RG Kenneth 3071 (= Ea-4) < A Uziel. Aphid (?*Aphis fabae*) [Homopt.: Aphididae]. Mar 1976. Israel: Achuzam.  
 128 JP Latgé. *Aphis* sp. [Homopt.: Aphididae]. 26 Aug 1976. Canada: St. Gédéon, Québec.  
 181 FR Holbrook. *Macrosiphum euphorbiae* [Homopt.: Aphididae]. 9 Aug 1977. USA: Maine.  
 381 RS Soper. Aphid [Homopt.: Aphididae]. 26 Feb 1979. Australia.  
 608 I Majchrowicz 80. *Aphis fabae* [Homopt.: Aphididae]. Jul 1980. Poland: Szczecin.  
 609 I Majchrowicz 81. *Aphis fabae* [Homopt.: Aphididae]. Jul 1980. Poland: Szczecin.  
 610 I Majchrowicz 82. *Aphis fabae* [Homopt.: Aphididae]. Jul 1980. Poland: Szczecin.  
 611 I Majchrowicz 87. *Aphis fabae* [Homopt.: Aphididae]. Aug 1980. Poland: Szczecin.  
 612 I Majchrowicz 88. *Aphis fabae* [Homopt.: Aphididae]. Aug 1980. Poland: Szczecin.  
 613 I Majchrowicz 90. *Aphis fabae* [Homopt.: Aphididae]. Aug 1980. Poland: Szczecin.  
 614 I Majchrowicz 91. *Aphis fabae* [Homopt.: Aphididae]. Aug 1980. Poland: Szczecin.  
 636 I Majchrowicz 102. *Aphis fabae* [Homopt.: Aphididae]. 3 Jul 1981. Poland: Szczecin.  
 637 I Majchrowicz 103. *Aphis fabae* [Homopt.: Aphididae]. 6 Jul 1981. Poland: Stanpanel.  
 638 I Majchrowicz 104. *Aphis fabae* [Homopt.: Aphididae]. 16 Jul 1981. Poland: Gumienice.  
 639 I Majchrowicz 105. *Aphis fabae* [Homopt.: Aphididae]. 18 Jul 1981. Poland: Gryfino.  
 827 RJ Milner EM-717 < R Huppertz. *Macrosiphum pisum* [Homopt.: Aphididae]. 11 Jan 1982. Australia: Echuca, (30 km from Deniliquin), New South Wales.  
 829 RJ Milner EM-736 < T Woolcock. *Hyperomyzus lactucae* [Homopt.: Aphididae]. 29 Nov 1982. Australia: Meerwillumbah, New South Wales.  
 830 RJ Milner EM-723 < R Huppertz. *Macrosiphum pisum* [Homopt.: Aphididae]. 1 Nov 1982. Australia: Hamilton, Victoria.  
 831 RJ Milner EM-623 < T Woolcock. *Acyrtosiphon pisum* [Homopt.: Aphididae]. 21 Apr 1981. Australia: Bega, New South Wales.  
 833 RJ Milner EM-739. *Hyperomyzus lactucae* [Homopt.: Aphididae]. 8 Nov 1982. Chile: Easter Island (airport).  
 835 RJ Milner EM-633. *Hyperomyzus lactucae* [Homopt.: Aphididae]. 1 Jul 1981. Australia: Black Mountain, Canberra, Austr. Capital Territory.  
 836 RJ Milner EM-635. *Acyrtosiphon kondoi* [Homopt.: Aphididae]. 29 Jul 1981. Australia: 2 km SW of Gundagai, New South Wales.  
 838 RJ Milner EM-670. *Macrosiphum pisum* [Homopt.: Aphididae]. 12 May 1982. Australia: Murrumbateman, New South Wales.  
 993 J Aoki Ent-25 < K Nakamura. *Uroleucon formosanus* [Homopt.: Aphididae]. Jul 1977. Japan: Hino City, Tokyo.  
 1134 M Shimazu F-36. *Macrosiphum akebiae* [Homopt.: Aphididae]. Japan: Fukuoka.  
 1137 M Shimazu F-54. *Dactynotus formosanus* [Homopt.: Aphididae]. Japan: Tokyo.  
 1571 DW Roberts. Aphid [Homopt.: Aphididae]. 24 Aug 1984. USA: Tully, New York.  
 1596 I Majchrowicz 34. *Hyalopterus pruni* [Homopt.: Aphididae]. 6 Jun 1984. France: Entraigues, Avignon.  
 1597 I Majchrowicz 37. *Sitobion* sp. [Homopt.: Aphididae]. 6 Jun 1984. France: Entraigues, Avignon.  
 1598 I Majchrowicz 50. *Acyrtosiphon pisum* [Homopt.: Aphididae]. 7 Jun 1984. France: Bezreus.  
 1600 I Majchrowicz 164. *Myzus persicae* [Homopt.: Aphididae]. 21 Jun 1984. Portugal: Trofa.  
 1601 I Majchrowicz 170. *Myzus* sp. [Homopt.: Aphididae]. 24 Jun 1984. Spain: St. Amalia.  
 1602 I Majchrowicz 172. *Myzus* sp. [Homopt.: Aphididae]. 24 Jun 1984. Spain: St. Amalia.  
 1603 I Majchrowicz 178. *Acyrtosiphon pisum* [Homopt.: Aphididae]. 24 Jun 1984. Spain: St. Amalia.  
 1604 I Majchrowicz 201. *Sitobion* sp. [Homopt.: Aphididae]. 3 Jul 1984. France: La Minière.  
 1605 I Majchrowicz 211. *Acyrtosiphon pisum* [Homopt.: Aphididae]. 4 Jul 1984. France: La Minière.  
 1606 I Majchrowicz 216. *Aphis fabae* [Homopt.: Aphididae]. 4 Jul 1984. France: La Minière.  
 1607 I Majchrowicz 224. *Macrosiphum* sp. [Homopt.: Aphididae]. 10 Jul 1984. France: La Minière.  
 1609 I Majchrowicz 230. *Acyrtosiphon pisum* [Homopt.: Aphididae]. 12 Jul 1984. France: La Minière.  
 1610 I Majchrowicz 236. *Aphidula* sp. [Homopt.: Aphididae]. 14 Jul 1984. France: La Minière.  
 1611 I Majchrowicz 246. *Aphis fabae* [Homopt.: Aphididae]. 17 Jul 1984. France: La Minière.  
 1612 I Majchrowicz 251. *Macrosiphum* sp. [Homopt.: Aphididae]. 20 Jul 1984. France: La Minière.  
 1613 I Majchrowicz 257. *Brevicoryne brassicae* [Homopt.: Aphididae]. 21 Jul 1984. France: La Minière.  
 1615 I Majchrowicz 263. *Aphidula* sp. [Homopt.: Aphididae]. 24 Jul 1984. France: La Minière.  
 1616 I Majchrowicz 269. *Brevicoryne brassicae* [Homopt.: Aphididae]. 28 Jul 1984. France: La Minière.  
 1617 I Majchrowicz 275. *Brevicoryne brassicae* [Homopt.: Aphididae]. 28 Jul 1984. France: La Minière.  
 1618 I Majchrowicz 260. 1984. France.  
 1784 IL Sivcev 281. *Brevicoryne brassicae* [Homopt.: Aphididae]. 8 Oct 1984. Yugoslavia: PKB cooperative, E. of Belgrade.  
 1785 IL Sivcev 278. *Brevicoryne brassicae* [Homopt.: Aphididae]. 8 Oct 1984. Yugoslavia: PKB cooperative, E. of Belgrade.  
 1786 IL Sivcev 271. *Brevicoryne brassicae* [Homopt.: Aphididae]. 8 Oct 1984. Yugoslavia: PKB cooperative, E. of Belgrade.  
 1824 IL Sivcev V-11. *Brevicoryne brassicae* [Homopt.: Aphididae]. 11 Oct 1984. Yugoslavia: Veternik.  
 1825 IL Sivcev F-19. *Brevicoryne brassicae* [Homopt.: Aphididae]. 11 Oct 1984. Yugoslavia: Futog.  
 1826 IL Sivcev F-34. *Brevicoryne brassicae* [Homopt.: Aphididae]. 11 Oct 1984. Yugoslavia: Futog.  
 1827 IL Sivcev F-30. *Brevicoryne brassicae* [Homopt.: Aphididae]. 11 Oct 1984. Yugoslavia: Futog.



**ERYNIA NEOAPHIDIS** (continued)

- 1981 TJ Poprawski MN-0184. Nymph, *Aphis fabae* [Homopt.: Aphididae]. 17 Jul 1985. France: La Minière.  
 1985 TJ Poprawski MN-0188. Nymph, *Aphis fabae* [Homopt.: Aphididae]. 2 Aug 1985. France: La Minière.  
 1986 TJ Poprawski MN-0189. Nymph, *Macrosiphum rosae* [Homopt.: Aphididae]. 2 Aug 1985. France: La Minière.  
 1987 TJ Poprawski MN-0190. Nymph, *Macrosiphum rosae* [Homopt.: Aphididae]. 7 Aug 1985. France: La Minière.  
 2016 I Sivcev 217/85. Dark brown aphid [Homopt.: Aphididae]. 3 Jul 1985. Yugoslavia: Zemun.  
 2017 I Sivcev 74/85. Pea aphid [Homopt.: Aphididae]. 5 Jul 1985. Yugoslavia: Micunovo, Vojvodina.  
 2018 I Sivcev 76/85. Pea aphid [Homopt.: Aphididae]. 5 Jul 1985. Yugoslavia: Micunovo, Vojvodina.  
 2019 I Sivcev 63/85. Black poppy aphid [Homopt.: Aphididae]. 5 Jul 1985. Yugoslavia: Micunovo, Vojvodina.  
 2020 I Sivcev 65/85. Black poppy aphid [Homopt.: Aphididae]. 5 Jul 1985. Yugoslavia: Micunovo, Vojvodina.  
 2085 TJ Poprawski 0191. Nymph, *Myzus persicae* [Homopt.: Aphididae] on alfalfa. 22 Sep. 85. Spain: Real.  
 2086 TJ Poprawski 0193. Nymph, *Myzus persicae* [Homopt.: Aphididae] on alfalfa. 22 Sep. 85. Spain: Real.  
 2108 I Sivcev 174/85. *Brevicoryne brassicae* [Homopt.: Aphididae] on cabbage. 14 Oct 85. Yugoslavia: Zemun.  
 2109 I Sivcev 184/85. *Brevicoryne brassicae* [Homopt.: Aphididae] on cabbage. 14 Oct 85. Yugoslavia: Zemun.  
 2110 I Sivcev 185/85. *Brevicoryne brassicae* [Homopt.: Aphididae] on cabbage. 14 Oct 85. Yugoslavia: Zemun.  
 2111 I Sivcev 228/85. *Brevicoryne brassicae* [Homopt.: Aphididae] on cabbage. 21 Oct 85. Yugoslavia: Zemun.  
 2112 I Sivcev 229/85. *Brevicoryne brassicae* [Homopt.: Aphididae] on cabbage. 21 Oct 85. Yugoslavia: Zemun.  
 2113 I Sivcev 237/85. *Brevicoryne brassicae* [Homopt.: Aphididae] on cabbage. 21 Oct 85. Yugoslavia: Zemun.  
 2114 I Sivcev 271/85. *Brevicoryne brassicae* [Homopt.: Aphididae] on cabbage. 30 Oct 85. Yugoslavia: Zemun.  
 2115 I Sivcev 280/85. *Brevicoryne brassicae* [Homopt.: Aphididae] on cabbage. 30 Oct 85. Yugoslavia: Zemun.  
 2116 I Sivcev 282/85. *Brevicoryne brassicae* [Homopt.: Aphididae] on cabbage. 30 Oct 85. Yugoslavia: Zemun.  
 2117 I Sivcev 284/85. *Brevicoryne brassicae* [Homopt.: Aphididae] on cabbage. 30 Oct 85. Yugoslavia: Zemun.  
 2118 I Sivcev 291/85. *Brevicoryne brassicae* [Homopt.: Aphididae] on cabbage. 30 Oct 85. Yugoslavia: Zemun.  
 2119 I Sivcev 294/85. *Brevicoryne brassicae* [Homopt.: Aphididae] on cabbage. 30 Oct 85. Yugoslavia: Zemun.  
 2120 I Sivcev 297/85. *Brevicoryne brassicae* [Homopt.: Aphididae] on cabbage. 30 Oct 85. Yugoslavia: Zemun.  
 2121 I Sivcev 301/85. *Brevicoryne brassicae* [Homopt.: Aphididae] on cabbage. 30 Oct 85. Yugoslavia: Zemun.  
 2122 I Sivcev 304/85. *Brevicoryne brassicae* [Homopt.: Aphididae] on cabbage. 30 Oct 85. Yugoslavia: Zemun.  
 2123 I Sivcev 198/85. *Brevicoryne brassicae* [Homopt.: Aphididae] on cabbage. 17 Oct 85. Yugoslavia: Bijeljina.  
 2124 I Sivcev 249/85. *Brevicoryne brassicae* [Homopt.: Aphididae] on cabbage. 25 Oct 85. Yugoslavia: Futog.  
 2125 I Sivcev 250/85. *Brevicoryne brassicae* [Homopt.: Aphididae] on cabbage. 25 Oct 85. Yugoslavia: Futog.  
 2126 I Sivcev 251/85. *Brevicoryne brassicae* [Homopt.: Aphididae] on cabbage. 25 Oct 85. Yugoslavia: Futog.  
 2127 I Sivcev 253/85. *Brevicoryne brassicae* [Homopt.: Aphididae] on cabbage. 25 Oct 85. Yugoslavia: Futog.  
 2128 I Sivcev 261/85. *Brevicoryne brassicae* [Homopt.: Aphididae] on cabbage. 25 Oct 85. Yugoslavia: Futog.  
 2129 I Sivcev 264/85. *Brevicoryne brassicae* [Homopt.: Aphididae] on cabbage. 25 Oct 85. Yugoslavia: Futog.

**ERYNIA NOURYI** Remaudière & Hennebert

Synonym: *Entomophthora exitialis* Hall & Dunn sensu Gustafsson.

- 199 R Mietkiewski. Single spore isolate from aphid [Homopt.: Aphididae] on potato. 1 Sept 1977. USA: Stillwater (Orono), Maine.  
 362 RJ Milner EM-538 < R Teakle. *Acyrtosiphum kondoi* [Homopt.: Aphididae]. Rec'd 1979. Australia: Gatton, Queensland.  
 366 RJ Milner EM-542 < JP Latgé 1066. *Therioaphis trifolii maculata* [Homopt.: Aphididae]. Rec'd 1979. USA.  
 369 RJ Milner EM-507 < R Teakle. *Acyrtosiphum kondoi* [Homopt.: Aphididae]. Rec'd 1979. Australia: Queensland.

**ERYNIA OVISPORIA** (Nowakowski) Nowakowski

- 399 S Keller 100. Moth fly [Dipt.: Psychodidae]. 12 Jun 1978. Switzerland.  
 400 S Keller 102. Moth fly [Dipt.: Psychodidae]. 12 Jun 1978. Switzerland.

**ERYNIA PHALLOIDES** (Batko) Humber, Ben-Ze'ev & Kenneth in Humber & Ben-Ze'ev

- 207 R Mietkiewski. *Macrosiphum euphorbiae* [Homopt.: Aphididae]. 20 Sept 1977. USA: Rogers Farm, Stillwater (Orono), Maine.  
 351 RJ Milner EM-541 < JP Latgé 1116. *Therioaphis trifolii maculata* [Homopt.: Aphididae]. 9 Nov 1978. Mexico.  
 822 G Remaudière IPLB 421. *Capitophorus* [Homopt.: Aphididae]. 24 Oct 1973. France: Quineville, Manche.

**ERYNIA PHYTONOMI** (Arthur) Humber, Ben-Ze'ev & Kenneth in Humber & Ben-Ze'ev

- 113 RG Kenneth 3085 < A Uziel. *Hypera variabilis* [Coleopt.: Curculionidae]. Israel: Sde Eliyahu.  
 191 RG Kenneth 3095 < I Ben-Ze'ev. *Hypera variabilis* [Coleopt.: Curculionidae]. Apr 1977. Israel: Sde Eliyahu.  
 192 RG Kenneth 3133 < I Ben-Ze'ev. *Hypera variabilis* [Coleopt.: Curculionidae]. 2 Mar 1977. Israel: Sde Eliyahu.  
 202 J Kramer < AA Muka [= RG Kenneth 3178]. *Hypera punctata* [Coleopt.: Curculionidae]. Jul 1977. USA: Ithaca, New York.  
 2188 RJ Dysart. Larva, *Hypera punctata* [Coleopt.: Curculionidae]. 29 Apr 1986. USA: Farmington, Kent Co., Delaware.

**ERYNIA PIERIS** Li & Humber

- 781 B Usher. *Pieris rapae* [Lepidopt.: Pieridae]. 27 Aug 1982. USA: Ithaca, New York.

**ERYNIA RADICANS** (Brefeld) Humber, Ben-Ze'ev & Kenneth in Humber & Ben-Ze'ev

Major Synonyms: *Entomophthora sphaerosperma* Fresenius, *Entomophthora radicans* Brefeld, *Zoophtora radicans* (Bref.) Batko.

- 13 C Thompson. *Neodiprion tsugifoliae* [Hymenopt.: Diprionidae]. Aug 1971. USA: Prince of Wales Island, Alaska.  
 21 D Leonard BBIV-20. Larva, *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 1973. USA: Maine.  
 44 JD Vandenberg. Larva, *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 16 Jun 1975. USA: Oxbow-Masardis, Maine.  
 45 JD Vandenberg. Larva, *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 16 Jun 1975. USA: Oxbow-Masardis, Maine.  
 50 JD Vandenberg. Larva, *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 16 Jun 1975. USA: Oxbow-Masardis, Maine.  
 52 JD Vandenberg. Larva, *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 19 Jun 1975. USA: S. Bancroft, Maine.  
 68 G Remaudière IPLB 624. *Tortrix viridiana* [Lepidopt.: Tortricidae]. 22 May 1975. France.

**ERYNIA RADICANS (continued)**

- 72 RG Kenneth 3046 < ATCC 24493 < DM MacLeod IPRI 487. *Lambdina fiscellaria fiscellaria* [Lepidopt.: Geometridae]. Rec'd Jan 1976. Canada: Newfoundland.
- 75 RG Kenneth 3060. *Brachycaudus amygdalinus* [Homopt.: Aphididae] on *Polygonum equisetiforme* (Polygonaceae). Rec'd Jan 1976. Israel: Revohot.
- 80 RG Kenneth 3080 < A Uziel. Larva, *Hypera variabilis* [Coleopt.: Curculionidae]. Mar 1976. Israel: Sde Eliyahu.
- 81 RG Kenneth 3081 < A Uziel. Larva, *Hypera variabilis* [Coleopt.: Curculionidae]; coincident with *Conidiobolus osmodes*. Mar 1976. Israel: Sde Eliyahu.
- 88 JD Vandenberg. *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 24 Jun 1976. USA: Haynesville, Maine.
- 103 RG Kenneth 3100 < A Uziel. *Therioaphis trifolii maculata* [Homopt.: Aphididae]. 7 Nov 1976. Israel: Sde Eliyahu.
- 104 RG Kenneth 3101 < A Uziel. *Therioaphis trifolii maculata* [Homopt.: Aphididae]. 7 Nov 1976. Israel: Sde Eliyahu.
- 105 RG Kenneth 3102 < A Uziel. *Therioaphis trifolii maculata* [Homopt.: Aphididae]. 25 Jul 1976. Israel: Bet-Dagan.
- 106 RG Kenneth 3103 < A Uziel. *Therioaphis trifolii maculata* [Homopt.: Aphididae]. 25 Jul 1976. Israel: Bet-Dagan.
- 107 RG Kenneth 3104 < A Uziel. *Therioaphis trifolii maculata* [Homopt.: Aphididae]. 25 Jul 1976. Israel: Bet-Dagan.
- 108 RG Kenneth 3105 < A Uziel. *Therioaphis trifolii maculata* [Homopt.: Aphididae]. 25 Jul 1976. Israel: Bet-Dagan.
- 109 RG Kenneth 3106 < A Uziel. *Therioaphis trifolii maculata* [Homopt.: Aphididae]. 25 Jul 1976. Israel: Bet-Dagan.
- 110 RG Kenneth 3107 < A Uziel. *Therioaphis trifolii maculata* [Homopt.: Aphididae]. 25 Jul 1976. Israel: Bet-Dagan.
- 111 RG Kenneth 3109 < A Uziel. *Therioaphis trifolii maculata* [Homopt.: Aphididae]. 25 Jul 1976. Israel: Bet-Dagan.
- 112 RG Kenneth 3110 < A Uziel. *Therioaphis trifolii maculata* [Homopt.: Aphididae]. 25 Jul 1976. Israel: Bet-Dagan.
- 114 RG Kenneth 3096 < A Uziel. *Therioaphis trifolii maculata* [Homopt.: Aphididae]. 11 Jul 1976. Israel: Sde Eliyahu.
- 126 G. Remaudière 25, JP Latgé. ?*Trioza* [Homopt.: Psyllidae]. 25 Aug 1976. Canada: Chute aux Galets, Québec.
- 139 RG Kenneth 3097 < A Uziel. *Therioaphis trifolii maculata* [Homopt.: Aphididae]. Israel: Sde Eliyahu.
- 141 JD Vandenberg. *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 21 Jun 1977. USA: Map ref. T4R10, Maine.
- 142 JD Vandenberg. *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 20 Jun 1977. USA: Perham, Maine.
- 143 JD Vandenberg. *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 21 Jun 1977. USA: Perham, Maine.
- 144 JD Vandenberg. *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 21 Jun 1977. USA: Perham, Maine.
- 145 JD Vandenberg. *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 23 Jun 1977. USA: Carroll, Maine.
- 146 JD Vandenberg. *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 21 Jun 1977. USA: Shin Pond (T6R7) Maine.
- 161 JD Vandenberg. Single spore isolate from ARSEF 88; 15 Jul 1977.
- 162 JD Vandenberg. Single spore isolate from ARSEF 88; 15 Jul 1977.
- 163 JD Vandenberg. *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 19 Jul 1977. USA: Perham, Maine.
- 183 JD Vandenberg. Single spore isolate from ARSEF 88; Sept 1977.
- 184 JD Vandenberg. Single spore isolate from ARSEF 88; Sept 1977.
- 185 JD Vandenberg. Single spore isolate from ARSEF 88; Sept 1977.
- 186 JD Vandenberg. Single spore isolate from ARSEF 88; Sept 1977.
- 187 JD Vandenberg. Single spore isolate from ARSEF 88; Sept 1977.
- 188 JD Vandenberg. Single spore isolate from ARSEF 88; Sept 1977.
- 189 RG Kenneth 3044 < CBS 216.66 < M Gustafsson. Rec'd 1977. Sweden.
- 195 RG Kenneth 3134 < I Ben-Ze'ev. Aphid [Homopt.: Aphididae] on *Sonchus* (Asteraceae). 1977. Israel: Beir Yakov.
- 197 RG Kenneth 3139 < I Ben-Ze'ev. *Hyperomyzus lactucae* [Homopt.: Aphididae] on *Sonchus*. Israel: Beir Yakov.
- 221 S Ignatowicz. 6th instar larva, *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 28 Jun 1978. USA: Presque Isle, Maine.
- 222 S Ignatowicz. 6th instar larva, *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 28 Jun 1978. USA: Presque Isle, Maine.
- 223 S Ignatowicz. 6th instar larva, *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 24 Jun 1978. USA: Springfield, Maine.
- 224 S Ignatowicz. 6th instar larva, *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 24 Jun 1978. USA: Springfield, Maine.
- 225 S Ignatowicz. 6th instar larva, *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 24 Jun 1978. USA: Macwahoc, Maine.
- 226 S Ignatowicz. *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 24 Jun 1978. USA: Macwahoc, Maine.
- 227 S Ignatowicz. Pupa, *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 3 Jul 1978. USA: Mamarda, Maine.
- 228 S Ignatowicz. Pupa, *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 3 Jul 1978. USA: Mamarda, Maine.
- 229 S Ignatowicz. 6th instar larva, *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 28 Jun 1978. USA: Princeton, Maine.
- 230 S Ignatowicz. 6th instar larva, *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 28 Jun 1978. USA: Princeton, Maine.
- 231 S Ignatowicz. 6th instar larva, *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 28 Jun 1978. USA: Princeton, Maine.
- 232 S Ignatowicz. 6th instar larva, *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 28 Jun 1978. USA: Princeton, Maine.
- 233 S Ignatowicz. 6th instar larva, *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 28 Jun 1978. USA: Princeton, Maine.
- 234 S Ignatowicz. *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 30 Jun 1978. USA: Oak Hill, Maine.
- 235 S Ignatowicz. 6th instar larva, *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 30 Jun 1978. USA: Oak Hill, Maine.
- 237 P Dodge. *Therioaphis trifolii maculata* [Homopt.: Aphididae]. 15 Aug 1978. USA: Ithaca, New York.
- 238 P Dodge. *Therioaphis trifolii maculata* [Homopt.: Aphididae]. 15 Aug 1978. USA: Ithaca, New York.
- 239 P Dodge. *Therioaphis trifolii maculata* [Homopt.: Aphididae]. 15 Aug 1978. USA: Ithaca, New York.
- 359 RJ Milner EM-539 < ARSEF 103 < RG Kenneth 3100 (= ARSEF 370 = JP Latgé 844 ). Reisolated from field release at Armidale. *Therioaphis trifolii maculata* [Homopt.: Aphididae]. Australia: Armidale, Queensland.
- 370 RJ Milner EM-539 < ARSEF 103 < RG Kenneth 3100 (= ARSEF 359 = JP Latgé 844 ). Reisolated from field release at Armidale. *Therioaphis trifolii maculata* [Homopt.: Aphididae]. Australia: Armidale, Queensland.
- 379 JP Latgé 1118 (> RJ Milner EM-540). *Therioaphis trifolii maculata* [Homopt.: Aphididae]. Mexico.
- 388 S Keller 214. Fly [Diptera]. Rec'd Oct 1979. Switzerland: Zürich.
- 389 S Keller 217. Hemiptera. Rec'd Oct 1979. Switzerland.
- 404 S Keller 59. Small lepidopteran. 20 Jul 1977. Switzerland.
- 407 MA Welton IPRI 655 < P Degroot. 4th instar larva, *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 22 Jun 1979. Canada: Thessalon township, Ontario.
- 491 DE McCabe. Reisolated after 3 serial passages of ARSEF 141 through *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 18 Jun 1980. USA.
- 647 DE McCabe. Reisolated from ARSEF 141 passed through *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. Produces resting spores only. Jun 1981. USA.

**ERYNIA RADICANS** (continued)

- 685 DW Roberts 102181-12. *Niaparvata lugens* [Homopt.: Delphacidae]. 21 Oct 1981. PRCina: Wuhan, Hupei.
- 789 RA Daoust, M Yokoyama CP-64. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 25 June 1982. Brazil: CNPAF, Goiânia, Goiás.
- 790 RA Daoust, M Yokoyama CP-65. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 25 June 1982. Brazil: CNPAF, Goiânia, Goiás.
- 800 E Cuebas-Incle. Frog hopper [Homopt.: Cercopidae]. 24 Jul 1982. USA: Six Mile Creek, Ithaca, New York.
- 823 RJ Milner 539B, G Lutton < ARSEF 103 < JP Latgé 844 < RG Kenneth 3100 (= ARSEF 359). Reisolated from field release at Armidale. *Therioaphis trifolii maculata* [Homopt.: Aphididae]. Australia: Armidale, Queensland.
- 899 SP Wraight EF-1. Reisolate of ARSEF 789 passed through *Empoasca fabae* [Homopt.: Cicadellidae]. Feb 1983. USA: New York.
- 914 S Keller 445. *Drepanosiphum aceris* [Homopt.: Aphididae]. Switzerland.
- 1018 M McGuire, J Maddox. *Empoasca fabae* [Homopt.: Cicadellidae]. 12 Sept 1983. USA: Arlington Res. Stn., nr. Madison, Wisconsin.
- 1019 M McGuire, J Maddox. *Empoasca fabae* [Homopt.: Cicadellidae]. 12 Sept 1983. USA: Arlington Res. Stn., nr. Madison, Wisconsin.
- 1020 M McGuire, J Maddox. *Empoasca fabae* [Homopt.: Cicadellidae]. 12 Sept 1983. USA: Arlington Res. Stn., nr. Madison, Wisconsin.
- 1021 M McGuire, J Maddox. *Empoasca fabae* [Homopt.: Cicadellidae]. 12 Sept 1983. USA: Arlington Res. Stn., nr. Madison, Wisconsin.
- 1048 J Aoki Ent-8 < H Kawamoto. *Plutella xylostella* [Lepidopt.: Plutellidae]. Dec 1975. Japan.
- 1082 RJ Milner EM-752. *Merophyas divulsana* [Lepidopt.: Tortricidae]. 3 Aug 1983. Australia: Boonah, Queensland.
- 1100 A Rahman Rashid. *Plutella xylostella* [Lepidopt.: Plutellidae]. Apr 1981. Malaysia: Cameron Highlands.
- 1125 M Shimazu F-17. *Niaparvata lugens* [Homopt.: Delphacidae]. Japan: Fukuoka.
- 1130 S Keller 444. *Drepanosiphum aceris* [Homopt.: Aphididae]. Nov 1982. Switzerland.
- 1136 M Shimazu F-43. *Niaparvata lugens* [Homopt.: Delphacidae]. Japan: Fukuoka.
- 1227 DW Roberts CP-127. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 3 Apr 1984. Brazil: Augusto Pestana (Ijuí), Rio Grande do Sul.
- 1228 DW Roberts CP-128. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 2 Apr 1984. Brazil: Palmitos, Santa Catarina.
- 1229 DW Roberts CP-129. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 2 Apr 1984. Brazil: Palmitos, Santa Catarina.
- 1231 DW Roberts CP-131. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 2 Apr 1984. Brazil: Palmitos, Santa Catarina.
- 1232 DW Roberts CP-132. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 2 Apr 1984. Brazil: Palmitos, Santa Catarina.
- 1233 DW Roberts CP-133. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 2 Apr 1984. Brazil: Palmitos, Santa Catarina.
- 1234 DW Roberts CP-134. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 2 Apr 1984. Brazil: Palmitos, Santa Catarina.
- 1235 DW Roberts CP-135. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 2 Apr 1984. Brazil: Palmitos, Santa Catarina.
- 1236 DW Roberts CP-136. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 2 Apr 1984. Brazil: Palmitos, Santa Catarina.
- 1237 DW Roberts CP-137. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 2 Apr 1984. Brazil: Palmitos, Santa Catarina.
- 1239 DW Roberts CP-139. Leafhopper [Homopt.: Cicadellidae]. 30 Mar 1984. Brazil: Francisco Beltrão, Paraná.
- 1261 M McGuire, J Maddox. *Empoasca fabae* [Homopt.: Cicadellidae]. 12 Sept 1983. USA: Arlington Res. Sta., nr. Madison, Wisconsin.
- 1262 M McGuire, J Maddox. *Empoasca fabae* [Homopt.: Cicadellidae]. 12 Sept 1983. USA: Arlington Res. Sta., nr. Madison, Wisconsin.
- 1263 J Aoki 5 < M Shimazu. Leafhopper [Homopt.: Cicadellidae]. Japan: Chikugo, Fukuoka.
- 1336 S Balazy 1555. Small nematoceran fly [Dipt.]. 21 May 1983. Poland: Białowieza Nat. Park.
- 1337 S Balazy 1558b. Small fly [Dipt.]. 22 May 1983. Poland: Białowieza Nat. Park.
- 1341 S Balazy 1577/6. *Pieris brassicae* [Lepidopt.: Pieridae]. 10 Sept 1983. Poland: Sadurki.
- 1342 S Balazy 1577/7. *Pieris brassicae* [Lepidopt.: Pieridae]. 10 Sept 1983. Poland: Sadurki.
- 1343 S Balazy 1577/8. *Pieris brassicae* [Lepidopt.: Pieridae]. 10 Sept 1983. Poland: Sadurki.
- 1344 S Balazy 1578/1. *Pieris brassicae* [Lepidopt.: Pieridae]. 10 Sept 1983. Poland: Turka, nr. Lublin.
- 1345 S Balazy 1578/2. *Pieris brassicae* [Lepidopt.: Pieridae]. 10 Sept 1983. Poland: Turka, nr. Lublin.
- 1346 S Balazy 1578/1-2. *Pieris brassicae* [Lepidopt.: Pieridae]. 10 Sept 1983. Poland: Turka, nr. Lublin.
- 1350 S Balazy 1589. Host? Poland.
- 1492 SP & SG Wraight A-22. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 5 Jul 1984. Brazil: CNPAF, Goiânia, Goiás.
- 1493 SP & SG Wraight A-24. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 9 Jul 1984. Brazil: CNPAF, Goiânia, Goiás.
- 1494 SP & SG Wraight A-26. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 9 Jul 1984. Brazil: CNPAF, Goiânia, Goiás.
- 1495 SP & SG Wraight A-31. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 10 Jul 1984. Brazil: CNPAF, Goiânia, Goiás.
- 1496 SP & SG Wraight A-33. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 10 Jul 1984. Brazil: CNPAF, Goiânia, Goiás.
- 1497 SP & SG Wraight A-37. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 10 Jul 1984. Brazil: CNPAF, Goiânia, Goiás.
- 1498 SP & SG Wraight A-41. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 10 Jul 1984. Brazil: CNPAF, Goiânia, Goiás.
- 1499 SP & SG Wraight A-42. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 10 Jul 1984. Brazil: CNPAF, Goiânia, Goiás.
- 1500 SP & SG Wraight A-44. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 10 Jul 1984. Brazil: CNPAF, Goiânia, Goiás.
- 1501 SP & SG Wraight A-50. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 10 Jul 1984. Brazil: CNPAF, Goiânia, Goiás.
- 1502 SP & SG Wraight B-37. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 10 Jul 1984. Brazil: CNPAF, Goiânia, Goiás.
- 1503 SP & SG Wraight B-33. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 10 Jul 1984. Brazil: CNPAF, Goiânia, Goiás.
- 1504 SP & SG Wraight B-40. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 10 Jul 1984. Brazil: CNPAF, Goiânia, Goiás.
- 1541 SP & SG Wraight B-48. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 10 Jul 1984. Brazil: CNPAF, Goiânia, Goiás.
- 1542 SP & SG Wraight B-51. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 10 Jul 1984. Brazil: CNPAF, Goiânia, Goiás.
- 1543 SP & SG Wraight Er I<sub>1</sub>T<sub>3</sub>. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 10 Jul 1984. Brazil: CNPAF, Goiânia, Goiás.
- 1544 SP & SG Wraight A-9. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 10 Jul 1984. Brazil: CNPAF, Goiânia, Goiás.
- 1581 SP & SG Wraight A-6. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 4 Jul 1984. Brazil: CNPAF, Goiânia, Goiás.
- 1582 SP & SG Wraight A-5. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 4 Jul 1984. Brazil: CNPAF, Goiânia, Goiás.
- 1583 SP & SG Wraight A-7. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 4 Jul 1984. Brazil: CNPAF, Goiânia, Goiás.
- 1584 SP & SG Wraight A-10. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 4 Jul 1984. Brazil: CNPAF, Goiânia, Goiás.
- 1585 SP & SG Wraight A-12. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 4 Jul 1984. Brazil: CNPAF, Goiânia, Goiás.
- 1586 SP & SG Wraight A-13. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 4 Jul 1984. Brazil: CNPAF, Goiânia, Goiás.
- 1587 SP & SG Wraight A-16. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 5 Jul 1984. Brazil: CNPAF, Goiânia, Goiás.
- 1588 SP & SG Wraight A-17. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 5 Jul 1984. Brazil: CNPAF, Goiânia, Goiás.
- 1589 SP & SG Wraight A-19. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 5 Jul 1984. Brazil: CNPAF, Goiânia, Goiás.
- 1590 SP & SG Wraight A-21. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 5 Jul 1984. Brazil: CNPAF, Goiânia, Goiás.
- 1591 SP & SG Wraight A-30. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 10 Jul 1984. Brazil: CNPAF, Goiânia, Goiás.
- 1593 SP & SG Wraight A-40. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 10 Jul 1984. Brazil: CNPAF, Goiânia, Goiás.

**ERYNIA RADICANS** (continued)

- 1594 SP & SG Wraight A-43. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 10 Jul 1984. Brazil: CNPAF, Goiânia, Goiás.  
 1595 SP & SG Wraight A-9. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 10 Jul 1984. Brazil: CNPAF, Goiânia, Goiás.  
 1674 M Shimazu F-448(1). *Ptycholomoides aeriferana* [Lepidopt.: Tortricidae]. 29 June 1984. Japan: Hokkaido.  
 1675 M Shimazu F-448(2). *Ptycholomoides aeriferana* [Lepidopt.: Tortricidae]. 29 June 1984. Japan: Hokkaido.  
 1719 S Keller 520. *Trioza urticae* [Homopt.: Psyllidae]. 18 Oct 1984. Switzerland: Trasadingen.  
 1841 SP Wraight Ef 239 t<sub>2</sub>. Reisolated after passage of ARSEF 239 through *Empoasca fabae* [Homopt.:Cicadellidae]. 24 Jan 1985.  
 1928 SP, SG Wraight A-1a. *Empoasca kraemeri* [Homopt.: Cicadellidae] on cowpea. 25 May 1985. Brazil: CNPAF, Goiânia, Goiás.  
 1929 SP, SG Wraight B-1. *Empoasca kraemeri* [Homopt.: Cicadellidae] on cowpea. 25 May 1985. Brazil: CNPAF, Goiânia, Goiás.  
 1930 SP, SG Wraight L-2. *Empoasca kraemeri* [Homopt.: Cicadellidae] on beans. 29 May 1985. Brazil: CNPAF, Goiânia, Goiás.  
 1931 SP, SG Wraight M-2. *Empoasca kraemeri* [Homopt.: Cicadellidae] on beans. 29 May 1985. Brazil: CNPAF, Goiânia, Goiás.  
 1932 SP, SG Wraight K-2. *Empoasca kraemeri* [Homopt.: Cicadellidae] on beans. 29 May 1985. Brazil: CNPAF, Goiânia, Goiás.  
 1933 SP, SG Wraight N-1. *Empoasca kraemeri* [Homopt.: Cicadellidae] on beans. 29 May 1985. Brazil: CNPAF, Goiânia, Goiás.  
 1934 SP, SG Wraight F. *Empoasca kraemeri* [Homopt.: Cicadellidae] on beans. 25 May 1985. Brazil: CNPAF, Goiânia, Goiás.  
 1935 SP, SG Wraight J-1. *Empoasca kraemeri* [Homopt.: Cicadellidae] on beans. 25 May 1985. Brazil: CNPAF, Goiânia, Goiás.  
 1937 SP, SG Wraight W-3. *Empoasca kraemeri* [Homopt.: Cicadellidae] on beans. 8 Jun 1985. Brazil: CNPAF, Goiânia, Goiás.  
 1938 M McGuire. *Empoasca fabae* [Homopt.: Cicadellidae] on snapbeans. 23 Jul 1985. USA: Champaign, Illinois.  
 2196 DW Roberts. Homopt.: Cicadellidae. 2 Jun 1986. Brazil: CNPAF, Goiânia, Goiás.

**ERYNIA RHIZOSPORA** (Thaxter) Remaudière & Hennebert

- 219 L Bauer. Adult, caddis fly [Insecta:Trichoptera]. June 1978. USA: Dover-Foxcroft, Maine  
 801 E Cuebas-Incle. Adult, caddisfly [Trichoptera]. 24 July 1982. USA: Dryden Lake, Dryden, New York  
 1440 RA Humber. Adult, caddis fly [Insecta:Trichoptera]. 2 July 1984. UK(England): River Teign, Castle Drogo, Dartmoor Nat. Park, Devon.  
 1441 RA Humber. Adult, caddis fly [Insecta:Trichoptera]. 2 July 1984. UK(England): River Teign, Castle Drogo, Dartmoor Nat. Park, Devon.  
 1442 RA Humber, E Descals. Adult, caddis fly [Insecta:Trichoptera]. 27 Jun 1984. UK(Wales): Llanfair Caereinion, Powys.  
 1443 RA Humber. Adult, caddis fly [Insecta:Trichoptera]. 21 June 1984. UK(England): Steps Bridge, Dartmoor Nat. Park, Devon.

**ERYNIA SCIARAE** (Olive) Ben-Ze'ev & Kenneth

- 1870 N Wilding 80 < G Remaudière. Fungus gnats [Dipt.: Mycetophilidae]. 30 Sept 1976. ?France.

**ERYNIA VIRESCENS** (Thaxter) Remaudière & Hennebert

- 394 S Keller 24. *Notostira elegans* [Heteropt.: Miridae]. 9 Oct 1975. Switzerland.  
 427 S Keller 250. *Brachyceran* fly [Dipt.]. Rec'd Feb 1980. Switzerland.  
 470 S Keller 251. Lepidopt.: Noctuidae. Rec'd May 1980. Switzerland.  
 1128 S Keller 293. Lepidopt.: Noctuidae. 8 Sept 1980. Switzerland.  
 1129 S Keller 416. Lepidopt.: Noctuidae. 18 Aug 1980. Switzerland

**ERYNIOPSIS CAROLINIANA** (Thaxter) Humber

- 640 S Keller 69. *Tipula paludosa* [Dipt.: Tipulidae]. Rec'd Aug 1981. Switzerland  
 641 S Keller 41. *Tipula paludosa* [Dipt.: Tipulidae]. Rec'd Aug 1981. Switzerland.  
 642 S Keller 65. *Tipula paludosa* [Dipt.: Tipulidae]. Rec'd Aug 1981. Switzerland.

**FILOBASIDIELLA ARACHNOPHILA** Malloch, Kane & Lahaie

- 2058 G Carroll. *Lymantria dispar* [Lepidopt.: Lymantriidae], egg mass. Rec'd Dec 1985. USA: Dexter, Lane Co., Oregon.

**FUSARIUM** sp.

- 687 DW Roberts 101181-4. *Nilaparvata lugens* [Homopt.: Delphacidae]. 11 Oct 1981. PRChina: Shanghai.  
 1307 TJ Poprawski MN-043. Nymph, *Adelphocoris* [Heteropt.: Miridae]. 23 May 1983. Italy: Acquapendente.  
 1310 TJ Poprawski MN-A8. Adult, *Sitona discoideus* [Coleopt.: Curculionidae]. 8 Feb 1984. Morocco: Achouria.  
 1522 TJ Poprawski MN-121. Pupa, *Musca domestica* [Dipt.: Muscidae]. 5 Jul 1984. France: La Clastre.  
 1641 TJ Poprawski MN-138. Nymph, *Adelphocoris* [Heteropt.: Miridae]. 13 Jul 1984. Austria: Burgenland.  
 1828 MC Rombach, RA Humber. Small scale [Homopt.: Coccidae] on citrus. 14 Nov 1984. Sri Lanka: Walpita Farm, between Diwulapitiya and Kotadeniyawa.

**FUSARIUM AVENACEUM** (Fries) Saccardo

- 2060 G Carroll 2 (HO-O-Hatch IV). *Lymantria dispar* [Lepidopt.: Lymantriidae], egg mass. Rec'd Dec 1985. USA: Dexter, Lane Co., Oregon.

**FUSARIUM COCCOPHILUM** (Desmazières) Wollenweber & Reinking

- 821 G. Soares. *Melanaspis obscura* [Homopt.: Diaspididae]. USA: Maryland.  
 2098 D Holdom. *Lepidosaphes* sp. [Homopt.: Diaspididae]. 18 Jan. 1986. Indonesia: "Jeruk Siam" Plantation, Sukamandi, W. Java.

**FUSARIUM LATERITIUM** Nees:Fries

- 1331 S Balazy 1437. *Ichneumon* wasp [Hymenopt.: Ichneumonidae]. 1 Sept 1981. Poland: Wielkopolski Nat. Park.

**FUSARIUM MERISMOIDES** Corda

- 2059 G Carroll (B). *Lymantria dispar* [Lepidopt.: Lymantriidae], egg mass. Rec'd Dec 1985. USA: Dexter, Lane Co., Oregon.

**FUSARIUM MONILIFORME** Sheldon var. **SUBGLUTINANS** Wollenweber & Reinking

- 2074 (microconidial only) H David. *Melanaspis glomerata* [Homoptera: Diaspididae]. 1985. India: Sugarcane Breeding Institute, Coimbatore.  
 2141 H David. *Scirpophaga excerptalis* [Lepidopt.: Pyralidae]. Rec'd Mar 1986. India: Coimbatore.

**FUSARIUM MONILIFORME var. SUBGLUTINANS (continued)**

- 2142 H David. Chilo sacchariphagus indicus [Lepidopt.: Pyralidae]. Rec'd Mar 1986. India: Coimbatore.  
 2143 H David. Pyrilla perpusilla [Hemipt.: Lophopidae]. Rec'd Mar 1986. India: Coimbatore.  
 2144 H David. Pyrilla perpusilla [Hemipt.: Lophopidae]. Rec'd Mar 1986. India: Coimbatore.  
 2145 H David. Pulvinaria elongata [Homopt.: Lecaniidae]. Rec'd Mar 1986. India: Coimbatore.

**FUSARIUM SOLANI (Martius) Saccardo**

- 1148 TJ Poprawski 83-06. Pupa, Delia radicum [Dipt.: Anthomyiidae]. 24 Aug 1983. Canada: L'Acadie, Québec.  
 1371 TJ Poprawski 83-11. Pupa, Delia radicum [Dipt.: Anthomyiidae]. 24 Aug 1983. Canada: L'Acadie, Québec.

**GIBELLULA sp.**

- 569 RS Soper. Spider [Araneida]. 23 Feb 1981. Indonesia: Bangun, Deliserdang District, North Sumatra  
 570 RS Soper. Spider [Araneida]. 28 Feb 1981. Indonesia: Kabupaten, (NW of Denpasar), Bali  
 1669 G Riba C-37. Spider [Araneida]. France.

**GIBELLULA CLAVULIFERA (Petch) Samson & Evans var. ALBA Rombach & Humber**

- 1909 MC Rombach. Euophrys ?trivittata [Araneae:Salticidae]. April 1985. Solomon Islands: nr. Metapona, Guadalcanal.

**GIBELLULA PULCHRA (Saccardo) Cavara**

- 1732 MC Rombach. Spider [Araneida]. 13 Nov 1984. Sri Lanka: Hemeratgoda Bot. Garden, Gampaha.

**HIRSUTELLA sp.**

- 530 DW Roberts 82180-12. Nilaparvata lugens [Homopt.: Delphacidae]. 21 Aug 1982. Malaysia.  
 568 RS Soper 81225-1. Nilaparvata lugens [Homopt.: Delphacidae]. 25 Feb 1981. Indonesia: Muba, Salek, S. Sumatra.  
 591 RS Soper 81226-1. Nilaparvata lugens [Homopt.: Delphacidae]. 26 Feb 1981. Indonesia: Sewon, Batul, Central Java.  
 970 RA Hall GCRI 45-81. Abacarus hystrix [Acari:Eriophyidae]. England  
 1096 R Aguda IRR1 4A. Nilaparvata lugens [Homopt.: Delphacidae]. 17 Oct 1983. Philippines: IRR1, Los Baños, Manila.  
 1551 MC Rombach, AT Barrion. Sepedon sphegus [Dipt.: Sciomyzidae]. 21 Jun 1984. Philippines: Brooks Point, Palawan.  
 1625 SP & SG Wraight. Empoasca kraemerii [Homopt.: Cicadellidae]. 10 Jul 1984. Brazil: CNPAF, Goiânia, Goiás.  
 1668 M McClure. Nucleaspis tsugae [Homopt.: Diaspididae]. 17 May 1984. Japan: Mt. Odaigahara.  
 2187 MC Rombach 220386-1. 22 Mar 1986. Korea.  
 2208 (Synnematum state) MC Rombach 030786-2 < AT Barrion. Cyrtorhinus lividipennis [Hemipt.: Miridae]. 1 Jul 1986. Philippines: near Bo. Looc, Villanueva, Misamis Oriental.  
 2209 (Synnematum state) MC Rombach 070786-5. Cyrtorhinus lividipennis [Hemipt.: Miridae]. 7 Jul 1986. Philippines: near Bo. Looc, Villanueva, Misamis Oriental.

**HIRSUTELLA CITRIFORMIS Speare**

- 490 RS Soper. Nilaparvata lugens [Homopt.: Delphacidae]. 5 May 1980. Philippines: IRR1, Los Baños, Manila.  
 532 DW Roberts 82180-2A. Nilaparvata lugens [Homopt.: Delphacidae]. 21 Aug 1980. Malaysia: Tan Jung Karang  
 684 DW Roberts 102981-2. Nilaparvata lugens [Homopt.: Delphacidae]. 29 Oct 1981. Philippines: Laguna, Los Baños, Manila.  
 1035 M Rombach < CBS 418.82. Myndus (= Haplaxius) crudus [Homopt.: Cixiidae]. 1979. USA: Ft. Pierce, Florida.  
 1036 MC Rombach < CBS 912.70 E Müller-Kögler < SL Valencia. Nilaparvata lugens [Homopt.: Delphacidae]. Nov 1970. Philippines: IRR1, Los Baños, Manila.  
 1062 R Aguda IRR1-10B. Nilaparvata lugens [Homopt.: Delphacidae]. Oct 1983. Philippines: IRR1, Los Baños, Manila.  
 1063 R Aguda IRR1-10A. Nilaparvata lugens [Homopt.: Delphacidae]. Oct 1983. Philippines: IRR1, Los Baños, Manila.  
 1064 R Aguda IRR1-GA. Nilaparvata lugens [Homopt.: Delphacidae]. Oct 1983. Philippines: IRR1, Los Baños, Manila.  
 1243 DW Roberts 1A. Nilaparvata lugens [Homopt.: Delphacidae]. Spring 1984. Philippines: IRR1, Los Baños, Manila.  
 1244 DW Roberts 1B. Nilaparvata lugens [Homopt.: Delphacidae]. Spring 1984. Philippines: IRR1, Los Baños, Manila.  
 1245 DW Roberts 1C. Nilaparvata lugens [Homopt.: Delphacidae]. Spring 1984. Philippines: IRR1, Los Baños, Manila.  
 1246 DW Roberts 2D. Nilaparvata lugens [Homopt.: Delphacidae]. Spring 1984. Philippines: IRR1, Los Baños, Manila.  
 1247 DW Roberts 2H. Nilaparvata lugens [Homopt.: Delphacidae]. Spring 1984. Philippines: IRR1, Los Baños, Manila.  
 1248 DW Roberts 2I. Nilaparvata lugens [Homopt.: Delphacidae]. Spring 1984. Philippines: IRR1, Los Baños, Manila.  
 1249 DW Roberts 2J. Nilaparvata lugens [Homopt.: Delphacidae]. Spring 1984. Philippines: IRR1, Los Baños, Manila.  
 1250 DW Roberts 3D. Nilaparvata lugens [Homopt.: Delphacidae]. Spring 1984. Philippines: IRR1, Los Baños, Manila.  
 1251 DW Roberts 3C(2). Nilaparvata lugens [Homopt.: Delphacidae]. Spring 1984. Philippines: IRR1, Los Baños, Manila.  
 1252 DW Roberts 3F. Nilaparvata lugens [Homopt.: Delphacidae]. Spring 1984. Philippines: IRR1, Los Baños, Manila.  
 1253 DW Roberts 3G. Nilaparvata lugens [Homopt.: Delphacidae]. Spring 1984. Philippines: IRR1, Los Baños, Manila.  
 1254 DW Roberts 4B(a). Nilaparvata lugens [Homopt.: Delphacidae]. Spring 1984. Philippines: IRR1, Los Baños, Manila.  
 1255 DW Roberts 4B. Nilaparvata lugens [Homopt.: Delphacidae]. Spring 1984. Philippines: IRR1, Los Baños, Manila.  
 1256 DW Roberts 4A. Nilaparvata lugens [Homopt.: Delphacidae]. Spring 1984. Philippines: IRR1, Los Baños, Manila.  
 1257 DW Roberts 4C. Nilaparvata lugens [Homopt.: Delphacidae]. Spring 1984. Philippines: IRR1, Los Baños, Manila.  
 1258 DW Roberts 5B. Nilaparvata lugens [Homopt.: Delphacidae]. Spring 1984. Philippines: IRR1, Los Baños, Manila.  
 1259 DW Roberts 5C. Nilaparvata lugens [Homopt.: Delphacidae]. Spring 1984. Philippines: IRR1, Los Baños, Manila.  
 1436 MC Rombach 10b. Nilaparvata lugens [Homopt.: Delphacidae]. 1984. Philippines: IRR1, Los Baños, Manila.  
 1549 MC Rombach. Nilaparvata lugens [Homopt.: Delphacidae]. Jun 1984. Philippines: Mindanao.  
 1550 MC Rombach. Nilaparvata lugens [Homopt.: Delphacidae]. Jun 1984. Philippines: Brooks Point, Palawan.  
 1837 DW Roberts, M Rombach. Nilaparvata lugens [Homopt.: Delphacidae]. 2 Nov 1984. Sri Lanka: Central Agric. Res. Inst., Gannoruwa, Peradeniya.  
 1906 DW Roberts 09485-5. Nilaparvata lugens [Homopt.: Delphacidae]. 9 Apr 1985. Solomon Islands: nr. Honiara, Guadalcanal.  
 1908 MC Rombach. Nilaparvata lugens [Homopt.: Delphacidae]. Apr 1985. Solomon Islands: nr. Metapona, Guadalcanal.  
 1913 DW Roberts 040485-6. Nilaparvata lugens [Homopt.: Delphacidae]. 4 Apr 1985. Solomon Islands: nr. Honiara, Guadalcanal.

**HIRSUTELLA CITRIFORMIS** (continued)

- 1917 DG Holdom 10. *Nilaparvata lugens* [Homopt.: Delphacidae]. 7 Mar 1985. Indonesia: nr. Jakarta, W Java.  
 1918 DG Holdom 11. *Nilaparvata lugens* [Homopt.: Delphacidae]. 7 Mar 1985. Indonesia: nr. Jakarta, W Java  
 1919 DG Holdom 12. *Nilaparvata lugens* [Homopt.: Delphacidae]. 7 Mar 1985. Indonesia: nr. Jakarta, W Java  
 2099 D Holdom 280186-1. *Nilaparvata lugens* [Homopt.: Delphacidae]. 28 Jan 1986. Indonesia: CIBA-Geigy R&D Sta., Cikampek, Java.  
 2100 D Holdom 280186-2. *Nilaparvata lugens* [Homopt.: Delphacidae]. 28 Jan 1986. Indonesia: CIBA-Geigy R&D Sta., Cikampek, Java.  
 2101 D Holdom 280186-3. *Nilaparvata lugens* [Homopt.: Delphacidae]. 28 Jan 1986. Indonesia: CIBA-Geigy R&D Sta., Cikampek, Java.  
 2102 D Holdom 280186-4. *Nilaparvata lugens* [Homopt.: Delphacidae]. 28 Jan 1986. Indonesia: CIBA-Geigy R&D Sta., Cikampek, Java.  
 2103 D Holdom 280186-5. *Nilaparvata lugens* [Homopt.: Delphacidae]. 28 Jan 1986. Indonesia: CIBA-Geigy R&D Sta., Cikampek, Java.  
 2180 MC Rombach 051186-3. Polytoxin bug [Hemipt.: Reduviidae]. 5 Nov 1986. Philippines: IRRRI, Los Baños, Manila. [being rerequested from MCR]

**HIRSUTELLA GIGANTEA** Petch

- 30 D Leonard. Banded leafroller [Lepidopt.: ?Tortricidae]. 24 June 1974. USA: Vanceboro, Maine  
 177 JD Vandenberg. *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 10 May 1977. USA: Lincoln, Maine.  
 178 JD Vandenberg. *Choristoneura fumiferana* [Lepidopt.: Tortricidae]. 15 May 1977. USA: Greenville, Maine.

**HIRSUTELLA GUYANA** Minter & Brady

- 877 DW Roberts, BP Magalhães CP-107. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 21 Apr 1983. Brazil: Goianinha, Rio Grande do Norte.  
 878 DW Roberts, BP Magalhães CP-108. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 13 Apr 1983. Brazil: Goianinha, Rio Grande do Norte.  
 879 DW Roberts, BP Magalhães CP-109. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 13 Apr 1983. Brazil: Goianinha, Rio Grande do Norte.  
 881 DW Roberts, BP Magalhães CP-111. *Empoasca* sp. [Homopt.: Cicadellidae]. 13 Apr 1983. Brazil: Goianinha, Rio Grande do Norte.  
 882 DW Roberts, BP Magalhães CP-112. *Empoasca* sp. [Homopt.: Cicadellidae]. 13 Apr 1983. Brazil: Goianinha, Rio Grande do Norte.  
 883 DW Roberts, BP Magalhães CP-113. *Empoasca* sp. [Homopt.: Cicadellidae]. 21 Apr 1983. Brazil: Goianinha, Rio Grande do Norte.

**HIRSUTELLA** nr. **HAPTOSPORUS** Balazy

- 1362 S Balazy 1613b. Host? Rec'd 1984. Poland.  
 1363 S Balazy 1613c. Host? Rec'd 1984. Poland.  
 1364 S Balazy 1613d. Host? Rec'd 1984. Poland.

**HIRSUTELLA RADIATA** Petch

- 1369 S Balazy 1441. Dipt.: ?Lauaxaniidae. 1 Sept 1981. Poland: Wielkopolski Nat. Park.

**HIRSUTELLA RHOSSILIENSIS** Minter & Brady

- 2006 BA Jaffee Hr-31. *Criconemella xenoplax* [Nematoda]. 25 Oct 1983. USA: Erie County, Pennsylvania.  
 2007 BA Jaffee Hr-42. *Criconemella curvata* [Nematoda]. 11 Mar 1984. USA: Adams County, Pennsylvania.  
 2008 BA Jaffee Hr-43. *Criconemella xenoplax* [Nematoda]. 12 Apr 1984. USA: Adams County, Pennsylvania.

**HIRSUTELLA SATUMAENSIS** Aoki

- 996 J Aoki Hir-1 < K Katagiri. *Dioryctria splendidella* [Lepidopt.: Pyralidae]. May 1969. Japan: Hachioji City, Tokyo.

**HIRSUTELLA STRIGOSA** Petch

- 2044 MC Rombach 071185-2. *Nilaparvata lugens* [Homopt.: Delphacidae], from greenhouse culture. 7 Nov 1985. Philippines: IRRRI, Los Baños, Manila.

**HIRSUTELLA THOMPSONII** Fisher

- 137 CW McCoy (= ATCC 24874). *Phyllocoptura oleivora* [Acari: Eriophyidae]. 1972. USA: Florida.  
 241 CW McCoy (= CBS 556.77B). *Phyllocoptura oleivora* [Acari: Eriophyidae]. 1972. USA: Lake Alfred, Florida.  
 253 CW McCoy (= CBS 556.77C). *Phyllocoptura oleivora* [Acari: Eriophyidae]. 1975. USA: Lake Alfred, Florida.  
 254 J Baker (= CBS 555.77). *Acalitus vaccinni* [Acari: Eriophyidae]. 1967. USA: Raleigh, North Carolina  
 255 CM Searle (= CBS 556.77A). *Eriophyes sheldoni* [Acari: Eriophyidae]. 1970. Zimbabwe: Mazoe.  
 256 RA Hall GCRI < CBS 000.78. *Eriophyes guerreronis* [Acari: Eriophyidae]. Jamaica.  
 257 RA Hall GCRI < CBS 000.78. *Eriophyes guerreronis* [Acari: Eriophyidae]. Ivory Coast.  
 258 RA Hall GCRI (= CBS 000.78). *Colomerus novaehbridensis* [Acari: Eriophyidae]. New Guinea.  
 259 B Villalon (= CBS 556.77C). *Phyllocoptura oleivora* [Acari: Eriophyidae]. USA: Weslaco, Texas.  
 411 CW McCoy (?= ARSEF 255). *Aceria sheldoni* [Acari: Eriophyidae]. 1970. Zimbabwe.  
 414 RA Hall GCRI. *Colomerus novaehbridensis* [Acari: Eriophyidae]. New Guinea: New Britain.  
 2012 M Yasem de Romero > D Sosa Gomez. *Phyllocoptura oleivora* [Acari: Eriophyidae]. 1984; rec'd Oct 1985. Argentina: Tucumán.

**HIRSUTELLA THOMPSONII** Fisher var. **SYNNEMATOSA** Samson, McCoy & O'Donnell

- 1947 MC Rombach. Acarida: Tarsonemidae. Jul 1985. Philippines: Palawan.

**HIRSUTELLA VERSICOLOR** Petch

- 1034 MC Rombach < CBS 422.82 HC Evans (R 1012). Homopt.: Membracidae. Jul 1982. Brazil: Jari-Monte Dourado, Pará.  
 1037 MC Rombach < CBS 423.82 HC Evans (R 1014). Homopt.: Membracidae. Jul 1982. Brazil: Ovro Petro, Rondônia.

**HUMICOLA** sp.

- 2069 G Carroll. *Lymantria dispar* [Lepidopt.: Lymantriidae], egg mass. Rec'd Dec 1985. USA: Dexter, Lane Co., Oregon.

**HYMENOSTILBE VERRUCOSA** Mains

- 2002 M Shimazu. Spider [Arachnida: Araneida]. 16 Jul 1985. USA: Allegany St. Pk., Salamanca, New York.

**LAGENIDIUM CAUDATUM** Barron

2003 BA Jaffee (= ATCC 58383). *Xiphinema rivesi* [Nematoda]. Aug 1984. Pennsylvania: Snyder County.

**LAGENIDIUM GIGANTEUM** Couch

373 JN Couch. Mosquito [Dipt.: Culicidae]. July 1979. USA: Chapel Hill, North Carolina.  
 748 RL Knight LG/NC-2. Mosquito [Dipt.: Culicidae]. USA: Chapel Hill, North Carolina.  
 749 H Chapman, FE Glenn. *Culex territans* [Dipt.: Culicidae]. 1975. USA: Moss Bluff, Louisiana.  
 1384 C Umphlett, E McCray. *Culex tarsalis* [Dipt.: Culicidae]. 1979. USA: Colusa, California.

**LAGENIDIUM** nr. **GIGANTEUM**

1940 S Frances. *Forcipomyia* (*Phytohelea*) *marksae* [Dipt.: Ceratopogonidae]. 8 Jun 1985. Australia: Millaa Millaa, Queensland.

**LEPTOLEGNIA** sp.

2004 BA Jaffee WPG (= ATCC 58384). *Xiphinema* sp. [Nematoda]. 23 Jul 1984. Pennsylvania: Snyder County.

**MACROBIOTOPHTHORA VERMICOLA** (McCulloch) Tucker

650 EC Bernard. *Cruznema lambdiense* [Nematoda: Rhabditidae]. 1977; axenic culture isolated Aug 1981. USA: Tennessee.

**MASSOSPORA CICADINA** Peck

This culture is maintained as vegetative protoplasts in liquid tissue culture medium. No substantial development or sporulation occurs on solid media.

374 RS Soper. *Magiicada septendecim* [Homopt.: Cicadidae]. 16 Jun 1979. USA: Mohawk Lake Preserve, New Paltz, New York.

**METARHIZIUM** sp.

2210 MC Rombach 140486-1 < H Bedu Rewa. Large palm weevil [Coleopt.: Curculionidae]. 14 Apr 1986. Indonesia: Baritwuring, near Ulung Pandang, Java. This strain was isolated from interior hyphal bodies; *Aspergillus* ?parasiticus, ARSEF 2173, was isolated from host exterior.

**METARHIZIUM ALBUM** Petch

[Synonym: *Metarhizium brunneum* Petch]

1840 MC Rombach. *Nephotettix virescens* [Homopt.: Cicadellidae]. 1984. Philippines: IRRRI, Los Baños, Manila.  
 1941 MC Rombach MROX (= MPAL). *Nephotettix virescens* [Homopt.: Cicadellidae] on rice. Jul 1985. Philippines: nr. Roxas, Palawan.  
 1942 MC Rombach MLAG. *Nephotettix virescens* [Homopt.: Cicadellidae] on rice. Nov 1984. Philippines: IRRRI, Los Baños, Manila.  
 1943 MC Rombach MLAG(white). *Nephotettix virescens* [Homopt.: Cicadellidae] on rice. Nov 1984. Philippines: IRRRI, Los Baños, Manila.  
 1945 MC Rombach MALB-IRRI. *Nephotettix virescens* [Homopt.: Cicadellidae]. 1985?. Philippines: IRRRI, Los Baños, Manila.  
 2081 MC Rombach < HC Evans 185-87 < MJ Coch. Homopt.: Cicadellidae, on mango. Dec 1985. Philippines: Tuguerarao, Cagayan, Luzon.  
 2082 MC Rombach MSUL < HC Evans 185-12 (= IMI 300150). *Cofana spectra* [Homopt.: Cicadellidae] on rice. Mar 1985. Indonesia: Kotamabagu Utara, N. Sulawesi.

**METARHIZIUM ANISOPLIAE** (Metschnikoff) Sorokin

[Strains listed here are generally assumed to be *M. anisopliae* var. *anisopliae* but their identities have not been reconfirmed as such.]

23 R Rabb/G Marsh. Coleopt.: Elateridae. 1961; rec'd 1963 and redeposited by DW Roberts, May 1977. USA: North Carolina.  
 324 RS Soper. *Austracris guttulosa* [Orthopt.: Acrididae]. Australia.  
 346 *Aphodius tasmaniae* [Coleopt.: Scarabaeidae]. Australia.  
 435 S Gagen 1. *Teleogryllus commodus* [Orthopt.: Gryllidae]. Rec'd March 1980. Australia: Warnambool, Victoria.  
 436 S Gagen 2. *Teleogryllus commodus* [Orthopt.: Gryllidae]. Rec'd March 1980. Australia: Hexham, Victoria.  
 437 S Gagen 3. *Teleogryllus commodus* [Orthopt.: Gryllidae]. Rec'd March 1980. Australia.  
 438 S Gagen 4. *Teleogryllus commodus* [Orthopt.: Gryllidae]. Rec'd March 1980. Australia.  
 439 S Gagen 5. *Teleogryllus commodus* [Orthopt.: Gryllidae]. Rec'd March 1980. Australia: Byaduck, Victoria.  
 440 S Gagen 6. *Teleogryllus commodus* [Orthopt.: Gryllidae]. Rec'd March 1980. Australia: Warnambool, Victoria.  
 441 S Gagen 7. *Teleogryllus commodus* [Orthopt.: Gryllidae]. Rec'd March 1980. Australia: Warnambool, Victoria.  
 442 S Gagen 8. *Teleogryllus commodus* [Orthopt.: Gryllidae]. Rec'd March 1980. Australia: Hawkesdale, Victoria.  
 443 S Gagen 9. *Teleogryllus commodus* [Orthopt.: Gryllidae]. Rec'd March 1980. Australia: Camperdown, Victoria.  
 444 S Gagen 10. *Teleogryllus commodus* [Orthopt.: Gryllidae]. Rec'd March 1980. Australia: Byaduck, Victoria.  
 445 S Gagen 11. *Teleogryllus commodus* [Orthopt.: Gryllidae]. Rec'd March 1980. Australia: Carapook, Victoria.  
 446 S Gagen 12. *Teleogryllus commodus* [Orthopt.: Gryllidae]. Rec'd March 1980. Australia: Mortlake, Victoria.  
 455 RS Soper. *Nilaparvata lugens* [Homopt.: Delphacidae]. 5 May 1980. Philippines: IRRRI, Los Baños, Manila.  
 456 RS Soper. *Nilaparvata lugens* [Homopt.: Delphacidae]. 5 May 1980. Philippines: IRRRI, Los Baños, Manila.  
 457 RS Soper. *Nilaparvata lugens* [Homopt.: Delphacidae]. 5 May 1980. Philippines: IRRRI, Los Baños, Manila.  
 472 A Wescott DAR 29768. ?*Dasygnathus* [Coleopt.: Scarabaeidae]. Rec'd May 1980. Australia: BCRI, Rydalmere, New South Wales.  
 485 RS Soper NT-21. *Nilaparvata lugens* [Homopt.: Delphacidae]. 5 May 1980. Philippines: IRRRI, Los Baños, Manila.  
 486 RS Soper NT-25. *Nilaparvata lugens* [Homopt.: Delphacidae]. 5 May 1980. Philippines: IRRRI, Los Baños, Manila.  
 487 RS Soper NT-20. *Nilaparvata lugens* [Homopt.: Delphacidae]. 5 May 1980. Philippines: IRRRI, Los Baños, Manila.  
 488 RS Soper NT-24. *Nilaparvata lugens* [Homopt.: Delphacidae]. 5 May 1980. Philippines: IRRRI, Los Baños, Manila.  
 489 RS Soper NT-22. *Nilaparvata lugens* [Homopt.: Delphacidae]. 5 May 1980. Philippines: IRRRI, Los Baños, Manila.  
 538 *Oryctes rhinoceros* [Coleopt.: Scarabaeidae]. Thailand.  
 543 DW Roberts 812801-52. *Recilia dorsalis* [Homopt.: Cicadellidae]. 12 Aug 1980. Philippines: greenhouse, IRRRI, Los Baños, Manila.  
 549 DW Roberts. Isolate B, Nov 1980, from Metabiol (commercial preparation); fungus originally isolated from spittlebug [Homopt.: Cercopidae]. Brazil.  
 550 DW Roberts. Isolate E, Nov 1980, from Metabiol (commercial preparation); fungus originally isolated from spittlebug [Homopt.: Cercopidae]. Brazil.

**METARHIZIUM ANISOPLIAE** (continued)

- 551 DW Roberts. Isolate C, Nov 1980, from Metabiol (commercial preparation); fungus originally isolated from spittlebug [Homopt.: Cercopidae]. Brazil.
- 552 M Naves. *Galactica* [Lepidoptera]. Nov 1980. Brazil: Brasilia, Federal District.
- 576 RS Soper. *Nilaparvata lugens* [Homopt.: Delphacidae]. 11 Mar 1981. Philippines: IRRI, Los Baños, Manila.
- 587 J Lenné C-7. *Mocis* [Lepidopt.: Noctuidae]. Rec'd Apr 1981. Colombia: Carmiagua.
- 588 J Lenné E-1. Soil. Rec'd Apr 1981. Colombia: Espinal.
- 589 J Lenné P-1. Soil. Rec'd Apr 1981. Colombia: Popayán.
- 683 DW Roberts 102381-9. White grub [Coleopt.: Scarabaeidae]. 23 Oct 1981. PRChina: Guanzhou, Kwon Tung.
- 703 RS Soper. *Bombyx mori* [Lepidopt.: Bombycidae]. Rec'd Nov 1981. PRChina: Hangzhou, Zhijiang.
- 712 DW Roberts. Host? Rec'd May 1981. PRChina.
- 724 RA Daoust CP-25. *Cerotoma arcuata* [Coleopt.: Chrysomelidae]. 15 Feb 1982. Brazil: CNPAF, Goiânia, Goiás.
- 725 RA Daoust CP-8. *Chalcodermus aeneus* [Coleopt.: Curculionidae]. 6 Jan 1982. Brazil: CNPAF, Goiânia, Goiás.
- 726 RA Daoust CP-11. *Coleopt.*: Bruchidae. 6 Jan 1982. Brazil: CNPAF, Goiânia, Goiás.
- 727 Y Tanaka CP-21. Orthopt.: Tettigoniidae. 2 Feb 1982. Brazil: CNPAF, Goiânia, Goiás.
- 728 RA Daoust CP-22. Unidentified orthopteran. 3 Feb 1982. Brazil: CNPAF, Goiânia, Goiás.
- 729 RA Daoust CP-24. *Deois flavopicta* [Homopt.: Cercopidae]. 15 Feb 1982. Brazil: CNPAF, Goiânia, Goiás.
- 755 J de Silva Carneiro CP-39. Stink bug [Hemipt.: Pentatomidae]. 5 Apr 1982. Brazil: Manaus, Amazonas.
- 759 RA Daoust CP-37. *Deois flavopicta* [Homopt.: Cercopidae]. 1 Apr 1982. Brazil: CNPAF, Goiânia, Goiás.
- 760 RA Daoust CP-31. *Cerotoma arcuata* [Coleopt.: Chrysomelidae]. 15 Feb 1982. Brazil: CNPAF, Goiânia, Goiás.
- 761 RA Daoust CP-30. *Piezodorus guildinii* [Hemipt.: Pentatomidae]. 15 Feb 1982. Brazil: CNPAF, Goiânia, Goiás.
- 782 S Martins CP-52. *Deois flavopicta* [Homopt.: Cercopidae]. 4 May 1982. Brazil: CNPAF, Goiânia, Goiás.
- 794 G Kuter 300. Soil under sugar maple (*Acer saccharum*). 1975. USA: Abraham's Woods, Green Co., Wisconsin.
- 797 DA Rodriguez Sierra. *Ancognatha scarabaecides* [Coleopt.: Scarabaeidae] June 1981. Colombia: Madrid, Cundinamarca.
- 798 DA Rodriguez Sierra. Nymph, *Aenolamia varia* [Coleopt.: Cercopidae]. 1979. Colombia: Villavicencio, Meta.
- 808 S Martins dos Santos CP-62. *Coleomegilla maculata* [Coleopt.: Coccinellidae]. 23 July 1982. Brazil: CNPAF, Goiânia, Goiás.
- 817 GG Soares 17. *Otiorynchus sulcatus* [Coleopt.: Curculionidae]. 5 Mar 1982. France: Plougastel-Doulas.
- 818 GG Soares 19. *Otiorynchus sulcatus* [Coleopt.: Curculionidae]. 5 Mar 1982. France: Plougastel-Doulas.
- 819 GG Soares 21 < JP Aeschlimann. *Sitona discoideus* [Coleopt.: Curculionidae]. 29 Mar 1982. France: Montpellier.
- 820 GG Soares < M Marchall A-7. *Otiorynchus sulcatus* [Coleopt.: Curculionidae]. Jan 1982. France: Angers.
- 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863 DW Roberts. Single spore isolates from strain reported to produce asci by B Schaefferberg (Graz, Austria). Strain originally isolated in Poland from unknown insect. Rec'd May 1983.
- 864 DW Roberts Ma Teetor S-2 SS#19 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate. Rec'd May 1983.
- 865 DW Roberts Ma Teetor S-2 SS#20 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate. Rec'd May 1983.
- 866 DW Roberts Ma Teetor S-2 SS#22 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate. Rec'd May 1983.
- 867 DW Roberts Ma Teetor S-2 SS#18 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate. Rec'd May 1983.
- 868 DW Roberts Ma Teetor S-2 SS#16 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate. Rec'd May 1983.
- 869 DW Roberts Ma Teetor S-2 SS#17 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate. Rec'd May 1983.
- 870 DW Roberts Ma Teetor S-2 SS#15 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate. Rec'd May 1983.
- 871 DW Roberts Ma Teetor S-2 SS#21 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate. Rec'd May 1983.
- 872 DW Roberts Ma Teetor S-2 SS#5 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate. Rec'd May 1983.
- 873 DW Roberts Ma Teetor S-2 SS#4 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate. Rec'd May 1983.
- 874 DW Roberts Ma Teetor S-2 SS#2 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate. Rec'd May 1983.
- 875 DW Roberts Ma Teetor S-2 SS#1 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate. Rec'd May 1983.
- 888 R Rabb 5. [Coleopt.: Elateridae]. Produces toxin effective against mosquitoes. 1961. USA: North Carolina.
- 889 DW Roberts Ma Teetor S-2 SS#9 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate. Rec'd May 1983.
- 890 DW Roberts Ma Teetor S-2 SS#8 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate. Rec'd May 1983.
- 891 DW Roberts Ma Teetor S-2 SS#7 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate. Rec'd May 1983.
- 892 DW Roberts Ma Teetor S-2 SS#6 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate. Rec'd May 1983.
- 893 DW Roberts Ma Teetor S-2 SS#3 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate. Rec'd May 1983.
- 894 DW Roberts Ma Teetor S-2 SS#14 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate. Rec'd May 1983.
- 895 DW Roberts Ma Teetor S-2 SS#13 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate. Rec'd May 1983.
- 896 DW Roberts Ma Teetor S-2 SS#12 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate. Rec'd May 1983.
- 897 DW Roberts Ma Teetor S-2 SS#11 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate. Rec'd May 1983.
- 898 DW Roberts Ma Teetor S-2 SS#10 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate. Rec'd May 1983.
- 901 DW Roberts. VSS #6. Single spore isolate.
- 902 DW Roberts. VSS #5. Single spore isolate.
- 903 DW Roberts. VSS #4. Single spore isolate.
- 904 DW Roberts. VSS #3. Single spore isolate.
- 905 DW Roberts. VSS #2. Single spore isolate.
- 906 DW Roberts. VSS #1. Single spore isolate.
- 907 K Al-Aidroos D111 3B Bes 48 (recombinant) < DW Roberts Ma Teetor S-2 SS#5 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate.
- 908 K Al-Aidroos S7N5 (mutant) < DW Roberts Ma Teetor S-2 SS#5 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate.
- 909 K Al-Aidroos 5.173 (EMS mutant) < DW Roberts Ma Teetor S-2 SS#5 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate.
- 910 K Al-Aidroos D95 A Bes 140 (recombinant) < DW Roberts Ma Teetor S-2 SS#5 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate.
- 911 K Al-Aidroos 19.1a5 (spontaneous mutant after 2 exposures to EMS) < DW Roberts Ma Teetor S-2 SS#5 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate.
- 912 K Al-Aidroos D198A < DW Roberts Ma Teetor S-2 SS#5 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate.
- 913 K Al-Aidroos D95A (diploid, recombinant) < DW Roberts Ma Teetor S-2 SS#5 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate.
- 921 K Al-Aidroos 42.2a9 (EMS mutant) < DW Roberts Ma Teetor S-2 SS#5 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate.
- 922 K Al-Aidroos 5.281 (mutant) < DW Roberts Ma Teetor S-2 SS#5 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate.



## METARHIZIUM ANISOPLIAE (continued)

- 925 DW Roberts < J Ventura E-9. *Deois flavopicta* [Homopt.: Cercopidae]. 22 Aug 1978. Brazil: Espírito Santo.
- 929 S Martins dos Santos CP-63. *Chalcodermus aeneus* [Coleopt.: Curculionidae]. 27 Jul 1982. Brazil: CNPAF, Goiânia, Goiás.
- 932 RA Daoust CP-70. Coleopt.: Bruchidae. 20 Dec 1982. Brazil: CNPAF, Goiânia, Goiás.
- 939 S Martins dos Santos CP-78. Ground beetle [Coleopt.: Carabidae]. 3 Mar 1983. Brazil: CNPAF, Goiânia, Goiás.
- 954 RA Daoust, B Magalhães CP-99. Coleopt.: Bruchidae. 16 Mar 1983. Brazil: Ponta Pora, Mato Grosso do Sul.
- 955 S Martins dos Santos CP-100. *Deois flavopicta* [Homopt.: Cercopidae]. 27 Apr 1983. Brazil: CNPAF, Goiânia, Goiás.
- 960 K Al-Aidroos DIII 3B (mutant) < DW Roberts Ma Teetor S-2 SS#5 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate.
- 965 K Al-Aidroos 5.378 (EMS mutant) < DW Roberts Ma Teetor S-2 SS#5 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate.
- 966 K Al-Aidroos 19.1 (EMS mutant) < DW Roberts Ma Teetor S-2 SS#5 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate.
- 967 K Al-Aidroos 5.287 (EMS mutant) < DW Roberts Ma Teetor S-2 SS#5 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate.
- 968 K Al-Aidroos DIII 3A (mutant) < DW Roberts Ma Teetor S-2 SS#5 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate.
- 977 RA Hall GCRI 134-82 < A Vey. *Melolontha melolontha* [Coleopt.: Scarabaeidae]. France.
- 1009 J Aoki Met-5 < K Kojo. *Orinebius kanetataki* [Orthopt.: Gryllidae]. Jul 1976. Japan.
- 1011 J Aoki Met-8. Soil. Aug 1982. Japan: Fuchu City, Tokyo.
- 1022 K Al-Aidroos 5.304 (mutant) < DW Roberts Ma Teetor S-2 SS#5 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate.
- 1023 K Al-Aidroos JX1.23C (mutant) < DW Roberts Ma Teetor S-2 SS#5 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate.
- 1024 K Al-Aidroos JX1.23A (mutant) < DW Roberts Ma Teetor S-2 SS#5 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate.
- 1025 K Al-Aidroos 42.2 (mutant) < DW Roberts Ma Teetor S-2 SS#5 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate.
- 1044 DW Roberts < J Ventura E-6. Spittlebug [Homopt.: Cercopidae]. Brazil: Espírito Santo.
- 1045 DW Roberts < E Matta A24. Pasture spittlebug [Homopt.: Cercopidae]. Brazil: Bahia.
- 1046 J Aoki Met-6 < K Yanase. *Popillia japonica* [Coleopt.: Scarabaeidae]. Jul 1977. Japan.
- 1055 F Moscardi CNPS-19. *Nezara viridula* [Hymenopt.: Pentatomidae]. 1983. Brazil: Londrina, Paraná.
- 1056 F Moscardi CNPS-25. *Diabrotica speciosa* [Coleopt.: Chrysomelidae]. 1983. Brazil: Londrina, Paraná.
- 1057 F Moscardi CNPS-30A. Larva, *Chlosyne lacinia saundersii* [Lepidopt.: Nymphalidae]. 1983. Brazil: Londrina, Paraná.
- 1059 F Moscardi CNPS-30B. Larva, *Chlosyne lacinia saundersii* [Lepidopt.: Nymphalidae]. 1983. Brazil: Londrina, Paraná.
- 1066 S Keller Ma92. *Melolontha melolontha* [Coleopt.: Scarabaeidae]. 29 May 1981. Switzerland: Iselisberg, Thurgau.
- 1080 L Lacey. *Heliopsis zea* [Lepidopt.: Noctuidae]. Fall 1983. USA: Gainesville, Florida.
- 1083 K Al-Aidroos 5A.11 (EMS mutant) < DW Roberts Ma Teetor S-2 SS#5 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate.
- 1084 K Al-Aidroos 5A.7 (EMS mutant of 5A) < DW Roberts Ma Teetor S-2 SS#5 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate.
- 1085 K Al-Aidroos 5A.1 (EMS mutant of 5A) < DW Roberts Ma Teetor S-2 SS#5 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate.
- 1086 K Al-Aidroos 5A.10 (EMS mutant of 5A) < DW Roberts Ma Teetor S-2 SS#5 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate.
- 1087 K Al-Aidroos 5A (UV irradiated mutant of KAA 5) < DW Roberts Ma Teetor S-2 SS#5 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate.
- 1088 K Al-Aidroos 5A.12 (EMS mutant of 5A) < DW Roberts Ma Teetor S-2 SS#5 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate.
- 1089 K Al-Aidroos JXIV.245 < DW Roberts Ma Teetor S-2 SS#5 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate.
- 1090 K Al-Aidroos KII,VA (mutant) < DW Roberts Ma Teetor S-2 SS#5 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate.
- 1091 K Al-Aidroos JII, XIV (mutant) < DW Roberts Ma Teetor S-2 SS#5 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate.
- 1094 DW Roberts MaS2 < G Teetor F84-1-1, reisolated from ARSEF 23 after passage through lepidopteran.
- 1095 DW Roberts < S Keller Ma43. *Carpocapsa pomonella* [Lepidopt.: Olethreutidae]. Austria.
- 1097 K Al-Aidroos JIVD < DW Roberts Ma Teetor S-2 SS#5 < G Teetor F84-1-1 < ARSEF 23. Single spore isolate.
- 1112 K Deseð 32b < Becchi. *Lobesia botrana* [Lepidopt.: Tortricidae]. Apr 1982. Italy: Modena.
- 1116 K Deseð 40b < Celli. Pupa, *Leucoptera scitella* [Lepidopt.: Lyonetiidae]. Aug 1982. Italy: Ravenna.
- 1120 K Deseð 72. From soil by *Galleria mellonella* "trap". Oct 1982. Italy: Modena.
- 1187 T Poprawski < INRA Ma23 < G Latch. *Oxycanus* [Lepidopt.: Hepialidae]. 20 Jan 1966. New Zealand: Palmerston North, North Island.
- 1278 GL Barron (= IMI 170289). Soil. 1973. Canada: ?Ontario.
- 1280 DW Roberts MaT<sub>3</sub> JB-C, single spore isolate #1. *Popillia japonica* [Coleopt.: Scarabaeidae]. 1978. USA: Clinton Corners, New York.
- 1281 DW Roberts. Chemical mutant of F84 < ARSEF 23.
- 1282 K El-Kadi CEPLAC-ICI. Homoptera : Cercopidae. Brazil: Bahia.
- 1284 DW Roberts BPH 12. *Nilaparvata lugens* (biotype 3) [Homopt.: Delphacidae]. Sept 1983. Philippines: Greenhouse, IRRI, Los Baños, Manila.
- 1285 DW Roberts BPH 13. *Nilaparvata lugens* (biotype 3) [Homopt.: Delphacidae]. Sept 1983. Philippines: Greenhouse, IRRI, Los Baños, Manila.
- 1286 DW Roberts BPH 14. *Nilaparvata lugens* (biotype 3) [Homopt.: Delphacidae]. Sept 1983. Philippines: Greenhouse, IRRI, Los Baños, Manila.
- 1290 DW Roberts BPH 11. *Nilaparvata lugens* (biotype 3) [Homopt.: Delphacidae]. Sept 1983. Philippines: Greenhouse, IRRI, Los Baños, Manila.
- 1298 DW Roberts MaT<sub>3</sub> JB-C, single spore isolate #9. *Popillia japonica* [Coleopt.: Scarabaeidae]. 1978. USA: Clinton Corners, New York.
- 1299 (= ARSEF 1045) DW Roberts < E Matta A24. Pasture spittlebug [Homopt.: Cercopidae]. Aug 1978. Brazil: Bahia.
- 1300 DW Roberts VIII. *Nilaparvata lugens* [Homopt.: Delphacidae]. Sept 1983. Philippines: Plant Physiol. plot, IRRI, Los Baños, Manila.
- 1373 S Keller 44. Rec'd June 1984. Switzerland.
- 1374 S Keller 45. Rec'd June 1984. Switzerland.
- 1375 S Keller 46. Rec'd June 1984. Switzerland.
- 1376 S Keller 47. Rec'd June 1984. Switzerland.
- 1377 S Keller 48. Rec'd June 1984. Switzerland.
- 1378 7a.
- 1379 E Matta EPABA A-12. Homopt.: Cercopidae. Brazil: Bahia.
- 1380 3a.
- 1382 E Matta EPABA A-10. Homopt.: Cercopidae. 22 Aug 1978. Brazil: Bahia.
- 1386 2a.
- 1387 3e.
- 1388 3g(2).
- 1432 MC Rombach. *Scotinophora coarctata* [Hemipt.: Pentatomidae]. 14 Apr 1984. Philippines: Maasan, Palawan.
- 1448 E Ferreira CP-122. *Scaptocres castanea* [Hemipt.: Cydnidae]. 27 Dec 1983. Brazil: Goiatuba, Goiás.
- 1449 B Magalhães CP-123. *Deois incompleta* [Homopt.: Cercopidae]. 26 Jan 1984. Brazil: Altamira, Pará.
- 1489 GG Soares < G Riba INRA Ma139. *Ostrina nubilalis* [Lepidopt.: Pyralidae]. France.

**METARHIZIUM ANISOPLIAE** (continued)

- 1490 GG Soares < P Ferron INRA Ma127 < DW Roberts. Originally used for destruxin studies against mosquitoes.
- 1545 MC Rombach MaPal-2. *Scotinophora coarctata* [Hemipt.: Pentatomidae]. Jun 1984. Philippines: Brooks Point region, Palawan.
- 1548 MC Rombach MaPal-1. *Scotinophora coarctata* [Hemipt.: Pentatomidae]. May 1984. Philippines: PNAC Station, Palawan.
- 1724 DW Roberts, M Rombach 2910-3. *Nilaparvata lugens* [Homopt.: Delphacidae]. 29 Oct 1984. India: Tamil Nadu Agric. Univ., Coimbatore.
- 1725 DW Roberts, M Rombach 2910-17. *Nilaparvata lugens* [Homopt.: Delphacidae]. 29 Oct 1984. India: Tamil Nadu Agric. Univ., Coimbatore.
- 1726 DW Roberts, M Rombach 2910-13. *Nilaparvata lugens* [Homopt.: Delphacidae]. 29 Oct 1984. India: Paddy Breeding Sta., Tamil Nadu Agric. Univ., Coimbatore.
- 1727 DW Roberts, M Rombach 2910-15. *Nilaparvata lugens* [Homopt.: Delphacidae]. 29 Oct 1984. India: Paddy Breeding Sta., Tamil Nadu Agric. Univ., Coimbatore.
- 1728 DW Roberts, M Rombach 2910-1. *Nilaparvata lugens* [Homopt.: Delphacidae]. 29 Oct 1984. India: Tamil Nadu Agric. Univ., Coimbatore.
- 1729 DW Roberts, M Rombach 2910-6. *Nilaparvata lugens* [Homopt.: Delphacidae]. 29 Oct 1984. India: Tamil Nadu Agric. Univ., Coimbatore.
- 1744 DW Roberts, M Rombach 2910-14. *Nilaparvata lugens* [Homopt.: Delphacidae]. 29 Oct 1984. India: Paddy Breeding Sta., Tamil Nadu Agric. Univ., Coimbatore.
- 1745 DW Roberts, M Rombach 2910-16. *Nilaparvata lugens* [Homopt.: Delphacidae]. 29 Oct 1984. India: Paddy Breeding Sta., Tamil Nadu Agric. Univ., Coimbatore.
- 1823 DW Roberts, M Rombach 2910-3b. *Nilaparvata lugens* [Homopt.: Delphacidae]. 29 Oct 1984. India: Tamil Nadu Agric. Univ., Coimbatore.
- 1878 DW Roberts MaT<sub>3</sub> JB-A. *Popillia japonica* [Coleopt.: Scarabaeidae]. 1978. USA: Clinton Corners, New York.
- 1882 C Czapack CP-171. *Tibraca limbativentris* [Hemipt.: Pentatomidae]. 11 Jan 1985. Brazil: CNPAF, Goiânia, Goiás.
- 1883 S Martins dos Santos CP-172. *Tibraca limbativentris* [Hemipt.: Pentatomidae]. 11 Jan 1985. Brazil: CNPAF, Goiânia, Goiás.
- 1885 S Martins dos Santos CP-174. *Diabrotica* sp. [Coleopt.: Chrysomelidae]. 23 Apr 1985. Brazil: CNPAF, Goiânia, Goiás.
- 1890 RA Daoust ZcG3. Homopt.: Cercopidae. Jan 1980. Brazil: Pará.
- 1891 M Naves 460(88). Homopt.: Cercopidae. ?Jan 1980. Brazil.
- 1892 RA Daoust. Reisolate of E-9 (originally isolated from *Deois flavopicta* [Homopt.: Cercopidae]) passed through larva of *Culex quinquefasciatus* [Dipt.: Culicidae].
- 1894 DW Roberts < E Matta EPABA A-4. *Mahanarva posticata* [Homopt.: Cercopidae]. Brazil: Salvador, Bahia.
- 1895 RA Daoust ZcG1. Homopt.: Cercopidae. Jan 1980. Brazil.
- 1896 DW Roberts < E Matta EPABA A-8. *Mahanarva posticata* [Homopt.: Cercopidae]. Rec'd Aug 1978. Brazil: Salvador, Bahia.
- 1897 DW Roberts < V-14. (Mutant of F84). *Conoderus* [Coleopt.: Elateridae]. USA: California
- 1898 DW Roberts < E Matta EPABA A-18. *Mahanarva posticata* [Homopt.: Cercopidae]. Rec'd Aug 1978. Brazil: Salvador, Bahia.
- 1899 DW Roberts < E Matta EPABA A-23. Homopt.: Cercopidae. Rec'd Aug 1978. Brazil
- 1900 DW Roberts < E Matta EPABA A-19. *Deois flavopicta* [Homopt.: Cercopidae]. Rec'd Aug 1978. Brazil: Salvador, Bahia.
- 1901 CG-6. [Coleopt.: Carabidae]. Rec'd Jan 1980. Brazil
- 1902 RA Daoust ZcG4. Homopt.: Cercopidae. Jan 1980. Brazil.
- 1903 103a. *Conoderus* [Coleopt.: Elateridae]. USA
- 1910 DW Roberts < S Keller Ma52 (S4). *Otiorynchus sulcatus* [Coleopt.: Curculionidae]. FRGermany.
- 1911 DW Roberts < E Matta EPABA A-2 (S3). [Homopt.: Cercopidae]. Rec'd Aug 1978. Brazil: Salvador, Bahia.
- 1912 DW Roberts < 1141 (29v). Spittlebug [Homopt.: Cercopidae]. Mexico.
- 1952 S Martins dos Santos CP-177. ?*Cirtonemus* sp. [Hemipt.: Cydnidae]. 27 Jul 1985. Brazil: Goiânia, Goiás.
- 1958 B Magalhães, J Lord CP-184. *Diabrotica speciosa* [Coleopt.: Chrysomelidae]. 24 Jul 1985. Brazil: Ribeira do Pombal, Bahia.
- 1968 D. Smitley. *Strigoderma arboricola* [Coleopt.: Scarabaeidae]. Aug 1985. USA: E. Lansing, Michigan.
- 1970 C Czapack CP-170. *Deois flavopicta* [Homopt.: Cercopidae]. 1 Dec 1984. Brazil: CNPAF, Goiânia, Goiás.
- 1989 F Moscardi CP-126. *Sternecus subsignatus* [Hemipt.: Pentatomidae]. 27 Mar 1984. Brazil: Soybean Center, Londrina, Paraná.
- 2038 MC Rombach 161085-35 < SB Ahn D2-4. *Nilaparvata lugens* [Homopt.: Delphacidae]. Oct 1985. Korea.
- 2039 MC Rombach 161085-36 < SB Ahn E2-13. *Nilaparvata lugens* [Homopt.: Delphacidae]. Oct 1985. Korea.
- 2042 IMI 113863 < G. Barron 10277. Peat soil in cedar bog. 1960. Canada: Guelph, Ontario.
- 2043 MC Rombach 061185-1. *Nephotettix cincticeps* [Homopt.: Delphacidae]. 6 Nov 1985. Philippines: IRRI, Los Baños, Manila.
- 2076 J Lord, BP Magalhães CP-194. *Cerotoma arcuata* [Coleopt.: Chrysomelidae]. 1985. Brazil: CNPAF, Goiânia, Goiás.
- 2077 J Lord, BP Magalhães CP-195. *Cerotoma arcuata* [Coleopt.: Chrysomelidae]. 1985. Brazil: CNPAF, Goiânia, Goiás.
- 2078 J Lord, BP Magalhães CP-196. *Deois flavopicta* [Homopt.: Cercopidae]. 1985. Brazil: CNPAF, Goiânia, Goiás.
- 2080 DG Holdom < H Soeharto. *Nilaparvata lugens* [Homopt.: Delphacidae]. 1985. Indonesia: Sukamundi, W. Java.
- 2105 D Holdom. (?)*Hydrellia* sp. [Dipt.: Ephydriidae]. 13 Feb 1986. Indonesia: CIBA-Geigy R&D Sta. Cikampek, Java.
- 2106 D Holdom. *Nephotettix virescens* [Homopt.: Cicadellidae]. 10 Feb 1986. Indonesia: CIBA-Geigy R&D Sta. Cikampek, Java.
- 2107 LP Rockwood & KB Raper (= IMI 14746, as *Metarhizium brunneum*). Larva, *Agriotes* sp. [Coleopt.: Elateridae]. 1947. USA: Forest Grove, Oregon.
- 2134 T Searle E. *Phyllophaga* sp. [Coleopt.: Scarabaeidae]. Jul 1985. Canada: South Quebec.
- 2135 T Searle F. *Phyllophaga* (?)*anxia* [Coleopt.: Scarabaeidae]. Jul 1985. Canada: South Quebec.
- 2136 T Searle K. *Phyllophaga anxia* [Coleopt.: Scarabaeidae]. Jul 1985. Canada: South Quebec.
- 2137 T Searle Q. *Phyllophaga anxia* [Coleopt.: Scarabaeidae]. Jul 1985. Canada: South Quebec.
- 2138 T Searle W. *Phyllophaga anxia* [Coleopt.: Scarabaeidae]. Jul 1985. Canada: South Quebec.
- 2139 T Searle Z. *Phyllophaga anxia* [Coleopt.: Scarabaeidae]. Jul 1985. Canada: South Quebec.
- 2140 T Searle N. Cutworm [Lepidopt.: Noctuidae]. Jul 1985. Canada: South Quebec.
- 2153 MC Rombach 200386-2. *Nephotettix virescens* [Homopt.: Cicadellidae]. 20 Mar 1986. Indonesia: Maros Res. Inst., near Ujung Pandang, S. Sulawesi.
- 2156 B Muthappa PNG-12711. Adult *Oryctes* sp. [Coleopt.: Scarabaeidae]. Rec'd May 1986. Papua New Guinea.
- 2162 B Muthappa PNG-12721. Larva, chafer [Coleopt.: Scarabaeidae]. Rec'd May 1986. Papua New Guinea.
- 2163 B Muthappa PNG-12722. Larva, chafer [Coleopt.: Scarabaeidae]. Rec'd May 1986. Papua New Guinea.
- 2165 B Muthappa PNG-12724. Adult, *Oryctes* sp. [Coleopt.: Scarabaeidae]. Rec'd May 1986. Papua New Guinea.
- 2166 B Muthappa PNG-12726. Adult, *Oryctes* sp. [Coleopt.: Scarabaeidae]. Rec'd May 1986. Papua New Guinea.
- 2167 B Muthappa PNG-12727. Adult, *Oryctes* sp. [Coleopt.: Scarabaeidae]. Rec'd May 1986. Papua New Guinea.
- 2211 JFS Martins CP-207. Soil. 2 Jun 1986. Brazil: Campinas, São Paulo.

**METARHIZIUM ANISOPLIAE** (continued)

- 2212 PMOJ Neves CP-208. *Tibraca limbativentris* [Hemipt.: Pentatomidae]. 5 Jun 1986. Brazil: CNPAF, Goiânia, Goiás.  
 2213 OSales CP-209. *Tibraca limbativentris* [Hemipt.: Pentatomidae]. 5 Jun 1986. Brazil: CNPAF, Goiânia, Goiás.  
 2214 JFS Martins CP-210. *Tibraca limbativentris* [Hemipt.: Pentatomidae]. 5 Jun. 1986. Brazil: CNPAF, Goiânia, Goiás.  
 2223 KJ Marschall. *Brontispa longissima* [??], from artificial production. Jun 1986. W. Samoa: Vaoala, Apia.

**METARHIZIUM ANISOPLIAE** (Metschnikoff) Sorokin var. **MAJUS** (Johnston) Tulloch

NB: The listing as "var. *majus*" is a nomenclaturally obligatory correction of the usual designation as "var. *major*"; the authorship of this taxon is not affected by this correction.

- 297 K Marschall. *Xyloryctes jamaicensis* [Coleopt.: Scarabaeidae]. Rec'd Nov 1978. Western Samoa: Apia.  
 298 RA Soper. Larva, *Xyloryctes jamaicensis* [Coleopt.: Scarabaeidae]. Nov 1978. Western Samoa: Apia.  
 473 J Walker < G Johnson DAR 28052. Soil under Eucalyptus. Jan 1973. Australia: Canberra, Australian Capital Territory.  
 978 RA Hall GCRI 148-82 < A Vey. *Oryctes rhinoceros* [Coleopt.: Scarabaeidae]. France.  
 988 J Aoki Met-1. *Bombyx mori* [Lepidopt.: Bombycidae]. Japan: Fuchu City, Tokyo.  
 1015 J Aoki Met-4 < K Katagiri. *Bombyx mori* [Lepidopt.: Bombycidae]. Japan: Hachioji City, Tokyo.  
 1092 DW Roberts < K Kawakami 621. Soil. Rec'd Aug 1983. Japan.  
 1093 DW Roberts < K Kawakami 773. Soil. 1982. Japan.  
 1383 Vss-17.  
 1858 DW Roberts Pol-42. [Coleopt.: Scarabaeidae]. Poland.  
 1859 DW Roberts Pol-32. Coleopt.: Scarabaeidae]. Poland.  
 1914 MC Rombach. *Oryctes* [Coleopt.: Scarabaeidae]. Philippines: Tiaong Exp. Sta., Quezon Prov.  
 1946 MC Rombach. *Oryctes rhinoceros* [Coleopt.: Scarabaeidae]. 1985. Philippines: Tiaong expt. Stn., Quezon Prov., Luzon.  
 2151 MC Rombach 170386-1. Larva, *Oryctes rhinoceros* [Coleopt.: Scarabaeidae]. 17 Mar 1986. Indonesia: Ciamis, Java.

**METARHIZIUM FLAVOVIRIDE** Gams & Rozsypal

- 1184 TJ Poprawski < INRA MF-88 (= CBS 700.74). *Otiorrhynchus sulcatus* [Coleopt.: Curculionidae]. Isolated Jan 1974; rec'd 1983. France: Brittany.  
 2024 RA Samson (= CBS 700.74) (= ARSEF 1184) < P Ferron (INRA MF-88). *Otiorrhynchus sulcatus* [Coleopt.: Curculionidae]. 1974; rec'd Oct 1985. France: Brittany.  
 2025 RA Samson (= CBS 125.65) < W Gams & J Rozsypal. Agricultural soil. 1963; rec'd Oct 1985. Fed. Rep. Germany: Kiel-Kitzeberg.  
 2026 RA Samson (= CBS 473.73) < W Gams & J Rozsypal < JH van Emden. Agricultural soil. 1973; rec'd Oct 1985. Netherlands: Wageningen  
 2133 **Type strain.** J Rozsypal (= CBS 218.56 = ATCC 32969). *Ceutorrhynchus macula-alba* [Coleopt.: Curculionidae]. 1956; rec'd Mar 1986. Czechoslovakia.

**METARHIZIUM FLAVOVIRIDE** Gams & Rozsypal var. **MINUS** Rombach, Humber & Roberts

- 1099 DW Roberts A-8. *Nilaparvata lugens* [Homopt.: Delphacidae]. 13 Sept 1983. Philippines: Greenhouse, Int. Rice. Res. Inst., Los Baños, Manila.  
 1271 DW Roberts S. *Nilaparvata lugens* [Homopt.: Delphacidae]. Aug 1983. Philippines: Sipit area, Int. Rice. Res. Inst., Los Baños, Manila.  
 1272 DW Roberts Bq. *Nilaparvata lugens* (biotype 2) [Homopt.: Delphacidae]. 13 Sept 1983. Philippines: Greenhouse, Int. Rice. Res. Inst., Los Baños, Manila.  
 1273 DW Roberts T2. *Nilaparvata lugens* [Homopt.: Delphacidae]. Philippines: Sipit area, Int. Rice. Res. Inst., Los Baños, Manila.  
 1274 DW Roberts BPH-5. *Nilaparvata lugens* (biotype 3) [Homopt.: Delphacidae]. Sept 1983. Philippines: Greenhouse, Int. Rice. Res. Inst., Los Baños, Manila.  
 1275 DW Roberts BPH-8. *Nilaparvata lugens* (biotype 3) [Homopt.: Delphacidae]. Sept 1983. Philippines: Greenhouse, Int. Rice. Res. Inst., Los Baños, Manila.  
 1276 DW Roberts IV. *Nilaparvata lugens* (biotype 1) [Homopt.: Delphacidae]. Philippines: Plant Breeding, Int. Rice. Res. Inst., Los Baños, Manila.  
 1277 DW Roberts I. *Nilaparvata lugens* [Homopt.: Delphacidae]. Sept 1973. Philippines: Plant Breeding, Int. Rice. Res. Inst., Los Baños, Manila.  
 1279 DW Roberts IX. *Nilaparvata lugens* [Homopt.: Delphacidae]. Sept 1983. Philippines: Plant Physiol. plot, Int. Rice. Res. Inst., Los Baños, Manila.  
 1283 DW Roberts VII. *Nilaparvata lugens* [Homopt.: Delphacidae]. Sept 1983. Philippines: Greenhouse, Int. Rice. Res. Inst., Los Baños, Manila.  
 1287 DW Roberts BPH-10. *Nilaparvata lugens* (biotype 3) [Homopt.: Delphacidae]. Sept 1983. Philippines: Greenhouse, Int. Rice. Res. Inst., Los Baños, Manila.  
 1288 DW Roberts (i). *Nilaparvata lugens* [Homopt.: Delphacidae]. Sept 1983. Philippines: Sipit area, Int. Rice. Res. Inst., Los Baños, Manila.  
 1289 DW Roberts BPH-7. *Nilaparvata lugens* (biotype 3) [Homopt.: Delphacidae]. Sept 1983. Philippines: Greenhouse, Int. Rice. Res. Inst., Los Baños, Manila.  
 1291 DW Roberts A-1. *Nilaparvata lugens* (biotype 1) [Homopt.: Delphacidae]. Sept 1983. Philippines: Greenhouse, Int. Rice. Res. Inst., Los Baños, Manila.  
 1292 DW Roberts C. *Nilaparvata lugens* [Homopt.: Delphacidae]. Sept 1983. Philippines: Sipit area, Int. Rice. Res. Inst., Los Baños, Manila.  
 1293 DW Roberts H. *Nilaparvata lugens* [Homopt.: Delphacidae]. Sept 1983. Philippines: Sipit area, Int. Rice. Res. Inst., Los Baños, Manila.  
 1294 DW Roberts BPH-3. *Nilaparvata lugens* [Homopt.: Delphacidae]. Sept 1983. Philippines: Greenhouse, Int. Rice. Res. Inst., Los Baños, Manila.  
 1295 DW Roberts BPH-3. *Nilaparvata lugens* [Homopt.: Delphacidae]. Sept 1983. Philippines: Sipit area, Int. Rice. Res. Inst., Los Baños, Manila.  
 1296 BPH-6. *Nilaparvata lugens* [Homopt.: Delphacidae]. Sept 1983. Philippines: Greenhouse, Int. Rice. Res. Inst., Los Baños, Manila.  
 1297 DW Roberts A-9. *Nilaparvata lugens* (biotype 1) [Homopt.: Delphacidae]. Sept 1983. Philippines: Greenhouse, Int. Rice. Res. Inst., Los Baños, Manila.  
 1301 DW Roberts VI. *Nilaparvata lugens* [Homopt.: Delphacidae]. Sept 1983. Philippines: Plant Physiol. plot, Int. Rice. Res. Inst., Los Baños, Manila.  
 1302 DW Roberts 5A. *Nilaparvata lugens* (biotype 1) [Homopt.: Delphacidae]. Sept 1983. Philippines: Greenhouse, Int. Rice. Res. Inst., Los Baños, Manila.  
 1303 DW Roberts A-10. *Nilaparvata lugens* (biotype 1) [Homopt.: Delphacidae]. 13 Sept 1983. Philippines: Greenhouse, Int. Rice. Res. Inst., Los Baños, Manila.  
 1304 DW Roberts D. *Nilaparvata lugens* [Homopt.: Delphacidae]. Sept 1983. Philippines: Sipit area, IRRI, Los Baños, Manila.  
 1305 DW Roberts R. *Nilaparvata lugens* [Homopt.: Delphacidae]. Sept 1983. Philippines: Sipit area, Int. Rice. Res. Inst., Los Baños, Manila.  
 1546 MC Rombach, R Aguda. *Nilaparvata lugens* [Homopt.: Delphacidae]. 1983. Philippines: Bicol region.

**METARHIZIUM FLAVOVIRIDE var. MINUS(continued)**

- 1547 MC Rombach, R Aguda Lib-2. *Recilia dorsalis* [Homopt.: Cicadellidae]. 1983. Philippines: Bicol region, Luzon.  
 1763 MC Rombach < T Ho Sol-31. *Nilaparvata lugens* [Homopt.: Delphacidae]. Nov 1984. Solomon Islands: SolRice, Honiara, Guadalcanal.  
 1764 MC Rombach < T Ho Sol-3. *Nilaparvata lugens* [Homopt.: Delphacidae]. Nov 1984. Solomon Islands: SolRice, Honiara, Guadalcanal.  
 1765 MC Rombach < T Ho Sol-28. *Nilaparvata lugens* [Homopt.: Delphacidae]. Nov 1984. Solomon Islands: SolRice, Honiara, Guadalcanal.  
 1766 MC Rombach < T Ho Sol-5. *Nilaparvata lugens* [Homopt.: Delphacidae]. Nov 1984. Solomon Islands: SolRice, Honiara, Guadalcanal.  
 1767 MC Rombach < T Ho Sol-17. *Nilaparvata lugens* [Homopt.: Delphacidae]. Nov 1984. Solomon Islands: SolRice, Honiara, Guadalcanal.  
 1768 MC Rombach < T Ho Sol-7. *Nilaparvata lugens* [Homopt.: Delphacidae]. Nov 1984. Solomon Islands: SolRice, Honiara, Guadalcanal.  
 1769 MC Rombach < T Ho Sol-14. *Nilaparvata lugens* [Homopt.: Delphacidae]. Nov 1984. Solomon Islands: SolRice, Honiara, Guadalcanal.  
 1770 MC Rombach < T Ho Sol-30. *Nilaparvata lugens* [Homopt.: Delphacidae]. Nov 1984. Solomon Islands: SolRice, Honiara, Guadalcanal.  
 1771 MC Rombach < T Ho Sol-4. *Nilaparvata lugens* [Homopt.: Delphacidae]. Nov 1984. Solomon Islands: SolRice, Honiara, Guadalcanal.  
 1772 MC Rombach < T Ho Sol-11. *Nilaparvata lugens* [Homopt.: Delphacidae]. Nov 1984. Solomon Islands: SolRice, Honiara, Guadalcanal.  
 1773 MC Rombach < T Ho Sol-1. *Nilaparvata lugens* [Homopt.: Delphacidae]. Nov 1984. Solomon Islands: SolRice, Honiara, Guadalcanal.  
 2023 HC Evans (= CBS 544.81). Orthopt.: Acrididae. 1981; rec'd Oct 1985. Ecuador: Santa Fé Island, Galápagos Islands.  
 2037 Type culture. M.C. Rombach 051185-4. *Nilaparvata lugens* [Homopt.: Delphacidae]. 5 Nov 1985. Philippines: IIRRI, Los Baños, Manila.

**MYRIODONTIUM KERATINOPHILUM Samson & Polonelli**

- 368 BA Federici < PS Tsao. Sowbug, *Porcellio* sp. [Malacostraca: Isopoda: Oniscoidea]. USA: Riverside, California.  
 386 (= ARSEF 368) BA Federici < P Tsao. Sowbug, *Porcellio* sp. [Malacostraca: Isopoda: Oniscoidea]. USA: Riverside, California.

**NEOZYGITES sp.**

- 662 RA Humber, D Smitley. *Tetranychus urticae* [Acari: Tetranychidae]. 19 Oct 1981. USA: Raleigh, North Carolina.

**NOMURAEA ATYPICOLA (Yasuda) Samson**

- 1904 MC Rombach 8. Spider [Araneida: ?Argiopidae] on cacao. Apr 1985. Solomon Islands: nr. Metapona, Guadalcanal.

**NOMURAEA RILEYI (Farlow) Samson**

- 135 JV Bell. Lepidopt.: Noctuidae. USA: Stoneville, Mississippi.  
 323 RS Soper. Spodoptera [Lepidopt.: Noctuidae]. 14 Feb 1979. Australia: Arriga, Queensland.  
 358 RS Soper. Spodoptera [Lepidopt.: Noctuidae]. 26 Feb 1979. Australia: Queensland.  
 380 RS Soper. Spodoptera [Lepidopt.: Noctuidae]. 26 Feb 1979. Australia: Queensland.  
 481 RS Soper. *Lymantria* [Lepidopt.: Lymantriidae]. 5 May 1980. Philippines: IIRRI, Los Baños, Manila.  
 482 RS Soper. *Lymantria* [Lepidopt.: Lymantriidae]. 5 May 1980. Philippines: IIRRI, Los Baños, Manila.  
 483 RS Soper. *Lymantria* [Homopt.: Lymantriidae]. 5 May 1980. Philippines: IIRRI, Los Baños, Manila.  
 539 M Panyarjun. Spodoptera *exigua* [Lepidopt.: Noctuidae]. 26 Aug 1980. Thailand.  
 558 RS Soper 8133-3. Spodoptera [Lepidopt.: Noctuidae]. 3 Mar 1981. Indonesia: Sigere, Pangkajene, South Sulawesi.  
 711 RS Soper. *Bombyx mori* [Lepidopt.: Bombycidae]. Fall 1981. PRChina: Hangzhou, Zhejiang.  
 762 B Puttler. *Plathypena scabra* [Lepidopt.: Noctuidae] on alfalfa. 2 July 1982. USA: Columbia, Missouri.  
 935 E Ferreira CP-74. Spodoptera [Lepidopt.: Noctuidae]. 17 Feb 1983. Brazil: CNPAF, Goiânia, Goiás.  
 936 S Martins dos Santos CP-75. Lepidopteran larva. 18 Feb 1983. Brazil: Goiás  
 1014 J Aoki Nom-2. *Prodenia litura* [Lepidopt.: Noctuidae]. Oct 1978. Japan: Fuchu City, Tokyo.  
 1047 J Aoki Nom-3. *Plusia* [Lepidopt.: Noctuidae]. Jan 1980. Japan: Fuchu City, Tokyo.  
 1670 G Riba INRA NR-11. France.  
 1671 G Riba INRA NR-5. France.  
 1756 BM Shepard NrMin-14. *Rivula atimeta* [Lepidopt.: Noctuidae]. Aug 1984. Philippines: Mindanao.  
 1757 BM Shepard NrMin-19. *Rivula atimeta* [Lepidopt.: Noctuidae]. Aug 1984. Philippines: Mindanao.  
 1758 BM Shepard NrMin-1. *Rivula atimeta* [Lepidopt.: Noctuidae]. Aug 1984. Philippines: Mindanao.  
 1759 BM Shepard NrMin-5. *Rivula atimeta* [Lepidopt.: Noctuidae]. Aug 1984. Philippines: Mindanao.  
 1760 BM Shepard NrMin-23. *Rivula atimeta* [Lepidopt.: Noctuidae]. Aug 1984. Philippines: Mindanao.  
 1761 MC Rombach Nr-B. *Cnaphalocrocis medinalis* [Lepidopt.: Pyralidae]. Aug 1984. Philippines: Insectary, IIRRI, Los Baños, Manila.  
 1762 B Barrion Nr-BS. *Mocis frugalis* [Lepidopt.: Noctuidae]. Nov 1984. Philippines: Banguest, Abra.  
 1879 DW Roberts 090485-3. Leaf-feeding caterpillar [Lepidopt.] on rice. 9 Apr 1985. Solomon Islands: Guadalcanal.  
 1893 MC Rombach Nr-3. Caterpillar [Lepidopt.]. Apr 1985. Solomon Islands: nr. Metapona, Guadalcanal.  
 1950 JM Gusman Ferraz CP-175. *Anticarsia gemmatalis* [Lepidopt.: Noctuidae]. 14 Jun 1985. Brazil: Bragança Paulista, São Paulo.  
 1972 J Lord, BP Magalhães CP-192. Spodoptera *frugiperda* [Lepidopt.: Noctuidae]. 24 Jul 1985. Brazil: Ribeira do Pombal, Bahia.  
 2013 M Yasem de Romero > D Sosa Gomez. *Anticarsia gemmatalis* [Lepidopt.: Noctuidae]. 1985; rec'd Oct 1985. Argentina: Tucumán.  
 2104 D Holdom. *Nilaparvata lugens* [Homopt.: Delphacidae]. 31 Jan 1986. Indonesia: CIBA-Geigy R&D Sta., Cikampek, Java.  
 2174 MC Rombach 130586-14. *Cnaphalocrocis medinalis* [Lepidopt.: Pyralidae]. 13 May 1986. Philippines: near Baybay, Leyte.  
 2201 L Corsetti Piazza < L da Silva A285. *Anticarsia gemmatalis* [Lepidopt.: Noctuidae]. Mar 84. Brazil: Guaíba, Rio Grande do Sul.  
 2202 L Corsetti Piazza < N de Barros A485. *Anticarsia gemmatalis* [Lepidopt.: Noctuidae]. 24 Mar 85. Brazil: Vacaria, Rio Grande do Sul.  
 2203 L Corsetti Piazza A86. *Anticarsia gemmatalis* [Lepidopt.: Noctuidae]. 13 Mar 1986. Brazil: Vacaria, Rio Grande do Sul.  
 2204 L Corsetti Piazza < F Ellwanger B86. *Anticarsia gemmatalis* [Lepidopt.: Noctuidae]. 12 Mar 1986. Brazil: Ijuí, Rio Grande do Sul.  
 2205 L Corsetti Piazza < L Baloch C86. *Anticarsia gemmatalis* [Lepidopt.: Noctuidae]. 10 Mar 1986. Brazil: Sarandi, Rio Grande do Sul.  
 2206 L Corsetti Piazza < DN Gassen D86. *Rachiplusia ni* [Lepidopt.: Noctuidae]. 8 May 1986. Brazil: Passo Fundo, Rio Grande do Sul.  
 2207 L Corsetti Piazza < DN Gassen E86. *Anticarsia gemmatalis* [Lepidopt.: Noctuidae]. 25 Apr 1986. Brazil: Santa Rosa, Rio Grande do Sul.

**PAECILOMYCES sp.**

- 309 (As "Isaria sp.") DW Roberts < FL Briggs (Plant Disease Division, DSIR, #6363). Epiphyas *postvitana* [Lepidopt.: Tortricidae]. Rec'd 1979. New Zealand. [see Tetrahedron, Suppl. 8, Pt. 1: 269-278. 1966]  
 385 WG Yendol. Rec'd Aug 1979. PRChina: North Bridges Peoples' Commune, Shanghai.

**PAECILOMYCES** sp. (continued)

- 531 DW Roberts 82180-13B. Stink bug [Heteropt.: Pentatomidae]; originally isolated (and accessioned?) as *Paecilomyces ?lilacinus*; later retrieved from storage as *Hirsutella thompsonii*. 21 Aug 1980. Malaysia.
- 680 DW Roberts 101081-6. *Recilia dorsalis* [Homopt.: Cicadellidae]. 10 Oct 1981. PRC: Jiangsu.
- 741 RA Daoust CP-19. *Lagria vilosa* [Coleopt.: Lagriidae]. 15 Jan 1982. Brazil: CNPAF, Goiânia, Goiás.
- 971 RA Hall GCRI 50-81 < J Fargues. France.
- 1008 J Aoki Nom-1 < K Katagiri. *Sesamia inferens* [Lepidopt.: Noctuidae]. Japan: Hachioji City, Tokyo.
- 1552 MC Rombach, M Salleh. *Scotinophora coarctata* [Hemipt.: Pentatomidae]. May 1984. Malaysia: Seberang Perai.

**PAECILOMYCES AMOENOROSEUS** (P. Hennings) Samson

- 1957 B Magalhães, J Lord CP-182. *Lagria vilosa* [Coleopt.: Lagriidae]. 22 Jul 1985. Brazil: União dos Palmares, Alagoas.
- 2215 PMOJ Neves CP-211. *Lagria vilosa* [Coleopt.: Lagriidae]. 5 Jun 1986. Brazil: CNPAF, Goiânia, Goiás.

**PAECILOMYCES ANDOI** Shimazu & Humber (sp. nov. inedit.)

- 1684 **Type culture.** M Shimazu F-430 < S. Ando. *Resseliella odai* [Dipt.: Cecidomyiidae]. 6 Dec 1982. Japan: Nakatsue, Oitu.

**PAECILOMYCES CANADENSIS** (Vuillemin) Brown & Smith

- 984 J Aoki Paec-6 < T Kushida. *Heptophylla picea* [Coleopt.: Scarabaeidae]. Feb 1972. Japan: Hachioji City, Tokyo.
- 990 J Aoki Paec-7 < T Kushida. *Gastropacha orientalis* [Lepidopt.: Lasiocampidae]. Jul 1979. Japan: Hachioji City, Tokyo.

**PAECILOMYCES FARINOSUS** (Holm ex SF Gray) Brown & Smith

- 3 PW Schaefer (= ATCC 24319). *Malacosoma americana* [Lepidopt.: Lasiocampidae]. 6 Jun 1972. USA: Chapin Beach, Dennis, Massachusetts.
- 20 I Majchrowicz 1. *Lymantria dispar* [Lepidopt.: Lymantriidae]. 27 Oct 1972. USA: Harrisburg, Pennsylvania.
- 38 *Leucoma salicis* [Lepidopt.: Lymantriidae]. 6 Dec 1974.
- 55 India.
- 294 "MLC pupa".
- 475 C Bayan. Used for studies against Colorado potato beetle? Rec'd May 1980. Poland
- 476 C Bayan. Used for studies against Colorado potato beetle? Rec'd May 1980. Poland
- 648 RG Lawlor. Pupa, *Lymantria dispar* [Lepidopt.: Lymantriidae]. Sept 1981. USA: Michigan Hollow, Ithaca, New York.
- 697 C Glenister. *Lymantria dispar* [Lepidopt.: Lymantriidae]. 20 Jan 1982. USA: Twin Glens, Tompkins Co., New York.
- 763 Poon-Min Chang. *Scotinophora coarctata* [Hemipt.: Pentatomidae]. 3 Feb 1982. Malaysia: Rice Res. Centre, Mardi, Bumbong Lima, Icepala Batas, Wellesly.
- 799 A Lopez. *Premnotyphes vorax* [Coleopt.: Curculionidae]. Nov 1981. Colombia: ICA, Tibaitatá, Cindanamarca.
- 975 RA Hall GCRI 112-82. *Cydia pomonella* [Lepidopt.: Tortricidae]. England.
- 981 RA Hall GCRI 52-81. Fritillary moth [Lepidopt.: Nymphalidae]. England.
- 1042 J Aoki Cordy-1. *Quadricalcarifera* (?= *Desmeocraera*) *punctatella* [Lepidopt.: Notodontidae]. Aug 1982. Japan: Morioka City, Iwate.
- 1043 J Aoki Paec-1. *Pyrrhalta fuscipennis* [Coleopt.: Chrysomelidae]. May 1973. Japan: Towada City, Aomori.
- 1058 F Moscardi CNPS-30b. *Chlosyne lacinia* [Lepidopt.: Nymphalidae]. 1983. Brazil: Londrina, Paraná.
- 1065 F Moscardi CNPS-26. Pupa [Lepidopt.: Nymphalidae]. 1983. Brazil: Londrina, Paraná.
- 1108 K Deseò 27 < Menarini. *Conopia* (*Sesia*) *myopaeformis* [Lepidopt.: Sesiidae]. Apr 1982. Italy: Ferrara.
- 1111 K Deseò 32a < Becchi. Pupa, *Lobesia botrana* [Lepidopt.: Tortricidae]. Apr 1982. Italy: Modena.
- 1225 TJ Poprawski INRA PF-46. *Laspeyresia medicaginis* [Lepidopt.: Tortricidae]. Apr 1981. France: Lusignan.
- 1348 S Balazy 1584c. Pupa [Dipt.: Tachinidae]. 25 Sept 1983. Poland: Wielkopolski Nat. Park.
- 1349 S Balazy 1584e. Pupa [Dipt.: Tachinidae]. 25 Sept 1983. Poland: Wielkopolski Nat. Park.
- 1354 S Balazy 1594a (= ??1544??) Pupa [Dipt.: Tachinidae]. 20 May 1983. Poland: Rytro, nr. Nowy Sacz.).
- 1355 S Balazy 1594b (= ??1544??) Pupa [Dipt.: Tachinidae]. 20 May 1983. Poland: Rytro, nr. Nowy Sacz.).
- 1358 **S Balazy 1595e. Poland.**
- 1507 I Majchrowicz 61. *Pyrrhalta luteola* [Coleopt.: Chrysomelidae]. 14 Jun 1984. France: Entraigue, Vaucluse.
- 1508 I Majchrowicz 76. *Pyrrhalta luteola* [Coleopt.: Chrysomelidae]. 14 Jun 1984. France: Entraiques, Vaucluse.
- 1851 HS Whitney R-631 < P Koot. *Pristiphora erichsonii* [Hymenopt.: Tenthredinidae]. 23 Oct 1984. Canada: Morrissey, Ferni, British Columbia.
- 1939 L Turlington. Isolated from sentinel larva of *Aedes sierrensis* [Dipt.: Culicidae]. 28 Jun 1985. USA: Clear Lake, Lake Co., California.
- 2054 G Carroll (= NRRL A-27473). *Lymantria dispar* [Lepidopt.: Lymantriidae], egg mass. Rec'd Dec 1985. USA: Dexter, Lane Co., Oregon.
- 2131 A Hajek. Egg mass, *Lymantria dispar* [Lepidopt.: Lymantriidae]. 4 Mar 1986. USA: Tuckahoe, Maryland.
- 2155 B Muthappa PNG-12710. *Anoplolepis longipes* [Hymenopt.: Formicidae]. Rec'd May 1986. Papua New Guinea.
- 2175 MC Rombach 130586-3. *Heteropsylla incisa* [Homopt.: Psyllidae]. 13 May 1986. Philippines: VISCA demonstration farm, Baybay, Leyte.

**PAECILOMYCES FLAVOVIRESCENS** Shimazu & Humber (sp. nov. inedit.)

- 1686 **Type culture.** M Shimazu 48a < S Ando. *Resseliella odai* [Dipt.: Cecidomyiidae]. 6 Dec 1982. Japan: Nakatsue, Oitu.

**PAECILOMYCES FUMOSOROSEUS** (Wize) Brown & Smith

- 722 RA Daoust CP-18. *Lagria vilosa* [Coleopt.: Lagriidae]. 15 Jan 1982. Brazil: CNPAF, Goiânia, Goiás.
- 723 RA Daoust CP-17. *Lagria vilosa* [Coleopt.: Lagriidae]. 6 Jan 1982. Brazil: CNPAF, Goiânia, Goiás.
- 744 RA Daoust CP-26. *Lagria vilosa* [Coleopt.: Lagriidae]. 15 Feb 1982. Brazil: CNPAF, Goiânia, Goiás.
- 887 TJ Poprawski Pfr-51 < H Hoyer. Unidentified fly [Diptera]. Nov 1982. France: nr. Paris.
- 989 J Aoki Paec-3 < Y Sekizima. *Bombyx mori* [Lepidopt.: Bombycidae]. Japan: Kumagaya, Saitama.
- 1005 J Aoki Paec-2. *Bombyx mori* [Lepidopt.: Bombycidae]. Japan: Fuchu City, Tokyo.
- 1506 I Majchrowicz 71. *Pyrrhalta luteola* [Coleopt.: Chrysomelidae]. 14 Jun 1984. France: Entraiques, Vaucluse.
- 1530 TJ Poprawski MN-0127a(bis). *Adelphocoris* [Heteropt.: Miridae]. 5 Jul 1984. Italy: Orviato.
- 1532 TJ Poprawski MN-0127b(bis). *Adelphocoris* [Heteropt.: Miridae]. 5 Jul 1984. Italy: Orviato.
- 1568 K Deseò 101 < Cortellini. *Hyphantria cunea* [Lepidopt.: Arctidae]. Mar 1984. Italy: Cade, Reggio, Emilia Romagna.

**PAECILOMYCES FUMOSOROSEUS** (continued)

- 1569 K Deseđ 107 < Cortellini. *Hyphantria cunea* [Lepidopt.: Arctiidae]. Mar 1984. Italy: Cade, Reggio, Emilia Romagna.  
 1576 K Deseđ 93 < Cortellini. *Monophadnus cunea* [Hymenopt.: Tenthredinidae]. Feb 1984. Italy: Reggio, Emilia Romagna.  
 1577 K Deseđ 104 < Cortellini. *Hyphantria cunea* [Lepidopt.: Arctiidae]. Mar 1984. Italy: Reggio, Emilia Romagna.  
 1578 K Deseđ 108 < Cortellini. *Hyphantria cunea* [Lepidopt.: Arctiidae]. Mar 1984. Italy: Reggio, Emilia Romagna.  
 1579 K Deseđ 110 < Cortellini. *Hyphantria cunea* [Lepidopt.: Arctiidae]. Mar 1984. Italy: Reggio, Emilia Romagna.  
 1626 TJ Poprawski MN-0103. Pupa, *Musca autumnalis* [Dipt.: Muscidae]. 6 Aug 1984. France: LeTrait.  
 1644 TJ Poprawski MN-0141a. Pupa, *Musca domestica* [Dipt.: Muscidae]. 14 Aug 1984. France: Brittany.  
 1645 TJ Poprawski MN-0141b. Pupa, *Musca domestica* [Dipt.: Muscidae]. 14 Aug 1984. France: Brittany.  
 1646 TJ Poprawski MN-0142. Pupa, *Calliphora* [Dipt.: Calliphoridae]. 17 Aug 1984. France: Behoust.  
 1867 TJ Poprawski MN-0171. Pupa, *Musca domestica* [Dipt.: Muscidae]. 14 Feb 1985. France: Brittany.  
 1868 TJ Poprawski MN-0172. Pupa, *Musca domestica* [Dipt.: Muscidae]. 14 Feb 1985. France: Brittany.  
 1951 R Pereira CP-176. *Cerotoma* sp. [Coleopt.: Chrysomelidae]. 27 Jul 1985. Brazil: Rio de Janeiro, Rio de Janeiro.  
 2198 MC Rombach 161285-1. *Nilaparvata lugens* [Homopt.: Delphacidae]. 16 Dec 85. Philippines: IRRI farm, Los Baños, Manila.  
 2216 P Neves CP-212. *Lagria vilosa* [Coleopt.: Lagriidae]. 5 Jun 1986. Brazil: CNPAF, Goiânia, Goiás.  
 2217 O S Ohashi CP-213. *Lagria vilosa* [Coleopt.: Lagriidae]. 2 Jun 1986. Brazil: CNPAF, Goiânia, Goiás.  
 2219 D Fontana Capalbo CP-215. *Lagria vilosa* [Coleopt.: Lagriidae]. 5 Jun 1986. Brazil: CNPAF, Goiânia, Goiás.  
 2220 G da Silva CP-216. *Lagria vilosa* [Coleopt.: Lagriidae]. 5 Jun 1986. Brazil: CNPAF, Goiânia, Goiás.  
 2221 O Ohashi CP-217. *Lagria vilosa* [Coleopt.: Lagriidae]. 5 Jun 1986. Brazil: CNPAF, Goiânia, Goiás.

**PAECILOMYCES GUAENSIS** Rombach & Humber (sp. nov. inedit.)

- 2152 MC Rombach 190386-1. Blind cave cricket [Orthopt.: Gryllidae]. 19 Mar 1986. Indonesia: Burial caves at Londa, near Makale, Sulawesi.

**PAECILOMYCES JAVANICUS** (Friederichs & Bally) Brown & Smith

- 322 GR Buckingham. *Litodactylus leucogaster* [Coleopt.: Curculionidae]. Dec 1978. USA: Gainesville, Florida  
 720 RS Soper. *Bombyx mori* [Lepidopt.: Bombycidae]. 11 Nov 1981. PRChina: Hangzhou, Zhijiang.

**PAECILOMYCES LILACINUS** (Thom) Samson

- 410 CW McCoy. *Diaprepes abbreviatus* [Coleopt.: Curculionidae]. 20 Jul 1979. USA: Apopka, Florida.  
 986 J Aoki Paec-5 < K Kawakami. *Bombyx mori* [Lepidopt.: Bombycidae]. Japan: Suginami, Tokyo.  
 2181 MC Rombach < LM Villacarlos. Egg mass, root knot nematode. Rec'd May 1986. Philippines: Matalom, Leyte.  
 2182 MC Rombach < LM Villacarlos. Egg mass, root knot nematode. Rec'd May 1986. Philippines: Ormot, Leyte.  
 2183 MC Rombach < LM Villacarlos. Egg mass, root knot nematode. Rec'd May 1986. Peru.  
 2184 MC Rombach < LM Villacarlos. Egg mass, root knot nematode. Rec'd May 1986. Philippines: Univ. of the Philippines, Los Baños.  
 2185 MC Rombach < LM Villacarlos. Egg mass, root knot nematode. Philippines: Caragara, Leyte.  
 2186 MC Rombach < LM Villacarlos. Egg mass, root knot nematode. Philippines: Abuyog, Leyte.

**PAECILOMYCES RENIFORMIS** Samson & Evans in Samson

- 429 DW Roberts. Orthoptera (Tettigoniidae), on rice. 31 Oct 1979. Philippines: IRRI, Los Baños, Manila.  
 484 RS Soper. Orthoptera (Tettigoniidae), on rice. 5 May 1980. Philippines: IRRI, Los Baños, Manila.  
 577 RS Soper. Orthoptera (Tettigoniidae) on rice. 24 Feb 1981. Indonesia: Diski village, Medan Distr., N. Sumatra.

**PAECILOMYCES VIRIDIS** Segretain ex Samson

- 807 RA Daoust EK-8-4. *Empoasca kraemeri* [Homopt.: Cicadellidae]. 1982. Brazil.  
 2160 B Muthappa PNG-12720. *Anoplolepis longipes* [Hymenopt.: Formicidae]. Rec'd May 1986. Papua New Guinea.

**PENICILLIUM** sp.

- 348 *Aphodius tasmaniae* [Coleopt.: Scarabaeidae]. Australia: Adelaide.

**PENICILLIUM THOMII** Maire

- 2056 G Carroll (= NRRL A-27471). *Lymantria dispar* [Lepidopt.: Lymantriidae], egg mass. Rec'd Dec 1985. USA: Dexter, Lane Co., Oregon.

**PHIALOPHORA MALORUM** Fries

- 2072 G Carroll RSRs 24/68. *Lymantria dispar* [Lepidopt.: Lymantriidae], egg mass. Rec'd Dec 1985. USA: Dexter, Lane Co., Oregon.

**PHOMA** sp.

- 2071 G Carroll HO-O-Hatch VIII. *Lymantria dispar* [Lepidopt.: Lymantriidae], egg mass. Rec'd Dec 1985. USA: Dexter, Lane Co., Oregon.

**SAPROLEGNIA** sp.

- 179 I MacDaniel. Dipt.: Simuliidae. 18 Jun 1977. USA: Little River, S. Penobscot, Maine  
 180 I MacDaniel. Dipt.: Simuliidae. 18 Jun 1977. USA: Little River, S. Penobscot, Maine

**SCHIZANGIELLA SERPENTIS** Humber (sp. nov., unpublished)

- 203 W Kaplan. Timber rattlesnake, *Crotalus horridus*, adult, female. May 1974. USA: Baltimore Zool. Park, Maryland.

**SCOPULARIOPSIS** sp.

- 2169 B Muthappa PNG-12725. **Blackpalm weevil** [Coleopt.: Curculionidae]. Rec'd May 1986. Papua New Guinea.

**SOROSPORELLA** sp.

- 377 JE Henry. ?*Melanoplus* [Orthopt.: Acrididae]. Rec'd July 1980. USA: Montana.  
 1856 D Boucias. Mole cricket [Orthopt.: Gryllotalpidae]. 1984. USA: Gainesville, Florida

**SOROSPORELLA UVELLA** (Krassiltschik) Giard

- 1123 P Sikorowski < J Kuhre. *Curculio caryae* [Coleopt.: Curculionidae]. 14 Dec 1983. USA: West Helena, Arkansas.  
 1714 G Riba INRA. France: ?La Minière.

**SPICARIA COCCOSPORA** Drechsler

- 2064 G Carroll (= NRRL A-27472 = CBS 789.85). *Lymantria dispar* [Lepidopt.: Lymantriidae], egg mass. Rec'd Dec 1985. USA: Dexter, Lane Co., Oregon.

**SYNGLIACLADIUM** sp. = conidial stage of *Sorospora* species**TILLETIOPSIS** sp.

- 527 DW Roberts 82880-2. Saprobe on *Nilaparvata lugens* [Homopt.: Delphacidae]. 28 Aug 1980. Thailand: Khlong Luang.  
 572 DW Roberts 82880-2. Saprobe on *Nilaparvata lugens* [Homopt.: Delphacidae]. 28 Aug 1980. Thailand: Khlong Luang.  
 573 DW Roberts 82880-1. Saprobe on *Nilaparvata lugens* [Homopt.: Delphacidae]. 28 Aug 1980. Thailand: Khlong Luang.

**TOLYPOCLADIUM CYLINDROSPORUM** Gams

Synonym: *Beauveria cylindrosporum* (Gams) von Arx.

- 705 GG Soares. *Aedes sierrensis* [Dipt.: Culicidae]. USA: California.  
 961 UAMH 4563 < J Weiser [< J Pillai]. Mosquito [Dipt.: Culicidae]. Rec'd Sept 1983. [?New Zealand]. [Bissett monograph lists as from sewage; Czechoslovakia]  
 962 UAMH 4592 < J Bissett. Soil. 2 Jun 1971. Canada: Mt. Allen, Kananaskis Valley, Alberta.  
 963 UAMH 4593 < J Bissett < S Visser. Spruce-fir forest soil. Aug 1976. Canada: Luscar, Alberta.  
 976 RA Hall GCRI 134-82 < J Pillai. Mosquito [Dipt.: Culicidae]. New Zealand: Quoin Pt., nr. Dunedin.  
 1027 RA Hall GCRI 130-82 < J Pillai. Mosquito [Dipt.: Culicidae]. New Zealand: Quoin Pt., nr. Dunedin.  
 1028 RA Hall GCRI 132-82 < J Pillai. Mosquito [Dipt.: Culicidae]. New Zealand: Quoin Pt., nr. Dunedin.  
 1580 GG Soares Tc4c. Rec'd Sept 1984.

**TOLYPOCLADIUM NIVEUM** (Rostrup) Bissett

Synonym: *Beauveria nivea* (Rostrup) von Arx.

- 616 ATCC 18981 < O Fassatiová CCF-962 (as *Beauveria tenella*). Czechoslovakia.

**TORRUBIELLA HOMOPTERORUM** Humber & Rombach (sp. nov., unpublished)

- 2045 MC Rombach 161085-11 < SB Ahn E1-22. *Nilaparvata lugens* [Homopt.: Delphacidae]. Sept 1985. Rep. of Korea: Gun-Wandi.

**TORRUBIELLA RATTICAUDATA** Rombach & Humber (sp. nov., unpublished)

- 1915 MC Rombach. *Euophrys* [Araneida: Salticidae]. Apr 1985. Solomon Islands: nr. Metapona, Guadalcanal.  
 1916 MC Rombach. *Euophrys* [Araneida: Salticidae]. Apr 1985. Solomon Islands: nr. Metapona, Guadalcanal.

**TRICHODERMA** sp.

- 1361 S Balazy 1599a. Poland.

**TRICHOHECIUM** sp.

- 653 DW Roberts 100881-2. *Nephotettix bipunctata cincticeps* [Homopt.: Cicadellidae]. 8 Oct 1981. PRChina: Chansha, Hunan.  
 1217 TJ Poprawski MN-050a. *Adelphocoris* [Heteropt.: Miridae]. 1 Jun 1983. Italy: Acquapendente.  
 1223 TJ Poprawski MN-060a. *Adelphocoris* [Heteropt.: Miridae]. 7 Jun 1983. Italy: Acquapendente.

**TRICHOHECIUM ROSEUM** Link: Fries

- 1212 TJ Poprawski MN-042. *Adelphocoris* [Heteropt.: Miridae]. 25 May 1983. Italy: Acquapendente.  
 1226 TJ Poprawski MN-001a. *Adelphocoris* [Heteropt.: Miridae]. 18 May 1983. Italy: Vetralla.  
 1308 TJ Poprawski MN-044. *Adelphocoris* [Heteropt.: Miridae]. 23 May 1983. Italy: Acquapendente.  
 1639 TJ Poprawski MN-0136. *Adelphocoris* [Heteropt.: Miridae]. 7 Jul 1984. Austria: Burgenland.  
 1642 TJ Poprawski MN-0139. *Adelphocoris* [Heteropt.: Miridae]. 7 Jul 1984. Austria: Burgenland.  
 2055 G Carroll. *Lymantria dispar* [Lepidopt.: Lymantriidae], egg mass. Rec'd Dec 1985. USA: Dexter, Lane Co., Oregon.

**UNIDENTIFIED**

- 1013 J Aoki Ent-38 < M Shimazu. Japan: Chikugo, Fukuoka.  
 1051 J Aoki Ent-39 < M Shimazu. Japan: Chikugo, Fukuoka.  
 1353 S Balazy 1594. Sterile fungus. Poland.  
 1356 S Balazy 1595c. Sterile mycelium? Poland.  
 1415 S Balazy 1550 [as *Zoophthora* sp.]. Larvae of ?*Hibernia defoliaria* [Lepidopt.: Geometridae]. 22 May 1983. Poland: Bialowieza Nat. Park.  
 1416 S Balazy 1437 [as *Fusarium lateritium* ssp. majus]. Adult ichneumonid [Hymenopt.]. 1 Sept 1981. Poland: Wielkopolski Nat. Park.  
 1417 S Balazy 1547b [as *Zoophthora* sp.]. Larvae of ?*Hibernia defoliaria* [Lepidopt.: Geometridae]. 22 May 1983. Poland: Bialowieza Nat. Park.  
 1419 S Balazy 1451a [as *Gibellula leiopus* (Vuill. in Maublanc) Mains]. Small spider [Arachnida: Araneida] under leaf of *Tussilago farfara*. 2 Aug 1982. Poland: Wielkopolski Nat. Park.  
 1420 S Balazy 1595c. [= ARSEF 1356??]  
 1421 S Balazy 1552 [as *Zoophthora* nr. *radicans*]. Adult, *Cratichneumon lanianus* [Hymenopt.: Ichneumonidae]. 21 May 1983. Poland: Bialowieza Nat. Park.  
 1422 S Balazy 1496c [as *Erynia dipterigena*]. Brachyceran fly [Dipt.]. 4 Jun 1982. Poland: Bialowieza Nat. Park.  
 1423 S Balazy 1508m [as *Zoophthora* nr. *radicans*]. Juvenile and adults, Hemiptera, on underside of leaves of *Stachys silvaticus*. 26 Jul 1982. Poland: Wielkopolski Nat. Park.

**UNIDENTIFIED (continued)**

- 1424 S Balazy 1431 [asa *Acremonium terricola* (Miller et al.) Gams]. Larva, *Calosoma* [Coleopt.: Carabidae]. 29 Aug 1981. Poland: Wielkopolski Nat. Park.
- 1425 S Balazy 1585. Poland.
- 1427 RS Soper. Aphid [Homopt.: Aphididae] in plum orchard. 28 May 1984. Yugoslavia: Zemun, Belgrade.
- 1428 S Balazy 1555 [as *Zoophthora nr. radicans*]. Small nematoceran fly. 21 May 1983. Poland: Bialowieza Nat. Park.
- 1634 TJ Poprawski MN-0120. [Aleurosporid hyphomycete]. Larva [Coleopt.]. 27 Jun 1984. France: St. Etienne du Bois.
- 1693 IL Sivcev 202. Alate aphid [Homopt.: Aphididae] on cabbage. 26 Jun 1984. Yugoslavia: PKB commune, E. of Belgrade.
- 1694 IL Sivcev 216. Alate aphid [Homopt.: Aphididae] on cabbage. 10 Jul 1984. Yugoslavia: PKB commune, E. of Belgrade.
- 1695 IL Sivcev 217. Alate aphid [Homopt.: Aphididae] on cabbage. 10 Jul 1984. Yugoslavia: PKB commune, E. of Belgrade.
- 1696 IL Sivcev. Alate aphid [Homopt.: Aphididae] on rose. 7 Jun 1984. Yugoslavia: Zemun, Belgrade.
- 1697 IL Sivcev R-4. Aphid [Homopt.: Aphididae] on rose. 6 Jul 1984. Yugoslavia: Zemun, Belgrade.
- 1699 MC Rombach A. *Cnaphalocrocis medinalis* [Lepidopt.: Pyralidae]. Philippines: IRRI, Los Baños, Manila.
- 1703 MC Rombach E. *Cnaphalocrocis medinalis* [Lepidopt.: Pyralidae]. Philippines: IRRI, Los Baños, Manila.
- 1921 M Shimazu FE-3. Small fly [Diptera]. Jul 1985. USA: Allegany St. Park, Salamanca, New York.
- 1922 M Shimazu FE-2. Small fly [Diptera]. Jul 1985. USA: Allegany St. Park, Salamanca, New York.
- 2022 I Sivcev 55/85. Black poppy aphid [Homopt.: Aphididae]. 5 Jul 85. Yugoslavia: Micunovo, Vojvodina.
- 2073 Sterile sclerotial hyphomycete. G Carroll RSRS 0/34. *Lymantria dispar* [Lepidopt.: Lymantriidae], egg mass. Rec'd Dec 1985. USA: Dexter, Lane Co., Oregon.

**VERTICILLIUM sp.**

- 1401 TJ Poprawski MN-089. Egg, *Hypera postica* [Coleopt.: Curculionidae]. Jun 83. France.
- 1402 TJ Poprawski MN-090. Egg, *Hypera postica* [Coleopt.: Curculionidae]. Jun 83. France.
- 1403 TJ Poprawski MN-091. Egg, *Hypera postica* [Coleopt.: Curculionidae]. Jun 83. France.

**VERTICILLIUM nr. ARANEARUM (Petch) Gams**

- 1905 MC Rombach. Small spider [Araneida: ?Argiopidae] on cacao. ?Anamorph of *Torrubiella* sp. Apr 1985. Solomon Islands: nr. Metapona, Guadalcanal.

**VERTICILLIUM nr. CEPHALOSPORUM Gams**

- 1365 S Balazy 1615. Poland.

**VERTICILLIUM CHLAMYDOSPORIUM Goddard**

- 2218 DM Fontana Capalbo CP-214. *Lagria vilosa* [Coleopt.: Lagriidae]. 5 Jun 1986. Brazil: CNPAF, Goiânia, Goiás.

**VERTICILLIUM FUNGICOLA (Preuss) Hassebrauk**

- 2065 G Carroll (6, HO-O-Hatch VIII). *Lymantria dispar* [Lepidopt.: Lymantriidae], egg mass. Rec'd Dec 1985. USA: Dexter, Lane Co., Oregon.

**VERTICILLIUM FUSISPORUM Gams**

- 923 B Sohn Ekbon 821007. *Trialeurodes vaporariorum* [Homopt.: Aleyrodidae] in greenhouse. 7 Oct 1982. Sweden: Uppsala.

**VERTICILLIUM INDICUM (Petch) Gams**

- 2170 B Muthappa PNG-12719. *Anoplolepis longipes* [Hymenopt.: Formicidae]. Rec'd May 1986. Papua New Guinea.

**VERTICILLIUM LECANII (Zimmerman) Viégas**

- 17 JV Bell [as *Acrostalagmus aphidium* Oudemans]. USA.
- 204 R Mietkewski. *Macrosiphum euphorbiae* [Homopt.: Aphididae]. 6 Feb 1978. USA: Orono, Maine.
- 310, 311, 312, 313, 314, 316 H Beerman. Single spore isolates from Vertalec, experimental batch C2810, produced by Tate & Lyle, Research and Development (Reading, UK). 3 Jan 1979.
- 321 GR Buckingham. *Rhopalosiphum nymphaeae* [Homopt.: Aphididae]. Dec 1978. USA: Crystal River, Florida.
- 554 P Kanagaratnam. *Lecanium viridis* [Homopt.: Lecaniidae]. Nov 1980. Sri Lanka: Moneragala.
- 555 P Kanagaratnam. *Lecanium viridis* [Homopt.: Lecaniidae]. Dec 1980. Sri Lanka: Coconut Res. Inst., Lunuwila.
- 795 G Kuter 182. Soil saprobe from sugar maple leaf litter. USA: Abraham's Woods, Green Co., Wisconsin.
- 810 E Ballard. *Aedes triseriatus* [Dipt.: Culicidae]. 20 Jul 1983. USA: Berea, Kentucky.
- 811 RG Lawlor < Mycotal®, Tate & Lyle, Ltd. (Reading, UK). 19 Dec 1982.
- 900 Feng Ziding. *Ostrinia nubilalis* [Lepidopt.: Pyralidae], from overwintered larva. Spring 1983. USA: Batavia, New York.
- 972 RA Hall GCRI 55-81. *Trialeurodes vaporariorum* [Homopt.: Aleyrodidae]. Poland.
- 973 RA Hall GCRI 59-81. *Cossus cossus* [Lepidopt.: Cossidae]. Italy.
- 974 RA Hall GCRI 93-82a. Aphid [Homopt.: Aphididae]. Venezuela.
- 980 R Hall GCRI 12-74. *Pulvinaria floccifera* [Homopt.: Lecaniidae]. England.
- 991 J Aoki Harz-2 < K Kawakami. *Bombyx mori* [Lepidopt.: Bombycidae]. Japan: Suginami, Tokyo.
- 994 J Aoki Vert-1. *Adoxophyes orana* [Lepidopt.: Tortricidae]. Japan: Iruma City, Saitama.
- 1002 J Aoki Harz-1 < M Shimazu. Japan: Chikugo, Fukuoka.
- 1026 RA Hall GCRI 13-74 < Nagaich. *Myzus persicae* [Homopt.: Aphididae]. India.
- 1029 RA Hall GCRI 8-73. *Saissetia oleae* [Homopt.: Coccidae]. Israel.
- 1032 RA Hall GCRI 80-82. *Cydia pomonella* [Lepidopt.: Tortricidae]. Australia.
- 1033 RA Hall GCRI 20-79. *Icerya purchasi* [Homopt.: Margarodidae]. Sri Lanka.
- 1102 K Deseö 6. *Cossus cossus* [Lepidopt.: Cossidae]. Apr 1981. Italy: Galliera.
- 1328 TJ Poprawski MN-084. Egg, *Hypera postica* [Coleopt.: Curculionidae]. 17 May 1983. France: Chichery.
- 1330 S Balazy 1428. Aphid [Homopt.: Aphididae]. 1 Sept 1983. Poland: Wielkopolski Nat. Park.
- 1332 S Balazy 1480. Poland: Forest Res Inst., Warsaw.



**VERTICILLIUM LECANII** (continued)

- 1333 S Balazy 1453c. Poland  
1334 S Balazy 1453k. Poland  
1335 S Balazy 1539. Larva, *Malachius bipustulatus* [Coleopt.: Melyridae]. 24 Apr 1983. Poland: Wielkopolski Nat. Park.  
1351 S Balazy 1592.  
1352 S Balazy 1592b.  
1357 S Balazy 1595d.  
1367 S Balazy 1541 < J Wisniewski. Mite [Acarina: Oribatidae] in coniferous forest. 29 Apr 1983. Poland: Zwierzyniec, nr. Grodzisk.  
1505 I Majchrowicz 70. *Pyrrhalta luteola* [Coleopt.: Chrysomelidae]. 14 Jun 1984. France: Entraigues, Vaucluse.  
1702 MC Rombach, R Humber. *Coccus viridis* [Homopt.: Coccidae] on coffee. 12 Nov 1984. Sri Lanka: Coconut Res. Inst., Lunuwila.  
1787 IL Sivcev 287. *Brevicoryne brassicae* [Homopt.: Aphididae]. 1 Oct 1984. Yugoslavia: PKB commune, E. of Belgrade.  
2009 M Yasem de Romero. *Toxoptera citricidus* [Homopt.: Aphididae]. 1985; rec'd Oct 1985. Argentina: Tucumán.  
2066 G Carroll (4, HO-O-Hatch VIII). *Lymantria dispar* [Lepidopt.: Lymantriidae], egg mass. Rec'd Dec 1985. USA: Dexter, Lane Co., Oregon.  
2149 DG Holdom 030386-1. *Coccus viridis* [Homopt.: Coccidae] on coffee. 3 Mar 1986. Indonesia: Yogyakarta, Java.  
2150 DG Holdom 030386-2. *Coccus viridis* [Homopt.: Coccidae] on coffee. 3 Mar 1986. Indonesia: Yogyakarta, Java.



## INDEX OF ARSEF CULTURES BY ORIGINAL HOST OR SUBSTRATE

This compilation lists as many ARSEF cultures as possible by the host or substrate from which they were originally isolated. It **excludes** strains which have been reisolated after laboratory passage through a host, which have been isolated from commercial or experimental formulation of fungi as microbial pesticides since these strains cannot be ascribed meaningfully to any given host. The organization of this index is by phylum, class, order, family, and genus. Numbers of strains are given with the greatest accuracy possible; it is obvious that the accession information is insufficient to provide full taxonomic information on the hosts of all strains.

**ARTHROPODA, Class INSECTA**

55, 159, 160, 189, 196, 294, 295, 296, 302, 303, 304, 305, 306, 307, 308, 309, 350, 385, 474, 475, 476, 536, 616, 712, 844, 845, 846, 947, 948, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 971, 1002, 1004, 1013, 1051, 1052, 1130, 1266, 1267, 1269, 1270, 1332, 1333, 1334, 1336, 1337, 1338, 1339, 1340, 1341, 1342, 1343, 1344, 1345, 1346, 1348, 1349, 1350, 1351, 1352, 1353, 1354, 1355, 1356, 1357, 1358, 1359, 1360, 1361, 1362, 1363, 1364, 1365, 1366, 1369, 1373, 1374, 1375, 1376, 1377, 1378, 1380, 1386, 1387, 1388, 1420, 1425, 1490, 1662, 1664, 1665, 1714

*Therastia* 1836

*Hortensia* 2189

COLEOPTERA 293, 301, 754, 1634, 1980

## Anthicidae

*Anthicus* 157

## Anthribidae

*Araecerus* 413

Bruchidae 726, 932, 954

*Caryedon* 1186

Carabidae 939, 952, 1901, 1975

*Calosoma* 1424

*Trechus* 1739

Cerambycidae 318, 319, 785

*Aromia* 1559, 1560, 1561, 1562, 1563

*Moechotypa* 1678

*Monochamus* 1679

*Niphonoclea* 1431

*Psacotha* 1041, 1680

Chrysomelidae 504, 751, 1971

*Cerotoma* 724, 731, 732, 756, 760, 930, 931, 934, 951, 1458, 1467, 1951, 2075, 2076, 2077, 2078

*Crimissa* 786, 788, 805

*Diabrotica* 201, 721, 739, 752, 758, 809, 928, 937, 938, 946, 947, 948, 949, 950, 956, 958, 982, 1056, 1060, 1453, 1454, 1455, 1456, 1459, 1460, 1461, 1462, 1463, 1464, 1465, 1466, 1469, 1470, 1471, 1472, 1474, 1475, 1476, 1885, 1954, 1958, 1961,

*Leptinotarsa* 149, 220, 252, 283, 290, 317, 340, 344, 353, 384, 505, 506, 507, 509, 510, 534, 535, 681, 1039, 1079, 1081, 1106, 1619, 1620, 1621, 1622, 1623, 1624, 1704, 1705, 1706, 1707, 1708, 1709, 1710, 1711, 1712, 1713, 1721, 1722, 1723, 1749, 1750, 1775, 1776, 1777, 1778, 1779, 1780, 1781, 1982

*Pachybrachis* 547

*Podisus* 1457

*Pyrrhalta* 1043, 1505, 1506, 1507, 1508, 1509, 1510, 1511, 1518, 1519

*Sistena* 2079

## Coccinellidae

*Coccinella* 2032, 2034

*Coleomegilla* 808, 1956

*Cycloneda* 2010

Curculionidae 1061, 2040, 2169, 2173, 2210

*Anthonomus* 1835, 1966

*Aracanthus* 753

*Ceutorhynchus* 1572, 1573, 1574, 1575, 2133

*Chalcocermus* 336, 337, 725, 733, 734, 735, 736, 738, 929, 941, 942, 943, 953,

*Conotrachelus* 1016

*Cosmopolites* 1483, 1833

*Curcullo* 1123

*Diaprepes* 410, 412, 416, 433

*Hypera* 79, 80, 81, 113, 191, 192, 202, 1327, 1328, 1329, 1372, 1389, 1398, 1399, 1401, 1402, 1403, 1515, 2188, 2199, 2200

*Litodactylus* 322

*Metasmius* 842

*Otiorrhynchus* 813, 814, 815, 817, 818, 820, 1073, 1074, 1075, 1184, 1910, 2024

*Premnotrypes* 799, 1969

*Shirahoshizo* 1681

*Sitona* 816, 819, 1153, 1154, 1155, 1156, 1157, 1158, 1159, 1160, 1161, 1162, 1163, 1164, 1165, 1167, 1168, 1169, 1170, 1171, 1172, 1173, 1174, 1175, 1176, 1177, 1178, 1179, 1180, 1181, 1182, 1183, 1185, 1188, 1189, 1190, 1191, 1192, 1193, 1194, 1306, 1309, 1310, 1311, 1312, 1313, 1491, 1647, 1815, 1816, 1817, 1818, 1819, 1820, 1821, 1822

Elateridae 23, 150, 784, 804, 888

*Agriotes* 396, 918, 2107

*Conoderus* 1897, 1903

## Lagriidae

*Lagri* 722, 723, 741, 744, 1957, 2215, 2216, 2217, 2218, 2219, 2220, 2221

## Melyridae

*Malachius* 1335

Nitidulidae 325

## Pythidae

*Pytho* 1854

## Rhizophagidae

*Rhizophagus* 1848

Scarabaeidae 683, 1858, 1859, 2162, 2163

*Ancognatha* 797

*Anomala* 985, 1676, 1682, 1683

*Aphodius* 346, 348

*Dasygnathus* ?472

*Heptophylla* 984

*Lachnosterna* 1685

*Melolontha* 617, 977, 979, 1066, 1067, 1068, 1069, 1070, 1071, 1072, 1076, 1077, 1871, 1872, 1873, 1874, 1875

*Oryctes* 538, 978, 1914, 1946, 2151, 2156, 2165, 2166, 2167

*Phyllophaga* 2134, 2135, 2136, 2137, 2138, 2139

*Popilla* 1046, 1280, 1298, 1878

*Strigoderma* 1968

*Xyloryctes* 297, 298

Scolytidae 1566, 1567

*Dendroctonus* 1017, 1849, 1853

*Dryocoetes* 1852

*Hypothenemus* 1480

*Ips* 1855

Tenebrionidae 757, 783, 787

DERMAPTERA 796

## DICTYOPTERA

## Blattellidae

*Blattella* 1877, 1924, 1925, 1926

## Blattidae

*Periplaneta* 1857

DIPTERA 86, 87, 131, 138, 216, 388, 392, 742, 876, 887, 1240, 1242, 1337, 1720, 1955, 2192, 2194. *Brachycera* 427, 468, 469, 1338, 1422. *Cyclorrhapha* 1962. *Nematocera* 397, 426, 1336, 1428.

## Anthomyiidae 2087, 2088

*Delia* 707, 1148, 1151, 1371, 1864, 1865, 1866, 2089, 2090

## Calliphoridae 116

*Calliphora* 1630, 1646*Pollenia* 651

## Cecidomyiidae

*Resseliella* 1684, 1686

## Ceratopogonidae

*Forcipomyia* 1940

## Chironomidae

*Chironomus* 387, 780

## Culicidae 373, 748, 1260

*Aedes* 705, 750, 764, 810, 841, 961, 976, 1027, 1028, 1580, 1939, 1948, 1949*Anopheles* 360, 372, 582, 583, 584, 585, 644, 645, 706*Culex* 70, 749, 1384*Culiseta* 964

## Ephydriidae

*Hydrellia* 2097, 2105

## Heleomyzidae 5

## Muscidae

*Musca* 454, 556, 556b, 557, 803, 969, 1514, 1522, 1626, 1644, 1645, 1867, 1868, 2014, 2172

## Mycetophilidae 1870

## Psychodidae 399, 400

## Rhagionidae

*Symphoromyia* 663

## Sclariidae 919, 927, 1660, 1661, ?1887, ?1921, ?1922, ?1923

## Sciomyzidae

*Sepedon* 1551

## Simuliidae 1752, 1753, 1754, 1755

*Simulium* 179, 180, 218, 802, 1439

## Syrphidae 826

*Eristalis* 710

## Tabanidae

*Atylotus* 627

## Tachinidae 1150, 1348, 1349, ??1354, ??1355

## Tipulidae

*Tipula* 214, 215, 393, 403, 640, 641, 642

## HEMIPTERA 389, 1423

## Cydnidae

*Scaptoceres* 1448

## Leptocorisidae

*Leptocoris* 560, 566

## Lophopidae

*Pyrilla* 2143, 2144

## Lygaeidae

*Blissus* 792*Nysius* 300

## Miridae 2132, 2146

*Adelphocoris* 1195, 1196, 1197, 1198, 1199, 1200, 1201, 1202, 1203, 1204, 1205, 1206, 1207, 1208, 1209, 1210, 1211, 1212, 1213, 1214, 1215, 1216, 1217, 1218, 1219, 1220, 1221, 1222, 1223, 1224, 1226, 1307, 1308, 1516, 1517, 1523, 1524, 1525, 1526, 1527, 1528, 1529, 1530, 1531, 1532, 1533, 1534, 1535, 1536, 1537, 1538, 1539, 1540, 1635, 1636, 1637, 1638, 1639, 1640, 1641, 1642, 1643, 1650, 1789, 1790, 1791, 1792, 1793, 1794, 1795, 1796, 1797, 1798, 1799, 1800, 1801

*Cyrtorhinus* 2208, 2209

*Lygus* 886, 1317, 1318, 1319, 1320, 1321, 1322, 1323, 1324, 1325, 1394, 1395, 1396, 1397, 1404, 1405, 1406, 1407, 1408, 1409, 1410, 1411, 1412, 1413, 1414, 1520, 1521, 1570, 1648, 1649, 1802, 1803, 1804, 1805, 1806, 1807, 1808, 1809, 1810, 1811, 1812, 1813, 1814

*Notostira* 394, 916, 926

## Nabidae

*Nabis* 1988

## Pentatomidae 531, 737, 755, 944, 1973, 1974, 1984

*Euschistus* 1478*Nezara* 1054, 1055, 1473, 1474, 2011*Oebalus* 2191*Piezodorus* 761*Scotinophora* 763, 1432, 1545, 1548, 1552*Sternecus* 1450, 1452, 1989*Tibraca* 933, 1882, 1883, 2212, 2213, 2214

## Reduviidae (Polytoxinae) 2180

## Tingidae

*Corythucha* 812

## Veliidae

*Mesovelia* 320

## HOMOPTERA 310, 811

## Aleyrodidae 430, 431, 432, 1030, 1031

*Aglia* 2154*Dialeurodes* 341, 342, 343, 992*Trialetrodes* 923, 972

Aphididae 17, 58, 59, 195, 199, 242, 243, 244, 245, 246, 247, 248, 249, 250, 355, 381, 434, 609, 630, 631, 974, 999, 1006, 1330, 1426, 1427, 1571, 1618, 1693, 1694, 1695, 1696, 1697, 2016, 2017, 2018, 2019, 2020, 2022

*Acyrtosiphon* 100, 354, 362, 369, 824, 825, 828, 831, 832, 834, 836, 837, 839, 1597, 1603, 1605, 1609, 1738, 1741, 1860, 1862, 1863

*Anoecia* 425*Aphidula* 1610, 1615

*Aphis* 42, 78, 83, 124, 128, 133, 194, 608, 610, 611, 612, 613, 614, 632, 633, 634, 635, 636, 637, 638, 639, 1606, 1611, 1735, 1981, 1985

*Brachycaudus* 75

*Brevicoryne* 1146, 1613, 1616, 1617, 1784, 1785, 1786, 1787, 1824, 1825, 1826, 1827, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130

*Capitophorus* 822*Cavariella* 101, 102, 363, 1733, 1734*Dactynotus* 1137*Drepanosiphum* 914, 1130*Hyalopterus* 1596*Hyperomyzus* 197, 829, 833, 835

*Macrosiphum* 40, 174, 175, 181, 182, 204, 207, 827, 830, 838, 1134, 1607, 1612, 1986, 1987

*Metapolophium* 97

*Myzus* 2, 39, 41, 57, 63, 67, 99, 129, 649, 1026, 1600, 1601, 1602, 1927, 2085, 2086

*Rhopalosiphum* 73, 125, 321, 995, 1131*Schizaphis* 1967*Sitobon* 1597, 1604

*Therioaphis* 15, 29, 74, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 114, 115, 139, 237, 238, 239, 351, 359, 366, 370, 379, 379, 823, 1666

*Toxoptera* 2009*Uroleucon* 120, 121, 122, 993

Cercopidae 391, 549, 550, 551, 800, 1044, 1045, 1282, 1299, 1379, 1382, 1890, 1891, 1895, 1896, 1898, 1899, 1900, 1902, 1911, 1912

*Aenolamia* 798

*Deois* 729, 759, 782, 806, 925, 955, 1449, 1892, 1970, 2078, 2147, 2148

*Mahanarva* 1894

- Cercopidae** (continued)  
*Zulia* 477
- Cicadellidae** 419, 420, 421, 422, 743, 945, 1126, 1238, 1239, 1263, 1888, 2081, 2196  
*Cicadella* 328  
*Cofana* 2082  
*Empoasca* 789, 790, 791, 807, 877, 878, 879, 880, 881, 882, 883, 1018, 1019, 1020, 1021, 1227, 1228, 1229, 1230, 1231, 1232, 1233, 1234, 1235, 1236, 1237, 1261, 1262, 1492, 1493, 1494, 1495, 1496, 1497, 1498, 1499, 1500, 1501, 1502, 1503, 1504, 1541, 1542, 1543, 1544, 1581, 1582, 1583, 1584, 1585, 1586, 1587, 1588, 1589, 1590, 1591, 1593, 1594, 1595, 1625, 1928, 1929, 1930, 1931, 1932, 1933, 1934, 1935, 1936, 1937, 1938, 1963, 1965  
*Nephotettix* 458, 459, 460, 461, 478, 520, 597, 605, 606, 653, 656, 678, 708, 1098, 1553, 1554, 1555, 1556, 1840, 1941, 1942, 1943, 2043, 2106, 2153, 2176, 2178, 2197  
*Recilia* 543, 659, 660, 680, 2177, 2179
- Cicadidae** 365  
*Cicadetta* 331, 332, 1880  
*Magliccada* 374
- Cixiidae**  
*Myndus* (= *Haplaxius*) 1035
- Coccidae** 1828  
*Coccus* 554, 555, 1774, 2149, 2150  
*Saissetia* 1029
- Cynidae**  
*Cirtonemus* ?1952  
*Scaptorea* 1448
- Delphacidae**  
*Nilaparvata* 134, 211, 349, 405, 406, 418, 455, 456, 457, 485, 486, 487, 488, 489, 490, 511, 512, 514, 517, 520, 522, 523, 524, 525, 527, 528, 530, 532, 563, 564, 565, 568, 572, 573, 575, 576, 579, 580, 581, 591, 595, 596, 598, 599, 600, 654, 655, 657, 658, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 676, 679, 682, 684, 685, 686, 687, 698, 700, 709, 713, 714, 716, 717, 719, 997, 1036, 1062, 1063, 1064, 1096, 1099, 1101, 1124, 1125, 1132, 1133, 1136, 1243, 1244, 1245, 1246, 1247, 1248, 1249, 1250, 1251, 1252, 1253, 1254, 1255, 1256, 1257, 1258, 1259, 1264, 1268, 1271, 1272, 1273, 1274, 1275, 1276, 1277, 1279, 1283, 1284, 1285, 1286, 1287, 1288, 1289, 1290, 1291, 1292, 1293, 1294, 1295, 1296, 1297, 1300, 1301, 1302, 1303, 1304, 1305, 1436, 1546, 1547, 1549, 1550, 1724, 1725, 1726, 1727, 1728, 1729, 1730, 1731, 1742, 1743, 1744, 1745, 1763, 1764, 1765, 1766, 1767, 1768, 1769, 1770, 1771, 1772, 1773, 1823, 1837, 1876, 1881, 1906, 1907, 1908, 1913, 1917, 1918, 1919, 2037, 2038, 2039, 2044, 2045, 2053, 2080, 2091, 2099, 2100, 2101, 2102, 2103, 2198  
*Sogatella* 593, 602, 603, 604, 2092, 2093, 2095, 2096  
*Sogatodes* 2094
- Diaspididae**  
*Lepidosaphes* 2098  
*Melanaspis* 821, 2074  
*Nuculaspis* 1668
- Lecaniidae**  
*Pulvinaria* 980, 2145
- Margarodidae**  
*Icerya* 1033
- Membracidae** 1034, 1037, 2164  
*Spissistilus* 2028
- Psyllidae**  
*Heteropsylla* 2175  
*Trioza* ?126, 1719
- HYMENOPTERA** 395, 694, 957, 1468, 2193
- Apidae**  
*Apis* 691, 692
- Diprionidae**  
*Neodiprion* 13, 338
- Formicidae** 1960, 1976, 1977, 1978, 1979
- Anoplolepis** 2155, 2157, 2158, 2159, 2160, 2161, 2170  
*Atta* 1831
- Ichneumonidae** 156, 1331, 1416  
*Cratichneumon* 1421
- Megachilidae** 689, 690, 695, 696  
*Megachile* 693
- Pamphiliidae**  
*Pamphilus* 152, 154
- Tenthredinidae**  
*Athalia* 915, 917, 920, 1715, 1716, 1717, 1718  
*Monophadnus* 1576  
*Pristiphora* 1851
- Vespidae** 730, 1953
- LEPIDOPTERA** 404, 537, 1140, 1145, 1241, 1656
- Galactica** 552
- Arctiidae** 1141  
*Hyphantria* 1564, 1565, 1568, 1569, 1577, 1578, 1579
- Bombycidae**  
*Bombyx* 703, 711, 718, 720, 986, 987, 988, 989, 991, 1003, 1005, 1007, 1010, 1015, 1040
- Castniidae**  
*Castnia* 1829
- Cossidae**  
*Cossus* 973, 1102, 1103, 1104, 1558  
*Zeuzera* 1105
- Geometridae**  
*Enyptia* 2000  
*Hiberia* ?1415, ?1417  
*Lambdina* 72, 1990, 1991
- Hepialidae**  
*Oxycanus* 1187
- Laslocampidae**  
*Dendrolimus* 1139, 1142, 1655, 1677  
*Gastropacha* 990  
*Malacasoma* 1, 3
- Lymantriidae**  
*Leucoma* 38  
*Lymantria* 20, 155, 299, 481, 482, 483, 648, 697, 1390, 1391, 1400, 1658, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2131
- Lyonetiidae**  
*Leucoptera* 1115, 1116, 1117
- Noctuidae** 135, 470, 1128, 1129, 1627, 1628, 1629, 1670, 1671, 1879, 1893, 2140  
*Aedia* 198, 998  
*Anticarsia* 1950, 2013, 2201, 2202, 2203, 2204, 2205, 2207  
*Heliothis* ?251, 1080, 1149, 1166, 1314, 1315, 1316, 1788  
*Mamestra* 1265, 1657, 1751  
*Mocis* 587, 590, 1762, 1884  
*Platypena* 762  
*Plusia* 1047  
*Pseudoplusia* 1964, 2027  
*Prodenia* 1014  
*Rhachiplusia* 2206  
*Rivula* 1756, 1757, 1758, 1759, 1760  
*Sesamia* 1008, 1118  
*Spodoptera* 323, 358, 380, 539, 558, 935, 959, 1512, 1513, 1972
- Notodontidae**  
*Quadricalcarifera* 1042
- Nymphalidae** 981, 1065  
*Chlosyne* 1057, 1058, 1059
- Pieridae**  
*Pieris* 781, 1341, 1342, 1343, 1344, 1345, 1346
- Plutellidae**  
*Plutella* 217, 983, 1000, 1048, 1100, 1135
- Pyralidae**  
*Chilo* 326, 1886, 2142  
*Cnaphalocrocis* 1699, 1702, 1703, 1761, 2041, 2174  
*Diatraea* 1484, 1830, 1832, 1834

## Pyrallidae (continued)

*Dioryctria* 996, 1001  
*Galleria* 1113, 1114, 1736, 1737  
*Ostrinia* 501, 502, 533, 652, 900, 1038, 1121, 1489  
*Scirpophaga* 2141

## Saturniidae 843

## Sesiidae

*Sesia* 1108

## Stenomidae

*Stenoma* 1479

## Tortricidae ?30, 232

*Adoxophyes* 994

*Choristoneura* 21, 44, 45, 50, 51, 52, 88, 92, 93, 94, 141,  
 142, 143, 144, 145, 146, 147, 148, 161, 162, 163, 164,  
 165, 166, 167, 168, 172, 177, 178, 183, 184, 185, 186,  
 187, 188, 221, 222, 223, 224, 225, 226, 227, 228, 229,  
 230, 231, 233, 234, 235, 407, 491, 647, 1850, 1991, 1992,  
 1993, 1994, 1995, 1997

*Cydia* 151, 503, 975, 1032, 1095, 1109, 1122

*Eana* 1143

*Laspeyresia* 1225

*Lobesia* 1107, 1110, 1111, 1112,

*Merophyas* 1082

*Pseudaletia* 1999

*Ptycholomoides* 1674, 1675

*Tortrix* 68

## NEUROPTERA

## Chrysopidae

*Chrysopa* 153

## ORTHOPTERA 728

Acrididae 22, 32, 356, 357, 1053, 1326, 1959, 2023, 2083

*Austracris* 324

*Camnula* 496, 618, 619, 620, 621, 624, 628, 629, 765, 767,  
 768, 769, 773, 774, 777, 778, 779

*Dissosteira* 375, 376, 382, 499

*Gastrimargus* ?2083

*Melanopus* ?377, 383, 390, 408, 497, 498, 500, 623, 625,  
 626, 646, 766, 770, 771, 772, 775, 776, 1152, 2084, 2168

*Parapodisma* 1659

*Praxibulus* 840

## Gryllidae 2152

*Orinebius* 1009

*Teleogryllus* 435, 436, 437, 438, 439, 440, 441, 442, 443,  
 444, 445, 446

## Gryllotalpidae 1856

## Tettigoniidae 429, 484, 577, 1477

## TRICHOPTERA 219, 727, 801, 1440, 1441, 1442, 1443

ARTHROPODA, Class ARACHNIDA

## ACARINA

## Eriophyidae

*Abacarus* 970

*Acalitus* 254

*Aceria* 411

*Colomerus* 258, 414

*Eriophyes* 255, 256, 257

*Phyllocoptura* 137, 241, 253, 259, 2012

## Oribatidae 1367

## Tarsonemidae 1947

## (Acarina)

## Tetranychidae

*Tetranychus* 662

## ARANEIDA 567, 569, 570, 1419, 1669, 1732, 2002

## Argiopidae ?1904

## Salticidae 1905

*Euophrys* 1909, 1915, 1916

ARTHROPODA,Class MALACOSTRACA

## Isopoda

*Porcellio* 368, 386, 1672

NEMATODA

Heteroderidae 2181, 2182, 2183, 2184, 2185, 2186

## Rhabditidae

*Cruzanema* 650

*Xiphinema* 2003, 2004, 2005, 2015

*Criconemella* 2006, 2007, 2008

VERTEBRATA

Amphibia 260, 271, 2051, 2052

*Bufo* 270

Reptilia 203, 263, 265, 266, 268, 2048, 2049, 2050

Rodentia 269

## Primates

*Homo* 206, 261, 272, 273

FUNGI

Basidiomycotina, Hymenomycetes

*Volvariella* 1147

Deuteromycotina, Hyphomycetes

*Hirsutella* 2035, 2036

SOIL

158, 264, 274, 471, 473, 588, 589, 793, 794, 795, 962, 963, 1011, 1092,  
 1093, 1119, 1120, 1278, 2025, 2026, 2042, 2211

PLANT DETRITUS

205, 262, 267, 447, 448, 449, 450, 451, 452, 453, 1444, 1445, 1485,  
 1486, 1487, 1488

## INDEX OF ARSEF CULTURES BY GEOGRAPHICAL ORIGIN

This compilation lists as many ARSEF cultures as possible by the country and, in some instances, state or province from which they were originally isolated. It *excludes* strains (1) which have been reisolated after laboratory passage through a host or after mutagenic treatment, (2) which have been isolated from commercial or experimental formulation of fungi as microbial pesticides, and (3) for which insufficient collection data exist. The organization of this index is alphabetical by country.

**ARGENTINA** 2009, 2010, 2011, 2012, 2013

**AUSTRALIA** 437, 438, 1032

**Australian Capital Territory** 473, 835,  
**New South Wales** 300, 356, 357, 471, 472, 644, 645, 824, 827,  
 828, 829, 831, 834, 836, 837, 838, 839, 840,  
**Queensland** 323, 324, 325, 326, 328, 331, 332, 349, 354, 358,  
 359, 362, 365, 369, 370, 380, 381, 823, 1082, 1825, 1860,  
 1862, 1863, 1880, 1927, 1940, 1948, 1949  
**South Australia** 346, 348,  
**Victoria** 435, 436, 439, 440, 441, 442, 443, 444, 445, 446, 830

**AUSTRIA** 1095, 1533, 1534, 1535, 1536, 1537, 1538, 1539, 1540,  
 1635, 1636, 1637, 1638, 1639, 1640, 1641, 1642, 1643, 1973, 1974,  
 1988

**BELGIUM** 1848

**BRAZIL** 295, 549, 550, 551, 807, 1884, 188, 1894, 1895, 1896, 1898,  
 1899, 1900, 1901, 1902, 1911, 1964

**Alagoas** 1953, 1954, 1955, 1956, 1957, 1963  
**Amazonas** 730, 731, 732, 755, 756  
**Bahia** 1045, 1282, 1299, 1379, 1382, 1479, 1958, 1959, 1960,  
 1961, 1962, 1965, 1972  
**Ceará** 753, 757, 783, 784, 785, 786, 787, 788, 804, 805, 876,  
 880  
**Espírito Santo** 925, 1044, 1483  
**Federal District** 552, 1891, 1892  
**Goiás** 722, 723, 724, 725, 726, 727, 728, 729, 733, 734, 735,  
 736, 737, 738, 739, 741, 742, 743, 744, 752, 754, 758, 759,  
 760, 761, 782, 789, 790, 806, 808, 809, 928, 929, 930, 931,  
 932, 933, 934, 935, 936, 939, 955, 956, 957, 1230, 1238,  
 1241, 1448, 1476, 1477, 1478, 1492, 1493, 1494, 1495,  
 1496, 1497, 1498, 1499, 1500, 1501, 1502, 1503, 1504,  
 1541, 1542, 1543, 1544, 1581, 1582, 1583, 1584, 1585,  
 1586, 1587, 1588, 1589, 1590, 1591, 1593, 1594, 1595,  
 1625, 1882, 1883, 1888, 1928, 1929, 1930, 1931, 1932,  
 1933, 1934, 1935, 1936, 1937, 1952, 1970, 1971, 2075,  
 2076, 2077, 2078, 2079, 2189, 2191, 2192, 2193, 2194,  
 2196, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219,  
 2220, 2221  
**Mato Grosso do Sul** 477, 937, 938, 941, 942, 943, 944, 945,  
 946, 947, 948, 949, 950, 951, 952, 953, 954, 982, 2147,  
 2148  
**Pará** 1034, 1449, 1890  
**Paraná** 958, 959, 1053, 1054, 1055, 1056, 1057, 1058, 1059,  
 1060, 1061, 1065, 1239, 1240, 1242, 1450, 1453, 1454,  
 1455, 1457, 1458, 1461, 1462, 1463, 1466, 1469, 1989  
**Pernambuco** 1484, 1829  
**Rio de Janeiro** 1951  
**Rio Grande do Sul** 1227, 1456, 1459, 1460, 1464, 1465, 1475,  
 2201, 2202, 2203, 2204, 2205, 2206, 2207  
**Rio Grande do Norte** 791, 877, 878, 879, 881, 882, 883  
**Rondônia** 1037  
**Santa Catarina** 1228, 1229, 1231, 1232, 1233, 1234, 1235,  
 1236, 1237, 1467, 1468, 1470, 1471, 1472, 1473, 1474  
**São Paulo** 1480, 1830, 1831, 1832, 1833, 1834, 1835, 1836,  
 1950, 1966, 2211

**CANADA**

**Alberta** 962, 963, 964, 1260

**British Columbia** 1017, 1849, 1850, 1851, 1852, 1853, 1854,  
 1855, 1990, 2000

**Newfoundland** 72, 1991

**Ontario** 375, 376, 407, ?1278, 1992, 1993, 1994, 1995, 1997,  
 1998, 1999, 2042

**Quebec** 120, 121, 122, 124, 125, 126, 128, 1148, 1151, 1371,  
 2134, 2135, 2136, 2137, 2138, 2139, 2140

**CHILE (Easter Island)** 833

**CHINA, PEOPLE'S REPUBLIC OF** 501, 502, 533, 708, 709, 712,

**Beijing** 652

**Hunan** 653, 656, 664, 678

**Hupel** 654, 665, 666, 667, 669, 676, 679, 685, 698, 713, 714,  
 717, 719

**Kwon Tung** 655, 671, 683, 700

**Jiangsu** 657, 659, 660, 668, 672, 673, 674, 680, 682, 686, 716

**Shanghai** 385, 687

**Zhijiang** 658, 670, 703, 711, 718, 720

**COLOMBIA** 587, 588, 589, 590, 721, 796, 797, 798, 799, 842, 1030,  
 1031

**COSTA RICA** 274, 843

**CZECHOSLOVAKIA** 70, 159, 160, 616, 961, 2133

**DENMARK** 694, 695

**ECUADOR** 2023

**FRANCE** 67, 68, 73, 97, 133, 149, 150, 151, 355, 384, 434, 468, 617,  
 812, 813, 814, 815, 816, 817, 818, 819, 820, 822, 887, 971, 977, 978,  
 979, 1073, 1074, 1075, 1150, 1156, 1157, 1158, 1159, 1160, 1161,  
 1162, 1165, 1167, 1168, 1169, 1170, 1182, 1184, 1185, 1186, 1191,  
 1192, 1193, 1194, 1225, 1306, 1314, 1315, 1316, 1317, 1318, 1319,  
 1320, 1321, 1322, 1323, 1324, 1325, 1326, 1327, 1328, 1329, 1372,  
 1389, 1394, 1395, 1396, 1397, 1398, 1399, 1401, 1402, 1403, 1404,  
 1405, 1406, 1407, 1408, 1409, 1410, 1411, 1412, 1413, 1414, 1489,  
 1491, 1505, 1506, 1507, 1508, 1509, 1510, 1511, 1512, 1513, 1514,  
 1515, 1516, 1517, 1518, 1519, 1520, 1521, 1522, 1523, 1524, 1596,  
 1597, 1598, 1604, 1605, 1606, 1609, 1610, 1611, 1612, 1613, 1615,  
 1616, 1617, 1618, 1626, 1630, 1634, 1644, 1645, 1646, 1647, 1648,  
 1649, 1650, 1669, 1670, 1671, 1714, ?1738, 1789, 1790, 1791, 1792,  
 1793, 1794, 1795, 1796, 1797, 1798, 1799, 1800, 1801, 1864, 1865,  
 1866, 1867, 1868, ?1870, 1975, 1976, 1977, 1978, 1979, 1980, 1981,  
 1982, 1984, 1985, 1986, 1987, 2024, 2087, 2088, 2089, 2090

**GERMAN FEDERAL REPUBLIC (West Germany)** 216, 217, 340,  
 1910, 2025

**GREECE** 1802, 1803, 1811, 1812, 1822

**HUNGARY** 1627, 1628, 1629

**INDIA** 55, 211, 449, 1026, 1724, 1725, 1726, 1727, 1728, 1729, 1730,  
 1731, 1742, 1743, 1744, 1745, 1823, 1837, 1886, 2074, 2141, 2142,  
 2143, 2144, 2145

**INDONESIA** 261, ?271, ?272

Ball 570

Java 566, 591, 595, 596, 598, 599, 600, 1876, 1917, 1918, 1919, 2080, 2083, 2083, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2132, 2146, 2149, 2150, 2151, 2154, 2173, 2210

Lombok Island 560, 575, 579

Sulawesi 558, 563, 564, 565, 593, 597, 602, 603, 604, 605, 606, 2082, 2152, 2153

Sumatra 567, 568, 569, 577, 580, 581

**ISRAEL** 75, 78, 79, 80, 81, 83, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 138, 139, 191, 192, 194, 195, 197, 1029**ITALY** 973, 1102, 1103, 1104, 1105, 1106, 1107, 1108, 1109, 1110, 1111, 1112, 1113, 1114, 1115, 1116, 1117, 1118, 1119, 1120, 1121, 1122, 1195, 1196, 1197, 1198, 1199, 1200, 1201, 1202, 1203, 1204, 1205, 1206, 1207, 1208, 1209, 1210, 1211, 1212, 1213, 1214, 1215, 1216, 1217, 1218, 1219, 1220, 1221, 1222, 1223, 1224, 1226, 1307, 1308, 1525, 1526, 1527, 1528, 1529, 1530, 1531, 1532, 1558, 1559, 1560, 1561, 1562, 1563, 1564, 1565, 1568, 1569, 1576, 1577, 1578, 1579**IVORY COAST** 257**JAMAICA** 256**JAPAN** 134, 198, 302, 303, 304, 305, 308, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000, 1001, 1002, 1003, 1004, 1005, 1006, 1007, 1008, 1009, 1010, 1011, 1013, 1014, 1015, 1040, 1041, 1042, 1043, 1046, 1047, 1048, 1049, 1051, 1052, 1092, 1093, 1098, 1101, 1124, 1125, 1131, 1132, 1133, 1134, 1135, 1136, 1137, 1139, 1140, 1141, 1142, 1143, 1146, 1263, 1264, 1265, 1266, 1267, 1268, 1390, 1391, 1400, 1553, 1554, 1555, 1556, 1655, 1656, 1657, 1658, 1659, 1668, 1674, 1675, 1676, 1677, 1678, 1679, 1680, 1681, 1682, 1683, 1684, 1685, 1686, 1751,**KOREA, REPUBLIC OF** 2038, 2039, 2040, 2045, 2053, 2187**MALAYSIA** 512, 514, 517, 520 522, 523, 524, 530, 531, 532, 547, 763, 974, 1100, 1552**MEXICO** 263, 319, 351, 379, 1912**MOROCCO** 1153, 1154, 1155, 1163, 1164, 1171, 1172, 1173, 1174, 1175, 1176, 1177, 1178, 1179, 1180, 1181, 1183, 1188, 1189, 1190, 1309, 1310, 1311, 1312, 1313, 1815, 1816, 1817, 1818, 1819, 1820, 1821, 1822**NETHERLANDS** 2026**NIGERIA** 206**NEW ZEALAND** 309, 832, 841, 976, 1027, 1028, 1187**PAPUA NEW GUINEA** 258, 414, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2169, 2170**PERU** 1969, 2183**PHILIPPINES** 405, 406, 418, 419, 420, 421, 422, 429, 455, 456, 457, 458, 459, 460, 461, 478, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 511, 543, 576, 684, 1036, 1062, 1063, 1064, 1096, 1099, 1126, 1243, 1244, 1245, 1246, 1247, 1248, 1249, 1250, 1251, 1252, 1253, 1254, 1255, 1256, 1257, 1258, 1259, 1269, 1270, 1271, 1272, 1273, 1274, 1275, 1276, 1277, 1279, 1283, 1284, 1285, 1286, 1287, 1288, 1289, 1290, 1291, 1292, 1293, 1294, 1295, 1296, 1297, 1300, 1301, 1302, 1303, 1304, 1305, 1431, 1432, 1436, 1545, 1546, 1547, 1548, 1549, 1550, 1551, 1699, 1702, 1703, 1756, 1757, 1758, 1759, 1760, 1761, 1840, 1914, 1941, 1942, 1943, 1945, 1946, 1947, 2037, 2041, 2043, 2044, 2081, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2184, 2185, 2186, 2197, 2198, 2208, 2209**POLAND** 84, 85, 86, 87, 156, 157, 158, 242, 243, 244, 245, 246, 247, 301, 333, 334, 335, 474, 475, 476, 608, 609, 610, 611, 612, 613, 614, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 972, 1330, 1331, 1332, 1333, 1334, 1335, 1336, 1337, 1338, 1339, 1340, 1341, 1342, 1343, 1344, 1345, 1346, 1347, 1348, 1349, 1350, 1351, 1352, 1353, 1354, 1355, 1356, 1357, 1358, 1359, 1360, 1361, 1362, 1363, 1364, 1365, 1366, 1367, 1369, 1415, 1416, 1417, 1419, 1420, 1421, 1422, 1423, 1424, 1425, 1428, 1858, 1859**PORTUGAL** 1600**PUERTO RICO** 1147**RUMANIA** 299**Russia (see UNION OF SOVIET SOCIALIST REPUBLICS)****SOLOMON ISLANDS** 1762, 1763, 1764, 1765, 1766, 1767, 1768, 1769, 1770, 1771, 1772, 1773, 1879, 1881, 1893, 1904, 1905, 1906, 1907, 1908, 1909, 1913, 1915, 1916, 2035, 2036**SPAIN** 886, 1149, 1152, 1166, 1601, 1602, 1603, 1788, 1804, 1805, 1806, 1807, 1808, 1809, 1810, 1813, 1814, 2085, 2086**SRI LANKA (Ceylon)** 554, 555, 1033, 1732, 1774, 1828**SWEDEN** 189, 196, 923**SWITZERLAND** 214, 215, 387, 388, 389 391, 392, 393, 394, 395, 396, 397, 399, 400, 403, 404, 425, 426, 427, 469 470, 640, 641, 642, 914, 915, 916, 917, 918, 919, 920, 926, 927, 1066, 1067, 1068, 1069, 1070, 1071, 1072, 1076, 1077, 1128, 1129, 1130, 1373, 1374, 1375, 1376, 1377, 1566, 1567, 1572, 1573, 1574, 1575, 1660, 1661, 1662, 1664, 1665, 1715, 1716, 1717, 1718, 1719, 1720, 1752, 1753, 1754, 1755, 1871, 1872, 1873, 1874, 1875**THAILAND** 525, 527, 528, 537, 538, 539, 572, 573**UNION OF SOVIET SOCIALIST REPUBLICS** 58, 59, 63, 99, 100, 152, 153, 154, 155, 220, 248, 249, 250, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 681**UNITED KINGDOM**England 42, 101, 102, 310, 311, 312, 313, 314, 316, 363, 707, 811, 970, 975, 980, 981, 1439, 1440, 1441, 1443, 1444, 1445, 1485, 1486, 1487, 1488, 1734, 1735, 1741,  
Wales 1442**UNITED STATES OF AMERICA** 17, 74, 205, 366, 451, 710, 1016, 1903

Alabama 2027, 2028

Alaska 13

Arizona 496, 497, 618, 619, 620, 621, 623, 624, 625, 626, 628, 629, 646, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779

Arkansas 1123

California 15, 29, 115, 208, 260, 262, 264, 265, 266, 267, 268, 269, 368, 386, 705, 969, 1384, 1672, 1897, 1939, 2172

Delaware 2188

Florida 39, 137, 241, 253, 320, 321, 322, 341, 342, 343, 410, 412, 413, 416, 430, 431, 432, 1035, 1080, 1856, 2048, 2049, 2050, 2052, 2052

Georgia 251, 336, 337

Illinois 1666, 1938

Kansas 792, 2168

Kentucky 810

Louisiana 447, 448, 749, 1857

Maine 2, 5, 21, 30, 38, 40, 41, 44, 45, 50, 51, 52, 57, 88, 92, 93, 94, 129, 131, 141, 142, 143, 144, 145, 146, 147, 148, 161, 162, 163, 164, 165, 166, 167, 168, 172, 174, 175, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 199, 204,



**Maine** (continued) 207, 218, 219, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 252, 275, 276, 277, 278, 279, 280, 281, 282, 353, 1651, 1652, 1653, 1654, 1689, 1690, 1691, 1692, 1747, 1748, 1782, 1783, 1838, 1839, 1842, 1843, 1844, 1845, 1846, 1889

**Maryland** 203, 270, 821, 1877, 2131

**Massachusetts** 1, 3, 116

**Michigan** 1967, 1968

**Missouri** 762

**Montana** 22, 32, 377, 408

**Nevada** 689, 2199

**New Jersey** 1924, 1925, 1926

**New York** 202, 237, 238, 239, 374, 382, 454, 499, 534, 535, 536, 556, 557, 627, 647, 648, 651, 663, 697, 750, 764, 780, 781, 800, 801, 802, 803, 826, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 1038, 1039, 1081, 1280, 1281, 1298, 1570, 1571, 1619, 1620, 1621, 1622, 1623, 1624, 1704, 1705, 1706, 1707, 1708, 1709, 1710, 1711, 1712, 1713, 1721, 1722, 1723, 1749, 1750, 1775, 1776, 1777, 1778, 1779, 1780, 1781, 1841, 1878, 1887, 1921, 1922, 1923, 2002, 2014, 2033, 2034

**North Carolina** 23, 254, 360, 372, 373, 360, 452, 582, 583, 584, 585, 662, 706, 748, 888

**North Dakota** 500

**Ohio** 306, 307

**Oregon** 201, 296, 690, 691, 692, 693, 696, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2107

**Pennsylvania** 20, 2003, 2004, 2005, 2006, 2007, 2008, 2015

**Rhode Island** 317, 318

**South Carolina** 2200

**South Dakota** 498

**Tennessee** 650

**Texas** 259

**Virginia** 453

**Washington** 344, 1079

**Wisconsin** 450, 649, 793, 794, 795, 1018, 1019, 1020, 1021, 1261, 1262

**Wyoming** 383, 390

**VENEZUELA** 974

**VIETNAM** 751

**WESTERN SAMOA** 297, 298, 2223

**YUGOSLAVIA** 503, 504, 505, 506, 507, 509, 510, 1426, 1427, 1696, 1697, 1824, 1825, 1826, 1827, 1693, 1694, 1695, 1784, 1785, 1786, 1787, 2016, 2017, 2018, 2019, 2020, 2022, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130

**ZIMBABWE (Rhodesia)** 255, 411



## INDEX OF ARSEF CULTURES BY ACCESSION NUMBER

This compilation lists all active strains in the ARSEF Collection by their accession numbers.

1	<i>Beauveria bassiana</i>	107	<i>Erynia radicans</i>	183	<i>Erynia radicans</i>
2	<i>Conidiobolus thromboides</i>	108	<i>Erynia radicans</i>	184	<i>Erynia radicans</i>
3	<i>Paecilomyces farinosus</i>	109	<i>Erynia radicans</i>	185	<i>Erynia radicans</i>
5	<i>Conidiobolus thromboides</i>	110	<i>Erynia radicans</i>	186	<i>Erynia radicans</i>
13	<i>Erynia radicans</i>	111	<i>Erynia radicans</i>	187	<i>Erynia radicans</i>
15	<i>Conidiobolus thromboides</i>	112	<i>Erynia radicans</i>	188	<i>Erynia radicans</i>
17	<i>Verticillium lecanii</i>	113	<i>Erynia phytonomi</i>	189	<i>Erynia radicans</i>
20	<i>Paecilomyces farinosus</i>	114	<i>Erynia radicans</i>	191	<i>Erynia phytonomi</i>
21	<i>Erynia radicans</i>	115	<i>Conidiobolus thromboides</i>	192	<i>Erynia phytonomi</i>
22	<i>Conidiobolus thromboides</i>	116	<i>Erynia bullata</i>	194	<i>Conidiobolus thromboides</i>
23	<i>Metarhizium anisopliae</i>	119	<i>Conidiobolus obscurus</i>	195	<i>Erynia radicans</i>
29	<i>Conidiobolus thromboides</i>	120	<i>Conidiobolus thromboides</i>	196	<i>Conidiobolus apiculatus</i>
30	<i>Hirsutella gigantea</i>	121	<i>Conidiobolus obscurus</i>	197	<i>Erynia radicans</i>
32	<i>Beauveria bassiana</i>	122	<i>Conidiobolus obscurus</i>	198	<i>Entomophaga aulicae</i>
38	<i>Paecilomyces farinosus</i>	123	<i>Conidiobolus obscurus</i>	199	<i>Erynia nouryi</i>
39	<i>Conidiobolus thromboides</i>	124	<i>Conidiobolus obscurus</i>	201	<i>Beauveria bassiana</i>
30	<i>Hirsutella gigantea</i>	125	<i>Conidiobolus obscurus</i>	202	<i>Erynia phytonomi</i>
32	<i>Beauveria bassiana</i>	126	<i>Erynia radicans</i>	203	<i>Schizangiella serpentis</i>
38	<i>Paecilomyces farinosus</i>	128	<i>Erynia neoaphidis</i>	204	<i>Verticillium lecanii</i>
30	<i>Hirsutella gigantea</i>	129	<i>Conidiobolus obscurus</i>	205	<i>Conidiobolus coronatus</i>
32	<i>Beauveria bassiana</i>	131	<i>Erynia dipterigena</i>	207	<i>Erynia phalloides</i>
38	<i>Paecilomyces farinosus</i>	133	<i>Conidiobolus obscurus</i>	208	<i>Conidiobolus thromboides</i>
40	<i>Conidiobolus thromboides</i>	134	<i>Erynia delphacis</i>	211	<i>Conidiobolus sp.</i>
41	<i>Conidiobolus thromboides</i>	135	<i>Nomuraea rileyi</i>	214	<i>Entomophaga gigantea</i>
42	<i>Conidiobolus thromboides</i>	137	<i>Hirsutella thompsonii</i>	215	<i>Entomophaga gigantea</i>
44	<i>Erynia radicans</i>	138	<i>Erynia nr. echinospora</i>	216	<i>Entomophthora sp.</i>
45	<i>Erynia radicans</i>	139	<i>Erynia radicans</i>	217	<i>Erynia blunckii</i>
50	<i>Erynia radicans</i>	141	<i>Erynia radicans</i>	218	<i>Coelomycidium simulii</i>
51	<i>Entomophaga aulicae</i>	142	<i>Erynia radicans</i>	219	<i>Erynia rhizospora</i>
52	<i>Erynia radicans</i>	143	<i>Erynia radicans</i>	220	<i>Beauveria bassiana</i>
55	<i>Paecilomyces farinosus</i>	144	<i>Erynia radicans</i>	221	<i>Erynia radicans</i>
57	<i>Conidiobolus thromboides</i>	145	<i>Erynia radicans</i>	222	<i>Erynia radicans</i>
58	<i>Conidiobolus thromboides</i>	146	<i>Erynia radicans</i>	223	<i>Erynia radicans</i>
59	<i>Conidiobolus thromboides</i>	147	<i>Conidiobolus sp.</i>	224	<i>Erynia radicans</i>
63	<i>Conidiobolus thromboides</i>	148	<i>Conidiobolus sp.</i>	225	<i>Erynia radicans</i>
67	<i>Conidiobolus obscurus</i>	149	<i>Beauveria bassiana</i>	226	<i>Erynia radicans</i>
68	<i>Erynia radicans</i>	150	<i>Beauveria bassiana</i>	227	<i>Erynia radicans</i>
70	<i>Conidiobolus thromboides</i>	151	<i>Beauveria bassiana</i>	228	<i>Erynia radicans</i>
72	<i>Erynia radicans</i>	152	<i>Beauveria bassiana</i>	229	<i>Erynia radicans</i>
73	<i>Conidiobolus thromboides</i>	153	<i>Beauveria bassiana</i>	230	<i>Erynia radicans</i>
74	<i>Conidiobolus obscurus</i>	154	<i>Beauveria bassiana</i>	231	<i>Erynia radicans</i>
75	<i>Erynia radicans</i>	155	<i>Beauveria bassiana</i>	232	<i>Erynia radicans</i>
78	<i>Erynia neoaphidis</i>	156	<i>Beauveria bassiana</i>	233	<i>Erynia radicans</i>
79	<i>Conidiobolus osmodes</i>	157	<i>Beauveria bassiana</i>	234	<i>Erynia radicans</i>
80	<i>Erynia radicans</i>	158	<i>Beauveria bassiana</i>	235	<i>Erynia radicans</i>
81	<i>Erynia radicans</i>	159	<i>Beauveria bassiana</i>	237	<i>Erynia radicans</i>
83	<i>Conidiobolus thromboides</i>	160	<i>Beauveria bassiana</i>	238	<i>Erynia radicans</i>
84	<i>Conidiobolus thromboides</i>	161	<i>Erynia radicans</i>	239	<i>Erynia radicans</i>
85	<i>Conidiobolus thromboides</i>	162	<i>Erynia radicans</i>	241	<i>Hirsutella thompsonii</i>
86	<i>Conidiobolus thromboides</i>	163	<i>Erynia radicans</i>	242	<i>Conidiobolus thromboides</i>
87	<i>Conidiobolus thromboides</i>	164	<i>Entomophaga aulicae</i>	243	<i>Conidiobolus obscurus</i>
88	<i>Erynia radicans</i>	165	<i>Entomophaga aulicae</i>	244	<i>Conidiobolus thromboides</i>
92	<i>Conidiobolus sp.</i>	166	<i>Entomophaga aulicae</i>	245	<i>Conidiobolus thromboides</i>
93	<i>Conidiobolus sp.</i>	167	<i>Entomophaga aulicae</i>	246	<i>Conidiobolus thromboides</i>
94	<i>Conidiobolus sp.</i>	168	<i>Entomophaga aulicae</i>	247	<i>Conidiobolus thromboides</i>
97	<i>Conidiobolus obscurus</i>	172	<i>Entomophaga aulicae</i>	248	<i>Conidiobolus thromboides</i>
99	<i>Conidiobolus thromboides</i>	174	<i>Conidiobolus obscurus</i>	249	<i>Conidiobolus thromboides</i>
100	<i>Conidiobolus thromboides</i>	175	<i>Conidiobolus obscurus</i>	250	<i>Conidiobolus thromboides</i>
101	<i>Conidiobolus thromboides</i>	177	<i>Hirsutella gigantea</i>	251	<i>Entomophaga aulicae</i>
102	<i>Conidiobolus thromboides</i>	178	<i>Hirsutella gigantea</i>	252	<i>Beauveria bassiana</i>
103	<i>Erynia radicans</i>	179	<i>Saprolegnia sp.</i>	253	<i>Hirsutellathompsonii</i>
104	<i>Erynia radicans</i>	180	<i>Saprolegnia sp.</i>	254	<i>Hirsutella thompsonii</i>
105	<i>Erynia radicans</i>	181	<i>Erynia neoaphidis</i>	255	<i>Hirsutella thompsonii</i>
106	<i>Erynia radicans</i>	182	<i>Conidiobolus obscurus</i>	256	<i>Hirsutella thompsonii</i>

- 257 *Hirsutella thompsonii*  
 258 *Hirsutella thompsonii*  
 259 *Hirsutella thompsonii*  
 260 *Basidiobolus ranarum*  
 262 *Basidiobolus haptosporus*  
 263 *Basidiobolus haptosporus*  
 264 *Basidiobolus haptosporus*  
 265 *Basidiobolus microsporus*  
 266 *Basidiobolus microsporus*  
 267 *Basidiobolus microsporus*  
 268 *Basidiobolus microsporus*  
 269 *Basidiobolus microsporus*  
 270 *Basidiobolus sp.*  
 271 *Basidiobolus sp.*  
 272 *Basidiobolus haptosporus*  
 273 *Basidiobolus haptosporus*  
 274 *Conidiobolus coronatus*  
 275 *Beauveria bassiana*  
 276 *Beauveria bassiana*  
 277 *Beauveria bassiana*  
 278 *Beauveria bassiana*  
 279 *Beauveria bassiana*  
 280 *Beauveria bassiana*  
 281 *Beauveria bassiana*  
 282 *Beauveria bassiana*  
 283 *Beauveria bassiana*  
 284 *Beauveria bassiana*  
 285 *Beauveria bassiana*  
 286 *Beauveria bassiana*  
 287 *Beauveria bassiana*  
 288 *Beauveria bassiana*  
 289 *Beauveria bassiana*  
 290 *Beauveria bassiana*  
 291 *Beauveria bassiana*  
 292 *Beauveria bassiana*  
 293 *Beauveria bassiana*  
 294 *Paecilomyces farinosus*  
 295 *Beauveria bassiana*  
 296 *Beauveria bassiana*  
 297 *Metarhizium anisopliae* var. major  
 298 *Metarhizium anisopliae* var. major  
 299 *Beauveria bassiana*  
 300 *Beauveria bassiana*  
 301 *Beauveria bassiana*  
 302 *Beauveria bassiana*  
 303 *Beauveria bassiana*  
 304 *Beauveria bassiana*  
 305 *Beauveria bassiana*  
 306 *Beauveria bassiana*  
 307 *Beauveria bassiana*  
 308 *Beauveria bassiana*  
 309 *Paecilomyces sp.*  
 310 *Verticillium lecanii*  
 311 *Verticillium lecanii*  
 312 *Verticillium lecanii*  
 313 *Verticillium lecanii*  
 314 *Verticillium lecanii*  
 316 *Verticillium lecanii*  
 317 *Beauveria bassiana*  
 318 *Beauveria bassiana*  
 319 *Beauveria bassiana*  
 320 *Beauveria bassiana*  
 321 *Verticillium lecanii*  
 322 *Paecilomyces javanicus*  
 323 *Nomuraea rileyi*  
 324 *Metarhizium anisopliae*  
 325 *Beauveria bassiana*  
 326 *Beauveria bassiana*  
 328 *Entomophaga australiensis*  
 331 *Entomophaga australiensis*  
 333 *Beauveria bassiana*  
 334 *Beauveria bassiana*  
 335 *Beauveria bassiana*  
 336 *Beauveria bassiana*  
 337 *Beauveria bassiana*  
 338 *Beauveria bassiana*  
 340 *Beauveria bassiana*  
 341 *Aschersonia aleyrodis*  
 342 *Aschersonia aleyrodis*  
 343 *Aschersonia goldiana*  
 344 *Beauveria bassiana*  
 346 *Metarhizium anisopliae*  
 348 *Penicillium sp.*  
 349 *Conidiobolus coronatus*  
 350 *Beauveria bassiana*  
 351 *Erynia phalloides*  
 353 *Beauveria bassiana*  
 354 *Conidiobolus obscurus*  
 355 *Conidiobolus obscurus*  
 356 *Beauveria bassiana*  
 357 *Beauveria bassiana*  
 358 *Nomuraea rileyi*  
 359 *Erynia radicans*  
 360 *Culicinomyces clavispurus*  
 362 *Erynia nouryi*  
 363 *Conidiobolus thromboides*  
 365 *Entomophthora sp.*  
 366 *Erynia nouryi*  
 368 *Myriodontium keratinophilum*  
 369 *Erynia nouryi*  
 370 *Erynia radicans*  
 372 *Culicinomyces clavispurus*  
 373 *Lagenidium giganteum*  
 374 *Massospora cicadina*  
 375 *Entomophaga macleodii*  
 376 *Entomophaga macleodii*  
 377 *Sorospora sp.*  
 379 *Erynia radicans*  
 380 *Nomuraea rileyi*  
 381 *Erynia neoaphidis*  
 382 *Entomophaga macleodii*  
 383 *Entomophaga calopteni*  
 384 *Beauveria bassiana*  
 385 *Paecilomyces sp.*  
 386 *Myriodontium keratinophilum*  
 387 *Entomophthora culicis*  
 388 *Erynia radicans*  
 389 *Erynia radicans*  
 390 *Entomophaga calopteni*  
 391 *Entomophaga major*  
 392 *Entomophthora muscae*  
 393 *Entomophaga aulicae*  
 394 *Erynia virescens*  
 395 *Entomophaga apiculata*  
 396 *Erynia anglica*  
 397 *Erynia dipterigena*  
 399 *Erynia ovispora*  
 400 *Erynia ovispora*  
 403 *Entomophaga gigantea*  
 404 *Erynia radicans*  
 405 *Conidiobolus coronatus*  
 406 *Conidiobolus coronatus*  
 407 *Erynia radicans*  
 408 *Entomophaga calopteni*  
 410 *Paecilomyces lilacinus*  
 411 *Hirsutella thompsonii*  
 412 *Beauveria bassiana*  
 413 *Beauveria bassiana*  
 414 *Hirsutella thompsonii*  
 416 *Beauveria bassiana*  
 418 *Conidiobolus coronatus*  
 419 *Conidiobolus coronatus*  
 420 *Conidiobolus coronatus*  
 421 *Conidiobolus coronatus*  
 422 *Conidiobolus coronatus*  
 425 *Erynia neoaphidis*  
 426 *Erynia lanceolata*  
 427 *Erynia virescens*  
 429 *Paecilomyces reniformis*  
 430 *Aschersonia aleyrodis*  
 431 *Aschersonia goldiana*  
 432 *Aschersonia aleyrodis*  
 433 *Beauveria bassiana*  
 444 *Conidiobolus obscurus*  
 435 *Metarhizium anisopliae*  
 436 *Metarhizium anisopliae*  
 437 *Metarhizium anisopliae*  
 438 *Metarhizium anisopliae*  
 439 *Metarhizium anisopliae*  
 440 *Metarhizium anisopliae*  
 441 *Metarhizium anisopliae*  
 442 *Metarhizium anisopliae*  
 443 *Metarhizium anisopliae*  
 444 *Metarhizium anisopliae*  
 445 *Metarhizium anisopliae*  
 446 *Metarhizium anisopliae*  
 447 *Conidiobolus osmodes*  
 448 *Conidiobolus rhyosporus*  
 449 *Conidiobolus bangalorensis*  
 450 *Conidiobolus paulus*  
 451 *Conidiobolus adiaeretus*  
 452 *Conidiobolus brefeldianus*  
 453 *Conidiobolus pumilus*  
 454 *Entomophthora muscae*  
 455 *Metarhizium anisopliae*  
 456 *Metarhizium anisopliae*  
 457 *Metarhizium anisopliae*  
 458 *Erynia delphacis*  
 459 *Erynia delphacis*  
 460 *Erynia delphacis*  
 461 *Erynia delphacis*  
 468 *Erynia lanceolata*  
 469 *Erynia lanceolata*  
 470 *Erynia virescens*  
 471 *Entomophthora sp.*  
 472 *Metarhizium anisopliae*  
 473 *Metarhizium anisopliae* var. major  
 474 *Beauveria bassiana*  
 475 *Beauveria bassiana*  
 476 *Paecilomyces farinosus*  
 477 *Beauveria bassiana*  
 478 *Erynia delphacis*  
 481 *Nomuraea rileyi*  
 482 *Nomuraea rileyi*  
 483 *Nomuraea rileyi*  
 484 *Paecilomyces reniformis*  
 485 *Metarhizium anisopliae*  
 486 *Metarhizium anisopliae*  
 487 *Metarhizium anisopliae*  
 488 *Metarhizium anisopliae*  
 489 *Metarhizium anisopliae*  
 490 *Hirsutella citriformis*  
 491 *Erynia radicans*  
 496 *Entomophaga macleodii*  
 497 *Entomophaga calopteni*  
 498 *Entomophaga calopteni*  
 499 *Entomophaga macleodii*  
 500 *Entomophaga calopteni*  
 501 *Beauveria bassiana*  
 502 *Beauveria bassiana*  
 503 *Beauveria bassiana*  
 504 *Beauveria bassiana*  
 505 *Beauveria bassiana*  
 506 *Beauveria bassiana*  
 507 *Beauveria bassiana*  
 509 *Beauveria bassiana*

- 510 *Beauveria bassiana*  
 511 *Conidiobolus coronatus*  
 512 *Conidiobolus coronatus*  
 514 *Conidiobolus coronatus*  
 517 *Conidiobolus* sp.  
 520 *Conidiobolus coronatus*  
 522 *Conidiobolus* sp.  
 523 *Conidiobolus coronatus*  
 524 *Conidiobolus coronatus*  
 525 *Conidiobolus coronatus*  
 527 *Tilletiopsis* sp.  
 528 *Conidiobolus coronatus*  
 530 *Hirsutella* sp.  
 531 *Paecilomyces* sp.  
 532 *Hirsutella citriformis*  
 533 *Beauveria bassiana*  
 534 *Beauveria bassiana*  
 535 *Beauveria bassiana*  
 536 *Beauveria bassiana*  
 537 *Beauveria bassiana*  
 538 *Metarhizium anisopliae*  
 539 *Nomuraea rileyi*  
 543 *Metarhizium anisopliae*  
 547 *Beauveria bassiana*  
 549 *Metarhizium anisopliae*  
 550 *Metarhizium anisopliae*  
 551 *Metarhizium anisopliae*  
 552 *Metarhizium anisopliae*  
 554 *Verticillium lecanii*  
 555 *Verticillium lecanii*  
 556 *Entomophthora muscae*  
 557 *Entomophthora muscae*  
 558 *Nomuraea rileyi*  
 560 *Beauveria bassiana*  
 563 *Conidiobolus coronatus*  
 564 *Conidiobolus* sp.  
 565 *Conidiobolus coronatus*  
 566 *Beauveria bassiana*  
 567 *Conidiobolus coronatus*  
 568 *Hirsutella* sp.  
 569 *Gibellula* sp.  
 570 *Gibellula* sp.  
 572 *Tilletiopsis* sp.  
 573 *Tilletiopsis* sp.  
 575 *Erynia delphacis*  
 576 *Metarhizium anisopliae*  
 577 *Paecilomyces reniformis*  
 579 *Erynia delphacis*  
 580 *Erynia delphacis*  
 581 *Entomophaga australiensis*  
 582 *Culicinomyces clavisporus*  
 583 *Culicinomyces clavisporus*  
 584 *Culicinomyces clavisporus*  
 585 *Culicinomyces clavisporus*  
 587 *Metarhizium anisopliae*  
 588 *Metarhizium anisopliae*  
 589 *Metarhizium anisopliae*  
 590 *Beauveria* sp.  
 591 *Hirsutella* sp.  
 593 *Erynia delphacis*  
 595 *Conidiobolus* sp.  
 596 *Conidiobolus* sp.  
 597 *Conidiobolus* sp.  
 598 *Conidiobolus* nr. *coronatus*  
 599 *Conidiobolus* nr. *coronatus*  
 600 *Conidiobolus* nr. *coronatus*  
 602 *Conidiobolus* nr. *coronatus*  
 603 *Erynia delphacis*  
 604 *Conidiobolus* sp.  
 605 *Conidiobolus* sp.  
 606 *Conidiobolus* sp.  
 608 *Erynia neoaphidis*  
 609 *Erynia neoaphidis*  
 610 *Erynia neoaphidis*  
 611 *Erynia neoaphidis*  
 612 *Erynia neoaphidis*  
 613 *Erynia neoaphidis*  
 614 *Erynia neoaphidis*  
 616 *Tolypocladium niveum*  
 617 *Beauveria brongniartii*  
 618 *Entomophaga macleodii*  
 619 *Entomophaga macleodii*  
 620 *Entomophaga macleodii*  
 621 *Entomophaga macleodii*  
 623 *Entomophaga calopteni*  
 624 *Entomophaga macleodii*  
 625 *Entomophaga calopteni*  
 626 *Entomophaga calopteni*  
 627 *Entomophaga tabanivora*  
 628 *Entomophaga macleodii*  
 629 *Entomophaga macleodii*  
 630 *Conidiobolus thromboides*  
 631 *Conidiobolus thromboides*  
 632 *Conidiobolus thromboides*  
 633 *Conidiobolus thromboides*  
 634 *Conidiobolus thromboides*  
 635 *Conidiobolus thromboides*  
 636 *Erynia neoaphidis*  
 637 *Erynia neoaphidis*  
 638 *Erynia neoaphidis*  
 639 *Erynia neoaphidis*  
 640 *Eryniopsis caroliniana*  
 641 *Eryniopsis caroliniana*  
 642 *Eryniopsis caroliniana*  
 644 *Culicinomyces clavisporus*  
 645 *Culicinomyces clavisporus*  
 646 *Entomophaga calopteni*  
 647 *Erynia radicans*  
 648 *Paecilomyces farinosus*  
 649 *Conidiobolus thromboides*  
 650 *Macrobotophthora vermicola*  
 651 *Entomophthora muscae*  
 652 *Beauveria bassiana*  
 653 *Trichothecium* sp.  
 654 *Beauveria bassiana*  
 655 *Conidiobolus coronatus*  
 656 *Beauveria brongniartii*  
 657 *Entomophaga australiensis*  
 658 *Erynia* sp.  
 659 *Entomophaga australiensis*  
 660 *Erynia delphacis*  
 662 *Neozygites* sp.  
 663 *Erynia ithacensis*  
 664 *Erynia delphacis*  
 665 *Erynia delphacis*  
 666 *Erynia delphacis*  
 667 *Erynia delphacis*  
 668 *Erynia delphacis*  
 669 *Erynia delphacis*  
 670 *Erynia delphacis*  
 671 *Erynia delphacis*  
 672 *Erynia delphacis*  
 673 *Erynia delphacis*  
 674 *Erynia delphacis*  
 676 *Erynia delphacis*  
 678 *Beauveria brongniartii*  
 679 *Beauveria bassiana*  
 680 *Paecilomyces* sp.  
 681 *Beauveria bassiana*  
 682 *Erynia delphacis*  
 683 *Metarhizium anisopliae*  
 684 *Hirsutella citriformis*  
 685 *Erynia radicans*  
 686 *Erynia delphacis*  
 687 *Fusarium* sp.  
 689 *Ascosphaera aggregata*  
 690 *Ascosphaera aggregata*  
 691 *Ascosphaera apis*  
 692 *Ascosphaera apis*  
 693 *Ascosphaera atra*  
 694 *Ascosphaera major*  
 695 *Ascosphaera proliperda*  
 696 *Ascosphaera proliperda*  
 697 *Paecilomyces farinosus*  
 698 *Erynia delphacis*  
 700 *Conidiobolus lachnodes*  
 703 *Metarhizium anisopliae*  
 705 *Tolypocladium cylindrosporium*  
 706 *Culicinomyces clavisporus*  
 707 *Entomophthora muscae*  
 708 *Beauveria bassiana*  
 709 *Beauveria bassiana*  
 710 *Beauveria bassiana*  
 711 *Nomuraea rileyi*  
 712 *Metarhizium anisopliae*  
 713 *Erynia delphacis*  
 714 *Beauveria bassiana*  
 716 *Erynia delphacis*  
 717 *Beauveria bassiana*  
 718 *Beauveria bassiana*  
 719 *Beauveria bassiana*  
 720 *Paecilomyces javanicus*  
 721 *Beauveria bassiana*  
 722 *Paecilomyces fumosoroseus*  
 723 *Paecilomyces fumosoroseus*  
 724 *Metarhizium anisopliae*  
 725 *Metarhizium anisopliae*  
 726 *Metarhizium anisopliae*  
 727 *Metarhizium anisopliae*  
 728 *Metarhizium anisopliae*  
 729 *Metarhizium anisopliae*  
 730 *Beauveria bassiana*  
 731 *Beauveria bassiana*  
 732 *Beauveria bassiana*  
 733 *Beauveria bassiana*  
 734 *Beauveria bassiana*  
 735 *Beauveria bassiana*  
 736 *Beauveria bassiana*  
 737 *Beauveria bassiana*  
 738 *Beauveria bassiana*  
 739 *Beauveria bassiana*  
 741 *Paecilomyces* sp.  
 742 *Erynia americana*  
 743 *Entomophaga australiensis*  
 744 *Paecilomyces fumosoroseus*  
 748 *Lagenidium giganteum*  
 749 *Lagenidium giganteum*  
 750 *Erynia aquatica*  
 751 *Beauveria bassiana*  
 752 *Beauveria bassiana*  
 753 *Beauveria bassiana*  
 754 *Beauveria bassiana*  
 755 *Metarhizium anisopliae*  
 756 *Beauveria bassiana*  
 757 *Beauveria bassiana*  
 758 *Beauveria bassiana*  
 759 *Metarhizium anisopliae*  
 760 *Metarhizium anisopliae*  
 761 *Metarhizium anisopliae*  
 762 *Nomuraea rileyi*  
 763 *Paecilomyces farinosus*  
 764 *Erynia aquatica*  
 765 *Entomophaga macleodii*  
 766 *Entomophaga calopteni*  
 767 *Entomophaga macleodii*  
 768 *Entomophaga macleodii*

- 769 Entomophaga macleodii  
 770 Entomophaga macleodii  
 771 Entomophaga macleodii  
 772 Entomophaga macleodii  
 773 Entomophaga macleodii  
 774 Entomophaga macleodii  
 775 Entomophaga macleodii  
 776 Entomophaga macleodii  
 777 Entomophaga macleodii  
 778 Entomophaga macleodii  
 779 Entomophaga macleodii  
 780 Entomophthora culicis  
 781 Erynia pieris  
 782 Metarhizium anisopliae  
 783 Beauveria bassiana  
 784 Beauveria bassiana  
 785 Beauveria bassiana  
 786 Beauveria bassiana  
 787 Beauveria bassiana  
 788 Beauveria bassiana  
 789 Erynia sp.  
 790 Erynia sp.  
 791 Entomophaga australiensis  
 792 Beauveria bassiana  
 793 Beauveria bassiana  
 794 Metarhizium anisopliae  
 795 Verticillium lecanii  
 796 Beauveria bassiana  
 797 Metarhizium anisopliae  
 798 Metarhizium anisopliae  
 799 Paecilomyces farinosus  
 800 Erynia radicans  
 801 Erynia rhizospora  
 802 Erynia curvispora  
 803 Entomophthora muscae  
 804 Beauveria bassiana  
 805 Beauveria bassiana  
 806 Beauveria bassiana  
 807 Paecilomyces viridis  
 808 Metarhizium anisopliae  
 809 Beauveria bassiana  
 810 Verticillium lecanii  
 811 Verticillium lecanii  
 812 Beauveria bassiana  
 813 Beauveria bassiana  
 814 Beauveria bassiana  
 815 Beauveria bassiana  
 816 Beauveria bassiana  
 817 Metarhizium anisopliae  
 818 Metarhizium anisopliae  
 819 Metarhizium anisopliae  
 820 Metarhizium anisopliae  
 821 Fusarium coccophilum  
 822 Erynia phalloides  
 823 Erynia radicans  
 824 Conidiobolus obscurus  
 825 Erynia kondoiensis  
 826 Entomophthora "syrphii"  
 827 Erynia neoaphidis  
 828 Erynia kondoiensis  
 829 Erynia neoaphidis  
 830 Erynia neoaphidis  
 831 Erynia neoaphidis  
 832 Conidiobolus obscurus  
 833 Erynia neoaphidis  
 834 Conidiobolus obscurus  
 835 Erynia neoaphidis  
 836 Erynia neoaphidis  
 837 Erynia kondoiensis  
 838 Erynia neoaphidis  
 839 Conidiobolus obscurus  
 840 Entomophaga praxibuli  
 841 Tolypocladium cylindrosporium  
 842 Beauveria bassiana  
 843 Beauveria bassiana  
 844 Metarhizium anisopliae  
 845 Metarhizium anisopliae  
 846 Metarhizium anisopliae  
 847 Metarhizium anisopliae  
 848 Metarhizium anisopliae  
 849 Metarhizium anisopliae  
 850 Metarhizium anisopliae  
 851 Metarhizium anisopliae  
 852 Metarhizium anisopliae  
 853 Metarhizium anisopliae  
 854 Metarhizium anisopliae  
 855 Metarhizium anisopliae  
 856 Metarhizium anisopliae  
 857 Metarhizium anisopliae  
 858 Metarhizium anisopliae  
 859 Metarhizium anisopliae  
 860 Metarhizium anisopliae  
 861 Metarhizium anisopliae  
 862 Metarhizium anisopliae  
 863 Metarhizium anisopliae  
 864 Metarhizium anisopliae  
 865 Metarhizium anisopliae  
 866 Metarhizium anisopliae  
 867 Metarhizium anisopliae  
 868 Metarhizium anisopliae  
 869 Metarhizium anisopliae  
 870 Metarhizium anisopliae  
 871 Metarhizium anisopliae  
 872 Metarhizium anisopliae  
 873 Metarhizium anisopliae  
 874 Metarhizium anisopliae  
 875 Metarhizium anisopliae  
 876 Erynia sp.  
 877 Hirsutella sp.  
 878 Hirsutella sp.  
 879 Hirsutella sp.  
 880 Erynia sp.  
 881 Hirsutella sp.  
 882 Hirsutella sp.  
 883 Hirsutella sp.  
 886 Beauveria bassiana  
 887 Paecilomyces fumosoroseus  
 888 Metarhizium anisopliae  
 889 Metarhizium anisopliae  
 890 Metarhizium anisopliae  
 891 Metarhizium anisopliae  
 892 Metarhizium anisopliae  
 893 Metarhizium anisopliae  
 894 Metarhizium anisopliae  
 895 Metarhizium anisopliae  
 896 Metarhizium anisopliae  
 897 Metarhizium anisopliae  
 898 Metarhizium anisopliae  
 899 Erynia radicans  
 900 Verticillium lecanii  
 901 Metarhizium anisopliae  
 902 Metarhizium anisopliae  
 903 Metarhizium anisopliae  
 904 Metarhizium anisopliae  
 905 Metarhizium anisopliae  
 906 Metarhizium anisopliae  
 907 Metarhizium anisopliae  
 908 Metarhizium anisopliae  
 909 Metarhizium anisopliae  
 910 Metarhizium anisopliae  
 911 Metarhizium anisopliae  
 912 Metarhizium anisopliae  
 913 Metarhizium anisopliae  
 914 Erynia radicans  
 915 Erynia blunckii  
 916 Erynia anglica  
 917 Erynia blunckii  
 918 Erynia anglica  
 919 Conidiobolus apiculatus  
 920 Erynia blunckii  
 921 Metarhizium anisopliae  
 922 Metarhizium anisopliae  
 923 Verticillium fusisporum  
 925 Metarhizium anisopliae  
 926 Erynia anglica  
 927 Conidiobolus apiculatus  
 928 Beauveria bassiana  
 929 Metarhizium anisopliae  
 930 Beauveria bassiana  
 931 Beauveria bassiana  
 932 Metarhizium anisopliae  
 933 Beauveria bassiana  
 934 Beauveria bassiana  
 935 Nomuraea rileyi  
 936 Nomuraea rileyi  
 937 Beauveria bassiana  
 938 Beauveria bassiana  
 939 Metarhizium anisopliae  
 941 Beauveria bassiana  
 942 Beauveria bassiana  
 943 Beauveria bassiana  
 944 Beauveria bassiana  
 945 Beauveria bassiana  
 946 Beauveria bassiana  
 947 Beauveria bassiana  
 948 Beauveria bassiana  
 949 Beauveria bassiana  
 950 Beauveria bassiana  
 951 Beauveria bassiana  
 952 Beauveria bassiana  
 953 Beauveria bassiana  
 954 Metarhizium anisopliae  
 955 Metarhizium anisopliae  
 956 Beauveria bassiana  
 957 Beauveria bassiana  
 958 Beauveria bassiana  
 959 Beauveria bassiana  
 960 Metarhizium anisopliae  
 961 Tolypocladium cylindrosporium  
 962 Tolypocladium cylindrosporium  
 963 Tolypocladium cylindrosporium  
 964 Culicinomyces clavissporus  
 965 Metarhizium anisopliae  
 966 Metarhizium anisopliae  
 967 Metarhizium anisopliae  
 968 Metarhizium anisopliae  
 969 Entomophthora muscae  
 970 Hirsutella sp.  
 971 Paecilomyces sp.  
 972 Verticillium lecanii  
 973 Verticillium lecanii  
 974 Verticillium lecanii  
 975 Paecilomyces farinosus  
 976 Tolypocladium cylindrosporium  
 977 Metarhizium anisopliae  
 978 Metarhizium anisopliae var. major  
 979 Beauveria brongniartii  
 980 Verticillium lecanii  
 981 Paecilomyces farinosus  
 982 Beauveria bassiana  
 983 Erynia sp.  
 984 Paecilomyces farinosus  
 985 Beauveria brongniartii  
 986 Paecilomyces lilacinus  
 987 Beauveria bassiana  
 988 Metarhizium anisopliae var. major

989	<i>Paecilomyces fumosoroseus</i>	1064	<i>Hirsutella citriformis</i>	1139	<i>Basidiobolus ranarum</i>
990	<i>Paecilomyces canadensis</i>	1065	<i>Paecilomyces farinosus</i>	1140	<i>Entomophaga aulicae</i>
991	<i>Verticillium lecanii</i>	1066	<i>Metarhizium anisopliae</i>	1141	<i>Entomophaga aulicae</i>
992	<i>Aschersonia aleyrodis</i>	1067	<i>Beauveria brongniartii</i>	1142	<i>Entomophaga aulicae</i>
993	<i>Erynia neoaphidis</i>	1068	<i>Beauveria brongniartii</i>	1143	<i>Erynia</i> sp.
994	<i>Verticillium lecanii</i>	1069	<i>Beauveria brongniartii</i>	1146	<i>Conidiobolus obscurus</i>
995	<i>Conidiobolus</i> sp.	1070	<i>Beauveria brongniartii</i>	1147	<i>Conidiobolus coronatus</i>
996	<i>Hirsutella satumaensis</i>	1071	<i>Beauveria brongniartii</i>	1148	<i>Fusarium solanii</i>
997	<i>Conidiobolus coronatus</i>	1072	<i>Beauveria brongniartii</i>	1149	<i>Beauveria bassiana</i>
998	<i>Entomophthora</i> sp.	1073	<i>Beauveria bassiana</i>	1150	<i>Beauveria bassiana</i>
999	<i>Entomophthora</i> sp.	1074	<i>Beauveria bassiana</i>	1151	<i>Beauveria bassiana</i>
1000	<i>Erynia blunckii</i>	1075	<i>Beauveria bassiana</i>	1152	<i>Aspergillus</i> sp.
1001	<i>Beauveria bassiana</i>	1076	<i>Beauveria brongniartii</i>	1153	<i>Beauveria bassiana</i>
1002	<i>Verticillium lecanii</i>	1077	<i>Beauveria brongniartii</i>	1154	<i>Beauveria bassiana</i>
1003	<i>Aspergillus flavus</i>	1079	<i>Beauveria bassiana</i>	1155	<i>Beauveria bassiana</i>
1004	<i>Erynia blunckii</i>	1080	<i>Metarhizium anisopliae</i>	1156	<i>Beauveria bassiana</i>
1005	<i>Paecilomyces fumosoroseus</i>	1081	<i>Beauveria bassiana</i>	1157	<i>Beauveria bassiana</i>
1006	<i>Conidiobolus thromboides</i>	1082	<i>Erynia radicans</i>	1158	<i>Beauveria bassiana</i>
1007	<i>Beauveria bassiana</i>	1083	<i>Metarhizium anisopliae</i>	1159	<i>Beauveria bassiana</i>
1008	<i>Paecilomyces</i> sp.	1084	<i>Metarhizium anisopliae</i>	1160	<i>Beauveria bassiana</i>
1009	<i>Metarhizium anisopliae</i>	1085	<i>Metarhizium anisopliae</i>	1161	<i>Beauveria bassiana</i>
1010	<i>Aspergillus flavus</i>	1086	<i>Metarhizium anisopliae</i>	1162	<i>Beauveria bassiana</i>
1011	<i>Metarhizium anisopliae</i>	1087	<i>Metarhizium anisopliae</i>	1163	<i>Beauveria bassiana</i>
1013	Unidentified	1088	<i>Metarhizium anisopliae</i>	1164	<i>Beauveria bassiana</i>
1014	<i>Nomuraea rileyi</i>	1089	<i>Metarhizium anisopliae</i>	1165	<i>Beauveria bassiana</i>
1015	<i>Metarhizium anisopliae</i> var. major	1090	<i>Metarhizium anisopliae</i>	1166	<i>Beauveria bassiana</i>
1016	<i>Beauveria bassiana</i>	1091	<i>Metarhizium anisopliae</i>	1167	<i>Beauveria bassiana</i>
1017	<i>Beauveria bassiana</i>	1092	<i>Metarhizium anisopliae</i> var. major	1168	<i>Beauveria bassiana</i>
1018	<i>Erynia radicans</i>	1093	<i>Metarhizium anisopliae</i> var. major	1169	<i>Beauveria bassiana</i>
1019	<i>Erynia radicans</i>	1094	<i>Metarhizium anisopliae</i>	1170	<i>Beauveria bassiana</i>
1020	<i>Erynia radicans</i>	1095	<i>Metarhizium anisopliae</i>	1171	<i>Beauveria bassiana</i>
1021	<i>Erynia radicans</i>	1096	<i>Hirsutella</i> sp.	1172	<i>Beauveria bassiana</i>
1022	<i>Metarhizium anisopliae</i>	1097	<i>Metarhizium anisopliae</i>	1173	<i>Beauveria bassiana</i>
1023	<i>Metarhizium anisopliae</i>	1098	<i>Beauveria bassiana</i>	1174	<i>Beauveria bassiana</i>
1024	<i>Metarhizium anisopliae</i>	1099	<i>Metarhizium flavoviride</i> var. minor	1175	<i>Beauveria bassiana</i>
1025	<i>Metarhizium anisopliae</i>	1100	<i>Erynia radicans</i>	1176	<i>Beauveria bassiana</i>
1026	<i>Verticillium lecanii</i>	1101	<i>Erynia delphacis</i>	1177	<i>Beauveria bassiana</i>
1027	<i>Tolypocladium cylindrosporum</i>	1102	<i>Verticillium lecanii</i>	1178	<i>Beauveria bassiana</i>
1028	<i>Tolypocladium cylindrosporum</i>	1103	<i>Beauveria bassiana</i>	1179	<i>Beauveria bassiana</i>
1029	<i>Verticillium lecanii</i>	1104	<i>Beauveria bassiana</i>	1180	<i>Beauveria bassiana</i>
1030	<i>Aschersonia turbinata</i>	1105	<i>Beauveria bassiana</i>	1181	<i>Beauveria bassiana</i>
1031	<i>Aschersonia aleyrodis</i>	1106	<i>Beauveria bassiana</i>	1182	<i>Beauveria bassiana</i>
1032	<i>Verticillium lecanii</i>	1107	<i>Beauveria bassiana</i>	1183	<i>Beauveria bassiana</i>
1033	<i>Verticillium lecanii</i>	1108	<i>Paecilomyces farinosus</i>	1184	<i>Metarhizium flavoviride</i>
1034	<i>Hirsutella versicolor</i>	1109	<i>Beauveria bassiana</i>	1185	<i>Beauveria bassiana</i>
1035	<i>Hirsutella citriformis</i>	1110	<i>Beauveria bassiana</i>	1186	<i>Beauveria bassiana</i>
1036	<i>Hirsutella citriformis</i>	1111	<i>Paecilomyces farinosus</i>	1187	<i>Metarhizium anisopliae</i>
1037	<i>Hirsutella versicolor</i>	1112	<i>Metarhizium anisopliae</i>	1188	<i>Beauveria bassiana</i>
1038	<i>Beauveria bassiana</i>	1113	<i>Beauveria bassiana</i>	1189	<i>Beauveria bassiana</i>
1039	<i>Beauveria bassiana</i>	1114	<i>Beauveria bassiana</i>	1190	<i>Beauveria bassiana</i>
1040	<i>Beauveria</i> sp.	1115	<i>Beauveria bassiana</i>	1191	<i>Beauveria bassiana</i>
1041	<i>Beauveria bassiana</i>	1116	<i>Metarhizium anisopliae</i>	1192	<i>Beauveria bassiana</i>
1042	<i>Paecilomyces farinosus</i>	1117	<i>Beauveria bassiana</i>	1193	<i>Beauveria bassiana</i>
1043	<i>Paecilomyces farinosus</i>	1118	<i>Beauveria bassiana</i>	1194	<i>Beauveria bassiana</i>
1044	<i>Metarhizium anisopliae</i>	1119	<i>Beauveria bassiana</i>	1195	<i>Beauveria</i> sp.
1045	<i>Metarhizium anisopliae</i>	1120	<i>Metarhizium anisopliae</i>	1196	<i>Beauveria</i> sp.
1046	<i>Metarhizium anisopliae</i>	1121	<i>Beauveria bassiana</i>	1197	<i>Beauveria</i> sp.
1047	<i>Nomuraea rileyi</i>	1122	<i>Beauveria bassiana</i>	1198	<i>Beauveria</i> sp.
1048	<i>Erynia radicans</i>	1123	<i>Sorospora uvella</i>	1199	<i>Beauveria</i> sp.
1051	Unidentified	1124	<i>Erynia delphacis</i>	1200	<i>Beauveria</i> sp.
1052	<i>Erynia</i> sp.	1125	<i>Erynia radicans</i>	1201	<i>Beauveria</i> sp.
1053	<i>Beauveria bassiana</i>	1126	<i>Entomophaga</i> sp.	1202	<i>Beauveria</i> sp.
1054	<i>Beauveria bassiana</i>	1128	<i>Erynia virescens</i>	1203	<i>Beauveria</i> sp.
1055	<i>Metarhizium anisopliae</i>	1129	<i>Erynia virescens</i>	1204	<i>Beauveria</i> sp.
1056	<i>Metarhizium anisopliae</i>	1130	<i>Erynia radicans</i>	1205	<i>Beauveria</i> sp.
1057	<i>Metarhizium anisopliae</i>	1131	<i>Conidiobolus obscurus</i>	1206	<i>Beauveria</i> sp.
1058	<i>Paecilomyces farinosus</i>	1132	<i>Erynia delphacis</i>	1207	<i>Beauveria</i> sp.
1059	<i>Metarhizium anisopliae</i>	1133	<i>Erynia delphacis</i>	1208	<i>Beauveria</i> sp.
1060	<i>Beauveria bassiana</i>	1134	<i>Erynia neoaphidis</i>	1209	<i>Beauveria</i> sp.
1061	<i>Beauveria bassiana</i>	1135	<i>Erynia blunckii</i>	1210	<i>Beauveria</i> sp.
1062	<i>Hirsutella citriformis</i>	1136	<i>Erynia radicans</i>	1211	<i>Beauveria</i> sp.
1063	<i>Hirsutella citriformis</i>	1137	<i>Erynia neoaphidis</i>	1212	<i>Trichothecium roseum</i>

- 1213 *Beauveria* sp.  
 1214 *Beauveria* sp.  
 1215 *Beauveria* sp.  
 1216 *Beauveria* sp.  
 1217 *Trichothecium* sp.  
 1218 *Beauveria* sp.  
 1219 *Beauveria* sp.  
 1220 *Beauveria* sp.  
 1221 *Beauveria* sp.  
 1222 *Beauveria* sp.  
 1223 *Trichothecium* sp.  
 1224 *Beauveria* sp.  
 1225 *Paecilomyces farinosus*  
 1226 *Trichothecium roseum*  
 1227 *Erynia radicans*  
 1228 *Erynia radicans*  
 1229 *Erynia radicans*  
 1230 *Entomophaga* sp.  
 1231 *Erynia radicans*  
 1232 *Erynia radicans*  
 1233 *Erynia radicans*  
 1234 *Erynia radicans*  
 1235 *Erynia radicans*  
 1236 *Erynia radicans*  
 1237 *Erynia radicans*  
 1238 *Erynia delphacis*  
 1239 *Erynia radicans*  
 1240 *Erynia americana*  
 1241 *Erynia* sp.  
 1242 *Erynia americana*  
 1243 *Hirsutella citrifomis*  
 1244 *Hirsutella citrifomis*  
 1245 *Hirsutella citrifomis*  
 1246 *Hirsutella citrifomis*  
 1247 *Hirsutella citrifomis*  
 1248 *Hirsutella citrifomis*  
 1249 *Hirsutella citrifomis*  
 1250 *Hirsutella citrifomis*  
 1251 *Hirsutella citrifomis*  
 1252 *Hirsutella citrifomis*  
 1253 *Hirsutella citrifomis*  
 1254 *Hirsutella citrifomis*  
 1255 *Hirsutella citrifomis*  
 1256 *Hirsutella citrifomis*  
 1257 *Hirsutella citrifomis*  
 1258 *Hirsutella citrifomis*  
 1259 *Hirsutella citrifomis*  
 1260 *Culicinympes clavisporus*  
 1261 *Erynia radicans*  
 1262 *Erynia radicans*  
 1263 *Erynia radicans*  
 1264 *Erynia delphacis*  
 1265 *Erynia delphacis*  
 1266 *Erynia* sp.  
 1267 *Erynia* sp.  
 1268 *Erynia neaphidis*  
 1269 *Beauveria bassiana*  
 1270 *Beauveria bassiana*  
 1271 *Metarhizium flavoviride* var. minor  
 1272 *Metarhizium flavoviride* var. minor  
 1273 *Metarhizium flavoviride* var. minor  
 1274 *Metarhizium flavoviride* var. minor  
 1275 *Metarhizium flavoviride* var. minor  
 1276 *Metarhizium flavoviride* var. minor  
 1277 *Metarhizium flavoviride* var. minor  
 1278 *Metarhizium anisopliae*  
 1279 *Metarhizium flavoviride* var. minor  
 1280 *Metarhizium anisopliae*  
 1281 *Metarhizium anisopliae*  
 1282 *Metarhizium anisopliae*  
 1283 *Metarhizium flavoviride* var. minor  
 1284 *Metarhizium anisopliae*  
 1285 *Metarhizium anisopliae*  
 1286 *Metarhizium anisopliae*  
 1287 *Metarhizium flavoviride* var. minor  
 1288 *Metarhizium flavoviride* var. minor  
 1289 *Metarhizium flavoviride* var. minor  
 1290 *Metarhizium anisopliae*  
 1291 *Metarhizium flavoviride* var. minor  
 1292 *Metarhizium flavoviride* var. minor  
 1293 *Metarhizium flavoviride* var. minor  
 1294 *Metarhizium flavoviride* var. minor  
 1295 *Metarhizium flavoviride* var. minor  
 1296 *Metarhizium flavoviride* var. minor  
 1297 *Metarhizium flavoviride* var. minor  
 1298 *Metarhizium anisopliae*  
 1299 *Metarhizium anisopliae*  
 1300 *Metarhizium anisopliae*  
 1301 *Metarhizium flavoviride* var. minor  
 1302 *Metarhizium flavoviride* var. minor  
 1303 *Metarhizium flavoviride* var. minor  
 1304 *Metarhizium anisopliae*  
 1305 *Metarhizium flavoviride* var. minor  
 1306 *Beauveria bassiana*  
 1307 *Fusarium* sp.  
 1308 *Trichothecium roseum*  
 1309 *Beauveria bassiana*  
 1310 *Fusarium* sp.  
 1311 *Beauveria bassiana*  
 1312 *Beauveria bassiana*  
 1313 *Beauveria bassiana*  
 1314 *Beauveria bassiana*  
 1315 *Beauveria bassiana*  
 1316 *Beauveria bassiana*  
 1317 *Beauveria bassiana*  
 1318 *Beauveria bassiana*  
 1319 *Beauveria bassiana*  
 1320 *Beauveria bassiana*  
 1321 *Beauveria bassiana*  
 1322 *Beauveria bassiana*  
 1323 *Beauveria bassiana*  
 1324 *Beauveria bassiana*  
 1325 *Beauveria bassiana*  
 1326 *Beauveria bassiana*  
 1327 *Beauveria* sp.  
 1328 *Verticillium lecanii*  
 1329 *Aphanocladium album*  
 1330 *Verticillium lecanii*  
 1331 *Fusarium lateritium*  
 1332 *Verticillium lecanii*  
 1333 *Verticillium lecanii*  
 1334 *Verticillium lecanii*  
 1335 *Verticillium lecanii*  
 1336 *Erynia radicans*  
 1337 *Erynia radicans*  
 1338 *Erynia* sp.  
 1339 *Erynia ithacensis*  
 1340 *Erynia ithacensis*  
 1341 *Erynia radicans*  
 1342 *Erynia radicans*  
 1343 *Erynia radicans*  
 1344 *Erynia radicans*  
 1345 *Erynia radicans*  
 1346 *Erynia radicans*  
 1347 *Basidiobolus haptosporus*  
 1348 *Paecilomyces farinosus*  
 1349 *Paecilomyces farinosus*  
 1350 *Erynia radicans*  
 1351 *Verticillium lecanii*  
 1352 *Verticillium lecanii*  
 1353 Unidentified  
 1354 *Paecilomyces farinosus*  
 1355 *Paecilomyces farinosus*  
 1356 Unidentified  
 1357 *Verticillium lecanii*  
 1358 *Paecilomyces farinosus*  
 1359 *Beauveria bassiana*  
 1360 *Beauveria brongniartii*  
 1361 *Trichoderma* sp.  
 1362 *Hirsutella* nr. *haptospora*  
 1363 *Hirsutella* nr. *haptospora*  
 1364 *Hirsutella* nr. *haptospora*  
 1365 *Verticillium cephalosporum*  
 1366 *Beauveria brongniartii*  
 1367 *Verticillium lecanii*  
 1369 *Hirsutella radiata*  
 1371 *Fusarium solani*  
 1372 *Acremonium furcatum*  
 1373 *Metarhizium anisopliae*  
 1374 *Metarhizium anisopliae*  
 1375 *Metarhizium anisopliae*  
 1376 *Metarhizium anisopliae*  
 1377 *Metarhizium anisopliae*  
 1378 *Metarhizium anisopliae*  
 1379 *Metarhizium anisopliae*  
 1380 *Metarhizium anisopliae*  
 1382 *Metarhizium anisopliae*  
 1383 *Metarhizium anisopliae* var. major  
 1384 *Lagenidium giganteum*  
 1386 *Metarhizium anisopliae*  
 1387 *Metarhizium anisopliae*  
 1388 *Metarhizium anisopliae*  
 1389 *Beauveria bassiana*  
 1390 *Entomophaga maimaiga*  
 1391 *Entomophaga maimaiga*  
 1394 *Beauveria bassiana*  
 1395 *Beauveria bassiana*  
 1396 *Beauveria bassiana*  
 1397 *Beauveria bassiana*  
 1398 *Beauveria bassiana*  
 1399 *Beauveria bassiana*  
 1400 *Entomophaga maimaiga*  
 1401 *Verticillium* sp.  
 1402 *Verticillium* sp.  
 1403 *Verticillium* sp.  
 1404 *Beauveria bassiana*  
 1405 *Beauveria bassiana*  
 1406 *Beauveria bassiana*  
 1407 *Beauveria bassiana*  
 1408 *Beauveria bassiana*  
 1409 *Beauveria bassiana*  
 1410 *Beauveria bassiana*  
 1411 *Beauveria bassiana*  
 1412 *Beauveria bassiana*  
 1413 *Beauveria bassiana*  
 1414 *Beauveria bassiana*  
 1415 Unidentified  
 1416 Unidentified  
 1417 Unidentified  
 1419 Unidentified  
 1420 Unidentified  
 1421 Unidentified  
 1422 Unidentified  
 1423 Unidentified  
 1424 Unidentified  
 1425 Unidentified  
 1426 *Entomophthora* sp.  
 1427 Unidentified  
 1428 Unidentified  
 1431 *Beauveria brongniartii*  
 1432 *Metarhizium anisopliae*  
 1436 *Hirsutella citrifomis*  
 1439 *Erynia conica*  
 1440 *Erynia rhizospora*  
 1441 *Erynia rhizospora*  
 1442 *Erynia rhizospora*



- 1443 *Erynia rhizospora*  
 1444 *Conidiobolus* sp.  
 1445 *Conidiobolus* sp.  
 1446 *Hirsutella citriformis*  
 1448 *Metarhizium anisopliae*  
 1449 *Metarhizium anisopliae*  
 1450 *Beauveria bassiana*  
 1453 *Beauveria bassiana*  
 1454 *Beauveria bassiana*  
 1455 *Beauveria bassiana*  
 1456 *Beauveria bassiana*  
 1457 *Beauveria bassiana*  
 1458 *Beauveria bassiana*  
 1459 *Beauveria bassiana*  
 1460 *Beauveria bassiana*  
 1461 *Beauveria bassiana*  
 1462 *Beauveria bassiana*  
 1463 *Beauveria bassiana*  
 1464 *Beauveria bassiana*  
 1465 *Beauveria bassiana*  
 1466 *Beauveria bassiana*  
 1467 *Beauveria bassiana*  
 1468 *Beauveria bassiana*  
 1469 *Beauveria bassiana*  
 1470 *Beauveria bassiana*  
 1471 *Beauveria bassiana*  
 1472 *Beauveria bassiana*  
 1473 *Beauveria bassiana*  
 1474 *Beauveria bassiana*  
 1474 *Beauveria bassiana*  
 1475 *Beauveria bassiana*  
 1476 *Beauveria bassiana*  
 1477 *Conidiobolus* sp.  
 1478 *Beauveria bassiana*  
 1479 *Beauveria bassiana*  
 1480 *Beauveria bassiana*  
 1483 *Beauveria bassiana*  
 1484 *Beauveria bassiana*  
 1485 *Conidiobolus* sp.  
 1486 *Conidiobolus* sp.  
 1487 *Conidiobolus* sp.  
 1488 *Conidiobolus* sp.  
 1489 *Metarhizium anisopliae*  
 1490 *Metarhizium anisopliae*  
 1491 *Beauveria bassiana*  
 1492 *Erynia radicans*  
 1493 *Erynia radicans*  
 1494 *Erynia radicans*  
 1495 *Erynia radicans*  
 1496 *Erynia radicans*  
 1497 *Erynia radicans*  
 1498 *Erynia radicans*  
 1499 *Erynia radicans*  
 1500 *Erynia radicans*  
 1501 *Erynia radicans*  
 1502 *Erynia radicans*  
 1503 *Erynia radicans*  
 1504 *Erynia radicans*  
 1505 *Paecilomyces fumosoroseus*  
 1506 *Paecilomyces fumosoroseus*  
 1507 *Paecilomyces farinosus*  
 1508 *Paecilomyces farinosus*  
 1509 *Beauveria bassiana*  
 1510 *Beauveria bassiana*  
 1511 *Beauveria bassiana*  
 1512 *Beauveria bassiana*  
 1513 *Beauveria bassiana*  
 1514 *Beauveria bassiana*  
 1515 *Beauveria bassiana*  
 1516 *Beauveria bassiana*  
 1517 *Beauveria bassiana*  
 1518 *Beauveria bassiana*  
 1519 *Beauveria bassiana*  
 1520 *Beauveria bassiana*  
 1521 *Beauveria bassiana*  
 1522 *Fusarium* sp.  
 1523 *Beauveria bassiana*  
 1524 *Beauveria bassiana*  
 1525 *Beauveria bassiana*  
 1526 *Beauveria bassiana*  
 1527 *Beauveria bassiana*  
 1528 *Beauveria bassiana*  
 1529 *Beauveria bassiana*  
 1530 *Paecilomyces fumosoroseus*  
 1531 *Beauveria bassiana*  
 1532 *Paecilomyces fumosoroseus*  
 1533 *Beauveria bassiana*  
 1534 *Beauveria bassiana*  
 1535 *Beauveria bassiana*  
 1536 *Beauveria bassiana*  
 1537 *Beauveria bassiana*  
 1538 *Beauveria bassiana*  
 1539 *Beauveria bassiana*  
 1540 *Beauveria bassiana*  
 1541 *Erynia radicans*  
 1542 *Erynia radicans*  
 1543 *Erynia radicans*  
 1544 *Erynia radicans*  
 1545 *Metarhizium anisopliae*  
 1546 *Metarhizium flavoviride* var. *minor*  
 1547 *Metarhizium flavoviride* var. *minor*  
 1548 *Metarhizium anisopliae*  
 1549 *Hirsutella citriformis*  
 1550 *Hirsutella citriformis*  
 1551 *Hirsutella* sp.  
 1552 *Paecilomyces* sp.  
 1553 *Beauveria bassiana*  
 1554 *Beauveria bassiana*  
 1555 *Beauveria bassiana*  
 1556 *Beauveria bassiana*  
 1558 *Beauveria bassiana*  
 1559 *Beauveria bassiana*  
 1560 *Beauveria bassiana*  
 1561 *Beauveria bassiana*  
 1562 *Beauveria bassiana*  
 1563 *Beauveria bassiana*  
 1564 *Beauveria bassiana*  
 1565 *Beauveria bassiana*  
 1566 *Beauveria bassiana*  
 1567 *Beauveria bassiana*  
 1568 *Paecilomyces fumosoroseus*  
 1569 *Paecilomyces fumosoroseus*  
 1570 *Erynia neoaphidis*  
 1571 *Erynia neoaphidis*  
 1572 *Conidiobolus coronatus*  
 1573 *Conidiobolus coronatus*  
 1574 *Conidiobolus coronatus*  
 1575 *Conidiobolus coronatus*  
 1576 *Paecilomyces fumosoroseus*  
 1577 *Paecilomyces fumosoroseus*  
 1578 *Paecilomyces fumosoroseus*  
 1579 *Paecilomyces fumosoroseus*  
 1580 *Tolypocladium cylindrosporum*  
 1581 *Erynia radicans*  
 1582 *Erynia radicans*  
 1583 *Erynia radicans*  
 1584 *Erynia radicans*  
 1585 *Erynia radicans*  
 1586 *Erynia radicans*  
 1587 *Erynia radicans*  
 1588 *Erynia radicans*  
 1589 *Erynia radicans*  
 1590 *Erynia radicans*  
 1591 *Erynia radicans*  
 1593 *Erynia radicans*  
 1594 *Erynia radicans*  
 1595 *Erynia radicans*  
 1596 *Erynia neoaphidis*  
 1597 *Erynia neoaphidis*  
 1597 *Erynia neoaphidis*  
 1600 *Erynia neoaphidis*  
 1601 *Erynia neoaphidis*  
 1602 *Erynia neoaphidis*  
 1603 *Erynia neoaphidis*  
 1604 *Erynia neoaphidis*  
 1605 *Erynia neoaphidis*  
 1606 *Erynia neoaphidis*  
 1607 *Erynia neoaphidis*  
 1609 *Erynia neoaphidis*  
 1610 *Erynia neoaphidis*  
 1611 *Erynia neoaphidis*  
 1612 *Erynia neoaphidis*  
 1613 *Erynia neoaphidis*  
 1615 *Erynia neoaphidis*  
 1616 *Erynia neoaphidis*  
 1617 *Erynia neoaphidis*  
 1618 *Erynia neoaphidis*  
 1619 *Beauveria bassiana*  
 1620 *Beauveria bassiana*  
 1621 *Beauveria bassiana*  
 1622 *Beauveria bassiana*  
 1623 *Beauveria bassiana*  
 1624 *Beauveria bassiana*  
 1625 *Hirsutella* sp.  
 1626 *Paecilomyces fumosoroseus*  
 1627 *Beauveria bassiana*  
 1628 *Beauveria bassiana*  
 1629 *Beauveria bassiana*  
 1630 *Beauveria brongniartii*  
 1634 *Aleurosporic hyphomycete*  
 1635 *Beauveria bassiana*  
 1636 *Beauveria bassiana*  
 1637 *Beauveria bassiana*  
 1638 *Beauveria bassiana*  
 1639 *Trichothecium roseum*  
 1640 *Beauveria bassiana*  
 1641 *Fusarium* sp.  
 1642 *Trichothecium roseum*  
 1643 *Beauveria bassiana*  
 1644 *Paecilomyces fumosoroseus*  
 1645 *Paecilomyces fumosoroseus*  
 1646 *Paecilomyces fumosoroseus*  
 1647 *Beauveria bassiana*  
 1648 *Beauveria bassiana*  
 1649 *Beauveria bassiana*  
 1650 *Beauveria bassiana*  
 1651 *Beauveria bassiana*  
 1652 *Beauveria bassiana*  
 1653 *Beauveria bassiana*  
 1654 *Beauveria bassiana*  
 1655 *Entomophaga aulicae*  
 1656 *Entomophaga aulicae*  
 1657 *Entomophaga aulicae*  
 1658 *Entomophaga maimaiga*  
 1659 *Entomophaga asiatica*  
 1660 *Entomophaga apiculata*  
 1661 *Entomophaga apiculata*  
 1662 *Conidiobolus apiculatus*  
 1664 *Conidiobolus apiculatus*  
 1665 *Conidiobolus apiculatus*  
 1666 *Erynia* sp.  
 1668 *Hirsutella* sp.  
 1669 *Gibellula* sp.  
 1670 *Nomuraea rileyi*  
 1671 *Nomuraea rileyi*  
 1672 *Conidiobolus* sp.

- 1674 *Erynia radicans*  
 1675 *Erynia radicans*  
 1676 *Beauveria brongniartii*  
 1677 *Beauveria bassiana*  
 1678 *Beauveria bassiana*  
 1679 *Beauveria bassiana*  
 1680 *Beauveria brongniartii*  
 1681 *Beauveria* sp.  
 1682 *Beauveria amorpha*  
 1683 *Beauveria bassiana*  
 1684 *Paecilomyces* sp.  
 1685 *Beauveria* sp.  
 1686 *Paecilomyces* sp.  
 1689 *Beauveria bassiana*  
 1690 *Beauveria bassiana*  
 1691 *Beauveria bassiana*  
 1692 *Beauveria bassiana*  
 1693 Unidentified  
 1694 Unidentified  
 1695 Unidentified  
 1696 Unidentified  
 1697 Unidentified  
 1699 Unidentified  
 1702 *Verticillium lecanii*  
 1703 Unidentified  
 1704 *Beauveria bassiana*  
 1705 *Beauveria bassiana*  
 1706 *Beauveria bassiana*  
 1707 *Beauveria bassiana*  
 1708 *Beauveria bassiana*  
 1709 *Beauveria bassiana*  
 1710 *Beauveria bassiana*  
 1711 *Beauveria bassiana*  
 1712 *Beauveria bassiana*  
 1713 *Beauveria bassiana*  
 1714 *Sorospora uvella*  
 1715 *Erynia blunckii*  
 1716 *Erynia blunckii*  
 1717 *Erynia blunckii*  
 1718 *Erynia blunckii*  
 1719 *Erynia radicans*  
 1720 *Erynia dipterigena*  
 1721 *Beauveria bassiana*  
 1722 *Beauveria bassiana*  
 1723 *Beauveria bassiana*  
 1724 *Metarhizium anisopliae*  
 1725 *Metarhizium anisopliae*  
 1726 *Metarhizium anisopliae*  
 1727 *Metarhizium anisopliae*  
 1728 *Metarhizium anisopliae*  
 1729 *Metarhizium anisopliae*  
 1730 *Erynia delphacis*  
 1731 *Erynia delphacis*  
 1732 *Gibellula pulchra*  
 1733 *Conidiobolus thromboides*  
 1734 *Conidiobolus thromboides*  
 1735 *Conidiobolus thromboides*  
 1736 *Conidiobolus coronatus*  
 1737 *Conidiobolus coronatus*  
 1738 *Conidiobolus coronatus*  
 1739 *Erynia anglica*  
 1741 *Conidiobolus obscurus*  
 1742 *Conidiobolus* nr. *coronatus*  
 1743 *Conidiobolus* nr. *coronatus*  
 1744 *Metarhizium anisopliae*  
 1745 *Metarhizium anisopliae*  
 1746 *Entomophaga maimaiga*  
 1747 *Beauveria bassiana*  
 1748 *Beauveria bassiana*  
 1749 *Beauveria bassiana*  
 1750 *Beauveria bassiana*  
 1751 *Entomophaga aulicae*  
 1752 *Erynia conica*  
 1753 *Erynia conica*  
 1754 *Erynia curvispora*  
 1755 *Erynia conica*  
 1756 *Nomuraea rileyi*  
 1757 *Nomuraea rileyi*  
 1758 *Nomuraea rileyi*  
 1759 *Nomuraea rileyi*  
 1760 *Nomuraea rileyi*  
 1761 *Nomuraea rileyi*  
 1762 *Nomuraea rileyi*  
 1763 *Metarhizium flavoviride* var. *minor*  
 1764 *Metarhizium flavoviride* var. *minor*  
 1765 *Metarhizium flavoviride* var. *minor*  
 1766 *Metarhizium flavoviride* var. *minor*  
 1767 *Metarhizium flavoviride* var. *minor*  
 1768 *Metarhizium flavoviride* var. *minor*  
 1769 *Metarhizium flavoviride* var. *minor*  
 1770 *Metarhizium flavoviride* var. *minor*  
 1771 *Metarhizium flavoviride* var. *minor*  
 1772 *Metarhizium flavoviride* var. *minor*  
 1773 *Metarhizium flavoviride* var. *minor*  
 1774 *Verticillium lecanii*  
 1775 *Beauveria bassiana*  
 1776 *Beauveria bassiana*  
 1777 *Beauveria bassiana*  
 1778 *Beauveria bassiana*  
 1779 *Beauveria bassiana*  
 1780 *Beauveria bassiana*  
 1781 *Beauveria bassiana*  
 1782 *Beauveria bassiana*  
 1783 *Beauveria bassiana*  
 1784 *Erynia neoaphidis*  
 1785 *Erynia neoaphidis*  
 1786 *Erynia neoaphidis*  
 1787 *Verticillium lecanii*  
 1788 *Beauveria bassiana*  
 1789 *Beauveria bassiana*  
 1790 *Beauveria bassiana*  
 1791 *Beauveria bassiana*  
 1792 *Beauveria bassiana*  
 1793 *Beauveria bassiana*  
 1793 *Beauveria bassiana*  
 1794 *Beauveria bassiana*  
 1795 *Beauveria bassiana*  
 1796 *Beauveria bassiana*  
 1797 *Beauveria bassiana*  
 1798 *Beauveria bassiana*  
 1799 *Beauveria bassiana*  
 1800 *Beauveria bassiana*  
 1801 *Beauveria bassiana*  
 1802 *Beauveria bassiana*  
 1803 *Beauveria bassiana*  
 1804 *Beauveria bassiana*  
 1805 *Beauveria bassiana*  
 1806 *Beauveria bassiana*  
 1807 *Beauveria bassiana*  
 1808 *Beauveria bassiana*  
 1809 *Beauveria bassiana*  
 1810 *Beauveria bassiana*  
 1811 *Beauveria bassiana*  
 1812 *Beauveria bassiana*  
 1813 *Beauveria bassiana*  
 1814 *Beauveria bassiana*  
 1815 *Beauveria bassiana*  
 1816 *Beauveria bassiana*  
 1817 *Beauveria bassiana*  
 1818 *Beauveria bassiana*  
 1819 *Beauveria bassiana*  
 1820 *Beauveria bassiana*  
 1821 *Beauveria bassiana*  
 1822 *Beauveria bassiana*  
 1823 *Metarhizium anisopliae*  
 1824 *Erynia neoaphidis*  
 1825 *Erynia neoaphidis*  
 1826 *Erynia neoaphidis*  
 1827 *Erynia neoaphidis*  
 1828 *Fusarium* sp.  
 1829 *Beauveria brongniartii*  
 1830 *Beauveria brongniartii*  
 1831 *Beauveria bassiana*  
 1832 *Beauveria bassiana*  
 1833 *Beauveria bassiana*  
 1834 *Beauveria bassiana*  
 1835 *Beauveria brongniartii*  
 1836 *Beauveria bassiana*  
 1837 *Hirsutella citriformis*  
 1838 *Beauveria bassiana*  
 1839 *Beauveria bassiana*  
 1840 *Metarhizium brunneum*  
 1841 *Erynia radicans*  
 1842 *Beauveria bassiana*  
 1843 *Beauveria bassiana*  
 1844 *Beauveria bassiana*  
 1845 *Beauveria bassiana*  
 1846 *Beauveria bassiana*  
 1848 *Beauveria bassiana*  
 1849 *Beauveria bassiana*  
 1850 *Beauveria bassiana*  
 1851 *Paecilomyces farinosus*  
 1852 *Beauveria bassiana*  
 1853 *Beauveria bassiana*  
 1854 *Beauveria bassiana*  
 1855 *Beauveria bassiana*  
 1856 *Sorospora uvella*  
 1857 *Candida?*  
 1858 *Metarhizium anisopliae* var. *major*  
 1859 *Metarhizium anisopliae* var. *major*  
 1860 *Entomophthora planchoniana*  
 1862 *Entomophthora planchoniana*  
 1863 *Entomophthora planchoniana*  
 1864 *Beauveria bassiana*  
 1865 *Beauveria bassiana*  
 1866 *Beauveria bassiana*  
 1867 *Paecilomyces fumosoroseus*  
 1868 *Paecilomyces fumosoroseus*  
 1870 *Erynia sciarae*  
 1871 *Beauveria brongniartii*  
 1872 *Beauveria brongniartii*  
 1873 *Beauveria brongniartii*  
 1874 *Beauveria brongniartii*  
 1875 *Beauveria brongniartii*  
 1876 *Conidiobolus coronatus*  
 1877 *Candida?*  
 1878 *Metarhizium anisopliae*  
 1879 *Nomuraea rileyi*  
 1880 *Cordyceps heteropoda*  
 1881 *Entomophaga* sp.  
 1882 *Metarhizium anisopliae*  
 1883 *Metarhizium anisopliae*  
 1884 *Conidiobolus* nr. *coronatus*  
 1885 *Metarhizium anisopliae*  
 1886 *Beauveria bassiana*  
 1887 *Erynia dipterigena*  
 1888 *Entomophaga australiensis*  
 1889 *Beauveria bassiana*  
 1890 *Metarhizium anisopliae*  
 1891 *Metarhizium anisopliae*  
 1892 *Metarhizium anisopliae*  
 1893 *Nomuraea rileyi*  
 1894 *Metarhizium anisopliae*  
 1895 *Metarhizium anisopliae*  
 1896 *Metarhizium anisopliae*  
 1897 *Metarhizium anisopliae*

- 1898 *Metarhizium anisopliae*  
 1899 *Metarhizium anisopliae*  
 1900 *Metarhizium anisopliae*  
 1901 *Metarhizium anisopliae*  
 1902 *Metarhizium anisopliae*  
 1903 *Metarhizium anisopliae*  
 1904 *Nomuraea atypicola*  
 1905 *Torrubiella* sp.  
 1906 *Hirsutella citriformis*  
 1907 *Calcarisporium*  
 1908 *Hirsutella citriformis*  
 1909 *Gibellula clavulifera*?  
 1910 *Metarhizium anisopliae*  
 1911 *Metarhizium anisopliae*  
 1912 *Metarhizium anisopliae*  
 1913 *Hirsutella citriformis*  
 1914 *Metarhizium anisopliae*  
 1915 *Torrubiella flagellata*  
 1916 *Torrubiella flagellata*  
 1917 *Hirsutella citriformis*  
 1918 *Hirsutella citriformis*  
 1919 *Hirsutella citriformis*  
 1920 *Entomophaga australiensis*  
 1921 *Erynia radicans*  
 1922 Unidentified  
 1923 *Erynia dipterigena*  
 1924 *Candida*?  
 1925 *Candida*?  
 1926 *Candida*?  
 1927 *Entomophthora planchoniana*  
 1928 *Erynia radicans*  
 1929 *Erynia radicans*  
 1930 *Erynia radicans*  
 1931 *Erynia radicans*  
 1932 *Erynia radicans*  
 1933 *Erynia radicans*  
 1934 *Erynia radicans*  
 1935 *Erynia radicans*  
 1936 *Erynia ?delphacis*  
 1937 *Erynia radicans*  
 1938 *Erynia radicans*  
 1939 *Paecilomyces farinosus*  
 1940 *Lagenidium nr. giganteum*  
 1941 *Metarhizium album*  
 1942 *Metarhizium album*  
 1943 *Metarhizium album*  
 1946 *Metarhizium anisopliae* var. *major*  
 1947 *Hirsutella thompsonii* var. *synnematos*  
 1948 *Culicidomyces* sp.  
 1949 *Culicidomyces* sp.  
 1950 *Nomuraea rileyi*  
 1951 *Paecilomyces ?fumosoroseus*  
 1952 *Metarhizium anisopliae*  
 1953 *Beauveria bassiana*  
 1954 *Beauveria bassiana*  
 1955 *Beauveria bassiana*  
 1956 *Beauveria bassiana*  
 1957 *Paecilomyces ?amoenoroseus*  
 1958 *Metarhizium anisopliae*  
 1959 *Beauveria bassiana*  
 1960 *Beauveria bassiana*  
 1961 *Beauveria bassiana*  
 1962 *Beauveria bassiana*  
 1963 *Beauveria bassiana*  
 1964 *Acremonium roseum*  
 1965 *Beauveria bassiana*  
 1966 *Beauveria bassiana*  
 1967 *Conidiobolus* sp.  
 1968 *Metarhizium anisopliae*  
 1969 *Beauveria bassiana*  
 1970 *Metarhizium anisopliae*  
 1971 *Beauveria bassiana*  
 1972 *Nomuraea rileyi*  
 1973 *Beauveria bassiana*  
 1974 *Beauveria bassiana*  
 1975 *Beauveria bassiana*  
 1976 *Beauveria bassiana*  
 1977 *Beauveria bassiana*  
 1978 *Beauveria bassiana*  
 1979 *Beauveria bassiana*  
 1980 *Beauveria bassiana*  
 1981 *Erynia neoaphidis*  
 1982 *Beauveria bassiana*  
 1985 *Erynia neoaphidis*  
 1986 *Erynia neoaphidis*  
 1987 *Erynia neoaphidis*  
 1988 *Beauveria bassiana*  
 1989 *Metarhizium anisopliae*  
 1990 *Entomophaga aulicae*  
 1991 *Entomophaga aulicae*  
 1992 *Entomophaga aulicae*  
 1993 *Entomophaga aulicae*  
 1994 *Entomophaga aulicae*  
 1995 *Entomophaga aulicae*  
 1997 *Entomophaga aulicae*  
 1998 *Entomophaga aulicae*  
 1999 *Entomophaga aulicae*  
 2000 *Entomophaga aulicae*  
 2002 *Hymenostilbe verrucosa*  
 2003 *Lagenidium caudatum*  
 2004 *Leptoglenia* sp.  
 2005 *Aphanomyces* sp.  
 2006 *Hirsutella rhossiliensis*  
 2007 *Hirsutella rhossiliensis*  
 2008 *Hirsutella rhossiliensis*  
 2009 *Verticillium lecanii*  
 2010 *Beauveria bassiana*  
 2011 *Beauveria bassiana*  
 2012 *Hirsutella thompsonii*  
 2013 *Nomuraea rileyi*  
 2014 *Entomophthora muscae*  
 2015 *Catenaria anguillulae*  
 2016 *Erynia neoaphidis*  
 2017 *Erynia neoaphidis*  
 2018 *Erynia neoaphidis*  
 2019 *Erynia neoaphidis*  
 2020 *Erynia neoaphidis*  
 2022 Unidentified  
 2023 *Metarhizium flavoviride*  
 2024 *Metarhizium flavoviride*  
 2025 *Metarhizium flavoviride*  
 2026 *Metarhizium flavoviride*  
 2027 *Erynia* sp.  
 2028 *Erynia delphacis*  
 2030 *Beauveria bassiana*  
 2031 *Beauveria bassiana*  
 2032 *Beauveria bassiana*  
 2033 *Beauveria bassiana*  
 2034 *Beauveria bassiana*  
 2035 *Calcarisporium ovalisporum*  
 2036 *Calcarisporium ovalisporum*  
 2037 *Metarhizium flavoviride* var. *minor*  
 2038 *Metarhizium anisopliae*  
 2039 *Metarhizium anisopliae*  
 2040 *Beauveria bassiana*  
 2041 *Beauveria bassiana*  
 2042 *Metarhizium anisopliae*  
 2043 *Metarhizium anisopliae*  
 2044 *Hirsutella strigosa*  
 2045 *Torrubiella homopterorum*  
 2046 *Erynia delphacis*  
 2047 *Erynia delphacis*  
 2048 *Basidiobolus* sp.  
 2049 *Basidiobolus* sp.  
 2050 *Basidiobolus* sp.  
 2051 *Basidiobolus* sp.  
 2052 *Basidiobolus* sp.  
 2053 *Aphanocladium gamsianum*  
 2054 *Beauveria bassiana*  
 2055 *Trichothecium roseum*  
 2056 *Penicillium thomii*  
 2057 *Paecilomyces farinosus*  
 2058 *Filobasidiella arachnophila*  
 2059 *Fusarium merismoides*  
 2060 *Fusarium avenaceum*  
 2063 *Chrysosporium* sp.  
 2064 *Spicaria coccospora*  
 2065 *Verticillium fungicola*  
 2066 *Verticillium lecanii*  
 2067 *Acremonium berkeleyanum*  
 2068 *Aphanocladium album*  
 2069 *Humicola* sp.  
 2070 *Acrodontium crateriforme*  
 2071 *Phoma* sp.  
 2072 *Phialophora malorum*  
 2073 Unidentified sclerotial sterile mycelium  
 2074 *Fusarium* sp.  
 2075 *Beauveria bassiana*  
 2076 *Metarhizium anisopliae*  
 2077 *Metarhizium anisopliae*  
 2078 *Metarhizium anisopliae*  
 2079 *Beauveria bassiana*  
 2080 *Metarhizium anisopliae*  
 2081 *Metarhizium album*  
 2082 *Metarhizium album*  
 2083 *Entomophaga* sp.  
 2084 *Entomophaga praxibuli*  
 2085 *Erynia neoaphidis*  
 2086 *Erynia neoaphidis*  
 2087 *Entomophthora muscae*  
 2088 *Entomophthora muscae*  
 2089 *Entomophthora muscae*  
 2090 *Entomophthora muscae*  
 2091 *Erynia delphacis*  
 2092 *Erynia delphacis*  
 2093 *Erynia delphacis*  
 2094 *Erynia delphacis*  
 2095 *Erynia delphacis*  
 2096 *Erynia delphacis*  
 2097 *Erynia* sp.  
 2098 *Fusarium coccophilum*  
 2099 *Hirsutella citriformis*  
 2100 *Hirsutella citriformis*  
 2101 *Hirsutella citriformis*  
 2102 *Hirsutella citriformis*  
 2103 *Hirsutella citriformis*  
 2104 *Nomuraea rileyi*  
 2105 *Metarhizium anisopliae*  
 2106 *Metarhizium anisopliae*  
 2107 *Metarhizium anisopliae*  
 2108 *Erynia neoaphidis*  
 2109 *Erynia neoaphidis*  
 2110 *Erynia neoaphidis*  
 2111 *Erynia neoaphidis*  
 2112 *Erynia neoaphidis*  
 2113 *Erynia neoaphidis*  
 2114 *Erynia neoaphidis*  
 2115 *Erynia neoaphidis*  
 2116 *Erynia neoaphidis*  
 2117 *Erynia neoaphidis*  
 2118 *Erynia neoaphidis*  
 2119 *Erynia neoaphidis*  
 2120 *Erynia neoaphidis*  
 2121 *Erynia neoaphidis*  
 2122 *Erynia neoaphidis*

- 2123 *Erynia neoaphidis*  
 2124 *Erynia neoaphidis*  
 2125 *Erynia neoaphidis*  
 2126 *Erynia neoaphidis*  
 2127 *Erynia neoaphidis*  
 2128 *Erynia neoaphidis*  
 2129 *Erynia neoaphidis*  
 2130 *Conidiobolus* sp.  
 2131 *Paecilomyces farinosus*  
 2132 *Erynia* sp.  
 2133 *Metarhizium flavoviride*  
 2134 *Metarhizium anisopliae*  
 2135 *Metarhizium anisopliae*  
 2136 *Metarhizium anisopliae*  
 2137 *Metarhizium anisopliae*  
 2138 *Metarhizium anisopliae*  
 2139 *Metarhizium anisopliae*  
 2140 *Metarhizium anisopliae*  
 2141 *Fusarium subglutinans*  
 2142 *Fusarium subglutinans*  
 2143 *Fusarium subglutinans*  
 2144 *Fusarium subglutinans*  
 2145 *Fusarium subglutinans*  
 2146 *Erynia delphacis*  
 2147 *Conidiobolus* sp.  
 2148 *Conidiobolus* sp.  
 2149 *Verticillium lecanii*  
 2150 *Verticillium lecanii*  
 2151 *Metarhizium anisopliae* var. *majus*  
 2152 *Paecilomyces guaensis*  
 2153 *Metarhizium anisopliae*  
 2154 *Aschersonia ?aleyrodis*  
 2155 *Paecilomyces farinosus*  
 2156 *Metarhizium anisopliae*  
 2157 *Aspergillus flavus*  
 2158 *Aspergillus flavus*  
 2159 *Aspergillus flavus*  
 2160 *Paecilomyces viridis*  
 2161 *Aphanocladium album*  
 2162 *Metarhizium anisopliae*  
 2163 *Metarhizium anisopliae*  
 2164 *Beauveria* sp.  
 2165 *Metarhizium anisopliae*  
 2166 *Metarhizium anisopliae*  
 2167 *Metarhizium anisopliae*  
 2168 *Entomophaga calopteni*  
 2169 *Scopulariopsis*  
 2170 *Verticillium ?indicum*  
 2172 *Entomophthora muscae*  
 2173 *Aspergillus parasiticus*  
 2174 *Nomuraea rileyi*  
 2175 *Paecilomyces farinosus*  
 2176 *Metarhizium album*  
 2177 *Metarhizium album*  
 2178 *Metarhizium album*  
 2179 *Metarhizium album*  
 2180 *Hirsutella citrifomis*  
 2181 *Paecilomyces lilacinus*  
 2182 *Paecilomyces lilacinus*  
 2183 *Paecilomyces lilacinus*  
 2184 *Paecilomyces lilacinus*  
 2185 *Paecilomyces lilacinus*  
 2186 *Paecilomyces lilacinus*  
 2187 *Hirsutella bogoriensis*  
 2188 *Erynia phytonomi*  
 2189 *Entomophaga* sp.  
 2191 *Beauveria bassiana*  
 2192 *Erynia americana*  
 2193 *Conidiobolus* sp.  
 2194 *Erynia americana*  
 2196 *Erynia radicans*  
 2197 *Hirsutella strigosa*  
 2198 *Paecilomyces fumosoroseus*  
 2199 *Beauveria bassiana*  
 2200 *Beauveria bassiana*  
 2201 *Nomuraea rileyi*  
 2202 *Nomuraea rileyi*  
 2203 *Nomuraea rileyi*  
 2204 *Nomuraea rileyi*  
 2205 *Nomuraea rileyi*  
 2206 *Nomuraea rileyi*  
 2207 *Nomuraea rileyi*  
 2208 *Hirsutella* sp.  
 2209 *Hirsutella* sp.  
 2210 *Metarhizium* sp.  
 2211 *Metarhizium anisopliae*  
 2212 *Metarhizium anisopliae*  
 2213 *Metarhizium anisopliae*  
 2214 *Metarhizium anisopliae*  
 2215 *Paecilomyces amoenoroseus*  
 2216 *Paecilomyces fumosoroseus*  
 2217 *Paecilomyces fumosoroseus*  
 2218 *Verticillium chlamyosporium*  
 2219 *Paecilomyces fumosoroseus*  
 2220 *Paecilomyces fumosoroseus*  
 2221 *Paecilomyces fumosoroseus*  
 2222  
 2223 *Metarhizium anisopliae*  
 2224 *Metarhizium* sp.  
 2225 *Metarhizium* sp.  
 2226 *Hirsutella haptospora*  
 2227 *Hirsutella (?)subulata*  
 2228 *Hirsutella (?)haptospora*  
 2229  
 2230 *Metarhizium anisopliae*  
 2231 *Metarhizium anisopliae*  
 2232 *Fusarium* sp.  
 2233 *Paecilomyces marquandii*  
 2234 *Verticillium* sp.  
 2235 *Verticillium* sp.  
 2236 *Beauveria bassiana*

NATIONAL AGRICULTURAL LIBRARY



1022456916

NATIONAL AGRICULTURAL LIBRARY



1022456916