

*USDA-ARS Collection
of Entomopathogenic
Fungal Cultures*

ARSeF

Isolates from LEPIDOPTERA



Emerging Pests and Pathogens Research Unit
Robert W. Holley Center for Agriculture & Health
539 Tower Road
Ithaca, NY 14853

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Fully Indexed
Includes 1539 isolates*

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Front cover: Lepidopteran larva infected with *Zoophthora radicans*. Specimen collected by Mike Wheeler in Ithaca, NY, in June 2019. Photograph and fungus identification by LA Castrillo.

New nomenclatural rules bring new challenges, and new taxonomic revisions for entomopathogenic fungi

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The previous (2007) version of this introductory material for ARSEF catalogs sought to explain some of the phylogenetically-based rationale for major changes to the taxonomy of many key fungal entomopathogens, especially those involving some key conidial and sexual genera of the ascomycete order Hypocreales. Phylogenetic revisions of the taxonomies of entomopathogenic fungi continued to appear, and the results of these revisions are reflected in the ARSEF catalog as quickly and completely as we can do so.

As many of people dealing with entomopathogenic fungi are already aware, there has been one still recent event that has a more far-reaching and pervasive influence whose magnitude still remains to be fully appreciated, but that leaves much of the mycological world (including insect mycology) semi paralyzed by uncertainty and worried about the extent and impacts of changes that still remain unformalized and, hence, a continuing subject for speculation and prediction. At the 2011 International Botanical Congress in Melbourne (Australia), however, a far-reaching nomenclatural revolution was imposed on the fungal world as the result of the abandonment of the existing dual nomenclatural standard that allowed separate, valid names for anamorphic and teleomorphic stages of pleomorphic fungi. This dual nomenclatural system was replaced by a new standard allowing only *one* correct name for any pleomorphic fungus regardless of how many morphs might have been previously and validly recognized for that fungus. The new rule (also known as One Fungus = One Name, or, even more concisely, 1F=1N) has deeply split mycologists into opposed camps greeting the new rules with either cheers or jeers. Whether one supports or opposes this change (for the record, I strongly object to this change), these basic points are indisputable and must be accepted (whether happily or not):

- Dual nomenclature is no longer recognized (now and for the indefinite future).
- 1F=1N is the **only** nomenclatural standard applicable for the nomenclature of pleomorphic fungi.
- The main impacts of 1F=1N are apparent at the rank of genera.
- After the competing possible names are evaluated, a **single** correct generic name will be chosen by decisions of committees as defined by the International Association for Plant Taxonomy (IAPT) which oversees the ***International Code of Nomenclature for algae, fungi and plants (ICN; McNeill et al. 2012*** or online at <http://www.iapt-taxon.org/nomen/main.php>).
- The use of the specified correct names, once fully confirmed, is obligatory and **must** be followed because all such names will be treated as if they have been conserved against all possible alternative names.
- Other taxonomic changes (especially below the generic level)—e.g., when the chosen correct generic name is of a different gender from that which it

replaces, specific epithets must be changed to reflect the newer generic gender as when *Paecilomyces farinosus* became *Isaria farinosa*.

- Some very familiar, cherished generic names will disappear, and the traditional generic circumscriptions for pleomorphic fungi will expand and be revised to reflect all phylogenetically related morphs for their included taxa.

How correct names will be chosen: The ultimate selection of correct names over all possible competing names will depend on a number of sequential actions by a significant number of persons in a series of committees, and will be subject to all of the difficulties that routinely accompany committee actions. The exact set of actions that will be occurring still remain uncertain in many quarters. For fungi in the Hypocreales (the entomopathogens most affected by the new rule and also raising the greatest concerns for insect pathologists), there is a world-wide group of mycologists with strong taxonomic/systematics expertise who will consider the demonstrated phylogenies of these fungi, assemble lists of generic names that appear to apply to monophyletic groups of taxa, and that will formally propose a set of choices of correct genera (and their synonyms) to the IAPT's Nomenclature Committee for Fungi. Once this committee has cast their votes to accept (or to modify) any of the proposed choices, the lists of accepted and rejected names will be sent forward to the General Committee of the IAPT for ratification, and then to the Nomenclature Session of the next International Botanical Congress (the next such meeting will be in 2017, in Beijing; any reports from the Committee for Fungi that miss the deadlines for this next Congress would be passed on to the following Congress in 2023 (wherever that may be held)). No nomenclatural changes or decisions of any type become completely official until they have been accepted by majority votes during the Nomenclature Session at an International Botanical Congress and then ratified by a plenary vote of the Congress participants at that Congress. It is interesting to note that the only constitutive reason for holding any International Botanical Congress is actually for holding these Nomenclatural Sessions (before the main Congress) and the final, obligatory vote on the acceptance of the report from the Nomenclatural Session during the closing plenary session of the Congress.

The selection of which name among competing possibilities will be selected as correct is not entirely arbitrary, but it is also necessary to remember that it will be a matter of consensus opinion among the members of the committees that will consider the proposals coming to them. The criteria that are supposed to be used for ultimately choosing the names that will be used are to be based in the first place on priority of publication (which name is the oldest available name). There is no longer any automatic preference in the Code to choose names as correct that are typified by teleomorphs; names for conidial and sexual states are to be treated on an equal basis for purposes of selecting the correct name.

It is apparent that even now (early in 2014), there is still a great deal of uncertainty among mycologists about exactly how to handle names of pleomorphic fungi during this transitional period from the defunct dual nomenclatural system to the new rule. Hawksworth (2012) provides what may be the most comprehensive opinion about how to proceed from this point, but it is only one opinion about how the mechanics should proceed.

Changes to the International Code of Nomenclature (ICN) for botanical and related taxa are supposed to result in greater stability and predictability for the names of organisms covered by these rules. Whether the newly adopted rules do this remains a source of active and heated controversy. It probably is fair to say that a new stability will be an eventual result of these new rules, and that within another decade many of the fundamental arguments about the value of these changes will have been settled. I will note that the names for the entomopathogenic hypocrealean fungi (which comprise the vast majority of fungi in the ARSEF culture collection) are among the fungi most drastically affected by this dramatic change in the ICN rules. While nomenclatural stability will eventually come, it will still be a number of years before that stabilization process has been completed and before the resulting changes are fully incorporated into the scientific literature. It is probable that all or, at least, the great majority of the basic changes outlined here will be ready for final ratification during the 2017 International Botanical Congress in Beijing.

Just as there is enormous confusion and controversy still about whether the abandonment of dual nomenclature for the 1F=1N rule was a good and necessary change or will prove to be a superfluous and destructive catastrophe, there are many analyses covering a range of opinions from opposed to and troubled by the change (e.g., **Korf 2005** precedes the adoption of the new rules but raises important and pertinent issues; **Gams et al. 2011, 2012**) to those who seem to be cautiously and a bit vigilantly supportive (e.g., **Braun 2012**) to those leading full-throated cheers for these changes (**Hawksworth 2011; Hibbett & Taylor 2013**) to even a suggestion that the naming of fungi may cause more problems than it solves (**Money 2013**).

ARSEF responses to taxonomic revisions: The identifications in the ARSEF catalog have always incorporated new taxa and appropriately revised classifications as soon as the collection staff can confirm the correct new identifications for ARSEF holdings. We make every attempt in the catalog to note specifically when those identifications are based on genomic sequence data. For taxa where extensive molecular revisions have occurred, those isolates with genomically confirmed identifications—for example, for isolates of *Beauveria bassiana* and *Metarhizium anisopliae* in their molecularly redefined, phylogenetically narrowed, strict senses (**sensu stricto**)—are listed in the catalog as these species; isolates that have not been molecular confirmed are placed in separate listings for these species in their broad senses (**sensu lato**).

GENERAL AND PHYLOGENETIC RECLASSIFICATIONS OF FUNGI

The results of a global cooperative effort involving dozens of mycologists (including the curator of this collection) to reclassify the fungi according to phylogenetically sound principles based on the DNA sequence data for multiple genes has recently resulted in the publication of two monumentally important publications that completely rework mycological systematics. The earlier publication was a phylogenetic overview of virtually all fungi (**James et al. 2006**). The second publication (**Hibbett et al. 2007**) provided many of the necessary taxonomic readjustments that were indicated by the phylogenetic studies. The ITS locus sequence has been adopted as a supposedly universal biological bar code gene (**Schoch et al. 2012**) because of its wide usefulness for a vast range of fungi; however, reality has consistently indicated that the ITS sequence has very little usefulness for the identification of fungi in some important groups of ascomycete (**especially including** taxa in the order Hypocreales). As is noted here, however, there have been many later phylogenetic studies that are important for the taxonomy and systematics of entomopathogenic fungi. Some of these major studies involving entomopathogens from the order Hypocreales are listed here by anamorphic or teleomorphic generic name:

Beauveria — **Rehner et al. 2011; Kepler et al. 2017, Khonsanit et al., 2020**

Fusarium — **O'Donnell et al. 2012**

Isaria - **Mongkolsamrit et al., 2018**

Metarhizium — **Bischoff et al. 2009; Kepler & Rehner 2013; Kepler et al. 2014**

Metacordyceps — **Kepler et al. 2012**

Polycephalomyces — **Kepler et al. 2013**

Table 1. UPDATES for probable outcomes under 1F=1N standards for which genera of entomopathogens in Hypocreales are likely to be treated as ‘correct’ differing (where underlined) from those suggested in RA Humber’s (2012) poster presented at the annual meeting of the Society for Invertebrate Pathology in Buenos Aires, AR.

Family Clavicipitaceae

Humber (2012)

Metarhizium (syn. *Metacordyceps*, *Nomuraea*, *Pochonia*, *Rotiferophthora*, etc.)

Aschersonia (syn. *Hypocrella*)

Other aschersonioid genera;

Moelleriella, *Orbiocrella*, *Regiocrella*, *Samuelsia*

Updated (see Kepler et al. 2014)

Metarhizium (syn. *Chamaeleomyces*, *Metacordyceps*, *Nomuraea*)

Pochonia

Metapochonia

Rotiferophthora

Aschersonia (syn. *Hypocrella*)

Other aschersonioid genera;

Moelleriella, *Orbiocrella*, *Regiocrella*, *Samuelsia*

Family Cordycipitaceae

Humber (2012)

Cordyceps (syn. *Beauveria*, *Isaria*, *Lecanicillium*, *Evlachovaea*, *Microhilum*, *Simplicillium*, etc.)

Torrubiella (syn. *Akanthomyces*, *Gibellula*, *Granulomanus*, *Pseudogibellula*)

Ascopolyporus

Conoidiocrella

Updated (see Kepler et al. 2017)*

Cordyceps (synonyms *Isaria*, *Microhilum*, *Evlachovaea*)

Beauveria

Gibellula (synonym: *Granulomanus*)

Hevansia

Ascopolyporus

Conoidiocrella

Simplicillium

Family Ophiocordycipitaceae

Humber (2012)

Elaphocordyceps (synonym *Tolypocladium*)

Ophiocordyceps (synonyms *Hirsutella*², *Hymenostilbe*, *Paraisaria*, *Sorosporella*, *Syngliocladium*)

Updated (see Quandt et al. 2014)*

Ophiocordyceps (synonyms *Hirsutella*, *Hymenostilbe*, *Paraisaria*, *Sorosporella*, *Syngliocladium*)

Purpureocillium

Tolypocladium (synonym *Elaphocordyceps*)

Table 2. Phylum Entomophthoromycota (Humber 2012)

Class Basidiobolomycetes	
Order Basidiobolales	
Family Basidiolaceae	<i>Basidiobolus</i> , <i>Schizangiella</i> ¹ , <i>Drechslerosporium</i> ¹
Class Neozygitomycetes	
Order Neozytigales	
Family Neozygitaceae	<i>Neozygites</i> , <i>Apterivorax</i> , <i>Thaxterosporium</i>
Class Entomophthoromycetes	
Order Entomophthorales	
Family Ancylistaceae	<i>Ancylistes</i> , <i>Conidiobolus</i> ² , <i>Macrobotophthora</i>
Family Completoriaceae	<i>Completozia</i>
Family Entomophthoraceae	
Subfamily Entomophthoroideae	<i>Entomophthora</i> , <i>Entomophaga</i> , <i>Eryniopsis</i> , <i>Massospora</i> ⁴
Subfamily Erynioideae ³	<i>Erynia</i> , <i>Furia</i> , <i>Orthomyces</i> , <i>Pandora</i> , <i>Strongwellsea</i> , <i>Zoophthora</i>
Family Meristacraceae ⁵	<i>Meristacrum</i> , <i>Tabanomyces</i>

¹ Genus with phylogenetic support but still awaiting formal description.

² Phylogenetic data indicate this genus must be revised and split.

³ Phylogenetic data support *Zoophthora*, but distinctions among other genera remain uncertain.

⁴ Subfamily Massosporoideae proposed by **Keller & Petrini (2005)** is not phylogenetically supported.

⁵ Two previously included genera—*Ballocephala* and *Zygnemomyces*—have been excluded from Entomophthoromycota and reclassified in subphylum Kickxellomycotina (see **Humber 2012**).

FLAGELLATE FUNGI AND FUNGAL ALLIES

The removal of the Oomycetes (biflagellate water molds whose zoospores have one whiplash and one tinsel flagellum) from the true fungi to the class Peronosporomycetes in the kingdom Straminipila (also known as kingdom Chromista) has been widely accepted within mycology for several decades now. There are, however, a small number of water molds that produce uniflagellate zoospores (with a single posterior whiplash flagellum) that have traditionally been treated in the Chytridiomycota. The massive phylogenetic review of fungi (**James et al. 2006**) known under the All-Fungal Tree of Life (AFTOL) Project resulted indicated that a large group of taxa—including the entomopathogenic genera *Coelomomyces*, *Coelomycidium*, and *Myiophagus*—needed to be removed from the Chytridiomycota; these semi-terrestrial chytrids with golden-brown resistant sporangia and complex life histories were reclassified by **Hibbett et al. (2007)** into the newer kingdom Blastocladiomycota.

ENTOMOPHTHOROMYCOTA: A NEW PHYLUM*

The phylogenetically driven reclassification of all fungi (**Hibbett et al., 2007**) resulted in the abandonment of the phylum Zygomycota (as well as the subphylum Zygomycotina and class Zygomycetes) because these long-recognized taxa were finally proven to be distinctly polyphyletic. A series of subphyla not assigned to any phylum were described in **Hibbett et al. (2007)** while placing arbuscular mycorrhizal fungi (Glomales) in a clearly distinct phylum, Glomeromycota. Since that initial formal dispersal of zygomycete fungi, the new (still unassigned) subphylum Mortierellomycotina was described (**Hoffmann et al. 2011**). It was always understood that it was probable that further phylogenetic studies on these unassigned subphyla of zygomycetous fungi could eventually result in raising each of these subphyla to phylum ranking. In the case of the Entomophthoromycotina, these ‘missing’ phylogenetic studies have been

completed in a sufficiently convincing manner (**Gryganskyi et al. 2012a,b**) to support the description of the phylum Entomophthoromycota (Humber 2012) with a new and phylogenetically revised classification of entomophthoroid fungi into three classes (see Table 2).

* A study by **Spatafora et al. (2016)** utilizing genome-scale data to analyze zygomycete fungi, proposed the creation of a new phylum, **Zoopagomycota**, with subphyla Entomophthoromycotina, Kickxellomycotina, and Zoopagomycotina. The authors rejected use of the name Zygomycota since zygospore formation is not a synapomorphy, but a sympleisiomorphic trait (i.e., trait shared by common ancestors of Zoopagomycota and other phyla). The phylum name Zoopagomycota was selected over other possible names, including Entomophthoromycota, because of its broader and more inclusive meaning. This new proposal retained the three classes in the subphylum Entomophthoromycotina proposed by **Humber (2012)**.

* Updates by LA Castrillo (June 2020)

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ARS Collection of Entomopathogenic Fungal Cultures

History and Purpose of the ARSEF Collection

The goal of the ARS Collection of Entomopathogenic Fungal Cultures (ARSEF) is to provide fundamental support for basic and applied research on the fungal pathogens of invertebrates. Since its establishment in the early 1970s, this collection has served as a general research resource for the isolation, collection, preservation, and distribution of fungal strains from insects, other arthropods, and nematodes. Emphasis has always been placed on acquiring and distributing strains under active study for use as potential biological control agents. Basic research associated with the collection includes fungal systematics, fungal cytology, pathobiology, and methodology for fungal cryopreservation. The culture collection and its associated collection of microscope slides and herbarium specimens provide invaluable support for taxonomic research on and the diagnoses of fungal pathogens of invertebrates. Identification services for specimens and cultures have always been available free of charge to any laboratories requesting them.

We strive to provide users with pure and accurately identified fungal cultures, and the taxonomies applied to the fungi in this collection are continuously updated to reflect their current accepted classifications. The curator of the collection welcomes all correspondence about nomenclatural or taxonomic changes or possible misidentifications involving any ARSEF strains.

The ARSEF collection began as Richard Soper's research collection in the USDA-ARS laboratory at the University of Maine (Orono; UMO) where its cultures were at initially designated by a UMO or RS prefix before adopting ARSEF in 1985. In 1978, the ARS Insect Pathology Research Unit relocated to Ithaca, NY, to work with the Boyce Thompson Institute (BTI) on the Cornell University campus. The Insect Pathology Research Unit became the Plant Protection Research Unit (PPRU) in 1985, and was renamed in 2016 as the Emerging Pests and Pathogens Research Unit (EPPRU). The ARSEF collection moved from BTI in 1990 into the US Plant, Soil & Nutrition Laboratory which was rededicated in 2008 as the Robert W. Holley Center for Agriculture & Health to commemorate Dr. Holley's work there to complete the first sequencing of any nucleic acid; he received the 1968 Nobel Prize for Medicine or Physiology for this work.

EPPRU operates the ARSEF culture collection for the USDA Agricultural Research Service; the collection is not now and has never been owned or controlled by the Boyce Thompson Institute. ARSEF is one of the largest germplasm collections in the ARS, and is widely recognized for its active support of research on fungal pathogens of invertebrates. ARSEF and its associated herbarium are registered under the ARSEF acronym since 1985 with the World Federation of Culture Collections' World Data Center on Microorganisms and the International Association of Plant Taxonomists' *Index Herbariorum*, respectively.

From 1977 through 2008, all strains in the collection were preserved by immersion in liquid nitrogen. A program to lyophilize those isolates that could tolerate such was begun in the 1990's, and has expanded in scope and pace. At the end of 2008 the vast majority of the collection was consolidated in a single large nitrogen dewar in a new facility adjacent to the current building. Requests for cultures are filled with either actively growing cultures on appropriate media or, if available, as freeze-dried units.

Identifying and Acknowledging ARSEF Strains in Publications

We request that all publications using or referring to strains obtained from ARSEF acknowledge the U.S. Department of Agriculture, ARS EPPRU and state the ARSEF accession numbers of these strains. We would greatly appreciate receiving reprints of all past, current, and future publications or even periodic notification about research in progress involving the use of ARSEF strains.

Accession numbers of strains from commercial culture collections such as the American Type Culture Collection (ATCC), Centraalbureau voor Schimmelmicrocultures (CBS), CAB International Mycological Institute (IMI), and other registered general service collections are listed in this catalog to provide complete information about specific isolates. ***Representation of cultures obtained from ARSEF as being from ATCC, CBS, IMI or UAMH or other general service culture collections violates trademark laws, and persons doing so are subject to prosecution. Cultures received from ARSEF should be referred to by their ARSEF numbers only even if they are co-deposited in other culture collections.***

Depositing and Exchanging Cultures

EPPRU and ARSEF encourage deposition of entomopathogenic fungal cultures in the ARSEF collection—particularly strains used in published studies—and of voucher and reference specimens to its herbarium. Depositors may reserve the right to limit redistribution of any culture deposited with ARSEF for specified times upon consultation with the curator. Depositors can receive subcultures of their own depositions at any time; these cultures do not affect any allowances of free cultures. Exchanges of cultures between ARSEF and other research or general collections of fungal cultures are encouraged and are not subject to numerical limits.

Prior to shipping cultures from countries outside the United States contact the Curator to obtain the appropriate needed importation permit from the U.S. Department of Agriculture, Animal and Plant Health Inspection Services, Plant Protection and Quarantine.

When sending cultures and/or specimens to ARSEF, it is very important to include as much of the following information as possible:

1. Scientific name (and taxonomic authority) of the fungus.
2. Common and scientific name (with taxonomic authority) of the host.
3. Order and family of the host. (***This information is required***)
4. Date and site of collection. (*This information is required*)
5. Name of collector.
6. Date and name of isolator.
7. Any collection, accession, or other identifier number(s) applied by the collector or sender.
8. Medium on which a culture is sent.
9. Any special requirements or conditions for growth (such as medium, temperature, pH).

Diagnostic Services for Cultures and Specimens

Specimens and cultures of unidentified fungi from invertebrates can be submitted to ARSEF for diagnosis, after consultation with the curator. This service is an important function of ARSEF and is provided without charge, but is generally limited to initial identification based on morphological characters. *We do not provide free identification requiring multi-locus sequencing.*

Release of ARSEF Cultures from Containment or Quarantine

Neither the curator nor any employee of ARSEF or of the EPPRU is entitled to authorize the release of any culture it provides from laboratory containment or quarantine in the United States or elsewhere. Recipients of ARSEF cultures are responsible for obtaining appropriate and necessary permissions from or for providing official notifications to State and Federal regulatory agencies.

Ordering Information

Please send all requests for isolates directly to the Acting Curator (Louela A. Castrillo):

ARS Collection of Entomopathogenic Fungal Cultures

Telephone: [+1] 607 255-7008

Robert W. Holley Center for Agriculture & Health
538 Tower Rd.

OR

Email: Louela.Castrillo@usda.gov

Ithaca, NY 14853–2901

Academic, Government, and Other Nonprofit Institutions

1–12 isolates [up to 24 per calendar year]

13 or more isolates per order [25 or more per calendar year]

contact Curator

Users from nonprofit institutions can receive up to twelve isolates in any 6 month period, and up to 24 cultures in any calendar year.

Commercial and Industrial Institutions

1–12 isolates [per calendar year]

Users from for profit institutions can receive up to twelve isolates in any calendar year.

Terms of Shipment

All recipients of cultures are requested to provide express shipper account numbers to allow shipping costs to be billed directly to recipients, thus assuring significant cost-savings to the ARSEF collection.

We request confirmation of receipt and viability of cultures shipped. Inviable strains will be replaced.

ARSEF reserves the right to refuse to ship isolates

- to recipients who cannot handle them using standard microbiological practices,
- to laboratories that cannot assure laboratory containment of isolates except after obtaining permissions from applicable State and Federal regulatory agencies, or
- if use of routine mailing or shipping procedures cannot assure the receipt of viable cultures.

Neither ARSEF nor EPPRU is liable for damages arising from the misidentification of strains.

Interpretation of Strain Accession Data

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

***Beauveria bassiana* (Balsamo) Vuillemin**

2828 M Feng (MD8903). *Metopolophium dirhodum* [Homoptera: Aphididae] on spring wheat. 21 Jul 89. USA: Parma, Idaho.

2828	ARSEF accession number.
M Feng (MD8903)	Depositor and depositor's reference or accession number.
<i>Metopolophium dirhodum</i> [Homoptera: Aphididae]	Original host [host's order and family]
On spring wheat	The substrate on which the host was found
21 Jul 89	Date of accession or receipt by ARSEF.
USA: Parma, Idaho	Country of origin followed by the locality and state.

***Conidiobolus thromboides* Drechsler**

73 [CSIRO EM534; FPMI 28] RG Kenneth (3040)←ATCC (24419)←DM MacLeod←G Thoizon. *Rhopalosiphum insertum* [Homoptera: Aphididae]. Rec'd Jan 18 1976. France: Val-de-Marne, La Varenne.

73	ARSEF accession number.
[CSIRO EM534; FPMI 28]	Alternative depositions of this strain in other culture collections.
RG Kenneth (3040)	Depositor and depositor's reference or accession number.
←ATCC (24419)←DM MacLeod←G Thoizon	Culture provenance: RG Kenneth obtained the culture from ATCC, which received it from DM MacLeod, who received it from G Thoizon.
<i>Rhopalosiphum insertum</i> [Acari: Eriophyidae]	Original host [host's order and family]
Rec'd Jan 18 1976	Date of receipt by ARSEF.

***Hirsutella thompsonii* Fisher**

137 [ATCC 24874; CBS 952.73] CW McCoy (Fla. 68). *Phyllocoptruta oleivora* [Acari: Eriophyidae]. Jan 1 1970. USA: Orlando, Florida.

137	ARSEF accession number.
[ATCC 24874; CBS 952.73]	Alternative depositions of this strain in other culture collections.
CW McCoy (Fla. 68)	Depositor and depositor's reference or accession number.
<i>Phyllocoptruta oleivora</i> [Homoptera: Aphididae]	Original host together with the host's order and family.
Jan 1 1970	Date of accession or receipt by ARSEF. Note: January 1 is a default date if an exact date in a year is unknown; the first day of the month is the default if no specific day in a month is known.
USA: Orlando, Florida	Country of origin followed by the locality and state.

Abbreviations

Information about the world's officially registered culture collections, their registered acronyms (e.g., ARSEF), and more is available from the CCINFO database and from other resources available at the website of the World Data Center for Microbiology <http://wdcm.nig.ac.jp/WDCHomePage_text.html>

ARSEF	ARS Collection of Entomopathogenic Fungi, USDA-ARS EPPRU Research Unit, Robert W. Holley Center for Agriculture & Health, Tower Rd., Ithaca, New York, 14853-2901, USA
ATCC	American Type Culture Collection, PO Box 1549, Manassas, Virginia 20108, USA
CATIE	Centro Agronómico Tropical de Investigación y Enseñanza, Proyecto UIP, Apdo. Postal 7170, Turrialba, Costa Rica.
CBS	Centraalbureau voor Schimmelcultures, Uppsalalaan 8, 3584 CT Utrecht, The Netherlands
CCF	Culture Collection of Fungi, Department of Botany, Charles University, Prague, Czech Republic
CCFC	Canadian Collection of Fungus Cultures, Centre for Land and Biological Resources Research, Room 1015, K.W. Neatby Bldg., Ottawa, Ontario K1A 0C6, Canada
CDC	Centers for Disease Control and Prevention, Atlanta, Georgia 30333, USA
CENARGEN	Centro Nacional de Pesquisa de Recursos Geéticos e Biotecnologia, S.A.I.N. Parque Rural, C.P. 102372, 70770 Brasília, D.F., Brazil
CIRI	Corn Insects Research Unit, USDA-ARS, R.R. Box 45B, Ankeny, Iowa 50021, USA
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 funded by US-AID to study fungal biocontrol of the insect pests of cowpeas
DAOM	National Mycological Herbarium, Centre for Land and Biological Resources Research, Agriculture Canada, Central Experimental Farm, Ottawa, Ontario, K1A 0C6, Canada
DAR	New South Wales Department of Agriculture, Rydalmere, NSW, Australia
EFCC	Korean Entomopathogenic Fungal Collection (JM Sung, Curator), Dept. of Agricultural Biology, Kangwon National University, Chuncheon, Rep. of Korea
FI	CSIRO Entomology Division, Collection of Entomopathogenic Fungi, Black Mountain Laboratories, Canberra, ACT, Australia. This collection, formerly curated by R. Milner, is now orphaned and is being transferred to ARSEF.
FPMI	Great Lakes Forestry Center (formerly Forest Pest Management Institute), 1219 Queen Street East, Sault Ste. Marie, Ontario P6A 5M7, Canada. This collection, formerly led by D MacLeod and D Tyrrell is orphaned and endangered. Its surviving isolates <i>may</i> be transferred to DAOM.

GCRI	Horticulture Research International (formerly, Glasshouse Crops Research Institute), Worthing Road, Littlehampton, W. Sussex BN17 6LP, England, UK
HACC	Hindustan Antibiotics Ltd., Pimpri, Poona, India
IMI	(Now incorporated in United Kingdom National Culture Collection [UKNCC]) CABI Bioscience, Bakeham Lane, Egham, Surrey TW20 9TY, UK
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 de Dr. Roux, 75724 Paris, France
IRRI	International Rice Research Institute, P.O. Box 933, Manila, Philippines
KEFC	(see EFCC)
KSU	Kansas State University, Department of Entomology, Manhattan, Kansas 66506, USA
MAF	Ministry of Agriculture and Fisheries, Canterbury Agriculture and Science Centre, Ellesmere Junction Road, P.O. Box 24, Lincoln, New Zealand
MU	Miami University, Willard Sherman Turrell Herbarium, Department of Botany, 79 Upham Hall, Oxford, Ohio 45056, USA
NCTC	National Collection of Type Cultures, Public Health Laboratory Service, 61 Colindale Ave., London NW9 5HT, England, UK
NRRL	ARS Culture Collection, USDA-ARS National Center for Agricultural Utilization Research, 1815 N. University, Peoria, Illinois 61604, USA
PSU	The Pennsylvania State University, 211 Buckhout Laboratory, University Park, Pennsylvania 16802, USA
QEC	Queen Elizabeth College, University of London, Department of Biology, Campden Hill Road, London W8 7AH, England, UK
QM	U.S. Army Natick Laboratories (formerly, Quartermaster Research and Development Center), Natick Massachusetts. Note: This collection has been transferred to NRRL.
RSA	Rancho Santa Ana Botanic Garden, 1500 North College Ave., Claremont, California 91711, USA
SBI	Sugarcane Breeding Institute, Indian Council of Agricultural Research, Coimbatore – 641 007, Tamil Nadu, India
UAF	University of Arkansas, Department of Entomology, 321 Agriculture Building, Fayetteville, Arkansas 72701, USA
UAMH	University of Alberta Microfungus Collection, Devonian Botanic Garden, University of Alberta, Alberta T6G 2H7, Canada

List of isolates by insect host: order Lepidoptera

- 1702 [CSIRO 199] *Cnaphalocrocis medinalis* [Lepidoptera: Pyralidae]. Acc'd 6 Nov 1984. Philippines: IRRI, Los Baños, Manila.

Unidentified / Hyphomycetes

- 4899 LA Lacey (95001). Egg mass, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 27 Jan 1995. France: Haguenau, Alsace.
- 4900 LA Lacey (95002). Egg mass, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 27 Jan 1995. France: Haguenau, Alsace.
- 5199 SR Booth (Cox). *Galleria mellonella* [Lepidoptera: Pyralidae]. Rec'd 28 May 1996. USA: Cranberry bog, Bandon, Oregon.
- 5236 LA Lacey (96014). Egg mass, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 7 Jun 1996. France: Alsace.
- 5333 CM Mohan (1 AU). *Helicoverpa zea* [Lepidoptera: Noctuidae] Cotton. 1 Dec 1995. India: Cotton field, Visakhapatnam, Andhra Pradesh.
- 5334 CM Mohan (2 AU). *Helicoverpa zea* [Lepidoptera: Noctuidae] Cotton. 1 Dec 1995. India: Cotton Field, Visakhapatnam, Andhra Pradesh.
- 9540 [SRCAMB VL-1715/3] V Likhovidov. Larva, [Lepidoptera]. 2005. Ukraine: Autonomous Republic of Crimea. Field Collection Number F-777.
- 12163 I Erper (TR-55-1). Pupa, *Hyphantria cunea* [Lepidoptera: Arctiidae]. Rec'd 3 Jun 2013. Turkey.
- 12164 I Erper (TR-55-2). Pupa, *Hyphantria cunea* [Lepidoptera: Arctiidae]. Rec'd 3 Jun 2013. Turkey.
- 12170 I Erper (TR-06-2). Pupa, *Hyphantria cunea* [Lepidoptera: Arctiidae]. Rec'd 3 Jun 2013. Turkey.
- 12171 I Erper (TR-78-1). Pupa, *Hyphantria cunea* [Lepidoptera: Arctiidae]. Rec'd 3 Jun 2013. Turkey.
- 12176 I Erper (TR-78-6). Pupa, *Hyphantria cunea* [Lepidoptera: Arctiidae]. Rec'd 3 Jun 2013. Turkey.
- 12178 I Erper (TR-78-8). Pupa, *Hyphantria cunea* [Lepidoptera: Arctiidae]. Rec'd 3 Jun 2013. Turkey.
- 12179 I Erper (TR-78-9). Pupa, *Hyphantria cunea* [Lepidoptera: Arctiidae]. Rec'd 3 Jun 2013. Turkey.
- 12180 I Erper (TR-78-10). Pupa, *Hyphantria cunea* [Lepidoptera: Arctiidae]. Rec'd 3 Jun 2013. Turkey.
- 12181 I Erper (TR-78-11). Pupa, *Hyphantria cunea* [Lepidoptera: Arctiidae]. Rec'd 3 Jun 2013. Turkey.

Unidentified sp.

These fungi were accessioned without verified identifications. Many strains listed here will be reassigned to known taxa as quickly as the opportunity allows. Some strains are undescribed new species; some are sterile and may not be identifiable to a level lower than the class.

- 71 PW Schaefer. *Lymantria dispar* [Lepidoptera: Lymantriidae]. 11 Aug 1975. Japan: Tamayama, Honshu Prefecture.

- 1415 S Balazy (1550). Larva, *Hibernia defoliaria* [Lepidoptera: Geometridae] attached to the underside of leaves in forest undergrowth. 22 May 1983. Poland: Bialowieza National Park.
- 1417 S Balazy (1547b). Larva, *Hibernia defoliaria* [Lepidoptera: Geometridae] attached to the underside of leaves in forest undergrowth. 22 May 1983. Poland: Bialowieza National Park.
- 1700 MC Rombach (B). *Cnaphalocrocis medinalis* [Lepidoptera: Pyralidae]. Aug 1984. Philippines: IRRI, Los Baños, Manila.
- 1701 MC Rombach (C). *Cnaphalocrocis medinalis* [Lepidoptera: Pyralidae]. Philippines: IRRI, Los Baños, Manila.
- 1703 MC Rombach (E). *Cnaphalocrocis medinalis* [Lepidoptera: Pyralidae]. Acc'd 6 Nov 1984. Philippines: IRRI, Los Baños, Manila.
- 2190 [CNPAP 86-3-10; CP 200] AS Prabhu. *Brassolis* sp. [Lepidoptera: Brassolidae]. 10 Mar 1986. Brazil: Goiânia, Goiás.
- 2821 GW Riethmacher (E8). *Plutella xylostella* [Lepidoptera: Plutellidae]. 4 May 1989. Philippines: La Trinidad, Benguet.
- 2826 GW Riethmacher (EB6). *Plutella xylostella* [Lepidoptera: Plutellidae]. 13 May 1989. Philippines: La Trinidad, Benguet.
- 3298 J Gutierrez Samperio (14) ← ERD Reyes. *Diatraea saccharalis* [Lepidoptera: Pyralidae] on sugar cane. 1987. Mexico: Colima.
- 3299 J Gutierrez Samperio (15) ← ERD Reyes. *Diatraea saccharalis* [Lepidoptera: Pyralidae] on sugar cane. 1987. Mexico: Colima.
- 3467 CENARGEN (CG 134). Pupa, *Euselasia* sp. [Lepidoptera: Riodinidae]. 1988. Brazil: Rio Grande do Sul.
- 3468 CENARGEN (CG 135). Larva, *Euselasia* sp. [Lepidoptera: Riodinidae]. 1988. Brazil: Rio Grande do Sul.
- 3567 M Brownbridge (HL-4). Pupa, *Lambdina athasaria* [Lepidoptera: Geometridae]. Rec'd 4 Feb 1992. USA: Windham County, Vermont.
- 3568 M Brownbridge (HL-5). Pupa, *Lambdina athasaria* [Lepidoptera: Geometridae]. Rec'd 4 Feb 1992. USA: Windham County, Vermont.
- 3569 M Brownbridge (HL-6). Pupa, *Lambdina athasaria* [Lepidoptera: Geometridae]. Rec'd 4 Feb 1992. USA: Windham County, Vermont.
- 3794 M Brownbridge (MLC1). Larva, *Paraclemensia acericaulis* [Lepidoptera: Incurvariidae] Acer sp. Rec'd 23 Feb 1993.
- 3796 M Brownbridge (MLC9). Larva, *Paraclemensia acericaulis* [Lepidoptera: Incurvariidae] Acer sp. Rec'd 26 Feb 1993.
- 3797 M Brownbridge (MLC11). Larva, *Paraclemensia acericaulis* [Lepidoptera: Incurvariidae] Acer sp. Rec'd 26 Feb 1993. Location not specified.

- 3803 ERD Reyes (PFRD). Larva, *Diaphania hyalinata* [Lepidoptera: Crambidae] melon. 5 Nov 1990. Mexico: Colima.
- 3804 ERD Reyes (VD). Larva, *Diatraea saccharalis* [Lepidoptera: Pyralidae] sugarcane. 25 Mar 1992. Mexico: Colima.
- 3964 LA Lacey (93001) ← F Herard. Larva, *Yponomeuti-*
dae sp. [Lepidoptera: Yponomeutidae]. 4 May 1993. France: Bagnols, S/Céze.
- 3998 LA Lacey (93035) ← F Herard. Larva, *Yponomeuta*
sp. [Lepidoptera: Yponomeutidae]. 4 May 1993. France: Bagnols, S/Céze.
- 4216 LA Lacey (94033). *Plutella xylostella* [Lepidoptera: Plutellidae]. 22 Mar 1994. Malaysia: Kuala Terla.

Acremonium berkeleyanum (Karsten) Gams
[Sordariomycetes: Hypocreales]
Nectriaceae

- 2067 [ATCC 64865] GC Carroll (3(RSRS-0/34)). Egg mass, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd Dec 1985. USA: Dexter, Oregon.

Acremonium roseum (Oudemans) Gams
[Sordariomycetes: Hypocreales]

- 1964 [CNPAF 85-7-30; CP 190] JC Lord and BP Magalhães. *Pseudoplusia ni* [Lepidoptera: Noctuidae]. 30 Jul 1985. Brazil: Nordeste.

Acrodontium crateriforme (Van Beyma) de Hoog
[Leotiomycetes: Leotiales]
Leotiaceae

- 2070 GC Carroll. Egg mass, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd Dec 1985. USA: Dexter, Oregon.

Aphanocladium album (Preuss) Gams
[Sordariomycetes: Hypocreales]
Nectriaceae

- 2068 GC Carroll (1(RSRO-120/284)). Egg mass, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd Dec 1985. USA: Dexter, Oregon.

***Aspergillus* sp.**
[Eurotiomycetes: Eurotiales]
Trichocomaceae

- 2765 GW Riethmacher (A3). *Plutella xylostella* [Lepidoptera: Plutellidae]. 13 Apr 1989. Philippines: La Trinidad, Benguet.
- 2817 GW Riethmacher (E1). *Plutella xylostella* [Lepidoptera: Plutellidae]. 3 Apr 1989. Philippines: La Trinidad, Benguet.
- 2820 GW Riethmacher (E7). *Plutella xylostella* [Lepidoptera: Plutellidae]. 3 May 1989. Philippines: La Trinidad, Benguet.

- 2823 GW Riethmacher (EB3). *Plutella xylostella* [Lepidoptera: Plutellidae]. 8 Apr 1989. Philippines: La Trinidad, Benguet.
- 2827 GW Riethmacher (EB7). *Plutella xylostella* [Lepidoptera: Plutellidae]. 8 Jun 1989. Philippines: La Trinidad, Benguet.
- 5205 C López Lastra (408). Larva, *Rachiplusia nu* [Lepidoptera: Noctuidae] Soybean crop. 1 Mar 1994. Argentina: Los Hornos, La Plata, Buenos Aires.

Aspergillus flavus Link:Fries
[Eurotiomycetes: Eurotiales]
Trichocomaceae

- 1003 J Aoki (Asp. 11). *Bombyx mori* [Lepidoptera: Bombycidae]. Rec'd 7 Nov 1983. Japan: Fuchu, Tokyo Prefecture.
- 1010 J Aoki (Asp. 26). *Bombyx mori* [Lepidoptera: Bombycidae]. Rec'd 7 Nov 1983. Japan: Fuchu, Tokyo Prefecture.
- 2818 GW Riethmacher (E4). *Plutella xylostella* [Lepidoptera: Plutellidae]. 7 Apr 1989. Philippines: La Trinidad, Benguet.
- 4126 [DAT 3; IMI 298915] AC Rath (F003). *Phthorimaea operculella* [Lepidoptera: Gelechiidae]. 1983. Australia: U. New England, Armidale, New South Wales.

***Aspergillus flavus*(?)** Link : Fries
[Eurotiomycetes: Eurotiales]
Trichocomaceae

- 5503 I Klingen (MFF 8.1). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 4 Sep 1996. Norway: Lebesby, Finnmark.
- 5504 I Klingen (MFF 9.1). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 4 Sep 1996. Norway: Lebesby, Finnmark.
- 5505 I Klingen (PVF 8). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 5 Sep 1996. Norway: Bodø, Nordland.
- 5506 I Klingen (TØF 10.1). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 26 Sep 1996. Norway: Steinkjer, Nord Trøndelag.
- 5507 I Klingen (TØF 12.1). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 26 Sep 1996. Norway: Steinkjer, Nord Trøndelag.
- 5508 I Klingen (TØF 21.1). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 26 Sep 1996. Norway: Steinkjer, Nord Trøndelag.
- 5509 I Klingen (TØF 24.1). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 26 Sep 1996. Norway: Steinkjer, Nord Trøndelag.

***Aspergillus ochraceus* Wilhelm**

[Eurotiomycetes: Eurotiales]

Trichocomaceae

- 2833 AE Hajek ← K Tatman (MD19#14). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 13 Jun 1989. USA: Baltimore County, Maryland.

***Aspergillus parasiticus* Speare**

[Eurotiomycetes: Eurotiales]

Trichocomaceae

- 5470 TJ Poprawski (TJP935). Larva, *Eoreuma loftini* [Lepidoptera: Pyralidae]. Rec'd 9 May 1997. USA: sugarcane field, Weslaco, Texas.

***Aspergillus tamaraii* Kita**

[Eurotiomycetes: Eurotiales]

Trichocomaceae

- 4127 [DAT 4; IMI 1298917] AC Rath (F004). *Phthorimaea operculella* [Lepidoptera: Gelechiidae]. 1984. Australia: U. New England, Armidale, New South Wales. ID not confirmed.

***Backusella* sp.**

[Mucormycotina: Mucorales]

Thamnidaceae

- 2750 GW Riethmacher (E6). *Plutella xylostella* [Lepidoptera: Plutellidae]. 3 May 1989. Philippines: La Trinidad, Benguet.

***Basidiobolus ranarum* Eidam**

[Entomophthoromycotina: Entomophthorales]

Basidiobolaceae. Possible synonyms: *Basidiobolus hapto-sporus* Drechsler, *Basidiobolus meristosporus* Drechsler.

Caution: Strains of this species may be able to grow at temperatures $\geq 37^{\circ}\text{C}$ and may be regarded as potential mycotic agents for humans and other mammals. These strains should be safe in research and/or teaching laboratories with routine microbiological precautions; avoid inhalation of conidia or contact with open cuts or abrasions.

- 1139 M Shimazu (F-57). *Dendrolimus spectabilis* [Lepidoptera: Lasiocampidae]. Acc'd 3 Apr 1984. Japan: Saitama Prefecture.

***Batkoa* sp.**

[Entomophthoromycotina: Entomophthorales]

Entomophthoraceae

- 6179 BJ Hicks (3). Larva, *Panolis flammea* [Lepidoptera: Noctuidae]. Jul 1998. United Kingdom: Dallas Forest, Moray District, Scotland.
- 7370 AE Hajek (04 NY 9-1-1). Larva, *Malacosoma disstria* [Lepidoptera: Lasiocampidae]. 29 May 2004. USA: Saint Lawrence County, New York.

***Beauveria* sp.**

[Sordariomycetes: Hypocreales]

Cordycipitaceae. Almost all strains listed here closely resemble *B. bassiana* (or *B. brongniartii*) but were not so identified because of small (and possibly insignificant) differences in conidia size and/or shape.

- 590 JM Lenné. *Mocis* sp. [Lepidoptera: Noctuidae]. Rec'd 13 Apr 1981. Colombia: Carimagua.
- 1040 J Aoki (Beau. 2) ← K Kawakami. *Bombyx mori* [Lepidoptera: Bombycidae]. Rec'd 7 Nov 1983. Japan: Suginami, Tokyo Prefecture. Identification verified genomically.
- 1886 H David. *Chilo infuscatellus* [Lepidoptera: Pyralidae] on sugar cane. Rec'd 1 Jun 1985. India: Sugarcane Breeding Institute, Coimbatore, Tamil Nadu.
- 2998 CBS (607.80) ← HC Evans. Larva, [Lepidoptera]. Rec'd 22 May 1990. Ecuador.
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- 7564 I Klingen (NCRI 228/02). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 1 Oct 2001. Norway: Nessane, field margin of organic apple orchard, Balestrand, Sogn og Fjordane.
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- 12457 T Reall (BHU) or (Wo9). *Galleria mellonella* [Lepidoptera: Pyralidae]. 7 Sep 2012. USA: Woodrail neighborhood, Columbia, Missouri. N 38.91893, W 92.35416.
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Beauveria amorphae (von Hoehnel) Minnick, SA
Rehner & Humber
[Sordariomycetes: Hypocreales]
Cordycipitaceae. Replaces *B. amorphae* (von Hoehnel)
Samson & Evans.

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Beauveria bassiana (Balsamo-Crivelli) Vuillemin
[Sordariomycetes: Hypocreales]
Cordycipitaceae. Major synonym: *Beauveria densa*
(Link:Fries) Picard

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- 1118 KV Deseö (45) ← Maini. Larva, *Sesamia cretica* [Lepidoptera: Noctuidae]. Sep 1982. Italy: Forli, Emilia-Romagna.
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- 1513 TJ Poprawski (0102B). Adult, *Spodoptera littoralis* [Lepidoptera: Noctuidae]. 21 Jun 1984. France: La Minière.
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- 2267 FPML. Pupa, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 1986. Canada: Ontario.
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- 2637 [CNPAF 88-6-22; CP 255] DW Roberts ← E Dias Quintela. Larva, [Lepidoptera]. 22 Jun 1988. Brazil: Caucaia, Ceará.
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- 2728 GW Riethmacher (L2). *Plutella xylostella* [Lepidoptera: Plutellidae]. 27 Jan 1989. Philippines: La Trinidad, Benguet.
- 2729 GW Riethmacher (L3). *Plutella xylostella* [Lepidoptera: Plutellidae]. 17 Mar 1989. Philippines: La Trinidad, Benguet.
- 2737 GW Riethmacher (BP). *Bombyx mori* [Lepidoptera: Bombycidae]. 23 Dec 1988. Philippines: La Trinidad, Benguet.
- 2831 AE Hajek ← K Tatman (MD99#6). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 13 Jun 1989. USA: Baltimore County, Maryland. Identification verified genomically.
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- 2962 CENARGEN (CG 166). Egg, *Schirius* sp. [Lepidoptera: Saturniidae]. Rec'd 14 Mar 1990. Brazil: Curitiba, Paraná.
- 2976 DM Schmidt. *Ostrinia nubilalis* [Lepidoptera: Pyralidae]. 14 Mar 1990. USA: Centre County, Pennsylvania.
- 3020 CENARGEN (CG 86). *Diatraea saccharalis* [Lepidoptera: Pyralidae]. Rec'd 20 Jul 1990. Brazil: Pernambuco.
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- 3858 [JB Tavares BRA-000035] MS Tigano-Milani (CG-86). *Diatraea saccharalis* [Lepidoptera: Pyralidae]. Rec'd 13 Jan 1993. Brazil.
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- 3966 LA Lacey (93003) ← F Herard. Larva, *Yponomeutidae* sp. [Lepidoptera: Yponomeutidae]. 4 May 1993. France: Bagnols, S/Céze.
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- 3968 LA Lacey (93005) ← F Herard. Larva, *Yponomeutidae* sp. [Lepidoptera: Yponomeutidae]. 4 May 1993. France: Bagnols, S/Céze.
- 3969 LA Lacey (93006) ← F Herard. Larva, *Yponomeutidae* sp. [Lepidoptera: Yponomeutidae]. 4 May 1993. France: Bagnols, S/Céze.
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- 3971 LA Lacey (93008) ← F Herard. Larva, *Yponomeuti-dae* sp. [Lepidoptera: Yponomeutidae]. 4 May 1993. France: Bagnols, S/Céze.
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- 3975 LA Lacey (93012) ← F Herard. Larva, *Cydia pomon-ella* [Lepidoptera: Tortricidae]. 4 May 1993. France: Le Vigan, Gard.
- 3977 LA Lacey (93014) ← F Herard. Larva, *Cydia pomon-ella* [Lepidoptera: Tortricidae]. 4 May 1993. France: Le Vigan, Gard.
- 3978 LA Lacey (93015) ← F Herard. Larva, *Cydia pomon-ella* [Lepidoptera: Tortricidae]. 4 May 1993. France: Le Vigan, Gard.
- 3979 LA Lacey (93016) ← F Herard. Larva, *Cydia pomon-ella* [Lepidoptera: Tortricidae]. 4 May 1993. France: Le Vigan, Gard.
- 4258 [DAT 49] AC Rath (F049). Larva, *Oncopera intricata* [Lepidoptera: Hepialidae]. 6 Nov 1987. Australia: Sorell, Tasmania.
- 4525 JD Vandenberg (DBM1b). Larva, *Plutella xylostella* [Lepidoptera: Plutellidae] on broccoli. 30 Aug 1993. USA: Ontario County, New York.
- 4526 JD Vandenberg (DBM1b). Larva, *Plutella xylostella* [Lepidoptera: Plutellidae] broccoli. 30 Aug 1993. USA: Ontario County, New York.
- 4527 JD Vandenberg (DBM2a). Larva, *Plutella xylostella* [Lepidoptera: Plutellidae] broccoli. 30 Aug 1993. USA: Ontario County, New York.
- 4528 JD Vandenberg (DBM2b). Larva, *Plutella xylostella* [Lepidoptera: Plutellidae] broccoli. 30 Aug 1993. USA: Ontario County, New York.
- 4529 JD Vandenberg (DBM3a). Larva, *Plutella xylostella* [Lepidoptera: Plutellidae] broccoli. 30 Aug 1993. USA: Ontario County, New York.
- 4530 JD Vandenberg (DBM3b). Larva, *Plutella xylostella* [Lepidoptera: Plutellidae] broccoli. 30 Aug 1993. USA: Ontario County, New York.
- 4531 JD Vandenberg (DBM4a). Larva, *Plutella xylostella* [Lepidoptera: Plutellidae] broccoli. 30 Aug 1993. USA: Ontario County, New York.
- 4532 JD Vandenberg (DBM4b). Larva, *Plutella xylostella* [Lepidoptera: Plutellidae] broccoli. 30 Aug 1993. USA: Ontario County, New York.
- 4533 JD Vandenberg (DBM5a). Larva, *Plutella xylostella* [Lepidoptera: Plutellidae] broccoli. 30 Aug 1993. USA: Ontario County, New York.
- 4534 JD Vandenberg (DBM5b). Larva, *Plutella xylostella* [Lepidoptera: Plutellidae] broccoli. 30 Aug 1993. USA: Ontario County, New York.
- 4535 JD Vandenberg (DBM6a). Larva, *Plutella xylostella* [Lepidoptera: Plutellidae] broccoli. 30 Aug 1993. USA: Ontario County, New York.
- 4536 JD Vandenberg (DBM6b). Larva, *Plutella xylostella* [Lepidoptera: Plutellidae] broccoli. 30 Aug 1993. USA: Ontario County, New York.
- 4537 JD Vandenberg (DBM8a). Larva, *Plutella xylostella* [Lepidoptera: Plutellidae] broccoli. 30 Aug 1993. USA: Ontario County, New York.
- 4538 JD Vandenberg (DBM8b). Larva, *Plutella xylostella* [Lepidoptera: Plutellidae] broccoli. 30 Aug 1993. USA: Ontario County, New York.
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- 4540 J Altre (BB5B#1). 4th instar larva, *Plutella xy-lostella* [Lepidoptera: Plutellidae] Artificial diet. 25 Apr 1994. USA: USDA-ARS-PPRU, Ithaca, New York. Single spore isolate of ARSEF 4534.
- 4541 J Altre (BB5B#2). 4th instar larva, *Plutella xy-lostella* [Lepidoptera: Plutellidae] Artificial diet. 25 Apr 1994. USA: USDA-ARS-PPRU, Ithaca, New York. Single spore isolate of ARSEF 4534.
- 4542 J Altre (BB5B#3). 4th instar larva, *Plutella xy-lostella* [Lepidoptera: Plutellidae] Artificial diet. 25 Apr 1994. USA: USDA-ARS-PPRU, Ithaca, New York. Single spore isolate of ARSEF 4534.
- 4543 J Altre (BB5B#4). 4th instar larva, *Plutella xy-lostella* [Lepidoptera: Plutellidae] Artificial diet. 25 Apr 1994. USA: USDA-ARS-PPRU, Ithaca, New York. Single spore isolate of ARSEF 4534.
- 4589 [DAT 42] AC Rath (F42) ← RJ Milner (F125). Larva, *Oncopera alboguttata* [Lepidoptera: Hepialidae]. 13 Feb 1980. Australia: Ebor, New South Wales.
- 4607 [DAT 41] AC Rath (F041) ← RJ Milner (F117). Larva, *Oncopera alboguttata* [Lepidoptera: Hepi-alidae]. 6 Dec 1976. Australia: Ebor, New South Wales.
- 4672 [DAT 48] AC Rath (F048). Larva, *Oncopera intricata* [Lepidoptera: Hepialidae]. 30 Sep 1987. Australia: Plenty, Tasmania.
- 5063 LA Lacey (95055). *Cydia pomonella* [Lepidoptera: Tortricidae]. 12 Oct 1995. France: Port d' Hérault.
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- 6152 SP Wraight (DBM 31° #1 5P). Larva, *Plutella xylostella* [Lepidoptera: Plutellidae]. 22 Apr 1999. USA: Ithaca, New York. Laboratory re-isolation from Mycotech GHA Lot #10/23/97 after 5 serial passes through *Plutella xylostella* grown at 31°C. **RESTRICTED ACCESS:** contact Curator.
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- 6186 FE Vega (EBCL 99021). Larva, *Cydia pomonella* [Lepidoptera: Tortricidae]. 10 Dec 1998. France: Chez Moitou.
- 6187 FE Vega (EBCL 99022). Adult, *Cydia pomonella* [Lepidoptera: Tortricidae]. 21 Dec 1998. Bulgaria.
- 6189 FE Vega (EBCL 99025). Larva, *Cydia pomonella* [Lepidoptera: Tortricidae]. 22 Feb 1999. France: Arre.
- 6191 FE Vega (EBCL 99028). Larva, *Cydia pomonella* [Lepidoptera: Tortricidae]. 13 Jan 1999. France: Crèvecoeur.
- 6194 FE Vega (EBCL 99032). Adult, *Cydia pomonella* [Lepidoptera: Tortricidae]. 21 Dec 1998. Bulgaria.
- 6195 FE Vega (EBCL 99033). Larva, *Cydia pomonella* [Lepidoptera: Tortricidae]. 6 Oct 1998. Bulgaria: Plovdiv.
- 6196 FE Vega (EBCL 99034). Larva, *Cydia pomonella* [Lepidoptera: Tortricidae]. 18 Dec 1998. France: Andard.
- 6199 FE Vega (EBCL 99038). *Hedya nubiferana* [Lepidoptera: Tortricidae]. 31 Mar 1999. France: Layrac.
- 6201 FE Vega (EBCL 98027). Larva, *Cydia pomonella* [Lepidoptera: Tortricidae]. 19 Feb 1998. France: Crespian, Gard.
- 6205 FE Vega (EBCL 98041). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 20 Jul 1998. France: Pujaudrau.
- 6208 FE Vega (EBCL 98053). Larva, *Cydia pomonella* [Lepidoptera: Tortricidae]. 5 Oct 1998. Bulgaria: Jabalkovo.
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- 6557 D Chandler (HRI 373.93). Pupa, [Lepidoptera]. Rec'd 13 Jul 2000. United Kingdom.
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- 6802 Simonsen (p3-1f). *Leucoptera coffeella* [Lepidoptera: Lyonetiidae] on leaves of *Coffea arabica* L., coffee. 13 Jun 2000. Nicaragua: Carazo.
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- 6905 M Ghazavi (3). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 5 Dec 1999. Iran: Elevation 2300 m., Atashgah.
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- 6935 ST Jaronski (TM24). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 2000. USA: T Cayko Farm, sugarbeet field, Richland County, Montana.
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- 6937 ST Jaronski (TM28). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 2000. USA: Montana State University Eastern Experiment Station, sugarbeet field, Sidney, Montana.
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- 6939 ST Jaronski (TM31). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 2000. USA: D. Danielson Farm, sugarbeet field, Richland County, Montana.
- 6940 ST Jaronski (TM36). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 2002. USA: Montana State University Eastern Experiment Station, sugarbeet field, Sidney, Montana.
- 6941 ST Jaronski (TM37). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 2000. USA: Montana State University Eastern Experiment Station, sugarbeet field, Sidney, Montana.
- 6943 ST Jaronski (TM40). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 2000. USA: Montana State University Eastern Experiment Station, sugarbeet field, Sidney, Montana.
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- 6950 ST Jaronski (TM71). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 2000. USA: T Cayko Farm, sugarbeet field, Richland County, Montana.
- 6951 ST Jaronski (TM72). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 2000. USA: Montana State University Eastern Experiment Station, sugarbeet field, Sidney, Montana.
- 6952 ST Jaronski (TM75). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 2000. USA: J. Damm Farm, sugarbeet field, Richland County, Montana.
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- 6974 [PPRI 7057] JL Hatting. Larva, *Monopetalotaxis doleriformis* [Lepidoptera: Sesiidae]. Nov 1999. South Africa: Ysterfontein, Clanwilliam, Cape Province.
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- 6976 [PPRI 7059] JL Hatting. Pupa, *Monopetalotaxis doleriformis* [Lepidoptera: Sesiidae]. Dec 2000. South Africa: Ysterfontein, Clanwilliam, Cape Province.
- 6977 [PPRI 7060] JL Hatting. Larva, *Monopetalotaxis doleriformis* [Lepidoptera: Sesiidae]. 17 May 2000. South Africa: Ysterfontein, Clanwilliam, Cape Province.
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- 6984 [PPRI 7082] JL Hatting. Pupa, [Lepidoptera: Eupterotidae]. 30 Oct 2001. South Africa: De Hangen, Clanwilliam, Cape Province.

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- 7356 DJ Bruck (IP-36). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 31 Jul 2002. USA: Independence, Oregon.
- 7357 DJ Bruck (IP-57). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 7 Aug 2002. USA: Boring, Oregon.
- 7358 DJ Bruck (IP-62). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 20 Aug 2002. USA: Aurora, Oregon.
- 7359 DJ Bruck (IP-63). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 20 Aug 2002. USA: Aurora, Oregon.
- 7360 DJ Bruck (IP-66). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 20 Aug 2002. USA: Woodburn, Oregon.
- 7361 DJ Bruck (IP-93). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. Summer 2002. USA: Salem, Oregon.
- 7362 DJ Bruck (IP-94). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 19 Aug 2002. USA: Aurora, Oregon.
- 7364 DJ Bruck (IP-238). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 19 Aug 2002. USA: Aurora, Oregon.
- 7365 DJ Bruck (IP-241). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 19 Aug 2002. USA: Aurora, Oregon.
- 7366 DJ Bruck (IP-270). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 6 Aug 2002. USA: Fall Creek, Oregon.
- 7367 DJ Bruck (IP-310). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 20 Aug 2002. USA: Aurora, Oregon.
- 7552 I Klingen (NCRI 66/02). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 3 Oct 2001. Norway: Målsnes, field margin of organic apple orchard, Balestrand, Sogn og Fjordane.
- 7553 I Klingen (NCRI 68/02). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 1 Oct 2001. Norway: Nessane, field margin of organic apple orchard, Balestrand, Sogn og Fjordane.
- 7554 I Klingen (NCRI 91/02). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 3 Oct 2001. Norway: conventional apple orchard, Balestrand, Sogn og Fjordane.
- 7585 [SRCAMB B-38] V Likhovidov ← BA Borisov. [Lepidoptera] Isolated from stroma of *Cordyceps* sp. Aug 2001. Russian Federation: Lazovsky Nature Reserve, Primorsky Krai. Field Collection Number F-234.
- 7593 [SRCAMB B-210] V Likhovidov (24/89) ← BA Borisov. Larva, [Lepidoptera]. 1989. Russian Federation: Irkutsk Region. Field Collection Number F-70.
- 7955 LA Lacey (1B). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil sample. 29 Sep 2005. USA: Alaska. 67°06'07" N, 150°05'46" W.
- 7956 LA Lacey (1C). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil sample. 29 Sep 2005. USA: Alaska. 67°06'07" N, 150°05'46" W.
- 7957 LA Lacey (2B). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil sample. 29 Sep 2005. USA: Alaska. 68°02'52" N, 149°37'58" W, 3180 ft elevation.
- 7958 LA Lacey (2C). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil sample. 29 Sep 2005. USA: Alaska. 68°02'52" N, 149°37'58" W, 3180 ft elevation.
- 7959 LA Lacey (2D). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil sample. 29 Sep 2005. USA: Alaska. 68°02'52" N, 149°37'58" W, 3180 ft elevation.
- 7963 LA Lacey (7). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil sample. 29 Sep 2005. USA: Mile 400, wooded area, Alaska. 65°30'06" N, 148°45'29" W.
- 7964 LA Lacey (8). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil sample. 4 Oct 2005. USA: Site 1 (Wrigley), CRP soil 1-3, Alaska.
- 7965 LA Lacey (8A). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil sample. 4 Oct 2005. USA: Site 1 (Wrigley), CRP soil 1-3, Alaska.
- 7966 LA Lacey (12A). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil sample. 4 Oct 2005. USA: Site 2 (Dufenbach), forest soil 13-15, Alaska.
- 7968 LA Lacey (16A). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil sample. 4 Oct 2005. USA: Site 3 (Green), field soil 25-27, Alaska.
- 7969 LA Lacey. Overwintering larva, *Cydia pomonella* [Lepidoptera: Tortricidae]. Rec'd 7 Mar 2006.
- 8032 NV Meyling (KVL 03-129). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from field soil. 18 Sep 2002. Denmark: Bakkegården, Copenhagen, Tåstrup, Zealand. 55°40' N, 12°18' E.
- 8033 NV Meyling (KVL 03-136). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil of hedge. 6 Sep 2002. Denmark: Bakkegården, Copenhagen, Tåstrup, Zealand. 55°40' N, 12°18' E.

- 8035 NV Meyling (KVL 03-142). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil of hedge. 6 Sep 2002. Denmark: Bakkegården, Copenhagen, Tåstrup, Zealand. 55°40' N, 12°18' E.
- 8039 NV Meyling (KVL 04-92). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. Jul 2004. Greenland: Disko Island. 70° N, 53° W.
- 8040 NV Meyling (KVL 04-93). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. Jul 2004. Greenland: Disko Island. 70° N, 53° W.
- 8066 [CSIRO FI-0571] *Helicoverpa* sp. [Lepidoptera: Noctuidae] on *Medicago sativa* L., lucerne. 24 Jan 1990. Australia: Gattton, Queensland.
- 8339 Z Demirbag (KTU-7). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 17 Jul 2006. Turkey: Yomra, Trabzon.
- 8340 Z Demirbag (KTU-8). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 22 Jul 2006. Turkey: Bolaman, Ordu.
- 8343 Z Demirbag (KTU-11). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 22 Jul 2006. Turkey: Bolaman, Ordu.
- 8349 Z Demirbag (KTU-17). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 16 Sep 2006. Turkey: Borçka, Artvin.
- 8354 Z Demirbag (KTU-22). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 16 Sep 2006. Turkey: Borçka, Artvin.
- 8355 Z Demirbag (KTU-23). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 16 Sep 2006. Turkey: Hemsin, Rize.
- 8356 Z Demirbag (KTU-24). *Thaumetopoea pityocampa* [Lepidoptera: Thaumetopoeidae]. 11 Dec 2006. Turkey: Samsun Province.
- 8431 Z Demirbag (KTU-25). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 21 Mar 2007. Turkey: Ünye, Ordu.
- 8444 Z Demirbag (KTU-38). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 20 Mar 2007. Turkey: Ulubey, Ordu.
- 8493 [CSIRO FI-0016] *Oncopera alboguttata* [Lepidoptera: Hepialidae]. 13 Feb 1980. Australia: Ebor, New South Wales.
- 8661 Z Demirbag (KTU-50). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 4 Jun 2007. Turkey: Gümüşhane.
- 8663 Z Demirbag (KTU-52). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 4 Jun 2007. Turkey: Gümüşhane.
- 8664 Z Demirbag (KTU-53). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 7 Jul 2007. Turkey: Erzurum.
- 8666 Z Demirbag (KTU-55). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 7 Jul 2007. Turkey: Askale, Erzurum.
- 8667 Z Demirbag (KTU-56). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 7 Jul 2007. Turkey: Gümüşhane.
- 8670 Z Demirbag (KTU-59). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 7 Jul 2007. Turkey: Gümüşhane.
- 8672 Z Demirbag (KTU-61). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 7 Jul 2007. Turkey: Gümüşhane.
- 8673 Z Demirbag (KTU-62). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 7 Jul 2007. Turkey: Bayburt.
- 8674 Z Demirbag (KTU-63). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 7 Jul 2007. Turkey: Bayburt.
- 8709 RG Hollingsworth (H6). [Lepidoptera]. 26 Jan 2007. USA: Waiakea Experiment Station, Hilo, Hawai'i.
- 8843 [CSIRO FI-1311] *Opodiphthera eucalypti* [Lepidoptera: Saturniidae]. 10 Mar 1999. Australia: Dorrigo, New South Wales.
- 8891 [CSIRO FI-0079] *Danaus plexippus* [Lepidoptera: Danaidae]. 11 Oct 1984. Australia: Queensland.
- 9445 [SRCAMB B-234/2] V Likhovidov ← BA Borisov. Adult, [Lepidoptera]. 12 Jul 2003. Russian Federation: Kedrovaya Pad Nature Reserve, Primorsky Krai. Field Collection Number F-355.
- 11613 [ERL 53] M Brownbridge (B33). *Galleria mellonella* [Lepidoptera: Pyralidae]. 1991. USA.
- 11614 [ERL 57] M Brownbridge (MLC2). *Paraclemensia* sp. [Lepidoptera: Incurvariidae]. 1994. USA.
- 11615 [ERL 58] M Brownbridge (MLC3). *Paraclemensia* sp. [Lepidoptera: Incurvariidae]. 1994. USA.
- 11616 [ERL 59] M Brownbridge (MLC4). *Paraclemensia* sp. [Lepidoptera: Incurvariidae]. 1994. USA.
- 11617 [ERL 63] M Brownbridge (MLC9). *Paraclemensia* sp. [Lepidoptera: Incurvariidae]. 1994. USA.
- 11708 T Wen (LG-11-7). Pupa, [Lepidoptera]. 2011. PR China: Leigong Mountain, Guizhou Province.
- 11715 T Wen (BB-7). Pupa, [Lepidoptera]. 2007. Republic of Korea: Yongdusan Park, Busan, Yeongnam Region.
- 11716 T Wen (BB-8). Pupa, [Lepidoptera]. 2010. PR China: Guiyang City, Guizhou Province.
- 11717 T Wen (BB-9). Pupa, [Lepidoptera]. 2010. PR China: Libo County, Guizhou Province.
- 11719 T Wen (FD-5). Pupa, [Lepidoptera]. 2011. PR China: Foding Mountain, Shiqian County, Guizhou Province.
- 12165 I Erper (TR-55-3). Pupa, *Hyphantria cunea* [Lepidoptera: Arctiidae]. Rec'd 3 Jun 2013. Turkey.
- 12822 [Mycotech Corporation Bb1200, KOR] SP Wraight. *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 23 Feb 2015. Republic of Korea. From technical powder produced by Mycotech Corporation, November 1999. **RESTRICTED ACCESS: contact Curator.**

***Beauveria bassiana* sensu lato** (Balsamo-Crivelli)
 Vuillemin
 [Sordariomycetes: Hypocreales]
 Cordycipitaceae

- 13258 [AS Lestari W1] [Lepidoptera: Pyralidae]. 7 Oct 2013. USA: Polk County, Oregon.
 13259 [AS Lestari 32 LA] [Lepidoptera: Pyralidae]. 22 Dec 2014. USA: Benton County, Oregon.

***Beauveria bassiana*(?)** (Balsamo-Crivelli) Vuillemin
 [Sordariomycetes: Hypocreales]
 Cordycipitaceae

- 5644 [IITA 82] A Cherry. *Eldana saccharina* [Lepidoptera: Pyralidae]. 3 Jul 1996. Benin: IITA field, Cotonou, Atlantique.
 6892 E Zhioua (T73). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. Rec'd May 2001.

Beauveria brongniartii (Saccardo) Petch
 [Sordariomycetes: Hypocreales]
 Cordycipitaceae. Major synonym: *Beauveria tenella* (Saccardo) MacLeod.

- 1481 [ARSEF 1829] SB Alves (258). *Castnia licus* [Lepidoptera: Castniidae] on sugar cane. Rec'd 6 Jul 1984. Brazil: Pernambuco.
 1482 [ARSEF 1830] SB Alves (210). *Diatraea saccharalis* [Lepidoptera: Pyralidae] on sugar cane. Rec'd 6 Jul 1984. Brazil: São Paulo.
 1829 [ARSEF 1481 (lost)] SB Alves (258). *Castnia licus* [Lepidoptera: Castniidae] on sugar cane. Acc'd 29 Jan 1985. Brazil: Pernambuco.
 1830 [ARSEF 1482 (lost)] SB Alves (210). *Diatraea saccharalis* [Lepidoptera: Pyralidae] on sugar cane. Acc'd 29 Jan 1985. Brazil: São Paulo.
 7555 I Klingen (NCRI 57/02). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 1 Oct 2001. Norway: organic apple orchard, Balestrand, Sogn og Fjordane.
 7556 I Klingen (NCRI 71/02). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 3 Oct 2001. Norway: Målsnes, organic apple orchard, Balestrand, Sogn og Fjordane.
 7557 I Klingen (NCRI 73/02). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 3 Oct 2001. Norway: Målsnes, field margin of organic apple orchard, Balestrand, Sogn og Fjordane.
 7558 I Klingen (NCRI 74/02). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 3 Oct 2001. Norway: organic apple orchard, Balestrand, Sogn og Fjordane.
 7559 I Klingen (NCRI 86/02). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 1 Oct 2001. Norway: field margin of organic apple orchard, Balestrand, Sogn og Fjordane.

- 7560 I Klingen (NCRI 223/02). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 1 Oct 2001. Norway: Nessane, organic apple orchard, Balestrand, Sogn og Fjordane.
 7561 I Klingen (NCRI 233/02). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 1 Oct 2001. Norway: field margin of conventional apple orchard, Balestrand, Sogn og Fjordane.
 8034 NV Meyling (KVL 03-140). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil of hedge. 6 Sep 2002. Denmark: Bakkegården, Copenhagen, Tåstrup, Zealand. 55°40' N, 12°18' E.
 9599 X Zou (6). [Lepidoptera: Noctuidae]. Rec'd 19 Jan 2010. PR China: Guizhou Province.

Beauveria pseudobassiana SA Rehner & Humber
 [Sordariomycetes: Hypocreales]
 Cordycipitaceae. Defined primarily by genotypic characters

- 299 RC Hedlund. Larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Jun 1978. Rumania: 1 km W of Pasarea on Rt. 3, Pasarea, Muntenia.
 1565 KV Deseö (109) ← Cortellini. Pupa, *Hyphantria cunea* [Lepidoptera: Arctiidae]. Mar 1984. Italy: Villa Cadé (Reggio Emilia), Emilia-Romagna.
 3220 LA Lacey. *Cydia pomonella* [Lepidoptera: Tortricidae]. Rec'd Feb 1991. Portugal. Identification verified genomically.
 3405 AE Hajek (18). 6th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 10 Jun 1991. USA: Koontz Lokey, Page County, Virginia. CULTURE EX TYPE.
 3528 AE Hajek (61c). 5th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 19 Jun 1991. USA: Belle Acre, Allegheny County, Pennsylvania.
 3529 AE Hajek (73a). 5th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 11 Jun 1991. USA: Resurrection, Prince Georges County, Maryland. Identification verified genomically.
 3965 LA Lacey (93002) ← F Herard. Larva, *Yponomeutidae* sp. [Lepidoptera: Yponomeutidae]. 4 May 1993. France: Bagnols, S/Céze.
 4273 [DAT 9] AC Rath (F009) ← Pinnock. Larva, *Oncopera* sp. [Lepidoptera: Hepialidae]. 1983. Australia: South Australia.
 5370 I Klingen (NCRI 2-96 (B2)). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] Soil sample (loam). 10 May 1996. Norway: Border vegetation of cereal field, Bjørnebekk (59.43° N), Ås, Akershus. **RESTRICTED ACCESS: contact Curator.**
 5557 I Klingen (STF 14.1). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 27 Sep 1996. Norway: Harstad, Troms. **RESTRICTED ACCESS: contact Curator.**

- 6181 FE Vega (EBCL 99004). Larva, *Cydia pomonella* [Lepidoptera: Tortricidae]. 6 Oct 1998. Bulgaria: Plovdiv.
- 6185 FE Vega (EBCL 99020). Larva, *Cydia pomonella* [Lepidoptera: Tortricidae]. 13 Jan 1999. France: St. Marie aux Anglais.
- 6971 [PPRI 7054] JL Hatting. Larva, *Monopetalotaxis doleriformis* [Lepidoptera: Sesiidae]. Mar 2001. South Africa: Ysterfontein, Clanwilliam, Cape Province.
- 6972 [PPRI 7055] JL Hatting. Larva, *Isturgia exerrariae* [Lepidoptera: Geometridae]. 24 Apr 2001. South Africa: ARC-Small Grain Institute Greenhouse, Bethlehem, Free State.
- 13260 [AS Lestari FXSC] [Lepidoptera: Pyralidae]. 22 Dec 2014. USA: Benton County, Oregon.
- 13261 [AS Lestari FS9SLPA] [Lepidoptera: Pyralidae]. 22 Dec 2014. USA: Benton County, Oregon.
- 13262 [AS Lestari WH3LA] [Lepidoptera: Pyralidae]. 22 Dec 2014. USA: Benton County, Oregon.
- 13263 [AS Lestari aRB] [Lepidoptera: Pyralidae]. 22 Dec 2014. USA: Benton County, Oregon.

***Beniowskia* sp.**

[Hyphomycetes]

- 2751 GW Riethmacher (EB1). *Plutella xylostella* [Lepidoptera: Plutellidae]. 5 Apr 1989. Philippines: La Trinidad, Benguet.

***Cladosporium* sp.** Mycosphaerellaceae

[Dothideomycetes: Capnodiales]

- 6226 JL Hatting (Sample A). *Orachrysops ariadne* [Lepidoptera: Lycaenidae: Polyommatainae]. Rec'd 16 Jul 1999. South Africa.

Clonostachys rosea (Link : Fries) Schroers, Samuels,

Seifert & W Gams

[Sordariomycetes: Hypocreales]

Bionectriaceae

- 9493 [SRCAMB VL-1344] V Likhovidov. [Lepidoptera] Isolated from *Cordyceps* sp. 12 Aug 2003. Russian Federation: Caucasus region, Sochi District, Krasnodarsky Krai. Field Collection Number F-916.

***Conidiobolus* sp.**

[Entomophthoromycotina: Entomophthorales]

Ancylistaceae. These strains include a heterogeneous assortment of fungi isolated as saprobes and as zoopathogens. Some may represent undescribed new species. Identifications of *Conidiobolus* species are made difficult by the relative lack of taxonomic characters and of any modern taxonomic attention.

Caution: Strains derived from mammalian mycoses should be treated as potentially hazardous; observe handling precautions noted for *Conidiobolus coronatus*.

Musquacook Lake, Musquacook, Maine.

- 93 JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 7 Jul 1976. USA: west side, 2nd Musquacook Lake, Musquacook, Maine.
- 94 JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 7 Jul 1976. USA: west side, 2nd Musquacook Lake, Musquacook, Maine.
- 147 JD Vandenberg. Larva, *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 26 Jun 1977. USA: Carroll, Maine.
- 148 JD Vandenberg. Larva, *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 20 Jun 1977. USA: forest, Maine.
- 2771 GW Riethmacher (C3). *Plutella xylostella* [Lepidoptera: Plutellidae]. 11 Apr 1989. Philippines: La Trinidad, Benguet.
- 2772 GW Riethmacher (C4). *Plutella xylostella* [Lepidoptera: Plutellidae]. 14 Apr 1989. Philippines: La Trinidad, Benguet.
- 2815 GW Riethmacher (C5). *Plutella xylostella* [Lepidoptera: Plutellidae]. 14 Apr 1989. Philippines: La Trinidad, Benguet.
- 2816 GW Riethmacher (C6). *Plutella xylostella* [Lepidoptera: Plutellidae]. 9 Jun 1989. Philippines: La Trinidad, Benguet.
- 3208 GW Riethmacher (C4.1a). *Plutella xylostella* [Lepidoptera: Plutellidae]. 16 Oct 1990. Philippines: La Trinidad, Benguet.

Conidiobolus coronatus (Costantin) Batko

[Entomophthoromycotina: Entomophthorales]

Ancylistaceae. Major synonyms: *Entomophthora coronata* (Costantin) Kevorkian, *Conidiobolus villosus* Martin.

Caution: This species is known to cause human mycoses that are primarily tropical in occurrence and confined to the nasal passages and adjacent superficial areas. Avoid inhalation of conidia and do not handle cultures without gloves if unhealed cuts or abrasions are present. This species has low pathogenicity for mammals and should be relatively safe if handled with good microbiological technique.

- 1884 [CP 173] DW Roberts ← J Brunes. *Mocis latipes* [Lepidoptera: Noctuidae]. 31 Jan 1985. Brazil: CNPAF, Goiânia, Goiás.
- 2730 GW Riethmacher (C1). *Plutella xylostella* [Lepidoptera: Plutellidae]. 6 Apr 1989. Philippines: La Trinidad, Benguet.
- 4797 [INIA 2193] J Eilenberg (KVL 614). *Epinotia aporema* [Lepidoptera: Tortricidae]. 4 May 1994. Uruguay.

Conidiobolus firmipilleus Drechsler

[Entomophthoromycotina: Entomophthorales]

Ancylistaceae

- 92 JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 7 Jul 1976. USA: west side, 2nd

- 2731 GW Riethmacher (C2). *Plutella xylostella* [Lepidoptera: Plutellidae]. 8 Apr 1989. Philippines: La

Trinidad, Benguet.

***Cordyceps* sp.**

[Sordariomycetes: Hypocreales]

Family cannot be determined since this genus in its old, broad sense is now segregated among several genera in three families

- 7808 [SRCAMB VL-470] V Likhovidov. [Lepidoptera] Isolated from stroma. Jul 2001. Russian Federation: Kedrovaya Pad Nature Reserve, Primorsky Krai. Field Collection Number F-164.
- 7811 [SRCAMB VL-375] V Likhovidov. [Lepidoptera] Isolated from stroma. Jul 2002. Russian Federation: Kedrovaya Pad Nature Reserve, Primorsky Krai. Field Collection Number F-166.
- 9486 [SRCAMB VL-1610/3] V Likhovidov. Pupa, [Lepidoptera]. Sep 2004. Russian Federation: Kavkazkiy Nature Reserve, Krasnodarsky Krai. Field Collection Number F-766.

***Cordyceps bassiana* ZZ Li, CR Li, B Huang & MZ Fan**
 [Sordariomycetes: Hypocreales]

Cordycipitaceae. Anamorph: resembles *Beauveria bassiana* (Balsamo-Crivelli) Vuillemin

- 7047 [RCEF 0711] M Fan and Z Li. Larva, [Lepidoptera: Cossidae]. 3 Sep 2000. PR China: Guniujiang National Nature Reserve, Shitai County, Anhui. CULTURE EX TYPE.

***Cordyceps cardinalis* Sung & Spatafora**

[Sordariomycetes: Hypocreales]

Cordycipitaceae

- 7192 JW Spatafora (OSC 93609) and GH Sung. [Lepidoptera: Tineidae: Archolophinae]. 19 Jul 2000. USA: Hen Wallow Trail, Great Smoky Mountains National Park, Tennessee. CULTURE EX HOLOTYPE.
- 7193 JW Spatafora (OSC 93610) and GH Sung. [Lepidoptera: Tineidae: Archolophinae]. 19 Jul 2000. USA: Hen Wallow Trail, Great Smoky Mountains National Park, Tennessee.

***Cordyceps isarioides* Curtis ex Massee**

[Sordariomycetes: Hypocreales]

Cordycipitaceae. Synonym: *Cordyceps tuberculata* (Lebert) Maire

- 5688 JM Sung (KEFC-199). [Lepidoptera]. 25 Jun 1992. Republic of Korea: Bong-Myung Ri, Chuncheon, Kangwon-do.

***Cordyceps militaris* (Linnaeus:Fries) Link**

[Sordariomycetes: Hypocreales]

Cordycipitaceae. Anamorph: *Verticillium* sp. This species has not produced stromata, perithecia, or ascospores in culture. Vegetative hyphae and conidia are all that have been observed with standard culture media and routine physical conditions of incubation in the laboratory and/or incubator.

- 2416 M Shimazu (F-522). [Lepidoptera: Geometridae].

17 Jun 1985. Japan: Mt. Akagi.

- 4081 KT Hodge (C1). Pupa, [Lepidoptera] Mixed hemlock/beechn. 29 Jul 1993. USA: Long Point, Raquette Lake, New York.
- 4082 KT Hodge (C2). Pupa, [Lepidoptera] Mixed hemlock/beechn. 29 Jul 1993. USA: Long Point, Raquette Lake, New York.
- 4083 KT Hodge (C3). Pupa, [Lepidoptera] Mixed hemlock/beechn. 29 Jul 1993. USA: Long Point, Raquette Lake, New York.
- 4084 KT Hodge (C4). Pupa, [Lepidoptera] Mixed hemlock/beechn. 29 Jul 1993. USA: Long Point, Raquette Lake, New York.
- 4085 KT Hodge (D1). Pupa, [Lepidoptera] Mixed hemlock/beechn. 29 Jul 1993. USA: Long Point, Raquette Lake, New York.
- 4086 KT Hodge (D2). Pupa, [Lepidoptera] Mixed hemlock/beechn. 29 Jul 1993. USA: Long Point, Raquette Lake, New York.
- 4087 KT Hodge (D3). Pupa, [Lepidoptera] Mixed hemlock/beechn. 29 Jul 1993. USA: Long Point, Raquette Lake, New York.
- 4088 KT Hodge (D4). Pupa, [Lepidoptera] Mixed hemlock/beechn. 29 Jul 1993. USA: Long Point, Raquette Lake, New York.
- 4089 KT Hodge (D5). Pupa, [Lepidoptera] Mixed hemlock/beechn. 29 Jul 1993. USA: Long Point, Raquette Lake, New York.
- 4838 KT Hodge (kth28a). Pupa, [Lepidoptera] Soil. 11 Sep 1994. USA: Raquette Lake, New York. Single-ascospore isolate from a single fruit body.
- 4839 KT Hodge (kth28b). Pupa, [Lepidoptera] Soil. 11 Sep 1994. USA: Raquette Lake, New York. Single-ascospore isolate from a single fruit body.
- 4840 KT Hodge (kth28c). Pupa, [Lepidoptera] Soil. 11 Sep 1994. USA: Raquette Lake, New York. Single-ascospore isolate from a single fruit body.
- 4841 KT Hodge (kth28d). Pupa, [Lepidoptera] Soil. 11 Sep 1994. USA: Raquette Lake, New York. Single-ascospore isolate from a single fruit body.
- 4842 KT Hodge (kth28e). Pupa, [Lepidoptera] Soil. 11 Sep 1994. USA: Raquette Lake, New York. Single-ascospore isolate from a single fruit body.
- 4845 JM Sung (C-171). Pupa inside of cocoon, [Lepidoptera]. 12 Sep 1992. Republic of Korea: Kangweon Nation University Experiment Forest.
- 5002 KT Hodge (kth31A-1). Pupa, [Lepidoptera]. 16 Sep 1995. USA: Vanderkamp Center Grounds, Cleveland (Oneida County), New York. Single ascospore isolate from kth31A. Ascocarp deposited in Cornell Plant Pathology Herbarium as 63803.
- 5003 KT Hodge (kth31A-2). Pupa, [Lepidoptera]. 16 Sep 1995. USA: Vanderkamp Center Grounds, Cleveland (Oneida County), New York. Single ascospore isolate from kth31A. Ascocarp deposited in Cornell Plant Pathology Herbarium as 63803.

- [illegible]

- 18

- 5048 KT Hodge (kth31F-6). Pupa, [Lepidoptera]. 16 Sep 1995. USA: Vanderkamp Center Grounds, Cleveland (Oneida County), New York. Single ascospore isolate from kth31F. Ascocarp deposited in Cornell Plant Pathology Herbarium as 63808.
- 5049 KT Hodge (kth31F-7). Pupa, [Lepidoptera]. 16 Sep 1995. USA: Vanderkamp Center Grounds, Cleveland (Oneida County), New York. Single ascospore isolate from kth31F. Ascocarp deposited in Cornell Plant Pathology Herbarium as 63808.
- 5050 KT Hodge (kth31F-8). Pupa, [Lepidoptera]. 16 Sep 1995. USA: Vanderkamp Center Grounds, Cleveland (Oneida County), New York. Single ascospore isolate from kth31F. Ascocarp deposited in Cornell Plant Pathology Herbarium as 63808.
- 5051 KT Hodge (kth31F-9). Pupa, [Lepidoptera]. 16 Sep 1995. USA: Vanderkamp Center Grounds, Cleveland (Oneida County), New York. Single ascospore isolate from kth31F. Ascocarp deposited in Cornell Plant Pathology Herbarium as 63808.
- 5052 KT Hodge (kth31F-10). Pupa, [Lepidoptera]. 16 Sep 1995. USA: Vanderkamp Center Grounds, Cleveland (Oneida County), New York. Single ascospore isolate from kth31F. Ascocarp deposited in Cornell Plant Pathology Herbarium as 63808.
- 5053 KT Hodge (kth31G-1). Pupa, [Lepidoptera]. 16 Sep 1995. USA: Vanderkamp Center Grounds, Cleveland (Oneida County), New York. Single ascospore isolate from kth31G. Ascocarp deposited in Cornell Plant Pathology Herbarium as 63809.
- 5054 KT Hodge (kth31G-2). Pupa, [Lepidoptera]. 16 Sep 1995. USA: Vanderkamp Center Grounds, Cleveland (Oneida County), New York. Single ascospore isolate from kth31G. Ascocarp deposited in Cornell Plant Pathology Herbarium as 63809.
- 5055 KT Hodge (kth31G-3). Pupa, [Lepidoptera]. 16 Sep 1995. USA: Vanderkamp Center Grounds, Cleveland (Oneida County), New York. Single ascospore isolate from kth31G. Ascocarp deposited in Cornell Plant Pathology Herbarium as 63809.
- 5056 KT Hodge (kth31G-4). Pupa, [Lepidoptera]. 16 Sep 1995. USA: Vanderkamp Center Grounds, Cleveland (Oneida County), New York. Single ascospore isolate from kth31G. Ascocarp deposited in Cornell Plant Pathology Herbarium as 63809.
- 5057 KT Hodge (kth31G-5). Pupa, [Lepidoptera]. 16 Sep 1995. USA: Vanderkamp Center Grounds, Cleveland (Oneida County), New York. Single ascospore isolate from kth31G. Ascocarp deposited in Cornell Plant Pathology Herbarium as 63809.
- 5058 KT Hodge (kth31G-6). Pupa, [Lepidoptera]. 16 Sep 1995. USA: Vanderkamp Center Grounds, Cleveland (Oneida County), New York. Single ascospore isolate from kth31G. Ascocarp deposited in Cornell Plant Pathology Herbarium as 63809.
- 5059 KT Hodge (kth31G-7). Pupa, [Lepidoptera]. 16 Sep 1995. USA: Vanderkamp Center Grounds, Cleveland (Oneida County), New York. Single ascospore isolate from kth31G. Ascocarp deposited in Cornell Plant Pathology Herbarium as 63809.
- 5060 KT Hodge (kth31G-8). Pupa, [Lepidoptera]. 16 Sep 1995. USA: Vanderkamp Center Grounds, Cleveland (Oneida County), New York. Single ascospore isolate from kth31G. Ascocarp deposited in Cornell Plant Pathology Herbarium as 63809.
- 5061 KT Hodge (kth31G-9). Pupa, [Lepidoptera]. 16 Sep 1995. USA: Vanderkamp Center Grounds, Cleveland (Oneida County), New York. Single ascospore isolate from kth31G. Ascocarp deposited in Cornell Plant Pathology Herbarium as 63809.
- 5062 KT Hodge (kth31G-10). Pupa, [Lepidoptera]. 16 Sep 1995. USA: Vanderkamp Center Grounds, Cleveland (Oneida County), New York. Single ascospore isolate from kth31G. Ascocarp deposited in Cornell Plant Pathology Herbarium as 63809.
- 6248 [RCEF 0095] Pupa, [Lepidoptera]. 27 Jul 1997. PR China: Anhui. Chains of conidia with Mariannaea-like orientation but not sliming down to Lecanicillium state as normally expected.
- 7809 [SRCAMB B-79] V Likhovidov ← BA Borisov. Pupa, [Lepidoptera] Isolated from stroma. Aug 2002. Russian Federation: Lazovsky Nature Reserve, Primorsky Krai. Field Collection Number F-165.
- 7810 [SRCAMB B-90] V Likhovidov ← BA Borisov. Pupa, [Lepidoptera] Isolated from stroma. 6 Aug 2002. Russian Federation: Lazovsky Nature Reserve, Primorsky Krai. Field Collection Number F-168.
- 8012 BC King (CmN). Larva, [Lepidoptera]. Spring 2003. USA: Allegheny National Forest, Pennsylvania. **RESTRICTED ACCESS:** *consult Curator.*
- 9484 [SRCAMB VL-1983] V Likhovidov. Pupa, [Lepidoptera] Isolated from stroma. 12 Aug 2005. Russian Federation: Moscow Region. Field Collection Number F-854.
- 11703 T Wen (LG-11-15). Pupa, [Lepidoptera]. 2011. PR China: Leigong Mountain, Guizhou Province.
- 11704 T Wen (KM-1). Pupa, [Lepidoptera]. 2005. PR China: Kunming, Yunnan Province.
- Cordyceps pruinosa*** Petch
[Sordariomycetes: Hypocreales]
Cordycipitaceae. Anamorph: *Mariannaea pruinosa* ZQ Liang
- 7221 [SRCAMB B-297] V Likhovidov ← BA Borisov. Pupa, [Lepidoptera] Isolated from stroma. 8 Jul 2003. Russian Federation: Vladivostok District, Primorsky Krai. Field Collection Number F-324.
- 11723 T Wen ((4-2)). Pupa, [Lepidoptera]. 2006. PR China: Qingcheng Mountain, Sichuan Province.
- 11724 T Wen (CP). Pupa, [Lepidoptera]. 2008. PR China: Leigong Mountain, Guizhou Province.

***Cylindrocarpon* sp.**

[Sordariomycetes: Hypocreales]

Nectriaceae

- 8043 E Herrera Navarro (V3 - Aphid). *Diatraea saccharalis* [Lepidoptera: Pyralidae] isolate passed through *Brevicoryne brassicae* [Homoptera: Aphididae]. Rec'd 24 May 2006. Mexico: Tecomán, Colima.
- 8044 E Herrera Navarro (V3 - Leps). *Diatraea saccharalis* [Lepidoptera: Pyralidae] isolate passed through *Helicoverpa zea* [Lepidoptera: Noctuidae]. Rec'd 24 May 2006. Mexico: Tecomán, Colima.

***Entomophaga* sp.**

[Entomophthoromycotina: Entomophthorales]

Entomophthoraceae

- 393 [FPMI 770] S Keller (114). Larva, [Lepidoptera]. Rec'd 27 May 1980. Switzerland.

***Entomophaga aulicae* (Reichardt in Bail) Humber**

[Entomophthoromycotina: Entomophthorales]

Entomophthoraceae. Strains will grow as wall-less protoplasts in liquid tissue culture media or as walled hyphae on solid culture media.

- 51 JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 16 Jun 1975. USA: 12.4 mi from Rt. 11/159 in Patten, Shin Pond, Maine.
- 53 JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 23 Jun 1975. USA: 0.4 mi N of Oxbow Rd. on Rt. 11, Oxbow-Masardis, Maine.
- 95 JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 21 Jun 1976. USA: nr. RR tracks, Perham township, Hanford, Maine.
- 118 N Wilding (1). Larva, [Lepidoptera: Sphingidae]. 26 Aug 1976. USA: Orono, Maine.
- 164 JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 28 Jun 1977. USA: forest-lower, nr. Carroll, Maine.
- 165 JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. Jul 1977. USA: Sherman, Maine.
- 166 JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 14 Jul 1977. USA: forest-lower, nr. Carroll, Maine.
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 Entomophthoraceae. Strains will grow as wall-less protoplasts in liquid tissue culture media or as walled hyphae on solid culture media.
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- 4505 AE Hajek (C.i.-2) ← S Talley. Larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 18 May 1994. USA: George Washington National Park, Rockbridge County, Virginia. Fungus collected from *Catocala ilia*. *L. dispar* died 5 days after conidial shower, then produced conidia. Fungus isolated from *L. dispar*.
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- ilia. L. dispar died 5 days after conidial shower, then produced conidia. Fungus isolated from L. dispar.
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- 4509 AE Hajek (I.S.-2). Larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 27 May 1994. USA: Irish Settlement Road; Yellow Barn Forest, Ithaca, New York.
- 4510 AE Hajek (I.A.-3). Larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 27 May 1994. USA: Irish Settlement Road; Yellow Barn Forest, Ithaca, New York.
- 4544 AE Hajek (B-20MD#1). *Malacosoma disstria* [Lepidoptera: Lasiocampidae]. 30 May 1994. Isolated through *Lymantria dispar* larvae.
- 4545 AE Hajek (B-20MD#2). *Malacosoma disstria* [Lepidoptera: Lasiocampidae]. 30 May 1994. Isolated through *Lymantria dispar* larvae.
- 4546 AE Hajek (GC1). *Lymantria dispar* [Lepidoptera: Lymantriidae] soil with resting spores. 30 May 1994.
- 4547 AE Hajek (GC2). *Lymantria dispar* [Lepidoptera: Lymantriidae] soil with resting spores. 30 May 1994.
- 4549 AE Hajek (I.S. 4) or (94 NY1-4A). *Lymantria dispar* [Lepidoptera: Lymantriidae] Soil sith resting spores. Rec'd 22 Aug 1994. USA: Irish Settlement Rd; Yellow Barn State Forest, Dryden, New York.
- 4550 AE Hajek (I.S. 5). *Lymantria dispar* [Lepidoptera: Lymantriidae] Soil sith resting spores. Rec'd 22 Aug 1994. USA: Irish Settlement Rd; Yellow Barn State Forest, Dryden, New York.
- 4551 AE Hajek (I.S. 6). *Lymantria dispar* [Lepidoptera: Lymantriidae] Soil sith resting spores. Rec'd 22 Aug 1994. USA: Irish Settlement Rd; Yellow Barn State Forest, Dryden, New York.
- 4552 AE Hajek (VA - A). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 22 Aug 1994. USA: Union Springs, Rockingham County, Virginia.
- 4553 AE Hajek (VA - C). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 22 Aug 1994. USA: Little River, Rockingham County, Virginia.
- 4554 AE Hajek (VA - E). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 22 Aug 1994. USA: Big Mary's, Rockingham County, Virginia.
- 4555 AE Hajek (VA - F). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 22 Aug 1994. USA: Wiggins Springs, Rockingham County, Virginia.
- 5377 AE Hajek (96 MD A2-1). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Sudlersville, Maryland.
- 5378 AE Hajek (96 MD A2-2). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Sudlersville, Maryland.
- 5379 AE Hajek (96 MD B2-1). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Sudlersville, Maryland.
- 5380 AE Hajek (96 MD B2-2). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Sudlersville, Maryland.
- 5381 AE Hajek (96 MD B2-3). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Sudlersville, Maryland.
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- 5391 AE Hajek (96 NY B2). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Yellow Barn State Forest, Dryden, New York.
- 5392 AE Hajek (96 NY C2). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Yellow Barn State Forest, Dryden, New York.
- 5393 AE Hajek (96 NY C3). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Yellow Barn State Forest, Dryden, New York.

- 5394 AE Hajek (96 NY D1). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Yellow Barn State Forest, Dryden, New York.
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- 5396 AE Hajek (96 NY D3). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Yellow Barn State Forest, Dryden, New York.
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- 5400 AE Hajek (96 NY F1). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Yellow Barn State Forest, Dryden, New York.
- 5401 AE Hajek (96 NY F3). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Yellow Barn State Forest, Dryden, New York.
- 5564 AE Hajek (96MA1-1B). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 9 May 1996. USA: Quabbin Reservoir, Franklin County, Massachusetts. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 5568 AE Hajek (97VA10-1A). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Apr 1997. USA: Elliot Spring Run, Butler field plot 1, George Washington National Forest, Virginia. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 5570 AE Hajek (96VA9-1B). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Dec 1996. USA: Archer Run, Deerfield Ranger District, Butler field plot 2, George Washington National Forest, Virginia. Host infected in laboratory upon exposure to germinating resting spores in field collected soil.
- 6004 AE Hajek (98 MA2-8A). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Jun 1998. USA: The Notch, Hampshire County, Massachusetts. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6005 AE Hajek (98 MA2-14A). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Jun 1998. USA: The Notch, Hampshire County, Massachusetts. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6168 AE Hajek (94 WV1-1A). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Apr 1994. USA: Hawes Run, Pendleton County, West Virginia. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6169 AE Hajek (94 VA8-1A) or (VA-IVY). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Apr 1994. USA: IVY Branch, Amherst County, Virginia. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6170 AE Hajek (99 WV2-2C). *Malacosoma americanum* [Lepidoptera: Lasiocampidae]. May 1999. Isolated from *Malacosoma disstria* exposed to sporulating cadaver.
- 6171 AE Hajek (98 JP3-5A). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 2 Sep 1998. Japan: Namiki, Tsukuba, Ibaraki Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6172 AE Hajek (98 JP3-5B). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 2 Sep 1998. Japan: Namiki, Tsukuba, Ibaraki Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6173 AE Hajek (99 WV2-2A). *Malacosoma americanum* [Lepidoptera: Lasiocampidae]. May 1999. Isolated from *Lymantria dispar* after passage through *Malacosoma disstria* exposed to sporulating cadaver of *M. americanum*.
- 6174 AE Hajek (99 WV2-2B). *Malacosoma americanum* [Lepidoptera: Lasiocampidae]. May 1999. Isolated from *Lymantria dispar* after passage through *Malacosoma disstria* exposed to sporulating cadaver of *M. americanum*.
- 6212 AE Hajek (98 JP2-5A). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 1 Sep 1998. Japan: Yamauchi, Chonan, Chiba Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6218 AE Hajek (94 VA4-3A). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Apr 1994. USA: Mines Run, George Washington National Forest, Rockingham County, Virginia. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6224 AE Hajek (98 JP2-10B). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 1 Sep 1998. Japan: Yamauchi, Chonan, Chiba Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.

- 6253 AE Hajek (98 JP2-4A). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 1 Sep 1998. Japan: Yamauchi, Chonan, Chiba Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6254 AE Hajek (98 JP2-10A). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 1 Sep 1998. Japan: Yamauchi, Chonan, Chiba Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6255 AE Hajek (98 JP2-14A). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 1 Sep 1998. Japan: Yamauchi, Chonan, Chiba Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6256 AE Hajek (98 JP2-14B). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 1 Sep 1998. Japan: Yamauchi, Chonan, Chiba Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6257 AE Hajek (98 JP2-22A). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 1 Sep 1998. Japan: Yamauchi, Chonan, Chiba Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6258 AE Hajek (98 JP3-8A). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 2 Sep 1998. Japan: Namiki, Tsukuba, Ibaraki Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6264 AE Hajek (98 JP2-22B). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 1 Sep 1998. Japan: Yamauchi, Chonan, Chiba Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6265 AE Hajek (98 JP3-8B). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 2 Sep 1998. Japan: Namiki, Tsukuba, Ibaraki Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6266 AE Hajek (98 JP3-9A). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 2 Sep 1998. Japan: Namiki, Tsukuba, Ibaraki Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6267 AE Hajek (98 JP2-21A). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 1 Sep 1998. Japan: Yamauchi, Chonan, Chiba Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6268 AE Hajek (98 JP3-9B). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 2 Sep 1998. Japan: Namiki, Tsukuba, Ibaraki Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6269 AE Hajek (98 MA2-2A). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Jun 1998. USA: The Notch, Hampshire County, Massachusetts. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6270 AE Hajek (98 MA2-2B). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Jun 1998. USA: The Notch, Hampshire County, Massachusetts. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6271 AE Hajek (98 MA2-6A). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Jun 1998. USA: The Notch, Hampshire County, Massachusetts. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6272 AE Hajek (98 MA2-14B). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Jun 1998. USA: The Notch, Hampshire County, Massachusetts. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6523 AE Hajek (99 MI9-1A). Larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Jun 1999. USA: Site #9, Oceana County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6524 AE Hajek (99 MI9-2A). Larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Jun 1999. USA: Site #9, Oceana County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6625 AE Hajek (00 NY 1-1-2). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 20 Jun 2000. USA: Yellow Barn State Forest, Dryden, New York. Host infected in laboratory upon exposure to field-collected sporulating cadaver of *L. dispar*.
- 6626 AE Hajek (00 MI 3-2-2). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Jun 2000. USA: Stand 3, Manistee County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6627 AE Hajek (00 MI 17-1-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Jun 2000. USA: Stand 17, Newaygo County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6628 AE Hajek (00 MI 19-1-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Jun 2000. USA: Stand 19, Newaygo County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6629 AE Hajek (00 MI 24-2-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Jun 2000. USA: Stand 24, Newaygo County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.

- 6630 AE Hajek (00 MI 27-1-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Jun 2000. USA: Stand 27, Kalkaska County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6652 AE Hajek (00 MI 2-1-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 11 Jun 2000. USA: Stand 2, Grand Traverse County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6653 AE Hajek (00 MI 4-2-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 14 Jun 2000. USA: Stand 4, Manistee County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6654 AE Hajek (00 MI 18-2-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 16 Jun 2000. USA: Stand 18, Newaygo County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6655 AE Hajek (00 MI 28-2-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Jun 2000. USA: Stand 28, Roscommon County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6656 AE Hajek (00 MI 29-2-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Jun 2000. USA: Stand 29, Roscommon County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6657 AE Hajek (00 MI 33-1-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 12 Jun 2000. USA: Stand 33, Clare County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6663 AE Hajek (00 MI 2-2-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 11 Jun 2000. USA: Stand 2, Grand Traverse County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6664 AE Hajek (00 MI 3-1-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 14 Jun 2000. USA: Stand 3, Manistee County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6665 AE Hajek (00 MI 3-1-2). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 14 Jun 2000. USA: Stand 3, Manistee County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6666 AE Hajek (00 MI 12-2-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 10 Jun 2000. USA: Stand 12, Lake County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6667 AE Hajek (00 MI 12-2-2). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 10 Jun 2000. USA: Stand 12, Lake County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6668 AE Hajek (00 MI 12-2-3). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 10 Jun 2000. USA: Stand 12, Lake County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6724 AE Hajek (00 MI 3-2-2). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 14 Jun 2000. USA: Stand 3, Manistee County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6725 AE Hajek (00 MI 19-2-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 16 Jun 2001. USA: Stand 19, Newaygo County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6726 AE Hajek (00 MI 24-2-2). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 13 Jun 2003. USA: Stand 24, Newaygo County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6727 AE Hajek (00 MI 27-1-2). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 11 Jun 2000. USA: Stand 27, Kalkaska County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6728 AE Hajek (00 MI 17-1-2). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 16 Jun 2000. USA: Stand 17, Newaygo County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6729 AE Hajek (00 MI 17-2-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 16 Jun 2000. USA: Stand 17, Newaygo County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7101 AE Hajek (99 MI 5-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 1999. USA: Mason County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7102 AE Hajek (99 MI 27). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 1999. USA: Kalkaska County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7103 AE Hajek (00 MI 29-1-2). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Jun 2000. USA: Stand 29, Roscommon County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7104 AE Hajek (01 JP 4-11-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 2001. Japan: Tmayama Village, Morioka City, Iwate Prefecture. Host infected

- in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7105 AE Hajek (01 JP 4-12-2). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 2001. Japan: Tmayama Village, Morioka City, Iwate Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7106 AE Hajek (99 MI 28-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 1999. USA: Roscommon County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7107 AE Hajek (00 MI 28-1-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Jun 2000. USA: Stand 28, Roscommon County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7108 AE Hajek (00 MI 28-1-3). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Jun 2000. USA: Stand 28, Roscommon County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7109 AE Hajek (00 MI 29-1-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Jun 2000. USA: Stand 29, Roscommon County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7110 AE Hajek (00 MI 33-2-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 12 Jun 2000. USA: Stand 33, Clare County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7111 AE Hajek (00 MI 33-2-2). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 12 Jun 2000. USA: Stand 33, Clare County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7112 AE Hajek (01 JP 4-11-2). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 2001. Japan: Tmayama Village, Morioka City, Iwate Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7113 AE Hajek (01 JP 4-11-3). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 2001. Japan: Tmayama Village, Morioka City, Iwate Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7114 AE Hajek (01 JP 4-12-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 2001. Japan: Tmayama Village, Morioka City, Iwate Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7115 AE Hajek (99 MI 21). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 1999. USA: Newaygo County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7116 AE Hajek (01 JP 4-12-3). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 2001. Japan: Tmayama Village, Morioka City, Iwate Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7120 AE Hajek (03 PA 1-1-1A). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 16 Apr 2003. USA: Metzger Trail, Lycoming County, Pennsylvania. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7121 AE Hajek (03 PA 1-1-1B). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 16 Apr 2003. USA: Metzger Trail, Lycoming County, Pennsylvania. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7122 AE Hajek (03 PA 1-1-2). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 16 Apr 2003. USA: Metzger Trail, Lycoming County, Pennsylvania. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7123 AE Hajek (03 MA 3-1-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Apr 2003. USA: Myles Standish State Forest, South Carver, Massachusetts. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7124 AE Hajek (03 MA 3-2-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Apr 2003. USA: Myles Standish State Forest, South Carver, Massachusetts. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7125 AE Hajek (03 MA 3-2-2). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Apr 2003. USA: Myles Standish State Forest, South Carver, Massachusetts. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7126 AE Hajek (03 MA 3-2-3). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Apr 2003. USA: Myles Standish State Forest, South Carver, Massachusetts. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7127 AE Hajek (03 RU 1-1-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 8 Jul 1999. Russian Federation: oak stand, Khabarovsk. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7131 AE Hajek (03 PA 2-1-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 16 Apr 2003. USA: Route 54, north of Danville, Montour County, Pennsylvania. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7132 AE Hajek (03 PA 3-1-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 16 Apr 2003. USA: Klein Road, Montour County, Pennsylvania. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.

- 7133 AE Hajek (03 PA 4-1-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 16 Apr 2003. USA: Comfort Road, Montour County, Pennsylvania. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7134 AE Hajek (03 PA 5-1-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 16 Apr 2003. USA: Cold Run Road, Northumberland County, Pennsylvania. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7135 AE Hajek (03 PA 6-1-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 16 Apr 2003. USA: Route 890, north of Trevorton, Northumberland County, Pennsylvania. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7136 AE Hajek (03 PA 7-1-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 16 Apr 2003. USA: Southampton Twp near town of Chaneyville, Bedford County, Pennsylvania. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7137 AE Hajek (03 MA 3-2-4). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Apr 2003. USA: Myles Standish State Forest, South Carver, Massachusetts. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7138 AE Hajek (03 MA 3-2-5). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Apr 2003. USA: Myles Standish State Forest, South Carver, Massachusetts. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7139 AE Hajek (02 CN 1-1-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 20 Jul 2002. PR China: Soil sample number MS5, Maoershan, Heilongjiang. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7183 AE Hajek (02 CN 1-2-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 20 Jul 2002. PR China: Soil sample number MS3, Maoershan, Heilongjiang. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7184 AE Hajek (02 CN 1-2-2). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 20 Jul 2002. PR China: Soil sample number MS3, Maoershan, Heilongjiang. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7185 AE Hajek (03 JP 5-1-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 13 May 2003. Japan: Soil sample beneath tree number 1, Takehara, Hiroshima Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7186 AE Hajek (03 JP 5-1-2). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 13 May 2003. Japan: Soil sample beneath tree number 1, Takehara, Hiroshima Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7187 AE Hajek (03 JP 5-1-4). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 13 May 2003. Japan: Soil sample beneath tree number 1, Takehara, Hiroshima Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7188 AE Hajek (03 JP 5-1-6). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 13 May 2003. Japan: Soil sample beneath tree number 1, Takehara, Hiroshima Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7189 AE Hajek (03 JP 5-1-5). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 13 May 2003. Japan: Soil sample beneath tree number 1, Takehara, Hiroshima Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7190 AE Hajek (03 PA 1-1-5). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 16 Apr 2003. USA: Metzger Trail, Lycoming County, Pennsylvania. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7352 AE Hajek (03 PA 5-1-5). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 16 Apr 2003. USA: Cold Run Road, Northumberland County, Pennsylvania. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7353 AE Hajek (03 PA 6-1-4). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 16 Apr 2003. USA: Route 890, north of Trevorton, Northumberland County, Pennsylvania. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.

Erynia sp.

[Entomophthoromycotina: Entomophthorales]

Entomophthoraceae. Strains included here were not sufficiently identifiable to the species and have not been reidentified since publication of the entomophthoralean taxonomy used here (see Humber, 1989, Mycotaxon 34:441-460). In this classification these strains would be reassigned to *Pandora* Humber, *Furia* (Batko) Humber, *Erynia* (Nowakowski ex Batko) Remaudière & Hennebert, or *Zoophthora* Batko.

- 983 J Aoki (Ent. 18) ← H Tomiyama. *Plutella xylostella* [Lepidoptera: Plutellidae]. Nov 1976. Japan: Fuchu, Tokyo Prefecture.
- 1143 [CSIRO EM694] M Shimazu (F-344). *Eana argentana* [Lepidoptera: Tortricidae]. Acc'd 4 Apr 1984. Japan: Hokkaido Prefecture.
- 1241 [CNPAF 84-04-13-1C; CP 141] DW Roberts. Larva, [Lepidoptera]. 13 Apr 1984. Brazil: CNPAF, Goiânia, Goiás.
- 2027 JA Harper. 4th instar larva, *Pseudoplusia includens* [Lepidoptera: Noctuidae]. Acc'd 28 Oct 1985. USA: Auburn, Alabama.

***Evlachovaea* sp.**

[Sordariomycetes: Hypocreales]

Cordycipitaceae

- 959 [CNPFAF 83-01-06B (CB 15); CP 105] RA Daoust ← SM de Carvalho. *Spodoptera frugiperda* [Lepidoptera: Noctuidae]. 6 Jan 1983. Brazil: Londrina, Paraná.
- 2297 DA Rodriguez Sierra (103 Bb). Larva, *Brassolis* sp. [Lepidoptera: Brassolidae]. Oct 1985. Colombia: Cumaral, Meta.
- 2613 SB Alves (715). *Brassolis sophorea* [Lepidoptera: Brassolidae]. Apr 1988. Brazil: Moju, Pará.
- 2614 SB Alves (716). *Anteotricha* sp. [Lepidoptera: Oecophoridae]. Apr 1988. Brazil: Moju, Pará.
- 2615 SB Alves (717). *Anteotricha* sp. [Lepidoptera: Oecophoridae]. Apr 1988. Brazil: Moju, Pará.
- 2620 SB Alves (758). *Brassolis sophorea* [Lepidoptera: Brassolidae]. Jun 1988. Brazil: Aracajú, Sergipe.
- 5703 JL Hatting (1). *Sitotroga cerealella* [Lepidoptera: Gelechiidae]. Sep 1997. South Africa: Bethlehem, Free State.
- 7599 [SRCAMB B-411] V Likhovidov ← BA Borisov. Larva, [Lepidoptera]. 1 Oct 1990. Ukraine: Kherson Oblast. Field Collection Number F-228.
- 7600 [SRCAMB VL-767] V Likhovidov. Pupa, [Lepidoptera] Isolated from synnema. 20 Jul 2002. Russian Federation: Kunashir Island, Sakhalin Region. Field Collection Number F-226.
- 7601 [SRCAMB VL-768] V Likhovidov. Pupa, [Lepidoptera] Isolated from synnema. 20 Jul 2002. Russian Federation: Kunashir Island, Sakhalin Region. Field Collection Number F-227.
- 8439 Z Demirbag (KTU-33). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 23 Jul 2006. Turkey: Kesap, Giresun.
- 8441 Z Demirbag (KTU-35). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 21 Mar 2007. Turkey: Ikizce, Ordu.
- 8442 Z Demirbag (KTU-36). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 21 Mar 2007. Turkey: Ikizce, Ordu.
- 8449 Z Demirbag (KTU-43). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 20 Mar 2007. Turkey: Gürgentepe, Ordu.

***Filobasidiella arachnophila* Malloch**

[Basidiomycetes: Filobasidiales]

Filobasiaceae

- 2058 GC Carroll. Egg mass, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd Dec 1985. USA: Dexter, Oregon.

***Furia gastropachae* (Raciborski) Filotas, Hajek & Humber**

[Entomophthoromycotina: Entomophthorales]

Entomophthoraceae. Synonym: *Furia crustosa* (MacLeod & Tyrrell) Humber

- 2906 FPML. [Lepidoptera]. Acc'd 3 Apr 1990. Canada.
- 5541 M Filotas (NY I1). *Malacosoma disstria* [Lepidoptera: Lasiocampidae]. Apr 1997. USA: Tug Hill Plateau, Richland, New York. Host infected in laboratory upon exposure to germinating resting spores in field collected soil.
- 5542 M Filotas (NY I2). *Malacosoma disstria* [Lepidoptera: Lasiocampidae]. Apr 1997. USA: Tug Hill Plateau, Richland, New York. Host infected in laboratory upon exposure to germinating resting spores in field collected soil.
- 5543 M Filotas (NY V). *Malacosoma disstria* [Lepidoptera: Lasiocampidae]. Apr 1997. USA: Tug Hill Plateau, Richland, New York. Host infected in laboratory upon exposure to germinating resting spores in field collected soil.
- 5544 M Filotas (NY Z). *Malacosoma disstria* [Lepidoptera: Lasiocampidae]. Apr 1997. USA: Tug Hill Plateau, Richland, New York. Host infected in laboratory upon exposure to germinating resting spores in field collected soil.
- 5545 M Filotas (MD97 S1-1). *Malacosoma disstria* [Lepidoptera: Lasiocampidae]. 6 Jun 1997. USA: Snow Hill, Maryland.
- 5546 M Filotas (MD97 S1-2). *Malacosoma disstria* [Lepidoptera: Lasiocampidae]. 6 Jun 1997. USA: Snow Hill, Maryland.
- 5547 M Filotas (CTLD A). *Malacosoma disstria* [Lepidoptera: Lasiocampidae]. 19 Jun 1997. USA: State University of New York campus, Cortland, New York.
- 5869 [Forest Pest Management Institute FPML 713] M Filotas. *Malacosoma disstria* [Lepidoptera: Lasiocampidae]. 9 Jun 1982. Canada: Webbwood, Ontario.
- 5870 [Forest Pest Management Institute FPML 922-1a] M Filotas. *Malacosoma disstria* [Lepidoptera: Lasiocampidae]. 20 Jun 1986. Canada: New Liskeard, Ontario.
- 5871 [Forest Pest Management Institute FPML 922-2a] M Filotas. *Malacosoma disstria* [Lepidoptera: Lasiocampidae]. 20 Jun 1986. Canada: New Liskeard, Ontario.
- 5872 [Forest Pest Management Institute FPML 922-3a] M Filotas. *Malacosoma disstria* [Lepidoptera: Lasiocampidae]. 20 Jun 1986. Canada: New Liskeard, Ontario.
- 8926 [ERL 1539b] VS Gouli (FTC). *Malacosoma disstria* [Lepidoptera: Lasiocampidae]. 2007. USA: Vermont.

Furia neopyralidarum (Ben-Ze'ev) Humber
 [Entomophthoromycotina: Entomophthorales]
 Entomophthoraceae

1145 M Shimazu (F-356). [Lepidoptera]. Acc'd 4 Apr 1984.
 Japan: Ibaraki Prefecture.

Furia pieris (Li & Humber) Humber
 [Entomophthoromycotina: Entomophthorales]
 Entomophthoraceae

781 BF Usher. *Pieris rapae* [Lepidoptera: Pieridae].
 27 Aug 1982. USA: Ellis Hollow Rd, Community
 Gardens, Ithaca, New York.

Furia virescens (Thaxter) Humber
 [Entomophthoromycotina: Entomophthorales]
 Entomophthoraceae

427 S Keller (250). Larva, [Lepidoptera]. Rec'd 6 Feb
 1980. Switzerland.

470 S Keller (251). [Lepidoptera: Noctuidae]. Rec'd
 27 May 1980. Switzerland.

1127 S Keller (292). [Lepidoptera: Noctuidae]. 8 Sep 1980.
 Switzerland.

1128 S Keller (293). [Lepidoptera: Noctuidae]. 8 Sep 1980.
 Switzerland.

1129 S Keller (416). [Lepidoptera: Noctuidae]. 18 Aug
 1982. Switzerland.

***Fusarium* sp.**
 [Sordariomycetes: Hypocreales]
 Nectriaceae

2736 [NRRL 25094] GW Riethmacher (Ma2). *Spodoptera*
 sp. [Lepidoptera: Noctuidae]. 4 Jan 1989. Philippines:
 La Trinidad, Benguet.

3532 [NRRL 25105] AE Hajek (167a). 5th instar larva,
Lymantria dispar [Lepidoptera: Lymantriidae].
 11 Jun 1991. USA: nr. C & O Canal, Allegany
 County, Maryland.

3976 [NRRL 25121] LA Lacey (93013) ← F Herard. Larva,
Cydia pomonella [Lepidoptera: Tortricidae]. 4 May
 1993. France: Le Vigan, Gard.

5219 [NRRL 52753] M Melo (1). Larva, *Scrobipalpuloides*
absoluta [Lepidoptera: Gelechiidae] on tomato. Rec'd
 12 Jul 1996. Brazil: Pelotas, Rio Grande do Sul.

5560 I Klingen (PVF 8.1). Larva, *Galleria mellonella*
 [Lepidoptera: Pyralidae] as bait from soil. 5 Sep
 1996. Norway: Bodø, Nordland.

5881 FE Vega (EBCL 98021). Larva, *Plutella xylostella*
 [Lepidoptera: Plutellidae]. Nov 1997. Benin: Cotonou,
 Atlantique.

6102 JL Hatting. *Orachrysops subravus* [Lepidoptera:
 Lycaenidae: Polyommatainae]. Rec'd Winter 1999.
 South Africa.

10470 NB Murray (5.1.B). Adult, *Epiphyas postvittana*
 [Lepidoptera: Tortricidae] on *Myrica californica*
 Chamisso, Pacific wax-myrtle. Rec'd 26 Nov 2010.
 USA: Santa Cruz County, California.

Fusarium avenaceum (Fries) Saccardo
 [Sordariomycetes: Hypocreales]
 Nectriaceae

2060 [NRRL 25125] GC Carroll (2(HO-O-Hatch IV)). Egg
 mass, *Lymantria dispar* [Lepidoptera: Lymantriidae].
 Rec'd Dec 1985. USA: Dexter, Oregon.

Fusarium brachygibbosum Padwick
 [Sordariomycetes: Hypocreales]
 Family Nectriaceae. Family Nectriaceae. Identification of
 these isolates were genomically determined (see O'Donnell
 et al., 2012, Mycologia 104: 427-445; doi 10.3852/11-179).

2595 [NRRL 25093] RC Rajak (ENT/10A). *Hyblaea puer*
 [Lepidoptera: Hyblaeidae] on teak, *Tectona grandis*.
 Acc'd 12 Sep 1988. India.

Fusarium merismoides Corda
 [Sordariomycetes: Hypocreales]
 Nectriaceae

2059 [NRRL 25130] GC Carroll (B). Egg mass, *Lymantria*
dispar [Lepidoptera: Lymantriidae]. Rec'd Dec 1985.
 USA: Dexter, Oregon.

5512 I Klingen (PVF 6.2). Larva, *Galleria mellonella*
 [Lepidoptera: Pyralidae] as bait from soil. 5 Sep
 1996. Norway: Bodø, Nordland.

Fusarium nygamai Burgess & Trimboli
 [Sordariomycetes: Hypocreales]
 Nectriaceae

2316 [NRRL 25030; PSU M-3959] VS Bhatnagar. *Raghuva*
albipunctella [Lepidoptera: Noctuidae]. 8 Oct 1986.
 Senegal: Kaolack.

Fusarium polyphialidicum Marasas, Nelson, Tous-
 soun & van Wyk
 [Sordariomycetes: Hypocreales]
 Nectriaceae

3692 [NRRL 25529] AE Hajek (114). 5th instar larva,
Lymantria dispar [Lepidoptera: Lymantriidae]. 7 Jun
 1991. USA: nr. Freese Rd., Ithaca, New York.

3693 [NRRL 25530] AE Hajek (325). 5th instar larva,
Lymantria dispar [Lepidoptera: Lymantriidae].
 20 Jun 1991. USA: nr. Birchwood So., Ithaca, New
 York.

3694 [NRRL 25531] AE Hajek (E.M.F. #3) or (325) ← J
 Boettner. Egg mass, *Lymantria dispar* [Lepidoptera:
 Lymantriidae]. 11 Oct 1991. USA: ., Holyoke Range,
 Massachusetts.

3695 [NRRL 25532] AE Hajek (11). 4th instar larva,
Lymantria dispar [Lepidoptera: Lymantriidae].
 21 Jun 1991. USA: Weakley Hollow, Madison County,
 Virginia.

- 3696 [NRRL 25533] AE Hajek (26). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 3 Jun 1991. USA: nr. C & O Canal, Allegany County, Maryland.
- 3916 [NRRL 52759] AE Hajek (92-165). 5th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 3 Jul 1992. USA: State Game Land #203, Allegheny County, Pennsylvania.

Fusarium proliferatum (Matsushima) Nirenberg ex Gerlach & Nirenberg
[Sordariomycetes: Hypocreales]

Family Nectriaceae. Family Nectriaceae. Identification of these isolates were genomically determined (see O'Donnell et al., 2012, Mycologia 104: 427-445; doi 10.3852/11-179).

- 2776 G Riethmacher (EB4). *Plutella xylostella* [Lepidoptera: Plutellidae]. Acc'd 12 Nov 913. Philippines: La Trinidad, Benguet.
- 6649 [NRRL 52696] KU Devi (PIV). Larva, *Spodoptera litura* [Lepidoptera: Noctuidae]. Mar 2000. India: Visakhapatnam, Andhra Pradesh.

Fusarium sacchari (EJ Butler & Hafiz Khan) W. Gams
[Sordariomycetes: Hypocreales]

Family Nectriaceae. Family Nectriaceae. Identification of these isolates were genomically determined (see O'Donnell et al., 2012, Mycologia 104: 427-445; doi 10.3852/11-179).

- 2141 [NRRL 25031] H David (1). *Scirpophaga excerptalis* [Lepidoptera: Pyralidae]. Acc'd 2 Apr 1986. India: Coimbatore, Tamil Nadu. Appreciable source of beauvericin (Gupta, Krasnoff, Underwood, Renwick, and Roberts. 1991. Mycopathologia 115: 185-189. Isolation of beauvericin as an insect toxin from *Fusarium semitectum* and *Fusarium moniliforme* var. *subglutinans*).
- 2142 [NRRL 25139] H David (3). *Chilo sacchariphagus indicus* [Lepidoptera: Pyralidae]. Acc'd 2 Apr 1986. India: Coimbatore, Tamil Nadu.
- 2418 [NRRL 25090; SBI 87-2] H David. *Emmalocera depressella* [Lepidoptera: Phycitinae]. Acc'd 19 May 1987. India.
- 7045 JL Hatting (Field 934). *Chilo sacchariphagus* [Lepidoptera: Pyralidae]. Jun 2002. Mozambique: Mafambisse.
- 7046 JL Hatting (Field 1012). *Chilo sacchariphagus* [Lepidoptera: Pyralidae]. Jun 2002. Mozambique: Mafambisse.

Fusarium torulosum (Berkeley & MA Curtis) Nirenberg
[Sordariomycetes: Hypocreales]
Nectriaceae. Major synonym: *Fusarium sambucinum* Fuckel

- 3483 [NRRL 25132, 52755] AE Hajek ← VC Mastro. 5th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 30 May 1991. USA: St. Paul's Church, Vesuvius, Virginia.

Fusarium verticillioides (Saccardo) Nirenberg (Petch)
W Gams
[Sordariomycetes: Hypocreales]
Synonym: *Verticillium indicum* (Petch) W Gams

- 3300 [NRRL 25102] J Gutierrez Samperio (16) ← ERD Reyes. *Spodoptera frugiperda* [Lepidoptera: Noctuidae] on corn. 1988. Mexico: Colima.

***Geotrichum* sp.**
[Saccharomycetes: Saccaromycetales]
Dipodascaceae

- 2752 GW Riethmacher (A1). *Plutella xylostella* [Lepidoptera: Plutellidae]. 14 Mar 1989. Philippines: La Trinidad, Benguet. Arthroconidial hyphomycete.

***Gliocladium* sp.**
[Sordariomycetes: Hypocreales]

- 6632 JL Hatting. [Lepidoptera: Sesiidae] on *Aspalathus contaminatus*, Rooibos tea. Rec'd 27 Sep 2000. South Africa: Western Cape, Cape Province.

***Hirsutella* sp.**
[Sordariomycetes: Hypocreales]

Ophiocordycipitaceae. Strains listed here have not been satisfactorily identified to species largely due to the lack of adequate taxonomic information for the majority of species in this large and important genus. *Hirsutella* is a known or possible synanamorph for many other hyphomycete entomopathogens with teleomorphs classified in the Clavicipitaceae (Pyrenomycetes: Clavicipitaceae).

- 2581 DD Strongman (1). [Lepidoptera]. Acc'd 9 Aug 1988. Canada.
- 2753 GW Riethmacher (A2). *Plutella xylostella* [Lepidoptera: Plutellidae]. 6 Apr 1989. Philippines: La Trinidad, Benguet.

Hirsutella gigantea Petch
[Sordariomycetes: Hypocreales]
Ophiocordycipitaceae

- 31 JB Dimond. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. USA: Shin Pond, Maine.
- 140 DE Leonard ← RT Mietkiewski. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. May 1977. USA: Lincoln, Maine. Identified as *B. bassiana* by R.A. Humber on 9/11/90, thus deaccessioned.

Hirsutella liboensis X Zou, AY Liu & ZQ Liang
[Sordariomycetes: Hypocreales]
Ophiocordycipitaceae

- 9603 X Zou (10). [Lepidoptera: Cossidae]. Rec'd 19 Jan 2010. PR China: Guizhou Province.

Hirsutella longicolla* var. *cornuta Strongman,
Eveleigh & Royama
[Sordariomycetes: Hypocreales]
Ophiocordycipitaceae

- 177 [FPMI 755] JD Vandenberg. *Choristoneura fumifer-*

ana [Lepidoptera: Tortricidae]. 10 May 1977. USA: Lincoln, Maine.

- 178 [FPMI 756] JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. May 1977. USA: Greenville, Maine.

Hirsutella nodulosa Petch

[Sordariomycetes: Hypocreales]

Ophiocordycipitaceae

- 5473 EA Eliason (P10E). Larva, *Dioryctria zimmermani* [Lepidoptera: Pyralidae]. Rec'd 28 Aug 1995. USA: Kalamazoo, Michigan.

Hirsutella satumaensis Aoki

[Sordariomycetes: Hypocreales]

Ophiocordycipitaceae

- 996 J Aoki (Hir. 1) ← K Katagiri ← T Kushida. *Dioryctria sylvestrella* [Lepidoptera: Pyralidae]. May 1969. Japan: Hachioji, Tokyo Prefecture.

Hirsutella sinensis X Liu, YL Guo, YX Yu & W Zeng

[Sordariomycetes: Hypocreales]

Ophiocordycipitaceae. Possible anamorphic state of *Ophiocordyceps sinensis* (Berkeley) GH Sung, JM Sung, Hywel-Jones & Spatafora [= *Cordyceps sinensis* (Berkeley) Saccardo]

- 6282 [RCEF 0273] Larva, [Lepidoptera: Hepialidae]. Rec'd 24 Aug 1999. PR China: Qinghan.

Hirsutella subulata Petch

[Sordariomycetes: Hypocreales]

Ophiocordycipitaceae

- 2227 S Balazy (1809) ← RT Mietkiewski. [Lepidoptera: Microlepidoptera]. Acc'd 4 Sep 1986. Poland: Siedlce.

***Humicola* sp.**

[Hyphomycetes]

- 2069 GC Carroll. Egg mass, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd Dec 1985. USA: Dexter, Oregon.

Isaria cateniannulata (ZQ Liang) Samson & Hywel-

Jones

[Sordariomycetes: Hypocreales]

Cordycipitaceae

- 6240 [RCEF 0107] [Lepidoptera]. Rec'd 24 Aug 1999. PR China: Anhui.
- 6242 [RCEF 0507] *Lymantria dissoluta* [Lepidoptera: Lymantriidae]. 27 Jan 1999. PR China: Anhui.
- 9601 X Zou (8). Larva, [Lepidoptera]. Rec'd 19 Jan 2010. PR China: Guizhou Province.
- 11722 T Wen (CC113). Pupa, [Lepidoptera]. 2006. PR China: Wawu Mountain, Sichuan Province.
- 12167 I Erper (TR-55-5). Pupa, *Hyphantria cunea* [Lepidoptera: Arctiidae]. Rec'd 3 Jun 2013. Turkey. *Isaria* ?*cateniannulata* RAH.

***Isaria cateniannulata*(?)** (ZQ Liang) Samson &

Hywel-Jones

[Sordariomycetes: Hypocreales]

Cordycipitaceae

- 12166 I Erper (TR-55-4). Pupa, *Hyphantria cunea* [Lepidoptera: Arctiidae]. Rec'd 3 Jun 2013. Turkey.

Isaria cicadae Miq.

[Sordariomycetes: Hypocreales]

Cordycipitaceae

- 11726 T Wen (09QL). Larva, [Lepidoptera]. 2009. PR China: Guiyang City, Guizhou Province.

Isaria farinosa (Holmsk.) Fries

[Sordariomycetes: Hypocreales]

Cordycipitaceae. Major synonym: *Paecilomyces farinosus* (Holmsk. ex Gray) Brown & Smith. Reclassified during a phylogenetically necessary reclassification of *Paecilomyces* Section *Isarioidea*. Teleomorph: *Cordyceps memorabilis* Ces.

- 3 [ATCC 24319] PW Schaefer. 3rd instar larva, *Malacosoma americanum* [Lepidoptera: Lasiocampidae]. 6 Jun 1972. USA: Chapin Beach, Dennis, Massachusetts.
- 20 RS Soper ← I Majchrowicz (1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 27 Oct 1972. USA: Harrisburg, Pennsylvania.
- 38 *Leucoma salicis* [Lepidoptera: Lymantriidae]. 6 Dec 1974. Location not specified.
- 648 [FPMI 759] RG Lawlor. Pupa, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Sep 1981. USA: Michigan Hollow, West Danby, New York.
- 697 [FPMI 760] C Glenister. *Lymantria dispar* [Lepidoptera: Lymantriidae]. 20 Jan 1982. USA: Twin Glens, Tompkins County, New York.
- 975 [GCRI 112-82] RA Hall. *Cydia pomonella* [Lepidoptera: Tortricidae]. Acc'd 17 Oct 1983. United Kingdom: England.
- 981 [GCRI 52-81] RA Hall. [Lepidoptera: Nymphalidae]. Acc'd 17 Oct 1983. United Kingdom: England.
- 1042 J Aoki (Cordy. 1). *Quadicalcarifera punctatella* [Lepidoptera: Notodontidae]. Aug 1982. Japan: Morioka City, Iwate Prefecture.
- 1065 [CNPS 26] F Moscardi. Pupa, *Chlosyne lacinia saundersii* [Lepidoptera: Nymphalidae]. 1983. Brazil: Londrina, Paraná.
- 1108 KV Deseö (27) ← Menarini. Larva, *Conopia myopaeformis* [Lepidoptera: Sesiidae]. Apr 1982. Italy: Ferrara, Emilia-Romagna.
- 1111 KV Deseö (32A) ← Becchi. Pupa, *Lobesia botrana* [Lepidoptera: Tortricidae]. Apr 1982. Italy: Modena, Emilia-Romagna.
- 1225 [INRA Pf-46] TJ Poprawski. *Laspeyresia medicaginus* [Lepidoptera: Tortricidae]. Apr 1981. France: Lusignan, Vienne.

- 2057 [NRRL A-27473] GC Carroll. Egg mass, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd Dec 1985. USA: Dexter, Oregon.
- 2131 AE Hajek. Egg mass, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 4 Mar 1986. USA: Tuckahoe, Maryland.
- 2269 BT Forschler (RF-1). Larva, *Prionoxystus robiniae* [Lepidoptera: Cossidae]. Oct 1985. USA: Robinson Forest, Univ. of Kentucky, Breathitt County, Kentucky.
- 2344 [ARSEF 2375 (never frozen)] MC Rombach (221086-1). *Rivula atimeta* [Lepidoptera: Noctuidae]. 22 Oct 1986. Philippines: IRRI farm, Los Baños, Manila.
- 2546 SR Sánchez Peña. *Spodoptera* sp. [Lepidoptera: Noctuidae]. Acc'd 29 Feb 1988. Location not specified.
- 2564 AE Hajek. Pupa, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 19 Mar 1988. USA: Canadice Lake, New York.
- 2822 SR Sánchez Peña (3). Pupa, [Lepidoptera]. Jul 1987. Mexico: elev. 2900 m, Pseudotsuga-Abies forest, Pueblo Nuevo, Durango.
- 2835 AE Hajek ← K Tatman (MD109#3). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 13 Jun 1989. USA: Baltimore County, Maryland.
- 3017 SB Krasnoff. *Pyrharchtia isabella* [Lepidoptera: Arctiidae]. 5 Jul 1990. USA: Troy Road, Ithaca, New York.
- 3152 KT Hodge. Pupa, [Lepidoptera]. 10 Oct 1991. USA: Lost Gorge, Tompkins County, New York. 25261.
- 3221 AE Hajek. Egg mass, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 8 Feb 1991. USA: Luzerne County, Pennsylvania.
- 3490 AE Hajek (1b). 5th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 29 May 1991. USA: nr. Crossroads, Albemarle County, Virginia.
- 3491 AE Hajek (4a). 5th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 20 Jun 1991. USA: nr. Cool Spring, Mercer County, Pennsylvania.
- 3492 AE Hajek (9b). 5th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 11 Jun 1991. USA: Poplar Hill, Prince Georges County, Maryland.
- 3493 AE Hajek (18b). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 3 Jun 1991. USA: Union Springs, Rockingham County, Virginia.
- 3494 AE Hajek (21a). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 30 May 1991. USA: Hunting Creek, Bedford County, Virginia.
- 3495 AE Hajek (26a). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 4 Jun 1991. USA: Hawes Run, Pendleton County, West Virginia.
- 3496 AE Hajek (32c). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 12 Jun 1991. USA: Holloway Draft, Augusta County, Virginia.
- 3497 AE Hajek (36a). Pre-pupa, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 13 Jun 1991. USA: Big Mary's Creek, Rockbridge County, Virginia.
- 3498 AE Hajek (37c). Pre-pupa, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 11 Jun 1991. USA: Piscataway, Maryland.
- 3499 AE Hajek (Red b (40)). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 3 Jun 1991. USA: Shenango River Reservoir, Mercer County, Pennsylvania.
- 3500 AE Hajek (47b). 5th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 5 Jun 1991. USA: Belle Acre, Allegheny County, Pennsylvania.
- 3501 AE Hajek (49b). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 5 Jun 1991. USA: Lovington Spring, Nelson County, Virginia.
- 3502 AE Hajek (52b). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 12 Jun 1991. USA: Piney River, Virginia.
- 3503 AE Hajek (53a). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 12 Jun 1991. USA: Hog Camp, Amherst County, Virginia.
- 3504 AE Hajek (54b). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 31 May 1991. USA: White Rock Trail, Augusta County, Virginia.
- 3505 AE Hajek (57b). 5th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 19 Jun 1991. USA: Wiggins Spring, Amherst County, Virginia.
- 3506 AE Hajek (62a). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 13 Jun 1991. USA: Brady Run, Beaver County, Pennsylvania.
- 3507 AE Hajek (64a). Pre-pupa, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 4 Jun 1991. USA: Accokeek, Maryland.
- 3508 AE Hajek (68c). 6th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 13 Jun 1991. USA: nr. Ruckersville, Greene County, Virginia.
- 3517 AE Hajek (91a). 5th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 31 May 1991. USA: Darnell Hollow, Monongalia County, West Virginia.
- 3518 AE Hajek (94b). 5th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 6 Jun 1991. USA: Clifton Mills Rd., Preston County, West Virginia.
- 3519 AE Hajek (95a). 5th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 13 Jun 1991. USA: Sandy Creek, Preston County, West Virginia.
- 3520 AE Hajek (102a). 6th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 13 Jun 1991. USA: Harris Lake, Monongalia County, West Virginia.
- 3521 AE Hajek (128b). 5th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 12 Jun 1991. USA: Camp Run, Pendleton County, West Virginia.
- 3522 AE Hajek (140a). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 31 May 1991. USA: Quarry Run, Monongalia County, West Virginia.
- 3523 AE Hajek (145b). 5th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 4 Jun 1991. USA: State Game Land # 203, Allegheny County, Pennsylvania.

- 3524 AE Hajek (166a). 6th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 11 Jun 1991. USA: nr. C & O Canal, Allegany County, Maryland.
- 3525 AE Hajek (203b). 5th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 6 Jun 1991. USA: Galloway Rd., Preston County, West Virginia.
- 3526 AE Hajek (216b). 5th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 10 Jun 1991. USA: nr. Piclic Run, Allegany County, Maryland.
- 3533 AE Hajek (298b). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 31 May 1991. USA: Parker Run, Preston County, West Virginia.
- 3537 M Brownbridge (HL-1.1). Pupa, *Lambdina athasaria* [Lepidoptera: Geometridae]. 4 Dec 1991. USA: Whitington, Vermont.
- 3538 M Brownbridge (HL-2.3). Pupa, *Lambdina athasaria* [Lepidoptera: Geometridae]. 4 Dec 1991. USA: Whitington, Vermont.
- 3595 AE Hajek (35). Pre-pupa, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 24 Jun 1991. USA: horse-track at Equine Center, Freese Rd., Ithaca, New York.
- 3596 AE Hajek (146). 5th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 20 Jun 1991. USA: Salem Park, Ithaca, New York.
- 3597 AE Hajek (149). Pre-pupa, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 13 Jun 1991. USA: 35 Sapsucker Woods Rd., Ithaca, New York.
- 3598 AE Hajek (370). 5th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 17 Jun 1991. USA: Uhl, Ithaca, New York.
- 3599 AE Hajek (438). 5th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 10 Jun 1991. USA: nr. Equine Center, Freese Rd., Ithaca, New York.
- 3664 AE Hajek (1). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 20 Jun 1991. USA: Weakley Hollow, Madison County, Virginia.
- 3665 AE Hajek (23). 5th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 10 Jun 1991. USA: Runkles Gap, Rockingham County, Virginia.
- 3666 AE Hajek (27). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 3 Jun 1991. USA: nr. C & O Canal, Allegany County, Maryland.
- 4010 T Steenberg (137) ← L Øgaard. 5th instar larva, *Agrotis segetum* [Lepidoptera: Noctuidae]. Sep 1988. Denmark: Stengård, Zealand.
- 4090 KT Hodge (kth12). Pupa, [Lepidoptera] Soil. 8 Sep 1993. USA: Ringwood Forest Preserve, Ithaca, New York.
- 5368 MS Goettel. Larva, *Alosophila pometaria* [Lepidoptera: Geometridae] Ex field collected, lab reared larva. Rec'd 23 Sep 1996. Canada: Lethbridge, Alberta.
- 5883 FE Vega (EBCL 98024). Larva, *Cydia pomonella* [Lepidoptera: Tortricidae]. 19 Feb 1998. France: Crespian, Gard.
- 5884 FE Vega (EBCL 98025). Larva, *Cydia pomonella* [Lepidoptera: Tortricidae]. 19 Feb 1998. France: Crespian, Gard.
- 5885 FE Vega (EBCL 98026). Larva, *Cydia pomonella* [Lepidoptera: Tortricidae]. 19 Feb 1998. France: Crespian, Gard.
- 5996 KT Hodge. Pupa, [Lepidoptera] in leaf litter. 22 Oct 1998. USA: McDonald Forest, Oak Creek entrance, Benton County, Oregon. Specimen deposited in Oregon State University Herbarium as 67889.
- 6200 FE Vega (EBCL 98026). Larva, *Cydia pomonella* [Lepidoptera: Tortricidae]. 19 Feb 1998. France: Crespian, Gard.
- 6202 FE Vega (EBCL 98028). Larva, *Cydia pomonella* [Lepidoptera: Tortricidae]. 19 Feb 1998. France: Crespian, Gard.
- 6207 FE Vega (EBCL 98052). Larva, *Cydia pomonella* [Lepidoptera: Tortricidae]. 5 Oct 1998. Bulgaria: Jabalkovo.
- 6245 [RCEF 0097] [Lepidoptera]. Rec'd 24 Aug 1999. PR China: Yunnan.
- 7118 [CBS 111113] Pupa, [Lepidoptera] in moss under *Quercus*, oak. 30 Sep 2002. Denmark: Kås Skov, Jutland Salling, Jutland. CULTURE EX EPITYPE.
- 7531 S Keller (955). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait fom soil. 29 Sep 2003. Switzerland: Matten, Bern.
- 7574 I Klingen (NCRI 95/02). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 3 Oct 2001. Norway: Målsnes, field margin of conventional apple orchard, Balestrand, Sogn og Fjordane.
- 7575 I Klingen (NCRI 164/02). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 1 Oct 2001. Norway: Nessane, conventional apple orchard, Balestrand, Sogn og Fjordane.
- 7576 I Klingen (NCRI 170/02). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 1 Oct 2001. Norway: Nessane, field margin of conventional apple orchard, Balestrand, Sogn og Fjordane.
- 7714 [SRCAMB B-181] V Likhovidov ← BA Borisov. Pupa, [Lepidoptera]. Aug 2002. Russian Federation: Vladivostok District, Primorsky Krai. Field Collection Number F-184.
- 7720 [SRCAMB VL-576/1] V Likhovidov. Pupa, [Lepidoptera]. 7 Aug 2001. Russian Federation: Lazovsky Nature Reserve, Primorsky Krai. Field Collection Number F-180.
- 7722 [SRCAMB B-49] V Likhovidov ← BA Borisov. Pupa, [Lepidoptera] Isolated from stroma of *Cordyceps* sp. Aug 2002. Russian Federation: Lazovsky Nature Reserve, Primorsky Krai. Field Collection Number F-199.
- 7723 [SRCAMB B-108] V Likhovidov ← BA Borisov. Pupa, [Lepidoptera]. 31 Aug 2002. Russian Federation: Caucasus region, Karachayevo-Cherkessiya Republ. Field Collection Number F-185.

- 7724 [SRCAMB VL-405] V Likhovidov. Pupa, [Lepidoptera] Isolated from stroma of *Cordyceps* sp. 30 Jul 2001. Russian Federation: Kedrovaya Pad Nature Reserve, Primorsky Krai. Field Collection Number F-294.
- 7725 [SRCAMB B-62] V Likhovidov ← BA Borisov. Pupa, [Lepidoptera] Isolated from stroma of *Cordyceps* sp. 2002. Russian Federation: Lazovsky Nature Reserve, Primorsky Krai. Field Collection Number F-286.
- 7726 [SRCAMB VL-497] V Likhovidov. Pupa, [Lepidoptera] Isolated from stroma of *Cordyceps* sp. 21 Jul 2001. Russian Federation: environs of Vladivostok, Vladivostok, Primorsky Krai. Field Collection Number F-272.
- 7730 [SRCAMB B-77] V Likhovidov ← BA Borisov. Pupa, [Lepidoptera]. Aug 2002. Russian Federation: Lazovsky Nature Reserve, Primorsky Krai. Field Collection Number F-286.
- 7731 [SRCAMB VL-576] V Likhovidov. Pupa, [Lepidoptera]. 7 Aug 2001. Russian Federation: Lazovsky Nature Reserve, Primorsky Krai. Field Collection Number F-180.
- 7733 [SRCAMB VL-51] V Likhovidov. Pupa, [Lepidoptera]. Sep 2001. Russian Federation: Caucasus region, Krasnaya Polyana, Krasnodarsky Krai. Field Collection Number F-186.
- 7734 [SRCAMB B-404] V Likhovidov ← BA Borisov. Pupa, [Lepidoptera]. Oct 1988. Ukraine: Kherson Oblast. Field Collection Number F-190.
- 7736 [SRCAMB B-102] V Likhovidov ← BA Borisov. Pupa, [Lepidoptera] Isolated from stroma of *Cordyceps takaomontana*. Aug 2002. Russian Federation: Lazovsky Nature Reserve, Primorsky Krai. Field Collection Number F-293.
- 7737 [SRCAMB VL-1040/1] V Likhovidov. Pupa, [Lepidoptera] Isolated from stroma of *Cordyceps takaomontana*. 6 Aug 2002. Russian Federation: Lazovsky Nature Reserve, Primorsky Krai. Field Collection Number F-304.
- 7961 LA Lacey (4A). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil sample. 29 Sep 2005. USA: Alaska. 69°25'26" N, 148°41'41" W, 1001 ft elevation.
- 7962 LA Lacey (5A). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil sample. 28 Sep 2005. USA: Deadhorse, Alaska. 70°12'42" N, 148°28'57" W, 37 ft elevation.
- 8770 A Torres Barragan (Ral 6). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from vermicompost. 16 Jul 2008. USA: Red Hen Enterprises, Raleigh, North Carolina.
- 9515 [SRCAMB B-186] V Likhovidov ← BA Borisov. [Lepidoptera: Lasiocampidae]. Apr 2003. Russian Federation: Moscow Region. Field Collection Number F-919.
- 11656 [NCRI 160/02] K Westrum. Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 5 Oct 2001. Norway: Ola Bøtun, Fresvik, Balestrand, Sogn og Fjordane. Soil sample from margin of conventional apple orchard.
- 11721 T Wen (09XS-3). Pupa, [Lepidoptera]. 2009. PR China: Xishan, Kunming, Yunnan Province.
- 11829 [ERL 2041] S Gouli and V Gouli (THR-11-30). [Lepidoptera]. 2011. USA: Richford, Vermont.
- 13274 [AS Lestari 21ARC] [Lepidoptera: Pyralidae]. 22 Dec 2014. USA: Polk County, Oregon.

***Isaria fumosorosea* Wize**

[Sordariomycetes: Hypocreales]

Cordycipitaceae. Major synonym: *Paecilomyces fumosoroseus* (Wize) Brown & Smith. Reclassified during a phylogenetically necessary reclassification of *Paecilomyces* Section *Isarioidea*.

- 720 RS Soper. *Bombyx mori* [Lepidoptera: Bombycidae]. 11 Nov 1981. PR China: Hangzhou, Zhejiang.
- 989 J Aoki (Paec. 3) ← Y Sekizima. *Bombyx mori* [Lepidoptera: Bombycidae]. Rec'd 7 Nov 1983. Japan: Kumagaya, Saitama Prefecture.
- 1005 J Aoki (Paec. 2). *Bombyx mori* [Lepidoptera: Bombycidae]. Rec'd 7 Nov 1983. Japan: Fuchu, Tokyo Prefecture.
- 1568 KV Deseö (101) ← Cortellini. Pupa, *Hyphantria cunea* [Lepidoptera: Arctiidae]. Mar 1984. Italy: Villa Cadé (Reggio Emilia), Emilia-Romagna.
- 1569 KV Deseö (107) ← Cortellini. Pupa, *Hyphantria cunea* [Lepidoptera: Arctiidae]. Mar 1984. Italy: Villa Cadé (Reggio Emilia), Emilia-Romagna.
- 1577 KV Deseö (104) ← Cortellini. Pupa, *Hyphantria cunea* [Lepidoptera: Arctiidae]. Mar 1984. Italy: Villa Cadé (Reggio Emilia), Emilia-Romagna.
- 1578 KV Deseö (108) ← Cortellini. Pupa, *Hyphantria cunea* [Lepidoptera: Arctiidae]. Mar 1984. Italy: Villa Cadé (Reggio Emilia), Emilia-Romagna.
- 1579 KV Deseö (110) ← Cortellini. Pupa, *Hyphantria cunea* [Lepidoptera: Arctiidae]. Mar 1984. Italy: Villa Cadé (Reggio Emilia), Emilia-Romagna.
- 2734 GW Riethmacher (M1). *Spodoptera* sp. [Lepidoptera: Noctuidae]. 28 Dec 1988. Philippines: La Trinidad, Benguet.
- 2749 GW Riethmacher (L4). *Plutella xylostella* [Lepidoptera: Plutellidae]. 21 Mar 1989. Philippines: La Trinidad, Benguet.
- 3302 J Gutierrez Samperio (18) ← ERD Reyes. *Diaphania hyalinata* [Lepidoptera: Pyralidae] on melon. 1990. Mexico: Michoacán, Baja California.
- 3982 [INRA Pfr045] LA Lacey (93019). *Pieris brassicae* [Lepidoptera: Pieridae]. 1978. France: Ile de France.
- 3983 [INRA Pfr040] LA Lacey (93020). *Ostrinia nubilalis* [Lepidoptera: Pyralidae]. 1977. France: Béarn.

- 3984 [INRA Pfr039] LA Lacey (93021) or (93021) ← INRA (fr039). *Scotia segetum* [Lepidoptera: Noctuidae]. 1976. France: Ile de France.
- 3985 [INRA Pfr032] LA Lacey (93022). *Scotia ipsilon* [Lepidoptera: Noctuidae]. 1976. France: Ile de France.
- 3986 [INRA Pfr035] LA Lacey (93023). *Mamestra brassicae* [Lepidoptera: Noctuidae]. 1976. France: Ile de France.
- 3987 [INRA Pfr013] LA Lacey (93024). *Lycophotia* sp. [Lepidoptera: Noctuidae]. 1976. France: Provence.
- 3988 [INRA Pfr024] LA Lacey (93025). *Chilo suppressalis* [Lepidoptera: Pyralidae]. 1976. France: Ile de France.
- 3989 [INRA Pfr004] LA Lacey (93026). *Mamestra brassicae* [Lepidoptera: Noctuidae]. 1972. France: Ile de France.
- 5251 SARL (1) ← SP Wraight (LEP-1). Larva, [Lepidoptera] Broccoli leaf. 18 Nov 1992. USA: Santa Maria, Texas.
- 5252 SARL (2) ← SP Wraight (LEP-2). Larva, [Lepidoptera] Broccoli leav. 18 Nov 1992. USA: Santa Maria, Texas.
- 5874 FE Vega (EBCL 98001). Larva, *Plutella xylostella* [Lepidoptera: Plutellidae]. 22 Aug 1997. Romania: Voronetz.
- 6192 FE Vega (EBCL 99029). Adult, *Cydia pomonella* [Lepidoptera: Tortricidae]. 5 Oct 1998. Bulgaria: Jabalkovo.
- 6203 FE Vega (EBCL 98039). Adult, *Cydia pomonella* [Lepidoptera: Tortricidae]. 19 Feb 1998. France: Crespian, Gard.
- 6204 FE Vega (EBCL 98040). Adult, *Cydia pomonella* [Lepidoptera: Tortricidae]. 19 Feb 1998. France: Crespian, Gard.
- 6206 FE Vega (EBCL 98042). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 20 Jul 1998. France: Pujaudrau.
- 6799 G Mercadier (EBCL 00051). Pupa, *Plutella xylostella* [Lepidoptera: Plutellidae] on *Brassica oleracea* L., cabbage. 13 Jul 2000. Australia: Tableland, Atherton, Queensland.
- 6800 G Mercadier (EBCL 00052). Pupa, *Plutella xylostella* [Lepidoptera: Plutellidae] on *Brassica oleracea* L., cabbage. 13 Jul 2000. Australia: Tableland, Atherton, Queensland.
- 6893 E Zhioua (T81). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. Rec'd May 2001.
- 7743 [SRCAMB B-101] V Likhovidov ← BA Borisov. [Lepidoptera] Isolated from stroma of *Cordyceps takaomontana*. Aug 2002. Russian Federation: Lazovsky Nature Reserve, Primorsky Krai. Field Collection Number F-282.
- 8333 Z Demirbag (KTU-1). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 13 Jul 2006. Turkey: Yomra, Trabzon.
- 8337 Z Demirbag (KTU-5). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 13 Jul 2006. Turkey: Derapazari, Rize.
- 8345 Z Demirbag (KTU-13). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 23 Jul 2006. Turkey: Kesap, Giresun.
- 8348 Z Demirbag (KTU-16). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 16 Sep 2006. Turkey: Muratli, Artvin.
- 8448 Z Demirbag (KTU-42). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 13 Apr 2007. Turkey: Ikizdere, Rize.
- 9380 E Groden. Larva, *Galleria mellonella* [Lepidoptera: Pyralidae]. 17 Jun 2009. USA: Acadia National Park, Mount Desert Island, Maine.
- 9520 [SRCAMB VL-1528] V Likhovidov. Larva, [Lepidoptera]. 11 Sep 2004. Russian Federation: Caucasus region, Sochi District, Krasnodarsky Krai. Field Collection Number F-518.
- 10224 M Kereselidze. Pupa, *Hyphantria cunea* [Lepidoptera: Arctiidae] from bark of *Morus* sp., mulberry. Sep 2008. Republic of Georgia: western Georgia.
- 11657 [NCRI 167/02] K Westrum. Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 1 Oct 2001. Norway: Olav Feten, Nessane, Balestrand, Sogn og Fjordane. Soil sample from conventional apple orchard.
- 11658 [NCRI 230/02] K Westrum. Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 1 Oct 2001. Norway: Olav Feten, Nessane, Balestrand, Sogn og Fjordane. Soil sample from conventional apple orchard.
- 11659 [NCRI 232/02] K Westrum. Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 1 Oct 2001. Norway: Olav Feten, Nessane, Balestrand, Sogn og Fjordane. Soil sample from conventional apple orchard.
- 12172 I Erper (TR-78-2). Pupa, *Hyphantria cunea* [Lepidoptera: Arctiidae]. Rec'd 3 Jun 2013. Turkey.
- 12173 I Erper (TR-78-3). Pupa, *Hyphantria cunea* [Lepidoptera: Arctiidae]. Rec'd 3 Jun 2013. Turkey.
- 12174 I Erper (TR-78-4). Pupa, *Hyphantria cunea* [Lepidoptera: Arctiidae]. Rec'd 3 Jun 2013. Turkey.
- 12175 I Erper (TR-78-5). Pupa, *Hyphantria cunea* [Lepidoptera: Arctiidae]. Rec'd 3 Jun 2013. Turkey.
- 12177 I Erper (TR-78-7). Pupa, *Hyphantria cunea* [Lepidoptera: Arctiidae]. Rec'd 3 Jun 2013. Turkey.
- 13273 [AS Lestari W4] [Lepidoptera: Pyralidae]. 7 Oct 2013. USA: Polk County, Oregon.

Isaria javanica (Friederichs & Bally) Samson & Hywel-Jones
[Sordariomycetes: Hypocreales]
Cordycipitaceae. Major synonym: *Paecilomyces javanicus* (Friederichs & Bally) Brown & Smith. Reclassified during a phylogenetically necessary reclassification of *Paecilomyces* Section *Isarioidea*.

- 704 RS Soper. *Bombyx mori* [Lepidoptera: Bombycidae]. 11 Nov 1981. PR China: Hangzhou, Zhijiang.

- 3981 LA Lacey (93018) ← INRA (Pfr028). *Mamestra brassicae* [Lepidoptera: Noctuidae]. 1975. France: Ile de France.

***Isaria tenuipes* Peck**

[Sordariomycetes: Hypocreales]

Cordycipitaceae. Major synonym: *Paecilomyces tenuipes* (Peck) Samson. Reclassified during a phylogenetically necessary reclassification of *Paecilomyces* Section *Isarioidea*.

- 2488 SR Sánchez Peña (A1). *Spodoptera frugiperda* [Lepidoptera: Noctuidae]. 16 Sep 1987. Mexico: Gómez Farías, Tamaulipas.
- 2489 SR Sánchez Peña (A2). *Spodoptera frugiperda* [Lepidoptera: Noctuidae]. 16 Sep 1987. Mexico: Gómez Farías, Tamaulipas.
- 2490 SR Sánchez Peña (B1). *Spodoptera frugiperda* [Lepidoptera: Noctuidae]. 16 Sep 1987. Mexico: Gómez Farías, Tamaulipas.
- 2491 SR Sánchez Peña (B2). *Spodoptera frugiperda* [Lepidoptera: Noctuidae]. 16 Sep 1987. Mexico: Gómez Farías, Tamaulipas.
- 3938 DR Sosa-Gómez (CNPSO-P41). [Lepidoptera: Noctuidae]. 31 Jan 1990. Brazil: Ivatuba, Paraná.
- 3939 DR Sosa-Gómez (CNPSO-P42). [Lepidoptera: Noctuidae]. Acc'd 18 Oct 1993. Brazil: Ponta Porã, Mato Grosso.
- 4096 LA Lacey (94006). Pupa, [Lepidoptera: Noctuidae]. Rec'd 28 Mar 1994. Brazil.
- 5134 KT Hodge (kth32a). Pupa, [Lepidoptera]. 17 Sep 1995. USA: Swamp off Hogsback Rd., Verona, Oneida County, New York. Specimen deposited in Cornell Plant Pathology Herbarium as CUP 63810.
- 5135 KT Hodge (kth32b). Pupa, [Lepidoptera]. 17 Sep 1995. USA: Swamp off Hogsback Rd. Verona, Oneida County, New York. Specimen deposited in Cornell Plant Pathology Herbarium as CUP 63811.
- 6249 [RCEF 0205] Pupa, [Lepidoptera]. Rec'd 24 Aug 1999. PR China: Anhui.
- 6788 FJ Posada (CEFC P-0003). Pupa, *Agraulis vanillae* [Lepidoptera: Nymphalidae] on *Passiflora edulis* Sims, maracuyá or purple granadilla. May 2000. Colombia: Butterfly rearing garden, Chinchiná, Caldas.
- 6889 H Cortez Madrigal (Pm). *Mocis latipes* [Lepidoptera: Noctuidae] on grass. Nov 2000. Mexico: Cárdenas, Tabasco.
- 7790 [SRCAMB VL-63] V Likhovidov. Pupa, [Lepidoptera]. 21 Sep 2001. Russian Federation: Caucasus region, Krasnaya Polyana, Krasnodarsky Krai. Field Collection Number F-303.
- 9531 [SRCAMB VL-1667] V Likhovidov. Pupa, [Lepidoptera]. 19 Sep 2004. Russian Federation: Caucasus region, Mostovsky District, Krasnodarsky Krai. Field Collection Number F-476.
- 9532 [SRCAMB VL-1564] V Likhovidov. Pupa, [Lepidoptera]. 14 Sep 2004. Russian Federation: Caucasus region, Sochi District, Krasnodarsky Krai. Field Collection Number F-488.
- 9534 [SRCAMB B-667] V Likhovidov ← BA Borisov. Larva, [Lepidoptera]. 8 Jul 2005. Ukraine: Kiev. Field Collection Number F-1033.
- 11705 T Wen (FD-3). Pupa, [Lepidoptera]. 2011. PR China: Foding Mountain, Shiqian County, Guizhou Province.
- 11706 T Wen (FD-4). Pupa, [Lepidoptera]. 2011. PR China: Foding Mountain, Shiqian County, Guizhou Province.
- 11707 T Wen (LG-11-2). Pupa, [Lepidoptera]. 2011. PR China: Leigong Mountain, Guizhou Province.

***Lecanicillium* sp.**

[Sordariomycetes: Hypocreales]

Cordycipitaceae

- 7624 [SRCAMB VL-408] V Likhovidov. [Lepidoptera] Isolated from stroma of *Cordyceps* sp. 30 Jul 2001. Russian Federation: Kedrovaya Pad Nature Reserve, Primorsky Krai. Field Collection Number F-212.
- 7625 [SRCAMB VL-406] V Likhovidov. [Lepidoptera] Isolated from stroma of *Cordyceps* sp. Jul 2001. Russian Federation: Kedrovaya Pad Nature Reserve, Primorsky Krai. Field Collection Number F-213.
- 7626 [SRCAMB B-61] V Likhovidov ← BA Borisov. Pupa, [Lepidoptera] Isolated from stroma of *Cordyceps militaris*. Aug 2002. Russian Federation: Kedrovaya Pad Nature Reserve, Primorsky Krai. Field Collection Number F-214.
- 7627 [SRCAMB B-65] V Likhovidov ← BA Borisov. Pupa, [Lepidoptera] Isolated from stroma of *Cordyceps militaris*. Aug 2002. Russian Federation: Lazovsky Nature Reserve, Primorsky Krai. Field Collection Number F-215.
- 7628 [SRCAMB B-81] V Likhovidov ← BA Borisov. Pupa, [Lepidoptera] Isolated from stroma of *Cordyceps militaris*. Aug 2002. Russian Federation: Lazovsky Nature Reserve, Primorsky Krai. Field Collection Number F-216.
- 7629 [SRCAMB B-60] V Likhovidov ← BA Borisov. Pupa, [Lepidoptera] Isolated from stroma of *Cordyceps militaris*. 12 Aug 2002. Russian Federation: Lazovsky Nature Reserve, Primorsky Krai. Field Collection Number F-217.
- 7632 [SRCAMB B-59] V Likhovidov ← BA Borisov. Pupa, [Lepidoptera] Isolated from stroma of *Cordyceps militaris*. Jul 2002. Russian Federation: Lazovsky Nature Reserve, Primorsky Krai. Field Collection Number F-238.
- 9458 [SRCAMB VL-1169] V Likhovidov. *Tortrix viridana* [Lepidoptera: Tortricidae]. 22 Jul 2003. Russian Federation: Serpukhov District, Moscow Region. Field Collection Number F-352.

***Lecanicillium lecanii*(?)** (Zimmermann) Zare & Gams
[Sordariomycetes: Hypocreales]

Cordycipitaceae. Segregate species in *Lecanicillium lecanii* species complex; formerly classified as *Verticillium lecanii* (Zimmermann) Viégas.

- 1109 KV Deseö (29) ← Pasqualini. *Cydia pomonella* [Lepidoptera: Tortricidae]. Apr 1982. Italy: Ravenna, Emilia-Romagna.

Lecanicillium muscarium (Petch) Zare & W Gams
[Sordariomycetes: Hypocreales]

Cordycipitaceae. Segregate species in *Lecanicillium lecanii* species complex; formerly classified as *Verticillium lecanii* (Zimmermann) Viégas

- 900 Z Feng. *Ostrinia nubilalis* [Lepidoptera: Pyralidae]. Spring 1983. USA: Batavia, New York.
- 973 [GCRI 59-81] RA Hall. *Cossula cossus* [Lepidoptera: Cossidae]. Acc'd 17 Oct 1983. Italy.
- 994 J Aoki (Vert. 1). *Adoxophyes orana* [Lepidoptera: Tortricidae]. Feb 1980. Japan: Iruma, Saitama Prefecture.
- 1102 [FPMI 708] KV Deseö (6). Larva, *Cossula cossus* [Lepidoptera: Cossidae]. Apr 1981. Italy: Galliera.
- 2065 GC Carroll (6(HO-O-Hatch VIII)). Egg mass, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd Dec 1985. USA: Dexter, Oregon.
- 2066 GC Carroll (4(HO-O-Hatch VIII)). Egg mass, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd Dec 1985. USA: Dexter, Oregon.
- 3531 AE Hajek (93a). 6th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 6 Jun 1991. USA: Harris Lake, Monongalia County, West Virginia.
- 3600 AE Hajek (130). 5th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 18 Jun 1991. USA: Salem Park, Ithaca, New York.
- 3601 AE Hajek (363). 6th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 17 Jun 1991. USA: Sapsucker Woods, Ithaca, New York.
- 6591 [CCFC 006759; DAOM 198499] J Brodeur. Pupa, *Cydia pomonella* [Lepidoptera: Tortricidae]. 1 Jun 1988. Canada: Cantley, Québec.
- 7568 I Klingen (NCRI 227/02). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 1 Oct 2001. Norway: Nessane, organic apple orchard, Balestrand, Sogn og Fjordane.
- 7621 [SRCAMB VL-770/2] V Likhovidov. Pupa, [Lepidoptera]. Jul 2002. Russian Federation: Kunashir Island, Sakhalin Region. Field Collection Number F-167.
- 7738 [SRCAMB B-234/3] V Likhovidov ← BA Borisov. Adult, [Lepidoptera] Isolated from synnema of *Akanthomyces* sp.. 12 Jul 2003. Russian Federation: Kedrovaya Pad Nature Reserve, Primorsky Krai. Field Collection Number F-314.

- 9468 [SRCAMB B-244] V Likhovidov ← BA Borisov. Adult, [Lepidoptera]. 12 Jul 2003. Russian Federation: Kedrovaya Pad Nature Reserve, Primorsky Krai. Field Collection Number F-310.
- 9469 [SRCAMB B-245/2] V Likhovidov ← BA Borisov. Pupa, [Lepidoptera] Isolated from stroma of *Cordyceps militaris*. 13 Jul 2003. Russian Federation: Kedrovaya Pad Nature Reserve, Primorsky Krai. Field Collection Number F-353.
- 9477 [SRCAMB B-234/1] V Likhovidov ← BA Borisov. [Lepidoptera]. Aug 2003. Russian Federation: Kedrovaya Pad Nature Reserve, Primorsky Krai. Field Collection Number F-582.
- 11802 [ERL 2060] S Gouli (THR-11-49) and V Gouli. [Lepidoptera]. 2011. USA: Rupert, Vermont.
- 13272 [AS Lestari B2-V] [Lepidoptera: Pyralidae]. 4 Nov 2014. USA: Linn, Oregon.

***Lecanicillium muscarium*(?)** (Petch) Zare & Gams
[Sordariomycetes: Hypocreales]

Cordycipitaceae. Segregate species in *Lecanicillium lecanii* species complex; formerly classified as *Verticillium lecanii* (Zimmermann) Viégas.

- 1032 [GCRI 80-82] RA Hall. *Cydia pomonella* [Lepidoptera: Tortricidae]. 1982. Australia.

Lecanicillium psalliotae (Treschow) Zare & W Gams
[Sordariomycetes: Hypocreales]

Cordycipitaceae. Major synonym: *Verticillium psalliotae* Treschow

- 5685 BL Parker (SPT-087). [Lepidoptera]. 17 Jan 1998. Turkey: Karabykly, Narli, Kahraman Maras.

Mariannaea pruinosa Liang

[Sordariomycetes: Hypocreales]

Cordycipitaceae; correct generic assignment remaining to be determined.

- 5413 ZQ Liang (CGAC-2281). *Iragoides fasciata* [Lepidoptera: Limacodidae]. Rec'd Fall 1996. PR China: tea garden, Guiyang City, Guizhou Province. Conidial production occurs in visible light (produces few conidia in darkness).

***Metarhizium* sp.**

[Sordariomycetes: Hypocreales]

Clavicipitaceae

- 4997 SR Booth (Waara). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae]. 9 May 1995. USA: Cranberry bog, Grayland, Washington.
- 4998 SR Booth (Gant). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae]. 1 Jun 1995. USA: Cranberry bog, Bandon, Oregon.
- 4999 SR Booth (Quinby; MSP). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae]. 9 May 1995. USA: Cranberry bog, Grayland, Washington.

- 5000 SR Booth (Scherer). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae]. 1 Jun 1995. USA: Cranberry bog, Bandon, Oregon.
- 5001 SR Booth (Johnson). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae]. 17 Jul 1995. USA: Cranberry bog, Grayland, Washington.
- 5076 SR Booth (Warnock). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae]. 23 Apr 1995. USA: Cranberry bog, Bandon, Oregon.
- 5077 SR Booth (McMahon). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae]. 23 Feb 1995. USA: Cranberry bog, Bandon, Oregon.
- 5079 SR Booth (O'Hagan). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae]. 21 Jul 1994. USA: Cranberry bog, Grayland, Washington.
- 12452 T Reall (MHF) or (MH6). *Galleria mellonella* [Lepidoptera: Pyralidae]. Sep 2011. USA: Monterey Hills forest, Columbia, Missouri. N 38.98253, W 92.38603.
- 12453 T Reall (MHU) or (P1). *Galleria mellonella* [Lepidoptera: Pyralidae]. 11 Sep 2012. USA: Parkade neighborhood, Columbia, Missouri. N 38.97482, W 92.35132.
- 12454 T Reall (MLF) or (Gu9). *Galleria mellonella* [Lepidoptera: Pyralidae]. 29 Sep 2011. USA: Guilford forest, Columbia, Missouri. N 39.04678, W 92.40152.
- 12455 T Reall (P5) or (MLU). *Galleria mellonella* [Lepidoptera: Pyralidae]. 24 Aug 2012. USA: Parkade neighborhood, Columbia, Missouri. N 38.97484, W 92.34701.
- 13264 [AS Lestari G1LA] [Lepidoptera: Pyralidae]. 22 Dec 2014. USA: Benton County, Oregon.
- 13265 [AS Lestari 1 slpA] [Lepidoptera: Pyralidae]. 22 Dec 2014. USA: Benton County, Oregon.
- 13266 [AS Lestari GR12LA] [Lepidoptera: Pyralidae]. 22 Dec 2014. USA: Benton County, Oregon.
- 13267 [AS Lestari G2LB] [Lepidoptera: Pyralidae]. 22 Dec 2014. USA: Benton County, Oregon.
- 13268 [AS Lestari W11LA] [Lepidoptera: Pyralidae]. 22 Dec 2014. USA: Benton County, Oregon.
- 13269 [AS Lestari 2 slpA] [Lepidoptera: Pyralidae]. 22 Dec 2014. USA: Benton County, Oregon.
- 13270 [AS Lestari G3LA] [Lepidoptera: Pyralidae]. 22 Dec 2014. USA: Benton County, Oregon.
- 13271 [AS Lestari Ge1slpC] [Lepidoptera: Pyralidae]. 22 Dec 2014. USA: Benton County, Oregon.
- 13275 [AS Lestari GR1LB] [Lepidoptera: Pyralidae]. 22 Dec 2014. USA: Benton County, Oregon.
- 13276 [AS Lestari 2 LC] [Lepidoptera: Pyralidae]. 22 Dec 2014. USA: Benton County, Oregon.
- Metarhizium anisopliae* sensu lato** (Metschnikoff)
Sorokin
[Sordariomycetes: Sordariomycetes]
Clavicipitaceae. These isolates were identified morphologically and have not yet been reidentified under the genomic classification of Bischoff et al. (2009).
- 1059 [CNPS 39C] F Moscardi. Larva, *Chlosyne lacinia saundersii* [Lepidoptera: Nymphalidae]. 1983. Brazil: Londrina, Paraná.
- 1094 DW Roberts ← G Teetor-Barsch (F84-1-1) ← ARSEF (23). [Lepidoptera]. Acc'd 16 Feb 1984. Laboratory manipulation.
- 2424 DG Holdom (080287-1). Larva, [Lepidoptera]. 8 Feb 1987. Indonesia: CIBA-GEIGY R & D Station, Cikampek, Jawa Barat, Java.
- 3290 J Gutierrez Samperio (6) ← ERD Reyes. *Diatraea saccharalis* [Lepidoptera: Pyralidae] on sugar cane. 1988. Mexico: Colima.
- 3291 J Gutierrez Samperio (7) ← ERD Reyes. *Diatraea saccharalis* [Lepidoptera: Pyralidae] on sugar cane. 1987. Mexico: Colima.
- 3292 J Gutierrez Samperio (8) ← ERD Reyes. *Diatraea saccharalis* [Lepidoptera: Pyralidae] on sugar cane. 1987. Mexico: Colima.
- 3293 J Gutierrez Samperio (9) ← ERD Reyes. *Spodoptera frugiperda* [Lepidoptera: Noctuidae] on corn. 1988. Mexico: Colima.
- 4234 [DAT 119] AC Rath (F119). Larva, *Oncopera intrucata* [Lepidoptera: Hepialidae]. 2 Jan 1988. Australia: Richmond, Tasmania.
- 4521 JD Vandenberg (DBM11a). Larva, *Plutella xylostella* [Lepidoptera: Plutellidae] broccoli. Rec'd 13 Jul 1994. USA: Ontario County, New York.
- 4522 JD Vandenberg (DBM11C). Larva, *Plutella xylostella* [Lepidoptera: Plutellidae] broccoli. Rec'd 13 Jul 1994. USA: Ontario County, New York.
- 4904 LA Lacey (95006). *Galleria mellonella* [Lepidoptera: Pyralidae] Used as bait. Feb 1995. Portugal: Terceira Island, Azores.
- 4905 LA Lacey (95007). *Galleria mellonella* [Lepidoptera: Pyralidae] Used as bait. Feb 1995. Portugal: Terceira Island, Azores.
- 4906 LA Lacey (95008). *Galleria mellonella* [Lepidoptera: Pyralidae] Used as bait. Feb 1995. Portugal: Terceira Island, Azores.
- 5369 I Klingen (NCRI 1-96 (01)). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] Soil sample (marine calcareous soil). 16 Sep 1996. Norway: Potato land (63.57° N), Åfjord, Sør Trøndelag.
- 5469 TJ Poprawski (TJP934). Larva, *Eoreuma loftini* [Lepidoptera: Pyralidae]. Rec'd 9 May 1997. USA: sugarcane field, Weslaco, Texas.

- 5513 I Klingen (PVF 10.1). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 5 Sep 1996. Norway: Bodø, Nordland. **RESTRICTED ACCESS:** contact Curator.
- 5514 I Klingen (PVF 10.2). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 5 Sep 1996. Norway: Bodø, Nordland.
- 5515 I Klingen (PVF 4.1). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 5 Sep 1996. Norway: Bodø, Nordland.
- 5516 I Klingen (PVF 6). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 5 Sep 1996. Norway: Bodø, Nordland.
- 5517 I Klingen (PVF 9.2). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 5 Sep 1996. Norway: Bodø, Nordland.
- 5518 I Klingen (TØF 22.4). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 26 Sep 1996. Norway: Steinkjer, Nord Trøndelag.
- 5519 I Klingen (TØF 22.5). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 26 Sep 1996. Norway: Steinkjer, Nord Trøndelag.
- 5521 I Klingen (TØF 25.1). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 26 Sep 1996. Norway: Steinkjer, Nord Trøndelag.
- 5554 I Klingen (F1C.1). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 26 Jun 1997. Norway: Finnøy, Rogaland.
- 5555 I Klingen (F2C.1). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 26 Jun 1997. Norway: Finnøy, Rogaland.
- 5556 I Klingen (F3D.1). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 26 Jun 1997. Norway: Finnøy, Rogaland.
- 6167 M Filotas. *Malacosoma disstria* [Lepidoptera: Lasiocampidae]. Apr 1998. USA: Tug Hill Plateau, Richland, New York. Host infected in laboratory upon exposure to field collected soil.
- 6475 I Klingen (HVI.99). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. Fall 1999. Norway: Hvittingfoss, Buskerud.
- 6558 D Chandler (HRI 378.93). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from woodland soil. Rec'd 13 Jul 2000. United Kingdom.
- 7014 I Klingen (NCRI 08/02). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 1 Oct 2001. Norway: apple orchard, Balestrand, Sogn og Fjordane.
- 7015 I Klingen (NCRI 09/02). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 1 Oct 2001. Norway: apple orchard, Balestrand, Sogn og Fjordane.
- 7016 I Klingen (NCRI 12/02). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 3 Oct 2001. Norway: apple orchard, Balestrand, Sogn og Fjordane.
- 7017 I Klingen (NCRI 14/02). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 3 Oct 2001. Norway: apple orchard, Balestrand, Sogn og Fjordane.
- 7018 I Klingen (NCRI 17/02). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 1 Oct 2001. Norway: apple orchard, Balestrand, Sogn og Fjordane.
- 7019 I Klingen (NCRI 19/02). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 3 Oct 2001. Norway: apple orchard, Balestrand, Sogn og Fjordane.
- 7020 I Klingen (NCRI 20/02). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 1 Oct 2001. Norway: apple orchard, Balestrand, Sogn og Fjordane.
- 7021 [I Klingen NCRI 21/02] *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 3 Oct 2001. Norway: apple orchard, Balestrand, Sogn og Fjordane.
- 7022 I Klingen (NCRI 26/02). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 3 Oct 2001. Norway: apple orchard, Balestrand, Sogn og Fjordane.
- 7023 I Klingen (NCRI 32/02). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 3 Oct 2001. Norway: apple orchard, Balestrand, Sogn og Fjordane.
- 7024 I Klingen (NCRI 40/02). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 3 Oct 2001. Norway: apple orchard, Balestrand, Sogn og Fjordane.
- 7025 I Klingen (NCRI 51/02). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 3 Oct 2001. Norway: apple orchard, Balestrand, Sogn og Fjordane.
- 7026 I Klingen (NCRI 52/02). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 3 Oct 2001. Norway: apple orchard, Balestrand, Sogn og Fjordane.
- 7569 I Klingen (NCRI 53/02). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 1 Oct 2001. Norway: field margin of organic apple orchard, Balestrand, Sogn og Fjordane.
- 7570 I Klingen (NCRI 211/02). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 1 Oct 2001. Norway: Nessane, organic apple orchard, Balestrand, Sogn og Fjordane.
- 7571 I Klingen (NCRI 240/02). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 1 Oct 2001. Norway: Nessane, field margin of organic apple orchard, Balestrand, Sogn og Fjordane.
- 7572 I Klingen (NCRI 241/02). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 1 Oct 2001. Norway: Nessane, organic apple orchard, Balestrand, Sogn og Fjordane.

- 7573 I Klingen (NCRI 221/02). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 1 Oct 2001. Norway: Nessane, field margin of conventional apple orchard, Balestrand, Sogn og Fjordane.
- 7612 H Cortez Madrigal (MaA1). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] baiting in *Saccharum officinarum* L., sugar cane crop. Rec'd 14 Mar 2005. Mexico: Cárdenas, Tabasco.
- 7613 H Cortez Madrigal (MaA2). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] baiting in *Saccharum officinarum* L., sugar cane crop. Rec'd 14 Mar 2005. Mexico: Cárdenas, Tabasco.
- 7614 H Cortez Madrigal (MaA3). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] baiting in *Saccharum officinarum* L., sugar cane crop. Rec'd 14 Mar 2005. Mexico: Cárdenas, Tabasco.
- 7615 H Cortez Madrigal (MaA4). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] baiting in *Saccharum officinarum* L., sugar cane crop. Rec'd 14 Mar 2005. Mexico: Cárdenas, Tabasco.
- 7820 [CSIRO FI-0120] *Oncopera alboguttata* [Lepidoptera: Hepialidae]. 17 Dec 1985. Australia: Ebor, New South Wales.
- 7821 [CSIRO FI-0121] *Oncopera alboguttata* [Lepidoptera: Hepialidae]. 17 Dec 1985. Australia: Ebor, New South Wales.
- 7822 [CSIRO FI-0122] *Oncopera alboguttata* [Lepidoptera: Hepialidae]. 17 Dec 1985. Australia: Ebor, New South Wales.
- 7823 [CSIRO FI-0123] *Oncopera alboguttata* [Lepidoptera: Hepialidae]. 17 Dec 1985. Australia: Ebor, New South Wales.
- 7847 DEN Rangel and DW Roberts (DWR 200). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 13 Mar 2005. USA: Soil sample #13, Snowflake, Arizona. 34.42.924 N, 110.01.860 W, 5280 ft elevation.
- 7967 LA Lacey (14B). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil sample. 4 Oct 2005. USA: Site 3 (Green), CRP soil 19-21, Alaska.
- 8212 S Entz (20W-5). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. May 2004. Canada: fallow wheat field 30 km east of Milk River, Alberta.
- 8334 Z Demirbag (KTU-2). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 13 Jul 2006. Turkey: Ardesen, Rize.
- 8335 Z Demirbag (KTU-3). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 13 Jul 2006. Turkey: Derepazari, Rize.
- 8336 Z Demirbag (KTU-4). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 13 Jul 2006. Turkey: Derepazari, Rize.
- 8338 Z Demirbag (KTU-6). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 13 Jul 2006. Turkey: Derepazari, Rize.
- 8341 Z Demirbag (KTU-9). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 22 Jul 2006. Turkey: Terme, Samsun.
- 8342 Z Demirbag (KTU-10). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 22 Jul 2006. Turkey: Ordu Province.
- 8344 Z Demirbag (KTU-12). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 22 Jul 2006. Turkey: Persembet, Ordu.
- 8346 Z Demirbag (KTU-14). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 3 Aug 2006. Turkey: Çambunu, Sürmene, Trabzon.
- 8347 Z Demirbag (KTU-15). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 16 Sep 2006. Turkey: Borçka, Artvin.
- 8350 Z Demirbag (KTU-18). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 16 Sep 2006. Turkey: Murgul, Artvin.
- 8351 Z Demirbag (KTU-19). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 16 Sep 2006. Turkey: Murgul, Artvin.
- 8352 Z Demirbag (KTU-20). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 16 Sep 2006. Turkey: Camili, Artvin.
- 8353 Z Demirbag (KTU-21). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 16 Sep 2006. Turkey: Borçka, Artvin.
- 8432 Z Demirbag (KTU-26). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 13 Apr 2007. Turkey: Kalkandere, Rize.
- 8433 Z Demirbag (KTU-27). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 13 Apr 2007. Turkey: İkizdere, Rize.
- 8434 Z Demirbag (KTU-28). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 13 Apr 2007. Turkey: İkizdere, Rize.
- 8435 Z Demirbag (KTU-29). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 13 Apr 2007. Turkey: Güneysu, Rize.
- 8436 Z Demirbag (KTU-30). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 13 Apr 2007. Turkey: Çaykara, Trabzon.
- 8437 Z Demirbag (KTU-31). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 22 Jul 2006. Turkey: Bolaman, Ordu.
- 8438 Z Demirbag (KTU-32). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 22 Jul 2006. Turkey: Bolaman, Ordu.
- 8440 Z Demirbag (KTU-34). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 22 Jul 2006. Turkey: Fatsa, Ordu.
- 8443 Z Demirbag (KTU-37). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 13 Mar 2007. Turkey: Görele, Giresun.

- 8445 Z Demirbag (KTU-39). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 20 Mar 2007. Turkey: Ulubey, Ordu.
- 8446 Z Demirbag (KTU-40). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 13 Apr 2007. Turkey: Akçaabat, Trabzon.
- 8447 Z Demirbag (KTU-41). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 13 Apr 2007. Turkey: Kalkandere, Rize.
- 8450 Z Demirbag (KTU-44). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 13 Apr 2007. Turkey: Of, Trabzon.
- 8451 Z Demirbag (KTU-45). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 13 Apr 2007. Turkey: Of, Trabzon.
- 8452 Z Demirbag (KTU-46). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 13 Apr 2007. Turkey: Güneysu, Rize.
- 8453 Z Demirbag (KTU-47). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 13 Apr 2007. Turkey: Salarha, Rize.
- 8454 Z Demirbag (KTU-48). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 13 Apr 2007. Turkey: Of, Trabzon.
- 8660 Z Demirbag (KTU-49). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 13 Apr 2007. Turkey: Hemsin, Rize.
- 8662 Z Demirbag (KTU-51). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 4 Jun 2007. Turkey: Gümüşhane.
- 8665 Z Demirbag (KTU-54). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 7 Jul 2007. Turkey: Çalidere, Bayburt.
- 8669 Z Demirbag (KTU-58). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 7 Jul 2007. Turkey: Bayburt.
- 8680 MJ Bidochka (43A 2i). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. Summer 1996. Canada: Bewdley, Ontario.
- 8681 MJ Bidochka (56B 1iv). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. Summer 1996. Canada: Norwood, Ontario.
- 8682 MJ Bidochka (FRB2 1iv). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. Summer 1996. Canada: Frankford, Ontario.
- 8683 MJ Bidochka (GUB2 1iv). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. Summer 1996. Canada: Guelph, Ontario.
- 8684 MJ Bidochka (HKB1 1b). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. Summer 1996. Canada: Havelock, Ontario.
- 8685 MJ Bidochka (MAA1 2ii). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. Summer 1996. Canada: Madoc, Ontario.
- 8686 MJ Bidochka (ORB1 1ii). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. Summer 1996. Canada: Orillia, Ontario.
- 8687 MJ Bidochka (PHA1 2i). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. Summer 1996. Canada: Parkhill, Ontario.
- 8688 MJ Bidochka (ROA1 1b). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. Summer 1996. Canada: Rodney, Ontario.
- 8689 MJ Bidochka (ROA2 2a). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. Summer 1996. Canada: Rodney, Ontario.
- 8690 MJ Bidochka (SCB2 2i). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. Summer 1996. Canada: St. Catharines, Ontario.
- 8691 MJ Bidochka (SHB1 2i). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. Summer 1996. Canada: Sharbot Lake, Ontario.
- 8692 MJ Bidochka (TIB2 1iii). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. Summer 1996. Canada: Tillsonburg, Ontario.
- 8735 [CSIRO FI-0999] *Spodoptera* sp. [Lepidoptera: Noctuidae]. 11 May 1993. Malaysia: Cameron Highlands.
- 8769 A Torres Barragan (Ral 5). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from vermicompost. Jul 2008. USA: Red Hen Enterprises, Raleigh, North Carolina.
- 9541 [SRCAMB VL-1691/4] V Likhovidov. Pupa, [Lepidoptera]. 19 Sep 2004. Russian Federation: Caucasus region, Mostovsky District, Krasnodarsky Krai. Field Collection Number F-571.
- 11637 [ERL 49] *Helicoverpa zea* [Lepidoptera: Noctuidae]. 1983. USA.
- 11661 [NCRI 250/02] K Westrum. Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 18 Nov 2002. Norway: c) øko 0-10, Høgetveit, Telemark. **RESTRICTED ACCESS: consult Curator.**

Metarhizium anisopliae sensu stricto (Metschnikoff) Sorokin
[Sordariomycetes: Hypocreales]
Clavicipitaceae. These isolates have been genomically confirmed to belong in this narrowly redefined species (Bischoff et al. 2009)

- 587 JM Lenné (C7). *Mocis* sp. [Lepidoptera: Noctuidae]. Rec'd 13 Apr 1981. Colombia: Carimagua.
- 1080 LA Lacey. *Helicoverpa zea* [Lepidoptera: Noctuidae]. Fall 1983. USA: Gainesville, Florida.
- 1489 [INRA Ma-139] GG Soares ← G Riba. *Ostrinia nubilalis* [Lepidoptera: Pyralidae]. Acc'd 21 Aug 1984. France.
- 5471 TJ Poprawski (TJP936). Larva, *Eoreuma loftini* [Lepidoptera: Pyralidae]. Rec'd 9 May 1997. USA: sugarcane field, Weslaco, Texas.

- 8560 [CSIRO FI-0860] *Galleria mellonella* [Lepidoptera: Pyralidae]. 11 Jun 1991. Australia: Chapman, Australian Capital Territory.
- 10473 C Thamarai Chelvi (2). *Spodoptera litura* [Lepidoptera: Noctuidae]. 21 Oct 2009. India: Coimbatore, Tamil Nadu. Tamil Nadu Agricultural University, Department of Plant Pathology.

***Metarhizium brunneum* Petch**

[Sordariomycetes: Hypocreales]

Clavicipitaceae. Restored from synonymy variously with *M. anisopliae* and *M. album* as part of the genomic classification of Bischoff et al. (2009).

- 988 J Aoki (Met. 1). *Bombyx mori* [Lepidoptera: Bombycidae]. Rec'd 7 Nov 1983. Japan: Fuchu, Tokyo Prefecture.
- 1095 DW Roberts ← S Keller (Ma 43). *Carpocapsa pomonella* [Lepidoptera: Olethreutidae]. Acc'd 16 Feb 1984. Austria. Strong destruxin producer.
- 1112 KV Deseö (32B) ← Becchi. Pupa, *Lobesia botrana* [Lepidoptera: Tortricidae]. Apr 1982. Italy: Modena, Emilia-Romagna.
- 1116 KV Deseö (40B) ← Celli. Pupa, *Leucoptera scitella* [Lepidoptera: Lyonetiidae]. Aug 1982. Italy: Ravenna, Emilia-Romagna.
- 1187 [INRA Ma-23] TJ Poprawski ← GCN Latch. *Orycanus* sp. [Lepidoptera: Hepialidae]. 20 Jan 1966. New Zealand: Palmerston North, North Island.
- 3294 J Gutierrez Samperio (10) ← ERD Reyes. *Spodoptera frugiperda* [Lepidoptera: Noctuidae] on corn. 1989. Mexico: Colima.
- 3295 J Gutierrez Samperio (11) ← ERD Reyes. *Anticarsia gemmatilis* [Lepidoptera: Noctuidae] on soybeans. 1987. Mexico: Tamaulipas.
- 4681 [DAT 508] AC Rath (F508). Larva, *Wiseana* sp. [Lepidoptera: Hepialidae]. 17 Nov 1993. New Zealand: Waitati, Dunedin, South Island.
- 6474 I Klingen (SKA.99). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. Sep 1999. Norway: Skavanget.
- 8671 Z Demirbag (KTU-60). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 7 Jul 2007. Turkey: Gümüşhane. Identification confirmed by gene sequences.

***Metarhizium globosum* JF Bischoff, SA Rehner & Humber**

[Sordariomycetes: Hypocreales]

Clavicipitaceae. Recognized as part of an emergent genomic reclassification by Bischoff et al. (2009).

- 2596 RC Rajak (ENT/12). *Pyrausta machaeralis* [Lepidoptera: Pyralidae] on teak, *Tectona grandis*. Acc'd 12 Sep 1988. India. CULTURE EX TYPE.

***Metarhizium guizhouense* QT Chen & HL Guo**

[Sordariomycetes: Hypocreales]

Clavicipitaceae. Segregated from the *M. anisopliae* species complex as part of genomic reclassification of Bischoff et al. (2009), and all isolates genomically verified. Synonym: *M. taii* ZQ Liang & AY Liu. Teleomorph: *Cordyceps taii* ZQ Liang & AY Liu. Isolates genomically verified by at least 5'-TEF sequence data

- 703 RS Soper. *Bombyx mori* [Lepidoptera: Bombycidae]. 11 Nov 1981. PR China: Hangzhou, Zhijiang.
- 2140 T Searle (N). Larva, [Lepidoptera: Noctuidae]. Jul 1985. Canada: Southern Québec.
- 6238 [RCEF 0262] Pupa, [Lepidoptera]. 30 Jun 1996. PR China: Anhui.

***Metarhizium majus* (JR Johnston) JF Bischoff, SA**

Rehner & Humber

[Sordariomycetes: Hypocreales]

Clavicipitaceae. Synonym: *M. anisopliae* var. *majus* (JR Johnston) MC Tulloch. If this taxon is verified to be the anamorphic state of the teleomorph now classified as *Metarhizium brittlebankisoides* (Zuo Y Liu, ZQ Liang, Whalley, YJ Yao & AY Liu) Kepler, SA Rehner & Humber, the latter name would hold nomenclatural priority as the correct name for this fungus. Isolates verified genomically by at least 5'-TEF sequence data.

- 1015 J Aoki (Met. 4) ← T Kushida. *Bombyx mori* [Lepidoptera: Bombycidae]. Rec'd 7 Nov 1983. Japan: Hachioji, Tokyo Prefecture.
- 8736 [CSIRO FI-1000] *Spodoptera* sp. [Lepidoptera: Noctuidae]. 11 May 1993. Malaysia: Cameron Highlands.

***Metarhizium novozealandicum* Kepler, SA Rehner & Humber**

[Sordariomycetes: Hypocreales]

Clavicipitaceae. Basionym: *Metarhizium flavoviride* var. *novozealandicum* Driver & RJ Milner. Isolates with genomic confirmation of this identification are noted individually.

- 3064 [MAF F25] T Glare. Larva, [Lepidoptera: Crambidae]. Rec'd Oct 1990. New Zealand: Christchurch, South Island. Genomically verified by at least 5'-TEF sequence data.
- 8214 [CSIRO FI-0702] Larva, [Lepidoptera: Crambidae]. 8 Oct 1990. New Zealand: Christchurch, South Island.

***Metarhizium pingshaense* QT Chen & HL Guo**

[Sordariomycetes: Hypocreales]

Clavicipitaceae. Genomically confirmed in accord with the reclassification of Bischoff et al. (2009).

- 552 DW Roberts ← MA Naves. *Galactica* sp. [Lepidoptera]. Nov 1980. Brazil: Brasília, Distrito Federal.
- 2735 GW Riethmacher (Ma1). *Spodoptera* sp. [Lepidoptera: Noctuidae]. 29 Dec 1988. Philippines: La Trinidad, Benguet.

Metarhizium rileyi (Farlow) Kepler, SA Rehner & Humber

[Sordariomycetes: Hypocreales]

Clavicipitaceae. Formerly *Nomuraea rileyi* (Farlow) Samson. Early vegetative development of cultures on solid media usually occurs in mucoid colonies of fusoid yeast-like cells: mycelial development should begin after several days. Most strains are observed to sporulate most abundantly on Sabouraud maltose agar + 1% yeast extract. Isolates with genomic confirmation of this identification are noted individually.

- 135 JV Bell. [Lepidoptera: Noctuidae]. Acc'd 11 Nov 1982. USA: Stoneville, Mississippi. Molecularly verified as *Metarhizium rileyi* by at least 5'-TEF sequence data.
- 323 RS Soper. *Spodoptera* sp. [Lepidoptera: Noctuidae]. 14 Feb 1979. Australia: Arriga, Queensland. Molecularly verified as *Metarhizium rileyi* by at least 5'-TEF sequence data.
- 358 RS Soper. *Spodoptera* sp. [Lepidoptera: Noctuidae]. 26 Feb 1979. Australia: Queensland.
- 380 [FPMI 753] RS Soper. *Spodoptera* sp. [Lepidoptera: Noctuidae]. 26 Feb 1979. Australia: Queensland. Molecularly verified as *Metarhizium rileyi* by at least 5'-TEF sequence data.
- 481 RS Soper (10). *Lymantria* sp. [Lepidoptera: Lymantriidae]. 5 May 1980. Philippines: IRRI, Los Baños, Manila.
- 482 RS Soper. *Lymantria* sp. [Lepidoptera: Lymantriidae]. 5 May 1980. Philippines: IRRI, Los Baños, Manila.
- 483 RS Soper. *Lymantria* sp. [Lepidoptera: Lymantriidae]. 5 May 1980. Philippines: IRRI, Los Baños, Manila.
- 539 DW Roberts ← M Panyarjun. *Spodoptera exigua* [Lepidoptera: Noctuidae]. 26 Aug 1980. Thailand. Molecularly verified as *Metarhizium rileyi* by at least 5'-TEF sequence data.
- 540 DW Roberts. *Spodoptera exigua* [Lepidoptera: Noctuidae]. 26 Aug 1980. Thailand.
- 711 RS Soper. *Bombyx mori* [Lepidoptera: Bombycidae]. Fall 1981. PR China: Hangzhou, Zhejiang. Molecularly verified as *Metarhizium rileyi* by at least 5'-TEF sequence data.
- 740 [CNPAF 82-1-6-18; CP 12] RA Daoust. *Spodoptera* sp. [Lepidoptera: Noctuidae]. 6 Jan 1982. Brazil: CNPAF, Goiânia, Goiás.
- 762 TA Coudron ← B Puttler. *Plathypena scabra* [Lepidoptera: Noctuidae] on alfalfa. 2 Jul 1982. USA: Columbia, Missouri. Molecularly verified as *Metarhizium rileyi* by at least 5'-TEF sequence data.
- 935 [CNPAF 83-2-17-01; CP 74] RA Daoust ← E Ferreira. *Spodoptera* sp. [Lepidoptera: Noctuidae]. 17 Feb 1983. Brazil: CNPAF, Goiânia, Goiás.
- 936 [CNPAF 83-02-18-01; CP 75] RA Daoust ← SM dos Santos. Larva, [Lepidoptera]. 18 Feb 1983. Brazil: CNPAF, Goiânia, Goiás. Molecularly verified as *Metarhizium rileyi* by at least 5'-TEF sequence data.
- 1014 J Aoki (Nom. 2). *Prodenia litura* [Lepidoptera: Noctuidae]. Oct 1978. Japan: Fuchu, Tokyo Prefecture. Molecularly verified as *Metarhizium rileyi* by at least 5'-TEF sequence data.
- 1047 [FPMI 754] J Aoki (Nom. 3). *Plusia* sp. [Lepidoptera: Noctuidae]. Jan 1980. Japan: Fuchu, Tokyo Prefecture. Molecularly verified as *Metarhizium rileyi* by at least 5'-TEF sequence data.
- 1756 MC Rombach ← BM Shepard (NrMin-14). *Rivula atimeta* [Lepidoptera: Noctuidae] on rice. Aug 1984. Philippines: Mindanao. Molecularly verified as *Metarhizium rileyi* by at least 5'-TEF sequence data.
- 1757 MC Rombach ← BM Shepard (NrMin-19). *Rivula atimeta* [Lepidoptera: Noctuidae] on rice. Aug 1984. Philippines: Mindanao.
- 1758 MC Rombach ← BM Shepard (NrMin-1). *Rivula atimeta* [Lepidoptera: Noctuidae] on rice. Aug 1984. Philippines: Mindanao.
- 1759 MC Rombach ← BM Shepard (NrMin-5). *Rivula atimeta* [Lepidoptera: Noctuidae] on rice. Aug 1984. Philippines: Mindanao.
- 1760 MC Rombach ← BM Shepard (NrMin-23). *Rivula atimeta* [Lepidoptera: Noctuidae] on rice. Aug 1984. Philippines: Mindanao.
- 1761 MC Rombach (Nr-B). *Cnaphalocrocis medinalis* [Lepidoptera: Pyralidae]. Aug 1984. Philippines: insectary, IRRI, Los Baños, Manila.
- 1762 MC Rombach ← G Barrion (Nr-BS). *Mocis frugalis* [Lepidoptera: Noctuidae] on rice. Nov 1984. Philippines: Bangued, Abra. Molecularly verified as *Metarhizium rileyi* by at least 5'-TEF sequence data.
- 1879 DW Roberts (090485-3). Larva, [Lepidoptera] on rice. 9 Apr 1985. Solomon Islands: nr. Honiara, Guadalcanal. Molecularly verified as *Metarhizium rileyi* by at least 5'-TEF sequence data.
- 1893 MC Rombach (3). Larva, [Lepidoptera] on rice. Acc'd 10 Jun 1985. Solomon Islands: nr. Metapona, Guadalcanal.
- 1950 [CNPAF 85-06-14; CP 175] JMG Ferraz. *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 14 Jun 1985. Brazil: Bragança Paulista, Pará.
- 1972 [CNPAF 85-7-24-5; CP 192] JC Lord and BP Magalhães. *Spodoptera frugiperda* [Lepidoptera: Noctuidae]. 24 Jul 1985. Brazil: Ribeira do Pombal, Bahia. Molecularly verified as *Metarhizium rileyi* by at least 5'-TEF sequence data.
- 2013 [ARSEF 2466] CIRPON ← DR Sosa-Gómez. *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 1985. Argentina: Tucumán.
- 2174 MC Rombach (130586-14). *Cnaphalocrocis medinalis* [Lepidoptera: Pyralidae]. 13 May 1986. Philippines: nr. Baybay, Leyte.

- 2201 LC Piazza ← L da Silva (A285). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. Mar 1984. Brazil: Guaíba, Rio Grande do Sul. Molecularly verified as *Metarhizium rileyi* by at least 5'-TEF sequence data.
- 2202 LC Piazza ← NM de Barros (A485). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 24 Mar 1985. Brazil: Vacaria, Rio Grande do Sul.
- 2203 LC Piazza (A86). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 13 Mar 1986. Brazil: Vacaria, Rio Grande do Sul.
- 2204 LC Piazza ← FM Ellwanger (B86). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 12 Mar 1986. Brazil: Ijuí, Rio Grande do Sul.
- 2205 LC Piazza ← L Baloch (C86). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 10 Mar 1986. Brazil: Sarandi, Rio Grande do Sul.
- 2206 LC Piazza ← DN Gassen (D86). *Rachiplusia nu* [Lepidoptera: Noctuidae]. 8 May 1986. Brazil: Passo Fundo, Rio Grande do Sul.
- 2207 LC Piazza ← DN Gassen (E86). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 25 Apr 1986. Brazil: Santa Rosa, Rio Grande do Sul.
- 2345 [ARSEF 2390 (never frozen)] MC Rombach (111286-2). *Naranga* sp. [Lepidoptera: Noctuidae] on rice. 11 Dec 1986. Indonesia: nr. Klaten, Jawa Tengah, Java. Molecularly verified as *Metarhizium rileyi* by at least 5'-TEF sequence data.
- 2390 [ARSEF 2345] MC Rombach (111286-2). *Naranga* sp. [Lepidoptera: Noctuidae] on rice. 11 Dec 1986. Indonesia: nr. Klaten, Jawa Tengah, Java.
- 2395 MC Rombach (121186-1). *Rivula atimeta* [Lepidoptera: Noctuidae]. 12 Nov 1986. Philippines: IRRI farm, Los Baños, Manila.
- 2413 K Narayanan (15). *Helicoverpa armigera* [Lepidoptera: Noctuidae]. Acc'd 6 May 1987. India. Molecularly verified as *Metarhizium rileyi* by at least 5'-TEF sequence data.
- 2465 TJ Poprawski (8708) ← AJ Nasca (Nr-IY3). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 1986. Argentina: Santiago del Estero.
- 2466 [ARSEF 2013] TJ Poprawski (8709) ← AJ Nasca (Nr-T2). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 1985. Argentina: Tucumán. Molecularly verified as *Metarhizium rileyi* by at least 5'-TEF sequence data.
- 2492 SR Sánchez Peña. *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. Sep 1986. Mexico: Estacion Manuel, Tamaulipas. Molecularly verified as *Metarhizium rileyi* by at least 5'-TEF sequence data.
- 3301 J Gutierrez Samperio (17) ← ERD Reyes. *Spodoptera frugiperda* [Lepidoptera: Noctuidae] on corn. 1988. Mexico: Colima.
- 3940 DR Sosa-Gómez (CNPSO-NR66) ← JJ Silva. *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. Rec'd Jun 1993. Brazil: Londrina, Paraná.
- 4094 LA Lacey (94004). *Spodoptera frugiperda* [Lepidoptera: Noctuidae]. Rec'd 28 Mar 1994. Brazil.
- 5206 C López Lastra (2). Larva, *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 22 Mar 1996. Argentina: Chivilcoy, Buenos Aires.
- 5207 C López Lastra (3). Larva, *Anticarsia gemmatalis* [Lepidoptera: Noctuidae] Soybean crop. 22 Mar 1996. Argentina: Chivilcoy, Buenos Aires.
- 5208 C López Lastra (4). Larva, *Anticarsia gemmatalis* [Lepidoptera: Noctuidae] Soybean crop. 22 Mar 1996. Argentina: Chivilcoy, Buenos Aires. Molecularly verified as *Metarhizium rileyi* by at least 5'-TEF sequence data.
- 5209 C López Lastra (5). Larva, *Anticarsia gemmatalis* [Lepidoptera: Noctuidae] Soybean crop. 7 May 1996. Argentina: Chivilcoy, Buenos Aires.
- 5210 C López Lastra (6). Larva, *Anticarsia gemmatalis* [Lepidoptera: Noctuidae] Soybean crop. 18 Apr 1996. Argentina: Chivilcoy, Buenos Aires.
- 5211 C López Lastra (11). Larva, *Anticarsia gemmatalis* [Lepidoptera: Noctuidae] Soybean crop. 7 May 1996. Argentina: Chivilcoy, Buenos Aires.
- 5212 C López Lastra (14). Larva, *Anticarsia gemmatalis* [Lepidoptera: Noctuidae] Soybean crop. 18 Apr 1996. Argentina: Chivilcoy, Buenos Aires.
- 6239 [RCEF 0290] *Helicoverpa armigera* [Lepidoptera: Noctuidae]. Rec'd 24 Aug 1999. PR China: Anhui. Molecularly verified as *Metarhizium rileyi* by at least 5'-TEF sequence data.
- 6645 KU Devi (GIV). Larva, *Spodoptera litura* [Lepidoptera: Noctuidae]. Mar 2000. India: Peanut fields, Visakhapatnam, Andhra Pradesh. Molecularly verified as *Metarhizium rileyi* by at least 5'-TEF sequence data.
- 6731 DR Sosa-Gómez (CNPSO Nr 22). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 19 Jan 1990. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná.
- 6732 DR Sosa-Gómez (CNPSO Nr 27). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 22 Jan 1990. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná. Molecularly verified as *Metarhizium rileyi* by at least 5'-TEF sequence data.
- 6734 [ARSEF 3940] DR Sosa-Gómez (CNPSO Nr 66). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 2 Jun 1992. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná.
- 6735 DR Sosa-Gómez (CNPSO Nr 72). *Spodoptera frugiperda* [Lepidoptera: Noctuidae]. 20 May 1993. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná.
- 6736 DR Sosa-Gómez (CNPSO Nr 135). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 11 Mar 1998. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná.
- 6737 DR Sosa-Gómez (CNPSO Nr 166). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 2 Jan 1999. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná. **RESTRICTED ACCESS:** consult Curator.

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- 6780 DR Sosa-Gómez (CNPSO Nr 196). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 9 Feb 1999. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná. **RESTRICTED ACCESS:** consult Curator.
- 6781 DR Sosa-Gómez (CNPSO Nr 197). *Plusiinae* sp. [Lepidoptera: Noctuidae]. 9 Feb 1999. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná. **RESTRICTED ACCESS:** consult Curator.
- 6782 DR Sosa-Gómez (CNPSO Nr 198). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 9 Feb 1999. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná. **RESTRICTED ACCESS:** consult Curator.
- 6783 DR Sosa-Gómez (CNPSO Nr 199). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 9 Feb 1999. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná. **RESTRICTED ACCESS:** consult Curator.
- 6784 DR Sosa-Gómez (CNPSO Nr 200). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 9 Feb 1999. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná. **RESTRICTED ACCESS:** consult Curator.
- 6785 DR Sosa-Gómez (CNPSO Nr 201). *Plusiinae* sp. [Lepidoptera: Noctuidae]. 9 Feb 1999. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná. **RESTRICTED ACCESS:** consult Curator.
- 6786 DR Sosa-Gómez (CNPSO Nr 202). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 9 Feb 1999. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná. **RESTRICTED ACCESS:** consult Curator.
- 6787 DR Sosa-Gómez (CNPSO Nr 202). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 9 Feb 1999. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná. **RESTRICTED ACCESS:** consult Curator.
- 6866 DG Boucias (5762). *Pseudoplusia includens* [Lepidoptera: Noctuidae]. 1974. USA: Gainesville, Florida.
- 6867 DG Boucias (1795). *Spodoptera* sp. [Lepidoptera: Noctuidae]. Rec'd 7 Jun 2001. India. Molecularly verified as *Metarhizium rileyi* by at least 5'-TEF sequence data.
- 6868 DG Boucias (6009). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 24 Sep 2000. USA: Gainesville, Florida. Molecularly verified as *Metarhizium rileyi* by at least 5'-TEF sequence data.
- 6869 DG Boucias (94-5a). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 24 Aug 1994. USA: Quincy, Florida.
- 6870 DG Boucias (6011). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 24 Sep 2000. USA: Quincy, Florida.
- 6871 DG Boucias (31b). *Plathypena scabra* [Lepidoptera: Noctuidae]. 5 Oct 1993. USA: Quincy, Florida. Molecularly verified as *Metarhizium rileyi* by at least 5'-TEF sequence data.
- 6872 DG Boucias (9b). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 13 Sep 1993. USA: Quincy, Florida.
- 6873 DG Boucias (5561). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. Aug 1984. USA: Gainesville, Florida.
- 6874 DG Boucias (F178). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 2 Jan 1999. Brazil: Warta, Londrina, Paraná.
- 6875 DG Boucias (Nr10). [Lepidoptera: Noctuidae]. Rec'd 7 Jun 2001. Brazil: São Paulo, São Paulo.
- 6876 DG Boucias (94-5c). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 7 Sep 1994. USA: Quincy, Florida.
- 6877 DG Boucias (NrCH6). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 18 Apr 1996. Argentina: Buenos Aires, Buenos Aires.
- 6878 DG Boucias (Nr24). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 22 Jan 1990. Brazil: Paraná.
- 6879 DG Boucias (Nr32). *Plusiinae* sp. [Lepidoptera: Noctuidae]. 6 Feb 1990. Brazil: Paraná.
- 6881 DG Boucias (33b). *Plathypena scabra* [Lepidoptera: Noctuidae]. 13 Sep 1993. USA: Quincy, Florida. Molecularly verified as *Metarhizium rileyi* by at least 5'-TEF sequence data.
- 6882 DG Boucias (8b). *Pseudoplusia includens* [Lepidoptera: Noctuidae]. 13 Sep 1993. USA: Quincy, Florida. Molecularly verified as *Metarhizium rileyi* by at least 5'-TEF sequence data.
- 7052 C López Lastra (B5). Larva, *Anticarsia gemmatalis* [Lepidoptera: Noctuidae] on *Glycine max* (L.) Merr., soybean crop. Apr 2002. Argentina: Bartolomé Bavio, Buenos Aires.
- 7053 C López Lastra (Ch 2 b). Larva, *Anticarsia gemmatalis* [Lepidoptera: Noctuidae] on *Glycine max* (L.) Merr., soybean crop. Apr 2002. Argentina: Chivilcoy, Buenos Aires.
- 7054 C López Lastra (Ch 90). Larva, *Anticarsia gemmatalis* [Lepidoptera: Noctuidae] on *Glycine max* (L.) Merr., soybean crop. Apr 2002. Argentina: Chivilcoy, Buenos Aires.
- 7055 C López Lastra (Ch 91). Larva, *Anticarsia gemmatalis* [Lepidoptera: Noctuidae] on *Glycine max* (L.) Merr., soybean crop. Apr 2002. Argentina: Chivilcoy, Buenos Aires.
- 7056 C López Lastra (LP1). Larva, *Anticarsia gemmatalis* [Lepidoptera: Noctuidae] on *Glycine max* (L.) Merr., soybean crop. Apr 2002. Argentina: La Plata, Buenos Aires.
- 7148 C López Lastra (AL IS INTA). Larva, *Alabama argillacea* [Lepidoptera: Noctuidae] on *Gossypium hirsutum*, cotton crop. Mar 2001. Argentina: Santiago del Estero.
- 7149 C López Lastra (B3). Larva, *Anticarsia gemmatalis* [Lepidoptera: Noctuidae] on *Glycine max* (L.) Merr., soybean crop. 9 Apr 2001. Argentina: Partido Magdalena, Bartolomé Bavio, Buenos Aires.

- 7150 C López Lastra (SF 9). Larva, *Anticarsia gemmatilis* [Lepidoptera: Noctuidae] on *Glycine max* (L.) Merr., soybean crop. 20 May 2002. Argentina: Bombal, Santa Fe.
- 7151 C López Lastra (SF15). Larva, *Anticarsia gemmatilis* [Lepidoptera: Noctuidae] on *Glycine max* (L.) Merr., soybean crop. 20 May 2002. Argentina: Zavalla, Santa Fe.
- 7479 [CEP 019] C López Lastra (Ch 9). Larva, *Anticarsia gemmatilis* [Lepidoptera: Noctuidae]. 9 Apr 2001. Argentina: Chivilcoy, Buenos Aires.
- 7480 [CEP 022] C López Lastra (Ch 66). Larva, *Anticarsia gemmatilis* [Lepidoptera: Noctuidae]. 9 Apr 2001. Argentina: Chivilcoy, Buenos Aires.
- 7481 [CEP 023] C López Lastra (Ch 90). Larva, *Anticarsia gemmatilis* [Lepidoptera: Noctuidae]. Apr 2001. Argentina: Chivilcoy, Buenos Aires.
- 7482 [CEP 064] C López Lastra (P11). Larva, *Anticarsia gemmatilis* [Lepidoptera: Noctuidae]. 2003. Argentina: INTA Pergamino, Pergamino, Buenos Aires.
- 7484 [CEP 034] C López Lastra (SF2). Larva, *Anticarsia gemmatilis* [Lepidoptera: Noctuidae]. 20 May 2002. Argentina: Zavalla, Santa Fe.
- 7778 [CEP 021] C López Lastra ← V Dikgolz. Larva, *Anticarsia gemmatilis* [Lepidoptera: Noctuidae] on *Glycine max* (L.) Merr., soybean crop. 9 Apr 2001. Argentina: Chivilcoy, Buenos Aires.
- 7779 [CEP 035] C López Lastra ← B Díaz. Larva, *Anticarsia gemmatilis* [Lepidoptera: Noctuidae]. 20 May 2002. Argentina: Zavalla, Santa Fe.
- 7780 [CEP 037] C López Lastra ← B Díaz. *Anticarsia gemmatilis* [Lepidoptera: Noctuidae]. 20 May 2002. Argentina: Zavalla, Santa Fe.
- 9489 [SRCAMB VL-2125] V Likhovidov. Larva, [Lepidoptera: Noctuidae]. Aug 2006. Russian Federation: Moscow Region. Field Collection Number F-139.
- 9490 [SRCAMB B-412] V Likhovidov ← BA Borisov. Larva, [Lepidoptera: Noctuidae]. Sep 1995. Russian Federation: Vladivostok, Primorsky Krai. Field Collection Number F-364.
- 11939 L Rosales and SR Sánchez Peña (1). *Spodoptera frugiperda* [Lepidoptera: Noctuidae]. Rec'd 20 Feb 2013. Mexico: Saltillo, Coahuila.
- 11941 L Rosales and SR Sánchez Peña (3). *Spodoptera frugiperda* [Lepidoptera: Noctuidae]. Rec'd 20 Feb 2013. Mexico: Saltillo, Coahuila.
- 11942 L Rosales and SR Sánchez Peña (4). *Spodoptera frugiperda* [Lepidoptera: Noctuidae]. Rec'd 20 Feb 2013. Mexico: Saltillo, Coahuila.
- 11943 L Rosales and SR Sánchez Peña (5). *Spodoptera frugiperda* [Lepidoptera: Noctuidae]. Rec'd 20 Feb 2013. Mexico: Saltillo, Coahuila.
- 13508 [SR Sánchez Peña Nomurea No.9 Mex] Larva, *Spodoptera frugiperda* [Lepidoptera: Noctuidae] corn. Sep 2017. Mexico: Universidad Agraria Antonio Narro, Saltillo, Coahuila.
- Metarhizium robertsii*** JF Bischoff, SA Rehner & Humber
[Sordariomycetes: Hypocreales]
Clavicipitaceae. Segregated from *M. anisopliae* as part of a genomic reclassification by Bischoff et al. (2009). A complete genomic sequence of ARSEF 8820 (a single-spored reisolat of ARSEF 2575) is being compiled.
- 1057 [CNPS 30A] F Moscardi. Larva, *Chlosyne lacinia saundersii* [Lepidoptera: Nymphalidae]. 1983. Brazil: Londrina, Paraná.
- 4903 LA Lacey (95005). *Galleria mellonella* [Lepidoptera: Pyralidae] Used as bait. Feb 1995. Portugal: Terceira Island, Azores.
- 5873 FE Vega (EBCL 97095). Larva, *Plutella xylostella* [Lepidoptera: Plutellidae]. 22 Aug 1997. Romania: Voronetz.
- 6476 I Klingen (EFF.99). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 1 Sep 1999. Norway: Effeløt.
- Microhilum oncoperae*** Yip & Rath
[Sordariomycetes: Hypocreales]
Cordycipitaceae
- 4358 [DAT 424] AC Rath (F424) ← Harradine. Larva, *Oncopera intricata* [Lepidoptera: Hepialidae]. Rec'd 6 Jun 1994. Australia: Melton Vale, York Plains, Tasmania.
- 4767 [DAT 416] AC Rath (F416). Larva, *Oncopera intricata* [Lepidoptera: Hepialidae]. 17 May 1989. Australia: Charleston, R., Wilmot, Tasmania.
- 4768 [DAT 417] AC Rath (F417). Larva, *Oncopera intricata* [Lepidoptera: Hepialidae]. 20 Apr 1989. Australia: Auburn Rd., Ross, Tasmania.
- 4769 [DAT 420] AC Rath (F420). *Oncopera intricata* [Lepidoptera: Hepialidae]. Acc'd 20 Jul 1989. Australia: Rosehill, Jericho, Tasmania. Appears contaminated with a possible *Fusarium* sp.
- 4770 [DAT 421] AC Rath (F421). Larva, *Oncopera intricata* [Lepidoptera: Hepialidae]. 20 Jul 1989. Australia: Rosehill, Jericho, Tasmania.
- 4771 [DAT 422] AC Rath (F422). Larva, *Oncopera intricata* [Lepidoptera: Hepialidae]. 20 Sep 1989. Australia: Jericho, Tasmania.
- Mixed Culture sp.**
The two members in these mixed cultures have not been successfully separated.
- 2738 GW Riethmacher (B4). *Corcyra cephalonica* [Lepidoptera: Pyralidae] after soil passage. 17 Jan 1989. Philippines: La Trinidad, Benguet. Contains *Paecilomyces fumosoroseus*.

Mortierella clausenii (Linnemayer)

[Mucormycotina: Mucorales]

Mortierellaceae

- 2062 [ATCC 64864; CBS 790.85] GC Carroll (I). Egg mass, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd Dec 1985. USA: Dexter, Oregon.

Mortierella histoplasmatoides W Gams

[Mucormycotina: Mucorales]

Mortierellaceae. 1991. Boletus 15(2): 35-36.

- 2063 [CBS] GC Carroll. Egg mass, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd Dec 1985. USA: Dexter, Oregon.

Mortierella hyalina (Harz) W Gams

[Mucormycotina: Mucorales]

Mortierellaceae

- 2061 [ATCC 64258] GC Carroll (RSRS-0/62). Egg mass, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd Dec 1985. USA: Dexter, Oregon.

***Nomuraea* sp.**

[Sordariomycetes: Hypocreales]

Clavicipitaceae

- 7851 [SRCAMB B-412] V Likhovidov (VL-95-2) ← BA Borisov. Larva, [Lepidoptera: Noctuidae]. Sep 1995. Russian Federation: Vladivostok, Primorsky Krai. Field Collection Number F-364.

***Paecilomyces* sp.**

[Sordariomycetes: Hypocreales]

These still unidentified species has yet been assigned to a correct genus after the recent gene-based reclassification of species out of *Paecilomyces* Section *Isarioidea*; this original generic identification remains provisional until a more thorough analyses of these isolates are completed.

- 309 DW Roberts ← FL Briggs. *Epiphyas postvittana* [Lepidoptera: Tortricidae]. Acc'd Mar 1979. New Zealand.
- 327 RS Soper ← R Teakle (M-44). *Plusia chalcites* [Lepidoptera: Noctuidae]. Australia: Brisbane, Queensland.
- 1008 J Aoki (Nom. 1) ← K Katagiri ← T Kushida. *Sesamia inferens* [Lepidoptera: Noctuidae]. Dec 1968. Japan: Hachioji, Tokyo Prefecture.
- 2616 SB Alves (718). *Natada michonta* [Lepidoptera: Limacodidae]. Apr 1988. Brazil: Moju, Pará.
- 2617 SB Alves (719). *Natada michonta* [Lepidoptera: Limacodidae]. Apr 1988. Brazil: Moju, Pará.
- 2618 SB Alves (720). *Natada michonta* [Lepidoptera: Limacodidae]. Apr 1988. Brazil: Moju, Pará.
- 6193 FE Vega (EBCL 99030). Larva, *Cydia pomonella* [Lepidoptera: Tortricidae]. 28 Dec 1998. France: Crespian, Gard.

- 6198 FE Vega (EBCL 99037). Larva, *Cydia pomonella* [Lepidoptera: Tortricidae]. 28 Dec 1998. France: Crespian, Gard.
- 7721 [SRCAMB VL-281] V Likhovidov. Pupa, [Lepidoptera] Isolated from fungal synnema. Jul 2001. Russian Federation: Vladivostok District, Primorsky Krai. Field Collection Number F-195.
- 7741 [SRCAMB B-55] V Likhovidov ← BA Borisov. [Lepidoptera] Isolated from stroma of *Cordyceps takaomontana*. 6 Aug 2002. Russian Federation: Lazovsky Nature Reserve, Primorsky Krai. Field Collection Number F-288.
- 7742 [SRCAMB VL-275] V Likhovidov. Pupa, [Lepidoptera]. Aug 2001. Russian Federation: Kedrovaya Pad Nature Reserve, Primorsky Krai. Field Collection Number F-243.
- 7756 [SRCAMB VL-61] V Likhovidov. Pupa, [Lepidoptera]. Sep 2001. Russian Federation: Caucasus region, Krasnaya Polyana, Krasnodarsky Krai. Field Collection Number F-197.
- 7995 BC King (2). Pupa, [Lepidoptera]. Rec'd 7 Apr 2006. Canada: Pacific Spirit Regional Park, Vancouver, British Columbia. GenBank match - AY624179 (100%) ITS. **RESTRICTED ACCESS:** *consult Curator*.
- 8001 BC King (27). Larva, [Lepidoptera]. Rec'd 7 Apr 2006. Canada: Pacific Spirit Regional Park, Vancouver, British Columbia. GenBank match - AY624179 (100%) ITS. **RESTRICTED ACCESS:** *consult Curator*.

Paecilomyces canadensis (Vuillemin) Brown & Smith

[Sordariomycetes: Hypocreales]

This species is usually treated as a synonym of *Isaria farinosa* but both this and any ultimate reclassification remain to be determined.

- 990 [FPMI 758] J Aoki (Paec. 7) ← K Katagiri ← T Kushida. *Gastropacha orientalis* [Lepidoptera: Lasiocampidae]. Jul 1969. Japan: Hachioji, Tokyo Prefecture.

Paecilomyces sinensis QT Chen, SR Xiao & ZY Shi

[Sordariomycetes: Hypocreales]

Ophiocordycipitaceae. Possible anamorphic state of *Ophiocordyceps sinensis* (Berkeley) GH Sung, JM Sung, Hywel-Jones & Spatafora [= *Cordyceps sinensis* (Berkeley) Saccardo]

- 6284 [RCEF 0204] Larva, [Lepidoptera: Hepialidae]. Rec'd 24 Aug 1999. PR China: Qinghan.
- 6285 [RCEF 0263] Larva, [Lepidoptera: Hepialidae]. Rec'd 24 Aug 1999. PR China: Qinghan.

***Pandora* sp.**

[Entomophthoromycotina: Entomophthorales]

Entomophthoraceae

- 3201 GW Riethmacher (EB6). *Plutella xylostella* [Lepidoptera: Plutellidae]. 13 May 1989. Philippines: La

Trinidad, Benguet.

- 11764 [ERL 1970] S Gouli (SVG-11-1) and V Gouli.
Lophocampa caryae [Lepidoptera: Arctiidae]. 2011.
USA: Richmond, Vermont.

Pandora blunckii (Lakon ex Zimmerman) Humber
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae

- 217 [ATCC 34698; CBS 194.77; IMI 211910] G Zimmermann (2). Larva, *Plutella maculipennis* [Lepidoptera: Plutellidae]. 27 Mar 1978. Germany: Gross-Bieberau, Darmstadt, Hesse. CULTURE EX NEOTYPE.
- 1000 J Aoki (Ent. 30) ← H Tomiyama. *Plutella xylostella* [Lepidoptera: Plutellidae]. Nov 1977. Japan: Fuchu, Tokyo Prefecture.
- 1135 [CSIRO EM685] M Shimazu (F-41). *Plutella xylostella* [Lepidoptera: Plutellidae]. Acc'd 3 Apr 1984. Japan: Tokyo Prefecture.
- 2824 GW Riethmacher (EB4). *Plutella xylostella* [Lepidoptera: Plutellidae]. 8 Apr 1989. Philippines: La Trinidad, Benguet. ARSEF 2776, *Fusarium* sp., also isolated from Riethmacher # EB4.
- 3075 DG Holdom. *Plutella* sp. [Lepidoptera: Plutellidae]. 27 Apr 1990. Australia: Lockyer Valley, Queensland.
- 3200 GW Riethmacher (EB3). *Plutella xylostella* [Lepidoptera: Plutellidae]. 8 Apr 1989. Philippines: La Trinidad, Benguet.
- 3202 GW Riethmacher (EB7). *Plutella xylostella* [Lepidoptera: Plutellidae]. 8 Jun 1989. Philippines: La Trinidad, Benguet.
- 6293 R Alatorre Rosas (Jav.1). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6294 R Alatorre Rosas (Jav.3). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6295 R Alatorre Rosas (Jav.4). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6296 R Alatorre Rosas (Jav.6). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6297 R Alatorre Rosas (Jav.7). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6298 R Alatorre Rosas (Jav.8). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6299 R Alatorre Rosas (Jav.9). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6300 R Alatorre Rosas (Jav.10). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.

- 6301 R Alatorre Rosas (Jav.11). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6302 R Alatorre Rosas (Jav.12). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6304 R Alatorre Rosas (Andres.2). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6305 R Alatorre Rosas (Andres.3). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6306 R Alatorre Rosas (Andres.5). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6307 R Alatorre Rosas (Andres.6). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6308 R Alatorre Rosas (Andres.7). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6309 R Alatorre Rosas (Bujanos.1). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6310 R Alatorre Rosas (Bujanos.3). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6311 R Alatorre Rosas (Bujanos.4). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6312 R Alatorre Rosas (Bujanos.5). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6316 R Alatorre Rosas (Mina.19). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.

Pandora delphacis (Hori) Humber
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae

- 1265 J Aoki (Ent. 7) ← H Tomiyama. *Mamestra brassicae* [Lepidoptera: Noctuidae]. Nov 1975. Japan: Fuchu, Tokyo Prefecture.

***Penicillium* sp.**
[Eurotiomycetes: Eurotiales]

Trichocomaceae. No species of this genus have been satisfactorily demonstrated to be a primary pathogen of insects. Its presence on or in insect cadavers should be interpreted as necrophytic or accidental.

- 2386 [ARSEF 2349] MC Rombach (081186-1). *Cnaphalocrocis medinalis* [Lepidoptera: Pyralidae] on rice. 8 Nov 1986. Philippines: IRRI farm, Los Baños, Manila.
- 2419 [SBI 87-3] H David. *Emmalocera depressella* [Lepidoptera: Phycitinae]. India.

- 2834 AE Hajek ← K Tatman (MD97#18). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 19 Jun 1989. USA: Baltimore County, Maryland.
- 2836 AE Hajek ← K Tatman (MD110#28). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 19 Jun 1989. USA: Baltimore County, Maryland.
- 4263 [DAT 43] AC Rath (F043) ← RJ Milner (F117). Live, *Oncopera alboguttata* [Lepidoptera: Hepialidae]. 13 Feb 1980. Australia: Ebor, New South Wales.

Penicillium thomii Maire
[Eurotiomycetes: Eurotiales]
Trichocomaceae

- 2056 [NRRL A-27471] GC Carroll. Egg mass, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd Dec 1985. USA: Dexter, Oregon.

Phialophora malorum (Kidd & Beaumont) McColloch
[Hyphomycetes]

- 2072 GC Carroll (RSRS-24/68). Egg mass, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd Dec 1985. USA: Dexter, Oregon.

Phoma cava Schulzer
[Dothideomycetes: Pleosporales]

- 2071 GC Carroll (HO-O-Hatch VIII). Egg mass, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd Dec 1985. USA: Dexter, Oregon.

Pochonia suchlasporia* var. *catenata (Gams & Dackman) Zare & W Gams
[Sordariomycetes: Hypocreales]
Clavicipitaceae. Major synonym: *Verticillium suchlasporium* var. *catenatum* W. Gams & Dackman

- 2064 [ATCC 64259; CBS 789.85; NRRL A-27472] GC Carroll (E). Egg mass, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd Dec 1985. USA: Dexter, Oregon.

Polycephalomyces ramosus (Peck) Mains
[Sordariomycetes: Hypocreales]

- 7095 J Bischoff ← GF Bills and JF White. Larva, [Lepidoptera]. Jun 1999. Mexico: Xalapa.

Purpureocillium lilacinum (Thom) Luangsa-ard, Houbraken, Hywel-Jones & Samson
[Sordariomycetes: Hypocreales]
Synonym: *Paecilomyces lilacinus*. Ophiocordycipitaceae. This species is the type of a monotypic new genus erected following the phylogenetic reclassification of *Paecilomyces* Section *Isarioidea*. WARNING: This species can cause human mycoses, mainly of the eye, but probably presents little or no risk if handled with routine sterile microbiological techniques for transfers or bioassay procedures, etc. Avoid chronic and/or large-scale exposure to airborne conidia to minimize any health risks.

- 986 J Aoki (Paec. 5) ← K Kawakami. *Bombyx mori*

[Lepidoptera: Bombycidae]. Rec'd 7 Nov 1983. Japan: Suginami, Tokyo Prefecture.

- 1058 [CNPS 30B] F Moscardi. Larva, *Chlosyne lacinia saundersii* [Lepidoptera: Nymphalidae]. 1983. Brazil: Londrina, Paraná.
- 5805 DA Rodríguez Sierra (UJ89001). *Opsiphanes cassinae* [Lepidoptera: Nymphalidae] on *Elaeis guineensis*. Rec'd 7 Aug 1998. Colombia: Cesar.
- 6183 FE Vega (EBCL 99017). Larva, *Plutella xylostella* [Lepidoptera: Plutellidae]. 2 Dec 1998. Benin: Porto-Novo, Ouémé.
- 6197 FE Vega (EBCL 99036). Larva, *Plutella xylostella* [Lepidoptera: Plutellidae]. 2 Dec 1998. Benin: Porto-Novo, Ouémé.
- 8311 A Monzón (BE157). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. Mar 2006. Nicaragua: Masatepe, Masaya. Soil samples collected from a plot of low input coffee with nitrogen fixing shade species *Albizia saman* (Jacq.) F. Muell. and *Inga laurina* (Sw.) Willd.
- 8312 A Monzón (BE175). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. Mar 2006. Nicaragua: Masatepe, Masaya.

***Scopulariopsis* sp.**
[Sordariomycetes: Microascales]

- 2255 TJ Poprawski (8628). Larva, *Lymantria dispar* [Lepidoptera: Lymantriidae] on oak tree. 7 Jul 1986. France: Porto-Vecchio, Corsica.
- 3203 GW Riethmacher (EB10). *Plutella xylostella* [Lepidoptera: Plutellidae]. 12 Mar 1990. Philippines: La Trinidad, Benguet.

Scopulariopsis brevicaulis (Saccardo) Bainier
[Sordariomycetes: Microascales]
Microascaceae

- 9943 A Torres Barragan (Ral12T). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from vermicompost. Rec'd 23 Apr 2010. USA: Raleigh, North Carolina.

***Simplicillium lamellicola*(?)** (FEW Smith) Zare & W Gams
[Sordariomycetes: Hypocreales]
Cordycipitaceae

- 11725 T Wen (09XS-2). Pupa, [Lepidoptera]. 2009. PR China: Xishan, Kunming, Yunnan Province.

Sporothrix insectorum de Hoog & HC Evans
[Sordariomycetes: Ophiostomatales]
Ophiostomataceae

- 6286 [RCEF 0264] [Lepidoptera]. Rec'd 24 Aug 1999. PR China: Qinghan.
- 7924 KT Hodge ← AE Hajek. Larva, [Lepidoptera]. Aug 2005. USA: Carlo Creek, near Denali National Park, Denali Borough, Alaska.

- 9501 [SRCAMB VL-2051] V Likhovidov. [Lepidoptera: Pyralidae]. 2004. Russian Federation: Novosibirsk Region. Field Collection Number F-880.

Sterile mycelium

- 2073 GC Carroll (CH-O-66/201). Egg mass, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd Dec 1985. USA: Dexter, Oregon.

Tolypocladium cylindrosporum W Gams

[Sordariomycetes: Hypocreales]

Ophiocordycipitaceae

- 2777 T Steenberg (186). [Lepidoptera: Noctuidae]. 6 Jun 1989. Denmark.
 2778 T Steenberg (187). [Lepidoptera: Noctuidae]. 19 Jun 1989. Denmark.

Tolypocladium inflatum W Gams

[Sordariomycetes: Hypocreales]

Ophiocordycipitaceae. Major synonym: *Tolypocladium niveum* (Rostrup) Bissett. Teleomorph: *Elaphocordyceps subsessilis* (Petch) GH Sung, JM Sung, Hywel-Jones & Spatafora

- 3321 [ARSEF 3397 (deaccessioned); J Bissett 88M-143] CCFC (DAOM 199924) ← D Perry (1602). *Choristoneura fumiferana* [Lepidoptera: Tortricidae] on spruce. Rec'd 30 Apr 1991. Canada: Acadia Forest Exp. Station, Fredericton, New Brunswick.
 3397 [ARSEF 3321; J Bissett 88M-143] CCFC (DAOM 199924) ← D Perry (1602). *Choristoneura fumiferana* [Lepidoptera: Tortricidae] on spruce. Rec'd 1 Oct 1991. Canada: Acadia Forest Exp. Station, Fredericton, New Brunswick.

Trichoderma sp.

[Sordariomycetes: Hypocreales]

Hypocreaceae

- 5523 I Klingen (TØF 14.22). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 25 Sep 1996. Norway: Steinkjer, Nord Trøndelag.
 5524 I Klingen (TØF 14.222). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 25 Sep 1996. Norway: Steinkjer, Nord Trøndelag.
 5730 TJ Poprawski. *Elasmopalpus lignosellus* [Lepidoptera: Pyralidae] in *Saccharum officinarum*. Apr 1998. USA: Weslaco, Texas.

Trichothecium roseum Link:Fries

[Sordariomycetes: Hypocreales]

Hypocreaceae

- 2055 GC Carroll. Egg mass, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd Dec 1985. USA: Dexter, Oregon.

Verticillium lecanii (Zimmerman) Viégas

[Sordariomycetes: Hypocreales]

Cordycipitaceae. A species complex now reclassified in *Lecanicillium* and distributed among three species. Isolates remaining here are being transferred to the appropriate species as they are re-examined.

- 991 J Aoki (Har. 2) ← K Kawakami. *Bombyx mori* [Lepidoptera: Bombycidae]. Rec'd 7 Nov 1983. Japan: Suginami, Tokyo Prefecture.

Zoophthora radicans (Brefeld) Batko

[Entomophthoromycotina: Entomophthorales]

Entomophthoraceae. Major synonyms: *Entomophthora sphaerosperma* Fresenius, *Entomophthora radicans* Brefeld, *Erynia radicans* (Brefeld) Humber, Ben-Ze'ev & Kenneth in Humber & Ben-Ze'ev.

- 21 RS Soper ← DE Leonard (BBIV-20). Larva, *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 1973. USA: Maine.
 35 *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 1974. Location not specified.
 43 JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 16 Jun 1975. USA: Oxbow-Masardis, Maine.
 44 [FPMI 697; RG Kenneth 3045] JD Vandenberg. Larva, *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 16 Jun 1975. USA: Oxbow-Masardis, Maine.
 45 JD Vandenberg. Larva, *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 16 Jun 1975. USA: Oxbow-Masardis, Maine.
 46 DE Leonard. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 23 Jun 1975. USA: Maine.
 47 JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 16 Jun 1975. USA: 12.8 mi from Rt. 11/159 in Patten, Shin Pond, Maine.
 48 JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 16 Jun 1975. USA: 0.1 mi N of Oxbow Rd. on Rt. 11, Oxbow-Masardis, Maine.
 49 JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 19 Jun 1975. USA: 6.4 mi from Haynesville toward Bancroft, Bancroft Township, Maine.
 50 [FPMI 698] JD Vandenberg. Larva, *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 16 Jun 1975. USA: 0.1 mi N of Oxbow Rd. on Rt. 11, Oxbow-Masardis, Maine.
 52 JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 19 Jun 1975. USA: 1.5 mi E of bridge at S. Bancroft, Bancroft Township, Maine.
 68 [FPMI 688; IPLB 624] G Remaudière. *Tortrix viridana* [Lepidoptera: Tortricidae]. 22 May 1975. France: Forêt de Dourdan, Essonne.

- 72 [CSIRO EM532; FPMI 487] RG Kenneth (3046) ← ATCC (24493) ← DM MacLeod. *Lambdina fiscellaria fiscellaria* [Lepidoptera: Geometridae]. Rec'd 18 Jan 1976. Canada: Ming's Bight, Newfoundland.
- 88 [CSIRO EM569] JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 24 Jun 1976. USA: nr. Selden Road, Haynesville Woods, Maine.
- 90 JD Vandenberg. *Acleris variana* [Lepidoptera: Tortricidae]. 7 Jul 1976. USA: west side, 2nd Musquacook Lake, Musquacook, Maine.
- 91 JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 7 Jul 1976. USA: 2 mi E of McNally Pond Campground, McNally, Maine.
- 141 [FPMI 687] JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 21 Jun 1977. USA: Map reference: T4R10, Maine.
- 142 JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 20 Jun 1977. USA: Perham, Maine.
- 143 JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 21 Jun 1977. USA: Perham, Maine.
- 144 JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 21 Jun 1977. USA: Perham, Maine.
- 145 JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 23 Jun 1977. USA: Carroll, Maine.
- 146 JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 21 Jun 1977. USA: Map reference: T6R7, Shin Pond, Maine.
- 163 JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 1 Jul 1977. USA: forest-upper, Perham, Maine.
- 221 S Ignatowicz. 6th instar larva, *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 28 Jun 1978. USA: Presque Isle, Maine.
- 222 S Ignatowicz. 6th instar larva, *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 28 Jun 1978. USA: Presque Isle, Maine.
- 223 S Ignatowicz. 6th instar larva, *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 24 Jun 1978. USA: Springfield, Maine.
- 224 S Ignatowicz. 6th instar larva, *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 24 Jun 1978. USA: Springfield, Maine.
- 225 S Ignatowicz. 6th instar larva, *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 24 Jun 1978. USA: Macwahoc, Maine.
- 226 S Ignatowicz. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 24 Jun 1978. USA: Macwahoc, Maine.
- 227 S Ignatowicz. Pupa, *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 3 Jul 1978. USA: Mamarda, Maine.
- 228 S Ignatowicz. Pupa, *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 3 Jul 1978. USA: Mamarda, Maine.
- 229 S Ignatowicz. 6th instar larva, *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 28 Jun 1978. USA: Princeton, Maine.
- 230 S Ignatowicz. 6th instar larva, *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 28 Jun 1978. USA: Princeton, Maine.
- 231 S Ignatowicz. 6th instar larva, *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 28 Jun 1978. USA: Princeton, Maine.
- 232 S Ignatowicz. 6th instar larva, *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 28 Jun 1978. USA: Princeton, Maine.
- 233 S Ignatowicz. 6th instar larva, *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 28 Jun 1978. USA: Princeton, Maine.
- 234 S Ignatowicz. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 30 Jun 1978. USA: Oak Hill, Maine.
- 235 S Ignatowicz. 6th instar larva, *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 30 Jun 1978. USA: Oak Hill, Maine.
- 404 [FPMI 705] S Keller (59). Adult, [Lepidoptera]. 20 Jul 1977. Switzerland.
- 407 [FPMI 706] FPMI (655) ← P Degroot. 4th instar larva, *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 26 Jun 1979. Canada: Thessalon, Ontario.
- 1048 J Aoki (Ent. 8) ← H Kawamoto. *Plutella xylostella* [Lepidoptera: Plutellidae]. Dec 1975. Japan: Fuchu, Tokyo Prefecture.
- 1082 CSIRO (EM752) ← G Lutton. *Merophyas divulsana* [Lepidoptera: Tortricidae]. 28 Jul 1983. Australia: Boonah, Queensland.
- 1100 AR Rashid. Larva, *Plutella xylostella* [Lepidoptera: Plutellidae]. Apr 1981. Malaysia: Cameron Highlands.
- 1341 S Balazy (1577/6). *Pieris brassicae* [Lepidoptera: Pieridae]. 10 Sep 1983. Poland: Sadurki.
- 1342 S Balazy (1577/7). *Pieris brassicae* [Lepidoptera: Pieridae]. 10 Sep 1983. Poland: Sadurki.
- 1343 S Balazy (1577/8). *Pieris brassicae* [Lepidoptera: Pieridae]. 10 Sep 1983. Poland: Sadurki.
- 1344 S Balazy (1578/1). *Pieris brassicae* [Lepidoptera: Pieridae]. 10 Sep 1983. Poland: gardens, Turka.
- 1345 S Balazy (1578/2). Larva, *Pieris brassicae* [Lepidoptera: Pieridae]. 10 Sep 1983. Poland: Turka.
- 1346 S Balazy (1578/1-2). *Pieris brassicae* [Lepidoptera: Pieridae]. 10 Sep 1983. Poland: Turka.
- 1674 M Shimazu (F-448(1)). *Ptycholoma aeriferana* [Lepidoptera: Tortricidae]. 29 Jun 1984. Japan: Hokkaido Prefecture.

- 1675 M Shimazu (F-448(2)). *Ptycholoma aeriferana* [Lepidoptera: Tortricidae]. 29 Jun 1984. Japan: Hokkaido Prefecture.
- 1699 MC Rombach (A). *Cnaphalocrocis medinalis* [Lepidoptera: Pyralidae]. Acc'd 6 Nov 1984. Philippines: IRRI, Los Baños, Manila.
- 2410 DG Holdom (300187). Larva, *Cnaphalocrocis medinalis* [Lepidoptera: Pyralidae]. 30 Jan 1987. Indonesia: CIBA-GEIGY R & D Station, Cikampek, Jawa Barat, Java.
- 2411 DG Holdom (130287-2). Adult, *Sesamia inferens* [Lepidoptera: Noctuidae]. 13 Feb 1987. Indonesia: CIBA-GEIGY R & D Station, Cikampek, Jawa Barat, Java.
- 2732 GW Riethmacher (EB2). *Plutella xylostella* [Lepidoptera: Plutellidae]. 6 Apr 1989. Philippines: La Trinidad, Benguet.
- 2893 GW Riethmacher (E2). *Plutella xylostella* [Lepidoptera: Plutellidae]. 3 Apr 1989. Philippines: La Trinidad, Benguet.
- 3204 GW Riethmacher (E3). *Plutella xylostella* [Lepidoptera: Plutellidae]. 5 Apr 1989. Philippines: La Trinidad, Benguet.
- 3205 GW Riethmacher (E5). *Plutella xylostella* [Lepidoptera: Plutellidae]. 7 Apr 1989. Philippines: La Trinidad, Benguet.
- 3206 GW Riethmacher (E6). *Plutella xylostella* [Lepidoptera: Plutellidae]. 3 May 1989. Philippines: La Trinidad, Benguet.
- 4781 [INIA 2330] J Eilenberg (KVL 608). *Epinotia aporema* [Lepidoptera: Tortricidae]. 7 May 1994. Uruguay.
- 4782 [INIA 2553] J Eilenberg (KVL 609). *Epinotia aporema* [Lepidoptera: Tortricidae]. 13 May 1994. Uruguay.
- 4783 [INIA 228] J Eilenberg (KVL 613). *Anacamptis humilis* [Lepidoptera: Gelechiidae]. Rec'd 13 Sep 1994. Uruguay.
- 4784 [INIA 2562] J Eilenberg (KVL 610). *Epinotia aporema* [Lepidoptera: Tortricidae]. 13 May 1994. Uruguay.
- 4785 [INIA 2377] J Eilenberg (KVL 611). *Epinotia aporema* [Lepidoptera: Tortricidae]. 7 May 1994. Uruguay.
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[Lepidoptera: Pyralidae] <i>Cnaphalocrocis medinalis</i> 1702	Aspergillus flavus [Lepidoptera: Bombycidae] <i>Bombyx mori</i> 1003 1010 [Lepidoptera: Gelechiidae] <i>Phthorimaea operculella</i> 4126 [Lepidoptera: Plutellidae] <i>Plutella xylostella</i> 2818	Beauveria bassiana [Lepidoptera] Unknown species 537 2633 2637 2857 6109 6557 7274 7585 7593 8709 9445 11708 11715 11716 11717 11719 [Lepidoptera: Arctiidae] <i>Hyphantria cunea</i> 1564 12165 [Lepidoptera: Bombycidae] <i>Bombyx mori</i> 302 303 304 305 718 987 1007 2737 5704 [Lepidoptera: Brassolidae] <i>Brassolis sophorea</i> 2619 6514 [Lepidoptera: Cossidae] <i>Cossula cossus</i> 1103 1104 1558 <i>Zeuzera pyrina</i> 1105 [Lepidoptera: Danaidae] <i>Danaus plexippus</i> 7093 8891 [Lepidoptera: Eupterotidae] Unknown species 6984 [Lepidoptera: Geometridae] <i>Isturgia exerrariae</i> 6973 [Lepidoptera: Hepialidae] <i>Oncopera alboguttata</i> 4589 4607 8493 <i>Oncopera intricata</i> 4258 4672 [Lepidoptera: Hyblaeidae] <i>Hyblaea puer</i> 2597 [Lepidoptera: Incurvariidae] <i>Paraclemensia</i> 11614 11615 11616 11617 <i>Paraclemensia acerifoliella</i> 5492 [Lepidoptera: Lasiocampidae] <i>Dendrolimus spectabilis</i> 1677 <i>Malacosoma americanum</i> 1 [Lepidoptera: Lymantriidae] <i>Lymantria dispar</i> 155 2054 2267 2570 2571 2572 2573 2831 3404 3527 3530 6205 <i>Lymantria dissoluta</i> 6233 [Lepidoptera: Lyonetiidae] <i>Leucoptera coffeella</i> 6801 6802 6803 6804 6805 6806 6807 6808 6809 <i>Leucoptera scitella</i> 1115 1117 [Lepidoptera: Noctuidae] Unknown species 1627 1628 1629 <i>Autographa gamma</i> 2253 2254 <i>Helicoverpa</i> 8066 <i>Helicoverpa armigera</i> 1149 1166 <i>Helicoverpa virescens</i> 1314 1315 1316 1788 <i>Panolis flammea</i> 6100 6101 6177 6178 <i>Sesamia calamistis</i> 5649 5654 <i>Sesamia cretica</i> 1118 <i>Simyra henrici</i> 5988 <i>Spodoptera frugiperda</i> 3288 <i>Spodoptera littoralis</i> 1512 1513 3286 <i>Spodoptera litura</i> 6643 6644 6646 6647 6648 6650 [Lepidoptera: Noctuidae: Plusiinae] Unknown species 3937 [Lepidoptera: Olethreutidae] <i>Carpocapsa pomonella</i> 503 [Lepidoptera: Phycitinae] <i>Emmalocera depressella</i> 2417
Unidentified / Hyphomycetes [Lepidoptera] Unknown species 9540 [Lepidoptera: Arctiidae] <i>Hyphantria cunea</i> 12163 12164 12170 12171 12176 12178 12179 12180 12181 [Lepidoptera: Lymantriidae] <i>Lymantria dispar</i> 4899 4900 5236 [Lepidoptera: Noctuidae] <i>Helicoverpa zea</i> 5333 5334 [Lepidoptera: Pyralidae] <i>Galleria mellonella</i> 5199	Aspergillus flavus(?) [Lepidoptera: Pyralidae] <i>Galleria mellonella</i> 5503 5504 5505 5506 5507 5508 5509 Aspergillus ochraceus [Lepidoptera: Lymantriidae] <i>Lymantria dispar</i> 2833 Aspergillus parasiticus [Lepidoptera: Pyralidae] <i>Eoreuma loftini</i> 5470 Aspergillus tamarii [Lepidoptera: Gelechiidae] <i>Phthorimaea operculella</i> 4127 Backusella sp. [Lepidoptera: Plutellidae] <i>Plutella xylostella</i> 2750 Basidiobolus ranarum [Lepidoptera: Lasiocampidae] <i>Dendrolimus spectabilis</i> 1139 Batkoa sp. [Lepidoptera: Lasiocampidae] <i>Malacosoma disstris</i> 7370 [Lepidoptera: Noctuidae] <i>Panolis flammea</i> 6179 Beauveria sp. [Lepidoptera] Unknown species 2998 5832 7579 7586 7587 7594 7598 9596 9597 11709 [Lepidoptera: Arctiidae] <i>Hyphantria cunea</i> 12168 12169 [Lepidoptera: Bombycidae] <i>Bombyx mori</i> 1040 [Lepidoptera: Geometridae] Unknown species 13748 [Lepidoptera: Noctuidae] <i>Mocis</i> 590 <i>Spodoptera frugiperda</i> 3289 [Lepidoptera: Pyralidae] <i>Chilo infuscatellus</i> 1886 <i>Galleria mellonella</i> 5078 7562 7563 7564 7565 7566 7567 7960 8675 12456 12457 12458 12459 [Lepidoptera: Tortricidae] <i>Cydia pomonella</i> 6533 6534 6535 6536 6537 Beauveria amorpha [Lepidoptera] Unknown species 6227	
Unidentified sp. [Lepidoptera: Brassolidae] <i>Brassolis</i> 2190 [Lepidoptera: Crambidae] <i>Diaphania hyalinata</i> 3803 [Lepidoptera: Geometridae] <i>Hibernia defoliaria</i> 1415 1417 <i>Lambdina athasaria</i> 3567 3568 3569 [Lepidoptera: Incurvariidae] <i>Paraclemensia acericaulis</i> 3794 3796 3797 [Lepidoptera: Lymantriidae] <i>Lymantria dispar</i> 71 [Lepidoptera: Plutellidae] <i>Plutella xylostella</i> 2821 2826 4216 [Lepidoptera: Pyralidae] <i>Cnaphalocrocis medinalis</i> 1700 1701 1703 <i>Diatraea saccharalis</i> 3298 3299 3804 [Lepidoptera: Riordinidae] <i>Euselasia</i> 3467 3468 [Lepidoptera: Yponomeutidae] <i>Yponomeuta</i> 3998 <i>Yponomeutidae</i> 3964 Acremonium berkeleyanum [Lepidoptera: Lymantriidae] <i>Lymantria dispar</i> 2067 Acremonium roseum [Lepidoptera: Noctuidae] <i>Pseudoplusia ni</i> 1964 Acrodontium crateriforme [Lepidoptera: Lymantriidae] <i>Lymantria dispar</i> 2070 Aphanocladium album [Lepidoptera: Lymantriidae] <i>Lymantria dispar</i> 2068 Aspergillus sp. [Lepidoptera: Noctuidae] <i>Rachiplusia nu</i> 5205 [Lepidoptera: Plutellidae] <i>Plutella xylostella</i> 2765 2817 2820 2823 2827		

[Lepidoptera: Plutellidae]	Beauveria bassiana(?)	Cordyceps sp.
<i>Plutella xylostella</i> 2727 2728 2729 4525	[Lepidoptera: Pyralidae]	[Lepidoptera]
4526 4527 4528 4529 4530 4531	<i>Eldana saccharina</i> 5644	Unknown species 7808 7811 9486
4532 4533 4534 4535 4536 4537	<i>Galleria mellonella</i> 6892	
4538 4539 4540 4541 4542 4543		Cordyceps bassiana
6150 6151 6152 6153 12822	Beauveria brongniartii	[Lepidoptera: Cossidae]
[Lepidoptera: Pyralidae]	[Lepidoptera: Castniidae]	Unknown species 7047
<i>Acigona sp.</i> 5647 5648	<i>Castnia licus</i> 1481 1829	
<i>Chilo plejadellus</i> 326	[Lepidoptera: Noctuidae]	Cordyceps cardinalis
<i>Cnaphalocrocis medinalis</i> 2041 2349	Unknown species 9599	[Lepidoptera: Tineidae: Archolophinae]
<i>Coniesta sp.</i> 5646	[Lepidoptera: Pyralidae]	Unknown species 7192 7193
<i>Diatraea saccharalis</i> 1484 1832 1834	<i>Diatraea saccharalis</i> 1482 1830	
2629 3020 3858 5500 5502	<i>Galleria mellonella</i> 7555 7556 7557	Cordyceps isarioides
<i>Dioryctria sylvestrella</i> 1001	7558 7559 7560 7561 8034	[Lepidoptera]
<i>Eldana saccharina</i> 5645 5653 5655		Unknown species 5688
<i>Galleria mellonella</i> 1113 1114 5510	Beauveria pseudobassiana	
6147 6148 6556 6894 6904 6905	[Lepidoptera: Arctiidae]	Cordyceps militaris
6931 6932 6933 6934 6935 6936	<i>Hyphantria cunea</i> 1565	[Lepidoptera]
6937 6938 6939 6940 6941 6943	[Lepidoptera: Geometridae]	Unknown species 4081 4082 4083 4084
6949 6950 6951 6952 6953 7060	<i>Isturgia exerrariae</i> 6972	4085 4086 4087 4088 4089 4838
7356 7357 7358 7359 7360 7361	[Lepidoptera: Hepialidae]	4839 4840 4841 4842 4845 5002
7362 7364 7365 7366 7367 7552	<i>Oncopera</i> 4273	5003 5004 5005 5006 5007 5008
7553 7554 7955 7956 7957 7958	[Lepidoptera: Lymantriidae]	5009 5010 5011 5012 5013 5014
7959 7963 7964 7965 7966 7968	<i>Lymantria dispar</i> 299 3405 3528 3529	5015 5016 5017 5018 5019 5020
8032 8033 8035 8039 8040 8339	[Lepidoptera: Pyralidae]	5021 5022 5023 5024 5025 5026
8340 8343 8349 8354 8355 8431	Unknown species 13260 13261 13262	5027 5028 5029 5030 5031 5032
8444 8661 8663 8664 8666 8667	13263	5033 5034 5035 5036 5037 5038
8670 8672 8673 8674 11613	<i>Galleria mellonella</i> 5370 5557	5039 5040 5041 5042 5043 5044
<i>Gymnancyla canella</i> 6796	[Lepidoptera: Sesiidae]	5045 5046 5047 5048 5049 5050
<i>Ostrinia nubilalis</i> 501 502 533 652	<i>Monopetalotaxis doleriformis</i> 6971	5051 5052 5053 5054 5055 5056
1038 1121 2976	[Lepidoptera: Tortricidae]	5057 5058 5059 5060 5061 5062
<i>Terastia meticulosalis</i> 1836	<i>Cydia pomonella</i> 3220 6181 6185	6248 7809 7810 8012 9484 11703
[Lepidoptera: Saturniidae]	[Lepidoptera: Yponomeutidae]	11704
Unknown species 843	<i>Yponomeutidae</i> 3965	[Lepidoptera: Geometridae]
<i>Opodiphthera eucalypti</i> 8843		Unknown species 2416
<i>Schirius</i> 2962	Beniowskia sp.	
[Lepidoptera: Sesiidae]	[Lepidoptera: Plutellidae]	Cordyceps pruinosa
<i>Monopetalotaxis doleriformis</i> 6974	<i>Plutella xylostella</i> 2751	[Lepidoptera]
6975 6976 6977 6981		Unknown species 7221 11723 11724
[Lepidoptera: Stenomatinae]	Cladosporium sp.	
<i>Stenoma decora</i> 1479	[Lepidoptera: Lycaenidae: Polyommati-	Cylindrocarpus sp.
[Lepidoptera: Thaumetopoeidae]	nae]	[Lepidoptera: Pyralidae]
<i>Thaumetopoea pityocampa</i> 8356	<i>Orachrysops ariadne</i> 6226	<i>Diatraea saccharalis</i> 8043 8044
[Lepidoptera: Tortricidae]		
Unknown species 5169	Clonostachys rosea	Entomophaga sp.
<i>Choristoneura</i> 1850	[Lepidoptera]	[Lepidoptera]
<i>Cydia pomonella</i> 151 1122 3972 3973	Unknown species 9493	Unknown species 393
3974 3975 3977 3978 3979 5063	Conidiobolus sp.	
5064 5065 5066 5067 5068 5228	[Lepidoptera: Plutellidae]	Entomophaga aulicae
5229 5230 5231 5232 5233 5234	<i>Plutella xylostella</i> 2771 2772 2815 2816	[Lepidoptera]
5235 5886 5887 5888 6182 6184	3208	Unknown species 1140 1656
6186 6187 6189 6191 6194 6195	[Lepidoptera: Tortricidae]	[Lepidoptera: Arctiidae]
6196 6201 6208 6209 7969	<i>Choristoneura fumiferana</i> 92 93 94	Unknown species 1141
<i>Hedya nubiferana</i> 6199	147 148	<i>Hyphantria cunea</i> 1996
<i>Lobesia botrana</i> 1107 1110	Conidiobolus coronatus	<i>Spilosoma niveum</i> 2372 2373 2374
<i>Rhyacionia frustrana</i> 5573	[Lepidoptera: Noctuidae]	[Lepidoptera: Geometridae]
[Lepidoptera: Yponomeutidae]	<i>Mocis latipes</i> 1884	<i>Enypia griseata</i> 2000
<i>Yponomeutidae</i> 3966 3967 3968 3969	[Lepidoptera: Plutellidae]	<i>Lambdina fiscellaria fiscellaria</i> 1991
3970 3971	<i>Plutella xylostella</i> 2730	2900
	[Lepidoptera: Tortricidae]	<i>Lambdina fiscellaria lugubrosa</i> 1990
Beauveria bassiana sensu lato	<i>Epinotia aporema</i> 4797	<i>Rheumaptera hastata</i> 2899
[Lepidoptera: Pyralidae]	Conidiobolus firmipilleus	[Lepidoptera: Lasiocampidae]
Unknown species 13258 13259	[Lepidoptera: Plutellidae]	<i>Dendrolimus spectabilis</i> 1142 1655
	<i>Plutella xylostella</i> 2731	<i>Malacosoma disstria</i> 3602
		[Lepidoptera: Lymantriidae]
		<i>Euproctis chrysorrhoea</i> 7140 7141 7142
		7143 7144 7145
		<i>Orgyia vetusta</i> 4004 4005 4006 4007
		4008

- [Lepidoptera: Noctuidae]
Unknown species 3016
?Heliothis 251
Aedia leucomelas 198 998 1049
Autographa gamma 2363 2364 2365
Mamestra brassicae 1657 1751 2362
2367 2368 2369
Pseudaletia 1999
- [Lepidoptera: Notodontidae]
Ellida caniplaga 2903
Heterocampa 2902
Heterocampa biundata 2905
Heterocampa guttivitta 2843 2904 3039
3212
- [Lepidoptera: Pieridae]
Colias erate poliographus 2366
- [Lepidoptera: Saturniidae]
Dryocampa rubicunda 2897
- [Lepidoptera: Sphingidae]
Unknown species 118
Eumorpha fasciata 4796
- [Lepidoptera: Tortricidae]
Choristoneura fumiferana 51 53 95
164 165 166 167 168 169 170 171
172 1992 1993 1994 1995 1997
1998 2896 2898 2901
- Entomophaga maimaiga**
[Lepidoptera: Lasiocampidae]
Malacosoma americanum 6170 6173
6174
Malacosoma disstria 4544 4545
- [Lepidoptera: Lymantriidae]
Lymantria dispar 1390 1391 1392 1400
1658 2370 2371 2774 2775 2779
2780 3052 3053 3828 3829 3830
3831 3832 3833 3834 3835 3911
3912 3913 4504 4505 4506 4507
4508 4509 4510 4546 4547 4549
4550 4551 4552 4553 4554 4555
5377 5378 5379 5380 5381 5382
5383 5384 5385 5386 5387 5388
5389 5390 5391 5392 5393 5394
5395 5396 5397 5398 5399 5400
5401 5564 5568 5570 6004 6005
6168 6169 6171 6172 6212 6218
6224 6253 6254 6255 6256 6257
6258 6264 6265 6266 6267 6268
6269 6270 6271 6272 6523 6524
6625 6626 6627 6628 6629 6630
6652 6653 6654 6655 6656 6657
6663 6664 6665 6666 6667 6668
6724 6725 6726 6727 6728 6729
7101 7102 7103 7104 7105 7106
7107 7108 7109 7110 7111 7112
7113 7114 7115 7116 7120 7121
7122 7123 7124 7125 7126 7127
7131 7132 7133 7134 7135 7136
7137 7138 7139 7183 7184 7185
7186 7187 7188 7189 7190 7352
7353
- Erynia sp.**
[Lepidoptera]
Unknown species 1241
- [Lepidoptera: Noctuidae]
Pseudoplusia includens 2027
- [Lepidoptera: Plutellidae]
Plutella xylostella 983
- [Lepidoptera: Tortricidae]
Eana argentana 1143
- Evlachovaea sp.**
[Lepidoptera]
Unknown species 7599 7600 7601
- [Lepidoptera: Brassolidae]
Brassolis 2297
Brassolis sophorea 2613 2620
- [Lepidoptera: Gelechiidae]
Sitotroga cerealella 5703
- [Lepidoptera: Noctuidae]
Spodoptera frugiperda 959
- [Lepidoptera: Oecophoridae]
Anteotricha 2614 2615
- [Lepidoptera: Pyralidae]
Galleria mellonella 8439 8441 8442
8449
- Filobasidiella arachnophila**
[Lepidoptera: Lymantriidae]
Lymantria dispar 2058
- Furia gastropachae**
[Lepidoptera]
Unknown species 2906
- [Lepidoptera: Lasiocampidae]
Malacosoma disstria 5541 5542 5543
5544 5545 5546 5547 5869 5870
5871 5872 8926
- Furia neopyralidarum**
[Lepidoptera]
Unknown species 1145
- Furia pieris**
[Lepidoptera: Pieridae]
Pieris rapae 781
- Furia virescens**
[Lepidoptera]
Unknown species 427
- [Lepidoptera: Noctuidae]
Unknown species 470 1127 1128 1129
- Fusarium sp.**
[Lepidoptera: Gelechiidae]
Scrobipalpuloides absoluta 5219
- [Lepidoptera: Lycanidae: Polyommati-
nae]
Orachrysops subravus 6102
- [Lepidoptera: Lymantriidae]
Lymantria dispar 3532
- [Lepidoptera: Noctuidae]
Spodoptera 2736
- [Lepidoptera: Plutellidae]
Plutella xylostella 5881
- [Lepidoptera: Pyralidae]
Galleria mellonella 5560
- [Lepidoptera: Tortricidae]
Cydia pomonella 3976
Epiphyas postvittana 10470
- Fusarium avenaceum**
[Lepidoptera: Lymantriidae]
Lymantria dispar 2060
- Fusarium brachygibbosum**
[Lepidoptera: Hyblaeidae]
Hyblaea puer 2595
- Fusarium merismoides**
[Lepidoptera: Lymantriidae]
Lymantria dispar 2059
- [Lepidoptera: Pyralidae]
Galleria mellonella 5512
- Fusarium nygamai**
[Lepidoptera: Noctuidae]
Raghuva albipunctella 2316
- Fusarium polyphialidicum**
[Lepidoptera: Lymantriidae]
Lymantria dispar 3692 3693 3694 3695
3696 3916
- Fusarium proliferatum**
[Lepidoptera: Noctuidae]
Spodoptera litura 6649
- [Lepidoptera: Plutellidae]
Plutella xylostella 2776
- Fusarium sacchari**
[Lepidoptera: Phycitinae]
Emmalocera depressella 2418
- [Lepidoptera: Pyralidae]
Chilo sacchariphagus 7045 7046
Chilo sacchariphagus indicus 2142
Scirpophaga excerptalis 2141
- Fusarium torulosum**
[Lepidoptera: Lymantriidae]
Lymantria dispar 3483
- Fusarium verticillioides**
[Lepidoptera: Noctuidae]
Spodoptera frugiperda 3300
- Geotrichum sp.**
[Lepidoptera: Plutellidae]
Plutella xylostella 2752
- Gliocladium sp.**
[Lepidoptera: Sesiidae]
Unknown species 6632
- Hirsutella sp.**
[Lepidoptera]
Unknown species 2581
- [Lepidoptera: Plutellidae]
Plutella xylostella 2753
- Hirsutella gigantea**
[Lepidoptera: Tortricidae]
Choristoneura fumiferana 31 140
- Hirsutella liboensis**
[Lepidoptera: Cossidae]
Unknown species 9603
- Hirsutella longicolla var. cornuta**
[Lepidoptera: Tortricidae]
Choristoneura fumiferana 177 178
- Hirsutella nodulosa**
[Lepidoptera: Pyralidae]
Dioryctria zimmermani 5473

Hirsutella satumaensis [Lepidoptera: Pyralidae] <i>Dioryctria sylvestrella</i> 996	<i>Galleria mellonella</i> 7531 7574 7575 7576 7961 7962 8770 11656 [Lepidoptera: Sesiidae] <i>Conopia myopaeformis</i> 1108 [Lepidoptera: Tortricidae] <i>Cydia pomonella</i> 975 5883 5884 5885 6200 6202 6207 <i>Laspeyresia medicaginis</i> 1225 <i>Lobesia botrana</i> 1111	Lecanicillium lecanii(?) [Lepidoptera: Tortricidae] <i>Cydia pomonella</i> 1109
Hirsutella sinensis [Lepidoptera: Hepialidae] Unknown species 6282		Lecanicillium muscarium [Lepidoptera] Unknown species 7621 7738 9468 9469 9477 11802 [Lepidoptera: Cossidae] <i>Cossula cossus</i> 973 1102 [Lepidoptera: Lymantriidae] <i>Lymantria dispar</i> 2065 2066 3531 3600 3601 [Lepidoptera: Pyralidae] Unknown species 13272 <i>Galleria mellonella</i> 7568 <i>Ostrinia nubilalis</i> 900 [Lepidoptera: Tortricidae] <i>Adoxophyes orana</i> 994 <i>Cydia pomonella</i> 6591
Hirsutella subulata [Lepidoptera: Microlepidoptea] Unknown species 2227		Lecanicillium muscarium(?) [Lepidoptera: Tortricidae] <i>Cydia pomonella</i> 1032
Humicola sp. [Lepidoptera: Lymantriidae] <i>Lymantria dispar</i> 2069	Isaria fumosorosea [Lepidoptera] Unknown species 5251 5252 7743 9520 [Lepidoptera: Arctiidae] <i>Hyphantria cunea</i> 1568 1569 1577 1578 1579 10224 12172 12173 12174 12175 12177 [Lepidoptera: Bombycidae] <i>Bombyx mori</i> 720 989 1005 [Lepidoptera: Lymantriidae] <i>Lymantria dispar</i> 6206 [Lepidoptera: Noctuidae] <i>Lycophotia</i> 3987 <i>Mamestra brassicae</i> 3986 3989 <i>Scotia ipsilon</i> 3985 <i>Scotia segetum</i> 3984 <i>Spodoptera</i> 2734 [Lepidoptera: Pieridae] <i>Pieris brassicae</i> 3982 [Lepidoptera: Plutellidae] <i>Plutella xylostella</i> 2749 5874 6799 6800 [Lepidoptera: Pyralidae] Unknown species 13273 <i>Chilo suppressalis</i> 3988 <i>Diaphania hyalinata</i> 3302 <i>Galleria mellonella</i> 6893 8333 8337 8345 8348 8448 9380 11657 11658 11659 <i>Ostrinia nubilalis</i> 3983 [Lepidoptera: Tortricidae] <i>Cydia pomonella</i> 6192 6203 6204	Lecanicillium psalliotae [Lepidoptera] Unknown species 5685
Isaria cateniannulata [Lepidoptera] Unknown species 6240 9601 11722 [Lepidoptera: Arctiidae] <i>Hyphantria cunea</i> 12167 [Lepidoptera: Lymantriidae] <i>Lymantria dissoluta</i> 6242		Mariannaea pruinosa [Lepidoptera: Limacodidae] <i>Iragoides fasciata</i> 5413
Isaria cateniannulata(?) [Lepidoptera: Arctiidae] <i>Hyphantria cunea</i> 12166		Metarhizium sp. [Lepidoptera: Pyralidae] Unknown species 13264 13265 13266 13267 13268 13269 13270 13271 13275 13276 <i>Galleria mellonella</i> 4997 4998 4999 5000 5001 5076 5077 5079 12452 12453 12454 12455
Isaria cicadae [Lepidoptera] Unknown species 11726		Metarhizium anisopliae sensu lato [Lepidoptera] Unknown species 1094 2424 9541 [Lepidoptera: Hepialidae] <i>Oncopera alboguttata</i> 7820 7821 7822 7823 <i>Oncopera intrucata</i> 4234 [Lepidoptera: Lasiocampidae] <i>Malacosoma disstria</i> 6167 [Lepidoptera: Noctuidae] <i>Helicoverpa zea</i> 11637 <i>Spodoptera</i> 8735 <i>Spodoptera frugiperda</i> 3293 [Lepidoptera: Nymphalidae] <i>Chlosyne lacinia saundersii</i> 1059 [Lepidoptera: Plutellidae] <i>Plutella xylostella</i> 4521 4522 [Lepidoptera: Pyralidae] <i>Diatraea saccharalis</i> 3290 3291 3292 <i>Eoreuma loftini</i> 5469 <i>Galleria mellonella</i> 4904 4905 4906 5369 5513 5514 5515 5516 5517 5518 5519 5521 5554 5555 5556 6475 6558 7014 7015 7016 7017 7018 7019 7020 7021 7022 7023 7024 7025 7026 7569 7570 7571
Isaria farinosa [Lepidoptera] Unknown species 2822 3152 4090 5996 6245 7118 7714 7720 7722 7723 7724 7725 7726 7730 7731 7733 7734 7736 7737 11721 11829 [Lepidoptera: Arctiidae] <i>Pyrrharctia isabella</i> 3017 [Lepidoptera: Cossidae] <i>Prionoxystus robiniae</i> 2269 [Lepidoptera: Geometridae] <i>Alosophila pomataria</i> 5368 <i>Lambdina athasaria</i> 3537 3538 [Lepidoptera: Lasiocampidae] Unknown species 9515 <i>Malacosoma americanum</i> 3 [Lepidoptera: Lymantriidae] <i>Leucoma salicis</i> 38 <i>Lymantria dispar</i> 20 648 697 2057 2131 2564 2835 3221 3490 3491 3492 3493 3494 3495 3496 3497 3498 3499 3500 3501 3502 3503 3504 3505 3506 3507 3508 3517 3518 3519 3520 3521 3522 3523 3524 3525 3526 3533 3595 3596 3597 3598 3599 3664 3665 3666 [Lepidoptera: Noctuidae] <i>Agrotis segetum</i> 4010 <i>Rivula atimeta</i> 2344 <i>Spodoptera</i> 2546 [Lepidoptera: Notodontidae] <i>Quadicalcarifera punctatella</i> 1042 [Lepidoptera: Nymphalidae] Unknown species 981 <i>Chlosyne lacinia saundersii</i> 1065 [Lepidoptera: Pyralidae] Unknown species 13274	Isaria javanica [Lepidoptera: Bombycidae] <i>Bombyx mori</i> 704 [Lepidoptera: Noctuidae] <i>Mamestra brassicae</i> 3981	
	Isaria tenuipes [Lepidoptera] Unknown species 5134 5135 6249 7790 9531 9532 9534 11705 11706 11707 [Lepidoptera: Noctuidae] Unknown species 3938 3939 4096 <i>Mocis latipes</i> 6889 <i>Spodoptera frugiperda</i> 2488 2489 2490 2491 [Lepidoptera: Nymphalidae] <i>Agraulis vanillae</i> 6788	
	Lecanicillium sp. [Lepidoptera] Unknown species 7624 7625 7626 7627 7628 7629 7632 [Lepidoptera: Tortricidae] <i>Tortrix viridana</i> 9458	

7572 7573 7612 7613 7614 7615 7847 7967 8212 8334 8335 8336 8338 8341 8342 8344 8346 8347 8350 8351 8352 8353 8432 8433 8434 8435 8436 8437 8438 8440 8443 8445 8446 8447 8450 8451 8452 8453 8454 8660 8662 8665 8669 8680 8681 8682 8683 8684 8685 8686 8687 8688 8689 8690 8691 8692 8769 11661	Metarhizium anisopliae sensu stricto [Lepidoptera: Noctuidae] <i>Helicoverpa zea</i> 1080 <i>Mocis</i> 587 <i>Spodoptera litura</i> 10473 [Lepidoptera: Pyralidae] <i>Eoreuma loftini</i> 5471 <i>Galleria mellonella</i> 8560 <i>Ostrinia nubilalis</i> 1489	Metarhizium brunneum [Lepidoptera: Bombycidae] <i>Bombyx mori</i> 988 [Lepidoptera: Hepialidae] <i>Oxyzanus</i> 1187 <i>Wiseana</i> sp. 4681 [Lepidoptera: Lyonetiidae] <i>Leucoptera scitella</i> 1116 [Lepidoptera: Noctuidae] <i>Anticarsia gemmatalis</i> 3295 <i>Spodoptera frugiperda</i> 3294 [Lepidoptera: Olethreutidae] <i>Carpocapsa pomonella</i> 1095 [Lepidoptera: Pyralidae] <i>Galleria mellonella</i> 6474 8671 [Lepidoptera: Tortricidae] <i>Lobesia botrana</i> 1112	Metarhizium globosum [Lepidoptera: Pyralidae] <i>Pyrausta machaeralis</i> 2596	Metarhizium guizhouense [Lepidoptera] Unknown species 6238 [Lepidoptera: Bombycidae] <i>Bombyx mori</i> 703 [Lepidoptera: Noctuidae] Unknown species 2140	Metarhizium majus [Lepidoptera: Bombycidae] <i>Bombyx mori</i> 1015 [Lepidoptera: Noctuidae] <i>Spodoptera</i> 8736	Metarhizium novozealandicum [Lepidoptera: Crambidae] Unknown species 3064 8214	Metarhizium pingshaense [Lepidoptera] <i>Galactica</i> 552 [Lepidoptera: Noctuidae] <i>Spodoptera</i> 2735	Metarhizium rileyi [Lepidoptera] Unknown species 936 1879 1893 [Lepidoptera: Bombycidae] <i>Bombyx mori</i> 711 [Lepidoptera: Lymantriidae] <i>Lymantria</i> 481 482 483 [Lepidoptera: Noctuidae] Unknown species 135 6875 9489 9490 <i>Alabama argillacea</i> 7148 <i>Anticarsia gemmatalis</i> 1950 2013 2201 2202 2203 2204 2205 2207 2465 2466 2492 3940 5206 5207 5208 5209 5210 5211 5212 6731 6732 6734 6736 6737 6738 6739 6740 6741 6742 6743 6744 6745 6746 6747 6748 6749 6764 6765 6766 6767 6775 6776 6777 6778 6779 6780 6782 6783 6784 6786 6787 6868 6869 6870 6872 6873 6874 6876 6877 6878 7052 7053 7054 7055 7056 7149 7150 7151 7479 7480 7481 7482 7484 7778 7779 7780 <i>Helicoverpa armigera</i> 2413 6239 <i>Mocis frugalis</i> 1762 <i>Naranga</i> 2345 2390 <i>Plathypena scabra</i> 762 6871 6881 <i>Plusia</i> 1047 <i>Plusiinae</i> 6781 6785 6879 <i>Prodenia litura</i> 1014 <i>Pseudoplusia includens</i> 6866 6882 <i>Rachiplusia nu</i> 2206 <i>Rivula atimeta</i> 1756 1757 1758 1759 1760 2395 <i>Spodoptera</i> 323 358 380 740 935 6867 <i>Spodoptera exigua</i> 539 540 <i>Spodoptera frugiperda</i> 1972 3301 4094 6735 6768 6769 6770 6771 6772 6773 6774 11939 11941 11942 11943 13508 <i>Spodoptera litura</i> 6645 [Lepidoptera: Pyralidae] <i>Cnaphalocrocis medinalis</i> 1761 2174	Mortierella histoplasmatoides [Lepidoptera: Lymantriidae] <i>Lymantria dispar</i> 2063	Mortierella hyalina [Lepidoptera: Lymantriidae] <i>Lymantria dispar</i> 2061	Nomuraea sp. [Lepidoptera: Noctuidae] Unknown species 7851	Paecilomyces sp. [Lepidoptera] Unknown species 7721 7741 7742 7756 7995 8001 [Lepidoptera: Limacodidae] <i>Natada michonta</i> 2616 2617 2618 [Lepidoptera: Noctuidae] <i>Plusia chalcites</i> 327 <i>Sesamia inferens</i> 1008 [Lepidoptera: Tortricidae] <i>Cydia pomonella</i> 6193 6198 <i>Epiphyas postvittana</i> 309	Paecilomyces canadensis [Lepidoptera: Lasiocampidae] <i>Gastropacha orientalis</i> 990	Paecilomyces sinensis [Lepidoptera: Hepialidae] Unknown species 6284 6285	Pandora sp. [Lepidoptera: Arctiidae] <i>Lophocampa caryae</i> 11764 [Lepidoptera: Plutellidae] <i>Plutella xylostella</i> 3201	Pandora blunckii [Lepidoptera: Plutellidae] <i>Plutella</i> 3075 <i>Plutella maculipennis</i> 217 <i>Plutella xylostella</i> 1000 1135 2824 3200 3202 6293 6294 6295 6296 6297 6298 6299 6300 6301 6302 6304 6305 6306 6307 6308 6309 6310 6311 6312 6316	Pandora delphacis [Lepidoptera: Noctuidae] <i>Mamestra brassicae</i> 1265	Penicillium sp. [Lepidoptera: Hepialidae] <i>Oncopera alboguttata</i> 4263 [Lepidoptera: Lymantriidae] <i>Lymantria dispar</i> 2834 2836 [Lepidoptera: Phycitinae] <i>Emmalocera depressella</i> 2419 [Lepidoptera: Pyralidae] <i>Cnaphalocrocis medinalis</i> 2386	Penicillium thomii [Lepidoptera: Lymantriidae] <i>Lymantria dispar</i> 2056	Phialophora malorum [Lepidoptera: Lymantriidae] <i>Lymantria dispar</i> 2072
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Phoma cava

[Lepidoptera: Lymantriidae]
Lymantria dispar 2071

Pochonia suchlasporia var. catenata

[Lepidoptera: Lymantriidae]
Lymantria dispar 2064

Polycephalomyces ramosus

[Lepidoptera]
Unknown species 7095

Purpureocillium lilacinum

[Lepidoptera: Bombycidae]
Bombyx mori 986
[Lepidoptera: Nymphalidae]
Chlosyne lacinia saundersii 1058
Opsiphanes cassinae 5805
[Lepidoptera: Plutellidae]
Plutella xylostella 6183 6197
[Lepidoptera: Pyralidae]
Galleria mellonella 8311 8312

Scopulariopsis sp.

[Lepidoptera: Lymantriidae]
Lymantria dispar 2255
[Lepidoptera: Plutellidae]
Plutella xylostella 3203

Scopulariopsis brevicaulis

[Lepidoptera: Pyralidae]
Galleria mellonella 9943

Simplicillium lamellicola(?)

[Lepidoptera]
Unknown species 11725

Sporothrix insectorum

[Lepidoptera]
Unknown species 6286 7924
[Lepidoptera: Pyralidae]
Unknown species 9501

Sterile mycelium

[Lepidoptera: Lymantriidae]
Lymantria dispar 2073

Tolypocladium cylindrosporum

[Lepidoptera: Noctuidae]
Unknown species 2777 2778

Tolypocladium inflatum

[Lepidoptera: Tortricidae]
Choristoneura fumiferana 3321 3397

Trichoderma sp.

[Lepidoptera: Pyralidae]
Elasmopalpus lignosellus 5730
Galleria mellonella 5523 5524

Trichothecium roseum

[Lepidoptera: Lymantriidae]
Lymantria dispar 2055

Verticillium lecanii

[Lepidoptera: Bombycidae]
Bombyx mori 991

Zoophthora radicans

[Lepidoptera]
Unknown species 404
[Lepidoptera: Gelechiidae]
Tuta absoluta 6917
[Lepidoptera: Gelechiidae]
Anacampsis humilis 4783
[Lepidoptera: Geometridae]
Lambdina fiscellaria fiscellaria 72
[Lepidoptera: Noctuidae]
Sesamia inferens 2411
Trichoplusia ni 6003
[Lepidoptera: Pieridae]
Pieris brassicae 1341 1342 1343 1344
1345 1346
[Lepidoptera: Plutellidae]
Plutella xylostella 1048 1100 2732 2893
3204 3205 3206 6303 6313 6314
6315
[Lepidoptera: Pyralidae]
Cnaphalocrocis medinalis 1699 2410
[Lepidoptera: Tortricidae]
Acleris variana 90
Choristoneura fumiferana 21 35 43 44
45 46 47 48 49 50 52 88 91 141
142 143 144 145 146 163 221 222
223 224 225 226 227 228 229 230
231 232 233 234 235 407
Epinotia aporema 4781 4782 4784 4785
5814
Merophyas divulsana 1082
Ptycholoma aeriferana 1674 1675
Tortrix viridana 68

Animalia

Arthropoda • Insecta

Lepidoptera

Brazil, Ceará
Beauveria bassiana 2637
 Brazil, Goiás
Erynia sp. 1241
Metarhizium rileyi 936
 Brazil, São Paulo
Beauveria bassiana 2633
 Canada
Furia gastropachae 2906
Hirsutella sp. 2581
 Canada, British Columbia
Paecilomyces sp. 7995 8001
 Denmark
Isaria farinosa 7118
 Ecuador
Beauveria sp. 2998
 Indonesia, Jawa Barat, Java
Metarhizium anisopliae sensu lato 2424
 Japan
Entomophaga aulicae 1140 1656
Furia neopyralidarum 1145
 Laboratory manipulation
Metarhizium anisopliae sensu lato 1094
 Mexico
Beauveria bassiana 2857
Isaria farinosa 2822
Polycephalomyces ramosus 7095
 Nepal
Beauveria bassiana 7274
 PR China
Beauveria amorphia 6227
Beauveria bassiana 11708 11716 11717 11719
Beauveria sp. 9596 9597 11709
Cordyceps militaris 6248 11703 11704
Cordyceps pruinosa 11723 11724
Isaria catenianulata 6240 9601 11722
Isaria cicadae 11726
Isaria farinosa 6245 11721
Isaria tenuipes 6249 11705 11706 11707
Metarhizium guizhouense 6238
Simplicillium lamellicola(?) 11725
Sporothrix insectorum 6286
 Republic of Korea
Beauveria bassiana 11715
Cordyceps isarioides 5688
Cordyceps militaris 4845
 Russian Federation
Beauveria bassiana 7585 7593 9445
Beauveria sp. 7579 7586 7587 7594 7598
Clonostachys rosea 9493

Cordyceps militaris 7809 7810 9484
Cordyceps pruinosa 7221
Cordyceps sp. 7808 7811 9486 7600 7601
Isaria farinosa 7714 7720 7722 7723 7724 7725 7726 7730 7731 7733 7736 7737
Isaria fumosorosea 7743 9520
Isaria tenuipes 7790 9531 9532
Lecanicillium muscarium 7621 7738 9468 9469 9477
Lecanicillium sp. 7624 7625 7626 7627 7628 7629 7632
Metarhizium anisopliae sensu lato 9541
Paecilomyces sp. 7721 7741 7742 7756
 Solomon Islands
Metarhizium rileyi 1879 1893
 Switzerland
Entomophaga sp. 393
Furia virescens 427
Zoophthora radicans 404
 Thailand
Beauveria bassiana 537
 Turkey
Beauveria sp. 5832
Lecanicillium psalliotae 5685
 Ukraine
Evlachovaea sp. 7599
Isaria farinosa 7734
Isaria tenuipes 9534
 Unidentified / Hyphomycetes 9540
 United Kingdom
Beauveria bassiana 6557
 USA, Hawai'i
Beauveria bassiana 8709
 USA, New York
Cordyceps militaris 4838 4839 4840 4841 4842 5002 5003 5004 5005 5006 5007 5008 5009 5010 5011 5012 5013 5014 5015 5016 5017 5018 5019 5020 5021 5022 5023 5024 5025 5026 5027 5028 5029 5030 5031 5032 5033 5034 5035 5036 5037 5038 5039 5040 5041 5042 5043 5044 5045 5046 5047 5048 5049 5050 5051 5052 5053 5054 5055 5056 5057 5058 5059 5060 5061 5062
 USA, Pennsylvania
Cordyceps militaris 8012
 USA, New York
Isaria farinosa 3152
 USA, Oregon
Isaria farinosa 5996
 USA, Vermont
Isaria farinosa 11829
 USA, New York
Isaria tenuipes 5134 5135
 USA, Vermont
Lecanicillium muscarium 11802
 USA, Alaska
Sporothrix insectorum 7924

USA, New York
Cordyceps militaris 4081 4082 4083 4084 4085 4086 4087 4088 4089
Isaria farinosa 4090
 USA, Texas
Isaria fumosorosea 5251 5252
 Uzbekistan
Beauveria bassiana 6109
Galactica sp.
 Brazil, Distrito Federal
Metarhizium pingshaense 552

Lepidoptera: Arctiidae

Japan
Entomophaga aulicae 1141
Hyphantria cunea
 Canada, Ontario
Entomophaga aulicae 1996
 Italy
Beauveria bassiana 1564
Beauveria pseudobassiana 1565
Isaria fumosorosea 1568 1569 1577 1578 1579
 Republic of Georgia
Isaria fumosorosea 10224
 Turkey
Beauveria bassiana 12165
Beauveria sp. 12168 12169
Isaria catenianulata 12167
Isaria catenianulata(?) 12166
Isaria fumosorosea 12172 12173 12174 12175 12177
 Unidentified / Hyphomycetes 12163 12164 12170 12171 12176 12178 12179 12180 12181
Lophocampa caryae
 USA, Vermont
Pandora sp. 11764
Pyrrharctia isabella
 USA, New York
Isaria farinosa 3017
Spilosoma niveum
 Japan
Entomophaga aulicae 2372 2373 2374

Lepidoptera: Bombycidae

Bombyx mori
 Japan
Aspergillus flavus 1003 1010
Beauveria bassiana 302 303 304 305 987 1007
Beauveria sp. 1040
Isaria fumosorosea 989 1005
Metarhizium brunneum 988
Metarhizium majus 1015
Purpureocillium lilacinum 986
Verticillium lecanii 991
 Philippines
Beauveria bassiana 2737
 PR China
Beauveria bassiana 718
Isaria fumosorosea 720
Isaria javanica 704
Metarhizium guizhouense 703
Metarhizium rileyi 711

South Africa <i>Beauveria bassiana</i> 5704	<i>Scrobipalpuloides absoluta</i> Brazil, Rio Grande do Sul <i>Fusarium</i> sp. 5219	<i>Wiseana</i> sp. New Zealand <i>Metarhizium brunneum</i> 4681
Lepidoptera: Brassolidae <i>Brassolis</i> sp. Brazil, Goiás Unidentified sp. 2190 Colombia <i>Evlachovaea</i> sp. 2297 <i>Brassolis sophorea</i> Brazil, São Paulo <i>Beauveria bassiana</i> 6514 Brazil, Pará <i>Beauveria bassiana</i> 2619 <i>Evlachovaea</i> sp. 2613 Brazil, Sergipe <i>Evlachovaea</i> sp. 2620	<i>Sitotroga cerealella</i> South Africa <i>Evlachovaea</i> sp. 5703	Lepidoptera: Hyblaeidae <i>Hyblaea puer</i> India <i>Beauveria bassiana</i> 2597 <i>Fusarium brachygibbosum</i> 2595
Lepidoptera: Castniidae <i>Castnia licus</i> Brazil, Pernambuco <i>Beauveria brongniartii</i> 1481 1829	Lepidoptera: Geometridae Japan <i>Cordyceps militaris</i> 2416 Republic of Georgia <i>Beauveria</i> sp. 13748 <i>Alosophila pometaria</i> Canada, Alberta <i>Isaria farinosa</i> 5368 <i>Enypia griseata</i> Canada, British Columbia <i>Entomophaga aulicae</i> 2000 <i>Hibernia defoliaria</i> Poland Unidentified sp. 1415 1417 <i>Isturgia exerrariae</i> South Africa <i>Beauveria bassiana</i> 6973 <i>Beauveria pseudobassiana</i> 6972 <i>Lambdina athasaria</i> USA, Vermont <i>Isaria farinosa</i> 3537 3538 Unidentified sp. 3567 3568 3569 <i>Lambdina fiscellaria fiscellaria</i> Canada, Newfoundland <i>Entomophaga aulicae</i> 1991 2900 <i>Zoophthora radicans</i> 72 <i>Lambdina fiscellaria lugubrosa</i> Canada, British Columbia <i>Entomophaga aulicae</i> 1990 <i>Rheumaptera hastata</i> Canada, Ontario <i>Entomophaga aulicae</i> 2899	Lepidoptera: Incurvariidae <i>Paraclemensia</i> sp. USA <i>Beauveria bassiana</i> 11614 11615 11616 11617 <i>Paraclemensia acericaulis</i> Unidentified sp. 3794 3796 Location not specified Unidentified sp. 3797 <i>Paraclemensia acerifoliella</i> USA, Vermont <i>Beauveria bassiana</i> 5492
Lepidoptera: Cossidae PR China <i>Cordyceps bassiana</i> 7047 <i>Hirsutella liboensis</i> 9603 <i>Cossula cossus</i> Italy <i>Beauveria bassiana</i> 1103 1104 1558 <i>Lecanicillium muscarium</i> 973 1102 <i>Prionozystus robiniae</i> USA, Kentucky <i>Isaria farinosa</i> 2269 <i>Zeuzera pyrina</i> Italy <i>Beauveria bassiana</i> 1105	Lepidoptera: Cossidae PR China <i>Cordyceps bassiana</i> 7047 <i>Hirsutella liboensis</i> 9603 <i>Cossula cossus</i> Italy <i>Beauveria bassiana</i> 1103 1104 1558 <i>Lecanicillium muscarium</i> 973 1102 <i>Prionozystus robiniae</i> USA, Kentucky <i>Isaria farinosa</i> 2269 <i>Zeuzera pyrina</i> Italy <i>Beauveria bassiana</i> 1105	Lepidoptera: Lasiocampidae Russian Federation <i>Isaria farinosa</i> 9515 <i>Dendrolimus spectabilis</i> Japan <i>Basidiobolus ranarum</i> 1139 <i>Beauveria bassiana</i> 1677 <i>Entomophaga aulicae</i> 1142 1655 <i>Gastropacha orientalis</i> Japan <i>Paecilomyces canadensis</i> 990 <i>Malacosoma americanum</i> <i>Entomophaga maimaiga</i> 6170 6173 6174 USA, Massachusetts <i>Beauveria bassiana</i> 1 <i>Isaria farinosa</i> 3 <i>Malacosoma disstria</i> <i>Entomophaga maimaiga</i> 4544 4545 Canada, Ontario <i>Furia gastropachae</i> 5869 5870 5871 5872 Location not specified 37 USA, New York 5351 7370 <i>Entomophaga aulicae</i> 3602 <i>Furia gastropachae</i> 5541 5542 5543 5544 USA, Maryland <i>Furia gastropachae</i> 5545 5546 USA, New York <i>Furia gastropachae</i> 5547 USA, Vermont <i>Furia gastropachae</i> 8926 USA, New York <i>Metarhizium anisopliae</i> sensu lato 6167
Lepidoptera: Crambidae New Zealand <i>Metarhizium novozealandicum</i> 3064 8214 <i>Diaphania hyalinata</i> Mexico Unidentified sp. 3803	Lepidoptera: Hepialidae PR China <i>Hirsutella sinensis</i> 6282 6284 6285 <i>Oncopera</i> sp. Australia <i>Beauveria pseudobassiana</i> 4273 <i>Oncopera alboguttata</i> Australia <i>Beauveria bassiana</i> 4589 4607 8493 <i>Metarhizium anisopliae</i> sensu lato 7820 7821 7822 7823 <i>Penicillium</i> sp. 4263 <i>Oncopera intricata</i> Australia <i>Beauveria bassiana</i> 4258 4672 <i>Microhilum oncoperae</i> 4358 4769 4770 4771 <i>Oncopera intrucata</i> Australia <i>Metarhizium anisopliae</i> sensu lato 4234 <i>Microhilum oncoperae</i> 4767 4768 <i>Oxyzanus</i> sp. New Zealand <i>Metarhizium brunneum</i> 1187	Lepidoptera: Limacodidae <i>Iragoides fasciata</i> PR China <i>Mariannaea pruinosa</i> 5413
Lepidoptera: Danaidae <i>Danaus plexippus</i> <i>Beauveria bassiana</i> 7093 Australia <i>Beauveria bassiana</i> 8891	Lepidoptera: Eupterotidae South Africa <i>Beauveria bassiana</i> 6984	
Lepidoptera: Gelechiidae <i>Tuta absoluta</i> Argentina <i>Zoophthora radicans</i> 6917	Lepidoptera: Gelechiidae <i>Tuta absoluta</i> Argentina <i>Zoophthora radicans</i> 6917	
Lepidoptera: Gelechiidae <i>Anacamptis humilis</i> Uruguay <i>Zoophthora radicans</i> 4783 <i>Phthorimaea operculella</i> Australia <i>Aspergillus flavus</i> 4126 <i>Aspergillus tamarii</i> 4127	Lepidoptera: Gelechiidae <i>Anacamptis humilis</i> Uruguay <i>Zoophthora radicans</i> 4783 <i>Phthorimaea operculella</i> Australia <i>Aspergillus flavus</i> 4126 <i>Aspergillus tamarii</i> 4127	

Fungus by Host and Location

Lepidoptera: Limacodidae Lepidoptera: Lymantriidae

<i>Natada michonta</i>	USA, Connecticut	USA, New York
Brazil, Pará	<i>Entomophaga maimaiga</i> 2774 2775	<i>Fusarium polyphialidicum</i> 3692
<i>Paecilomyces</i> sp. 2616 2617 2618	USA, Massachusetts	3693
Lepidoptera: Lycaenidae: Polyommatainae	<i>Entomophaga maimaiga</i> 2779	USA, Massachusetts
<i>Orachrysops ariadne</i>	USA, New Hampshire	<i>Fusarium polyphialidicum</i> 3694
South Africa	<i>Entomophaga maimaiga</i> 2780	USA, Virginia
<i>Cladosporium</i> sp. 6226	USA, New York	<i>Fusarium polyphialidicum</i> 3695
<i>Orachrysops subravus</i>	<i>Entomophaga maimaiga</i> 3828 3829	USA, Maryland
South Africa	3830 3831 3832 3833 3834 3835	<i>Fusarium polyphialidicum</i> 3696
<i>Fusarium</i> sp. 6102	USA, Virginia	USA, Pennsylvania
Lepidoptera: Lymantriidae	<i>Entomophaga maimaiga</i> 4504 4505	<i>Fusarium polyphialidicum</i> 3916
<i>Euproctis chrysorrhoea</i>	4506 4507	USA, Maryland
USA, Maine	USA, New York	<i>Fusarium</i> sp. 3532
<i>Entomophaga aulicae</i> 7140 7141	<i>Entomophaga maimaiga</i> 4508 4509	USA, New York
7142 7143 7144 7145	4510 4549 4550 4551	<i>Isaria farinosa</i> 648 697 2564
<i>Leucoma salicis</i>	USA, Virginia	USA, Maryland
Location not specified	<i>Entomophaga maimaiga</i> 4552 4553	<i>Isaria farinosa</i> 2835
<i>Isaria farinosa</i> 38	4554 4555	USA, West Virginia
<i>Lymantria</i> sp.	USA, Maryland	<i>Isaria farinosa</i> 3517 3518 3519 3520
Philippines	<i>Entomophaga maimaiga</i> 5377 5378	3521 3522
<i>Metarhizium rileyi</i> 481 482 483	5379 5380 5381 5382 5383 5384	USA, Pennsylvania
<i>Lymantria dispar</i>	5385 5386 5387 5388 5389 5390	<i>Isaria farinosa</i> 3523
<i>Entomophaga maimaiga</i> 4546 4547	USA, New York	USA, Maryland
Canada, Ontario	<i>Entomophaga maimaiga</i> 5391 5392	<i>Isaria farinosa</i> 3524
<i>Beauveria bassiana</i> 2267	5393 5394 5395 5396 5397 5398	USA, West Virginia
<i>Entomophaga maimaiga</i> 3911 3912	5399 5400 5401	<i>Isaria farinosa</i> 3525
3913	USA, Massachusetts	USA, Maryland
Commonwealth of Independent States	<i>Entomophaga maimaiga</i> 5564	<i>Isaria farinosa</i> 3526
<i>Beauveria bassiana</i> 155	USA, Virginia	USA, West Virginia
France	<i>Entomophaga maimaiga</i> 5568 5570	<i>Isaria farinosa</i> 3533
<i>Beauveria bassiana</i> 6205	USA, Massachusetts	USA, New York
<i>Isaria fumosorosea</i> 6206	<i>Entomophaga maimaiga</i> 6004 6005	<i>Isaria farinosa</i> 3595 3596 3597 3598
<i>Scopulariopsis</i> sp. 2255	USA, West Virginia	3599
Unidentified / Hyphomycetes 4899	<i>Entomophaga maimaiga</i> 6168	USA, Virginia
4900 5236	USA, Virginia	<i>Isaria farinosa</i> 3664 3665
Japan	<i>Entomophaga maimaiga</i> 6169 6218	USA, Maryland
<i>Entomophaga maimaiga</i> 1390 1391	USA, Massachusetts	<i>Isaria farinosa</i> 3666
1392 1400 1658 2370 2371 6171	<i>Entomophaga maimaiga</i> 6269 6270	USA, West Virginia
6172 6212 6224 6253 6254 6255	6271 6272	<i>Lecanicillium muscarium</i> 3531
6256 6257 6258 6264 6265 6266	USA, Michigan	USA, New York
6267 6268 7104 7105 7112 7113	<i>Entomophaga maimaiga</i> 6523 6524	<i>Lecanicillium muscarium</i> 3600 3601
7114 7116 7185 7186 7187 7188	USA, New York	USA, Maryland
7189	<i>Entomophaga maimaiga</i> 6625	<i>Penicillium</i> sp. 2834 2836
Unidentified sp. 71	USA, Michigan	USA, Delaware
PR China	<i>Entomophaga maimaiga</i> 6626 6627	<i>Beauveria bassiana</i> 2570 2571 2572
<i>Entomophaga maimaiga</i> 7139 7183	6628 6629 6630 6652 6653 6654	2573
7184	6655 6656 6657 6663 6664 6665	USA, Maryland
Rumania	6666 6667 6668 6724 6725 6726	<i>Isaria farinosa</i> 2131 3492 3498 3507
<i>Beauveria pseudobassiana</i> 299	6727 6728 6729 7101 7102 7103	USA, New York
Russian Federation	7106 7107 7108 7109 7110 7111	<i>Entomophaga maimaiga</i> 3052 3053
<i>Entomophaga maimaiga</i> 7127	7115	USA, Oregon
USA, Maryland	USA, Pennsylvania	<i>Acremonium berkeleyanum</i> 2067
<i>Aspergillus ochraceus</i> 2833	<i>Entomophaga maimaiga</i> 7120 7121	<i>Acrodontium crateriforme</i> 2070
<i>Beauveria bassiana</i> 2831 3404	7122	<i>Aphanocladium album</i> 2068
USA, Virginia	USA, Massachusetts	<i>Beauveria bassiana</i> 2054
<i>Beauveria bassiana</i> 3527	<i>Entomophaga maimaiga</i> 7123 7124	<i>Filobasidiella arachnophila</i> 2058
USA, Maryland	7125 7126	<i>Fusarium avenaceum</i> 2060
<i>Beauveria bassiana</i> 3530	USA, Pennsylvania	<i>Fusarium merismoides</i> 2059
USA, Virginia	<i>Entomophaga maimaiga</i> 7131 7132	<i>Humicola</i> sp. 2069
<i>Beauveria pseudobassiana</i> 3405	7133 7134 7135 7136	<i>Isaria farinosa</i> 2057
USA, Pennsylvania	USA, Massachusetts	<i>Lecanicillium muscarium</i> 2065 2066
<i>Beauveria pseudobassiana</i> 3528	<i>Entomophaga maimaiga</i> 7137 7138	<i>Mortierella clausenii</i> 2062
USA, Maryland	USA, Pennsylvania	<i>Mortierella histoplasmatoides</i> 2063
<i>Beauveria pseudobassiana</i> 3529	<i>Entomophaga maimaiga</i> 7190 7352	<i>Mortierella hyalina</i> 2061
	7353	<i>Penicillium thomii</i> 2056
		<i>Phialophora malorum</i> 2072

Lepidoptera: Lymantriidae**Lepidoptera: Noctuidae****Fungus by Host and Location**

<i>Phoma cava</i> 2071	? <i>Heliothis</i> sp.	USA
<i>Pochonia suchlasporia</i> var. <i>catenata</i> 2064	USA, Georgia	<i>Metarhizium anisopliae</i> sensu lato 11637
Sterile mycelium 2073	<i>Entomophaga aulicae</i> 251	USA, Florida
<i>Trichothecium roseum</i> 2055	<i>Aedia leucomelas</i>	<i>Metarhizium anisopliae</i> sensu stricto 1080
USA, Pennsylvania	Japan	<i>Lycophotia</i> sp.
<i>Isaria farinosa</i> 20 3221 3491 3499 3500 3506	<i>Entomophaga aulicae</i> 198 998 1049	France
USA, Virginia	<i>Agrotis segetum</i>	<i>Isaria fumosorosea</i> 3987
<i>Fusarium torulosum</i> 3483	Denmark	<i>Mamestra brassicae</i>
<i>Isaria farinosa</i> 3490 3493 3494 3496 3497 3501 3502 3503 3504 3505 3508	<i>Isaria farinosa</i> 4010	France
USA, West Virginia	<i>Alabama argillacea</i>	<i>Isaria fumosorosea</i> 3986 3989
<i>Isaria cateniannulata</i> 6242	Argentina	<i>Isaria javanica</i> 3981
<i>Orygia vetusta</i>	<i>Metarhizium rileyi</i> 7148	Japan
USA, California	<i>Anticarsia gemmatalis</i>	<i>Entomophaga aulicae</i> 1657 1751 2362 2367 2368 2369
<i>Entomophaga aulicae</i> 4004 4005 4006 4007 4008	Argentina	<i>Pandora delphacis</i> 1265
Lepidoptera: Lyonetiidae	<i>Metarhizium rileyi</i> 2013 2465 2466 5206 5207 5208 5209 5210 5211 5212 6877 7052 7053 7054 7055 7056 7149 7150 7151 7479 7480 7481 7482 7484 7778 7779 7780	<i>Mocis</i> sp.
<i>Leucoptera coffeella</i>	Brazil, Paraná	Colombia
Nicaragua	<i>Metarhizium rileyi</i> 6731 6732 6734 6736 6737 6738 6739 6740 6741 6742 6743 6744 6745 6746 6747 6748 6749 6764 6765 6766 6767 6775 6776 6777 6778 6779 6780 6782 6783 6784 6786 6787 6874 6878	<i>Beauveria</i> sp. 590
<i>Beauveria bassiana</i> 6801 6802 6803 6804 6805 6806 6807 6808 6809	<i>Metarhizium rileyi</i> 1950	<i>Metarhizium anisopliae</i> sensu stricto 587
<i>Leucoptera scitella</i>	Brazil, Paraná	<i>Mocis frugalis</i>
Italy	<i>Metarhizium rileyi</i> 3940	Philippines
<i>Beauveria bassiana</i> 1115 1117	Brazil, Rio Grande do Sul	<i>Metarhizium rileyi</i> 1762
<i>Metarhizium brunneum</i> 1116	<i>Metarhizium rileyi</i> 2201 2202 2203 2204 2205 2207	<i>Mocis latipes</i>
Lepidoptera: Microlepidoptea	Mexico	Brazil, Goiás
Poland	<i>Metarhizium brunneum</i> 3295	<i>Conidiobolus coronatus</i> 1884
<i>Hirsutella subulata</i> 2227	<i>Metarhizium rileyi</i> 2492	Mexico
Lepidoptera: Noctuidae	USA, Florida	<i>Isaria tenuipes</i> 6889
Brazil	<i>Metarhizium rileyi</i> 6868 6869 6870 6872 6873 6876	<i>Naranga</i> sp.
<i>Isaria tenuipes</i> 4096	<i>Autographa gamma</i>	Indonesia, Jawa Tengah, Java
Brazil, São Paulo	France	<i>Metarhizium rileyi</i> 2345 2390
<i>Metarhizium rileyi</i> 6875	<i>Beauveria bassiana</i> 2253 2254	<i>Panolis flammea</i>
Brazil, Mato Grosso	Japan	United Kingdom
<i>Isaria tenuipes</i> 3939	<i>Entomophaga aulicae</i> 2363 2364 2365	<i>Batkoa</i> sp. 6179
Brazil, Paraná	<i>Helicoverpa</i> sp.	<i>Beauveria bassiana</i> 6100 6101 6177 6178
<i>Isaria tenuipes</i> 3938	Australia	<i>Plathyphena scabra</i>
Canada	<i>Beauveria bassiana</i> 8066	USA, Florida
<i>Metarhizium guizhouense</i> 2140	<i>Helicoverpa armigera</i>	<i>Metarhizium rileyi</i> 6871 6881
Denmark	India	USA, Missouri
<i>Tolypocladium cylindrosporum</i> 2777 2778	<i>Metarhizium rileyi</i> 2413	<i>Metarhizium rileyi</i> 762
Hungary	PR China	<i>Plusia</i> sp.
<i>Beauveria bassiana</i> 1627 1628 1629	<i>Metarhizium rileyi</i> 6239	Japan
PR China	Spain	<i>Metarhizium rileyi</i> 1047
<i>Beauveria brongniartii</i> 9599	<i>Beauveria bassiana</i> 1149 1166	<i>Plusia chalcites</i>
Russian Federation	<i>Helicoverpa virescens</i>	Australia
<i>Metarhizium rileyi</i> 9489 9490	France	<i>Paecilomyces</i> sp. 327
<i>Nomuraea</i> sp. 7851	<i>Beauveria bassiana</i> 1314 1315 1316	<i>Plusiinae</i> sp.
Switzerland	Spain	Brazil, Paraná
<i>Furia virescens</i> 470 1127 1128 1129	<i>Beauveria bassiana</i> 1788	<i>Metarhizium rileyi</i> 6781 6785 6879
USA, Mississippi	<i>Helicoverpa zea</i>	<i>Prodenia litura</i>
<i>Metarhizium rileyi</i> 135	India	Japan
USA, New York	Unidentified / Hyphomycetes 5333 5334	<i>Metarhizium rileyi</i> 1014
<i>Entomophaga aulicae</i> 3016		<i>Pseudaletia</i> sp.
		Canada, Ontario
		<i>Entomophaga aulicae</i> 1999
		<i>Pseudoplusia includens</i>
		USA, Alabama
		<i>Erynia</i> sp. 2027
		USA, Florida
		<i>Metarhizium rileyi</i> 6866 6882
		<i>Pseudoplusia ni</i>
		Brazil
		<i>Acremonium roseum</i> 1964

Rachiplusia nu
 Argentina
Aspergillus sp. 5205
 Brazil, Rio Grande do Sul
Metarhizium rileyi 2206
Raghuva albipunctella
 Senegal
Fusarium nygamai 2316
Rivula atimeta
 Philippines
Isaria farinosa 2344
Metarhizium rileyi 1756 1757 1758
 1759 1760 2395
Scotia ipsilon
 France
Isaria fumosorosea 3985
Scotia segetum
 France
Isaria fumosorosea 3984
Sesamia calamistis
 Benin
Beauveria bassiana 5649 5654
Sesamia cretica
 Italy
Beauveria bassiana 1118
Sesamia inferens
 Indonesia, Jawa Barat, Java
Zoophthora radicans 2411
 Japan
Paecilomyces sp. 1008
Simyra henrici
 USA, Florida
Beauveria bassiana 5988
Spodoptera sp.
 Australia
Metarhizium rileyi 323 358 380
 Brazil, Goiás
Metarhizium rileyi 740 935
 India
Metarhizium rileyi 6867
 Location not specified
Isaria farinosa 2546
 Malaysia
Metarhizium anisopliae sensu lato
 8735
Metarhizium majus 8736
 Philippines
Fusarium sp. 2736
Isaria fumosorosea 2734
Metarhizium pingshaense 2735
Spodoptera exigua
 Thailand
Metarhizium rileyi 539 540
Spodoptera frugiperda
 Brazil
Metarhizium rileyi 4094
 Brazil, Paraná
Metarhizium rileyi 6735 6768 6769
 6770 6771 6772 6773 6774
 Brazil, Bahia
Metarhizium rileyi 1972
 Brazil, Paraná
Evlachovaea sp. 959
 Mexico
Beauveria bassiana 3288
Beauveria sp. 3289

Isaria tenuipes 2488 2489 2490 2491
Metarhizium anisopliae sensu lato
 3293
Metarhizium brunneum 3294
Metarhizium rileyi 3301 11939
 11941 11942 11943 13508
Fusarium verticillioides 3300
Spodoptera littoralis
 France
Beauveria bassiana 1512 1513 3286
Spodoptera litura
 India
Beauveria bassiana 6643 6644 6646
 6647 6648 6650
Fusarium proliferatum 6649
Metarhizium anisopliae sensu
 stricto 10473
Metarhizium rileyi 6645
Trichoplusia ni
 Mexico
Zoophthora radicans 6003

Lepidoptera: Noctuidae: Plusiinae

Brazil, Paraná
Beauveria bassiana 3937

Lepidoptera: Notodontidae

Ellida caniplaga
 Canada, Ontario
Entomophaga aulicae 2903
Heterocampa sp.
 Canada, Ontario
Entomophaga aulicae 2902
Heterocampa biundata
 Canada, Ontario
Entomophaga aulicae 2905
Heterocampa guttivitta
 Canada, Ontario
Entomophaga aulicae 2904
 USA, New York
Entomophaga aulicae 3039 3212
 USA, Vermont
Entomophaga aulicae 2843
Quadricalcarifera punctatella
 Japan
Isaria farinosa 1042

Lepidoptera: Nymphalidae

United Kingdom
Isaria farinosa 981
Agraulis vanillae
 Colombia
Isaria tenuipes 6788
Chlosyne lacinia saundersii
 Brazil, Paraná
Isaria farinosa 1065
Metarhizium anisopliae sensu lato
 1059
Metarhizium robertsii 1057
Purpureocillium lilacinum 1058
Opsiphanes cassinae
 Colombia
Purpureocillium lilacinum 5805

Lepidoptera: Oecophoridae

Anteotricha sp.
 Brazil, Pará
Evlachovaea sp. 2614 2615

Lepidoptera: Olethreutidae

Carpocapsa pomonella
 Austria
Metarhizium brunneum 1095
 Yugoslavia, Serbia
Beauveria bassiana 503

Lepidoptera: Phycitinae

Emmalocera depressella
 India
Beauveria bassiana 2417
Fusarium sacchari 2418
Penicillium sp. 2419

Lepidoptera: Pieridae

Colias erate poliographus
 Japan
Entomophaga aulicae 2366
Pieris brassicae
 France
Isaria fumosorosea 3982
 Poland
Zoophthora radicans 1341 1342
 1343 1344 1345 1346
Pieris rapae
 USA, New York
Furia pieris 781

Lepidoptera: Plutellidae

Plutella sp.
 Australia
Pandora blunckii 3075
Plutella maculipennis
 Germany
Pandora blunckii 217
Plutella xylostella
 Australia
Isaria fumosorosea 6799 6800
 Benin
Fusarium sp. 5881
Purpureocillium lilacinum 6183
 6197
 Japan
Erynia sp. 983
Pandora blunckii 1000 1135
Zoophthora radicans 1048
 Malaysia
 Unidentified sp. 4216
Zoophthora radicans 1100
 Mexico
Pandora blunckii 6293 6294 6295
 6296 6297 6298 6299 6300 6301
 6302 6304 6305 6306 6307 6308
 6309 6310 6311 6312 6316
Zoophthora radicans 6303 6313
 6314 6315
 Philippines
Aspergillus flavus 2818
Aspergillus sp. 2765 2817 2820 2823
 2827 2750
Beauveria bassiana 2727 2728 2729
Beniowskia sp. 2751
Conidiobolus coronatus 2730
Conidiobolus firmipilleus 2731
Conidiobolus sp. 2771 2772 2815
 2816 3208
Fusarium proliferatum 2776

Geotrichum sp. 2752
Hirsutella sp. 2753
Isaria fumosorosea 2749
Pandora blunckii 2824 3200 3202
Pandora sp. 3201 3203 2821 2826
Zoophthora radicans 2732 2893
3204 3205 3206
Republic of Korea
Beauveria bassiana 12822
Romania
Isaria fumosorosea 5874
Metarhizium robertsii 5873
USA, New York
Beauveria bassiana 4525 4526 4527
4528 4529 4530 4531 4532 4533
4534 4535 4536 4537 4538 4539
4540 4541 4542 4543 6150 6151
6152 6153
Metarhizium anisopliae sensu lato
4521 4522

Lepidoptera: Pyralidae

Russian Federation
Sporothrix insectorum 9501
USA, Oregon
Beauveria bassiana sensu lato
13258 13259
Beauveria pseudobassiana 13260
13261 13262 13263
Isaria farinosa 13274
Isaria fumosorosea 13273
Lecanicillium muscarium 13272
Metarhizium sp. 13264 13265 13266
13267 13268 13269 13270 13271
13275 13276
Acigona sp.
Benin
Beauveria bassiana 5647 5648
Chilo infuscatellus
India
Beauveria sp. 1886
Chilo plejadellus
Australia
Beauveria bassiana 326
Chilo sacchariphagus
Mozambique
Fusarium sacchari 7045 7046
Chilo sacchariphagus indicus
India
Fusarium sacchari 2142
Chilo suppressalis
France
Isaria fumosorosea 3988
Cnaphalocrocis medinalis
Indonesia, Jawa Barat, Java
Zoophthora radicans 2410
Philippines
1702
Beauveria bassiana 2041 2349
Metarhizium rileyi 1761 2174
Penicillium sp. 2386 1700 1701 1703
Zoophthora radicans 1699
Coniesta sp.
Benin
Beauveria bassiana 5646

Corcyra cephalonica
Philippines
Mixed Culture sp. 2738
Diaphania hyalinata
Mexico
Isaria fumosorosea 3302
Diatraea saccharalis
Argentina
Beauveria bassiana 5500 5502
Brazil
Beauveria bassiana 1832 1834 3858
Brazil, Pernambuco
Beauveria bassiana 1484 2629 3020
Brazil, São Paulo
Beauveria brongniartii 1482 1830
Mexico
Cylindrocarpon sp. 8043 8044
Metarhizium anisopliae sensu lato
3290 3291 3292
Unidentified sp. 3298 3299 3804
Dioryctria sylvestrella
Japan
Beauveria bassiana 1001
Hirsutella satumaensis 996
Dioryctria zimmermani
USA, Michigan
Hirsutella nodulosa 5473
Elasmopalpus lignosellus
USA, Texas
Trichoderma sp. 5730
Eldana saccharina
Benin
Beauveria bassiana 5645 5653 5655
Beauveria bassiana(?) 5644
Eoreuma loftini
USA, Texas
Aspergillus parasiticus 5470
Metarhizium anisopliae sensu lato
5469
Metarhizium anisopliae sensu
stricto 5471
Galleria mellonella
Beauveria bassiana 6894
Beauveria bassiana(?) 6892
Isaria fumosorosea 6893
Australia
Metarhizium anisopliae sensu
stricto 8560
Canada, Alberta
Metarhizium anisopliae sensu lato
8212
Canada, Ontario
Metarhizium anisopliae sensu lato
8680 8681 8682 8683 8684 8685
8686 8687 8688 8689 8690 8691
8692
Denmark
Beauveria bassiana 8032 8033 8035
Beauveria brongniartii 8034
Greenland
Beauveria bassiana 8039 8040
Iran
Beauveria bassiana 6904 6905
Italy
Beauveria bassiana 1113 1114

Mexico
Metarhizium anisopliae sensu lato
7612 7613 7614 7615
Nicaragua
Purpureocillium lilacinum 8311
8312
Norway
Aspergillus flavus(?) 5503 5504
5505 5506 5507 5508 5509
Beauveria bassiana 5510 7552 7553
7554
Beauveria brongniartii 7555 7556
7557 7558 7559 7560 7561
Beauveria pseudobassiana 5370
5557
Beauveria sp. 7562 7563 7564 7565
7566 7567
Fusarium merismoides 5512
Fusarium sp. 5560
Isaria farinosa 7574 7575 7576
11656
Isaria fumosorosea 11657 11658
11659
Lecanicillium muscarium 7568
Metarhizium anisopliae sensu lato
5369 5513 5514 5515 5516 5517
5518 5519 5521 5554 5555 5556
6475 7014 7015 7016 7017 7018
7019 7020 7021 7022 7023 7024
7025 7026 7569 7570 7571 7572
7573 11661
Metarhizium brunneum 6474
Metarhizium robertsii 6476
Trichoderma sp. 5523 5524
Portugal
Metarhizium anisopliae sensu lato
4904 4905 4906
Metarhizium robertsii 4903
Switzerland
Isaria farinosa 7531
Turkey
Beauveria bassiana 8339 8340 8343
8349 8354 8355 8431 8444 8661
8663 8664 8666 8667 8670 8672
8673 8674
Beauveria sp. 8675 8439 8441 8442
8449
Isaria fumosorosea 8333 8337 8345
8348 8448
Metarhizium anisopliae sensu lato
8334 8335 8336 8338 8341 8342
8344 8346 8347 8350 8351 8352
8353 8432 8433 8434 8435 8436
8437 8438 8440 8443 8445 8446
8447 8450 8451 8452 8453 8454
8660 8662 8665 8669
Metarhizium brunneum 8671
United Kingdom
Beauveria bassiana 6556
Metarhizium anisopliae sensu lato
6558
USA, California
Beauveria bassiana 6147 6148
USA, Montana
Beauveria bassiana 6931 6932 6933
6934 6935 6936 6937 6938 6939

6940 6941 6943 6949 6950 6951
6952 6953
USA, California
 Beauveria bassiana 7060
USA, Oregon
 Beauveria bassiana 7356 7357 7358
 7359 7360 7361 7362 7364 7365
 7366 7367
USA, Alaska
 Beauveria bassiana 7955 7956 7957
 7958 7959 7963 7964 7965 7966
 7968
USA
 Beauveria bassiana 11613
USA, Washington
 Beauveria sp. 5078
USA, Alaska
 Beauveria sp. 7960
USA, Missouri
 Beauveria sp. 12456 12457 12458
 12459
USA, Alaska
 Isaria farinosa 7961 7962
USA, North Carolina
 Isaria farinosa 8770
USA, Maine
 Isaria fumosorosea 9380
USA, Arizona
 Metarhizium anisopliae sensu lato
 7847
USA, Alaska
 Metarhizium anisopliae sensu lato
 7967
USA, North Carolina
 Metarhizium anisopliae sensu lato
 8769
USA, Washington
 Metarhizium sp. 4997
USA, Oregon
 Metarhizium sp. 4998
USA, Washington
 Metarhizium sp. 4999
USA, Oregon
 Metarhizium sp. 5000
USA, Washington
 Metarhizium sp. 5001
USA, Oregon
 Metarhizium sp. 5076 5077
USA, Washington
 Metarhizium sp. 5079
USA, Missouri
 Metarhizium sp. 12452 12453 12454
 12455
USA, North Carolina
 Scopulariopsis brevicaulis 9943
USA, Oregon
 Unidentified / *Hyphomycetes*
 5199
Gymnancyla canella
 France
 Beauveria bassiana 6796
Ostrinia nubilalis
 France
 Isaria fumosorosea 3983
 Metarhizium anisopliae sensu
 stricto 1489

Italy
 Beauveria bassiana 1121
PR China
 Beauveria bassiana 501 502 533 652
USA, New York
 Beauveria bassiana 1038
 Lecanicillium muscarium 900
USA, Pennsylvania
 Beauveria bassiana 2976
Pyrausta machaeralis
 India
 Metarhizium globosum 2596
Scirpophaga excerptalis
 India
 Fusarium sacchari 2141
Terastia meticulosalis
 Brazil
 Beauveria bassiana 1836

Lepidoptera: Riordinidae

Euselasia sp.
 Brazil, Rio Grande do Sul
 Unidentified sp. 3467 3468

Lepidoptera: Saturniidae

Costa Rica
 Beauveria bassiana 843
Dryocampa rubicunda
 Canada, Ontario
 Entomophaga aulicae 2897
Opodiphthera eucalypti
 Australia
 Beauveria bassiana 8843
Schirius sp.
 Brazil, Paraná
 Beauveria bassiana 2962

Lepidoptera: Sesiidae

South Africa
 Gliocladium sp. 6632
Conopia myopaeformis
 Italy
 Isaria farinosa 1108
Monopetalotaxis doleriformis
 South Africa
 Beauveria bassiana 6974 6975 6976
 6977 6981
 Beauveria pseudobassiana 6971

Lepidoptera: Sphingidae

USA, Maine
 Entomophaga aulicae 118
Eumorphia fasciata
 USA, Florida
 Entomophaga aulicae 4796

Lepidoptera: Stenomatinae

Stenoma decora
 Brazil, Bahia
 Beauveria bassiana 1479

Lepidoptera: Thaumetopoeidae

Thaumetopoea pityocampa
 Turkey
 Beauveria bassiana 8356

Lepidoptera: Tineidae: Archolophinae

USA, Tennessee
 Cordyceps cardinalis 7192 7193

Lepidoptera: Tortricidae

USA, Massachusetts
 Beauveria bassiana 5169
Acleris variana
 USA, Maine
 Zoophthora radicans 90
Adoxophyes orana
 Japan
 Lecanicillium muscarium 994
Choristoneura sp.
 Canada, British Columbia
 Beauveria bassiana 1850
Choristoneura fumiferana
 Canada, New Brunswick
 Tolypocladium inflatum 3321 3397
 Canada, Newfoundland
 Entomophaga aulicae 2896 2898
 Canada, Ontario
 Entomophaga aulicae 1992 1993
 1994 1995 1997 1998 2901
 Zoophthora radicans 407
 Location not specified
 Zoophthora radicans 35
USA, Maine
 Conidiobolus sp. 92 93 94 147 148
 Entomophaga aulicae 51 53 95 164
 165 166 167 168 169 170 171 172
 Hirsutella gigantea 31 140
 Hirsutella longicolla var. *cornuta*
 177 178
 Zoophthora radicans 21 43 44 45 46
 47 48 49 50 52 88 91 141 142 143
 144 145 146 163 221 222 223 224
 225 226 227 228 229 230 231 232
 233 234 235
Cydia pomonella
 Beauveria bassiana 7969
Australia
 Lecanicillium muscarium(?) 1032
Bulgaria
 Beauveria bassiana 6187 6194 6195
 6208 6209
 Beauveria pseudobassiana 6181
 Isaria farinosa 6207
 Isaria fumosorosea 6192
Canada, Québec
 Lecanicillium muscarium 6591
France
 Beauveria bassiana 151 3972 3973
 3974 3975 3977 3978 3979 5063
 5064 5065 5066 5067 5068 5228
 5229 5230 5231 5232 5233 5234
 5235 5886 5887 5888 6182 6184
 6186 6189 6191 6196 6201
 Beauveria pseudobassiana 6185
 Fusarium sp. 3976
 Isaria farinosa 5883 5884 5885 6200
 6202
 Isaria fumosorosea 6203 6204
 Paecilomyces sp. 6193 6198
Italy
 Beauveria bassiana 1122

<i>Lecanicillium lecanii</i> (?)	1109
Portugal	
<i>Beauveria pseudobassiana</i>	3220
Republic of Georgia	
<i>Beauveria</i> sp.	6533 6534 6535 6536
	6537
United Kingdom	
<i>Isaria farinosa</i>	975
<i>Eana argentana</i>	
Japan	
<i>Erynia</i> sp.	1143
<i>Epinotia aporema</i>	
Argentina	
<i>Zoophthora radicans</i>	5814
Uruguay	
<i>Conidiobolus coronatus</i>	4797
<i>Zoophthora radicans</i>	4781 4782
	4784 4785
<i>Epiphyas postvittana</i>	
New Zealand	
<i>Paecilomyces</i> sp.	309
USA, California	
<i>Fusarium</i> sp.	10470
<i>Hedya nubiferana</i>	
France	
<i>Beauveria bassiana</i>	6199
<i>Laspeyresia medicagicus</i>	
France	
<i>Isaria farinosa</i>	1225
<i>Lobesia botrana</i>	
Italy	
<i>Beauveria bassiana</i>	1107 1110
<i>Isaria farinosa</i>	1111
<i>Metarhizium brunneum</i>	1112
<i>Merophyas divulsana</i>	
Australia	
<i>Zoophthora radicans</i>	1082
<i>Ptycholoma aeriferana</i>	
Japan	
<i>Zoophthora radicans</i>	1674 1675
<i>Rhyacionia frustrana</i>	
USA, Georgia	
<i>Beauveria bassiana</i>	5573
<i>Tortrix viridana</i>	
France	
<i>Zoophthora radicans</i>	68
Russian Federation	
<i>Lecanicillium</i> sp.	9458
Lepidoptera: Yponomeutidae	
<i>Yponomeuta</i> sp.	
France	
Unidentified sp.	3998
<i>Yponomeutidae</i> sp.	
France	
<i>Beauveria bassiana</i>	3966 3967 3968
	3969 3970 3971
<i>Beauveria pseudobassiana</i>	3965
Unidentified sp.	3964

Geographical Origin

Argentina

Buenos Aires
Aspergillus sp. 5205
Metarhizium rileyi 5206 5207 5208
 5209 5210 5211 5212 6877 7052 7053
 7054 7055 7056 7149 7479 7480 7481
 7482 7778
Zoophthora radicans 5814 6917
 Santa Fe
Beauveria bassiana 5500 5502
Metarhizium rileyi 7150 7151 7484
 7779 7780
 Santiago del Estero
Metarhizium rileyi 2465 7148
 Tucumán
Metarhizium rileyi 2013 2466

Australia

Lecanicillium muscarium(?) 1032
 Australian Capital Territory
Metarhizium anisopliae sensu stricto
 8560
 New South Wales
Aspergillus flavus 4126
Aspergillus tamarii 4127
Beauveria bassiana 4589 4607 8493
 8843
Metarhizium anisopliae sensu lato
 7820 7821 7822 7823
Penicillium sp. 4263
 Queensland
Beauveria bassiana 326 8066 8891
Isaria fumosorosea 6799 6800
Metarhizium rileyi 323 358 380
Paecilomyces sp. 327
Pandora bluncii 3075
Zoophthora radicans 1082
 South Australia
Beauveria pseudobassiana 4273
 Tasmania
Beauveria bassiana 4258 4672
Metarhizium anisopliae sensu lato
 4234
Microhilum oncoperae 4358 4767 4768
 4769 4770 4771

Austria

Metarhizium brunneum 1095

Benin

Beauveria bassiana 5649 5653
 Atakora
Beauveria bassiana 5654 5655
 Atlantique
Beauveria bassiana 5645
Beauveria bassiana(?) 5644
Fusarium sp. 5881
 Borgou
Beauveria bassiana 5646 5647 5648
 Ouémé
Purpureocillium lilacinum 6183 6197

Brazil

Acremonium roseum 1964
Beauveria bassiana 1832 1834 1836
 3858
Isaria tenuipes 4096
Metarhizium rileyi 4094
 Bahia
Beauveria bassiana 1479
Metarhizium rileyi 1972
 Ceará
Beauveria bassiana 2637
 Distrito Federal
Metarhizium pingshaense 552
 Goiás
Conidiobolus coronatus 1884
Erynia sp. 1241
Metarhizium rileyi 740 935 936
 Unidentified sp. 2190
 Mato Grosso
Isaria tenuipes 3939
 Pará
Beauveria bassiana 2619
Evlachovaea sp. 2613 2614 2615
Metarhizium rileyi 1950
Paecilomyces sp. 2616 2617 2618
 Paraná
Beauveria bassiana 2962 3937
Evlachovaea sp. 959
Isaria farinosa 1065
Isaria tenuipes 3938
Metarhizium anisopliae sensu lato
 1059
Metarhizium robertsii 1057
Metarhizium rileyi 3940 6731 6732
 6734 6735 6736 6737 6738 6739 6740
 6741 6742 6743 6744 6745 6746 6747
 6748 6749 6764 6765 6766 6767 6768
 6769 6770 6771 6772 6773 6774 6775
 6776 6777 6778 6779 6780 6781 6782
 6783 6784 6785 6786 6787 6784 6788
 6879
Purpureocillium lilacinum 1058
 Pernambuco
Beauveria bassiana 1484 2629 3020
Beauveria brongniartii 1481 1829
 Rio Grande do Sul
Fusarium sp. 5219
Metarhizium rileyi 2201 2202 2203
 2204 2205 2206 2207
 Unidentified sp. 3467 3468
 São Paulo
Beauveria bassiana 2633 6514
Beauveria brongniartii 1482 1830
Metarhizium rileyi 6875
 Sergipe
Evlachovaea sp. 2620

Bulgaria

Beauveria bassiana 6187 6194 6195
 6208 6209
Beauveria pseudobassiana 6181
Isaria farinosa 6207
Isaria fumosorosea 6192

Canada

Furia gastropachae 2906
Hirsutella sp. 2581
Metarhizium guizhouense 2140
 Alberta
Isaria farinosa 5368
Metarhizium anisopliae sensu lato
 8212
 British Columbia
Beauveria bassiana 1850
Entomophaga aulicae 1990 2000
Paecilomyces sp. 7995 8001
 New Brunswick
Tolypocladium inflatum 3321 3397
 Newfoundland
Entomophaga aulicae 1991 2896 2898
 2900
Zoophthora radicans 72
 Ontario
Beauveria bassiana 2267
Entomophaga aulicae 1992 1993 1994
 1995 1996 1997 1998 1999 2897 2899
 2901 2902 2903 2904 2905
Entomophaga maimaiga 3911 3912
 3913
Furia gastropachae 5869 5870 5871
 5872
Metarhizium anisopliae sensu lato
 8680 8681 8682 8683 8684 8685 8686
 8687 8688 8689 8690 8691 8692
Zoophthora radicans 407
 Québec
Lecanicillium muscarium 6591

Colombia

Beauveria sp. 590
Metarhizium anisopliae sensu stricto
 587
 Caldas
Isaria tenuipes 6788
 Cesar
Purpureocillium lilacinum 5805
 Meta
Evlachovaea sp. 2297

Commonwealth of Independent States

Beauveria bassiana 155

Costa Rica

Beauveria bassiana 843

Denmark

Tolypocladium cylindrosporum 2777
 2778
 Jutland
Isaria farinosa 7118
 Zealand
Beauveria bassiana 8032 8033 8035
Beauveria brongniartii 8034
Isaria farinosa 4010

Ecuador

Beauveria sp. 2998

France

Beauveria bassiana 151 1314 1315
1316 1512 1513 6182 6184 6186 6189
6191 6196 6199 6205
Beauveria pseudobassiana 6185
Isaria fumosorosea 6206
Metarhizium anisopliae sensu stricto
1489
Alsace
Unidentified / Hyphomycetes 4899
4900 5236
Béarn
Isaria fumosorosea 3983
Corsica
Scopulariopsis sp. 2255
Essonne
Zoophthora radicans 68
Gard
Beauveria bassiana 3972 3973 3974
3975 3977 3978 3979 5886 5887 5888
6201 6796
Fusarium sp. 3976
Isaria farinosa 5883 5884 5885 6200
6202
Isaria fumosorosea 6203 6204
Paecilomyces sp. 6193 6198
Hérault
Beauveria bassiana 3286 5228 5229
5230 5231 5232 5233 5234 5235
Ile de France
Isaria fumosorosea 3982 3984 3985
3986 3988 3989
Isaria javanica 3981
Port d' Hérault
Beauveria bassiana 5063 5064 5065
5066 5067 5068
Provence
Isaria fumosorosea 3987
S/Céze
Beauveria bassiana 3966 3967 3968
3969 3970 3971
Beauveria pseudobassiana 3965
Unidentified sp. 3964 3998
Vienne
Isaria farinosa 1225
Yvelines
Beauveria bassiana 2253 2254

Germany

Hesse
Pandora blunckii 217

Greenland

Disko Island
Beauveria bassiana 8039 8040

Hungary

Beauveria bassiana 1627 1628 1629

India

Beauveria bassiana 2417 2597
Fusarium brachygibbosum 2595
Fusarium sacchari 2418
Metarhizium globosum 2596
Metarhizium rileyi 2413 6867
Penicillium sp. 2419
Andhra Pradesh
Beauveria bassiana 6643 6644 6646
6647 6648 6650
Fusarium proliferatum 6649
Metarhizium rileyi 6645
Unidentified / Hyphomycetes 5333
5334
Tamil Nadu
Beauveria sp. 1886
Fusarium sacchari 2141 2142
Metarhizium anisopliae sensu stricto
10473

Indonesia

Jawa Barat, Java
Metarhizium anisopliae sensu lato
2424
Zoophthora radicans 2410 2411
Jawa Tengah, Java
Metarhizium rileyi 2345 2390

Iran

Beauveria bassiana 6905
Tehran
Beauveria bassiana 6904

Italy

Beauveria bassiana 1105
Lecanicillium muscarium 973 1102
Emilia-Romagna
Beauveria bassiana 1103 1104 1107
1110 1113 1114 1115 1117 1118 1122
1558 1564
Beauveria pseudobassiana 1565
Isaria farinosa 1108 1111
Isaria fumosorosea 1568 1569 1577
1578 1579
Lecanicillium lecanii(?) 1109
Metarhizium brunneum 1112 1116
Venetia
Beauveria bassiana 1121

Japan

Beauveria bassiana 302 303 304 305
Cordyceps militaris 2416
Chiba Prefecture
Entomophaga aulicae 2373 2374
Entomophaga maimaiga 2370 2371
6212 6224 6253 6254 6255 6256 6257
6264 6267
Hiroshima Prefecture
Entomophaga maimaiga 7185 7186
7187 7188 7189
Hokkaido Prefecture
Entomophaga aulicae 2362 2363 2364
2365 2366 2367 2368 2369
Erynia sp. 1143
Zoophthora radicans 1674 1675
Honshu Prefecture
Unidentified sp. 71

Ibaraki Prefecture

Entomophaga aulicae 1140 1141 1142
1655 1656 1657 1751 2372
Entomophaga maimaiga 6171 6172
6258 6265 6266 6268
Furia neopyralidarum 1145
Ishikawa Prefecture
Beauveria bassiana 1677
Entomophaga maimaiga 1390 1391
1392 1400 1658

Iwate Prefecture

Entomophaga maimaiga 7104 7105
7112 7113 7114 7116
Isaria farinosa 1042

Saitama Prefecture

Basidiobolus ranarum 1139
Isaria fumosorosea 989
Lecanicillium muscarium 994

Tokyo Prefecture

Aspergillus flavus 1003 1010
Beauveria bassiana 987 1001 1007
Beauveria sp. 1040
Entomophaga aulicae 198 998 1049
Erynia sp. 983
Hirsutella satumaensis 996
Isaria fumosorosea 1005
Metarhizium brunneum 988
Metarhizium majus 1015
Metarhizium rileyi 1014 1047
Paecilomyces canadensis 990
Purpureocillium lilacinum 986
Paecilomyces sp. 1008
Pandora blunckii 1000 1135
Pandora delphacis 1265
Verticillium lecanii 991
Zoophthora radicans 1048

Laboratory manipulation

Metarhizium anisopliae sensu lato
1094

Malaysia

Metarhizium anisopliae sensu lato
8735
Metarhizium majus 8736
Unidentified sp. 4216
Zoophthora radicans 1100

Mexico

Beauveria bassiana 3288
Beauveria sp. 3289
Metarhizium anisopliae sensu lato
3290 3291 3292 3293
Metarhizium brunneum 3294
Metarhizium rileyi 3301
Polycephalomyces ramosus 7095
Unidentified sp. 3298 3299
Fusarium verticillioides 3300
Baja California
Isaria fumosorosea 3302
Coahuila
Metarhizium rileyi 11939 11941 11942
11943 13508
Zoophthora radicans 6003
Colima
Cylindrocarpon sp. 8043 8044
Unidentified sp. 3803 3804

Geographical Origin

Mexico
Republic of Georgia

Durango <i>Beauveria bassiana</i> 2857 <i>Isaria farinosa</i> 2822	Sogn og Fjordane <i>Beauveria bassiana</i> 7552 7553 7554 <i>Beauveria brongniartii</i> 7555 7556 7557 7558 7559 7560 7561 <i>Beauveria</i> sp. 7562 7563 7564 7565 7566 7567 <i>Isaria farinosa</i> 7574 7575 7576 11656 <i>Isaria fumosorosea</i> 11657 11658 11659 <i>Lecanicillium muscarium</i> 7568 <i>Metarhizium anisopliae</i> sensu lato 7014 7015 7016 7017 7018 7019 7020 7021 7022 7023 7024 7025 7026 7569 7570 7571 7572 7573	Poland <i>Hirsutella subulata</i> 2227 Unidentified sp. 1415 1417 <i>Zoophthora radicans</i> 1341 1342 1343 1344 1345 1346
Guanajuato State <i>Pandora blunckii</i> 6293 6294 6295 6296 6297 6298 6299 6300 6301 6302 6304 6305 6306 6307 6308 6309 6310 6311 6312 6316 <i>Zoophthora radicans</i> 6303 6313 6314 6315	Telemark <i>Metarhizium anisopliae</i> sensu lato 11661	Portugal <i>Beauveria pseudobassiana</i> 3220
Tabasco <i>Isaria tenuipes</i> 6889 <i>Metarhizium anisopliae</i> sensu lato 7612 7613 7614 7615	Troms <i>Beauveria pseudobassiana</i> 5557	Azores <i>Metarhizium anisopliae</i> sensu lato 4904 4905 4906 <i>Metarhizium robertsii</i> 4903
Tamaulipas <i>Isaria tenuipes</i> 2488 2489 2490 2491 <i>Metarhizium brunneum</i> 3295 <i>Metarhizium rileyi</i> 2492	Philippines Abra <i>Metarhizium rileyi</i> 1762	PR China <i>Beauveria bassiana</i> 501 502 533 652 <i>Hirsutella sinensis</i> 6282 <i>Paecilomyces sinensis</i> 6284 6285 <i>Sporothrix insectorum</i> 6286
Mozambique <i>Fusarium sacchari</i> 7045 7046	Benguet <i>Aspergillus flavus</i> 2818 <i>Aspergillus</i> sp. 2765 2817 2820 2823 2827 <i>Backusella</i> sp. 2750 <i>Beauveria bassiana</i> 2727 2728 2729 2737 <i>Beniowskia</i> sp. 2751 <i>Conidiobolus coronatus</i> 2730 <i>Conidiobolus firmipilleus</i> 2731 <i>Conidiobolus</i> sp. 2771 2772 2815 2816 3208 <i>Fusarium proliferatum</i> 2776 <i>Fusarium</i> sp. 2736 <i>Geotrichum</i> sp. 2752 <i>Hirsutella</i> sp. 2753 <i>Isaria fumosorosea</i> 2734 2749 <i>Mixed Culture</i> sp. 2738 <i>Metarhizium pingshaense</i> 2735 <i>Pandora blunckii</i> 2824 3200 3202 <i>Pandora</i> sp. 3201 <i>Scopulariopsis</i> sp. 3203 Unidentified sp. 2821 2826 <i>Zoophthora radicans</i> 2732 2893 3204 3205 3206	Anhui <i>Beauveria amorphia</i> 6227 <i>Beauveria bassiana</i> 6233 <i>Cordyceps bassiana</i> 7047 <i>Cordyceps militaris</i> 6248 <i>Isaria cateniannullata</i> 6240 6242 <i>Isaria tenuipes</i> 6249 <i>Metarhizium guizhouense</i> 6238 <i>Metarhizium rileyi</i> 6239
Nepal <i>Beauveria bassiana</i> 7274	Leyte <i>Metarhizium rileyi</i> 2174	Guizhou Province <i>Beauveria bassiana</i> 11708 11716 11717 11719 <i>Beauveria brongniartii</i> 9599 <i>Beauveria</i> sp. 9596 9597 11709 <i>Cordyceps militaris</i> 11703 <i>Cordyceps pruinosa</i> 11724 <i>Hirsutella liboensis</i> 9603 <i>Isaria cateniannullata</i> 9601 <i>Isaria cicadae</i> 11726 <i>Isaria tenuipes</i> 11705 11706 11707 <i>Marianmaea pruinosa</i> 5413
New Zealand <i>Paecilomyces</i> sp. 309	Manila 1702 <i>Beauveria bassiana</i> 2041 2349 <i>Isaria farinosa</i> 2344 <i>Metarhizium rileyi</i> 481 482 483 1761 2395 <i>Penicillium</i> sp. 2386 Unidentified sp. 1700 1701 1703 <i>Zoophthora radicans</i> 1699	Heilongjiang <i>Entomophaga maimaiga</i> 7139 7183 7184
North Island <i>Metarhizium brunneum</i> 1187	Mindanao <i>Metarhizium rileyi</i> 1756 1757 1758 1759 1760	Sichuan Province <i>Cordyceps pruinosa</i> 11723 <i>Isaria cateniannullata</i> 11722
South Island <i>Metarhizium brunneum</i> 4681 <i>Metarhizium novozealandicum</i> 3064 8214		Yunnan <i>Isaria farinosa</i> 6245
Nicaragua Carazo <i>Beauveria bassiana</i> 6801 6802 6803 6804 6805 6806 6807 6808 6809		Yunnan Province <i>Cordyceps militaris</i> 11704 <i>Isaria farinosa</i> 11721 <i>Simplicillium lamellicola</i> (?) 11725
Masaya <i>Purpureocillium lilacinum</i> 8311 8312		Zhijiang <i>Beauveria bassiana</i> 718 <i>Isaria fumosorosea</i> 720 <i>Isaria javanica</i> 704 <i>Metarhizium guizhouense</i> 703 <i>Metarhizium rileyi</i> 711
Norway <i>Metarhizium brunneum</i> 6474 <i>Metarhizium robertsii</i> 6476		
Akershus <i>Beauveria pseudobassiana</i> 5370		
Buskerud <i>Metarhizium anisopliae</i> sensu lato 6475		
Finnmark <i>Aspergillus flavus</i> (?) 5503 5504		
Nord Trøndelag <i>Aspergillus flavus</i> (?) 5506 5507 5508 5509 <i>Beauveria bassiana</i> 5510 <i>Metarhizium anisopliae</i> sensu lato 5518 5519 5521 <i>Trichoderma</i> sp. 5523 5524		
Nordland <i>Aspergillus flavus</i> (?) 5505 <i>Fusarium merismoides</i> 5512 <i>Fusarium</i> sp. 5560 <i>Metarhizium anisopliae</i> sensu lato 5513 5514 5515 5516 5517		
Rogaland <i>Metarhizium anisopliae</i> sensu lato 5554 5555 5556		

Republic of Korea
USA

Geographical Origin

Republic of Korea

Beauveria bassiana 12822
Cordyceps militaris 4845

Kangwon-do

Cordyceps isarioides 5688

Yeongnam Region

Beauveria bassiana 11715

Romania

Isaria fumosorosea 5874

Metarhizium robertsii 5873

Rumania

Munteniae

Beauveria pseudobassiana 299

Russian Federation

Irkutsk Region

Beauveria bassiana 7593

Karachayevo-Cherkessiya Republ

Beauveria sp. 7579

Isaria farinosa 7723

Khabarovsk

Entomophaga maimaiga 7127

Krasnodarsky Krai

Beauveria sp. 7587

Clonostachys rosea 9493

Cordyceps sp. 9486

Isaria farinosa 7733

Isaria fumosorosea 9520

Isaria tenuipes 7790 9531 9532

Metarhizium anisopliae sensu lato
9541

Paecilomyces sp. 7756

Moscow Region

Cordyceps militaris 9484

Isaria farinosa 9515

Lecanicillium sp. 9458

Metarhizium rileyi 9489

Novosibirsk Region

Sporothrix insectorum 9501

Primorsky Krai

Beauveria bassiana 7585 9445

Beauveria sp. 7586 7594 7598

Cordyceps militaris 7809 7810

Cordyceps pruinosa 7221

Cordyceps sp. 7808 7811

Isaria farinosa 7714 7720 7722 7724

7725 7726 7730 7731 7736 7737

Isaria fumosorosea 7743

Lecanicillium muscarium 7738 9468

9469 9477

Lecanicillium sp. 7624 7625 7626 7627

7628 7629 7632

Metarhizium rileyi 9490

Nomuraea sp. 7851

Paecilomyces sp. 7721 7741 7742

Sakhalin Region

Evlachovaea sp. 7600 7601

Lecanicillium muscarium 7621

Senegal

Fusarium nygamai 2316

Solomon Islands

Guadalcanal

Metarhizium rileyi 1879 1893

South Africa

Cladosporium sp. 6226

Fusarium sp. 6102

Cape Province

Beauveria bassiana 6973 6974 6975

6976 6977 6981 6984

Beauveria pseudobassiana 6971

Gliocladium sp. 6632

Free State

Beauveria bassiana 5704

Beauveria pseudobassiana 6972

Evlachovaea sp. 5703

Spain

Beauveria bassiana 1149 1166 1788

Switzerland

Entomophaga sp. 393

Furia virescens 427 470 1127 1128

1129

Zoopthora radicans 404

Bern

Isaria farinosa 7531

Thailand

Beauveria bassiana 537

Metarhizium rileyi 539 540

Turkey

Beauveria bassiana 12165

Beauveria sp. 12168 12169

Isaria cateniannulata 12167

Isaria cateniannulata(?) 12166

Isaria fumosorosea 12172 12173 12174

12175 12177

Unidentified / Hyphomycetes 12163

12164 12170 12171 12176 12178

12179 12180 12181

Artvin

Beauveria bassiana 8349 8354

Isaria fumosorosea 8348

Metarhizium anisopliae sensu lato

8347 8350 8351 8352 8353

Bayburt

Beauveria bassiana 8673 8674

Metarhizium anisopliae sensu lato

8665 8669

Erzurum

Beauveria bassiana 8664 8666

Gaziantep

Beauveria sp. 5832

Giresun

Evlachovaea sp. 8439

Isaria fumosorosea 8345

Metarhizium anisopliae sensu lato

8443

Gümüşhane

Beauveria bassiana 8661 8663 8667

8670 8672

Beauveria sp. 8675

Metarhizium anisopliae sensu lato

8662

Metarhizium brunneum 8671

Kahraman Maras

Lecanicillium psalliotae 5685

Ordu

Beauveria bassiana 8340 8343 8431

8444

Evlachovaea sp. 8441 8442 8449

Metarhizium anisopliae sensu lato

8344 8437 8438 8440 8445

Ordu Province

Metarhizium anisopliae sensu lato

8342

Rize

Beauveria bassiana 8355

Isaria fumosorosea 8337 8448

Metarhizium anisopliae sensu lato

8334 8335 8336 8338 8432 8433 8434

8435 8447 8452 8453 8660

Samsun

Metarhizium anisopliae sensu lato

8341

Samsun Province

Beauveria bassiana 8356

Trabzon

Beauveria bassiana 8339

Isaria fumosorosea 8333

Metarhizium anisopliae sensu lato

8346 8436 8446 8450 8451 8454

Ukraine

Isaria tenuipes 9534

Autonomous Republic of Crimea

Unidentified / Hyphomycetes 9540

Kherson Oblast

Evlachovaea sp. 7599

Isaria farinosa 7734

United Kingdom

Beauveria bassiana 6556 6557

Metarhizium anisopliae sensu lato

6558

England

Isaria farinosa 975 981

Scotland

Batkoa sp. 6179

Beauveria bassiana 6100 6101 6177

6178

Uruguay

Conidiobolus coronatus 4797

Zoopthora radicans 4781 4782 4783

4784 4785

USA

Beauveria bassiana 11613 11614

11615 11616 11617

Metarhizium anisopliae sensu lato

11637

Alabama

Erynia sp. 2027

Alaska

Beauveria bassiana 7955 7956 7957

7958 7959 7963 7964 7965 7966 7968

Beauveria sp. 7960

Isaria farinosa 7961 7962

Metarhizium anisopliae sensu lato

7967

Sporothrix insectorum 7924

Arizona

Metarhizium anisopliae sensu lato

7847

California

Beauveria bassiana 6147 6148 7060

<i>Entomophaga aulicae</i> 4004 4005 4006 4007 4008	Mississippi	<i>Beauveria pseudobassiana</i> 13260 13261 13262 13263
<i>Fusarium</i> sp. 10470	<i>Metarhizium rileyi</i> 135	<i>Filobasidiella arachnophila</i> 2058
Connecticut	Missouri	<i>Fusarium avenaceum</i> 2060
<i>Entomophaga maimaiga</i> 2774 2775	<i>Beauveria</i> sp. 12456 12457 12458 12459	<i>Fusarium merismoides</i> 2059
Delaware	<i>Metarhizium</i> sp. 12452 12453 12454 12455	<i>Humicola</i> sp. 2069
<i>Beauveria bassiana</i> 2570 2571 2572 2573	<i>Metarhizium rileyi</i> 762	<i>Isaria farinosa</i> 2057 5996 13274
Florida	Montana	<i>Isaria fumosorosea</i> 13273
<i>Beauveria bassiana</i> 5988	<i>Beauveria bassiana</i> 6931 6932 6933 6934 6935 6936 6937 6938 6939 6940 6941 6943 6949 6950 6951 6952 6953	<i>Lecanicillium muscarium</i> 2065 2066 13272
<i>Entomophaga aulicae</i> 4796	New Hampshire	<i>Mortierella clausenii</i> 2062
<i>Metarhizium anisopliae</i> sensu stricto 1080	<i>Entomophaga maimaiga</i> 2780	<i>Mortierella histoplasmatoides</i> 2063
<i>Metarhizium rileyi</i> 6866 6868 6869 6870 6871 6872 6873 6876 6881 6882	New York	<i>Mortierella hyalina</i> 2061
Georgia	<i>Batkoa</i> sp. 7370	<i>Metarhizium</i> sp. 4998 5000 5076 5077 13264 13265 13266 13267 13268 13269 13270 13271 13275 13276
<i>Beauveria bassiana</i> 5573	<i>Beauveria bassiana</i> 1038 4525 4526 4527 4528 4529 4530 4531 4532 4533 4534 4535 4536 4537 4538 4539 4540 4541 4542 4543 6150 6151 6152 6153	<i>Penicillium thomii</i> 2056
<i>Entomophaga aulicae</i> 251	<i>Cordyceps militaris</i> 4081 4082 4083 4084 4085 4086 4087 4088 4089 4838 4839 4840 4841 4842 5002 5003 5004 5005 5006 5007 5008 5009 5010 5011 5012 5013 5014 5015 5016 5017 5018 5019 5020 5021 5022 5023 5024 5025 5026 5027 5028 5029 5030 5031 5032 5033 5034 5035 5036 5037 5038 5039 5040 5041 5042 5043 5044 5045 5046 5047 5048 5049 5050 5051 5052 5053 5054 5055 5056 5057 5058 5059 5060 5061 5062	<i>Phialophora malorum</i> 2072
Hawai'i	<i>Entomophaga aulicae</i> 3016 3039 3212 3602	<i>Phoma cava</i> 2071
<i>Beauveria bassiana</i> 8709	<i>Entomophaga maimaiga</i> 3052 3053 3828 3829 3830 3831 3832 3833 3834 3835 4508 4509 4510 4549 4550 4551 5391 5392 5393 5394 5395 5396 5397 5398 5399 5400 5401 6625	<i>Pochonia suchlasporia</i> var. <i>catenata</i> 2064
Kentucky	<i>Fusarium polyphialidicum</i> 3692 3693 5351	Sterile mycelium 2073
<i>Isaria farinosa</i> 2269	<i>Furia gastropachae</i> 5541 5542 5543 5544 5547	<i>Trichothecium roseum</i> 2055
Maine	<i>Furia pieris</i> 781	Unidentified / Hyphomycetes 5199
<i>Conidiobolus</i> sp. 92 93 94 147 148	<i>Isaria farinosa</i> 648 697 2564 3017 3152 3595 3596 3597 3598 3599 4090	Pennsylvania
<i>Entomophaga aulicae</i> 51 53 95 118 164 165 166 167 168 169 170 171 172 7140 7141 7142 7143 7144 7145	<i>Isaria tenuipes</i> 5134 5135	<i>Beauveria bassiana</i> 2976
<i>Hirsutella gigantea</i> 31 140	<i>Lecanicillium muscarium</i> 900 3600 3601	<i>Beauveria pseudobassiana</i> 3528
<i>Hirsutella longicollis</i> var. <i>cornuta</i> 177 178	<i>Metarhizium anisopliae</i> sensu lato 4521 4522 6167	<i>Cordyceps militaris</i> 8012
<i>Isaria fumosorosea</i> 9380	North Carolina	<i>Entomophaga maimaiga</i> 7120 7121 7122 7131 7132 7133 7134 7135 7136 7190 7352 7353
<i>Zoophthora radicans</i> 21 43 44 45 46 47 48 49 50 52 88 90 91 141 142 143 144 145 146 163 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235	<i>Isaria farinosa</i> 8770	<i>Fusarium polyphialidicum</i> 3916
Maryland	<i>Metarhizium anisopliae</i> sensu lato 8769	<i>Isaria farinosa</i> 20 3221 3491 3499 3500 3506 3523
<i>Aspergillus ochraceus</i> 2833	<i>Scopulariopsis brevicaulis</i> 9943	Tennessee
<i>Beauveria bassiana</i> 2831 3404 3530	Oregon	<i>Cordyceps cardinalis</i> 7192 7193
<i>Beauveria pseudobassiana</i> 3529	<i>Acremonium berkeleyanum</i> 2067	Texas
<i>Entomophaga maimaiga</i> 5377 5378 5379 5380 5381 5382 5383 5384 5385 5386 5387 5388 5389 5390	<i>Acrodontium crateriforme</i> 2070	<i>Aspergillus parasiticus</i> 5470
<i>Fusarium polyphialidicum</i> 3696	<i>Aphanocladium album</i> 2068	<i>Isaria fumosorosea</i> 5251 5252
<i>Furia gastropachae</i> 5545 5546	<i>Beauveria bassiana</i> 2054 7356 7357 7358 7359 7360 7361 7362 7364 7365 7366 7367	<i>Metarhizium anisopliae</i> sensu lato 5469
<i>Fusarium</i> sp. 3532	<i>Beauveria bassiana</i> sensu lato 13258 13259	<i>Metarhizium anisopliae</i> sensu stricto 5471
<i>Isaria farinosa</i> 2131 2835 3492 3498 3507 3524 3526 3666		<i>Trichoderma</i> sp. 5730
<i>Penicillium</i> sp. 2834 2836		Vermont
Massachusetts		<i>Beauveria bassiana</i> 5492
<i>Beauveria bassiana</i> 1 5169		<i>Entomophaga aulicae</i> 2843
<i>Entomophaga maimaiga</i> 2779 5564 6004 6005 6269 6270 6271 6272 7123 7124 7125 7126 7137 7138		<i>Furia gastropachae</i> 8926
<i>Fusarium polyphialidicum</i> 3694		<i>Isaria farinosa</i> 3537 3538 11829
<i>Isaria farinosa</i> 3		<i>Lecanicillium muscarium</i> 11802
Michigan		<i>Pandora</i> sp. 11764
<i>Entomophaga maimaiga</i> 6523 6524 6626 6627 6628 6629 6630 6652 6653 6654 6655 6656 6657 6663 6664 6665 6666 6667 6668 6724 6725 6726 6727 6728 6729 7101 7102 7103 7106 7107 7108 7109 7110 7111 7115		Unidentified sp. 3567 3568 3569
<i>Hirsutella nodulosa</i> 5473		Virginia

USA

Yugoslavia

Geographical Origin

West Virginia

Entomophaga maimaiga 6168

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3520 3521 3522 3525 3533

Lecanicillium muscarium 3531

Uzbekistan

Beauveria bassiana 6109

Yugoslavia

Serbia

Beauveria bassiana 503

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Andres.3 *Pandora blunckii* 6305
Andres.5 *Pandora blunckii* 6306
Andres.6 *Pandora blunckii* 6307
Andres.7 *Pandora blunckii* 6308
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Bujanos.3 *Pandora blunckii* 6310
Bujanos.4 *Pandora blunckii* 6311
Bujanos.5 *Pandora blunckii* 6312
Jav.1 *Pandora blunckii* 6293
Jav.10 *Pandora blunckii* 6300
Jav.11 *Pandora blunckii* 6301
Jav.12 *Pandora blunckii* 6302
Jav.13 *Zoophthora radicans* 6303
Jav.3 *Pandora blunckii* 6294
Jav.4 *Pandora blunckii* 6295
Jav.6 *Pandora blunckii* 6296
Jav.7 *Pandora blunckii* 6297
Jav.8 *Pandora blunckii* 6298
Jav.9 *Pandora blunckii* 6299
Mina.16 *Zoophthora radicans* 6315
Mina.19 *Pandora blunckii* 6316
Mina.2 *Zoophthora radicans* 6313
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Altire, Jennifer

BB5B#1 *Beauveria bassiana* 4540
BB5B#2 *Beauveria bassiana* 4541
BB5B#3 *Beauveria bassiana* 4542
BB5B#4 *Beauveria bassiana* 4543

Alves, Sergio Batista

196 *Beauveria bassiana* 1484
197 *Beauveria bassiana* 1832
210 *Beauveria brongniartii* 1482
210 *Beauveria brongniartii* 1830
246 *Beauveria bassiana* 1479
258 *Beauveria brongniartii* 1481
258 *Beauveria brongniartii* 1829
268 *Beauveria bassiana* 1834
309 *Beauveria bassiana* 1836
715 *Evlachovaea* sp. 2613
716 *Evlachovaea* sp. 2614
717 *Evlachovaea* sp. 2615
718 *Paecilomyces* sp. 2616
719 *Paecilomyces* sp. 2617
720 *Paecilomyces* sp. 2618
721 *Beauveria bassiana* 2619
758 *Evlachovaea* sp. 2620

Aoki, Joji

Asp. 11 *Aspergillus flavus* 1003
Asp. 26 *Aspergillus flavus* 1010
Beau. 1 *Beauveria bassiana* 987
Beau. 2 *Beauveria* sp. 1040
Beau. 3 *Beauveria bassiana* 1007
Beau. 5 *Beauveria bassiana* 1001
Cord. 1 *Isaria farinosa* 1042
Ent. 12 *Entomophaga aulicae* 1049
Ent. 14 *Entomophaga aulicae* 998
Ent. 18 *Erynia* sp. 983
Ent. 30 *Pandora blunckii* 1000
Ent. 7 *Pandora delphacis* 1265
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Hir. 1 *Hirsutella satumaensis* 996

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Nom. 1 *Paecilomyces* sp. 1008
Nom. 2 *Metarhizium rileyi* 1014
Nom. 3 *Metarhizium rileyi* 1047
Paec. 2 *Isaria fumosorosea* 1005
Paec. 3 *Isaria fumosorosea* 989
Paec. 5 *Purpureocillium lilacinum* 986
Paec. 7 *Paecilomyces canadensis* 990
Vert. 1 *Lecanicillium muscarium* 994

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?198 *Entomophaga aulicae* 998
?998 *Entomophaga aulicae* 198
1103 *Beauveria bassiana* 1558
1140 *Entomophaga aulicae* 1656
1142 (lost) *Entomophaga aulicae* 1655
1481 (lost) *Beauveria brongniartii* 1829
1482 (lost) *Beauveria brongniartii* 1830
1558 *Beauveria bassiana* 1103
1655 *Entomophaga aulicae* 1142
1656 *Entomophaga aulicae* 1140
1829 *Beauveria brongniartii* 1481
1830 *Beauveria brongniartii* 1482
2013 *Metarhizium rileyi* 2466
23 *Metarhizium anisopliae* sensu lato 1094
2345 *Metarhizium rileyi* 2390
2349 *Penicillium* sp. 2386
2375 (never frozen) *Isaria farinosa* 2344
2386 *Beauveria bassiana* 2349
2390 (never frozen) *Metarhizium rileyi* 2345
2466 *Metarhizium rileyi* 2013
3321 *Tolypocladium inflatum* 3397
3397 (deaccessioned) *Tolypocladium inflatum* 3321
3940 *Metarhizium rileyi* 6734

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24318 *Beauveria bassiana* 1
24319 *Isaria farinosa* 3
24493 *Zoophthora radicans* 72
34698 *Pandora blunckii* 217
64258 *Mortierella hyalina* 2061
64259 *Pochonia suchlasporia* var. *catenata* 2064
64864 *Mortierella clausenii* 2062
64865 *Acremonium berkeleyanum* 2067

Balazy, Stanislaw

1547b Unidentified sp. 1417
1550 Unidentified sp. 1415
1577/6 *Zoophthora radicans* 1341
1577/7 *Zoophthora radicans* 1342
1577/8 *Zoophthora radicans* 1343
1578/1 *Zoophthora radicans* 1344
1578/1-2 *Zoophthora radicans* 1346
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1809 *Hirsutella subulata* 2227

Baloch, Lori

C86 *Metarhizium rileyi* 2205

Barrion, G.

Nr-BS *Metarhizium rileyi* 1762

Bidochka, Michael J.

43A 2i *Metarhizium anisopliae* sensu lato 8680
56B 1iv *Metarhizium anisopliae* sensu lato 8681
FRB2 1iv *Metarhizium anisopliae* sensu lato 8682
GUB2 1iv *Metarhizium anisopliae* sensu lato 8683
HKB1 1b *Metarhizium anisopliae* sensu lato 8684
MAA1 2ii *Metarhizium anisopliae* sensu lato 8685
ORB1 1ii *Metarhizium anisopliae* sensu lato 8686
PHA1 2i *Metarhizium anisopliae* sensu lato 8687
ROA1 1b *Metarhizium anisopliae* sensu lato 8688
ROA2 2a *Metarhizium anisopliae* sensu lato 8689
SCB2 2i *Metarhizium anisopliae* sensu lato 8690
SHB1 2i *Metarhizium anisopliae* sensu lato 8691
TIB2 1iii *Metarhizium anisopliae* sensu lato 8692

Bissett, John

88M-143 *Tolypocladium inflatum* 3321
88M-143 *Tolypocladium inflatum* 3397

Booth, Steve R.

Cox Unidentified / *Hyphomycetes* 5199
Gant *Metarhizium* sp. 4998
Johnson *Metarhizium* sp. 5001
McMahon *Metarhizium* sp. 5077
O'Hagan *Metarhizium* sp. 5079
Quinby; BSP *Beauveria* sp. 5078
Quinby; MSP *Metarhizium* sp. 4999
Scherer *Metarhizium* sp. 5000
Waara *Metarhizium* sp. 4997
Warnock *Metarhizium* sp. 5076

Boucias, Drion G.

1795 *Metarhizium rileyi* 6867
31b *Metarhizium rileyi* 6871
33b *Metarhizium rileyi* 6881
5561 *Metarhizium rileyi* 6873
5762 *Metarhizium rileyi* 6866
5866 *Entomophaga aulicae* 4796
6009 *Metarhizium rileyi* 6868
6011 *Metarhizium rileyi* 6870
8b *Metarhizium rileyi* 6882
94-5a *Metarhizium rileyi* 6869
94-5c *Metarhizium rileyi* 6876
9b *Metarhizium rileyi* 6872
F178 *Metarhizium rileyi* 6874
Nr10 *Metarhizium rileyi* 6875
Nr24 *Metarhizium rileyi* 6878
Nr32 *Metarhizium rileyi* 6879
NrCH6 *Metarhizium rileyi* 6877

Bradley, Cliff

GMP1 *Beauveria bassiana* 2570
GMP2 *Beauveria bassiana* 2571

Brownbridge, Michael

B33 *Beauveria bassiana* 11613
CA 603 *Beauveria bassiana* 7060
HL-1.1 *Isaria farinosa* 3537
HL-2.3 *Isaria farinosa* 3538
HL-4 Unidentified sp. 3567
HL-5 Unidentified sp. 3568
HL-6 Unidentified sp. 3569
MLC1 Unidentified sp. 3794
MLC11 Unidentified sp. 3797
MLC2 *Beauveria bassiana* 11614
MLC3 *Beauveria bassiana* 11615
MLC4 *Beauveria bassiana* 11616
MLC8 *Beauveria bassiana* 5492
MLC9 Unidentified sp. 3796
MLC9 *Beauveria bassiana* 11617

Bruck, Denny J.

IP-238 *Beauveria bassiana* 7364
IP-241 *Beauveria bassiana* 7365
IP-270 *Beauveria bassiana* 7366
IP-310 *Beauveria bassiana* 7367
IP-36 *Beauveria bassiana* 7356
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IP-62 *Beauveria bassiana* 7358
IP-63 *Beauveria bassiana* 7359
IP-66 *Beauveria bassiana* 7360
IP-93 *Beauveria bassiana* 7361
IP-94 *Beauveria bassiana* 7362

Burjanadze, Medea

MB-092 *Beauveria* sp. 13748

Carroll, George C.

1(RSRO-120/284) *Aphanocladium album* 2068
2(HO-O-Hatch IV) *Fusarium avenaceum* 2060
3(RSRS-0/34) *Acremonium berkeleyanum* 2067
4(HO-O-Hatch VIII) *Lecanicillium muscarium* 2066
6(HO-O-Hatch VIII) *Lecanicillium muscarium* 2065
B *Fusarium merismoides* 2059
CH-O-66/201 Sterile mycelium 2073
E *Pochonia suchlasporia* var. *catenata* 2064
HO-O-Hatch VIII *Phoma cava* 2071
I *Mortierella clausenii* 2062
RSRS-0/62 *Mortierella hyalina* 2061
RSRS-24/68 *Phialophora malorum* 2072

CBS

111113 *Isaria farinosa* 7118
111238 *Beauveria bassiana* 1564
194.77 *Pandora blunckii* 217
607.80 *Beauveria* sp. 2998
789.85 *Pochonia suchlasporia* var. *catenata* 2064
790.85 *Mortierella clausenii* 2062

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006759 *Lecanicillium muscarium* 6591
DAOM 199924 *Tolypocladium inflatum* 3321
DAOM 199924 *Tolypocladium inflatum* 3397

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CG 134 Unidentified sp. 3467
CG 135 Unidentified sp. 3468
CG 166 *Beauveria bassiana* 2962
CG 86 *Beauveria bassiana* 3020

CEP

019 *Metarhizium rileyi* 7479
021 *Metarhizium rileyi* 7778
022 *Metarhizium rileyi* 7480
023 *Metarhizium rileyi* 7481
034 *Metarhizium rileyi* 7484
035 *Metarhizium rileyi* 7779
037 *Metarhizium rileyi* 7780
064 *Metarhizium rileyi* 7482

Chandler, David

HRI 367.93 *Beauveria bassiana* 6556
HRI 373.93 *Beauveria bassiana* 6557
HRI 378.93 *Metarhizium anisopliae* sensu lato 6558

CNPAP

268 *Beauveria bassiana* 2633
82-1-6-18 *Metarhizium rileyi* 740
83-01-06B (CB 15) *Evlachovaea* sp. 959
83-02-18-01 *Metarhizium rileyi* 936
83-2-17-01 *Metarhizium rileyi* 935
84-04-13-1C *Erynia* sp. 1241
85-06-14 *Metarhizium rileyi* 1950
85-7-24-5 *Metarhizium rileyi* 1972
85-7-30 *Acremonium roseum* 1964
86-3-10 Unidentified sp. 2190
88-6-22 *Beauveria bassiana* 2637
PI-196 *Beauveria bassiana* 2629

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26 *Isaria farinosa* 1065
30A *Metarhizium robertsii* 1057
30B *Purpureocillium lilacinum* 1058
39C *Metarhizium anisopliae* sensu lato 1059

Cortez Madrigal, Hipolito

MaA1 *Metarhizium anisopliae* sensu lato 7612
MaA2 *Metarhizium anisopliae* sensu lato 7613
MaA3 *Metarhizium anisopliae* sensu lato 7614
MaA4 *Metarhizium anisopliae* sensu lato 7615
Pm *Isaria tenuipes* 6889

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105 *Evlachovaea* sp. 959
12 *Metarhizium rileyi* 740
141 *Erynia* sp. 1241
173 *Conidiobolus coronatus* 1884
175 *Metarhizium rileyi* 1950
190 *Acremonium roseum* 1964
192 *Metarhizium rileyi* 1972
200 Unidentified sp. 2190
244 *Beauveria bassiana* 2629
249 *Beauveria bassiana* 2633
255 *Beauveria bassiana* 2637
74 *Metarhizium rileyi* 935
75 *Metarhizium rileyi* 936

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199 *Unidentified* 1702
EM532 *Zoophthora radicans* 72
EM569 *Zoophthora radicans* 88
EM685 *Pandora blunckii* 1135
EM690 *Entomophaga aulicae* 1657
EM693 *Entomophaga aulicae* 1142
EM693 *Entomophaga aulicae* 1655
EM694 *Erynia* sp. 1143
EM752 *Zoophthora radicans* 1082
FI-0016 *Beauveria bassiana* 8493
FI-0079 *Beauveria bassiana* 8891
FI-0120 *Metarhizium anisopliae* sensu lato 7820
FI-0121 *Metarhizium anisopliae* sensu lato 7821
FI-0122 *Metarhizium anisopliae* sensu lato 7822
FI-0123 *Metarhizium anisopliae* sensu lato 7823
FI-0571 *Beauveria bassiana* 8066
FI-0702 *Metarhizium novozealandicum* 8214
FI-0860 *Metarhizium anisopliae* sensu stricto 8560
FI-0999 *Metarhizium anisopliae* sensu lato 8735
FI-1000 *Metarhizium majus* 8736
FI-1311 *Beauveria bassiana* 8843
FI50 *Beauveria bassiana* 326

da Silva, Lucianita

A285 *Metarhizium rileyi* 2201

Dalbello, Gustavo

#6 *Beauveria bassiana* 5500
#8 *Beauveria bassiana* 5502

DAOM

198499 *Lecanicillium muscarium* 6591

DAT

119 *Metarhizium anisopliae* sensu lato 4234
3 *Aspergillus flavus* 4126
4 *Aspergillus tamaris* 4127
41 *Beauveria bassiana* 4607
416 *Microhilum oncoperae* 4767
417 *Microhilum oncoperae* 4768
42 *Beauveria bassiana* 4589
420 *Microhilum oncoperae* 4769
421 *Microhilum oncoperae* 4770
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94 Conidiobolus sp.	540 Metarhizium rileyi	1115 Beauveria bassiana
95 Entomophaga aulicae	552 Metarhizium pingshaense	1116 Metarhizium brunneum
118 Entomophaga aulicae	587 Metarhizium anisopliae sensu stricto	1117 Beauveria bassiana
135 Metarhizium rileyi	590 Beauveria sp.	1118 Beauveria bassiana
140 Hirsutella gigantea	648 Isaria farinosa	1121 Beauveria bassiana
141 Zoophthora radicans	652 Beauveria bassiana	1122 Beauveria bassiana
142 Zoophthora radicans	697 Isaria farinosa	1127 Furia virescens
143 Zoophthora radicans	703 Metarhizium guizhouense	1128 Furia virescens
144 Zoophthora radicans	704 Isaria javanica	1129 Furia virescens
145 Zoophthora radicans	711 Metarhizium rileyi	1135 Pandora blunckii
146 Zoophthora radicans	718 Beauveria bassiana	1139 Basidiobolus ranarum
147 Conidiobolus sp.	720 Isaria fumosorosea	1140 Entomophaga aulicae
148 Conidiobolus sp.	740 Metarhizium rileyi	1141 Entomophaga aulicae
151 Beauveria bassiana	762 Metarhizium rileyi	1142 Entomophaga aulicae
155 Beauveria bassiana	781 Furia pieris	1143 Erynia sp.
163 Zoophthora radicans	843 Beauveria bassiana	1145 Furia neopyralidarum
164 Entomophaga aulicae	900 Lecanicillium muscarium	1149 Beauveria bassiana
165 Entomophaga aulicae	935 Metarhizium rileyi	1166 Beauveria bassiana
166 Entomophaga aulicae	936 Metarhizium rileyi	1187 Metarhizium brunneum
167 Entomophaga aulicae	959 Evlachovaea sp.	1225 Isaria farinosa
168 Entomophaga aulicae	973 Lecanicillium muscarium	1241 Erynia sp.
169 Entomophaga aulicae	975 Isaria farinosa	1265 Pandora delphacis
170 Entomophaga aulicae	981 Isaria farinosa	1314 Beauveria bassiana
171 Entomophaga aulicae	983 Erynia sp.	1315 Beauveria bassiana
172 Entomophaga aulicae	986 Purpureocillium lilacinum	1316 Beauveria bassiana
177 Hirsutella longicolla var. cornuta	987 Beauveria bassiana	1341 Zoophthora radicans
178 Hirsutella longicolla var. cornuta	988 Metarhizium brunneum	1342 Zoophthora radicans
198 Entomophaga aulicae	989 Isaria fumosorosea	1343 Zoophthora radicans
217 Pandora blunckii	990 Paecilomyces canadensis	1344 Zoophthora radicans
221 Zoophthora radicans	991 Verticillium lecanii	1345 Zoophthora radicans
222 Zoophthora radicans	994 Lecanicillium muscarium	1346 Zoophthora radicans
223 Zoophthora radicans	996 Hirsutella satumaensis	1390 Entomophaga maimaiga
224 Zoophthora radicans	998 Entomophaga aulicae	1391 Entomophaga maimaiga
225 Zoophthora radicans	1000 Pandora blunckii	1392 Entomophaga maimaiga
226 Zoophthora radicans	1001 Beauveria bassiana	1400 Entomophaga maimaiga
227 Zoophthora radicans	1003 Aspergillus flavus	1415 Unidentified sp.
228 Zoophthora radicans	1005 Isaria fumosorosea	1417 Unidentified sp.
229 Zoophthora radicans	1007 Beauveria bassiana	1479 Beauveria bassiana
230 Zoophthora radicans	1008 Paecilomyces sp.	1481 Beauveria brongniartii
231 Zoophthora radicans	1010 Aspergillus flavus	1482 Beauveria brongniartii
232 Zoophthora radicans	1014 Metarhizium rileyi	1484 Beauveria bassiana
233 Zoophthora radicans	1015 Metarhizium majus	1489 Metarhizium anisopliae sensu stricto
234 Zoophthora radicans	1032 Lecanicillium muscarium(?)	1512 Beauveria bassiana

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1513	Beauveria bassiana	2064	Pochonia suchlasporia var. catenata	2573	Beauveria bassiana
1558	Beauveria bassiana	2065	Lecanicillium muscarium	2581	Hirsutella sp.
1564	Beauveria bassiana	2066	Lecanicillium muscarium	2595	Fusarium brachygibbosum
1565	Beauveria pseudobassiana	2067	Acremonium berkeleyanum	2596	Metarhizium globosum
1568	Isaria fumosorosea	2068	Aphanocladium album	2597	Beauveria bassiana
1569	Isaria fumosorosea	2069	Humicola sp.	2613	Evlachovaea sp.
1577	Isaria fumosorosea	2070	Acrodontium crateriforme	2614	Evlachovaea sp.
1578	Isaria fumosorosea	2071	Phoma cava	2615	Evlachovaea sp.
1579	Isaria fumosorosea	2072	Phialophora malorum	2616	Paecilomyces sp.
1627	Beauveria bassiana	2073	Sterile mycelium	2617	Paecilomyces sp.
1628	Beauveria bassiana	2131	Isaria farinosa	2618	Paecilomyces sp.
1629	Beauveria bassiana	2140	Metarhizium guizhouense	2619	Beauveria bassiana
1655	Entomophaga aulicae	2141	Fusarium sacchari	2620	Evlachovaea sp.
1656	Entomophaga aulicae	2142	Fusarium sacchari	2629	Beauveria bassiana
1657	Entomophaga aulicae	2174	Metarhizium rileyi	2633	Beauveria bassiana
1658	Entomophaga maimaiga	2190	Unidentified sp.	2637	Beauveria bassiana
1674	Zoophthora radicans	2201	Metarhizium rileyi	2727	Beauveria bassiana
1675	Zoophthora radicans	2202	Metarhizium rileyi	2728	Beauveria bassiana
1677	Beauveria bassiana	2203	Metarhizium rileyi	2729	Beauveria bassiana
1699	Zoophthora radicans	2204	Metarhizium rileyi	2730	Conidiobolus coronatus
1700	Unidentified sp.	2205	Metarhizium rileyi	2731	Conidiobolus firmipilleus
1701	Unidentified sp.	2206	Metarhizium rileyi	2732	Zoophthora radicans
1702		2207	Metarhizium rileyi	2734	Isaria fumosorosea
1703	Unidentified sp.	2227	Hirsutella subulata	2735	Metarhizium pingshaense
1751	Entomophaga aulicae	2253	Beauveria bassiana	2736	Fusarium sp.
1756	Metarhizium rileyi	2254	Beauveria bassiana	2737	Beauveria bassiana
1757	Metarhizium rileyi	2255	Scopulariopsis sp.	2738	Mixed Culture sp.
1758	Metarhizium rileyi	2267	Beauveria bassiana	2749	Isaria fumosorosea
1759	Metarhizium rileyi	2269	Isaria farinosa	2750	Backusella sp.
1760	Metarhizium rileyi	2297	Evlachovaea sp.	2751	Beniowskia sp.
1761	Metarhizium rileyi	2316	Fusarium nygamai	2752	Geotrichum sp.
1762	Metarhizium rileyi	2344	Isaria farinosa	2753	Hirsutella sp.
1788	Beauveria bassiana	2345	Metarhizium rileyi	2765	Aspergillus sp.
1829	Beauveria brongniartii	2349	Beauveria bassiana	2771	Conidiobolus sp.
1830	Beauveria brongniartii	2362	Entomophaga aulicae	2772	Conidiobolus sp.
1832	Beauveria bassiana	2363	Entomophaga aulicae	2774	Entomophaga maimaiga
1834	Beauveria bassiana	2364	Entomophaga aulicae	2775	Entomophaga maimaiga
1836	Beauveria bassiana	2365	Entomophaga aulicae	2776	Fusarium proliferatum
1850	Beauveria bassiana	2366	Entomophaga aulicae	2777	Tolypocladium cylindrosporum
1879	Metarhizium rileyi	2367	Entomophaga aulicae	2778	Tolypocladium cylindrosporum
1884	Conidiobolus coronatus	2368	Entomophaga aulicae	2779	Entomophaga maimaiga
1886	Beauveria sp.	2369	Entomophaga aulicae	2780	Entomophaga maimaiga
1893	Metarhizium rileyi	2370	Entomophaga maimaiga	2815	Conidiobolus sp.
1950	Metarhizium rileyi	2371	Entomophaga maimaiga	2816	Conidiobolus sp.
1964	Acremonium roseum	2372	Entomophaga aulicae	2817	Aspergillus sp.
1972	Metarhizium rileyi	2373	Entomophaga aulicae	2818	Aspergillus flavus
1990	Entomophaga aulicae	2374	Entomophaga aulicae	2820	Aspergillus sp.
1991	Entomophaga aulicae	2386	Penicillium sp.	2821	Unidentified sp.
1992	Entomophaga aulicae	2390	Metarhizium rileyi	2822	Isaria farinosa
1993	Entomophaga aulicae	2395	Metarhizium rileyi	2823	Aspergillus sp.
1994	Entomophaga aulicae	2410	Zoophthora radicans	2824	Pandora blunkii
1995	Entomophaga aulicae	2411	Zoophthora radicans	2826	Unidentified sp.
1996	Entomophaga aulicae	2413	Metarhizium rileyi	2827	Aspergillus sp.
1997	Entomophaga aulicae	2416	Cordyceps militaris	2831	Beauveria bassiana
1998	Entomophaga aulicae	2417	Beauveria bassiana	2833	Aspergillus ochraceus
1999	Entomophaga aulicae	2418	Fusarium sacchari	2834	Penicillium sp.
2000	Entomophaga aulicae	2419	Penicillium sp.	2835	Isaria farinosa
2013	Metarhizium rileyi	2424	Metarhizium anisopliae sensu lato	2836	Penicillium sp.
2027	Erynia sp.	2465	Metarhizium rileyi	2843	Entomophaga aulicae
2041	Beauveria bassiana	2466	Metarhizium rileyi	2857	Beauveria bassiana
2054	Beauveria bassiana	2488	Isaria tenuipes	2893	Zoophthora radicans
2055	Trichothecium roseum	2489	Isaria tenuipes	2896	Entomophaga aulicae
2056	Penicillium thomii	2490	Isaria tenuipes	2897	Entomophaga aulicae
2057	Isaria farinosa	2491	Isaria tenuipes	2898	Entomophaga aulicae
2058	Filobasidiella arachnophila	2492	Metarhizium rileyi	2899	Entomophaga aulicae
2059	Fusarium merismoides	2546	Isaria farinosa	2900	Entomophaga aulicae
2060	Fusarium avenaceum	2564	Isaria farinosa	2901	Entomophaga aulicae
2061	Mortierella hyalina	2570	Beauveria bassiana	2902	Entomophaga aulicae
2062	Mortierella clausenii	2571	Beauveria bassiana	2903	Entomophaga aulicae
2063	Mortierella histoplasmatoides	2572	Beauveria bassiana	2904	Entomophaga aulicae

2905 Entomophaga aulicae	3522 Isaria farinosa	3979 Beauveria bassiana
2906 Furia gastropachae	3523 Isaria farinosa	3981 Isaria javanica
2962 Beauveria bassiana	3524 Isaria farinosa	3982 Isaria fumosorosea
2976 Beauveria bassiana	3525 Isaria farinosa	3983 Isaria fumosorosea
2998 Beauveria sp.	3526 Isaria farinosa	3984 Isaria fumosorosea
3016 Entomophaga aulicae	3527 Beauveria bassiana	3985 Isaria fumosorosea
3017 Isaria farinosa	3528 Beauveria pseudobassiana	3986 Isaria fumosorosea
3020 Beauveria bassiana	3529 Beauveria pseudobassiana	3987 Isaria fumosorosea
3039 Entomophaga aulicae	3530 Beauveria bassiana	3988 Isaria fumosorosea
3052 Entomophaga maimaiga	3531 Lecanicillium muscarium	3989 Isaria fumosorosea
3053 Entomophaga maimaiga	3532 Fusarium sp.	3998 Unidentified sp.
3064 Metarhizium novozealandicum	3533 Isaria farinosa	4004 Entomophaga aulicae
3075 Pandora blunckii	3537 Isaria farinosa	4005 Entomophaga aulicae
3152 Isaria farinosa	3538 Isaria farinosa	4006 Entomophaga aulicae
3200 Pandora blunckii	3567 Unidentified sp.	4007 Entomophaga aulicae
3201 Pandora sp.	3568 Unidentified sp.	4008 Entomophaga aulicae
3202 Pandora blunckii	3569 Unidentified sp.	4010 Isaria farinosa
3203 Scopulariopsis sp.	3595 Isaria farinosa	4081 Cordyceps militaris
3204 Zoophthora radicans	3596 Isaria farinosa	4082 Cordyceps militaris
3205 Zoophthora radicans	3597 Isaria farinosa	4083 Cordyceps militaris
3206 Zoophthora radicans	3598 Isaria farinosa	4084 Cordyceps militaris
3208 Conidiobolus sp.	3599 Isaria farinosa	4085 Cordyceps militaris
3212 Entomophaga aulicae	3600 Lecanicillium muscarium	4086 Cordyceps militaris
3220 Beauveria pseudobassiana	3601 Lecanicillium muscarium	4087 Cordyceps militaris
3221 Isaria farinosa	3602 Entomophaga aulicae	4088 Cordyceps militaris
3286 Beauveria bassiana	3664 Isaria farinosa	4089 Cordyceps militaris
3288 Beauveria bassiana	3665 Isaria farinosa	4090 Isaria farinosa
3289 Beauveria sp.	3666 Isaria farinosa	4094 Metarhizium rileyi
3290 Metarhizium anisopliae sensu lato	3692 Fusarium polyphialidicum	4096 Isaria tenuipes
3291 Metarhizium anisopliae sensu lato	3693 Fusarium polyphialidicum	4126 Aspergillus flavus
3292 Metarhizium anisopliae sensu lato	3694 Fusarium polyphialidicum	4127 Aspergillus tamarii
3293 Metarhizium anisopliae sensu lato	3695 Fusarium polyphialidicum	4216 Unidentified sp.
3294 Metarhizium brunneum	3696 Fusarium polyphialidicum	4234 Metarhizium anisopliae sensu lato
3295 Metarhizium brunneum	3794 Unidentified sp.	4258 Beauveria bassiana
3298 Unidentified sp.	3796 Unidentified sp.	4263 Penicillium sp.
3299 Unidentified sp.	3797 Unidentified sp.	4273 Beauveria pseudobassiana
3300 Fusarium verticillioides	3803 Unidentified sp.	4358 Microhilum oncoperae
3301 Metarhizium rileyi	3804 Unidentified sp.	4504 Entomophaga maimaiga
3302 Isaria fumosorosea	3828 Entomophaga maimaiga	4505 Entomophaga maimaiga
3321 Tolypocladium inflatum	3829 Entomophaga maimaiga	4506 Entomophaga maimaiga
3397 Tolypocladium inflatum	3830 Entomophaga maimaiga	4507 Entomophaga maimaiga
3404 Beauveria bassiana	3831 Entomophaga maimaiga	4508 Entomophaga maimaiga
3405 Beauveria pseudobassiana	3832 Entomophaga maimaiga	4509 Entomophaga maimaiga
3467 Unidentified sp.	3833 Entomophaga maimaiga	4510 Entomophaga maimaiga
3468 Unidentified sp.	3834 Entomophaga maimaiga	4521 Metarhizium anisopliae sensu lato
3483 Fusarium torulosum	3835 Entomophaga maimaiga	4522 Metarhizium anisopliae sensu lato
3490 Isaria farinosa	3858 Beauveria bassiana	4525 Beauveria bassiana
3491 Isaria farinosa	3911 Entomophaga maimaiga	4526 Beauveria bassiana
3492 Isaria farinosa	3912 Entomophaga maimaiga	4527 Beauveria bassiana
3493 Isaria farinosa	3913 Entomophaga maimaiga	4528 Beauveria bassiana
3494 Isaria farinosa	3916 Fusarium polyphialidicum	4529 Beauveria bassiana
3495 Isaria farinosa	3937 Beauveria bassiana	4530 Beauveria bassiana
3496 Isaria farinosa	3938 Isaria tenuipes	4531 Beauveria bassiana
3497 Isaria farinosa	3939 Isaria tenuipes	4532 Beauveria bassiana
3498 Isaria farinosa	3940 Metarhizium rileyi	4533 Beauveria bassiana
3499 Isaria farinosa	3964 Unidentified sp.	4534 Beauveria bassiana
3500 Isaria farinosa	3965 Beauveria pseudobassiana	4535 Beauveria bassiana
3501 Isaria farinosa	3966 Beauveria bassiana	4536 Beauveria bassiana
3502 Isaria farinosa	3967 Beauveria bassiana	4537 Beauveria bassiana
3503 Isaria farinosa	3968 Beauveria bassiana	4538 Beauveria bassiana
3504 Isaria farinosa	3969 Beauveria bassiana	4539 Beauveria bassiana
3505 Isaria farinosa	3970 Beauveria bassiana	4540 Beauveria bassiana
3506 Isaria farinosa	3971 Beauveria bassiana	4541 Beauveria bassiana
3507 Isaria farinosa	3972 Beauveria bassiana	4542 Beauveria bassiana
3508 Isaria farinosa	3973 Beauveria bassiana	4543 Beauveria bassiana
3517 Isaria farinosa	3974 Beauveria bassiana	4544 Entomophaga maimaiga
3518 Isaria farinosa	3975 Beauveria bassiana	4545 Entomophaga maimaiga
3519 Isaria farinosa	3976 Fusarium sp.	4546 Entomophaga maimaiga
3520 Isaria farinosa	3977 Beauveria bassiana	4547 Entomophaga maimaiga
3521 Isaria farinosa	3978 Beauveria bassiana	4549 Entomophaga maimaiga

4550	Entomophaga maimaiga	5033	Cordyceps militaris	5377	Entomophaga maimaiga
4551	Entomophaga maimaiga	5034	Cordyceps militaris	5378	Entomophaga maimaiga
4552	Entomophaga maimaiga	5035	Cordyceps militaris	5379	Entomophaga maimaiga
4553	Entomophaga maimaiga	5036	Cordyceps militaris	5380	Entomophaga maimaiga
4554	Entomophaga maimaiga	5037	Cordyceps militaris	5381	Entomophaga maimaiga
4555	Entomophaga maimaiga	5038	Cordyceps militaris	5382	Entomophaga maimaiga
4589	Beauveria bassiana	5039	Cordyceps militaris	5383	Entomophaga maimaiga
4607	Beauveria bassiana	5040	Cordyceps militaris	5384	Entomophaga maimaiga
4672	Beauveria bassiana	5041	Cordyceps militaris	5385	Entomophaga maimaiga
4681	Metarhizium brunneum	5042	Cordyceps militaris	5386	Entomophaga maimaiga
4767	Microhilum oncoperae	5043	Cordyceps militaris	5387	Entomophaga maimaiga
4768	Microhilum oncoperae	5044	Cordyceps militaris	5388	Entomophaga maimaiga
4769	Microhilum oncoperae	5045	Cordyceps militaris	5389	Entomophaga maimaiga
4770	Microhilum oncoperae	5046	Cordyceps militaris	5390	Entomophaga maimaiga
4771	Microhilum oncoperae	5047	Cordyceps militaris	5391	Entomophaga maimaiga
4781	Zoophtora radicans	5048	Cordyceps militaris	5392	Entomophaga maimaiga
4782	Zoophtora radicans	5049	Cordyceps militaris	5393	Entomophaga maimaiga
4783	Zoophtora radicans	5050	Cordyceps militaris	5394	Entomophaga maimaiga
4784	Zoophtora radicans	5051	Cordyceps militaris	5395	Entomophaga maimaiga
4785	Zoophtora radicans	5052	Cordyceps militaris	5396	Entomophaga maimaiga
4796	Entomophaga aulicae	5053	Cordyceps militaris	5397	Entomophaga maimaiga
4797	Conidiobolus coronatus	5054	Cordyceps militaris	5398	Entomophaga maimaiga
4838	Cordyceps militaris	5055	Cordyceps militaris	5399	Entomophaga maimaiga
4839	Cordyceps militaris	5056	Cordyceps militaris	5400	Entomophaga maimaiga
4840	Cordyceps militaris	5057	Cordyceps militaris	5401	Entomophaga maimaiga
4841	Cordyceps militaris	5058	Cordyceps militaris	5413	Mariannaea pruinosa
4842	Cordyceps militaris	5059	Cordyceps militaris	5469	Metarhizium anisopliae sensu lato
4845	Cordyceps militaris	5060	Cordyceps militaris	5470	Aspergillus parasiticus
4899	Unidentified / Hyphomycetes	5061	Cordyceps militaris	5471	Metarhizium anisopliae sensu stricto
4900	Unidentified / Hyphomycetes	5062	Cordyceps militaris	5473	Hirsutella nodulosa
4903	Metarhizium robertsii	5063	Beauveria bassiana	5492	Beauveria bassiana
4904	Metarhizium anisopliae sensu lato	5064	Beauveria bassiana	5500	Beauveria bassiana
4905	Metarhizium anisopliae sensu lato	5065	Beauveria bassiana	5502	Beauveria bassiana
4906	Metarhizium anisopliae sensu lato	5066	Beauveria bassiana	5503	Aspergillus flavus(?)
4997	Metarhizium sp.	5067	Beauveria bassiana	5504	Aspergillus flavus(?)
4998	Metarhizium sp.	5068	Beauveria bassiana	5505	Aspergillus flavus(?)
4999	Metarhizium sp.	5076	Metarhizium sp.	5506	Aspergillus flavus(?)
5000	Metarhizium sp.	5077	Metarhizium sp.	5507	Aspergillus flavus(?)
5001	Metarhizium sp.	5078	Beauveria sp.	5508	Aspergillus flavus(?)
5002	Cordyceps militaris	5079	Metarhizium sp.	5509	Aspergillus flavus(?)
5003	Cordyceps militaris	5134	Isaria tenuipes	5510	Beauveria bassiana
5004	Cordyceps militaris	5135	Isaria tenuipes	5512	Fusarium merismoides
5005	Cordyceps militaris	5169	Beauveria bassiana	5513	Metarhizium anisopliae sensu lato
5006	Cordyceps militaris	5199	Unidentified / Hyphomycetes	5514	Metarhizium anisopliae sensu lato
5007	Cordyceps militaris	5205	Aspergillus sp.	5515	Metarhizium anisopliae sensu lato
5008	Cordyceps militaris	5206	Metarhizium rileyi	5516	Metarhizium anisopliae sensu lato
5009	Cordyceps militaris	5207	Metarhizium rileyi	5517	Metarhizium anisopliae sensu lato
5010	Cordyceps militaris	5208	Metarhizium rileyi	5518	Metarhizium anisopliae sensu lato
5011	Cordyceps militaris	5209	Metarhizium rileyi	5519	Metarhizium anisopliae sensu lato
5012	Cordyceps militaris	5210	Metarhizium rileyi	5521	Metarhizium anisopliae sensu lato
5013	Cordyceps militaris	5211	Metarhizium rileyi	5523	Trichoderma sp.
5014	Cordyceps militaris	5212	Metarhizium rileyi	5524	Trichoderma sp.
5015	Cordyceps militaris	5219	Fusarium sp.	5541	Furia gastropachae
5016	Cordyceps militaris	5228	Beauveria bassiana	5542	Furia gastropachae
5017	Cordyceps militaris	5229	Beauveria bassiana	5543	Furia gastropachae
5018	Cordyceps militaris	5230	Beauveria bassiana	5544	Furia gastropachae
5019	Cordyceps militaris	5231	Beauveria bassiana	5545	Furia gastropachae
5020	Cordyceps militaris	5232	Beauveria bassiana	5546	Furia gastropachae
5021	Cordyceps militaris	5233	Beauveria bassiana	5547	Furia gastropachae
5022	Cordyceps militaris	5234	Beauveria bassiana	5554	Metarhizium anisopliae sensu lato
5023	Cordyceps militaris	5235	Beauveria bassiana	5555	Metarhizium anisopliae sensu lato
5024	Cordyceps militaris	5236	Unidentified / Hyphomycetes	5556	Metarhizium anisopliae sensu lato
5025	Cordyceps militaris	5251	Isaria fumosorosea	5557	Beauveria pseudobassiana
5026	Cordyceps militaris	5252	Isaria fumosorosea	5560	Fusarium sp.
5027	Cordyceps militaris	5333	Unidentified / Hyphomycetes	5564	Entomophaga maimaiga
5028	Cordyceps militaris	5334	Unidentified / Hyphomycetes	5568	Entomophaga maimaiga
5029	Cordyceps militaris	5351		5570	Entomophaga maimaiga
5030	Cordyceps militaris	5368	Isaria farinosa	5573	Beauveria bassiana
5031	Cordyceps militaris	5369	Metarhizium anisopliae sensu lato	5644	Beauveria bassiana(?)
5032	Cordyceps militaris	5370	Beauveria pseudobassiana	5645	Beauveria bassiana

5646	Beauveria bassiana	6199	Beauveria bassiana	6514	Beauveria bassiana
5647	Beauveria bassiana	6200	Isaria farinosa	6523	Entomophaga maimaiga
5648	Beauveria bassiana	6201	Beauveria bassiana	6524	Entomophaga maimaiga
5649	Beauveria bassiana	6202	Isaria farinosa	6533	Beauveria sp.
5653	Beauveria bassiana	6203	Isaria fumosorosea	6534	Beauveria sp.
5654	Beauveria bassiana	6204	Isaria fumosorosea	6535	Beauveria sp.
5655	Beauveria bassiana	6205	Beauveria bassiana	6536	Beauveria sp.
5685	Lecanicillium psalliotae	6206	Isaria fumosorosea	6537	Beauveria sp.
5688	Cordyceps isarioides	6207	Isaria farinosa	6556	Beauveria bassiana
5703	Evlachovaea sp.	6208	Beauveria bassiana	6557	Beauveria bassiana
5704	Beauveria bassiana	6209	Beauveria bassiana	6558	Metarhizium anisopliae sensu lato
5730	Trichoderma sp.	6212	Entomophaga maimaiga	6591	Lecanicillium muscarium
5805	Purpureocillium lilacinum	6218	Entomophaga maimaiga	6625	Entomophaga maimaiga
5814	Zoopththora radicans	6224	Entomophaga maimaiga	6626	Entomophaga maimaiga
5832	Beauveria sp.	6226	Cladosporium sp.	6627	Entomophaga maimaiga
5869	Furia gastropachae	6227	Beauveria amorphia	6628	Entomophaga maimaiga
5870	Furia gastropachae	6233	Beauveria bassiana	6629	Entomophaga maimaiga
5871	Furia gastropachae	6238	Metarhizium guizhouense	6630	Entomophaga maimaiga
5872	Furia gastropachae	6239	Metarhizium rileyi	6632	Gliocladium sp.
5873	Metarhizium robertsii	6240	Isaria cateniannullata	6643	Beauveria bassiana
5874	Isaria fumosorosea	6242	Isaria cateniannullata	6644	Beauveria bassiana
5881	Fusarium sp.	6245	Isaria farinosa	6645	Metarhizium rileyi
5883	Isaria farinosa	6248	Cordyceps militaris	6646	Beauveria bassiana
5884	Isaria farinosa	6249	Isaria tenuipes	6647	Beauveria bassiana
5885	Isaria farinosa	6253	Entomophaga maimaiga	6648	Beauveria bassiana
5886	Beauveria bassiana	6254	Entomophaga maimaiga	6649	Fusarium proliferatum
5887	Beauveria bassiana	6255	Entomophaga maimaiga	6650	Beauveria bassiana
5888	Beauveria bassiana	6256	Entomophaga maimaiga	6652	Entomophaga maimaiga
5988	Beauveria bassiana	6257	Entomophaga maimaiga	6653	Entomophaga maimaiga
5996	Isaria farinosa	6258	Entomophaga maimaiga	6654	Entomophaga maimaiga
6003	Zoopththora radicans	6264	Entomophaga maimaiga	6655	Entomophaga maimaiga
6004	Entomophaga maimaiga	6265	Entomophaga maimaiga	6656	Entomophaga maimaiga
6005	Entomophaga maimaiga	6266	Entomophaga maimaiga	6657	Entomophaga maimaiga
6100	Beauveria bassiana	6267	Entomophaga maimaiga	6663	Entomophaga maimaiga
6101	Beauveria bassiana	6268	Entomophaga maimaiga	6664	Entomophaga maimaiga
6102	Fusarium sp.	6269	Entomophaga maimaiga	6665	Entomophaga maimaiga
6109	Beauveria bassiana	6270	Entomophaga maimaiga	6666	Entomophaga maimaiga
6147	Beauveria bassiana	6271	Entomophaga maimaiga	6667	Entomophaga maimaiga
6148	Beauveria bassiana	6272	Entomophaga maimaiga	6668	Entomophaga maimaiga
6150	Beauveria bassiana	6282	Hirsutella sinensis	6724	Entomophaga maimaiga
6151	Beauveria bassiana	6284	Paecilomyces sinensis	6725	Entomophaga maimaiga
6152	Beauveria bassiana	6285	Paecilomyces sinensis	6726	Entomophaga maimaiga
6153	Beauveria bassiana	6286	Sporothrix insectorum	6727	Entomophaga maimaiga
6167	Metarhizium anisopliae sensu lato	6293	Pandora blunckii	6728	Entomophaga maimaiga
6168	Entomophaga maimaiga	6294	Pandora blunckii	6729	Entomophaga maimaiga
6169	Entomophaga maimaiga	6295	Pandora blunckii	6731	Metarhizium rileyi
6170	Entomophaga maimaiga	6296	Pandora blunckii	6732	Metarhizium rileyi
6171	Entomophaga maimaiga	6297	Pandora blunckii	6734	Metarhizium rileyi
6172	Entomophaga maimaiga	6298	Pandora blunckii	6735	Metarhizium rileyi
6173	Entomophaga maimaiga	6299	Pandora blunckii	6736	Metarhizium rileyi
6174	Entomophaga maimaiga	6300	Pandora blunckii	6737	Metarhizium rileyi
6177	Beauveria bassiana	6301	Pandora blunckii	6738	Metarhizium rileyi
6178	Beauveria bassiana	6302	Pandora blunckii	6739	Metarhizium rileyi
6179	Batkoa sp.	6303	Zoopththora radicans	6740	Metarhizium rileyi
6181	Beauveria pseudobassiana	6304	Pandora blunckii	6741	Metarhizium rileyi
6182	Beauveria bassiana	6305	Pandora blunckii	6742	Metarhizium rileyi
6183	Purpureocillium lilacinum	6306	Pandora blunckii	6743	Metarhizium rileyi
6184	Beauveria bassiana	6307	Pandora blunckii	6744	Metarhizium rileyi
6185	Beauveria pseudobassiana	6308	Pandora blunckii	6745	Metarhizium rileyi
6186	Beauveria bassiana	6309	Pandora blunckii	6746	Metarhizium rileyi
6187	Beauveria bassiana	6310	Pandora blunckii	6747	Metarhizium rileyi
6189	Beauveria bassiana	6311	Pandora blunckii	6748	Metarhizium rileyi
6191	Beauveria bassiana	6312	Pandora blunckii	6749	Metarhizium rileyi
6192	Isaria fumosorosea	6313	Zoopththora radicans	6764	Metarhizium rileyi
6193	Paecilomyces sp.	6314	Zoopththora radicans	6765	Metarhizium rileyi
6194	Beauveria bassiana	6315	Zoopththora radicans	6766	Metarhizium rileyi
6195	Beauveria bassiana	6316	Pandora blunckii	6767	Metarhizium rileyi
6196	Beauveria bassiana	6474	Metarhizium brunneum	6768	Metarhizium rileyi
6197	Purpureocillium lilacinum	6475	Metarhizium anisopliae sensu lato	6769	Metarhizium rileyi
6198	Paecilomyces sp.	6476	Metarhizium robertsii	6770	Metarhizium rileyi

6771	<i>Metarhizium rileyi</i>	6971	<i>Beauveria pseudobassiana</i>	7143	<i>Entomophaga aulicae</i>
6772	<i>Metarhizium rileyi</i>	6972	<i>Beauveria pseudobassiana</i>	7144	<i>Entomophaga aulicae</i>
6773	<i>Metarhizium rileyi</i>	6973	<i>Beauveria bassiana</i>	7145	<i>Entomophaga aulicae</i>
6774	<i>Metarhizium rileyi</i>	6974	<i>Beauveria bassiana</i>	7148	<i>Metarhizium rileyi</i>
6775	<i>Metarhizium rileyi</i>	6975	<i>Beauveria bassiana</i>	7149	<i>Metarhizium rileyi</i>
6776	<i>Metarhizium rileyi</i>	6976	<i>Beauveria bassiana</i>	7150	<i>Metarhizium rileyi</i>
6777	<i>Metarhizium rileyi</i>	6977	<i>Beauveria bassiana</i>	7151	<i>Metarhizium rileyi</i>
6778	<i>Metarhizium rileyi</i>	6981	<i>Beauveria bassiana</i>	7183	<i>Entomophaga maimaiga</i>
6779	<i>Metarhizium rileyi</i>	6984	<i>Beauveria bassiana</i>	7184	<i>Entomophaga maimaiga</i>
6780	<i>Metarhizium rileyi</i>	7014	<i>Metarhizium anisopliae sensu lato</i>	7185	<i>Entomophaga maimaiga</i>
6781	<i>Metarhizium rileyi</i>	7015	<i>Metarhizium anisopliae sensu lato</i>	7186	<i>Entomophaga maimaiga</i>
6782	<i>Metarhizium rileyi</i>	7016	<i>Metarhizium anisopliae sensu lato</i>	7187	<i>Entomophaga maimaiga</i>
6783	<i>Metarhizium rileyi</i>	7017	<i>Metarhizium anisopliae sensu lato</i>	7188	<i>Entomophaga maimaiga</i>
6784	<i>Metarhizium rileyi</i>	7018	<i>Metarhizium anisopliae sensu lato</i>	7189	<i>Entomophaga maimaiga</i>
6785	<i>Metarhizium rileyi</i>	7019	<i>Metarhizium anisopliae sensu lato</i>	7190	<i>Entomophaga maimaiga</i>
6786	<i>Metarhizium rileyi</i>	7020	<i>Metarhizium anisopliae sensu lato</i>	7192	<i>Cordyceps cardinalis</i>
6787	<i>Metarhizium rileyi</i>	7021	<i>Metarhizium anisopliae sensu lato</i>	7193	<i>Cordyceps cardinalis</i>
6788	<i>Isaria tenuipes</i>	7022	<i>Metarhizium anisopliae sensu lato</i>	7221	<i>Cordyceps pruinosa</i>
6796	<i>Beauveria bassiana</i>	7023	<i>Metarhizium anisopliae sensu lato</i>	7274	<i>Beauveria bassiana</i>
6799	<i>Isaria fumosorosea</i>	7024	<i>Metarhizium anisopliae sensu lato</i>	7352	<i>Entomophaga maimaiga</i>
6800	<i>Isaria fumosorosea</i>	7025	<i>Metarhizium anisopliae sensu lato</i>	7353	<i>Entomophaga maimaiga</i>
6801	<i>Beauveria bassiana</i>	7026	<i>Metarhizium anisopliae sensu lato</i>	7356	<i>Beauveria bassiana</i>
6802	<i>Beauveria bassiana</i>	7045	<i>Fusarium sacchari</i>	7357	<i>Beauveria bassiana</i>
6803	<i>Beauveria bassiana</i>	7046	<i>Fusarium sacchari</i>	7358	<i>Beauveria bassiana</i>
6804	<i>Beauveria bassiana</i>	7047	<i>Cordyceps bassiana</i>	7359	<i>Beauveria bassiana</i>
6805	<i>Beauveria bassiana</i>	7052	<i>Metarhizium rileyi</i>	7360	<i>Beauveria bassiana</i>
6806	<i>Beauveria bassiana</i>	7053	<i>Metarhizium rileyi</i>	7361	<i>Beauveria bassiana</i>
6807	<i>Beauveria bassiana</i>	7054	<i>Metarhizium rileyi</i>	7362	<i>Beauveria bassiana</i>
6808	<i>Beauveria bassiana</i>	7055	<i>Metarhizium rileyi</i>	7364	<i>Beauveria bassiana</i>
6809	<i>Beauveria bassiana</i>	7056	<i>Metarhizium rileyi</i>	7365	<i>Beauveria bassiana</i>
6866	<i>Metarhizium rileyi</i>	7060	<i>Beauveria bassiana</i>	7366	<i>Beauveria bassiana</i>
6867	<i>Metarhizium rileyi</i>	7093	<i>Beauveria bassiana</i>	7367	<i>Beauveria bassiana</i>
6868	<i>Metarhizium rileyi</i>	7095	<i>Polycephalomyces ramosus</i>	7370	<i>Batkoa sp.</i>
6869	<i>Metarhizium rileyi</i>	7101	<i>Entomophaga maimaiga</i>	7479	<i>Metarhizium rileyi</i>
6870	<i>Metarhizium rileyi</i>	7102	<i>Entomophaga maimaiga</i>	7480	<i>Metarhizium rileyi</i>
6871	<i>Metarhizium rileyi</i>	7103	<i>Entomophaga maimaiga</i>	7481	<i>Metarhizium rileyi</i>
6872	<i>Metarhizium rileyi</i>	7104	<i>Entomophaga maimaiga</i>	7482	<i>Metarhizium rileyi</i>
6873	<i>Metarhizium rileyi</i>	7105	<i>Entomophaga maimaiga</i>	7484	<i>Metarhizium rileyi</i>
6874	<i>Metarhizium rileyi</i>	7106	<i>Entomophaga maimaiga</i>	7531	<i>Isaria farinosa</i>
6875	<i>Metarhizium rileyi</i>	7107	<i>Entomophaga maimaiga</i>	7552	<i>Beauveria bassiana</i>
6876	<i>Metarhizium rileyi</i>	7108	<i>Entomophaga maimaiga</i>	7553	<i>Beauveria bassiana</i>
6877	<i>Metarhizium rileyi</i>	7109	<i>Entomophaga maimaiga</i>	7554	<i>Beauveria bassiana</i>
6878	<i>Metarhizium rileyi</i>	7110	<i>Entomophaga maimaiga</i>	7555	<i>Beauveria brongniartii</i>
6879	<i>Metarhizium rileyi</i>	7111	<i>Entomophaga maimaiga</i>	7556	<i>Beauveria brongniartii</i>
6881	<i>Metarhizium rileyi</i>	7112	<i>Entomophaga maimaiga</i>	7557	<i>Beauveria brongniartii</i>
6882	<i>Metarhizium rileyi</i>	7113	<i>Entomophaga maimaiga</i>	7558	<i>Beauveria brongniartii</i>
6889	<i>Isaria tenuipes</i>	7114	<i>Entomophaga maimaiga</i>	7559	<i>Beauveria brongniartii</i>
6892	<i>Beauveria bassiana</i> (?)	7115	<i>Entomophaga maimaiga</i>	7560	<i>Beauveria brongniartii</i>
6893	<i>Isaria fumosorosea</i>	7116	<i>Entomophaga maimaiga</i>	7561	<i>Beauveria brongniartii</i>
6894	<i>Beauveria bassiana</i>	7118	<i>Isaria farinosa</i>	7562	<i>Beauveria sp.</i>
6904	<i>Beauveria bassiana</i>	7120	<i>Entomophaga maimaiga</i>	7563	<i>Beauveria sp.</i>
6905	<i>Beauveria bassiana</i>	7121	<i>Entomophaga maimaiga</i>	7564	<i>Beauveria sp.</i>
6917	<i>Zoopthora radicans</i>	7122	<i>Entomophaga maimaiga</i>	7565	<i>Beauveria sp.</i>
6931	<i>Beauveria bassiana</i>	7123	<i>Entomophaga maimaiga</i>	7566	<i>Beauveria sp.</i>
6932	<i>Beauveria bassiana</i>	7124	<i>Entomophaga maimaiga</i>	7567	<i>Beauveria sp.</i>
6933	<i>Beauveria bassiana</i>	7125	<i>Entomophaga maimaiga</i>	7568	<i>Lecanicillium muscarium</i>
6934	<i>Beauveria bassiana</i>	7126	<i>Entomophaga maimaiga</i>	7569	<i>Metarhizium anisopliae sensu lato</i>
6935	<i>Beauveria bassiana</i>	7127	<i>Entomophaga maimaiga</i>	7570	<i>Metarhizium anisopliae sensu lato</i>
6936	<i>Beauveria bassiana</i>	7131	<i>Entomophaga maimaiga</i>	7571	<i>Metarhizium anisopliae sensu lato</i>
6937	<i>Beauveria bassiana</i>	7132	<i>Entomophaga maimaiga</i>	7572	<i>Metarhizium anisopliae sensu lato</i>
6938	<i>Beauveria bassiana</i>	7133	<i>Entomophaga maimaiga</i>	7573	<i>Metarhizium anisopliae sensu lato</i>
6939	<i>Beauveria bassiana</i>	7134	<i>Entomophaga maimaiga</i>	7574	<i>Isaria farinosa</i>
6940	<i>Beauveria bassiana</i>	7135	<i>Entomophaga maimaiga</i>	7575	<i>Isaria farinosa</i>
6941	<i>Beauveria bassiana</i>	7136	<i>Entomophaga maimaiga</i>	7576	<i>Isaria farinosa</i>
6943	<i>Beauveria bassiana</i>	7137	<i>Entomophaga maimaiga</i>	7579	<i>Beauveria sp.</i>
6949	<i>Beauveria bassiana</i>	7138	<i>Entomophaga maimaiga</i>	7585	<i>Beauveria bassiana</i>
6950	<i>Beauveria bassiana</i>	7139	<i>Entomophaga maimaiga</i>	7586	<i>Beauveria sp.</i>
6951	<i>Beauveria bassiana</i>	7140	<i>Entomophaga aulicae</i>	7587	<i>Beauveria sp.</i>
6952	<i>Beauveria bassiana</i>	7141	<i>Entomophaga aulicae</i>	7593	<i>Beauveria bassiana</i>
6953	<i>Beauveria bassiana</i>	7142	<i>Entomophaga aulicae</i>	7594	<i>Beauveria sp.</i>

7598	Beauveria sp.	8034	Beauveria brongniartii	8670	Beauveria bassiana
7599	Evlachovaea sp.	8035	Beauveria bassiana	8671	Metarhizium brunneum
7600	Evlachovaea sp.	8039	Beauveria bassiana	8672	Beauveria bassiana
7601	Evlachovaea sp.	8040	Beauveria bassiana	8673	Beauveria bassiana
7612	Metarhizium anisopliae sensu lato	8043	Cylindrocarpon sp.	8674	Beauveria bassiana
7613	Metarhizium anisopliae sensu lato	8044	Cylindrocarpon sp.	8675	Beauveria sp.
7614	Metarhizium anisopliae sensu lato	8066	Beauveria bassiana	8680	Metarhizium anisopliae sensu lato
7615	Metarhizium anisopliae sensu lato	8212	Metarhizium anisopliae sensu lato	8681	Metarhizium anisopliae sensu lato
7621	Lecanicillium muscarium	8214	Metarhizium novozealandicum	8682	Metarhizium anisopliae sensu lato
7624	Lecanicillium sp.	8311	Purpureocillium lilacinum	8683	Metarhizium anisopliae sensu lato
7625	Lecanicillium sp.	8312	Purpureocillium lilacinum	8684	Metarhizium anisopliae sensu lato
7626	Lecanicillium sp.	8333	Isaria fumosorosea	8685	Metarhizium anisopliae sensu lato
7627	Lecanicillium sp.	8334	Metarhizium anisopliae sensu lato	8686	Metarhizium anisopliae sensu lato
7628	Lecanicillium sp.	8335	Metarhizium anisopliae sensu lato	8687	Metarhizium anisopliae sensu lato
7629	Lecanicillium sp.	8336	Metarhizium anisopliae sensu lato	8688	Metarhizium anisopliae sensu lato
7632	Lecanicillium sp.	8337	Isaria fumosorosea	8689	Metarhizium anisopliae sensu lato
7714	Isaria farinosa	8338	Metarhizium anisopliae sensu lato	8690	Metarhizium anisopliae sensu lato
7720	Isaria farinosa	8339	Beauveria bassiana	8691	Metarhizium anisopliae sensu lato
7721	Paecilomyces sp.	8340	Beauveria bassiana	8692	Metarhizium anisopliae sensu lato
7722	Isaria farinosa	8341	Metarhizium anisopliae sensu lato	8709	Beauveria bassiana
7723	Isaria farinosa	8342	Metarhizium anisopliae sensu lato	8735	Metarhizium anisopliae sensu lato
7724	Isaria farinosa	8343	Beauveria bassiana	8736	Metarhizium majus
7725	Isaria farinosa	8344	Metarhizium anisopliae sensu lato	8769	Metarhizium anisopliae sensu lato
7726	Isaria farinosa	8345	Isaria fumosorosea	8770	Isaria farinosa
7730	Isaria farinosa	8346	Metarhizium anisopliae sensu lato	8843	Beauveria bassiana
7731	Isaria farinosa	8347	Metarhizium anisopliae sensu lato	8891	Beauveria bassiana
7733	Isaria farinosa	8348	Isaria fumosorosea	8926	Furia gastropachae
7734	Isaria farinosa	8349	Beauveria bassiana	9380	Isaria fumosorosea
7736	Isaria farinosa	8350	Metarhizium anisopliae sensu lato	9445	Beauveria bassiana
7737	Isaria farinosa	8351	Metarhizium anisopliae sensu lato	9458	Lecanicillium sp.
7738	Lecanicillium muscarium	8352	Metarhizium anisopliae sensu lato	9468	Lecanicillium muscarium
7741	Paecilomyces sp.	8353	Metarhizium anisopliae sensu lato	9469	Lecanicillium muscarium
7742	Paecilomyces sp.	8354	Beauveria bassiana	9477	Lecanicillium muscarium
7743	Isaria fumosorosea	8355	Beauveria bassiana	9484	Cordyceps militaris
7756	Paecilomyces sp.	8356	Beauveria bassiana	9486	Cordyceps sp.
7778	Metarhizium rileyi	8431	Beauveria bassiana	9489	Metarhizium rileyi
7779	Metarhizium rileyi	8432	Metarhizium anisopliae sensu lato	9490	Metarhizium rileyi
7780	Metarhizium rileyi	8433	Metarhizium anisopliae sensu lato	9493	Clonostachys rosea
7790	Isaria tenuipes	8434	Metarhizium anisopliae sensu lato	9501	Sporothrix insectorum
7808	Cordyceps sp.	8435	Metarhizium anisopliae sensu lato	9515	Isaria farinosa
7809	Cordyceps militaris	8436	Metarhizium anisopliae sensu lato	9520	Isaria fumosorosea
7810	Cordyceps militaris	8437	Metarhizium anisopliae sensu lato	9531	Isaria tenuipes
7811	Cordyceps sp.	8438	Metarhizium anisopliae sensu lato	9532	Isaria tenuipes
7820	Metarhizium anisopliae sensu lato	8439	Evlachovaea sp.	9534	Isaria tenuipes
7821	Metarhizium anisopliae sensu lato	8440	Metarhizium anisopliae sensu lato	9540	Unidentified / Hyphomycetes
7822	Metarhizium anisopliae sensu lato	8441	Evlachovaea sp.	9541	Metarhizium anisopliae sensu lato
7823	Metarhizium anisopliae sensu lato	8442	Evlachovaea sp.	9596	Beauveria sp.
7847	Metarhizium anisopliae sensu lato	8443	Metarhizium anisopliae sensu lato	9597	Beauveria sp.
7851	Nomuraea sp.	8444	Beauveria bassiana	9599	Beauveria brongniartii
7924	Sporothrix insectorum	8445	Metarhizium anisopliae sensu lato	9601	Isaria catenianulata
7955	Beauveria bassiana	8446	Metarhizium anisopliae sensu lato	9603	Hirsutella liboensis
7956	Beauveria bassiana	8447	Metarhizium anisopliae sensu lato	9943	Scopulariopsis brevicaulis
7957	Beauveria bassiana	8448	Isaria fumosorosea	10224	Isaria fumosorosea
7958	Beauveria bassiana	8449	Evlachovaea sp.	10470	Fusarium sp.
7959	Beauveria bassiana	8450	Metarhizium anisopliae sensu lato	10473	Metarhizium anisopliae sensu stricto
7960	Beauveria sp.	8451	Metarhizium anisopliae sensu lato	11613	Beauveria bassiana
7961	Isaria farinosa	8452	Metarhizium anisopliae sensu lato	11614	Beauveria bassiana
7962	Isaria farinosa	8453	Metarhizium anisopliae sensu lato	11615	Beauveria bassiana
7963	Beauveria bassiana	8454	Metarhizium anisopliae sensu lato	11616	Beauveria bassiana
7964	Beauveria bassiana	8493	Beauveria bassiana	11617	Beauveria bassiana
7965	Beauveria bassiana	8560	Metarhizium anisopliae sensu stricto	11637	Metarhizium anisopliae sensu lato
7966	Beauveria bassiana	8660	Metarhizium anisopliae sensu lato	11656	Isaria farinosa
7967	Metarhizium anisopliae sensu lato	8661	Beauveria bassiana	11657	Isaria fumosorosea
7968	Beauveria bassiana	8662	Metarhizium anisopliae sensu lato	11658	Isaria fumosorosea
7969	Beauveria bassiana	8663	Beauveria bassiana	11659	Isaria fumosorosea
7995	Paecilomyces sp.	8664	Beauveria bassiana	11661	Metarhizium anisopliae sensu lato
8001	Paecilomyces sp.	8665	Metarhizium anisopliae sensu lato	11703	Cordyceps militaris
8012	Cordyceps militaris	8666	Beauveria bassiana	11704	Cordyceps militaris
8032	Beauveria bassiana	8667	Beauveria bassiana	11705	Isaria tenuipes
8033	Beauveria bassiana	8669	Metarhizium anisopliae sensu lato	11706	Isaria tenuipes

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11707 Isaria tenuipes
 11708 Beauveria bassiana
 11709 Beauveria sp.
 11715 Beauveria bassiana
 11716 Beauveria bassiana
 11717 Beauveria bassiana
 11719 Beauveria bassiana
 11721 Isaria farinosa
 11722 Isaria cateniannulata
 11723 Cordyceps pruinosa
 11724 Cordyceps pruinosa
 11725 Simplicillium lamellicola(?)
 11726 Isaria cicadae
 11764 Pandora sp.
 11802 Lecanicillium muscarium
 11829 Isaria farinosa
 11939 Metarhizium rileyi
 11941 Metarhizium rileyi
 11942 Metarhizium rileyi
 11943 Metarhizium rileyi
 12163 Unidentified / Hyphomycetes
 12164 Unidentified / Hyphomycetes
 12165 Beauveria bassiana
 12166 Isaria cateniannulata(?)
 12167 Isaria cateniannulata
 12168 Beauveria sp.
 12169 Beauveria sp.
 12170 Unidentified / Hyphomycetes
 12171 Unidentified / Hyphomycetes
 12172 Isaria fumosorosea
 12173 Isaria fumosorosea
 12174 Isaria fumosorosea
 12175 Isaria fumosorosea
 12176 Unidentified / Hyphomycetes
 12177 Isaria fumosorosea
 12178 Unidentified / Hyphomycetes
 12179 Unidentified / Hyphomycetes
 12180 Unidentified / Hyphomycetes
 12181 Unidentified / Hyphomycetes
 12452 Metarhizium sp.
 12453 Metarhizium sp.
 12454 Metarhizium sp.
 12455 Metarhizium sp.
 12456 Beauveria sp.
 12457 Beauveria sp.
 12458 Beauveria sp.
 12459 Beauveria sp.
 12822 Beauveria bassiana
 13258 Beauveria bassiana sensu lato
 13259 Beauveria bassiana sensu lato
 13260 Beauveria pseudobassiana
 13261 Beauveria pseudobassiana
 13262 Beauveria pseudobassiana
 13263 Beauveria pseudobassiana
 13264 Metarhizium sp.
 13265 Metarhizium sp.
 13266 Metarhizium sp.
 13267 Metarhizium sp.
 13268 Metarhizium sp.
 13269 Metarhizium sp.
 13270 Metarhizium sp.
 13271 Metarhizium sp.
 13272 Lecanicillium muscarium
 13273 Isaria fumosorosea
 13274 Isaria farinosa
 13275 Metarhizium sp.
 13276 Metarhizium sp.
 13508 Metarhizium rileyi
 13748 Beauveria sp.