

*USDA-ARS Collection
of Entomopathogenic
Fungal Cultures*

ARSeF

Isolates from **LEPIDOPTERA**



**Biological Integrated Pest Management Research
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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 phylogenetical 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) semiparalyzed 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*.

Table 1. UPDATES for probable outcomes under 1F=1N standards for which genera of entomopathogens in Hypocreales are likely to be treated as ‘correct’ (in boldface) that differ (where underlined> from what was suggested in Humber’s (2012) poster presented at the SIP meeting in Buenos Aires, AR.

Family Clavicipitaceae	
Humber (2012)	<i>Metarhizium</i> (synonyms: <i>Metacordyceps</i> , <i>Nomuraea</i> , <i>Pochonia</i> , <i>Rotiferophthora</i> , etc.) <i>Aschersonia</i> (synonym: <i>Hypocrella</i>) Other aschersonioid genera; <i>Moelleriella</i>, <i>Orbiocrella</i>, <i>Regiocrella</i>, <i>Samuelsia</i>
Updated (see Kepler et al. 2014)	<i>Metarhizium</i> (synonyms: <i>Chamaeleomyces</i> , <i>Metacordyceps</i> , <i>Nomuraea</i>) <i>Pochonia</i> <i>Metapochonia</i> <i>Rotiferophthora</i> <i>Aschersonia</i> (synonym: <i>Hypocrella</i>) Other aschersonioid genera; <i>Moelleriella</i>, <i>Orbiocrella</i>, <i>Regiocrella</i>, <i>Samuelsia</i>
Family Cordycipitaceae	
Humber (2012)	<i>Cordyceps</i> (synonyms: <i>Beauveria</i> , <i>Isaria</i> , <i>Lecanicillium</i> , <i>Evlachovaea</i> , <i>Microhilum</i> , <i>Simplicillium</i> , etc.) <i>Torrubiella</i> (synonyms: <i>Akanthomyces</i> , <i>Gibellula</i> , <i>Granulomanus</i> , <i>Pseudogibellula</i>) <i>Ascopolyporus</i> <i>Conoidiocrella</i>
Updated probable choices:	<i>Cordyceps</i> (possible synonyms: <i>Torrubiella</i> ^{1,2} , <i>Lecanicillium</i> ¹) <i>Beauveria</i> <i>Gibellula</i> (synonym: <i>Granulomanus</i>) <i>Isaria</i> (synonym: <i>Evlachovaea</i>) <i>Ascopolyporus</i> <i>Conoidiocrella</i>
Family Ophiocordycipitaceae	
Humber (2012)	<i>Elaphocordyceps</i> (synonym: <i>Tolypocladium</i>) <i>Ophiocordyceps</i> (synonyms: <i>Hirsutella</i> ³ , <i>Hymenostilbe</i> , <i>Paraisaria</i> , <i>Sorosporrella</i> , <i>Syngliocladium</i>)
Updated probable choices:	<i>Elaphocordyceps</i> (synonym: <i>Tolypocladium</i>) <i>Ophiocordyceps</i> (synonyms <i>Hirsutella</i> ³ , <i>Hymenostilbe</i> , <i>Paraisaria</i> , <i>Sorosporrella</i> , <i>Syngliocladium</i>) <i>Polycephalomycetes</i> (see Kepler et al. 2012)

¹ Separate status or synonymy depends on more complete determination for status of type species.

² As traditionally defined, a polyphyletic group with spp attributable to all clavicipitoid families; see Johnson et al. 2009.

³ May be recognized as separate from *Ophiocordyceps* but status and circumscription still undetermined.

IMPORTANT NOTE: If not treated as a separate genus, *Hirsutella* might be recognized as a correct name to replace the younger generic name *Ophiocordyceps*.

- 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 gene 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**

Fusarium — **O'Donnell et al. 2012**

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

Metacordyceps — **Kepler et al. 2012**

Polycephalomycetes — **Kepler et al. 2013**

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 in indicating that a large group of taxa—including the entomopathogenic genera *Coelomomyces*, *Coelomycidium*, and *Miophagus*—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**).

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 Neozygitales	
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>Macrobotophtora</i>
Family Completoriaceae	<i>Completozia</i>
Family Entomophthoraceae	
Subfamily Entomophthoroideae	<i>Entomophthora</i> , <i>Entomophaga</i> , <i>Eryniopsis</i> , <i>Massospora</i> ³
Subfamily Erynioideae ⁴	<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 Subfamily Massosporoideae proposed by Keller & Petrini (2005) is not phylogenetically supported.

⁴ Phylogenetic data support Zoophthora, but distinctions among other genera remain uncertain.

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

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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 2008 as the Biological Integrated Pest Management Research Unit (BioIPM). 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.

BioIPM 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 Plant Protection Research Unit and state the ARSEF accession numbers of these strains. We would very 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 Schimmelcultures (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 other culture collections.

Depositing and Exchanging Cultures

BioIPM 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 especially important!***)
4. Date and site of collection.
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. This service is an important function of the ARS Collections of Entomopathogenic Fungi and is provided without charge. Identifications and information about the disposition of specimens will be mailed to the sender.

Release of ARSEF Cultures from Containment or Quarantine

Neither the curator nor any employee of ARSEF or of the Plant Protection Research Unit 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 Curator (Richard A. Humber):

ARS Collection of Entomopathogenic Fungal Cultures
Robert W. Holley Center for Agriculture & Health
Tower Rd.
Ithaca, NY 14853–2901

Telephone: [+1] 607 255-1276
OR Fax: [+1] 607 255-1132
Email: richard.humber@ars.usda.gov

Academic, Government, and Other Nonprofit Institutions

1–5 isolates [up to 7 per calendar year]

no charge

6 or more isolates per order [8 or more per calendar year]

US\$60 per strain

Users from nonprofit institutions can receive up to five isolates without charge in any 6 month period, and up to seven cultures in any calendar year. Requests in excess of these limits may be charged at the rate of US\$60 per additional isolate requested. Requests from commercially sponsored research programs undertaken by nonprofit institutions are charged at the commercial rate and are not subject to numerical limits. Prices are subject to change without notice.

Commercial and Industrial Institutions

US\$85 per strain

Nonprofit institutions working on commercially sponsored contractual projects (such as screening programs) are charged at the rate of US\$85 per strain requested. There are no limits on the numbers of cultures that can be requested or shipped. Prices are subject to change without notice.

Commercial or industrial firms supporting research at the ARS Plant Protection Research Unit are entitled to free access to cultures pertinent to contracted projects; all other requests are charged at the current rate.

TERMS OF SHIPMENT

If necessary, billings for isolates are issued through the Boyce Thompson Institute. We encourage prepayment for isolates. *Checks or money orders for strains must be payable to the **Boyce Thompson Institute*** but sent directly to the curator of the ARS Collections of Entomopathogenic Fungi. Consult the curator of the collections with questions about fees due for any particular shipment.

All recipients of cultures are strongly encouraged 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. Inviabile 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, BioIPM, nor the Boyce Thompson Institute 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.
France: Val-de-Marne, La Varenne	Country of origin followed by the locality and region.

***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 BioIPM 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, Edpartment 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

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.
- 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.
- 12167 I Erper (TR-55-5). 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.

- 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.
- 1703 MC Rombach (E). *Cnaphalocrocis medinalis* [Lepidoptera: Pyralidae]. Acc'd 6 Nov 1984. Philippines: IRRRI, Los Baños, Manila.
- 2821 GW Riethmacher (E8). *Plutella xylostella* [Lepidoptera: Plutellidae]. 4 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.
- 3804 ERD Reyes (VD). Larva, *Diatraea saccharalis* [Lepidoptera: Pyralidae] sugarcane. 25 Mar 1992. Mexico: Colima.
- 3998 LA Lacey (93035) ← F Herard. Larva, *Yponomeuta* sp. [Lepidoptera: Yponomeutidae]. 4 May 1993. France: Bagnols, S/Céze.

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.

***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.
- 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.

***Basidiobolus ranarum* Eidam**

[Entomophthoromycotina: Entomophthorales]

Basidiobolaceae. Possible synonyms: *Basidiobolus hap-tosporus* 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.

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- 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.
- 3289 J Gutierrez Samperio (5) ← ERD Reyes. *Spodoptera frugiperda* [Lepidoptera: Noctuidae] on corn. 1988. Mexico: Colima.
- 5078 SR Booth (Quinby; BSP). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae]. 17 Jan 1994. USA: Cranberry bog, Grayland, Washington.
- 5832 BL Parker (SPT 11(a)). [Lepidoptera]. 18 Jan 1998. Turkey: Hursit Mt., Gaziantep, Gaziantep.
- 6533 FE Vega (EBCL 99076). *Cydia pomonella* [Lepidoptera: Tortricidae]. Rec'd 8 Jun 2000. Republic of Georgia: Bulachauri.
- 6534 FE Vega (EBCL 99077). *Cydia pomonella* [Lepidoptera: Tortricidae]. Rec'd 8 Jun 2000. Republic of Georgia: Bulachauri.
- 6535 FE Vega (EBCL 99080). *Cydia pomonella* [Lepidoptera: Tortricidae]. Rec'd 8 Jun 2000. Republic of Georgia: Breti.
- 6536 FE Vega (EBCL 99085). *Cydia pomonella* [Lepidoptera: Tortricidae]. Rec'd 8 Jun 2000. Republic of Georgia: Breti.
- 6537 FE Vega (EBCL 99088). *Cydia pomonella* [Lepidoptera: Tortricidae]. Rec'd 8 Jun 2000. Republic of Georgia: Lagodekhi.
- 7562 I Klingen (NCRI 225/02). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 1 Oct 2001. Norway: Nessane, organic apple orchard, Balestrand, Sogn og Fjordane.
- 7563 I Klingen (NCRI 226/02). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 1 Oct 2001. Norway: Nessane, organic apple orchard, Balestrand, Sogn og Fjordane.
- 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.
- 7565 I Klingen (NCRI 229/02). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 1 Oct 2001. Norway: Nessane, field margin of organic apple orchard, Balestrand, Sogn og Fjordane.
- 7566 I Klingen (NCRI 235/02). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 1 Oct 2001. Norway: Nessane, field margin of conventional apple orchard, Balestrand, Sogn og Fjordane.
- 7567 I Klingen (NCRI 236/02). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 1 Oct 2001. Norway: Nessane, field margin of conventional apple orchard, Balestrand, Sogn og Fjordane.
- 7579 [SRCAMB B-3/3] V Likhovidov ← BA Borisov. Pupa, [Lepidoptera] Isolated from stroma of *Cordyceps* sp. Sep 2001. Russian Federation: Caucasus region, Karachayevo-Cherkessiya Republ. Field Collection Number F-289.
- 7586 [SRCAMB B-44] V Likhovidov ← BA Borisov. Pupa, [Lepidoptera] Isolated from stroma of *Cordyceps chichibuensis*. Aug 2002. Russian Federation: Lazovsky Nature Reserve, Primorsky Krai. Field Collection Number F-170.
- 7587 [SRCAMB VL-64] V Likhovidov. Pupa, [Lepidoptera]. Sep 2001. Russian Federation: Caucasus region, Krasnaya Polyana, Krasnodarsky Krai. Field Collection Number F-177.
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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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- 2728 GW Riethmacher (L2). *Plutella xylostella* [Lepidoptera: Plutellidae]. 27 Jan 1989. Philippines: La Trinidad, Benguet.
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- 3979 LA Lacey (93016) ← F Herard. Larva, *Cydia pomon-ella* [Lepidoptera: Tortricidae]. 4 May 1993. France: Le Vigan, Gard.
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- 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.
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- 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.
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- 4607 [DAT 41] AC Rath (F041) ← RJ Milner (F117). Larva, *Oncopera alboguttata* [Lepidoptera: Hepialidae]. 6 Dec 1976. Australia: Ebor, New South Wales.
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- 5169 S Gouli (GA-81). [Lepidoptera: Tortricidae] on *Tsuga canadensis*. 29 Jan 1996. USA: Mt. Tom, Holyoke, Massachusetts.
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- 5234 LA Lacey (96012). *Cydia pomonella* [Lepidoptera: Tortricidae]. 24 May 1996. France: Pont d' Hérault, Hérault.
- 5235 LA Lacey (96013). *Cydia pomonella* [Lepidoptera: Tortricidae]. 24 May 1996. France: Pont d' Hérault, Hérault.
- 5492 M Brownbridge (MLC8). *Paraclemensia acerifoliella* [Lepidoptera: Incurvariidae]. Rec'd 16 May 1997. USA: Randolph, Vermont.
- 5500 C López Lastra ← G Dalbello (#6). Larva, *Diatraea saccharalis* [Lepidoptera: Pyralidae]. 1993. Argentina: Oliveros, Santa Fe.
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- 5510 I Klingen (TØF 15.2). Larva, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 25 Sep 1996. Norway: Steinkjer, Nord Trøndelag. **RESTRICTED ACCESS:** contact Curator.
- 5573 N Mihelcic. *Rhyacionia frustrana* [Lepidoptera: Tortricidae]. Rec'd 17 Nov 1997. USA: loblolly pine plantation, Clarke County, Georgia.
- 5645 [IITA 184] A Cherry. *Eldana saccharina* [Lepidoptera: Pyralidae]. 4 Sep 1996. Benin: IITA field, Cotonou, Atlantique.
- 5646 [IITA 185] A Cherry. *Coniesta sp.* [Lepidoptera: Pyralidae]. 12 Sep 1996. Benin: Monkassa, Malanville, Borgou.
- 5647 [IITA 279] A Cherry. *Acigona sp.* [Lepidoptera: Pyralidae]. 7 Oct 1996. Benin: Massin, Malanville, Borgou.
- 5648 [IITA 295] A Cherry. *Acigona sp.* [Lepidoptera: Pyralidae]. 7 Oct 1996. Benin: Bussokari, Malanville, Borgou.
- 5649 [IITA 313] A Cherry. *Sesamia calamistis* [Lepidoptera: Noctuidae]. 19 Nov 1996. Benin: Soclogbo, Dassa.
- 5653 [IITA 581] A Cherry. *Eldana saccharina* [Lepidoptera: Pyralidae] from forest soil. 24 Oct 1997. Benin: Bassia-P.
- 5654 [IITA 583] A Cherry. *Sesamia calamistis* [Lepidoptera: Noctuidae]. 24 Oct 1997. Benin: Serou, Djougou, Atakora.
- 5655 [IITA 584] A Cherry. *Eldana saccharina* [Lepidoptera: Pyralidae]. 24 Oct 1997. Benin: Serou, Djougou, Atakora.
- 5704 JL Hatting (2). *Bombyx mori* [Lepidoptera: Bombycidae]. Nov 1998. South Africa: Bethlehem, Free State.
- 5886 FE Vega (EBCL 98029). Larva, *Cydia pomonella* [Lepidoptera: Tortricidae]. 19 Feb 1998. France: Crespian, Gard.
- 5887 FE Vega (EBCL 98031). Larva, *Cydia pomonella* [Lepidoptera: Tortricidae]. 19 Feb 1998. France: Crespian, Gard.
- 5888 FE Vega (EBCL 98032). Larva, *Cydia pomonella* [Lepidoptera: Tortricidae]. 19 Feb 1998. France: Crespian, Gard.
- 5988 JL Stimac (UF 5873). *Simyra henrici* [Lepidoptera: Noctuidae]. Apr 1995. USA: Lake Apopka, Florida.
- 6100 BJ Hicks (A). *Panolis flammea* [Lepidoptera: Noctuidae]. Rec'd Jan 1999. United Kingdom: Moray District, Scotland.
- 6101 BJ Hicks (B). *Panolis flammea* [Lepidoptera: Noctuidae]. Rec'd Jan 1999. United Kingdom: Moray District, Scotland.
- 6109 BL Parker (SPT-U-257). Pupa, [Lepidoptera]. 16 Jan 1999. Uzbekistan: Site d, SW of Samarkand, Mirankul region.
- 6147 HK Kaya (2). Pupa, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 25 Jan 1999. USA: Sustainable Agriculture Farming Systems Project at UC Davis, Yolo County, California.
- 6148 HK Kaya (5). Pupa, *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 25 Jan 1999. USA: Sustainable Agriculture Farming Systems Project at UC Davis, Yolo County, California.
- 6150 SP Wraight (DBM 28° #2 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 28°C. **RESTRICTED ACCESS:** contact Curator.

- 6151 SP Wraight (DBM 28° #3 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 28°C. **RESTRICTED ACCESS:** contact Curator.
- 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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- 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.
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- 6208 FE Vega (EBCL 98053). Larva, *Cydia pomonella* [Lepidoptera: Tortricidae]. 5 Oct 1998. Bulgaria: Jabalkovo.
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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.
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- 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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- 6976 [PPRI 7059] JL Hatting. Pupa, *Monopetalotaxis doleriformis* [Lepidoptera: Sesiidae]. Dec 2000. South Africa: Ysterfontein, Clanwilliam, Cape Province.
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- 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.
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- 7364 DJ Bruck (IP-238). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 19 Aug 2002. USA: Aurora, Oregon.
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- 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.
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- 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.
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- 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.
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- 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.
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- 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.
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- 8444 Z Demirbag (KTU-38). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 20 Mar 2007. Turkey: Ulubey, Ordu.
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- 8661 Z Demirbag (KTU-50). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 4 Jun 2007. Turkey: Gümüşane.
- 8663 Z Demirbag (KTU-52). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 4 Jun 2007. Turkey: Gümüşane.
- 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: Gümüşane.
- 8670 Z Demirbag (KTU-59). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 7 Jul 2007. Turkey: Gümüşane.
- 8672 Z Demirbag (KTU-61). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 7 Jul 2007. Turkey: Gümüşane.
- 8673 Z Demirbag (KTU-62). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. 7 Jul 2007. Turkey: Bayburt.
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- 11616 [ERL 59] M Brownbridge (MLC4). *Paraclemensia* sp. [Lepidoptera: Incurvariidae]. 1994. USA.
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- 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.
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***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.

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- 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.

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- 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.
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- 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

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- 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. EX-TYPE ISOLATE for species defined genomically.
- 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.

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*.

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

- 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 Masee

[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.
- 5004 KT Hodge (kth31A-3). 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.
- 5005 KT Hodge (kth31A-4). 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.
- 5006 KT Hodge (kth31A-5). 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.
- 5007 KT Hodge (kth31A-6). 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.
- 5008 KT Hodge (kth31A-7). 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.
- 5009 KT Hodge (kth31A-8). 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.
- 5010 KT Hodge (kth31A-9). 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.

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- 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
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- 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
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- 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.
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- 51 JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 16 Jun 1975. USA: 12.4 mi from Rt. 11/159 in Patten, Shin Pond, 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.

- 167 JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 14 Jul 1977. USA: forest-upper, nr. Carroll, Maine.
- 168 JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 14 Jul 1977. USA: forest-upper, nr. Carroll, Maine.
- 172 JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. Jul 1977. USA: forest-lower, Shin Pond, Maine.
- 198 [ARSEF ?998; FPMI 707] RG Kenneth (3136) ← J Aoki. *Aedia leucomelas* [Lepidoptera: Noctuidae] on *Ipomea batatas* (sweet potato). 29 Oct 1976. Japan: Fuchu, Tokyo Prefecture.
- 251 JG Hamm. ?*Heliothis* sp. [Lepidoptera: Noctuidae] on sorghum. Rec'd Sep 1978. USA: GA Coastal Plain Experiment Station, Tifton, Georgia.
- 998 [ARSEF ?198] J Aoki (Ent. 14) ← A Ohkawa. *Aedia leucomelas* [Lepidoptera: Noctuidae]. Oct 1976. Japan: Fuchu, Tokyo Prefecture.
- 1140 [ARSEF 1656] M Shimazu (F-339). [Lepidoptera]. 8 Apr 1982. Japan: Ibaraki Prefecture.
- 1655 [ARSEF 1142 (lost); CSIRO EM693] M Shimazu (F-343). *Dendrolimus spectabilis* [Lepidoptera: Lasiocampidae]. Rec'd Oct 1984. Japan: Ibaraki Prefecture.
- 1656 [ARSEF 1140] M Shimazu (F-339). [Lepidoptera]. Rec'd Oct 1984. Japan: Ibaraki Prefecture.
- 1657 [CSIRO EM690] M Shimazu (F-327). *Mamestra brassicae* [Lepidoptera: Noctuidae]. Acc'd 19 Oct 1984. Japan: Ibaraki Prefecture.
- 1751 J Mitsuhashi (Emb-1). *Mamestra brassicae* [Lepidoptera: Noctuidae]. 29 Oct 1984. Japan: Ibaraki Prefecture.
- 1990 FPMI (491). *Lambdina fiscellaria lugubrosa* [Lepidoptera: Geometridae]. 16 Aug 1972. Canada: Coquitlam, British Columbia.
- 1991 FPMI (458). *Lambdina fiscellaria fiscellaria* [Lepidoptera: Geometridae]. 8 Sep 1970. Canada: Boots Brook, Newfoundland.
- 1992 FPMI (889). *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 5 Jul 1985. Canada: Black Sturgeon, Ontario.
- 1993 FPMI (771). *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 25 Jun 1984. Canada: Black Sturgeon, Ontario.
- 1994 FPMI (776). *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 22 Jun 1984. Canada: Black Sturgeon, Ontario.
- 1995 FPMI (777). *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 22 Jun 1984. Canada: Black Sturgeon, Ontario.
- 1997 FPMI (894). *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 29 Jul 1985. Canada: Black Sturgeon, Ontario.
- 1998 FPMI (877). *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 11 Sep 1979. Canada: Thessalon, Ontario.
- 1999 FPMI (576). *Pseudaletia* sp. [Lepidoptera: Noctuidae]. 18 Jul 1976. Canada: Sault Ste. Marie, Ontario.
- 2000 FPMI (513). *Enypia griseata* [Lepidoptera: Geometridae]. 1975. Canada: British Columbia.
- 2362 M Shimazu (F-554-4). *Mamestra brassicae* [Lepidoptera: Noctuidae]. 26 Sep 1986. Japan: Hokkaido Prefecture.
- 2363 M Shimazu (F-553-3). *Autographa gamma* [Lepidoptera: Noctuidae]. 26 Sep 1986. Japan: Hokkaido Prefecture.
- 2365 M Shimazu (F-553-1). *Autographa gamma* [Lepidoptera: Noctuidae]. 26 Sep 1986. Japan: Hokkaido Prefecture.
- 2366 M Shimazu (F-555). *Colias erate poliographus* [Lepidoptera: Pieridae]. 26 Sep 1986. Japan: Hokkaido Prefecture.
- 2367 M Shimazu (F-554-3). *Mamestra brassicae* [Lepidoptera: Noctuidae]. 26 Sep 1986. Japan: Hokkaido Prefecture.
- 2368 M Shimazu (F-554-2). *Mamestra brassicae* [Lepidoptera: Noctuidae]. 26 Sep 1986. Japan: Hokkaido Prefecture.
- 2369 M Shimazu (F-554-1). *Mamestra brassicae* [Lepidoptera: Noctuidae]. 26 Sep 1986. Japan: Hokkaido Prefecture.
- 2372 M Shimazu (F-531). *Spilosoma niveum* [Lepidoptera: Arctiidae]. 14 May 1986. Japan: Chiyoda-mura, Ibaraki Prefecture.
- 2373 M Shimazu (F-530-2). *Spilosoma niveum* [Lepidoptera: Arctiidae]. 6 May 1986. Japan: Sakura-mura, Chiba Prefecture.
- 2374 M Shimazu (F-530-1). *Spilosoma niveum* [Lepidoptera: Arctiidae]. 6 May 1986. Japan: Sakura-mura, Chiba Prefecture.
- 2843 JC Silver ← A Sands. *Heterocampa guttivitta* [Lepidoptera: Notodontidae]. Aug 1989. USA: Wilmington, Vermont.
- 2896 FPMI (521). *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 13 Jul 1973. Canada: Newfoundland.
- 2897 FPMI (626). *Dryocampa rubicunda* [Lepidoptera: Saturniidae]. 1973. Canada: Ontario.
- 2898 FPMI (646). *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 27 Jul 1978. Canada: Newfoundland.
- 2899 FPMI (717). *Rheumaptera hastata* [Lepidoptera: Geometridae]. 16 Aug 1982. Canada: Gargantua, Ontario.
- 2900 FPMI (893). *Lambdina fiscellaria fiscellaria* [Lepidoptera: Geometridae]. 29 Jul 1983. Canada: Gander, Newfoundland.

- 2901 FPMI (934). *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 2 Jul 1986. Canada: Black Sturgeon, Ontario.
- 2902 FPMI (597). *Heterocampa* sp. [Lepidoptera: Notodontidae]. 2 Aug 1976. Canada: St. Joseph's Island, Ontario.
- 2903 FPMI (598). *Ellida caniplaga* [Lepidoptera: Notodontidae]. 10 Aug 1976. Canada: St. Joseph's Island, Ontario.
- 2904 FPMI (600). *Heterocampa guttivitta* [Lepidoptera: Notodontidae]. 22 Jul 1976. Canada: Hilton Beach, Ontario.
- 2905 FPMI (602). *Heterocampa biundata* [Lepidoptera: Notodontidae]. 14 Aug 1976. Canada: St. Joseph's Island, Ontario.
- 3016 MH Griggs. Larva, [Lepidoptera: Noctuidae]. 9 Jul 1990. USA: Game Farm Rd., Ithaca, New York.
- 3039 AE Hajek. *Heterocampa guttivitta* [Lepidoptera: Notodontidae]. 3 Aug 1990. USA: Stamford, New York.
- 3212 AE Hajek. *Heterocampa guttivitta* [Lepidoptera: Notodontidae]. 3 Aug 1990. USA: Stamford, New York. Resting spores from ARSEF 3039.
- 3602 AE Hajek. *Malacosoma disstria* [Lepidoptera: Lasiocampidae]. 10 Jun 1991. USA: McGowan Woods, Ithaca, New York. Resting spores.
- 4004 [AE Hajek A-OV] Larva, *Orgyia vetusta* [Lepidoptera: Lymantriidae] *Lupinus arboreus*. Rec'd 12 Aug 1993. USA: Bodega Bay, California.
- 4005 [AE Hajek] Larva, *Orgyia vetusta* [Lepidoptera: Lymantriidae] *Lupinus arboreus*. Rec'd 12 Aug 1993. USA: Bodega Bay, California.
- 4006 [AE Hajek] Larva, *Orgyia vetusta* [Lepidoptera: Lymantriidae] *Lupinus arboreus*. Rec'd 12 Aug 1993. USA: Bodega Bay, California.
- 4007 AE Hajek. Larva, *Orgyia vetusta* [Lepidoptera: Lymantriidae] *Lupinus arboreus*. Rec'd 12 Aug 1993. USA: Bodega Bay, California.
- 4008 AE Hajek (D-OV). Larva, *Orgyia vetusta* [Lepidoptera: Lymantriidae] *Lupinus arboreus*. Rec'd 17 Aug 1993. USA: Bodega Bay, California.
- 7140 AE Hajek (03 ME 1-1-1). *Euproctis chrysorrhoea* [Lepidoptera: Lymantriidae]. 16 Jun 2003. USA: Coastal Studies Center, Orrs Island, Maine.
- 7141 AE Hajek (03 ME 2-1-1). *Euproctis chrysorrhoea* [Lepidoptera: Lymantriidae]. 16 Jun 2003. USA: 601 Merriman Point, Harpswell Neck, Maine.
- 7142 AE Hajek (03 ME 3-1-2). *Euproctis chrysorrhoea* [Lepidoptera: Lymantriidae]. 16 Jun 2003. USA: Yarmouth, Maine.
- 7143 AE Hajek (03 ME 4-1-1). *Euproctis chrysorrhoea* [Lepidoptera: Lymantriidae]. 16 Jun 2003. USA: Old Ledge School, Yarmouth, Maine.
- 7144 AE Hajek (03 ME 5-1-1). *Euproctis chrysorrhoea* [Lepidoptera: Lymantriidae]. 16 Jun 2003. USA: Windy Hill, Bailey Island, Maine.
- 7145 AE Hajek (03 ME 6-1-1). *Euproctis chrysorrhoea* [Lepidoptera: Lymantriidae]. 16 Jun 2003. USA: CCI CV, Bailey Island, Maine.

Entomophaga maimaiga Humber, Shimazu & Soper in Soper, Shimazu, Humber, Ramos & Hajek [Entomophthoromycotina: Entomophthorales] Entomophthoraceae. Strains will grow as wall-less protoplasts in liquid tissue culture media or as walled hyphae on solid culture media.

- 1390 RS Soper (84626-3). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 26 Jun 1984. Japan: Torigoe, Ishikawa Prefecture.
- 1391 [FPMI 963] RS Soper (84626-7-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 26 Jun 1984. Japan: Torigoe, Ishikawa Prefecture.
- 1392 [FPMI 964] RS Soper (84626-7-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 26 Jun 1984. Japan: Torigoe, Ishikawa Prefecture.
- 1400 [FPMI 952] RS Soper (84626-7). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 26 Jun 1984. Japan: Torigoe, Ishikawa Prefecture.
- 1658 M Shimazu (F-446). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 26 Jun 1984. Japan: Ishikawa Prefecture.
- 2370 M Shimazu (F-541-2). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 11 Jul 1986. Japan: Sakuramura, Chiba Prefecture.
- 2371 M Shimazu (F-541-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 11 Jul 1986. Japan: Sakuramura, Chiba Prefecture.
- 2775 AE Hajek (CTIV-3). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 21 Jun 1989. USA: Wilton, Connecticut.
- 2779 AE Hajek. *Lymantria dispar* [Lepidoptera: Lymantriidae]. 25 Jun 1989. USA: Northampton, Massachusetts.
- 2780 AE Hajek. *Lymantria dispar* [Lepidoptera: Lymantriidae]. 13 Jul 1989. USA: North Conway, New Hampshire.
- 3052 AE Hajek (L1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 27 May 1990. USA: Ward Pound Ridge Reservation, Westchester County, New York.
- 3053 AE Hajek (L3). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 27 May 1990. USA: Ward Pound Ridge Reservation, Westchester County, New York.
- 3828 AE Hajek (001-TA). Larva, *Lymantria dispar* [Lepidoptera: Lymantriidae] *Quercus rubra*. 26 Jun 1992. USA: Tower Rd., Ithaca, New York.
- 3829 AE Hajek (001-TB). Larva, *Lymantria dispar* [Lepidoptera: Lymantriidae] *Quercus rubra*. 26 Jun 1992. USA: Tower Rd., Ithaca, New York.
- 3830 AE Hajek (001-TC). Larva, *Lymantria dispar* [Lepidoptera: Lymantriidae] *Quercus rubra*. 26 Jun 1992. USA: Tower Rd., Ithaca, New York.

- 3831 AE Hajek (001-TD). Larva, *Lymantria dispar* [Lepidoptera: Lymantriidae] Quercus rubra. 26 Jun 1992. USA: Tower Rd., Ithaca, New York.
- 3832 AE Hajek (001-TE). Larva, *Lymantria dispar* [Lepidoptera: Lymantriidae] Quercus rubra. 26 Jun 1992. USA: Tower Rd., Ithaca, New York.
- 3833 AE Hajek (001-TF). Larva, *Lymantria dispar* [Lepidoptera: Lymantriidae] Quercus rubra. 26 Jun 1992. USA: Tower Rd., Ithaca, New York.
- 3834 AE Hajek (001-TG). Larva, *Lymantria dispar* [Lepidoptera: Lymantriidae] Quercus rubra. 26 Jun 1992. USA: Tower Rd., Ithaca, New York.
- 3835 AE Hajek (001-TH). Larva, *Lymantria dispar* [Lepidoptera: Lymantriidae] Quercus rubra. 26 Jun 1992. USA: Tower Rd., Ithaca, New York.
- 3913 M Welton (FPMI 992). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 8 Jun 1992. Canada: Kingston, Ontario region, Adolphstown Twp, Ontario.
- 4504 AE Hajek (Ci-1) ← 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.
- 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.
- 4506 AE Hajek (C.i.-3) ← S Talley. Larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 18 May 1994. USA: George Washington National Forest, Rockbridge County, Virginia. Fungus collected from Catocala ilia. L. dispar died 5 days after conidial shower, then produced conidia. Fungus isolated from L. dispar.
- 4507 AE Hajek (C.i.-4) ← S Talley. Larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 18 May 1994. USA: George Washington National Forest, Rockbridge County, Virginia. Fungus collected from Catocala ilia. L. dispar died 5 days after conidial shower, then produced conidia. Fungus isolated from L. dispar.
- 4508 AE Hajek (I.S.-1). Larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 27 May 1994. USA: Irish Settlement Road; Yellow Barn Forest, Ithaca, New York.
- 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.
- 4545 AE Hajek (B-20MD#2). *Malacosoma disstria* [Lepidoptera: Lasiocampidae]. 30 May 1994. Isolated through *Lymantria dispar* larvae.
- 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.
- 5382 AE Hajek (96 MD B2-4). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Sudlersville, Maryland.
- 5383 AE Hajek (96 MD B2-5). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Sudlersville, Maryland.
- 5384 AE Hajek (96 MD B2-6). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Sudlersville, Maryland.
- 5385 AE Hajek (96 MD C2-1). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Sudlersville, Maryland.

- 5386 AE Hajek (96 MD D2-1). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Sudlersville, Maryland.
- 5387 AE Hajek (96 MD D2-2). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Sudlersville, Maryland.
- 5388 AE Hajek (96 MD E2-1). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Sudlersville, Maryland.
- 5389 AE Hajek (96 MD E2-2). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Sudlersville, Maryland.
- 5390 AE Hajek (96 MD F2-1). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Sudlersville, Maryland.
- 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.
- 5395 AE Hajek (96 NY D2). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Yellow Barn State Forest, Dryden, New York.
- 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.
- 5397 AE Hajek (96 NY E1). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Yellow Barn State Forest, Dryden, New York.
- 5398 AE Hajek (96 NY E2). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Yellow Barn State Forest, Dryden, New York.
- 5399 AE Hajek (96 NY E3). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Yellow Barn State Forest, Dryden, New York.
- 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 [CNPAF 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.

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

[Entomophthoromycotina: Entomophthorales]

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

- 2906 FPMI. [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 FPMI 713] M Filotas. *Malacosoma disstria* [Lepidoptera: Lasiocampidae]. 9 Jun 1982. Canada: Webbwood, Ontario.
- 5870 [Forest Pest Management Institute FPMI 922-1a] M Filotas. *Malacosoma disstria* [Lepidoptera: Lasiocampidae]. 20 Jun 1986. Canada: New Liskeard, Ontario.

- 5871 [Forest Pest Management Institute FPMI 922-2a] M Filotas. *Malacosoma disstria* [Lepidoptera: Lasiocampidae]. 20 Jun 1986. Canada: New Liskeard, Ontario.
- 5872 [Forest Pest Management Institute FPMI 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.
- 1129 S Keller (416). [Lepidoptera: Noctuidae]. 18 Aug 1982. Switzerland.

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

- 2418 [NRRL 25090; SBI 87-2] H David. *Emmalocera depressella* [Lepidoptera: Phycitinae]. Acc'd 19 May 1987. India.
- 2595 [NRRL 25093] RC Rajak (ENT/10A). *Hyblaea puer* [Lepidoptera: Hyblaeidae] on teak, *Tectona grandis*. Acc'd 12 Sep 1988. India.
- 2736 [NRRL 25094] GW Riethmacher (Ma2). *Spodoptera* sp. [Lepidoptera: Noctuidae]. 4 Jan 1989. Philippines: La Trinidad, Benguet.
- 2776 G Riethmacher (EB4). *Plutella xylostella* [Lepidoptera: Plutellidae]. Acc'd 12 Nov 913. Philippines: La Trinidad, Benguet.
- 3300 [NRRL 25102] J Gutierrez Samperio (16) ← ERD Reyes. *Spodoptera frugiperda* [Lepidoptera: Noctuidae] on corn. 1988. Mexico: Colima.
- 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.
- 6649 [NRRL 52696] KU Devi (PIV). Larva, *Spodoptera litura* [Lepidoptera: Noctuidae]. Mar 2000. India: Visakhapatnam, Andhra Pradesh.
- 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.
- 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 merismoides Corda
[Sordariomycetes: Hypocreales]
Nectriaceae

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

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 subglutinans (Wollenweber & Reinking)
Nelson, Tousson & Marasas
[Sordariomycetes: Hypocreales]
Nectriaceae

- 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.

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.

***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.

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 fumiferana* [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 catenianulata (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.

***Isaria catenianulata*(?)** (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.

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- 3507 AE Hajek (64a). Pre-pupa, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 4 Jun 1991. USA: Accokeek, Maryland.
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- 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.
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- 3524 AE Hajek (166a). 6th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 11 Jun 1991. USA: nr. C & O Canal, Allegany County, Maryland.
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- 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.
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- 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.
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- 4090 KT Hodge (kth12). Pupa, [Lepidoptera] soil. 8 Sep 1993. USA: Ringwood Forest Preserve, Ithaca, New York.
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- 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.
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- 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.
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- 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.
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- 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.
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- 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.

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, Zhijiang.

989 J Aoki (Paec. 3) ← Y Sekizima. *Bombyx mori* [Lepidoptera: Bombycidae]. Rec'd 7 Nov 1983. Japan: Kumagaya, Saitama Prefecture.

- 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: Derepazari, 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.
- 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*.
- 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 Farias, Tamaulipas.
- 2489 SR Sánchez Peña (A2). *Spodoptera frugiperda* [Lepidoptera: Noctuidae]. 16 Sep 1987. Mexico: Gómez Farias, Tamaulipas.
- 2490 SR Sánchez Peña (B1). *Spodoptera frugiperda* [Lepidoptera: Noctuidae]. 16 Sep 1987. Mexico: Gómez Farias, Tamaulipas.
- 2491 SR Sánchez Peña (B2). *Spodoptera frugiperda* [Lepidoptera: Noctuidae]. 16 Sep 1987. Mexico: Gómez Farias, 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, 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, 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.

***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: Karabyykly, 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.

***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.

***Metarhizium anisopliae* sensu lato** (Metschnikoff)

Sorokin

[Sordariomycetes: Hypocreales]

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.
- 3064 [MAF F25] T Glare. Larva, [Lepidoptera: Crambidae]. Rec'd Oct 1990. New Zealand: Christchurch, South Island.
- 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 intricata* [Lepidoptera: Hepialidae]. 2 Jan 1988. Australia: Richmond, Tasmania.
- 4522 JD Vandenberg (DBM11C). Larva, *Plutella xylostella* [Lepidoptera: Plutellidae] broccoli. Rec'd 13 Jul 1994. USA: Ontario County, New York.
- 4681 [DAT 508] AC Rath (F508). Larva, *Wiseana* sp. [Lepidoptera: Hepialidae]. 17 Nov 1993. New Zealand: Waitati, Dunedin, South Island.

- 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: Hvitvingfoss, 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: Persembek, 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.
- 8560 [CSIRO FI-0860] *Galleria mellonella* [Lepidoptera: Pyralidae]. 11 Jun 1991. Australia: Chapman, Australian Capital Territory.
- 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 confirmed to belong in this narrowly redefined species in an emergent genomically based classification.

- 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.
- 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 anisopliae* var. *majus (Johnston) Tulloch
[Sordariomycetes: Hypocreales]
Clavicipitaceae. Species remaining here need genomic confirmation before reclassification, presumably as *M. majus*, under the classification of Bischoff et al. (2009).

- 8736 [CSIRO FI-1000] *Spodoptera* sp. [Lepidoptera: Noctuidae]. 11 May 1993. Malaysia: Cameron Highlands.

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.
- 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 flavoviride* var. *novazealandicum
Driver, Milner & Trueman
[Sordariomycetes: Hypocreales]
Clavicipitaceae

- 8214 [CSIRO FI-0702] Larva, [Lepidoptera: Crambidae]. 8 Oct 1990. New Zealand: Christchurch, South Island.

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. Ex-type isolate used to typify this species.

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). Synonym: *M. taii* ZQ Liang & AY Liu. Teleomorph: *Cordyceps taii* ZQ Liang & AY Liu.

- 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. Placement of isolates here has been confirmed under the genomic classification of Bischoff et al. (2009).

- 1015 J Aoki (Met. 4) ← T Kushida. *Bombyx mori* [Lepidoptera: Bombycidae]. Rec'd 7 Nov 1983. Japan: Hachioji, Tokyo Prefecture.

Metarhizium pingshaense QT Chen & HL Guo

[Sordariomycetes: Hypocreales]

Clavicipitaceae. Genomically confirmed and distinguished from *M. anisopliae* by 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 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 reisolate 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.
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 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

- 2413 K Narayanan (15). *Helicoverpa armigera* [Lepidoptera: Noctuidae]. Acc'd 6 May 1987. India.
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.

Nomuraea rileyi (Farlow) Samson

[Sordariomycetes: Hypocreales]

Clavicipitaceae. 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.

- 135 JV Bell. [Lepidoptera: Noctuidae]. Acc'd 11 Nov 1982. USA: Stoneville, Mississippi.
323 RS Soper. *Spodoptera* sp. [Lepidoptera: Noctuidae]. 14 Feb 1979. Australia: Arriga, Queensland.
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.
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.
711 RS Soper. *Bombyx mori* [Lepidoptera: Bombycidae]. Fall 1981. PR China: Hangzhou, Zhijiang.
762 TA Coudron ← B Puttler. *Plathypena scabra* [Lepidoptera: Noctuidae] on alfalfa. 2 Jul 1982. USA: Columbia, Missouri.

- 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.
- 1014 J Aoki (Nom. 2). *Prodenia litura* [Lepidoptera: Noctuidae]. Oct 1978. Japan: Fuchu, Tokyo Prefecture.
- 1047 [FPMI 754] J Aoki (Nom. 3). *Plusia* sp. [Lepidoptera: Noctuidae]. Jan 1980. Japan: Fuchu, Tokyo Prefecture.
- 1756 MC Rombach ← BM Shepard (NrMin-14). *Rivula atimeta* [Lepidoptera: Noctuidae] on rice. Aug 1984. Philippines: Mindanao.
- 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.
- 1879 DW Roberts (090485-3). Larva, [Lepidoptera] on rice. 9 Apr 1985. Solomon Islands: nr. Honiara, Guadalcanal.
- 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 gemmatilis* [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.
- 2013 [ARSEF 2466] CIRPON ← DR Sosa-Gómez. *Anticarsia gemmatilis* [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 gemmatilis* [Lepidoptera: Noctuidae]. Mar 1984. Brazil: Guaíba, Rio Grande do Sul.
- 2202 LC Piazza ← NM de Barros (A485). *Anticarsia gemmatilis* [Lepidoptera: Noctuidae]. 24 Mar 1985. Brazil: Vacaria, Rio Grande do Sul.
- 2203 LC Piazza (A86). *Anticarsia gemmatilis* [Lepidoptera: Noctuidae]. 13 Mar 1986. Brazil: Vacaria, Rio Grande do Sul.
- 2204 LC Piazza ← FM Ellwanger (B86). *Anticarsia gemmatilis* [Lepidoptera: Noctuidae]. 12 Mar 1986. Brazil: Ijuí, Rio Grande do Sul.
- 2205 LC Piazza ← L Baloch (C86). *Anticarsia gemmatilis* [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 gemmatilis* [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.
- 2395 MC Rombach (121186-1). *Rivula atimeta* [Lepidoptera: Noctuidae]. 12 Nov 1986. Philippines: IRRI farm, Los Baños, Manila.
- 2465 TJ Poprawski (8708) ← AJ Nasca (Nr-IY3). *Anticarsia gemmatilis* [Lepidoptera: Noctuidae]. 1986. Argentina: Santiago del Estero.
- 2466 [ARSEF 2013] TJ Poprawski (8709) ← AJ Nasca (Nr-T2). *Anticarsia gemmatilis* [Lepidoptera: Noctuidae]. 1985. Argentina: Tucumán.
- 2492 SR Sánchez Peña. *Anticarsia gemmatilis* [Lepidoptera: Noctuidae]. Sep 1986. Mexico: Estacion Manuel, Tamaulipas.
- 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 gemmatilis* [Lepidoptera: Noctuidae]. Rec'd Jun 1993. Brazil: Londrina, Paraná.
- 4094 LA Lacey (94004). *Spodoptera frugiperda* [Lepidoptera: Noctuidae]. Rec'd 28 Mar 1994. Brazil.
- 5208 C López Lastra (4). Larva, *Anticarsia gemmatilis* [Lepidoptera: Noctuidae] Soybean crop. 22 Mar 1996. Argentina: Chivilcoy, Buenos Aires.
- 5209 C López Lastra (5). Larva, *Anticarsia gemmatilis* [Lepidoptera: Noctuidae] Soybean crop. 7 May 1996. Argentina: Chivilcoy, Buenos Aires.
- 5210 C López Lastra (6). Larva, *Anticarsia gemmatilis* [Lepidoptera: Noctuidae] Soybean crop. 18 Apr 1996. Argentina: Chivilcoy, Buenos Aires.
- 5211 C López Lastra (11). Larva, *Anticarsia gemmatilis* [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.
- 6645 KU Devi (GIV). Larva, *Spodoptera litura* [Lepidoptera: Noctuidae]. Mar 2000. India: Peanut fields, Visakhapatnam, Andhra Pradesh.
- 6732 DR Sosa-Gómez (CNPSO Nr 27). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 22 Jan 1990. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná.
- 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.**
- 6738 DR Sosa-Gómez (CNPSO Nr 167). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 2 Jan 1999. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná. **RESTRICTED ACCESS: consult Curator.**
- 6739 DR Sosa-Gómez (CNPSO Nr 168). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 2 Jan 1999. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná. **RESTRICTED ACCESS: consult Curator.**
- 6740 DR Sosa-Gómez (CNPSO Nr 169). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 2 Jan 1999. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná. **RESTRICTED ACCESS: consult Curator.**
- 6741 DR Sosa-Gómez (CNPSO Nr 170). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 2 Jan 1999. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná. **RESTRICTED ACCESS: consult Curator.**
- 6742 DR Sosa-Gómez (CNPSO Nr 171). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 14 Jan 1999. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná. **RESTRICTED ACCESS: consult Curator.**
- 6743 DR Sosa-Gómez (CNPSO Nr 172). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 25 Jan 1999. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná.
- 6744 DR Sosa-Gómez (CNPSO Nr 173). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 25 Jan 2001. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná. **RESTRICTED ACCESS: consult Curator.**
- 6745 DR Sosa-Gómez (CNPSO Nr 174). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 25 Jan 1999. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná. **RESTRICTED ACCESS: consult Curator.**
- 6746 DR Sosa-Gómez (CNPSO Nr 175). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 25 Jan 1999. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná. **RESTRICTED ACCESS: consult Curator.**
- 6747 DR Sosa-Gómez (CNPSO Nr 176). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 25 Jan 1999. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná. **RESTRICTED ACCESS: consult Curator.**
- 6748 DR Sosa-Gómez (CNPSO Nr 177). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 25 Jan 1999. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná. **RESTRICTED ACCESS: consult Curator.**
- 6749 DR Sosa-Gómez (CNPSO Nr 178). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 25 Jan 1999. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná. **RESTRICTED ACCESS: consult Curator.**
- 6764 DR Sosa-Gómez (CNPSO Nr 179). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 25 Jan 1999. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná. **RESTRICTED ACCESS: consult Curator.**
- 6765 DR Sosa-Gómez (CNPSO Nr 180). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 25 Jan 1999. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná. **RESTRICTED ACCESS: consult Curator.**
- 6766 DR Sosa-Gómez (CNPSO Nr 181). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 28 Jan 1999. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná. **RESTRICTED ACCESS: consult Curator.**
- 6767 DR Sosa-Gómez (CNPSO Nr 182). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 28 Jan 1999. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná. **RESTRICTED ACCESS: consult Curator.**
- 6768 DR Sosa-Gómez (CNPSO Nr 183). *Spodoptera frugiperda* [Lepidoptera: Noctuidae]. 26 Jan 1999. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná. **RESTRICTED ACCESS: consult Curator.**
- 6769 DR Sosa-Gómez (CNPSO Nr 184). *Spodoptera frugiperda* [Lepidoptera: Noctuidae]. 26 Jan 1999. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná. **RESTRICTED ACCESS: consult Curator.**
- 6770 DR Sosa-Gómez (CNPSO Nr 185). *Spodoptera frugiperda* [Lepidoptera: Noctuidae]. 26 Jan 1999. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná. **RESTRICTED ACCESS: consult Curator.**
- 6771 DR Sosa-Gómez (CNPSO Nr 186). *Spodoptera frugiperda* [Lepidoptera: Noctuidae]. 20 Jan 1999. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná. **RESTRICTED ACCESS: consult Curator.**
- 6772 DR Sosa-Gómez (CNPSO Nr 187). *Spodoptera frugiperda* [Lepidoptera: Noctuidae]. 28 Jan 1999. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná. **RESTRICTED ACCESS: consult Curator.**
- 6773 DR Sosa-Gómez (CNPSO Nr 189). *Spodoptera frugiperda* [Lepidoptera: Noctuidae]. 27 Jan 1999. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná. **RESTRICTED ACCESS: consult Curator.**

- 6774 DR Sosa-Gómez (CNPSO Nr 190). *Spodoptera frugiperda* [Lepidoptera: Noctuidae]. 27 Jan 1999. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná. **RESTRICTED ACCESS:** consult Curator.
- 6775 DR Sosa-Gómez (CNPSO Nr 191). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 25 Jan 1999. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná. **RESTRICTED ACCESS:** consult Curator.
- 6776 DR Sosa-Gómez (CNPSO Nr 192). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 28 Jan 1999. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná. **RESTRICTED ACCESS:** consult Curator.
- 6777 DR Sosa-Gómez (CNPSO Nr 193). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. Winter 1999. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná. **RESTRICTED ACCESS:** consult Curator.
- 6778 DR Sosa-Gómez (CNPSO Nr 194). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 9 Feb 1999. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná. **RESTRICTED ACCESS:** consult Curator.
- 6779 DR Sosa-Gómez (CNPSO Nr 195). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 9 Feb 1999. Brazil: Warta, Faz. Sta Terezinha, Londrina, Paraná. **RESTRICTED ACCESS:** consult Curator.
- 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.
- 6868 DG Boucias (6009). *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 24 Sep 2000. USA: Gainesville, Florida.
- 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.
- 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.
- 6882 DG Boucias (8b). *Pseudoplusia includens* [Lepidoptera: Noctuidae]. 13 Sep 1993. USA: Quincy, Florida.
- 7052 C López Lastra (B5). Larva, *Anticarsia gemmatalis* [Lepidoptera: Noctuidae] on *Glycine max* (L.) Merr., soybean crop. Apr 2002. Argentina: Bartolomé Bivio, 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 Batio, Buenos Aires.
 - 7150 C López Lastra (SF 9). Larva, *Anticarsia gemmatalis* [Lepidoptera: Noctuidae] on *Glycine max* (L.) Merr., soybean crop. 20 May 2002. Argentina: Bombal, Santa Fe.
 - 7151 C López Lastra (SF15). Larva, *Anticarsia gemmatalis* [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 gemmatalis* [Lepidoptera: Noctuidae]. 9 Apr 2001. Argentina: Chivilcoy, Buenos Aires.
 - 7480 [CEP 022] C López Lastra (Ch 66). Larva, *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 9 Apr 2001. Argentina: Chivilcoy, Buenos Aires.
 - 7481 [CEP 023] C López Lastra (Ch 90). Larva, *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. Apr 2001. Argentina: Chivilcoy, Buenos Aires.
 - 7482 [CEP 064] C López Lastra (P11). Larva, *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 2003. Argentina: INTA Pergamino, Pergamino, Buenos Aires.
 - 7484 [CEP 034] C López Lastra (SF2). Larva, *Anticarsia gemmatalis* [Lepidoptera: Noctuidae]. 20 May 2002. Argentina: Zavalla, Santa Fe.
 - 7778 [CEP 021] C López Lastra ← V Dikgolz. Larva, *Anticarsia gemmatalis* [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 gemmatalis* [Lepidoptera: Noctuidae]. 20 May 2002. Argentina: Zavalla, Santa Fe.
 - 7780 [CEP 037] C López Lastra ← B Díaz. *Anticarsia gemmatalis* [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.
- 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.
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- 309 DW Roberts ← FL Briggs. *Epiphyas postvittana* [Lepidoptera: Tortricidae]. Acc'd Mar 1979. New Zealand.
 - 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.

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.

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.

- 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: it *Paecilomyces lilacinus*. Ophiocordycipitaceae. This species is the type of a monotypic new genus erected following the phylogenetic reclassification of *Paecilomyces* Section *Isarioidea*. 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]
Microasaceae

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.

***Trichoderma* sp.**
[Sordariomycetes: Hypocreales]
Hypocreaceae

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.

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.

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]. 7 Aug 1982. Canada: Ming's Bight, Newfoundland.

88 [CSIRO EM569] JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 24 Jun 1976. USA: nr. Selden Road, Haynesville Woods, 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.
- 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: Macwahoq, Maine.
- 226 S Ignatowicz. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 24 Jun 1978. USA: Macwahoq, 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.
- 5814 C López Lastra. Larva, *Epinotia aporema* [Lepidoptera: Tortricidae] on *Lupinus* sp. Rec'd 28 Aug 1998. Argentina: Los Hornos, La Plata, Buenos Aires.
- 6003 SR Sánchez Peña. Larva, *Trichoplusia ni* [Lepidoptera: Noctuidae] in a broccoli plot. Nov 1998. Mexico: Universidad Agraria Antonio Narro campus, Saltillo, Coahuila.
- 6303 R Alatorre Rosas (Jav.13). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6313 R Alatorre Rosas (Mina.2). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6314 R Alatorre Rosas (Mina.2-2). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6315 R Alatorre Rosas (Mina.16). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6917 C López Lastra (1). Larva, *Tuta absoluta* [Lepidoptera: Gelechiidae] on *Lycopersicon esculentum* Miller, tomato in covered greenhouses. 12 Jun 2001. Argentina: Colonia Urquiza, La Plata, Buenos Aires.

Unidentified / Hyphomycetes

[Lepidoptera]

Unknown species 9540

[Lepidoptera: Arctiidae]

Hyphantria cunea 12163 12164 12167
12170 12171 12176 12178 12179
12180 12181

[Lepidoptera: Lymantriidae]

Lymantria dispar 4899 4900

[Lepidoptera: Pyralidae]

Galleria mellonella 5199**Unidentified sp.**

[Lepidoptera: Geometridae]

Hibernia defoliaria 1415 1417*Lambdina athasaria* 3567 3568 3569

[Lepidoptera: Incurvariidae]

Paraclemensia acericaulis 3794 3796
3797

[Lepidoptera: Plutellidae]

Plutella xylostella 2821

[Lepidoptera: Pyralidae]

Cnaphalocrocis medinalis 1703*Diatraea saccharalis* 3298 3299 3804

[Lepidoptera: Riodinidae]

Euselasia 3467 3468

[Lepidoptera: Yponomeutidae]

Yponomeuta 3998**Acremonium berkeleyanum**

[Lepidoptera: Lymantriidae]

Lymantria dispar 2067**Acremonium roseum**

[Lepidoptera: Noctuidae]

Pseudoplusia ni 1964**Acrodontium crateriforme**

[Lepidoptera: Lymantriidae]

Lymantria dispar 2070**Aspergillus sp.**

[Lepidoptera: Noctuidae]

Rachiplusia nu 5205

[Lepidoptera: Plutellidae]

Plutella xylostella 2765 2817 2820**Aspergillus flavus**

[Lepidoptera: Bombycidae]

Bombyx mori 1003 1010

[Lepidoptera: Gelechiidae]

Phthorimaea operculella 4126

[Lepidoptera: Plutellidae]

Plutella xylostella 2818**Aspergillus flavus(?)**

[Lepidoptera: Pyralidae]

Galleria mellonella 5503 5504 5505
5506 5507 5508 5509**Aspergillus ochraceus**

[Lepidoptera: Lymantriidae]

Lymantria dispar 2833**Aspergillus parasiticus**

[Lepidoptera: Pyralidae]

Eoreuma loftini 5470**Aspergillus tamaraii**

[Lepidoptera: Gelechiidae]

Phthorimaea operculella 4127**Basidiobolus ranarum**

[Lepidoptera: Lasiocampidae]

Dendrolimus spectabilis 1139**Batkoa sp.**

[Lepidoptera: Lasiocampidae]

Malacosoma disstria 7370

[Lepidoptera: Noctuidae]

Panolis flammea 6179**Beauveria sp.**

[Lepidoptera]

Unknown species 2998 5832 7579 7586
7587 7594 7598 9596 11709

[Lepidoptera: Arctiidae]

Hyphantria cunea 12168 12169

[Lepidoptera: Bombycidae]

Bombyx mori 1040

[Lepidoptera: Noctuidae]

Mocis 590*Spodoptera frugiperda* 3289

[Lepidoptera: Pyralidae]

Chilo infuscatellus 1886*Galleria mellonella* 5078 7562 7563

7564 7565 7566 7567 7960 8675

[Lepidoptera: Tortricidae]

Cydia pomonella 6533 6534 6535 6536
6537**Beauveria amorpha**

[Lepidoptera]

Unknown species 6227

Beauveria bassiana

[Lepidoptera]

Unknown species 2633 2637 2857 6109
6557 7274 7585 7593 8709 9445
11708 11715 11716 11717 11719

[Lepidoptera: Arctiidae]

Hyphantria cunea 1564 12165

[Lepidoptera: Bombycidae]

Bombyx mori 302 303 304 305 718

1007 2737 5704

[Lepidoptera: Brassolidae]

Brassolis sophorea 2619 6514

[Lepidoptera: Cossidae]

Cossula cossus 1103 1104 1558*Zeuzera pyrina* 1105

[Lepidoptera: Danaidae]

Danaus plexippus 7093 8891

[Lepidoptera: Eupterotidae]

Unknown species 6984

[Lepidoptera: Geometridae]

Isturgia exerrariae 6973

[Lepidoptera: Hepialidae]

Oncopera alboguttata 4589 4607 8493*Oncopera intricata* 4258 4672

[Lepidoptera: Hyblaeidae]

Hyblaea puer 2597

[Lepidoptera: Incurvariidae]

Paraclemensia 11614 11615 11616
11617*Paraclemensia acerifoliella* 5492

[Lepidoptera: Lasiocampidae]

Dendrolimus spectabilis 1677*Malacosoma americanum* 1

[Lepidoptera: Lymantriidae]

Lymantria dispar 155 2054 2267 2570
2571 2572 2573 2831 3404 3527
3530 6205*Lymantria dissoluta* 6233

[Lepidoptera: Lyonetiidae]

Leucoptera coffeella 6801 6802 6803

6804 6805 6806 6807 6808 6809

Leucoptera scitella 1115 1117

[Lepidoptera: Noctuidae]

Unknown species 1627 1628 1629

Autographa gamma 2253 2254*Helicoverpa* 8066*Helicoverpa armigera* 1149 1166*Helicoverpa virescens* 1314 1315 1316
1788*Panolis flammea* 6100 6101 6177 6178*Sesamia calamistis* 5649 5654*Sesamia cretica* 1118*Simyra henrici* 5988*Spodoptera frugiperda* 3288*Spodoptera littoralis* 1512 1513 3286*Spodoptera litura* 6646 6647 6648 6650

[Lepidoptera: Noctuidae: Plusiinae]

Unknown species 3937

[Lepidoptera: Olethreutidae]

Carpocapsa pomonella 503

[Lepidoptera: Phycitinae]

Emmalocera depressella 2417

[Lepidoptera: Plutellidae]

Plutella xylostella 2727 2728 2729 4525
4526 4527 4528 4529 4530 4531
4532 4533 4534 4535 4536 4537
4538 4539 4540 4543 6150 6151
6152 6153

[Lepidoptera: Pyralidae]

Acigona sp. 5647 5648*Chilo plejadellus* 326*Cnaphalocrocis medinalis* 2041*Coniesta sp.* 5646*Diatraea saccharalis* 1484 1832 1834
2629 3020 3858 5500 5502*Dioryctria sylvestrella* 1001*Eldana saccharina* 5645 5653 5655*Galleria mellonella* 1113 1114 5510

6147 6148 6556 6894 6904 6905

6931 6932 6933 6934 6935 6936

6937 6938 6939 6940 6941 6943

6949 6950 6951 6952 6953 7060

7356 7357 7358 7359 7362 7364

7365 7552 7553 7554 7955 7956

7957 7958 7959 7963 7964 7965

7966 7968 8032 8033 8035 8039

8040 8339 8340 8343 8349 8354

8355 8431 8444 8661 8663 8664

8666 8667 8670 8672 8673 8674

11613

Gymnancyla canella 6796*Ostrinia nubilalis* 501 502 533 652

1038 1121 2976

Terastia meticulosalis 1836

[Lepidoptera: Saturniidae]

Unknown species 843

Opodiphthera eucalypti 8843
Schirius 2962
[Lepidoptera: Sesiidae]
Monopetalotaxis doleriformis 6974
6975 6976 6977 6981
[Lepidoptera: Stenomatinae]
Stenoma decora 1479
[Lepidoptera: Thaumetopoeidae]
Thaumetopoea pityocampa 8356
[Lepidoptera: Tortricidae]
Unknown species 5169
Choristoneura 1850
Cydia pomonella 151 1122 3972 3973
3974 3975 3977 3978 3979 5064
5066 5067 5229 5230 5231 5233
5234 5235 5886 5887 5888 6182
6184 6186 6187 6189 6191 6194
6195 6196 6201 6208 6209 7969
Hedya nubiferana 6199
Lobesia botrana 1107 1110
Rhyacionia frustrana 5573
[Lepidoptera: Yponomeutidae]
Yponomeutidae 3966 3967 3968 3969
3970

Beauveria bassiana(?)
[Lepidoptera: Pyralidae]
Eldana saccharina 5644
Galleria mellonella 6892

Beauveria brongniartii
[Lepidoptera: Castniidae]
Castnia licus 1829
[Lepidoptera: Noctuidae]
Unknown species 9599
[Lepidoptera: Pyralidae]
Diatraea saccharalis 1830
Galleria mellonella 7555 7556 7557
7558 7559 7560 7561 8034

Beauveria pseudobassiana
[Lepidoptera: Arctiidae]
Hyphantria cunea 1565
[Lepidoptera: Geometridae]
Isturgia exerrariae 6972
[Lepidoptera: Hepialidae]
Oncopera 4273
[Lepidoptera: Lymantriidae]
Lymantria dispar 299 3405 3528 3529
[Lepidoptera: Pyralidae]
Galleria mellonella 5370 5557
[Lepidoptera: Sesiidae]
Monopetalotaxis doleriformis 6971
[Lepidoptera: Tortricidae]
Cydia pomonella 3220 6181 6185
[Lepidoptera: Yponomeutidae]
Yponomeutidae 3965

Beniowskia sp.
[Lepidoptera: Plutellidae]
Plutella xylostella 2751

Cladosporium sp.
[Lepidoptera: Lycaenidae: Polyommati-
nae]
Orachrysops ariadne 6226

Clonostachys rosea
[Lepidoptera]
Unknown species 9493
Conidiobolus sp.
[Lepidoptera: Plutellidae]
Plutella xylostella 2771 2772 2815 2816
3208
[Lepidoptera: Tortricidae]
Choristoneura fumiferana 92 93 94
147 148

Conidiobolus coronatus
[Lepidoptera: Noctuidae]
Mocis latipes 1884
[Lepidoptera: Plutellidae]
Plutella xylostella 2730
[Lepidoptera: Tortricidae]
Epinotia aporema 4797

Conidiobolus firmipilleus
[Lepidoptera: Plutellidae]
Plutella xylostella 2731

Cordyceps sp.
[Lepidoptera]
Unknown species 7808 7811 9486

Cordyceps bassiana
[Lepidoptera: Cossidae]
Unknown species 7047

Cordyceps cardinalis
[Lepidoptera: Tineidae: Archolophinae]
Unknown species 7192 7193

Cordyceps isarioides
[Lepidoptera]
Unknown species 5688

Cordyceps militaris
[Lepidoptera]
Unknown species 4081 4082 4083 4084
4085 4086 4087 4088 4089 4838
4839 4840 4841 4842 4845 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
6248 7809 7810 8012 9484 11703
11704
[Lepidoptera: Geometridae]
Unknown species 2416

Cordyceps pruinosa
[Lepidoptera]
Unknown species 7221 11723 11724

Cylindrocarpus sp.
[Lepidoptera: Pyralidae]
Diatraea saccharalis 8043 8044

Entomophaga sp.
[Lepidoptera]
Unknown species 393

Entomophaga aulicae
[Lepidoptera]
Unknown species 1140 1656
[Lepidoptera: Arctiidae]
Spilosoma niveum 2372 2373 2374
[Lepidoptera: Geometridae]
Enypia griseata 2000
Lambdina fiscellaria fiscellaria 1991
2900
Lambdina fiscellaria lugubrosa 1990
Rheumaptera hastata 2899
[Lepidoptera: Lasiocampidae]
Dendrolimus spectabilis 1655
Malacosoma disstria 3602
[Lepidoptera: Lymantriidae]
Euproctis chrysorrhoea 7140 7141 7142
7143 7144 7145
Orgyia vetusta 4004 4005 4006 4007
4008
[Lepidoptera: Noctuidae]
Unknown species 3016
?Heliothis 251
Aedia leucomelas 198 998
Autographa gamma 2363 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: Tortricidae]
Choristoneura fumiferana 51 164 165
166 167 168 172 1992 1993 1994
1995 1997 1998 2896 2898 2901

Entomophaga maimaiga
[Lepidoptera: Lasiocampidae]
Malacosoma americanum 6170 6173
6174
Malacosoma disstria 4545
[Lepidoptera: Lymantriidae]
Lymantria dispar 1390 1391 1392 1400
1658 2370 2371 2775 2779 2780
3052 3053 3828 3829 3830 3831
3832 3833 3834 3835 3913 4504
4505 4506 4507 4508 4509 4510
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	[Lepidoptera: Noctuidae] <i>Spodoptera</i> 2736 <i>Spodoptera frugiperda</i> 3300 <i>Spodoptera litura</i> 6649 [Lepidoptera: Phycitinae] <i>Emmalocera depressella</i> 2418 [Lepidoptera: Plutellidae] <i>Plutella xylostella</i> 2776 5881 [Lepidoptera: Pyralidae] <i>Chilo sacchariphagus</i> 7045 7046 <i>Galleria mellonella</i> 5560 [Lepidoptera: Tortricidae] <i>Cydia pomonella</i> 3976 <i>Epiphyas postvittana</i> 10470	Hirsutella subulata [Lepidoptera: Microlepidoptea] Unknown species 2227
Erynia sp. [Lepidoptera] Unknown species 1241 [Lepidoptera: Noctuidae] <i>Pseudoplusia includens</i> 2027 [Lepidoptera: Plutellidae] <i>Plutella xylostella</i> 983 [Lepidoptera: Tortricidae] <i>Eana argentana</i> 1143	Fusarium avenaceum [Lepidoptera: Lymantriidae] <i>Lymantria dispar</i> 2060	Humicola sp. [Lepidoptera: Lymantriidae] <i>Lymantria dispar</i> 2069
Evlachovaea sp. [Lepidoptera] Unknown species 7599 7600 7601 [Lepidoptera: Brassolidae] <i>Brassolis</i> 2297 <i>Brassolis sophorea</i> 2613 2620 [Lepidoptera: Gelechiidae] <i>Sitotroga cerealella</i> 5703 [Lepidoptera: Noctuidae] <i>Spodoptera frugiperda</i> 959 [Lepidoptera: Oecophoridae] <i>Anteotricha</i> 2614 2615 [Lepidoptera: Pyralidae] <i>Galleria mellonella</i> 8439 8441 8442 8449	Fusarium merismoides [Lepidoptera: Lymantriidae] <i>Lymantria dispar</i> 2059	Isaria catenianulata [Lepidoptera] Unknown species 6240 9601 11722 [Lepidoptera: Lymantriidae] <i>Lymantria dissoluta</i> 6242
Furia gastropachae [Lepidoptera] Unknown species 2906 [Lepidoptera: Lasiocampidae] <i>Malacosoma disstria</i> 5541 5542 5543 5544 5545 5546 5547 5869 5870 5871 5872 8926	Fusarium nygamai [Lepidoptera: Noctuidae] <i>Raghuva albipunctella</i> 2316	Isaria catenianulata(?) [Lepidoptera: Arctiidae] <i>Hyphantria cunea</i> 12166
Furia neopyralidarum [Lepidoptera] Unknown species 1145	Fusarium polyphialidicum [Lepidoptera: Lymantriidae] <i>Lymantria dispar</i> 3692 3693 3694 3695 3696 3916	Isaria cicadae [Lepidoptera] Unknown species 11726
Furia pieris [Lepidoptera: Pieridae] <i>Pieris rapae</i> 781	Fusarium subglutinans [Lepidoptera: Pyralidae] <i>Chilo sacchariphagus indicus</i> 2142 <i>Scirpophaga excerptalis</i> 2141	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 pometaria</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
Furia virescens [Lepidoptera] Unknown species 427 [Lepidoptera: Noctuidae] Unknown species 470 1129	Fusarium torulosum [Lepidoptera: Lymantriidae] <i>Lymantria dispar</i> 3483	[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] <i>Galleria mellonella</i> 7531 7574 7575 7576 7961 7962 8770 11656 <i>Ostrinia nubilalis</i> 3983 [Lepidoptera: Sesiidae] <i>Conopia myopaeformis</i> 1108 [Lepidoptera: Tortricidae] <i>Cydia pomonella</i> 975 5883 5884 5885 6200 6202 6207 <i>Laspeyresia medicagicus</i> 1225 <i>Lobesia botrana</i> 1111
Fusarium sp. [Lepidoptera: Gelechiidae] <i>Scrobipalpuloides absoluta</i> 5219 [Lepidoptera: Hyblaeidae] <i>Hyblaea puer</i> 2595 [Lepidoptera: Lycaenidae: Polyommati- nae] <i>Orachrysops subravus</i> 6102 [Lepidoptera: Lymantriidae] <i>Lymantria dispar</i> 3532	Geotrichum sp. [Lepidoptera: Plutellidae] <i>Plutella xylostella</i> 2752	
	Gliocladium sp. [Lepidoptera: Sesiidae] Unknown species 6632	
	Hirsutella sp. [Lepidoptera] Unknown species 2581	
	Hirsutella liboensis [Lepidoptera: Cossidae] Unknown species 9603	
	Hirsutella longicolla var. cornuta [Lepidoptera: Tortricidae] <i>Choristoneura fumiferana</i> 177 178	
	Hirsutella nodulosa [Lepidoptera: Pyralidae] <i>Dioryctria zimmermani</i> 5473	
	Hirsutella satumaensis [Lepidoptera: Pyralidae] <i>Dioryctria sylvestrella</i> 996	
	Hirsutella sinensis [Lepidoptera: Hepialidae] Unknown species 6282	

Isaria fumosorosea

[Lepidoptera]
Unknown species 5251 5252 7743 9520
[Lepidoptera: Arctiidae]
Hyphantria cunea 1568 1569 1577
1578 1579 10224 12172 12173
12174 12175 12177
[Lepidoptera: Bombycidae]
Bombyx mori 720 989 1005
[Lepidoptera: Lymantriidae]
Lymantria dispar 6206
[Lepidoptera: Noctuidae]
Spodoptera 2734
[Lepidoptera: Plutellidae]
Plutella xylostella 2749 5874 6799 6800
[Lepidoptera: Pyralidae]
Diaphania hyalinata 3302
Galleria mellonella 6893 8333 8337
8345 8348 8448 9380 11657 11658
11659
[Lepidoptera: Tortricidae]
Cydia pomonella 6192 6203 6204

Isaria javanica

[Lepidoptera: Noctuidae]
Mamestra brassicae 3981

Isaria tenuipes

[Lepidoptera]
Unknown species 5134 5135 6249 7790
9531 9532 9534 11705 11706 11707
[Lepidoptera: Noctuidae]
Unknown species 3938 3939 4096
Mocis latipes 6889
Spodoptera frugiperda 2488 2489 2490
2491
[Lepidoptera: Nymphalidae]
Agraulis vanillae 6788

Lecanicillium sp.

[Lepidoptera]
Unknown species 7624 7625 7626 7627
7628 7629 7632
[Lepidoptera: Tortricidae]
Tortrix viridana 9458

Lecanicillium lecanii(?)

[Lepidoptera: Tortricidae]
Cydia pomonella 1109

Lecanicillium muscarium

[Lepidoptera]
Unknown species 7621 7738 9468 9469
9477 11802
[Lepidoptera: Cossidae]
Cossula cossus 973 1102
[Lepidoptera: Lymantriidae]
Lymantria dispar 2065 2066 3531 3600
3601
[Lepidoptera: Pyralidae]
Galleria mellonella 7568
Ostrinia nubilalis 900
[Lepidoptera: Tortricidae]
Adoxophyes orana 994
Cydia pomonella 6591

Lecanicillium muscarium(?)

[Lepidoptera: Tortricidae]
Cydia pomonella 1032

Lecanicillium psalliotae

[Lepidoptera]
Unknown species 5685

Mariannaea pruinosa

[Lepidoptera: Limacodidae]
Iragoides fasciata 5413

Metarhizium sp.

[Lepidoptera: Pyralidae]
Galleria mellonella 4997 4998 4999
5000 5001 5076 5077

Metarhizium anisopliae sensu lato

[Lepidoptera]
Unknown species 1094 2424 9541
[Lepidoptera: Crambidae]
Unknown species 3064
[Lepidoptera: Hepialidae]
Oncopera alboguttata 7820 7821 7822
7823
Oncopera intrucata 4234
Wiseana sp. 4681
[Lepidoptera: Lasiocampidae]
Malacosoma disstria 6167
[Lepidoptera: Noctuidae]
Helicoverpa zea 11637
Spodoptera 8735
Spodoptera frugiperda 3293
[Lepidoptera: Nymphalidae]
Chlosyne lacinia saundersii 1059
[Lepidoptera: Plutellidae]
Plutella xylostella 4522
[Lepidoptera: Pyralidae]
Diatraea saccharalis 3290 3291 3292
Eoreuma loftini 5469
Galleria mellonella 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
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 8560 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]
Helicoverpa zea 1080
Mocis 587
Spodoptera litura 10473
[Lepidoptera: Pyralidae]
Eoreuma loftini 5471
Ostrinia nubilalis 1489

Metarhizium anisopliae var. majus

[Lepidoptera: Noctuidae]
Spodoptera 8736

Metarhizium brunneum

[Lepidoptera: Bombycidae]
Bombyx mori 988
[Lepidoptera: Hepialidae]
Orycanus 1187
[Lepidoptera: Lyonetiidae]
Leucoptera scitella 1116
[Lepidoptera: Noctuidae]
Anticarsia gemmatalis 3295
Spodoptera frugiperda 3294
[Lepidoptera: Olethreutidae]
Carpocapsa pomonella 1095
[Lepidoptera: Pyralidae]
Galleria mellonella 6474 8671
[Lepidoptera: Tortricidae]
Lobesia botrana 1112

Metarhizium flavoviride var. novazealandicum

[Lepidoptera: Crambidae]
Unknown species 8214

Metarhizium globosum

[Lepidoptera: Pyralidae]
Pyrausta machaeralis 2596

Metarhizium guizhouense

[Lepidoptera]
Unknown species 6238
[Lepidoptera: Bombycidae]
Bombyx mori 703
[Lepidoptera: Noctuidae]
Unknown species 2140

Metarhizium majus

[Lepidoptera: Bombycidae]
Bombyx mori 1015

Metarhizium pingshaense

[Lepidoptera]
Galactica 552
[Lepidoptera: Noctuidae]
Spodoptera 2735

Metarhizium robertsii

[Lepidoptera: Nymphalidae]
Chlosyne lacinia saundersii 1057
[Lepidoptera: Plutellidae]
Plutella xylostella 5873
[Lepidoptera: Pyralidae]
Galleria mellonella 4903 6476

Microhilum oncoperae

[Lepidoptera: Hepialidae]
Oncopera intricata 4358 4769 4770
4771

Mixed Culture sp.

[Lepidoptera: Pyralidae]
Corcyra cephalonica 2738

Mortierella histoplasmatoides

[Lepidoptera: Lymantriidae]
Lymantria dispar 2063

Mortierella hyalina

[Lepidoptera: Lymantriidae]
Lymantria dispar 2061

Nomuraea sp.

[Lepidoptera: Noctuidae]

Unknown species 7851

Helicoverpa armigera 2413**Nomuraea rileyi**

[Lepidoptera]

Unknown species 936 1879 1893

[Lepidoptera: Bombycidae]

Bombyx mori 711

[Lepidoptera: Lymantriidae]

Lymantria 481 482 483

[Lepidoptera: Noctuidae]

Unknown species 135 6875 9489 9490

Alabama argillacea 7148*Anticarsia gemmatalis* 1950 2013 2201

2202 2203 2204 2205 2207 2465

2466 2492 3940 5208 5209 5210

5211 5212 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

Helicoverpa armigera 6239*Mocis frugalis* 1762*Naranga* 2345*Plathypena scabra* 762 6871 6881*Plusia* 1047*Plusiinae* 6781 6785 6879*Prodenia litura* 1014*Pseudoplusia includens* 6866 6882*Rachiplusia nu* 2206*Rivula atimeta* 1756 1757 1758 1759

1760 2395

Spodoptera 323 358 380 935 6867*Spodoptera exigua* 539*Spodoptera frugiperda* 1972 3301 4094

6735 6768 6769 6770 6771 6772

6773 6774 11939 11941 11942

11943

Spodoptera litura 6645

[Lepidoptera: Pyralidae]

Cnaphalocrocis medinalis 1761 2174**Paecilomyces** sp.

[Lepidoptera]

Unknown species 7721 7741 7742 7995

8001

[Lepidoptera: Limacodidae]

Natada michonta 2616 2617 2618

[Lepidoptera: Noctuidae]

Sesamia inferens 1008

[Lepidoptera: Tortricidae]

Cydia pomonella 6193 6198*Epiphyas postvittana* 309**Paecilomyces canadensis**

[Lepidoptera: Lasiocampidae]

Gastropacha orientalis 990**Paecilomyces sinensis**

[Lepidoptera: Hepialidae]

Unknown species 6284 6285

Pandora sp.

[Lepidoptera: Arctiidae]

Lophocampa caryae 11764

[Lepidoptera: Plutellidae]

Plutella xylostella 3201**Pandora blunckii**

[Lepidoptera: Plutellidae]

Plutella 3075*Plutella maculipennis* 217*Plutella xylostella* 1000 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]

Mamestra brassicae 1265**Penicillium** sp.

[Lepidoptera: Hepialidae]

Oncopera alboguttata 4263

[Lepidoptera: Lymantriidae]

Lymantria dispar 2834 2836**Penicillium thomii**

[Lepidoptera: Lymantriidae]

Lymantria dispar 2056**Phialophora malorum**

[Lepidoptera: Lymantriidae]

Lymantria dispar 2072**Phoma cava**

[Lepidoptera: Lymantriidae]

Lymantria dispar 2071**Pochonia suchlasporia** var. **catenata**

[Lepidoptera: Lymantriidae]

Lymantria dispar 2064**Polycephalomycetes 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**Trichoderma** sp.

[Lepidoptera: Pyralidae]

Elasmopalpus lignosellus 5730**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]

Choristoneura fumiferana 21 44 45 50

52 88 141 142 143 144 145 146

163 221 223 224 225 226 227 228

229 230 231 232 233 234 235 407

Epipotia 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
Nomuraea 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 amorphae 6227
Beauveria bassiana 11708 11716 11717 11719
Beauveria sp. 9596 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
 Solomon Islands
Nomuraea rileyi 1879 1893
 Switzerland
Entomophaga sp. 393
Furia virescens 427
Zoophthora radicans 404
 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, Alaska
Sporothrix insectorum 7924
 USA, Hawaii
Beauveria bassiana 8709
 USA, New York
Cordyceps militaris 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
Isaria farinosa 3152 4090
Isaria tenuipes 5134 5135
 USA, Oregon
Isaria farinosa 5996
 USA, Pennsylvania
Cordyceps militaris 8012
 USA, Texas
Isaria fumosorosea 5251 5252
 USA, Vermont
Isaria farinosa 11829
Lecanicillium muscarium 11802
 Uzbekistan
Beauveria bassiana 6109
Galactica sp.
 Brazil, Distrito Federal
Metarhizium pingshaense 552

Lepidoptera: Arctiidae

Hyphantria cunea
 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(?) 12166
Isaria fumosorosea 12172 12173 12174 12175 12177
 Unidentified / Hyphomycetes 12163 12164 12167 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 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
Metarhizium guizhouense 703
Nomuraea rileyi 711
 South Africa
Beauveria bassiana 5704

Lepidoptera: Brassolidae

Brassolis sp.
 Colombia
Evlachovaea sp. 2297
Brassolis sophorea
 Brazil, Pará
Beauveria bassiana 2619
Evlachovaea sp. 2613
 Brazil, São Paulo
Beauveria bassiana 6514
 Brazil, Sergipe
Evlachovaea sp. 2620

Lepidoptera: Castniidae

Castnia licus
Brazil, Pernambuco
Beauveria brongniartii 1829

Lepidoptera: Cossidae

PR China
Cordyceps bassiana 7047
Hirsutella liboensis 9603
Cossula cossus
Italy
Beauveria bassiana 1103 1104 1558
Lecanicillium muscarium 973 1102
Prionoxystus robiniae
USA, Kentucky
Isaria farinosa 2269
Zeuzera pyrina
Italy
Beauveria bassiana 1105

Lepidoptera: Crambidae

New Zealand
Metarhizium anisopliae sensu lato
3064
Metarhizium flavoviride var. *no-*
vazealandicum 8214

Lepidoptera: Danaidae

Danaus plexippus
Beauveria bassiana 7093
Australia
Beauveria bassiana 8891

Lepidoptera: Eupterotidae

South Africa
Beauveria bassiana 6984

Lepidoptera: Gelechiidae

Tuta absoluta
Argentina
Zoophthora radicans 6917

Lepidoptera: Gelechiidae

Anacamptis humilis
Uruguay
Zoophthora radicans 4783
Phthorimaea operculella
Australia
Aspergillus flavus 4126
Aspergillus tamarii 4127
Scrobipalpuloides absoluta
Brazil, Rio Grande do Sul
Fusarium sp. 5219
Sitotroga cerealella
South Africa
Evlachovaea sp. 5703

Lepidoptera: Geometridae

Japan
Cordyceps militaris 2416
Alosophila pomataria
Canada, Alberta
Isaria farinosa 5368
Enypia griseata
Canada, British Columbia
Entomophaga aulicae 2000
Hibernia defoliaria
Poland
Unidentified sp. 1415 1417

Isturgia ezerrariae

South Africa
Beauveria bassiana 6973
Beauveria pseudobassiana 6972

Lambdina athasaria

USA, Vermont
Isaria farinosa 3537 3538
Unidentified sp. 3567 3568 3569

Lambdina fiscellaria fiscellaria

Canada, Newfoundland
Entomophaga aulicae 1991 2900
Zoophthora radicans 72

Lambdina fiscellaria lugubrosa

Canada, British Columbia
Entomophaga aulicae 1990

Rheumaptera hastata

Canada, Ontario
Entomophaga aulicae 2899

Lepidoptera: Hepialidae

PR China
Hirsutella sinensis 6282 6284 6285

Oncopera sp.

Australia
Beauveria pseudobassiana 4273

Oncopera alboguttata

Australia
Beauveria bassiana 4589 4607 8493
Metarhizium anisopliae sensu lato
7820 7821 7822 7823
Penicillium sp. 4263

Oncopera intricata

Australia
Beauveria bassiana 4258 4672
Microhilum oncoperae 4358 4769
4770 4771

Oncopera intrucata

Australia
Metarhizium anisopliae sensu lato
4234

Orycanus sp.

New Zealand
Metarhizium brunneum 1187

Wiseana sp.

New Zealand
Metarhizium anisopliae sensu lato
4681

Lepidoptera: Hyblaeidae

Hyblaea puer
India
Beauveria bassiana 2597
Fusarium sp. 2595

Lepidoptera: Incurvariidae

Paraclemensia sp.
USA
Beauveria bassiana 11614 11615
11616 11617
Paraclemensia acericaulis
Unidentified sp. 3794 3796
Location not specified
Unidentified sp. 3797
Paraclemensia acerifoliella
USA, Vermont
Beauveria bassiana 5492

Lepidoptera: Lasiocampidae

Russian Federation
Isaria farinosa 9515
Dendrolimus spectabilis
Japan
Basidiobolus ranarum 1139
Beauveria bassiana 1677
Entomophaga aulicae 1655
Gastropacha orientalis
Japan
Paecilomyces canadensis 990
Malacosoma americanum
Entomophaga maimaiga 6170 6173
6174
USA, Massachusetts
Beauveria bassiana 1
Isaria farinosa 3
Malacosoma disstria
Entomophaga maimaiga 4545
Canada, Ontario
Furia gastropachae 5869 5870 5871
5872
USA, Maryland
Furia gastropachae 5545 5546
USA, New York
5351 7370
Entomophaga aulicae 3602
Furia gastropachae 5541 5542 5543
5544 5547
Metarhizium anisopliae sensu lato
6167
USA, Vermont
Furia gastropachae 8926

Lepidoptera: Limacodidae

Iragoides fasciata
PR China
Mariannaea pruinosa 5413
Natada michonta
Brazil, Pará
Paecilomyces sp. 2616 2617 2618

Lepidoptera: Lycaenidae: Polyommatainae

Orachrysops ariadne
South Africa
Cladosporium sp. 6226
Orachrysops subravus
South Africa
Fusarium sp. 6102

Lepidoptera: Lymantriidae

Euproctis chrysorrhoea
USA, Maine
Entomophaga aulicae 7140 7141
7142 7143 7144 7145
Leucoma salicis
Location not specified
Isaria farinosa 38
Lymantria sp.
Philippines
Nomuraea rileyi 481 482 483
Lymantria dispar
Canada, Ontario
Beauveria bassiana 2267
Entomophaga maimaiga 3913

Fungus by Host and Location

Commonwealth of Independent States
Beauveria bassiana 155

France
Beauveria bassiana 6205
Isaria fumosorosea 6206
Scopulariopsis sp. 2255
 Unidentified / Hyphomycetes 4899
 4900

Japan
Entomophaga maimaiga 1390 1391
 1392 1400 1658 2370 2371 6171
 6172 6212 6224 6253 6254 6255
 6256 6257 6258 6264 6265 6266
 6267 6268 7104 7105 7112 7113
 7114 7116 7185 7186 7187 7188
 7189

PR China
Entomophaga maimaiga 7139 7183
 7184

Rumania
Beauveria pseudobassiana 299

Russian Federation
Entomophaga maimaiga 7127

USA, Connecticut
Entomophaga maimaiga 2775

USA, Delaware
Beauveria bassiana 2570 2571 2572
 2573

USA, Maryland
Aspergillus ochraceus 2833
Beauveria bassiana 2831 3404 3530
Beauveria pseudobassiana 3529
Entomophaga maimaiga 5377 5378
 5379 5380 5381 5382 5383 5384
 5385 5386 5387 5388 5389 5390
Fusarium polyphialidicum 3696
Fusarium sp. 3532
Isaria farinosa 2131 2835 3492 3498
 3507 3524 3526 3666
Penicillium sp. 2834 2836

USA, Massachusetts
Entomophaga maimaiga 2779 5564
 6004 6005 6269 6270 6271 6272
 7123 7124 7125 7126 7137 7138
Fusarium polyphialidicum 3694

USA, Michigan
Entomophaga maimaiga 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

USA, New Hampshire
Entomophaga maimaiga 2780

USA, New York
Entomophaga maimaiga 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
Fusarium polyphialidicum 3692
 3693
Isaria farinosa 648 697 2564 3595
 3596 3597 3598 3599

Lecanicillium muscarium 3600 3601

USA, Oregon
Acremonium berkeleyanum 2067
Acrodontium crateriforme 2070
Beauveria bassiana 2054
Fusarium avenaceum 2060
Fusarium merismoides 2059
Humicola sp. 2069
Isaria farinosa 2057
Lecanicillium muscarium 2065 2066
Mortierella histoplasmatoides 2063
Mortierella hyalina 2061
Penicillium thomii 2056
Phialophora malorum 2072
Phoma cava 2071
Pochonia suchlasporia var. *catenata*
 2064
 Sterile mycelium 2073
Trichothecium roseum 2055

USA, Pennsylvania
Beauveria pseudobassiana 3528
Entomophaga maimaiga 7120 7121
 7122 7131 7132 7133 7134 7135
 7136 7190 7352 7353
Fusarium polyphialidicum 3916
Isaria farinosa 20 3221 3491 3499
 3500 3506 3523

USA, Virginia
Beauveria bassiana 3527
Beauveria pseudobassiana 3405
Entomophaga maimaiga 4504 4505
 4506 4507 4552 4553 4554 4555
 5568 5570 6169 6218
Fusarium polyphialidicum 3695
Fusarium torulosum 3483
Isaria farinosa 3490 3493 3494 3496
 3497 3501 3502 3503 3504 3505
 3508 3664 3665

USA, West Virginia
Entomophaga maimaiga 6168
Isaria farinosa 3495 3517 3518 3519
 3520 3521 3522 3525 3533
Lecanicillium muscarium 3531

Lymantria dissoluta

PR China
Beauveria bassiana 6233
Isaria catenianulata 6242

Orgyia vetusta

USA, California
Entomophaga aulicae 4004 4005
 4006 4007 4008

Lepidoptera: Lyonetiidae

Leucoptera coffeella

Nicaragua
Beauveria bassiana 6801 6802 6803
 6804 6805 6806 6807 6808 6809

Leucoptera scitella

Italy
Beauveria bassiana 1115 1117
Metarhizium brunneum 1116

Lepidoptera: Microlepidoptea

Poland
Hirsutella subulata 2227

Lepidoptera: Lymantriidae

Lepidoptera: Noctuidae

Lepidoptera: Noctuidae

Brazil
Isaria tenuipes 4096

Brazil, Mato Grosso
Isaria tenuipes 3939

Brazil, Paraná
Isaria tenuipes 3938

Brazil, São Paulo
Nomuraea rileyi 6875

Canada
Metarhizium guizhouense 2140

Denmark
Tolypocladium cylindrosporum
 2777 2778

Hungary
Beauveria bassiana 1627 1628 1629

PR China
Beauveria brongniartii 9599

Russian Federation
Nomuraea rileyi 9489 9490
Nomuraea sp. 7851

Switzerland
Furia virescens 470 1129

USA, Mississippi
Nomuraea rileyi 135

USA, New York
Entomophaga aulicae 3016
 ?*Heliothis* sp.

USA, Georgia
Entomophaga aulicae 251

Aedia leucomelas

Japan
Entomophaga aulicae 198 998

Agrotis segetum

Denmark
Isaria farinosa 4010

Alabama *argillacea*

Argentina
Nomuraea rileyi 7148

Anticarsia gemmatalis

Argentina
Nomuraea rileyi 2013 2465 2466
 5208 5209 5210 5211 5212 6877
 7052 7053 7054 7055 7056 7149
 7150 7151 7479 7480 7481 7482
 7484 7778 7779 7780

Brazil, Pará
Nomuraea rileyi 1950

Brazil, Paraná
Nomuraea rileyi 3940 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

Brazil, Rio Grande do Sul
Nomuraea rileyi 2201 2202 2203
 2204 2205 2207

Mexico
Metarhizium brunneum 3295
Nomuraea rileyi 2492

USA, Florida
Nomuraea rileyi 6868 6869 6870
 6872 6873 6876

<i>Autographa gamma</i>	<i>Prodenia litura</i>	Brazil, Bahia
France	Japan	<i>Nomuraea rileyi</i> 1972
<i>Beauveria bassiana</i> 2253 2254	<i>Nomuraea rileyi</i> 1014	Brazil, Paraná
Japan	<i>Pseudaletia</i> sp.	<i>Eulachovaea</i> sp. 959
<i>Entomophaga aulicae</i> 2363 2365	Canada, Ontario	<i>Nomuraea rileyi</i> 6735 6768 6769
<i>Helicoverpa</i> sp.	<i>Entomophaga aulicae</i> 1999	6770 6771 6772 6773 6774
Australia	<i>Pseudoplusia includens</i>	Mexico
<i>Beauveria bassiana</i> 8066	USA, Alabama	<i>Beauveria bassiana</i> 3288
<i>Helicoverpa armigera</i>	<i>Erynia</i> sp. 2027	<i>Beauveria</i> sp. 3289 3300
India	USA, Florida	<i>Isaria tenuipes</i> 2488 2489 2490 2491
<i>Nomuraea</i> sp. 2413	<i>Nomuraea rileyi</i> 6866 6882	<i>Metarhizium anisopliae</i> sensu lato
PR China	<i>Pseudoplusia ni</i>	3293
<i>Nomuraea rileyi</i> 6239	Brazil	<i>Metarhizium brunneum</i> 3294
Spain	<i>Acremonium roseum</i> 1964	<i>Nomuraea rileyi</i> 3301 11939 11941
<i>Beauveria bassiana</i> 1149 1166	<i>Rachiplusia nu</i>	11942 11943
<i>Helicoverpa virescens</i>	Argentina	<i>Spodoptera littoralis</i>
France	<i>Aspergillus</i> sp. 5205	France
<i>Beauveria bassiana</i> 1314 1315 1316	Brazil, Rio Grande do Sul	<i>Beauveria bassiana</i> 1512 1513 3286
Spain	<i>Nomuraea rileyi</i> 2206	<i>Spodoptera litura</i>
<i>Beauveria bassiana</i> 1788	<i>Raghuva albipunctella</i>	India
<i>Helicoverpa zea</i>	Senegal	<i>Beauveria bassiana</i> 6646 6647 6648
USA	<i>Fusarium nygamai</i> 2316	6650
<i>Metarhizium anisopliae</i> sensu lato	<i>Rivula atimeta</i>	<i>Fusarium</i> sp. 6649
11637	Philippines	<i>Metarhizium anisopliae</i> sensu
USA, Florida	<i>Isaria farinosa</i> 2344	stricto 10473
<i>Metarhizium anisopliae</i> sensu	<i>Nomuraea rileyi</i> 1756 1757 1758	<i>Nomuraea rileyi</i> 6645
stricto 1080	1759 1760 2395	<i>Trichoplusia ni</i>
<i>Mamestra brassicae</i>	<i>Sesamia calamistis</i>	Mexico
France	Benin	<i>Zoophthora radicans</i> 6003
<i>Isaria javanica</i> 3981	<i>Beauveria bassiana</i> 5649 5654	
Japan	<i>Sesamia cretica</i>	Lepidoptera: Noctuidae: Plusiinae
<i>Entomophaga aulicae</i> 1657 1751	Italy	Brazil, Paraná
2362 2367 2368 2369	<i>Beauveria bassiana</i> 1118	<i>Beauveria bassiana</i> 3937
<i>Pandora delphacis</i> 1265	<i>Sesamia inferens</i>	
<i>Mocis</i> sp.	Indonesia, Jawa Barat, Java	Lepidoptera: Notodontidae
Colombia	<i>Zoophthora radicans</i> 2411	<i>Ellida caniplaga</i>
<i>Beauveria</i> sp. 590	Japan	Canada, Ontario
<i>Metarhizium anisopliae</i> sensu	<i>Paecilomyces</i> sp. 1008	<i>Entomophaga aulicae</i> 2903
stricto 587	<i>Simyra henrici</i>	<i>Heterocampa</i> sp.
<i>Mocis frugalis</i>	USA, Florida	Canada, Ontario
Philippines	<i>Beauveria bassiana</i> 5988	<i>Entomophaga aulicae</i> 2902
<i>Nomuraea rileyi</i> 1762	<i>Spodoptera</i> sp.	<i>Heterocampa biundata</i>
<i>Mocis latipes</i>	Australia	Canada, Ontario
Brazil, Goiás	<i>Nomuraea rileyi</i> 323 358 380	<i>Entomophaga aulicae</i> 2905
<i>Conidiobolus coronatus</i> 1884	Brazil, Goiás	<i>Heterocampa guttivitta</i>
Mexico	<i>Nomuraea rileyi</i> 935	Canada, Ontario
<i>Isaria tenuipes</i> 6889	India	<i>Entomophaga aulicae</i> 2904
<i>Naranga</i> sp.	<i>Nomuraea rileyi</i> 6867	USA, New York
Indonesia, Jawa Tengah, Java	Location not specified	<i>Entomophaga aulicae</i> 3039 3212
<i>Nomuraea rileyi</i> 2345	<i>Isaria farinosa</i> 2546	USA, Vermont
<i>Panolis flammea</i>	Malaysia	<i>Entomophaga aulicae</i> 2843
United Kingdom	<i>Metarhizium anisopliae</i> var. <i>majus</i>	<i>Quadicalcarifera punctatella</i>
<i>Batkoa</i> sp. 6179	8736	Japan
<i>Beauveria bassiana</i> 6100 6101 6177	<i>Metarhizium anisopliae</i> sensu lato	<i>Isaria farinosa</i> 1042
6178	8735	
<i>Plathyphena scabra</i>	Philippines	Lepidoptera: Nymphalidae
USA, Florida	<i>Fusarium</i> sp. 2736	United Kingdom
<i>Nomuraea rileyi</i> 6871 6881	<i>Isaria fumosorosea</i> 2734	<i>Isaria farinosa</i> 981
USA, Missouri	<i>Metarhizium pingshaense</i> 2735	<i>Agraulis vanillae</i>
<i>Nomuraea rileyi</i> 762	<i>Spodoptera exigua</i>	Colombia
<i>Plusia</i> sp.	Thailand	<i>Isaria tenuipes</i> 6788
Japan	<i>Nomuraea rileyi</i> 539	<i>Chlosyne lacinia saundersii</i>
<i>Nomuraea rileyi</i> 1047	<i>Spodoptera frugiperda</i>	Brazil, Paraná
<i>Plusiinae</i> sp.	Brazil	<i>Isaria farinosa</i> 1065
Brazil, Paraná	<i>Nomuraea rileyi</i> 4094	<i>Metarhizium anisopliae</i> sensu lato
<i>Nomuraea rileyi</i> 6781 6785 6879		1059
		<i>Metarhizium robertsii</i> 1057

Fungus by Host and Location

Lepidoptera: Nymphalidae

Lepidoptera: Pyralidae

<i>Purpureocillium lilacinum</i> 1058	<i>Conidiobolus firmipilleus</i> 2731	<i>Metarhizium anisopliae</i> sensu lato
<i>Opsiphanes cassinae</i>	<i>Conidiobolus</i> sp. 2771 2772 2815	3290 3291 3292
Colombia	2816 3208 2776	Unidentified sp. 3298 3299 3804
<i>Purpureocillium lilacinum</i> 5805	<i>Geotrichum</i> sp. 2752	<i>Dioryctria sylvestrella</i>
Lepidoptera: Oecophoridae	<i>Isaria fumosorosea</i> 2749	Japan
<i>Anteotricha</i> sp.	<i>Pandora blunckii</i> 2824 3200 3202	<i>Beauveria bassiana</i> 1001
Brazil, Pará	<i>Pandora</i> sp. 3201 3203 2821	<i>Hirsutella satumaensis</i> 996
<i>Evlachovaea</i> sp. 2614 2615	<i>Zoophthora radicans</i> 2732 2893	<i>Dioryctria zimmermani</i>
Lepidoptera: Olethreutidae	3204 3205 3206	USA, Michigan
<i>Carpocapsa pomonella</i>	Romania	<i>Hirsutella nodulosa</i> 5473
Austria	<i>Isaria fumosorosea</i> 5874	<i>Elasmopalpus lignosellus</i>
<i>Metarhizium brunneum</i> 1095	<i>Metarhizium robertsii</i> 5873	USA, Texas
Yugoslavia, Serbia	USA, New York	<i>Trichoderma</i> sp. 5730
<i>Beauveria bassiana</i> 503	<i>Beauveria bassiana</i> 4525 4526 4527	<i>Eldana saccharina</i>
Lepidoptera: Phycitinae	4528 4529 4530 4531 4532 4533	Benin
<i>Emmalocera depressella</i>	4534 4535 4536 4537 4538 4539	<i>Beauveria bassiana</i> 5645 5653 5655
India	4540 4543 6150 6151 6152 6153	<i>Beauveria bassiana</i> (?) 5644
<i>Beauveria bassiana</i> 2417	<i>Metarhizium anisopliae</i> sensu lato	<i>Eoreuma loftini</i>
<i>Fusarium</i> sp. 2418	4522	USA, Texas
Lepidoptera: Pieridae	Lepidoptera: Pyralidae	<i>Aspergillus parasiticus</i> 5470
<i>Colias erate poliographus</i>	Russian Federation	<i>Metarhizium anisopliae</i> sensu lato
Japan	<i>Sporothrix insectorum</i> 9501	5469
<i>Entomophaga aulicae</i> 2366	<i>Acigona</i> sp.	<i>Metarhizium anisopliae</i> sensu
<i>Pieris brassicae</i>	Benin	stricto 5471
Poland	<i>Beauveria bassiana</i> 5647 5648	<i>Galleria mellonella</i>
<i>Zoophthora radicans</i> 1341 1342	<i>Chilo infuscatellus</i>	<i>Beauveria bassiana</i> 6894
1343 1344 1345 1346	India	<i>Beauveria bassiana</i> (?) 6892
<i>Pieris rapae</i>	<i>Beauveria</i> sp. 1886	<i>Isaria fumosorosea</i> 6893
USA, New York	<i>Chilo plejadellus</i>	Australia
<i>Furia pieris</i> 781	Australia	<i>Metarhizium anisopliae</i> sensu lato
Lepidoptera: Plutellidae	<i>Beauveria bassiana</i> 326	8560
<i>Plutella</i> sp.	<i>Chilo sacchariphagus</i>	Canada, Alberta
Australia	Mozambique	<i>Metarhizium anisopliae</i> sensu lato
<i>Pandora blunckii</i> 3075	<i>Fusarium</i> sp. 7045 7046	8212
<i>Plutella maculipennis</i>	<i>Chilo sacchariphagus indicus</i>	Canada, Ontario
Germany	India	<i>Metarhizium anisopliae</i> sensu lato
<i>Pandora blunckii</i> 217	<i>Fusarium subglutinans</i> 2142	8680 8681 8682 8683 8684 8685
<i>Plutella xylostella</i>	<i>Cnaphalocrocis medinalis</i>	8686 8687 8688 8689 8690 8691
Australia	Indonesia, Jawa Barat, Java	8692
<i>Isaria fumosorosea</i> 6799 6800	<i>Zoophthora radicans</i> 2410	Denmark
Benin	Philippines	<i>Beauveria bassiana</i> 8032 8033 8035
<i>Fusarium</i> sp. 5881	<i>Beauveria bassiana</i> 2041	<i>Beauveria brongniartii</i> 8034
<i>Purpureocillium lilacinum</i> 6183	<i>Nomuraea rileyi</i> 1761 2174	Greenland
6197	Unidentified sp. 1703	<i>Beauveria bassiana</i> 8039 8040
Japan	<i>Zoophthora radicans</i> 1699	Iran
<i>Erynia</i> sp. 983	<i>Coniesta</i> sp.	<i>Beauveria bassiana</i> 6904 6905
<i>Pandora blunckii</i> 1000	Benin	Italy
<i>Zoophthora radicans</i> 1048	<i>Beauveria bassiana</i> 5646	<i>Beauveria bassiana</i> 1113 1114
Malaysia	<i>Corcyra cephalonica</i>	Mexico
<i>Zoophthora radicans</i> 1100	Philippines	<i>Metarhizium anisopliae</i> sensu lato
Mexico	<i>Mixed Culture</i> sp. 2738	7612 7613 7614 7615
<i>Pandora blunckii</i> 6293 6294 6295	<i>Diaphania hyalinata</i>	Nicaragua
6296 6297 6298 6299 6300 6301	Mexico	<i>Purpureocillium lilacinum</i> 8311
6302 6304 6305 6306 6307 6308	<i>Isaria fumosorosea</i> 3302	8312
6309 6310 6311 6312 6316	<i>Diatraea saccharalis</i>	Norway
<i>Zoophthora radicans</i> 6303 6313	Argentina	<i>Aspergillus flavus</i> (?) 5503 5504
6314 6315	<i>Beauveria bassiana</i> 5500 5502	5505 5506 5507 5508 5509
Philippines	Brazil	<i>Beauveria bassiana</i> 5510 7552 7553
<i>Aspergillus flavus</i> 2818	<i>Beauveria bassiana</i> 1832 1834 3858	7554
<i>Aspergillus</i> sp. 2765 2817 2820	Brazil, Pernambuco	<i>Beauveria brongniartii</i> 7555 7556
<i>Beauveria bassiana</i> 2727 2728 2729	<i>Beauveria bassiana</i> 1484 2629 3020	7557 7558 7559 7560 7561
<i>Beniowskia</i> sp. 2751	Brazil, São Paulo	<i>Beauveria pseudobassiana</i> 5370
<i>Conidiobolus coronatus</i> 2730	<i>Beauveria brongniartii</i> 1830	5557
	Mexico	<i>Beauveria</i> sp. 7562 7563 7564 7565
	<i>Cylindrocarpon</i> sp. 8043 8044	7566 7567 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
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
Beauveria bassiana 11613
USA, 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
USA, Arizona
Metarhizium anisopliae sensu lato 7847
USA, California
Beauveria bassiana 6147 6148 7060
USA, Maine
Isaria fumosorosea 9380
USA, Montana
Beauveria bassiana 6931 6932 6933 6934 6935 6936 6937 6938 6939 6940 6941 6943 6949 6950 6951 6952 6953
USA, North Carolina
Isaria farinosa 8770

Metarhizium anisopliae sensu lato 8769
Scopulariopsis brevicaulis 9943
USA, Oregon
Beauveria bassiana 7356 7357 7358 7359 7362 7364 7365
Metarhizium sp. 4998 5000 5076 5077
Unidentified / Hyphomycetes 5199
USA, Washington
Beauveria sp. 5078 4997 4999 5001
Gymnancyla canella
France
Beauveria bassiana 6796
Ostrinia nubilalis
France
Isaria farinosa 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 subglutinans 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: 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
Adoxophyes orana
Japan
Lecanicillium muscarium 994
Choristoneura sp.
Canada, British Columbia
Beauveria bassiana 1850
Choristoneura fumiferana
Canada, New Brunswick
Tolypocladium inflatum 3321
Canada, Newfoundland
Entomophaga aulicae 2896 2898
Canada, Ontario
Entomophaga aulicae 1992 1993 1994 1995 1997 1998 2901
Zoophthora radicans 407
USA, Maine
Conidiobolus sp. 92 93 94 147 148
Entomophaga aulicae 51 164 165 166 167 168 172
Hirsutella longicollis var. *cornuta* 177 178
Zoophthora radicans 21 44 45 50 52 88 141 142 143 144 145 146 163 221 223 224 225 226 227 228 229 230 231 232 233 234 235
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 5064 5066 5067 5229 5230 5231 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

Fungus by Host and Location

Lepidoptera: Tortricidae
Lepidoptera: Yponomeutidae

Italy
 Beauveria bassiana 1122
 Lecanicillium lecanii(?) 1109
Portugal
 Beauveria pseudobassiana 3220
Republic of Georgia
 Beauveria sp. 6533 6534 6535 6536
 6537
United Kingdom
 Isaria farinosa 975
Eana argentana
Japan
 Erynia sp. 1143
Epinotia aporema
Argentina
 Zoophthora radicans 5814
Uruguay
 Conidiobolus coronatus 4797
 Zoophthora radicans 4781 4782
 4784 4785
Epiphyas postvittana
New Zealand
 Paecilomyces sp. 309
USA, California
 Fusarium sp. 10470
Hedya nubiferana
France
 Beauveria bassiana 6199
Laspeyresia medicaginis
France
 Isaria farinosa 1225
Lobesia botrana
Italy
 Beauveria bassiana 1107 1110
 Isaria farinosa 1111
 Metarhizium brunneum 1112
Merophyas divulsana
Australia
 Zoophthora radicans 1082
Ptycholoma aeriferana
Japan
 Zoophthora radicans 1674 1675
Rhyacionia frustrana
USA, Georgia
 Beauveria bassiana 5573
Tortrix viridana
France
 Zoophthora radicans 68
Russian Federation
 Lecanicillium sp. 9458

Lepidoptera: Yponomeutidae

Yponomeuta sp.
France
 Unidentified sp. 3998
Yponomeutidae sp.
France
 Beauveria bassiana 3966 3967 3968
 3969 3970
 Beauveria pseudobassiana 3965

Argentina

Buenos Aires
Aspergillus sp. 5205
Nomuraea rileyi 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
Nomuraea rileyi 7150 7151 7484 7779
 7780
 Santiago del Estero
Nomuraea rileyi 2465 7148
 Tucumán
Nomuraea rileyi 2013 2466

Australia

Lecanicillium muscarium(?) 1032
 Australian Capital Territory
Metarhizium anisopliae sensu lato
 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
Nomuraea rileyi 323 358 380
Pandora blunkii 3075
Zoophthora radicans 1082
 South Australia
Beauveria pseudobassiana 4273
 Tasmania
Beauveria bassiana 4258 4672
Metarhizium anisopliae sensu lato
 4234
Microhilum oncoperae 4358 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
Nomuraea rileyi 4094
 Bahia
Beauveria bassiana 1479
Nomuraea rileyi 1972
 Ceará
Beauveria bassiana 2637
 Distrito Federal
Metarhizium pingshaense 552
 Goiás
Conidiobolus coronatus 1884
Erynia sp. 1241
Nomuraea rileyi 935 936
 Mato Grosso
Isaria tenuipes 3939
 Pará
Beauveria bassiana 2619
Evlachovaea sp. 2613 2614 2615
Nomuraea 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
Nomuraea rileyi 3940 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 6874 6878 6879
Purpureocillium lilacinum 1058
 Pernambuco
Beauveria bassiana 1484 2629 3020
Beauveria brongniartii 1829
 Rio Grande do Sul
Fusarium sp. 5219
Nomuraea rileyi 2201 2202 2203 2204
 2205 2206 2207
 Unidentified sp. 3467 3468
 São Paulo
Beauveria bassiana 2633 6514
Beauveria brongniartii 1830
Nomuraea 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
 Newfoundland
Entomophaga aulicae 1991 2896 2898
 2900
Zoophthora radicans 72
 Ontario
Beauveria bassiana 2267
Entomophaga aulicae 1992 1993 1994
 1995 1997 1998 1999 2897 2899 2901
 2902 2903 2904 2905
Entomophaga maimaiga 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

Béarn

Isaria farinosa 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 5229 5230
5231 5233 5234 5235

Ile de France

Isaria javanica 3981

Port d' Hérault

Beauveria bassiana 5064 5066 5067

S/Céze

Beauveria bassiana 3966 3967 3968
3969 3970

Beauveria pseudobassiana 3965

Unidentified sp. 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 sp. 2418 2595

Metarhizium globosum 2596

Nomuraea rileyi 6867

Nomuraea sp. 2413

Andhra Pradesh

Beauveria bassiana 6646 6647 6648
6650

Fusarium sp. 6649

Nomuraea rileyi 6645

Tamil Nadu

Beauveria sp. 1886

Fusarium subglutinans 2141 2142

Metarhizium anisopliae sensu stricto
10473

Indonesia

Jawa Barat, Java

Metarhizium anisopliae sensu lato
2424

Zoophthora radicans 2410 2411

Jawa Tengah, Java

Nomuraea rileyi 2345

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 2365
2366 2367 2368 2369

Erynia sp. 1143

Zoophthora radicans 1674 1675

Ibaraki Prefecture

Entomophaga aulicae 1140 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 1001 1007

Beauveria sp. 1040

Entomophaga aulicae 198 998

Erynia sp. 983

Hirsutella satumaensis 996

Isaria fumosorosea 1005

Metarhizium brunneum 988

Metarhizium majus 1015

Nomuraea rileyi 1014 1047

Paecilomyces canadensis 990

Purpureocillium lilacinum 986

Paecilomyces sp. 1008

Pandora blunckii 1000

Pandora delphacis 1265

Verticillium lecanii 991

Zoophthora radicans 1048

Laboratory manipulation

Metarhizium anisopliae sensu lato
1094

Malaysia

Metarhizium anisopliae var. *majus*
8736

Metarhizium anisopliae sensu lato
8735

Zoophthora radicans 1100

Mexico

Beauveria bassiana 3288

Beauveria sp. 3289

Fusarium sp. 3300

Metarhizium anisopliae sensu lato
3290 3291 3292 3293

Metarhizium brunneum 3294

Nomuraea rileyi 3301

Polycephalomyces ramosus 7095

Unidentified sp. 3298 3299

Baja California

Isaria fumosorosea 3302

Coahuila

Nomuraea rileyi 11939 11941 11942
11943

Zoophthora radicans 6003

Colima

Cylindrocarpus sp. 8043 8044

Unidentified sp. 3804

Durango

Beauveria bassiana 2857

Isaria farinosa 2822

Guanajuato State

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

Tabasco

Isaria tenuipes 6889

Metarhizium anisopliae sensu lato
7612 7613 7614 7615

Tamaulipas

Isaria tenuipes 2488 2489 2490 2491

Metarhizium brunneum 3295

Nomuraea rileyi 2492

Mozambique*Fusarium* sp. 7045 7046**Nepal***Beauveria bassiana* 7274**New Zealand***Paecilomyces* sp. 309

North Island

Metarhizium brunneum 1187

South Island

Metarhizium anisopliae sensu lato
3064 4681*Metarhizium flavoviride* var. *novaezealandicum* 8214**Nicaragua**

Carazo

Beauveria bassiana 6801 6802 6803
6804 6805 6806 6807 6808 6809

Masaya

Purpureocillium lilacinum 8311 8312**Norway***Metarhizium brunneum* 6474*Metarhizium robertsii* 6476

Akershus

Beauveria pseudobassiana 5370

Buskerud

Metarhizium anisopliae sensu lato
6475

Finnmark

Aspergillus flavus(?) 5503 5504

Nord Trøndelag

Aspergillus flavus(?) 5506 5507 5508
5509*Beauveria bassiana* 5510*Metarhizium anisopliae* sensu lato
5518 5519 5521

Nordland

Aspergillus flavus(?) 5505*Fusarium* sp. 5560*Metarhizium anisopliae* sensu lato
5513 5514 5515 5516 5517

Rogaland

Metarhizium anisopliae sensu lato
5554 5555 5556

Sogn og Fjordane

Beauveria bassiana 7552 7553 7554*Beauveria brongniartii* 7555 7556

7557 7558 7559 7560 7561

Beauveria sp. 7562 7563 7564 7565
7566 7567*Isaria farinosa* 7574 7575 7576 11656*Isaria fumosorosea* 11657 11658 11659*Lecanicillium muscarium* 7568*Metarhizium anisopliae* sensu lato

7014 7015 7016 7017 7018 7019 7020

7021 7022 7023 7024 7025 7026 7569

7570 7571 7572 7573

Sør Trøndelag

Metarhizium anisopliae sensu lato
5369

Telemark

Metarhizium anisopliae sensu lato
11661

Troms

Beauveria pseudobassiana 5557**Philippines**

Abra

Nomuraea rileyi 1762

Benguet

Aspergillus flavus 2818*Aspergillus* sp. 2765 2817 2820*Beauveria bassiana* 2727 2728 2729
2737*Beniowskia* sp. 2751*Conidiobolus coronatus* 2730*Conidiobolus firmipilleus* 2731*Conidiobolus* sp. 2771 2772 2815 2816
3208*Fusarium* sp. 2736 2776*Geotrichum* sp. 2752*Isaria fumosorosea* 2734 2749*Mixed Culture* sp. 2738*Metarhizium pingshaense* 2735*Pandora blunckii* 2824 3200 3202*Pandora* sp. 3201*Scopulariopsis* sp. 3203

Unidentified sp. 2821

Zoophthora radicans 2732 2893 3204
3205 3206

Leyte

Nomuraea rileyi 2174

Manila

Beauveria bassiana 2041*Isaria farinosa* 2344*Nomuraea rileyi* 481 482 483 1761
2395

Unidentified sp. 1703

Zoophthora radicans 1699

Mindanao

Nomuraea rileyi 1756 1757 1758 1759
1760**Poland***Hirsutella subulata* 2227

Unidentified sp. 1415 1417

Zoophthora radicans 1341 1342 1343
1344 1345 1346**Portugal***Beauveria pseudobassiana* 3220

Azores

Metarhizium anisopliae sensu lato
4904 4905 4906*Metarhizium robertsii* 4903**PR China***Beauveria bassiana* 501 502 533 652*Hirsutella sinensis* 6282*Paecilomyces sinensis* 6284 6285*Sporothrix insectorum* 6286

Anhui

Beauveria amorphia 6227*Beauveria bassiana* 6233*Cordyceps bassiana* 7047*Cordyceps militaris* 6248*Isaria cateniannulata* 6240 6242*Isaria tenuipes* 6249*Metarhizium guizhouense* 6238*Nomuraea rileyi* 6239

Guizhou Province

Beauveria bassiana 11708 11716
11717 11719*Beauveria brongniartii* 9599*Beauveria* sp. 9596 11709*Cordyceps militaris* 11703*Cordyceps pruinosa* 11724*Hirsutella liboensis* 9603*Isaria cateniannulata* 9601*Isaria cicadae* 11726*Isaria tenuipes* 11705 11706 11707*Mariannaea pruinosa* 5413

Heilongjiang

Entomophaga maimaiga 7139 7183
7184

Sichuan Province

Cordyceps pruinosa 11723*Isaria cateniannulata* 11722

Yunnan

Isaria farinosa 6245

Yunnan Province

Cordyceps militaris 11704*Isaria farinosa* 11721*Simplicillium lamellicola*(?) 11725

Zhijiang

Beauveria bassiana 718*Isaria fumosorosea* 720*Metarhizium guizhouense* 703*Nomuraea rileyi* 711**Republic of Georgia***Beauveria* sp. 6533 6534 6535 6536
6537*Isaria fumosorosea* 10224**Republic of Korea***Cordyceps militaris* 4845

Kangwon-do

Cordyceps isarioides 5688

Yeongnam Region

Beauveria bassiana 11715**Romania***Isaria fumosorosea* 5874*Metarhizium robertsii* 5873**Rumania**

Muntenia

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

Moscow Region

Cordyceps militaris 9484*Isaria farinosa* 9515*Lecanicillium* sp. 9458

<i>Nomuraea rileyi</i> 9489	<i>Metarhizium anisopliae</i> sensu lato 8347 8350 8351 8352 8353	<i>Beauveria bassiana</i> 6100 6101 6177 6178
Novosibirsk Region	Bayburt	Uruguay
<i>Sporothrix insectorum</i> 9501	<i>Beauveria bassiana</i> 8673 8674	<i>Conidiobolus coronatus</i> 4797
Primorsky Krai	<i>Metarhizium anisopliae</i> sensu lato 8665 8669	<i>Zoophthora radicans</i> 4781 4782 4783 4784 4785
<i>Beauveria bassiana</i> 7585 9445	Erzurum	
<i>Beauveria</i> sp. 7586 7594 7598	<i>Beauveria bassiana</i> 8664 8666	
<i>Cordyceps militaris</i> 7809 7810	Gaziantep	
<i>Cordyceps pruinosa</i> 7221	<i>Beauveria</i> sp. 5832	
<i>Cordyceps</i> sp. 7808 7811	Giresun	USA
<i>Isaria farinosa</i> 7714 7720 7722 7724 7725 7726 7730 7731 7736 7737	<i>Evlachovaea</i> sp. 8439	<i>Beauveria bassiana</i> 11613 11614 11615 11616 11617
<i>Isaria fumosorosea</i> 7743	<i>Isaria fumosorosea</i> 8345	<i>Metarhizium anisopliae</i> sensu lato 11637
<i>Lecanicillium muscarium</i> 7738 9468 9469 9477	<i>Metarhizium anisopliae</i> sensu lato 8443	Alabama
<i>Lecanicillium</i> sp. 7624 7625 7626 7627 7628 7629 7632	Gümüşhane	<i>Erynia</i> sp. 2027
<i>Nomuraea rileyi</i> 9490	<i>Beauveria bassiana</i> 8661 8663 8667 8670 8672	Alaska
<i>Nomuraea</i> sp. 7851	<i>Beauveria</i> sp. 8675	<i>Beauveria bassiana</i> 7955 7956 7957 7958 7959 7963 7964 7965 7966 7968
<i>Paecilomyces</i> sp. 7721 7741 7742	<i>Metarhizium anisopliae</i> sensu lato 8662	<i>Beauveria</i> sp. 7960
Sakhalin Region	<i>Metarhizium brunneum</i> 8671	<i>Isaria farinosa</i> 7961 7962
<i>Evlachovaea</i> sp. 7600 7601	Kahraman Maras	<i>Metarhizium anisopliae</i> sensu lato 7967
<i>Lecanicillium muscarium</i> 7621	<i>Lecanicillium psalliotae</i> 5685	<i>Sporothrix insectorum</i> 7924
Senegal	Ordu	Arizona
<i>Fusarium nygamai</i> 2316	<i>Beauveria bassiana</i> 8340 8343 8431 8444	<i>Metarhizium anisopliae</i> sensu lato 7847
Solomon Islands	<i>Evlachovaea</i> sp. 8441 8442 8449	California
Guadalcanal	<i>Metarhizium anisopliae</i> sensu lato 8344 8437 8438 8440 8445	<i>Beauveria bassiana</i> 6147 6148 7060
<i>Nomuraea rileyi</i> 1879 1893	Ordu Province	<i>Entomophaga aulicae</i> 4004 4005 4006 4007 4008
South Africa	<i>Metarhizium anisopliae</i> sensu lato 8342	<i>Fusarium</i> sp. 10470
<i>Cladosporium</i> sp. 6226	Rize	Connecticut
<i>Fusarium</i> sp. 6102	<i>Beauveria bassiana</i> 8355	<i>Entomophaga maimaiga</i> 2775
Cape Province	<i>Isaria fumosorosea</i> 8337 8448	Delaware
<i>Beauveria bassiana</i> 6973 6974 6975 6976 6977 6981 6984	<i>Metarhizium anisopliae</i> sensu lato 8334 8335 8336 8338 8432 8433 8434 8435 8447 8452 8453 8660	<i>Beauveria bassiana</i> 2570 2571 2572 2573
<i>Beauveria pseudobassiana</i> 6971	Samsun	Florida
<i>Gliocladium</i> sp. 6632	<i>Metarhizium anisopliae</i> sensu lato 8341	<i>Beauveria bassiana</i> 5988
Free State	Samsun Province	<i>Metarhizium anisopliae</i> sensu stricto 1080
<i>Beauveria bassiana</i> 5704	Trabzon	<i>Nomuraea rileyi</i> 6866 6868 6869 6870 6871 6872 6873 6876 6881 6882
<i>Beauveria pseudobassiana</i> 6972	<i>Beauveria bassiana</i> 8339	Georgia
<i>Evlachovaea</i> sp. 5703	<i>Isaria fumosorosea</i> 8333	<i>Beauveria bassiana</i> 5573
Spain	<i>Metarhizium anisopliae</i> sensu lato 8346 8436 8446 8450 8451 8454	<i>Entomophaga aulicae</i> 251
<i>Beauveria bassiana</i> 1149 1166 1788	Ukraine	Hawaii
Switzerland	<i>Isaria tenuipes</i> 9534	<i>Beauveria bassiana</i> 8709
<i>Entomophaga</i> sp. 393	Autonomous Republic of Crimea	Kentucky
<i>Furia virescens</i> 427 470 1129	Unidentified / Hyphomycetes 9540	<i>Isaria farinosa</i> 2269
<i>Zoophthora radicans</i> 404	Kherson Oblast	Maine
Bern	<i>Evlachovaea</i> sp. 7599	<i>Conidiobolus</i> sp. 92 93 94 147 148
<i>Isaria farinosa</i> 7531	<i>Isaria farinosa</i> 7734	<i>Entomophaga aulicae</i> 51 164 165 166 167 168 172 7140 7141 7142 7143 7144 7145
Thailand	United Kingdom	<i>Hirsutella longicolla</i> var. <i>cornuta</i> 177 178
<i>Nomuraea rileyi</i> 539	<i>Beauveria bassiana</i> 6556 6557	<i>Isaria fumosorosea</i> 9380
Turkey	<i>Metarhizium anisopliae</i> sensu lato 6558	<i>Zoophthora radicans</i> 21 44 45 50 52 88 141 142 143 144 145 146 163 221 223 224 225 226 227 228 229 230 231 232 233 234 235
<i>Beauveria bassiana</i> 12165	England	Maryland
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210 *Beauveria brongniartii* 1830
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258 *Beauveria brongniartii* 1829
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1140 *Entomophaga aulicae* 1656
1142 (lost) *Entomophaga aulicae* 1655
1481 (lost) *Beauveria brongniartii* 1829
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2375 (never frozen) *Isaria farinosa* 2344
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3397 (deaccessioned) *Tolypocladium inflatum* 3321
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24493 *Zoophthora radicans* 72
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64259 *Pochonia suchlasporia* var. *catenata* 2064
64865 *Acremonium berkeleyanum* 2067

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C86 *Nomuraea rileyi* 2205

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Nr-BS *Nomuraea rileyi* 1762

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56B 1iv *Metarhizium anisopliae* sensu lato 8681
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GUB2 1iv *Metarhizium anisopliae* sensu lato 8683
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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
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IP-241 *Beauveria bassiana* 7365
IP-36 *Beauveria bassiana* 7356
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2(HO-O-Hatch IV) *Fusarium avenaceum* 2060
3(RSRS-0/34) *Acremonium berkeleyanum* 2067
4(HO-O-Hatch VIII) *Lecanicillium muscarium* 2066
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CH-O-66/201 Sterile mycelium 2073
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83-02-18-01 *Nomuraea rileyi* 936
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84-04-13-1C *Erynia* sp. 1241
85-06-14 *Nomuraea rileyi* 1950
85-7-24-5 *Nomuraea rileyi* 1972
85-7-30 *Acremonium roseum* 1964
88-6-22 *Beauveria bassiana* 2637
Pl-196 *Beauveria bassiana* 2629

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26 *Isaria farinosa* 1065
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192 *Nomuraea rileyi* 1972
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1 *Fusarium subglutinans* 2141
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KTU-7 *Beauveria bassiana* 8339
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10 *Beauveria bassiana* 1104
101 *Isaria fumosorosea* 1568
103 *Beauveria bassiana* 1564
104 *Isaria fumosorosea* 1577
107 *Isaria fumosorosea* 1569
108 *Isaria fumosorosea* 1578
109 *Beauveria pseudobassiana* 1565
110 *Isaria fumosorosea* 1579
17 *Beauveria bassiana* 1105
26 *Beauveria bassiana* 1107
27 *Isaria farinosa* 1108
29 *Lecanicillium lecanii*(?) 1109
31 *Beauveria bassiana* 1110
32A *Isaria farinosa* 1111
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B-108 *Isaria farinosa* 7723
B-181 *Isaria farinosa* 7714
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EBCL 99032 *Beauveria bassiana* 6194
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3	<i>Isaria farinosa</i>	501	<i>Beauveria bassiana</i>	1115	<i>Beauveria bassiana</i>
20	<i>Isaria farinosa</i>	502	<i>Beauveria bassiana</i>	1116	<i>Metarhizium brunneum</i>
21	<i>Zoopthora radicans</i>	503	<i>Beauveria bassiana</i>	1117	<i>Beauveria bassiana</i>
38	<i>Isaria farinosa</i>	533	<i>Beauveria bassiana</i>	1118	<i>Beauveria bassiana</i>
44	<i>Zoopthora radicans</i>	539	<i>Nomuraea rileyi</i>	1121	<i>Beauveria bassiana</i>
45	<i>Zoopthora radicans</i>	552	<i>Metarhizium pingshaense</i>	1122	<i>Beauveria bassiana</i>
50	<i>Zoopthora radicans</i>	587	<i>Metarhizium anisopliae sensu stricto</i>	1129	<i>Furia virescens</i>
51	<i>Entomophaga aulicae</i>	590	<i>Beauveria sp.</i>	1139	<i>Basidiobolus ranarum</i>
52	<i>Zoopthora radicans</i>	648	<i>Isaria farinosa</i>	1140	<i>Entomophaga aulicae</i>
68	<i>Zoopthora radicans</i>	652	<i>Beauveria bassiana</i>	1143	<i>Erynia sp.</i>
72	<i>Zoopthora radicans</i>	697	<i>Isaria farinosa</i>	1145	<i>Furia neopyralidarum</i>
88	<i>Zoopthora radicans</i>	703	<i>Metarhizium guizhouense</i>	1149	<i>Beauveria bassiana</i>
92	<i>Conidiobolus sp.</i>	711	<i>Nomuraea rileyi</i>	1166	<i>Beauveria bassiana</i>
93	<i>Conidiobolus sp.</i>	718	<i>Beauveria bassiana</i>	1187	<i>Metarhizium brunneum</i>
94	<i>Conidiobolus sp.</i>	720	<i>Isaria fumosorosea</i>	1225	<i>Isaria farinosa</i>
135	<i>Nomuraea rileyi</i>	762	<i>Nomuraea rileyi</i>	1241	<i>Erynia sp.</i>
141	<i>Zoopthora radicans</i>	781	<i>Furia pieris</i>	1265	<i>Pandora delphacis</i>
142	<i>Zoopthora radicans</i>	843	<i>Beauveria bassiana</i>	1314	<i>Beauveria bassiana</i>
143	<i>Zoopthora radicans</i>	900	<i>Lecanicillium muscarium</i>	1315	<i>Beauveria bassiana</i>
144	<i>Zoopthora radicans</i>	935	<i>Nomuraea rileyi</i>	1316	<i>Beauveria bassiana</i>
145	<i>Zoopthora radicans</i>	936	<i>Nomuraea rileyi</i>	1341	<i>Zoopthora radicans</i>
146	<i>Zoopthora radicans</i>	959	<i>Evlachovaea sp.</i>	1342	<i>Zoopthora radicans</i>
147	<i>Conidiobolus sp.</i>	973	<i>Lecanicillium muscarium</i>	1343	<i>Zoopthora radicans</i>
148	<i>Conidiobolus sp.</i>	975	<i>Isaria farinosa</i>	1344	<i>Zoopthora radicans</i>
151	<i>Beauveria bassiana</i>	981	<i>Isaria farinosa</i>	1345	<i>Zoopthora radicans</i>
155	<i>Beauveria bassiana</i>	983	<i>Erynia sp.</i>	1346	<i>Zoopthora radicans</i>
163	<i>Zoopthora radicans</i>	986	<i>Purpureocillium lilacinum</i>	1390	<i>Entomophaga maimaiga</i>
164	<i>Entomophaga aulicae</i>	988	<i>Metarhizium brunneum</i>	1391	<i>Entomophaga maimaiga</i>
165	<i>Entomophaga aulicae</i>	989	<i>Isaria fumosorosea</i>	1392	<i>Entomophaga maimaiga</i>
166	<i>Entomophaga aulicae</i>	990	<i>Paecilomyces canadensis</i>	1400	<i>Entomophaga maimaiga</i>
167	<i>Entomophaga aulicae</i>	991	<i>Verticillium lecanii</i>	1415	<i>Unidentified sp.</i>
168	<i>Entomophaga aulicae</i>	994	<i>Lecanicillium muscarium</i>	1417	<i>Unidentified sp.</i>
172	<i>Entomophaga aulicae</i>	996	<i>Hirsutella satumaensis</i>	1479	<i>Beauveria bassiana</i>
177	<i>Hirsutella longicolla var. cornuta</i>	998	<i>Entomophaga aulicae</i>	1484	<i>Beauveria bassiana</i>
178	<i>Hirsutella longicolla var. cornuta</i>	1000	<i>Pandora blunckii</i>	1489	<i>Metarhizium anisopliae sensu stricto</i>
198	<i>Entomophaga aulicae</i>	1001	<i>Beauveria bassiana</i>	1512	<i>Beauveria bassiana</i>
217	<i>Pandora blunckii</i>	1003	<i>Aspergillus flavus</i>	1513	<i>Beauveria bassiana</i>
221	<i>Zoopthora radicans</i>	1005	<i>Isaria fumosorosea</i>	1558	<i>Beauveria bassiana</i>
223	<i>Zoopthora radicans</i>	1007	<i>Beauveria bassiana</i>	1564	<i>Beauveria bassiana</i>
224	<i>Zoopthora radicans</i>	1008	<i>Paecilomyces sp.</i>	1565	<i>Beauveria pseudobassiana</i>
225	<i>Zoopthora radicans</i>	1010	<i>Aspergillus flavus</i>	1568	<i>Isaria fumosorosea</i>
226	<i>Zoopthora radicans</i>	1014	<i>Nomuraea rileyi</i>	1569	<i>Isaria fumosorosea</i>
227	<i>Zoopthora radicans</i>	1015	<i>Metarhizium majus</i>	1577	<i>Isaria fumosorosea</i>
228	<i>Zoopthora radicans</i>	1032	<i>Lecanicillium muscarium(?)</i>	1578	<i>Isaria fumosorosea</i>
229	<i>Zoopthora radicans</i>	1038	<i>Beauveria bassiana</i>	1579	<i>Isaria fumosorosea</i>
230	<i>Zoopthora radicans</i>	1040	<i>Beauveria sp.</i>	1627	<i>Beauveria bassiana</i>
231	<i>Zoopthora radicans</i>	1042	<i>Isaria farinosa</i>	1628	<i>Beauveria bassiana</i>
232	<i>Zoopthora radicans</i>	1047	<i>Nomuraea rileyi</i>	1629	<i>Beauveria bassiana</i>
233	<i>Zoopthora radicans</i>	1048	<i>Zoopthora radicans</i>	1655	<i>Entomophaga aulicae</i>
234	<i>Zoopthora radicans</i>	1057	<i>Metarhizium robertsii</i>	1656	<i>Entomophaga aulicae</i>
235	<i>Zoopthora radicans</i>	1058	<i>Purpureocillium lilacinum</i>	1657	<i>Entomophaga aulicae</i>
251	<i>Entomophaga aulicae</i>	1059	<i>Metarhizium anisopliae sensu lato</i>	1658	<i>Entomophaga maimaiga</i>
299	<i>Beauveria pseudobassiana</i>	1065	<i>Isaria farinosa</i>	1674	<i>Zoopthora radicans</i>
302	<i>Beauveria bassiana</i>	1080	<i>Metarhizium anisopliae sensu stricto</i>	1675	<i>Zoopthora radicans</i>
303	<i>Beauveria bassiana</i>	1082	<i>Zoopthora radicans</i>	1677	<i>Beauveria bassiana</i>
304	<i>Beauveria bassiana</i>	1094	<i>Metarhizium anisopliae sensu lato</i>	1699	<i>Zoopthora radicans</i>
305	<i>Beauveria bassiana</i>	1095	<i>Metarhizium brunneum</i>	1703	<i>Unidentified sp.</i>
309	<i>Paecilomyces sp.</i>	1100	<i>Zoopthora radicans</i>	1751	<i>Entomophaga aulicae</i>
323	<i>Nomuraea rileyi</i>	1102	<i>Lecanicillium muscarium</i>	1756	<i>Nomuraea rileyi</i>
326	<i>Beauveria bassiana</i>	1103	<i>Beauveria bassiana</i>	1757	<i>Nomuraea rileyi</i>
358	<i>Nomuraea rileyi</i>	1104	<i>Beauveria bassiana</i>	1758	<i>Nomuraea rileyi</i>
380	<i>Nomuraea rileyi</i>	1105	<i>Beauveria bassiana</i>	1759	<i>Nomuraea rileyi</i>
393	<i>Entomophaga sp.</i>	1107	<i>Beauveria bassiana</i>	1760	<i>Nomuraea rileyi</i>
404	<i>Zoopthora radicans</i>	1108	<i>Isaria farinosa</i>	1761	<i>Nomuraea rileyi</i>
407	<i>Zoopthora radicans</i>	1109	<i>Lecanicillium lecanii(?)</i>	1762	<i>Nomuraea rileyi</i>
427	<i>Furia virescens</i>	1110	<i>Beauveria bassiana</i>	1788	<i>Beauveria bassiana</i>
470	<i>Furia virescens</i>	1111	<i>Isaria farinosa</i>	1829	<i>Beauveria brongniartii</i>
481	<i>Nomuraea rileyi</i>	1112	<i>Metarhizium brunneum</i>	1830	<i>Beauveria brongniartii</i>
482	<i>Nomuraea rileyi</i>	1113	<i>Beauveria bassiana</i>	1832	<i>Beauveria bassiana</i>

1834 Beauveria bassiana	2371 Entomophaga maimaiga	2824 Pandora blunckii
1836 Beauveria bassiana	2372 Entomophaga aulicae	2831 Beauveria bassiana
1850 Beauveria bassiana	2373 Entomophaga aulicae	2833 Aspergillus ochraceus
1879 Nomuraea rileyi	2374 Entomophaga aulicae	2834 Penicillium sp.
1884 Conidiobolus coronatus	2395 Nomuraea rileyi	2835 Isaria farinosa
1886 Beauveria sp.	2410 Zoophthora radicans	2836 Penicillium sp.
1893 Nomuraea rileyi	2411 Zoophthora radicans	2843 Entomophaga aulicae
1950 Nomuraea rileyi	2413 Nomuraea sp.	2857 Beauveria bassiana
1964 Acremonium roseum	2416 Cordyceps militaris	2893 Zoophthora radicans
1972 Nomuraea rileyi	2417 Beauveria bassiana	2896 Entomophaga aulicae
1990 Entomophaga aulicae	2418 Fusarium sp.	2897 Entomophaga aulicae
1991 Entomophaga aulicae	2424 Metarhizium anisopliae sensu lato	2898 Entomophaga aulicae
1992 Entomophaga aulicae	2465 Nomuraea rileyi	2899 Entomophaga aulicae
1993 Entomophaga aulicae	2466 Nomuraea rileyi	2900 Entomophaga aulicae
1994 Entomophaga aulicae	2488 Isaria tenuipes	2901 Entomophaga aulicae
1995 Entomophaga aulicae	2489 Isaria tenuipes	2902 Entomophaga aulicae
1997 Entomophaga aulicae	2490 Isaria tenuipes	2903 Entomophaga aulicae
1998 Entomophaga aulicae	2491 Isaria tenuipes	2904 Entomophaga aulicae
1999 Entomophaga aulicae	2492 Nomuraea rileyi	2905 Entomophaga aulicae
2000 Entomophaga aulicae	2546 Isaria farinosa	2906 Furia gastropachae
2013 Nomuraea rileyi	2564 Isaria farinosa	2962 Beauveria bassiana
2027 Erynia sp.	2570 Beauveria bassiana	2976 Beauveria bassiana
2041 Beauveria bassiana	2571 Beauveria bassiana	2998 Beauveria sp.
2054 Beauveria bassiana	2572 Beauveria bassiana	3016 Entomophaga aulicae
2055 Trichothecium roseum	2573 Beauveria bassiana	3017 Isaria farinosa
2056 Penicillium thomii	2581 Hirsutella sp.	3020 Beauveria bassiana
2057 Isaria farinosa	2595 Fusarium sp.	3039 Entomophaga aulicae
2059 Fusarium merismoides	2596 Metarhizium globosum	3052 Entomophaga maimaiga
2060 Fusarium avenaceum	2597 Beauveria bassiana	3053 Entomophaga maimaiga
2061 Mortierella hyalina	2613 Evlachovaea sp.	3064 Metarhizium anisopliae sensu lato
2063 Mortierella histoplasmatoides	2614 Evlachovaea sp.	3075 Pandora blunckii
2064 Pochonia suchlasporia var. catenata	2615 Evlachovaea sp.	3152 Isaria farinosa
2065 Lecanicillium muscarium	2616 Paecilomyces sp.	3200 Pandora blunckii
2066 Lecanicillium muscarium	2617 Paecilomyces sp.	3201 Pandora sp.
2067 Acremonium berkeleyanum	2618 Paecilomyces sp.	3202 Pandora blunckii
2069 Humicola sp.	2619 Beauveria bassiana	3203 Scopulariopsis sp.
2070 Acrodontium crateriforme	2620 Evlachovaea sp.	3204 Zoophthora radicans
2071 Phoma cava	2629 Beauveria bassiana	3205 Zoophthora radicans
2072 Phialophora malorum	2633 Beauveria bassiana	3206 Zoophthora radicans
2073 Sterile mycelium	2637 Beauveria bassiana	3208 Conidiobolus sp.
2131 Isaria farinosa	2727 Beauveria bassiana	3212 Entomophaga aulicae
2140 Metarhizium guizhouense	2728 Beauveria bassiana	3220 Beauveria pseudobassiana
2141 Fusarium subglutinans	2729 Beauveria bassiana	3221 Isaria farinosa
2142 Fusarium subglutinans	2730 Conidiobolus coronatus	3286 Beauveria bassiana
2174 Nomuraea rileyi	2731 Conidiobolus firmipilleus	3288 Beauveria bassiana
2201 Nomuraea rileyi	2732 Zoophthora radicans	3289 Beauveria sp.
2202 Nomuraea rileyi	2734 Isaria fumosorosea	3290 Metarhizium anisopliae sensu lato
2203 Nomuraea rileyi	2735 Metarhizium pingshaense	3291 Metarhizium anisopliae sensu lato
2204 Nomuraea rileyi	2736 Fusarium sp.	3292 Metarhizium anisopliae sensu lato
2205 Nomuraea rileyi	2737 Beauveria bassiana	3293 Metarhizium anisopliae sensu lato
2206 Nomuraea rileyi	2738 Mixed Culture sp.	3294 Metarhizium brunneum
2207 Nomuraea rileyi	2749 Isaria fumosorosea	3295 Metarhizium brunneum
2227 Hirsutella subulata	2751 Beniowskia sp.	3298 Unidentified sp.
2253 Beauveria bassiana	2752 Geotrichum sp.	3299 Unidentified sp.
2254 Beauveria bassiana	2765 Aspergillus sp.	3300 Fusarium sp.
2255 Scopulariopsis sp.	2771 Conidiobolus sp.	3301 Nomuraea rileyi
2267 Beauveria bassiana	2772 Conidiobolus sp.	3302 Isaria fumosorosea
2269 Isaria farinosa	2775 Entomophaga maimaiga	3321 Tolypocladium inflatum
2297 Evlachovaea sp.	2776 Fusarium sp.	3404 Beauveria bassiana
2316 Fusarium nygamai	2777 Tolypocladium cylindrosporum	3405 Beauveria pseudobassiana
2344 Isaria farinosa	2778 Tolypocladium cylindrosporum	3467 Unidentified sp.
2345 Nomuraea rileyi	2779 Entomophaga maimaiga	3468 Unidentified sp.
2362 Entomophaga aulicae	2780 Entomophaga maimaiga	3483 Fusarium torulosum
2363 Entomophaga aulicae	2815 Conidiobolus sp.	3490 Isaria farinosa
2365 Entomophaga aulicae	2816 Conidiobolus sp.	3491 Isaria farinosa
2366 Entomophaga aulicae	2817 Aspergillus sp.	3492 Isaria farinosa
2367 Entomophaga aulicae	2818 Aspergillus flavus	3493 Isaria farinosa
2368 Entomophaga aulicae	2820 Aspergillus sp.	3494 Isaria farinosa
2369 Entomophaga aulicae	2821 Unidentified sp.	3495 Isaria farinosa
2370 Entomophaga maimaiga	2822 Isaria farinosa	3496 Isaria farinosa

3497	Isaria farinosa	3966	Beauveria bassiana	4552	Entomophaga maimaiga
3498	Isaria farinosa	3967	Beauveria bassiana	4553	Entomophaga maimaiga
3499	Isaria farinosa	3968	Beauveria bassiana	4554	Entomophaga maimaiga
3500	Isaria farinosa	3969	Beauveria bassiana	4555	Entomophaga maimaiga
3501	Isaria farinosa	3970	Beauveria bassiana	4589	Beauveria bassiana
3502	Isaria farinosa	3972	Beauveria bassiana	4607	Beauveria bassiana
3503	Isaria farinosa	3973	Beauveria bassiana	4672	Beauveria bassiana
3504	Isaria farinosa	3974	Beauveria bassiana	4681	Metarhizium anisopliae sensu lato
3505	Isaria farinosa	3975	Beauveria bassiana	4769	Microhilum oncoperae
3506	Isaria farinosa	3976	Fusarium sp.	4770	Microhilum oncoperae
3507	Isaria farinosa	3977	Beauveria bassiana	4771	Microhilum oncoperae
3508	Isaria farinosa	3978	Beauveria bassiana	4781	Zoopphthora radicans
3517	Isaria farinosa	3979	Beauveria bassiana	4782	Zoopphthora radicans
3518	Isaria farinosa	3981	Isaria javanica	4783	Zoopphthora radicans
3519	Isaria farinosa	3983	Isaria farinosa	4784	Zoopphthora radicans
3520	Isaria farinosa	3998	Unidentified sp.	4785	Zoopphthora radicans
3521	Isaria farinosa	4004	Entomophaga aulicae	4797	Conidiobolus coronatus
3522	Isaria farinosa	4005	Entomophaga aulicae	4838	Cordyceps militaris
3523	Isaria farinosa	4006	Entomophaga aulicae	4839	Cordyceps militaris
3524	Isaria farinosa	4007	Entomophaga aulicae	4840	Cordyceps militaris
3525	Isaria farinosa	4008	Entomophaga aulicae	4841	Cordyceps militaris
3526	Isaria farinosa	4010	Isaria farinosa	4842	Cordyceps militaris
3527	Beauveria bassiana	4081	Cordyceps militaris	4845	Cordyceps militaris
3528	Beauveria pseudobassiana	4082	Cordyceps militaris	4899	Unidentified / Hyphomycetes
3529	Beauveria pseudobassiana	4083	Cordyceps militaris	4900	Unidentified / Hyphomycetes
3530	Beauveria bassiana	4084	Cordyceps militaris	4903	Metarhizium robertsii
3531	Lecanicillium muscarium	4085	Cordyceps militaris	4904	Metarhizium anisopliae sensu lato
3532	Fusarium sp.	4086	Cordyceps militaris	4905	Metarhizium anisopliae sensu lato
3533	Isaria farinosa	4087	Cordyceps militaris	4906	Metarhizium anisopliae sensu lato
3537	Isaria farinosa	4088	Cordyceps militaris	4997	Metarhizium sp.
3538	Isaria farinosa	4089	Cordyceps militaris	4998	Metarhizium sp.
3567	Unidentified sp.	4090	Isaria farinosa	4999	Metarhizium sp.
3568	Unidentified sp.	4094	Nomuraea rileyi	5000	Metarhizium sp.
3569	Unidentified sp.	4096	Isaria tenuipes	5001	Metarhizium sp.
3595	Isaria farinosa	4126	Aspergillus flavus	5002	Cordyceps militaris
3596	Isaria farinosa	4127	Aspergillus tamarii	5003	Cordyceps militaris
3597	Isaria farinosa	4234	Metarhizium anisopliae sensu lato	5004	Cordyceps militaris
3598	Isaria farinosa	4258	Beauveria bassiana	5005	Cordyceps militaris
3599	Isaria farinosa	4263	Penicillium sp.	5006	Cordyceps militaris
3600	Lecanicillium muscarium	4273	Beauveria pseudobassiana	5007	Cordyceps militaris
3601	Lecanicillium muscarium	4358	Microhilum oncoperae	5008	Cordyceps militaris
3602	Entomophaga aulicae	4504	Entomophaga maimaiga	5009	Cordyceps militaris
3664	Isaria farinosa	4505	Entomophaga maimaiga	5010	Cordyceps militaris
3665	Isaria farinosa	4506	Entomophaga maimaiga	5011	Cordyceps militaris
3666	Isaria farinosa	4507	Entomophaga maimaiga	5012	Cordyceps militaris
3692	Fusarium polyphialidicum	4508	Entomophaga maimaiga	5013	Cordyceps militaris
3693	Fusarium polyphialidicum	4509	Entomophaga maimaiga	5014	Cordyceps militaris
3694	Fusarium polyphialidicum	4510	Entomophaga maimaiga	5015	Cordyceps militaris
3695	Fusarium polyphialidicum	4522	Metarhizium anisopliae sensu lato	5016	Cordyceps militaris
3696	Fusarium polyphialidicum	4525	Beauveria bassiana	5017	Cordyceps militaris
3794	Unidentified sp.	4526	Beauveria bassiana	5018	Cordyceps militaris
3796	Unidentified sp.	4527	Beauveria bassiana	5019	Cordyceps militaris
3797	Unidentified sp.	4528	Beauveria bassiana	5020	Cordyceps militaris
3804	Unidentified sp.	4529	Beauveria bassiana	5021	Cordyceps militaris
3828	Entomophaga maimaiga	4530	Beauveria bassiana	5022	Cordyceps militaris
3829	Entomophaga maimaiga	4531	Beauveria bassiana	5023	Cordyceps militaris
3830	Entomophaga maimaiga	4532	Beauveria bassiana	5024	Cordyceps militaris
3831	Entomophaga maimaiga	4533	Beauveria bassiana	5025	Cordyceps militaris
3832	Entomophaga maimaiga	4534	Beauveria bassiana	5026	Cordyceps militaris
3833	Entomophaga maimaiga	4535	Beauveria bassiana	5027	Cordyceps militaris
3834	Entomophaga maimaiga	4536	Beauveria bassiana	5028	Cordyceps militaris
3835	Entomophaga maimaiga	4537	Beauveria bassiana	5029	Cordyceps militaris
3858	Beauveria bassiana	4538	Beauveria bassiana	5030	Cordyceps militaris
3913	Entomophaga maimaiga	4539	Beauveria bassiana	5031	Cordyceps militaris
3916	Fusarium polyphialidicum	4540	Beauveria bassiana	5032	Cordyceps militaris
3937	Beauveria bassiana	4543	Beauveria bassiana	5033	Cordyceps militaris
3938	Isaria tenuipes	4545	Entomophaga maimaiga	5034	Cordyceps militaris
3939	Isaria tenuipes	4549	Entomophaga maimaiga	5035	Cordyceps militaris
3940	Nomuraea rileyi	4550	Entomophaga maimaiga	5036	Cordyceps militaris
3965	Beauveria pseudobassiana	4551	Entomophaga maimaiga	5037	Cordyceps militaris

5038 Cordyceps militaris	5393 Entomophaga maimaiga	5873 Metarhizium robertsii
5039 Cordyceps militaris	5394 Entomophaga maimaiga	5874 Isaria fumosorosea
5040 Cordyceps militaris	5395 Entomophaga maimaiga	5881 Fusarium sp.
5041 Cordyceps militaris	5396 Entomophaga maimaiga	5883 Isaria farinosa
5042 Cordyceps militaris	5397 Entomophaga maimaiga	5884 Isaria farinosa
5043 Cordyceps militaris	5398 Entomophaga maimaiga	5885 Isaria farinosa
5044 Cordyceps militaris	5399 Entomophaga maimaiga	5886 Beauveria bassiana
5045 Cordyceps militaris	5400 Entomophaga maimaiga	5887 Beauveria bassiana
5046 Cordyceps militaris	5401 Entomophaga maimaiga	5888 Beauveria bassiana
5047 Cordyceps militaris	5413 Mariannaea pruinosa	5988 Beauveria bassiana
5048 Cordyceps militaris	5469 Metarhizium anisopliae sensu lato	5996 Isaria farinosa
5049 Cordyceps militaris	5470 Aspergillus parasiticus	6003 Zoophthora radicans
5050 Cordyceps militaris	5471 Metarhizium anisopliae sensu stricto	6004 Entomophaga maimaiga
5051 Cordyceps militaris	5473 Hirsutella nodulosa	6005 Entomophaga maimaiga
5052 Cordyceps militaris	5492 Beauveria bassiana	6100 Beauveria bassiana
5053 Cordyceps militaris	5500 Beauveria bassiana	6101 Beauveria bassiana
5054 Cordyceps militaris	5502 Beauveria bassiana	6102 Fusarium sp.
5055 Cordyceps militaris	5503 Aspergillus flavus(?)	6109 Beauveria bassiana
5056 Cordyceps militaris	5504 Aspergillus flavus(?)	6147 Beauveria bassiana
5057 Cordyceps militaris	5505 Aspergillus flavus(?)	6148 Beauveria bassiana
5058 Cordyceps militaris	5506 Aspergillus flavus(?)	6150 Beauveria bassiana
5059 Cordyceps militaris	5507 Aspergillus flavus(?)	6151 Beauveria bassiana
5060 Cordyceps militaris	5508 Aspergillus flavus(?)	6152 Beauveria bassiana
5061 Cordyceps militaris	5509 Aspergillus flavus(?)	6153 Beauveria bassiana
5062 Cordyceps militaris	5510 Beauveria bassiana	6167 Metarhizium anisopliae sensu lato
5064 Beauveria bassiana	5513 Metarhizium anisopliae sensu lato	6168 Entomophaga maimaiga
5066 Beauveria bassiana	5514 Metarhizium anisopliae sensu lato	6169 Entomophaga maimaiga
5067 Beauveria bassiana	5515 Metarhizium anisopliae sensu lato	6170 Entomophaga maimaiga
5076 Metarhizium sp.	5516 Metarhizium anisopliae sensu lato	6171 Entomophaga maimaiga
5077 Metarhizium sp.	5517 Metarhizium anisopliae sensu lato	6172 Entomophaga maimaiga
5078 Beauveria sp.	5518 Metarhizium anisopliae sensu lato	6173 Entomophaga maimaiga
5134 Isaria tenuipes	5519 Metarhizium anisopliae sensu lato	6174 Entomophaga maimaiga
5135 Isaria tenuipes	5521 Metarhizium anisopliae sensu lato	6177 Beauveria bassiana
5169 Beauveria bassiana	5541 Furia gastropachae	6178 Beauveria bassiana
5199 Unidentified / Hyphomycetes	5542 Furia gastropachae	6179 Batkoa sp.
5205 Aspergillus sp.	5543 Furia gastropachae	6181 Beauveria pseudobassiana
5208 Nomuraea rileyi	5544 Furia gastropachae	6182 Beauveria bassiana
5209 Nomuraea rileyi	5545 Furia gastropachae	6183 Purpureocillium lilacinum
5210 Nomuraea rileyi	5546 Furia gastropachae	6184 Beauveria bassiana
5211 Nomuraea rileyi	5547 Furia gastropachae	6185 Beauveria pseudobassiana
5212 Nomuraea rileyi	5554 Metarhizium anisopliae sensu lato	6186 Beauveria bassiana
5219 Fusarium sp.	5555 Metarhizium anisopliae sensu lato	6187 Beauveria bassiana
5229 Beauveria bassiana	5556 Metarhizium anisopliae sensu lato	6189 Beauveria bassiana
5230 Beauveria bassiana	5557 Beauveria pseudobassiana	6191 Beauveria bassiana
5231 Beauveria bassiana	5560 Fusarium sp.	6192 Isaria fumosorosea
5233 Beauveria bassiana	5564 Entomophaga maimaiga	6193 Paecilomyces sp.
5234 Beauveria bassiana	5568 Entomophaga maimaiga	6194 Beauveria bassiana
5235 Beauveria bassiana	5570 Entomophaga maimaiga	6195 Beauveria bassiana
5251 Isaria fumosorosea	5573 Beauveria bassiana	6196 Beauveria bassiana
5252 Isaria fumosorosea	5644 Beauveria bassiana(?)	6197 Purpureocillium lilacinum
5351	5645 Beauveria bassiana	6198 Paecilomyces sp.
5368 Isaria farinosa	5646 Beauveria bassiana	6199 Beauveria bassiana
5369 Metarhizium anisopliae sensu lato	5647 Beauveria bassiana	6200 Isaria farinosa
5370 Beauveria pseudobassiana	5648 Beauveria bassiana	6201 Beauveria bassiana
5377 Entomophaga maimaiga	5649 Beauveria bassiana	6202 Isaria farinosa
5378 Entomophaga maimaiga	5653 Beauveria bassiana	6203 Isaria fumosorosea
5379 Entomophaga maimaiga	5654 Beauveria bassiana	6204 Isaria fumosorosea
5380 Entomophaga maimaiga	5655 Beauveria bassiana	6205 Beauveria bassiana
5381 Entomophaga maimaiga	5685 Lecanicillium psalliotae	6206 Isaria fumosorosea
5382 Entomophaga maimaiga	5688 Cordyceps isarioides	6207 Isaria farinosa
5383 Entomophaga maimaiga	5703 Evlachovaea sp.	6208 Beauveria bassiana
5384 Entomophaga maimaiga	5704 Beauveria bassiana	6209 Beauveria bassiana
5385 Entomophaga maimaiga	5730 Trichoderma sp.	6212 Entomophaga maimaiga
5386 Entomophaga maimaiga	5805 Purpureocillium lilacinum	6218 Entomophaga maimaiga
5387 Entomophaga maimaiga	5814 Zoophthora radicans	6224 Entomophaga maimaiga
5388 Entomophaga maimaiga	5832 Beauveria sp.	6226 Cladosporium sp.
5389 Entomophaga maimaiga	5869 Furia gastropachae	6227 Beauveria amorpha
5390 Entomophaga maimaiga	5870 Furia gastropachae	6233 Beauveria bassiana
5391 Entomophaga maimaiga	5871 Furia gastropachae	6238 Metarhizium guizhouense
5392 Entomophaga maimaiga	5872 Furia gastropachae	6239 Nomuraea rileyi

6240	<i>Isaria catenianulata</i>	6645	<i>Nomuraea rileyi</i>	6802	<i>Beauveria bassiana</i>
6242	<i>Isaria catenianulata</i>	6646	<i>Beauveria bassiana</i>	6803	<i>Beauveria bassiana</i>
6245	<i>Isaria farinosa</i>	6647	<i>Beauveria bassiana</i>	6804	<i>Beauveria bassiana</i>
6248	<i>Cordyceps militaris</i>	6648	<i>Beauveria bassiana</i>	6805	<i>Beauveria bassiana</i>
6249	<i>Isaria tenuipes</i>	6649	<i>Fusarium</i> sp.	6806	<i>Beauveria bassiana</i>
6253	<i>Entomophaga maimaiga</i>	6650	<i>Beauveria bassiana</i>	6807	<i>Beauveria bassiana</i>
6254	<i>Entomophaga maimaiga</i>	6652	<i>Entomophaga maimaiga</i>	6808	<i>Beauveria bassiana</i>
6255	<i>Entomophaga maimaiga</i>	6653	<i>Entomophaga maimaiga</i>	6809	<i>Beauveria bassiana</i>
6256	<i>Entomophaga maimaiga</i>	6654	<i>Entomophaga maimaiga</i>	6866	<i>Nomuraea rileyi</i>
6257	<i>Entomophaga maimaiga</i>	6655	<i>Entomophaga maimaiga</i>	6867	<i>Nomuraea rileyi</i>
6258	<i>Entomophaga maimaiga</i>	6656	<i>Entomophaga maimaiga</i>	6868	<i>Nomuraea rileyi</i>
6264	<i>Entomophaga maimaiga</i>	6657	<i>Entomophaga maimaiga</i>	6869	<i>Nomuraea rileyi</i>
6265	<i>Entomophaga maimaiga</i>	6663	<i>Entomophaga maimaiga</i>	6870	<i>Nomuraea rileyi</i>
6266	<i>Entomophaga maimaiga</i>	6664	<i>Entomophaga maimaiga</i>	6871	<i>Nomuraea rileyi</i>
6267	<i>Entomophaga maimaiga</i>	6665	<i>Entomophaga maimaiga</i>	6872	<i>Nomuraea rileyi</i>
6268	<i>Entomophaga maimaiga</i>	6666	<i>Entomophaga maimaiga</i>	6873	<i>Nomuraea rileyi</i>
6269	<i>Entomophaga maimaiga</i>	6667	<i>Entomophaga maimaiga</i>	6874	<i>Nomuraea rileyi</i>
6270	<i>Entomophaga maimaiga</i>	6668	<i>Entomophaga maimaiga</i>	6875	<i>Nomuraea rileyi</i>
6271	<i>Entomophaga maimaiga</i>	6724	<i>Entomophaga maimaiga</i>	6876	<i>Nomuraea rileyi</i>
6272	<i>Entomophaga maimaiga</i>	6725	<i>Entomophaga maimaiga</i>	6877	<i>Nomuraea rileyi</i>
6282	<i>Hirsutella sinensis</i>	6726	<i>Entomophaga maimaiga</i>	6878	<i>Nomuraea rileyi</i>
6284	<i>Paecilomyces sinensis</i>	6727	<i>Entomophaga maimaiga</i>	6879	<i>Nomuraea rileyi</i>
6285	<i>Paecilomyces sinensis</i>	6728	<i>Entomophaga maimaiga</i>	6881	<i>Nomuraea rileyi</i>
6286	<i>Sporothrix insectorum</i>	6729	<i>Entomophaga maimaiga</i>	6882	<i>Nomuraea rileyi</i>
6293	<i>Pandora blunckii</i>	6732	<i>Nomuraea rileyi</i>	6889	<i>Isaria tenuipes</i>
6294	<i>Pandora blunckii</i>	6734	<i>Nomuraea rileyi</i>	6892	<i>Beauveria bassiana</i> (?)
6295	<i>Pandora blunckii</i>	6735	<i>Nomuraea rileyi</i>	6893	<i>Isaria fumosorosea</i>
6296	<i>Pandora blunckii</i>	6736	<i>Nomuraea rileyi</i>	6894	<i>Beauveria bassiana</i>
6297	<i>Pandora blunckii</i>	6737	<i>Nomuraea rileyi</i>	6904	<i>Beauveria bassiana</i>
6298	<i>Pandora blunckii</i>	6738	<i>Nomuraea rileyi</i>	6905	<i>Beauveria bassiana</i>
6299	<i>Pandora blunckii</i>	6739	<i>Nomuraea rileyi</i>	6917	<i>Zoopthora radicans</i>
6300	<i>Pandora blunckii</i>	6740	<i>Nomuraea rileyi</i>	6931	<i>Beauveria bassiana</i>
6301	<i>Pandora blunckii</i>	6741	<i>Nomuraea rileyi</i>	6932	<i>Beauveria bassiana</i>
6302	<i>Pandora blunckii</i>	6742	<i>Nomuraea rileyi</i>	6933	<i>Beauveria bassiana</i>
6303	<i>Zoopthora radicans</i>	6743	<i>Nomuraea rileyi</i>	6934	<i>Beauveria bassiana</i>
6304	<i>Pandora blunckii</i>	6744	<i>Nomuraea rileyi</i>	6935	<i>Beauveria bassiana</i>
6305	<i>Pandora blunckii</i>	6745	<i>Nomuraea rileyi</i>	6936	<i>Beauveria bassiana</i>
6306	<i>Pandora blunckii</i>	6746	<i>Nomuraea rileyi</i>	6937	<i>Beauveria bassiana</i>
6307	<i>Pandora blunckii</i>	6747	<i>Nomuraea rileyi</i>	6938	<i>Beauveria bassiana</i>
6308	<i>Pandora blunckii</i>	6748	<i>Nomuraea rileyi</i>	6939	<i>Beauveria bassiana</i>
6309	<i>Pandora blunckii</i>	6749	<i>Nomuraea rileyi</i>	6940	<i>Beauveria bassiana</i>
6310	<i>Pandora blunckii</i>	6764	<i>Nomuraea rileyi</i>	6941	<i>Beauveria bassiana</i>
6311	<i>Pandora blunckii</i>	6765	<i>Nomuraea rileyi</i>	6943	<i>Beauveria bassiana</i>
6312	<i>Pandora blunckii</i>	6766	<i>Nomuraea rileyi</i>	6949	<i>Beauveria bassiana</i>
6313	<i>Zoopthora radicans</i>	6767	<i>Nomuraea rileyi</i>	6950	<i>Beauveria bassiana</i>
6314	<i>Zoopthora radicans</i>	6768	<i>Nomuraea rileyi</i>	6951	<i>Beauveria bassiana</i>
6315	<i>Zoopthora radicans</i>	6769	<i>Nomuraea rileyi</i>	6952	<i>Beauveria bassiana</i>
6316	<i>Pandora blunckii</i>	6770	<i>Nomuraea rileyi</i>	6953	<i>Beauveria bassiana</i>
6474	<i>Metarhizium brunneum</i>	6771	<i>Nomuraea rileyi</i>	6971	<i>Beauveria pseudobassiana</i>
6475	<i>Metarhizium anisopliae sensu lato</i>	6772	<i>Nomuraea rileyi</i>	6972	<i>Beauveria pseudobassiana</i>
6476	<i>Metarhizium robertsii</i>	6773	<i>Nomuraea rileyi</i>	6973	<i>Beauveria bassiana</i>
6514	<i>Beauveria bassiana</i>	6774	<i>Nomuraea rileyi</i>	6974	<i>Beauveria bassiana</i>
6523	<i>Entomophaga maimaiga</i>	6775	<i>Nomuraea rileyi</i>	6975	<i>Beauveria bassiana</i>
6524	<i>Entomophaga maimaiga</i>	6776	<i>Nomuraea rileyi</i>	6976	<i>Beauveria bassiana</i>
6533	<i>Beauveria</i> sp.	6777	<i>Nomuraea rileyi</i>	6977	<i>Beauveria bassiana</i>
6534	<i>Beauveria</i> sp.	6778	<i>Nomuraea rileyi</i>	6981	<i>Beauveria bassiana</i>
6535	<i>Beauveria</i> sp.	6779	<i>Nomuraea rileyi</i>	6984	<i>Beauveria bassiana</i>
6536	<i>Beauveria</i> sp.	6780	<i>Nomuraea rileyi</i>	7014	<i>Metarhizium anisopliae sensu lato</i>
6537	<i>Beauveria</i> sp.	6781	<i>Nomuraea rileyi</i>	7015	<i>Metarhizium anisopliae sensu lato</i>
6556	<i>Beauveria bassiana</i>	6782	<i>Nomuraea rileyi</i>	7016	<i>Metarhizium anisopliae sensu lato</i>
6557	<i>Beauveria bassiana</i>	6783	<i>Nomuraea rileyi</i>	7017	<i>Metarhizium anisopliae sensu lato</i>
6558	<i>Metarhizium anisopliae sensu lato</i>	6784	<i>Nomuraea rileyi</i>	7018	<i>Metarhizium anisopliae sensu lato</i>
6591	<i>Lecanicillium muscarium</i>	6785	<i>Nomuraea rileyi</i>	7019	<i>Metarhizium anisopliae sensu lato</i>
6625	<i>Entomophaga maimaiga</i>	6786	<i>Nomuraea rileyi</i>	7020	<i>Metarhizium anisopliae sensu lato</i>
6626	<i>Entomophaga maimaiga</i>	6787	<i>Nomuraea rileyi</i>	7021	<i>Metarhizium anisopliae sensu lato</i>
6627	<i>Entomophaga maimaiga</i>	6788	<i>Isaria tenuipes</i>	7022	<i>Metarhizium anisopliae sensu lato</i>
6628	<i>Entomophaga maimaiga</i>	6796	<i>Beauveria bassiana</i>	7023	<i>Metarhizium anisopliae sensu lato</i>
6629	<i>Entomophaga maimaiga</i>	6799	<i>Isaria fumosorosea</i>	7024	<i>Metarhizium anisopliae sensu lato</i>
6630	<i>Entomophaga maimaiga</i>	6800	<i>Isaria fumosorosea</i>	7025	<i>Metarhizium anisopliae sensu lato</i>
6632	<i>Gliocladium</i> sp.	6801	<i>Beauveria bassiana</i>	7026	<i>Metarhizium anisopliae sensu lato</i>

7045 Fusarium sp.	7357 Beauveria bassiana	7733 Isaria farinosa
7046 Fusarium sp.	7358 Beauveria bassiana	7734 Isaria farinosa
7047 Cordyceps bassiana	7359 Beauveria bassiana	7736 Isaria farinosa
7052 Nomuraea rileyi	7362 Beauveria bassiana	7737 Isaria farinosa
7053 Nomuraea rileyi	7364 Beauveria bassiana	7738 Lecanicillium muscarium
7054 Nomuraea rileyi	7365 Beauveria bassiana	7741 Paecilomyces sp.
7055 Nomuraea rileyi	7370 Batkoa sp.	7742 Paecilomyces sp.
7056 Nomuraea rileyi	7479 Nomuraea rileyi	7743 Isaria fumosorosea
7060 Beauveria bassiana	7480 Nomuraea rileyi	7778 Nomuraea rileyi
7093 Beauveria bassiana	7481 Nomuraea rileyi	7779 Nomuraea rileyi
7095 Polycephalomyces ramosus	7482 Nomuraea rileyi	7780 Nomuraea rileyi
7101 Entomophaga maimaiga	7484 Nomuraea rileyi	7790 Isaria tenuipes
7102 Entomophaga maimaiga	7531 Isaria farinosa	7808 Cordyceps sp.
7103 Entomophaga maimaiga	7552 Beauveria bassiana	7809 Cordyceps militaris
7104 Entomophaga maimaiga	7553 Beauveria bassiana	7810 Cordyceps militaris
7105 Entomophaga maimaiga	7554 Beauveria bassiana	7811 Cordyceps sp.
7106 Entomophaga maimaiga	7555 Beauveria brongniartii	7820 Metarhizium anisopliae sensu lato
7107 Entomophaga maimaiga	7556 Beauveria brongniartii	7821 Metarhizium anisopliae sensu lato
7108 Entomophaga maimaiga	7557 Beauveria brongniartii	7822 Metarhizium anisopliae sensu lato
7109 Entomophaga maimaiga	7558 Beauveria brongniartii	7823 Metarhizium anisopliae sensu lato
7110 Entomophaga maimaiga	7559 Beauveria brongniartii	7847 Metarhizium anisopliae sensu lato
7111 Entomophaga maimaiga	7560 Beauveria brongniartii	7851 Nomuraea sp.
7112 Entomophaga maimaiga	7561 Beauveria brongniartii	7924 Sporothrix insectorum
7113 Entomophaga maimaiga	7562 Beauveria sp.	7955 Beauveria bassiana
7114 Entomophaga maimaiga	7563 Beauveria sp.	7956 Beauveria bassiana
7115 Entomophaga maimaiga	7564 Beauveria sp.	7957 Beauveria bassiana
7116 Entomophaga maimaiga	7565 Beauveria sp.	7958 Beauveria bassiana
7118 Isaria farinosa	7566 Beauveria sp.	7959 Beauveria bassiana
7120 Entomophaga maimaiga	7567 Beauveria sp.	7960 Beauveria sp.
7121 Entomophaga maimaiga	7568 Lecanicillium muscarium	7961 Isaria farinosa
7122 Entomophaga maimaiga	7569 Metarhizium anisopliae sensu lato	7962 Isaria farinosa
7123 Entomophaga maimaiga	7570 Metarhizium anisopliae sensu lato	7963 Beauveria bassiana
7124 Entomophaga maimaiga	7571 Metarhizium anisopliae sensu lato	7964 Beauveria bassiana
7125 Entomophaga maimaiga	7572 Metarhizium anisopliae sensu lato	7965 Beauveria bassiana
7126 Entomophaga maimaiga	7573 Metarhizium anisopliae sensu lato	7966 Beauveria bassiana
7127 Entomophaga maimaiga	7574 Isaria farinosa	7967 Metarhizium anisopliae sensu lato
7131 Entomophaga maimaiga	7575 Isaria farinosa	7968 Beauveria bassiana
7132 Entomophaga maimaiga	7576 Isaria farinosa	7969 Beauveria bassiana
7133 Entomophaga maimaiga	7579 Beauveria sp.	7995 Paecilomyces sp.
7134 Entomophaga maimaiga	7585 Beauveria bassiana	8001 Paecilomyces sp.
7135 Entomophaga maimaiga	7586 Beauveria sp.	8012 Cordyceps militaris
7136 Entomophaga maimaiga	7587 Beauveria sp.	8032 Beauveria bassiana
7137 Entomophaga maimaiga	7593 Beauveria bassiana	8033 Beauveria bassiana
7138 Entomophaga maimaiga	7594 Beauveria sp.	8034 Beauveria brongniartii
7139 Entomophaga maimaiga	7598 Beauveria sp.	8035 Beauveria bassiana
7140 Entomophaga aulicae	7599 Eulachovaea sp.	8039 Beauveria bassiana
7141 Entomophaga aulicae	7600 Eulachovaea sp.	8040 Beauveria bassiana
7142 Entomophaga aulicae	7601 Eulachovaea sp.	8043 Cyllindrocarpon sp.
7143 Entomophaga aulicae	7612 Metarhizium anisopliae sensu lato	8044 Cyllindrocarpon sp.
7144 Entomophaga aulicae	7613 Metarhizium anisopliae sensu lato	8066 Beauveria bassiana
7145 Entomophaga aulicae	7614 Metarhizium anisopliae sensu lato	8212 Metarhizium anisopliae sensu lato
7148 Nomuraea rileyi	7615 Metarhizium anisopliae sensu lato	8214 Metarhizium flavoviride var. novaezealandicum
7149 Nomuraea rileyi	7621 Lecanicillium muscarium	8311 Purpureocillium lilacinum
7150 Nomuraea rileyi	7624 Lecanicillium sp.	8312 Purpureocillium lilacinum
7151 Nomuraea rileyi	7625 Lecanicillium sp.	8333 Isaria fumosorosea
7183 Entomophaga maimaiga	7626 Lecanicillium sp.	8334 Metarhizium anisopliae sensu lato
7184 Entomophaga maimaiga	7627 Lecanicillium sp.	8335 Metarhizium anisopliae sensu lato
7185 Entomophaga maimaiga	7628 Lecanicillium sp.	8336 Metarhizium anisopliae sensu lato
7186 Entomophaga maimaiga	7629 Lecanicillium sp.	8337 Isaria fumosorosea
7187 Entomophaga maimaiga	7632 Lecanicillium sp.	8338 Metarhizium anisopliae sensu lato
7188 Entomophaga maimaiga	7714 Isaria farinosa	8339 Beauveria bassiana
7189 Entomophaga maimaiga	7720 Isaria farinosa	8340 Beauveria bassiana
7190 Entomophaga maimaiga	7721 Paecilomyces sp.	8341 Metarhizium anisopliae sensu lato
7192 Cordyceps cardinalis	7722 Isaria farinosa	8342 Metarhizium anisopliae sensu lato
7193 Cordyceps cardinalis	7723 Isaria farinosa	8343 Beauveria bassiana
7221 Cordyceps pruinosa	7724 Isaria farinosa	8344 Metarhizium anisopliae sensu lato
7274 Beauveria bassiana	7725 Isaria farinosa	8345 Isaria fumosorosea
7352 Entomophaga maimaiga	7726 Isaria farinosa	8346 Metarhizium anisopliae sensu lato
7353 Entomophaga maimaiga	7730 Isaria farinosa	8347 Metarhizium anisopliae sensu lato
7356 Beauveria bassiana	7731 Isaria farinosa	

8348	<i>Isaria fumosorosea</i>	12170	Unidentified / <i>Hyphomycetes</i>
8349	<i>Beauveria bassiana</i>	12171	Unidentified / <i>Hyphomycetes</i>
8350	<i>Metarhizium anisopliae</i> sensu lato	12172	<i>Isaria fumosorosea</i>
8351	<i>Metarhizium anisopliae</i> sensu lato	12173	<i>Isaria fumosorosea</i>
8352	<i>Metarhizium anisopliae</i> sensu lato	12174	<i>Isaria fumosorosea</i>
8353	<i>Metarhizium anisopliae</i> sensu lato	12175	<i>Isaria fumosorosea</i>
8354	<i>Beauveria bassiana</i>	12176	Unidentified / <i>Hyphomycetes</i>
8355	<i>Beauveria bassiana</i>	12177	<i>Isaria fumosorosea</i>
8356	<i>Beauveria bassiana</i>	12178	Unidentified / <i>Hyphomycetes</i>
8431	<i>Beauveria bassiana</i>	12179	Unidentified / <i>Hyphomycetes</i>
8432	<i>Metarhizium anisopliae</i> sensu lato	12180	Unidentified / <i>Hyphomycetes</i>
8433	<i>Metarhizium anisopliae</i> sensu lato	12181	Unidentified / <i>Hyphomycetes</i>
8434	<i>Metarhizium anisopliae</i> sensu lato		
8435	<i>Metarhizium anisopliae</i> sensu lato		
8436	<i>Metarhizium anisopliae</i> sensu lato		
8437	<i>Metarhizium anisopliae</i> sensu lato		
8438	<i>Metarhizium anisopliae</i> sensu lato		
8439	<i>Evlachovaea</i> sp.		
8440	<i>Metarhizium anisopliae</i> sensu lato		
8441	<i>Evlachovaea</i> sp.		
8442	<i>Evlachovaea</i> sp.		
8443	<i>Metarhizium anisopliae</i> sensu lato		
8444	<i>Beauveria bassiana</i>		
8445	<i>Metarhizium anisopliae</i> sensu lato		
8446	<i>Metarhizium anisopliae</i> sensu lato		
8447	<i>Metarhizium anisopliae</i> sensu lato		
8448	<i>Isaria fumosorosea</i>		
8449	<i>Evlachovaea</i> sp.		
8450	<i>Metarhizium anisopliae</i> sensu lato		
8451	<i>Metarhizium anisopliae</i> sensu lato		
8452	<i>Metarhizium anisopliae</i> sensu lato		
8453	<i>Metarhizium anisopliae</i> sensu lato		
8454	<i>Metarhizium anisopliae</i> sensu lato		
8493	<i>Beauveria bassiana</i>		
8560	<i>Metarhizium anisopliae</i> sensu lato		
8660	<i>Metarhizium anisopliae</i> sensu lato		
8661	<i>Beauveria bassiana</i>		
8662	<i>Metarhizium anisopliae</i> sensu lato		
8663	<i>Beauveria bassiana</i>		
8664	<i>Beauveria bassiana</i>		
8665	<i>Metarhizium anisopliae</i> sensu lato		
8666	<i>Beauveria bassiana</i>		
8667	<i>Beauveria bassiana</i>		
8669	<i>Metarhizium anisopliae</i> sensu lato		
8670	<i>Beauveria bassiana</i>		
8671	<i>Metarhizium brunneum</i>		
8672	<i>Beauveria bassiana</i>		
8673	<i>Beauveria bassiana</i>		
8674	<i>Beauveria bassiana</i>		
8675	<i>Beauveria</i> sp.		
8680	<i>Metarhizium anisopliae</i> sensu lato		
8681	<i>Metarhizium anisopliae</i> sensu lato		
8682	<i>Metarhizium anisopliae</i> sensu lato		
8683	<i>Metarhizium anisopliae</i> sensu lato		
8684	<i>Metarhizium anisopliae</i> sensu lato		
8685	<i>Metarhizium anisopliae</i> sensu lato		
8686	<i>Metarhizium anisopliae</i> sensu lato		
8687	<i>Metarhizium anisopliae</i> sensu lato		
8688	<i>Metarhizium anisopliae</i> sensu lato		
8689	<i>Metarhizium anisopliae</i> sensu lato		
8690	<i>Metarhizium anisopliae</i> sensu lato		
8691	<i>Metarhizium anisopliae</i> sensu lato		
8692	<i>Metarhizium anisopliae</i> sensu lato		
8709	<i>Beauveria bassiana</i>		
8735	<i>Metarhizium anisopliae</i> sensu lato		
8736	<i>Metarhizium anisopliae</i> var. <i>majus</i>		
8769	<i>Metarhizium anisopliae</i> sensu lato		
8770	<i>Isaria farinosa</i>		
8843	<i>Beauveria bassiana</i>		
8891	<i>Beauveria bassiana</i>		
8926	<i>Furia gastropachae</i>		
9380	<i>Isaria fumosorosea</i>		
9445	<i>Beauveria bassiana</i>		
9458	<i>Lecanicillium</i> sp.		
9468	<i>Lecanicillium muscarium</i>		
9469	<i>Lecanicillium muscarium</i>		
9477	<i>Lecanicillium muscarium</i>		
9484	<i>Cordyceps militaris</i>		
9486	<i>Cordyceps</i> sp.		
9489	<i>Nomuraea rileyi</i>		
9490	<i>Nomuraea rileyi</i>		
9493	<i>Clonostachys rosea</i>		
9501	<i>Sporothrix insectorum</i>		
9515	<i>Isaria farinosa</i>		
9520	<i>Isaria fumosorosea</i>		
9531	<i>Isaria tenuipes</i>		
9532	<i>Isaria tenuipes</i>		
9534	<i>Isaria tenuipes</i>		
9540	Unidentified / <i>Hyphomycetes</i>		
9541	<i>Metarhizium anisopliae</i> sensu lato		
9596	<i>Beauveria</i> sp.		
9599	<i>Beauveria brongniartii</i>		
9601	<i>Isaria cateniannulata</i>		
9603	<i>Hirsutella liboensis</i>		
9943	<i>Scopulariopsis brevicaulis</i>		
10224	<i>Isaria fumosorosea</i>		
10470	<i>Fusarium</i> sp.		
10473	<i>Metarhizium anisopliae</i> sensu stricto		
11613	<i>Beauveria bassiana</i>		
11614	<i>Beauveria bassiana</i>		
11615	<i>Beauveria bassiana</i>		
11616	<i>Beauveria bassiana</i>		
11617	<i>Beauveria bassiana</i>		
11637	<i>Metarhizium anisopliae</i> sensu lato		
11656	<i>Isaria farinosa</i>		
11657	<i>Isaria fumosorosea</i>		
11658	<i>Isaria fumosorosea</i>		
11659	<i>Isaria fumosorosea</i>		
11661	<i>Metarhizium anisopliae</i> sensu lato		
11703	<i>Cordyceps militaris</i>		
11704	<i>Cordyceps militaris</i>		
11705	<i>Isaria tenuipes</i>		
11706	<i>Isaria tenuipes</i>		
11707	<i>Isaria tenuipes</i>		
11708	<i>Beauveria bassiana</i>		
11709	<i>Beauveria</i> sp.		
11715	<i>Beauveria bassiana</i>		
11716	<i>Beauveria bassiana</i>		
11717	<i>Beauveria bassiana</i>		
11719	<i>Beauveria bassiana</i>		
11721	<i>Isaria farinosa</i>		
11722	<i>Isaria cateniannulata</i>		
11723	<i>Cordyceps pruinosa</i>		
11724	<i>Cordyceps pruinosa</i>		
11725	<i>Simplicillium lamellicola</i> (?)		
11726	<i>Isaria cicadae</i>		
11764	<i>Pandora</i> sp.		
11802	<i>Lecanicillium muscarium</i>		
11829	<i>Isaria farinosa</i>		
11939	<i>Nomuraea rileyi</i>		
11941	<i>Nomuraea rileyi</i>		
11942	<i>Nomuraea rileyi</i>		
11943	<i>Nomuraea rileyi</i>		
12163	Unidentified / <i>Hyphomycetes</i>		
12164	Unidentified / <i>Hyphomycetes</i>		
12165	<i>Beauveria bassiana</i>		
12166	<i>Isaria cateniannulata</i> (?)		
12167	Unidentified / <i>Hyphomycetes</i>		
12168	<i>Beauveria</i> sp.		
12169	<i>Beauveria</i> sp.		