



ARSEF

ARS Collection of
Entomopathogenic
Fungal Cultures

ISARIA

***plus Paecilomyces, Purpureocillium
and Evlachovaea***

FULLY INDEXED

[INCLUDES 996 ISOLATES]

USDA-ARS Biological Integrated Pest Management Research
Robert W. Holley Center for Agriculture and Health
538 Tower Road
Ithaca, New York 14853-2901

28 July 2011

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IMPORTANT NOTE

Recent phylogenetically based reclassifications of fungal pathogens of invertebrates

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UPDATED July 2011

Some seemingly dramatic and comparatively recent changes in the classification of a number of fungi may continue to cause confusion or a degree of discomfort to many of the clients of the cultures and informational resources provided by the ARSEF culture collection. This short treatment is an attempt to summarize some of these changes, the reasons for them, and to provide the essential references to the literature in which the changes are proposed.

As the Curator of the ARSEF collection I wish to assure you that these changes are appropriate, progressive, and necessary to modernize and to stabilize the systematics of the fungal pathogens affecting insects and other invertebrates, and I urge you to adopt them into your own thinking, teaching, and publications.

The identifications in the ARSEF catalogs (<http://www.ars.usda.gov/Main/docs.htm?docid=12125>) incorporate these new classifications as soon as we can confirm the correct new identifications of fungi and, where genera or species are being split on molecular grounds, to determine and to apply the correct new identifications.

General Reclassification 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 the necessary taxonomic readjustments that were indicated by the phylogenetic studies.

Microsporidia

Many mycologists and invertebrate pathologists are now aware that the Microsporidia have been proven beyond any reasonable doubt to be comparatively recent and highly derived endobiotic fungi. They are neither extremely ancient eukaryotes nor affiliated with protozoans as most textbooks indicate. None of this realignment to the fungi is being disputed by either microsporidiologists or phylogenetic mycologists. The rationale for this realignment is presented succinctly in James *et al.* (2006). These fascinating organisms connect to the fungal tree of life at the base of the nonflagellate fungi (among or near the fungi traditionally treated as the Zygomycota) but their exact affinities and nearest remain uncertain.

Zygomycota, Zygomycotina, Zygomycetes and Entomophthorales

The phylogenetic reclassification of fungi (Hibbett *et al.*, 2007) significantly modified the traditional view of the most ancestral nonflagellate fungi. The phylum Zygomycota, subphylum Zygomycotina, and class Zygomycetes disappeared in their widely understood sense to be replaced by the phylum Glomeromycota (for arbuscular mycorrhizal fungi) and a series of new subphyla not yet assigned to any phylum (because of the obviously polyphyletic nature of the zygomycetes as traditionally treated). The Entomophthorales is reclassified in the subphylum Entomophthoromycotina Humber (in Hibbett *et al.* 2007); the other new subphyla in this group are the Mucormycotina, Zoopagomycotina and Kickellomycotina. Where there had been some question about whether *Basidiobolus* and its close relatives should be retained in the Entomophthorales or moved to a position closer to some of the blastocladialean water molds, James *et al.* (2006) unequivocally retain *Basidiobolus* in an ancestral position in the Entomophthorales.

Despite the short-term frustration of needing to deal with fungi belonging to these groups that the familiar concepts of Zygomycota, Zygomycotina and Zygomycetes are now abandoned. Until such a time as the molecular studies clarify the overall relationships among these fungi and establish a new set of phyla, my practical advice to the clientele of the ARSEF culture collection is to continue to use these discontinued phylum, subphylum and class names since (1) their meanings remain unambiguous in terms of the fungi included, and (2) journals and other outlets may remain unwilling or unable for some time still to handle the concepts of new subphyla with unassigned status ('*incertae sedis*').

Entomopathogenic Ascomycetes and Associated Anamorphic (Conidial) States

Among all of the major taxonomic changes within the fungi that affect entomopathogenic fungi, the most dramatic and far-reaching involve the ascomycetes and their conidial (anamorphic) states classified among the pyrenomycetous fungi of the order Hypocreales. In one of the first major changes to be noted, those ascomycetous entomopathogens whose asci are produced in perithecia (nearly closed spherical to flask-like fruiting bodies) are now put in the class Sordariomycetes, a name based on a valid generic name, rather than in the historically familiar class Pyrenomycetes, a name based on the morphology of the fruiting body. The great majority of these fungi have long been recognized to belong in the family Clavicipitaceae (mostly in the genera *Cordyceps*, *Torrubiella* or *Hypocrella*). A major phylogenetic reclassification of the Clavicipitaceae (Sung *et al.* 2007; available free of charge at <http://www.studiesinmycology.org>) has split this family into three (Table 1), a long overdue major reworking of the taxonomy of *Cordyceps* and, subsequently, a reshuffling of anamorphic states among these families. This publication by Sung *et al.* (2007) is very long and complex since it includes a highly detailed phylogenetic analysis of these fungi as well as presenting the new taxonomy, descriptions of new families, genera, and species, and a very large number of new combinations (mostly segregating *Cordyceps* into their newly described segregate genera), and listing of the known or suspected anamorphic states associated with these taxa.

Note that Table 1 shows *Torrubiella* to be split between two families. This is an untenable position in a phylogenetically based classification that requires all taxa to represent monophyletic lineages. Future phylogenetic studies that will result in the reclassification of *Torrubiella* are obviously required. Also note that some anamorphic states with morphologies referable to *Hirsutella*, *Paecilomyces* and *Verticillium* (the latter two genera in their old senses from before recent phylogenetic reclassifications discussed below may occur in more than one family; this underscores the need to regard anamorphic states as being named in form-genera defined only by their morphologies and similar modes of development rather than by phylogenetic relatedness.

Table 1. Summary of some major teleomorphic (sexual) and anamorphic (conidial) genera of Hypocreales pathogenic to invertebrates (Sung *et al.* 2007).

	FAMILY		
	Clavicipitaceae	Cordycipitaceae	Ophiocordycipitaceae
Teleomorphs:	<i>Hypocrella</i> , <i>Metacordyceps</i> , <i>Regiocrella</i> , <i>Torrubiella</i>	<i>Cordyceps</i> s.str., <i>Torrubiella</i>	<i>Ophiocordyceps</i> , <i>Elaphocordyceps</i>
Anamorphs:	<i>Aschersonia</i> , <i>Metarhizium</i> , <i>Nomuraea</i> , <i>Paecilomyces</i> -like ¹ , <i>Pochonia</i> , <i>Rotiferophthora</i> , <i>Verticillium</i> -like ²	<i>Beauveria</i> , <i>Engyodontium</i> , <i>Isaria</i> , <i>Lecanicillium</i> , <i>Mariannaea</i> -like, <i>Microhilum</i> , <i>Simplicillium</i>	<i>Haptocillium</i> , <i>Harposporium</i> , <i>Hirsutella</i> , <i>Hymenostilbe</i> , <i>Paraisaria</i> , <i>Purpureocillium</i> , <i>Sorospora</i> , <i>Syngliocladium</i> , <i>Tolypocladium</i> , <i>Verticillium</i> -like ²
	¹ Species formerly in <i>Paecilomyces</i> sect. <i>Isarioidea</i> , now excluded from <i>Paecilomyces</i> in the strict sense but also from <i>Isaria</i> (which now includes most entomogenous species transferred from <i>Paecilomyces</i>).		
	² Species formerly in <i>Verticillium</i> sect. <i>Prostrata</i> , now excluded from <i>Verticillium</i> in the strict sense but not yet reclassified in the segregate genera recognized by Zare and Gams (see below).		

Table 2. Publications eliminating and reclassifying *Verticillium* section *Prostrata*

PART	AUTHORS	SUBJECT COVERED
1	Zare, Gams & Culham (2000)	ITS sequence analyses
2	Sung, Spatafora <i>et al.</i> (2001)	SSU, LSU rDNA sequence analyses
3	Gams, Zare (2001)	Generic reclassification
4	Zare, Gams (2001)	<i>Lecanicillium</i> and <i>Simplicillium</i> monograph
5	Zare, Gams, Evans (2001)	<i>Pochonia</i> , <i>Rotiferophthora</i> monograph
6	Zare, Gams (2001)	<i>Haptocillium</i> monograph

Table 3. Current phylogenetically based classification within Hypocreales of some species formerly classified in *Paecilomyces* sect. *Isarioidea* (following Luangsa-ard *et al.* 2005; Sung *et al.* 2007; Luangsa-ard *et al.* 2011)

FAMILY	GENUS	INCLUDED SPECIES
Clavicipitaceae	' <i>Paecilomyces</i> ' ¹	<i>carneus</i> , <i>marquandii</i>
Cordycipitaceae	<i>Isaria</i>	<i>amoenorosea</i> , <i>cateniannulata</i> , <i>cateniobliqua</i> , <i>cicadae</i> , <i>coleopterora</i> , <i>farinosa</i> , <i>fumosorosea</i> , <i>ghanensis</i> , <i>tenuipes</i>
Ophiocordycipitaceae	<i>Purpureocillium</i>	<i>lilacinum</i> (syn.: <i>Paec. lilacinus</i>)

¹ No generic re-assignments have been made for these hypocrealean anamorphs that continue (for lack of better alternatives) to be treated provisionally as *Paecilomyces* species. The generic affinities of other excluded '*Paecilomyces*' species noted by Luangsa-ard *et al.* (2005) remain uncertain.

Phylogenetically based reclassification of *Verticillium* section *Prostrata* – The extensive, phylogenetically based reclassifications of conidial fungi that common pathogens of insects or other invertebrates began with the reclassification of *Verticillium* species. The venerable classification of this genus (Gams 1971) recognized the sections *Verticillium* and *Prostrata*. All species in *Verticillium* sect. *Verticillium*, which included the phytopathogens with well differentiated, erect conidiophores, are anamorphs of perithecial ascomycetes in the order Phyllachorales. The species in *Vert.* sect. *Prostrata*, however, were anamorphs attributable to the order Hypocreales (Sordariomycetes). Because the current systematics practices recognize monophyletic taxa, it was necessary to remove the species from *Verticillium* section *Prostrata* to other genera. This reclassification was done in six publications (Table 2) reflecting primarily the doctoral research of Rasoul Zare under the guidance of Walter Gams. Most entomopathogens from this group are now placed in *Lecanicillium*, a genus whose type species, *L. lecanii*, was also recognized to be a species complex recognized to include at least three species (*L. lecanii*, *L. muscarium*, and *L. longisporum*) and thus replacing the morphologically highly variable *Verticillium lecanii*.

Phylogenetically based reclassification of *Paecilomyces* section *Isarioidea* – The long-used taxonomy of *Paecilomyces* by Samson (1974) divided this genus into two sections, and with all entomopathogens treated in *Paecilomyces* sect. *Isarioidea*. The type species, *P. variotii* Bainier, and all species in *Paecilomyces* sect. *Paecilomyces* are anamorphic (conidial) states of cleistothelial ascomycetes in the Eurotiomycetes. In an exact parallel with the situation for the two sections of *Verticillium*, all species in *Paec.* sect. *Isarioidea* are anamorphic states of pyrenomycete ascomycetes in the order Hypocreales, mostly in the family Clavicipitaceae although the reclassification of that family by Sung *et al.* (2007) now disperses these former *Paecilomyces* species among three families (Table 3). The taxonomic revision of *Paecilomyces* section *Prostrata* began with the lectotypification and determination of the status of *Isaria* (Hodge *et al.* 2005), a genus long ago relegated to synonymy with *Paecilomyces*, and the formal conservation of the generic name *Isaria* (Gams *et al.* 2005). The next step was a phylogenetic study that confirmed the polyphyletic nature of *Paecilomyces* in the broad sense (Luangsa-ard *et al.* 2004), followed then by a formal reclassification (with new combinations) of most species from *Paec.* sect. *Isarioidea* into *Isaria* while several other species from this section were excluded from both *Paecilomyces* and *Isaria* and still await transfers into appropriate anamorphic genera (Table 3). Most recently, *Paec. lilacinus* was transferred to a new (as yet monotypic) genus in Ophiocordycipitaceae as *Purpureocillium lilacinum* (Luangsa-ard *et al.* 2011).

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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 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\$50 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\$50 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\$75 per strain

Nonprofit institutions working on commercially sponsored contractual projects (such as screening programs) are charged at the rate of US\$75 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 (BTI). *Checks or money orders for strains must be payable to the Boyce Thompson Institute* and sent directly to the curator of the ARS Collections of Entomopathogenic Fungi, to BTI or deposited by direct electronic funds transfer according to information provided by BTI. 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**

1564 [CBS 111238]. KV Desëo (103) Cortellini. Pupa, *Hyphantria cunea* [Lepidoptera: Arctiidae]. Mar 1984. Italy: Villa Cadé (Reggio Emilia), Emilia-Romagna. Identification verified genomically. Ex-type isolate.

1564	ARSEF accession number.
[CBS 111238]	Alternative deposition in another culture collection.
KV Desëo (03)	Depositor and depositor's reference or accession number.
Cortellini	Collector of this isolate.
<i>Hyphantria cunea</i> [Lepidoptera: Arctiidae]	Original host [host's order and family]
Mar 1984	Date of accession or receipt by ARSEF.
Italy: Villa Cadé (Reggio Emilia), Emilia-Romagna	Country of origin followed by the locality and state.
Identification verified genomically. Ex-type isolate	Additional essential information about this isolate.

***Conidiobolus thromboides* Drechsler**

73 [CSIRO EM534; FPMI 28] RG Kenneth (3040) ← ATCC (24419) ← DM MacLeod ← G Thoizon. *Rhopalosiphum insertum* [Homoptera: Aphididae]. Rec'd 18 Jan 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]. 1 Jan 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, 538 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	<i>Fusarium</i> Research Center, The Pennsylvania State University, 216 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

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.
- 1017 HS Whitney (R599). Adult, *Dendroctonus rufipennis* [Coleoptera: Scolytidae]. Jun 1975. Canada: nr. Hixon, British Columbia.
- 1576 KV Deseö (93). Larva, *Monophadnus elongatulus* [Hymenoptera: Tenthredinidae]. Feb 1984. Italy: Bologna, Emilia-Romagna.
- 2297 DA Rodriguez Sierra (103 Bb). Larva, *Brassolis* sp. [Lepidoptera: Brassolidae]. Oct 1985. Colombia: Cumaral, Meta.
- 2545 SR Sánchez Peña. [Hymenoptera: Sphecidae]. 22 Jun 1987. Mexico: San Pedro (Chipinque), Nuevo Leon.
- 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, Orange Free State.
- 6146 A Moino Junior. Larva, *Chiromyza* sp. [Diptera: Stratiomyidae]. Feb 1999. Brazil: Lavras, Minas Gerais.
- 6635 SB Alves (ESALQ 1225). *Leptopharsa heveae* [Hemiptera: Tingidae]. 28 Sep 1998. Brazil: Itiquira, Mato Grosso.
- 6638 SB Alves (ESALQ 1228). *Leptopharsa heveae* [Hemiptera: Tingidae]. Rec'd 25 Sep 2000. Brazil: Manaus, Amazonas.
- 6639 SB Alves (ESALQ 1229). *Leptopharsa heveae* [Hemiptera: Tingidae]. 29 Sep 1998. Brazil: Itiquira, Mato Grosso.
- 6640 SB Alves (ESALQ 1230). *Leptopharsa heveae* [Hemiptera: Tingidae]. 29 Sep 1998. Brazil: Itiquira, Mato Grosso.
- 6641 SB Alves (ESALQ 1235). *Leptopharsa heveae* [Hemiptera: Tingidae]. 11 Nov 1998. Brazil: Brasília, Distrito Federal.
- 7372 AE Hajek. Larva, *Plecia* sp. [Diptera: Bibionidae] from soil beneath *Eremochloa* sp., centipede grass. 4 Mar 2004. USA: Sod farm, Pearl River County, Mississippi.
- 7403 G Zimmermann (E 1622/01) ← U Heimbach. Larva, *Agriotes* sp. [Coleoptera: Elateridae]. Oct 2001. Germany: Neustadt an der Weinstrasse, Rheinhessen-Pfalz.
- 7543 BJ Cole (C6). *Pogonomyrmex occidentalis* [Hymenoptera: Formicidae] Colony 969. Summer 2004. USA: Mesa County, Colorado.
- 7551 [CIAT 301] A Gaigl. *Phyllophaga menetriesi* [Coleoptera: Scarabaeidae]. 14 Jan 2004. Colombia: Caldon, Cauca. 1500 m elevation.
- 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.
- 7602 [SRCAMB VL-922] V Likhovidov. [Dermaptera]. 22 Aug 2002. Russian Federation: Astrakhanskiy Biosphere Reserve, Astrakhan Oblast. Field Collection Number F-229.
- 7990 Acc'd 27 Apr 2006.
- 7991 Acc'd 27 Apr 2006.
- 7992 Acc'd 27 Apr 2006.
- 7993 Acc'd 28 Apr 2006.
- 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.
- 8469 WC Luz (eco 39). Isolated from soil sample. Rec'd 7 Jun 2007. **RESTRICTED ACCESS:** *consult Curator*.
- 8474 WC Luz (eco 74). Isolated from soil sample. Rec'd 7 Jun 2007. **RESTRICTED ACCESS:** *consult Curator*.
- 8479 WC Luz (eco 108). Phylum Arthropoda, Class Insecta. Rec'd 7 Jun 2007. **RESTRICTED ACCESS:** *consult Curator*.
- 8485 WC Luz (IP 67). Isolated from soil sample. Rec'd 7 Jun 2007. **RESTRICTED ACCESS:** *consult Curator*.
- 8486 WC Luz (IP 126). Isolated from soil sample. Rec'd 7 Jun 2007. **RESTRICTED ACCESS:** *consult Curator*.
- 8487 WC Luz (IP 141). Isolated from soil sample. Rec'd 7 Jun 2007. **RESTRICTED ACCESS:** *consult Curator*.

- 8488 WC Luz (IP 142). Isolated from soil sample. Rec'd 7 Jun 2007. **RESTRICTED ACCESS:** *consult Curator*.
- 8489 WC Luz (IP 148). Isolated from soil sample. Rec'd 7 Jun 2007. **RESTRICTED ACCESS:** *consult Curator*.
- 8490 WC Luz (IP 154). Isolated from soil sample. Rec'd 7 Jun 2007. **RESTRICTED ACCESS:** *consult Curator*.
- 8491 WC Luz (IP 218). Phylum Arthropoda, Class Insecta. Rec'd 7 Jun 2007. **RESTRICTED ACCESS:** *consult Curator*.
- 9164 [ERL 757] M Brownbridge (CA-741) and V Gouli. Isolated from soil sample. 2002. USA: California.
- 9165 [ERL 759] M Brownbridge (CA-773) and S Gouli. Isolated from soil sample. 2002. USA: California.
- 9166 [ERL 760] M Brownbridge (CA-797) and S Gouli. Isolated from soil sample. 2002. USA: California.
- 9167 [ERL 761] M Brownbridge (CA-798) and V Gouli. Isolated from soil sample. 2002. USA: California.
- 9168 [ERL 762] M Brownbridge (CA-774) and S Gouli. Isolated from soil sample. 2002. USA: California.
- 9169 [ERL 763] M Brownbridge (CA-799) and S Gouli. Isolated from soil sample. 2002. USA: California.
- 9170 [ERL 764] M Brownbridge (CA-743) and V Gouli. Isolated from soil sample. 2002. USA: California.
- 9171 [ERL 765] M Brownbridge (CA-744) and S Gouli. Isolated from soil sample. 2002. USA: California.
- 9172 [ERL 766] M Brownbridge (CA-775) and S Gouli. Isolated from soil sample. 2002. USA: California.
- 9173 [ERL 767] M Brownbridge (CA-776) and V Gouli. Isolated from soil sample. 2002. USA: California.
- 9174 [ERL 768] M Brownbridge (CA-777) and S Gouli. Isolated from soil sample. 2002. USA: California.
- 9185 [ERL 769] M Brownbridge (CA-745) and S Gouli. Isolated from soil sample. 2002. USA: California.
- 9186 [ERL 770] M Brownbridge (CA-746) and S Gouli. Isolated from soil sample. 2002. USA: California.
- 9187 [ERL 772] M Brownbridge (CA-779) and S Gouli. Isolated from soil sample. 2002. USA: California.
- 9188 [ERL 773] M Brownbridge (CA-800) and S Gouli. Isolated from soil sample. 2002. USA: California.
- 9189 [ERL 774] M Brownbridge (CA-747) and V Gouli. Isolated from soil sample. 2002. USA: California.
- 9190 [ERL 776] M Brownbridge (CA-780) and S Gouli. Isolated from soil sample. 2002. USA: California.
- 9191 [ERL 777] M Brownbridge (CA-801) and V Gouli. Isolated from soil sample. 2002. USA: California.
- 9192 [ERL 778] M Brownbridge (CA-802) and S Gouli. Isolated from soil sample. 2002. USA: California.
- 9237 [ERL 771] M Brownbridge (CA-778) and S Gouli. Isolated from soil sample. 2002. USA: California.

Evlachovaea kintrischica Borisov & Tarasov

[Sordariomycetes: Hypocreales]

Cordycipitaceae

- 7218 [CMPPB 150; SRCAMB B-184] V Likhovidov ← BA Borisov (B.B. 2). *Agelastica alni* [Coleoptera: Chrysomelidae] in litter. 21 Sep 1991. Republic of Georgia: Kintrishi Valley, near Cordon Tskhemlovani, Kintrishskiy Nature Reserve, Autonomous Republic of Adjara. 360 m elevation. Field Collection Number F-306. CULTURE EX TYPE.
- 8058 [CMPPB 150; SRCAMB B-184] V Likhovidov ← BA Borisov (B.B. 2). *Agelastica alni* [Coleoptera: Chrysomelidae] in litter. 21 Sep 1991. Republic of Georgia: Kintrishi Valley, near Cordon Tskhemlovani, Kintrishskiy Nature Reserve, Autonomous Republic of Adjara. 360 m elevation. Field Collection Number F-306. CULTURE EX TYPE.

Isaria sp.

[Sordariomycetes: Hypocreales]

Cordycipitaceae

- 9508 [SRCAMB B-183] V Likhovidov ← BA Borisov. [Diptera: Tipulidae]. 1999. Ukraine: Kherson Oblast. Field Collection Number F-1063.
- 9517 [SRCAMB B-298] V Likhovidov ← BA Borisov. [Homoptera: Psyllidae]. 8 Jul 2003. Russian Federation: Vladivostok, Primorsky Krai. Field Collection Number F-331.
- 9518 [SRCAMB B-293/2] V Likhovidov ← BA Borisov. Isolated from stroma of *Cordyceps* sp8 Jul 2003. Russian Federation: Vladivostok, Primorsky Krai. Field Collection Number F-600.
- 9519 [SRCAMB VL-1914/1] V Likhovidov. Larva, [Coleoptera]. 22 Aug 2005. Belarus: Belavezhskaya Puscha National Park. Field Collection Number F-853.
- 10162 [ERL 1822] S Gouli (Thr.-10-24) and V Gouli. *Taeniothrips inconsequens* [Thysanoptera: Thripidae]. 2010. USA: Sharon Springs, New York.
- 10231 [ERL 1897] S Gouli (Thr.-10-105) and V Gouli. *Taeniothrips inconsequens* [Thysanoptera: Thripidae]. 2010. USA: Underhill, Vermont.
- 10232 [ERL 1898] S Gouli (Thr.-10-106) and D Tobi. *Taeniothrips inconsequens* [Thysanoptera: Thripidae]. 2010. USA: Rupert, Vermont.
- 10233 [ERL 1899] S Gouli (Thr.-10-107) and V Gouli. *Taeniothrips inconsequens* [Thysanoptera: Thripidae]. 2010. USA: Rupert, Vermont.
- 10234 2010.
- 10235 2010.
- 10236 2010.
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10256 2010.
10257 2010.
10259 2010.
10363 [ERL 390] BL Parker and M Skinner (SP-473). *Eurygaster* sp. [Hemiptera: Scutelleridae]. 2002. Iran.
10364 [ERL 391] BL Parker (SP-475) and M Skinner. *Eurygaster* sp. [Hemiptera: Scutelleridae]. 2002. Iran.
10365 [ERL 392] BL Parker and M Skinner (SP-484). *Eurygaster* sp. [Hemiptera: Scutelleridae]. 2002. Iran.
10366 [ERL 393] BL Parker (SP-486) and M Skinner. *Eurygaster* sp. [Hemiptera: Scutelleridae]. 2002. Iran.
10367 [ERL 394] BL Parker and M Skinner (SP-487). *Eurygaster* sp. [Hemiptera: Scutelleridae]. 2002. Iran.
10368 [ERL 395] BL Parker (SP-509) and M Skinner. *Eurygaster* sp. [Hemiptera: Scutelleridae]. 2002. Iran.
10369 [ERL 396] BL Parker and M Skinner (SP-514). *Eurygaster* sp. [Hemiptera: Scutelleridae]. 2002. Iran.
10370 [ERL 397] BL Parker (SP-515) and M Skinner. *Eurygaster* sp. [Hemiptera: Scutelleridae]. 2002. Iran.
10371 [ERL 398] BL Parker (SP-516) and M Skinner. *Eurygaster* sp. [Hemiptera: Scutelleridae]. 2002. Iran.
10372 [ERL 399] BL Parker and M Skinner (SP-517). *Eurygaster* sp. [Hemiptera: Scutelleridae]. 2002. Iran.
10373 [ERL 400] BL Parker (SP-518) and M Skinner. *Eurygaster* sp. [Hemiptera: Scutelleridae]. 2002. Iran.
10374 [ERL 401] BL Parker and M Skinner (SP-520). *Eurygaster* sp. [Hemiptera: Scutelleridae]. 2002. Iran.
10375 [ERL 402] BL Parker (SP-569) and M Skinner. *Eurygaster* sp. [Hemiptera: Scutelleridae]. 2002. Iran.
10376 [ERL 403] BL Parker and M Skinner (SP-570). *Eurygaster* sp. [Hemiptera: Scutelleridae]. 2002. Iran.
10377 [ERL 404] BL Parker (SP-587) and M Skinner. *Eurygaster* sp. [Hemiptera: Scutelleridae]. 2002. Iran.
10378 [ERL 527] BL Parker (SP-456) and M Skinner. *Eurygaster* sp. [Hemiptera: Scutelleridae]. 2000. Republic of Kazakhstan.
10379 [ERL 540] BL Parker (SP-501) and M Skinner. *Eurygaster* sp. [Hemiptera: Scutelleridae]. 2002. Iran.
10380 [ERL 548] BL Parker and M Skinner (SP-523b). *Eurygaster* sp. [Hemiptera: Scutelleridae]. 2002. Iran.
10381 [ERL 549] BL Parker (SP-531) and M Skinner. *Eurygaster* sp. [Hemiptera: Scutelleridae]. 2002. Iran.
10382 [ERL 554] BL Parker and M Skinner (SP-555). *Eurygaster* sp. [Hemiptera: Scutelleridae]. 2002. Iran.
10383 [ERL 556] BL Parker (SP-564) and M Skinner. *Eurygaster* sp. [Hemiptera: Scutelleridae]. 2002. Iran.
10384 [ERL 561] BL Parker and M Skinner (SP-572). *Eurygaster* sp. [Hemiptera: Scutelleridae]. 2002. Iran.
10385 [ERL 571] BL Parker (SP-588) and M Skinner. *Eurygaster* sp. [Hemiptera: Scutelleridae]. 2002. Iran.
- Isaria amoenerosea* P. Hennings**
[Sordariomycetes: Hypocreales]
Cordycipitaceae. Major synonym: *Paecilomyces amoeneroseus* (Hennings) Samson. Reclassified during a phylogenetically necessary reclassification of *Paecilomyces* Section *Isarioidea*.
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- 741 [CNPAF 82-1-15-06; CP 19] RA Daoust. *Lagriia vilosa* [Coleoptera: Lagriidae]. Jan 1982. Brazil: CNPAF, Goiânia, Goiás.
744 [CNPAF 82-2-15-05; CP 26] RA Daoust. *Lagriia vilosa* [Coleoptera: Lagriidae]. Feb 1982. Brazil: CNPAF, Goiânia, Goiás.
2220 [CNPAF 86-06-05-4; CP 216] DW Roberts ← GS da Silva. *Lagriia vilosa* [Coleoptera: Lagriidae]. 5 Jun 1986. Brazil: CNPAF, Goiânia, Goiás.
2958 CENARGEN (CG 162). *Lagriia vilosa* [Coleoptera: Lagriidae]. Rec'd 14 Mar 1990. Brazil: Formosa, Goiás.
2959 CENARGEN (CG 163). *Lagriia vilosa* [Coleoptera: Lagriidae]. Rec'd 14 Mar 1990. Brazil: Formosa, Goiás.

- 2960 CENARGEN (CG 164). *Lagriia vilosa* [Coleoptera: Lagriidae]. Rec'd 14 Mar 1990. Brazil: Formosa, Goiás.
- 3192 GW Riethmacher (B45a). Soil, using *Tenebrio molitor* [Coleoptera: Tenebrionidae] as a trap. 28 May 1990. Philippines: Villiasis, Pangasinan.
- 4097 LA Lacey (94007). *Lagriia vilosa* [Coleoptera: Lagriidae]. Rec'd 28 Mar 1994. Brazil.
- 4849 JM Sung (C-321). Adult, [Coleoptera: Meloidea]. 14 Jul 1994. Republic of Korea: Chiag Mt., Kangwon-do.

Isaria andoi Shimazu & Humber (sp. nov., unpublished)
[Sordariomycetes: Hypocreales]
Cordycipitaceae

- 1684 [CBS 118466] M Shimazu (F-430(4)) ← S Ando. *Resseliella odai* [Diptera: Cecidomyiidae]. 6 Dec 1982. Japan: Nakatsue, Oita Prefecture. CULTURE EX TYPE.

Isaria cateniannulata (ZQ Liang) Samson & Hywel-Jones
[Sordariomycetes: Hypocreales]
Cordycipitaceae

- 6240 [RCEF 0107] [Lepidoptera]. Rec'd 24 Aug 1999. PR China: Anhui.
- 6241 [RCEF 0464] [Coleoptera: Curculionidae]. 8 Jul 1998. PR China: Anhui.
- 6242 [RCEF 0507] *Lymantria dissoluta* [Lepidoptera: Lymantriidae]. 27 Jan 1999. PR China: Anhui.
- 6243 [RCEF 0516] *Brachyderes incanus* [Coleoptera: Curculionidae]. 27 Jan 1999. PR China: Anhui.
- 8310 B Huang (G-S-2). Acc'd 25 Jan 2007. USA: Great Smoky Mountains National Park, Tennessee.
- 9601 X Zou (8). Larva, [Lepidoptera]. Rec'd 19 Jan 2010. PR China: Guizhou Province.

Isaria cateniobliqua (ZQ Liang) Samson & Hywel-Jones
[Sordariomycetes: Hypocreales]
Cordycipitaceae

- 6244 [RCEF 0189] Adult, [Coleoptera]. Rec'd 24 Aug 1999. PR China: Anhui.
- 6283 [RCEF 0190] [Orthoptera: Acridoidea]. 26 Jul 1997. PR China: Anhui.

Isaria cicadae(?) Miq.
[Sordariomycetes: Hypocreales]
Cordycipitaceae

- 7973 BC King (53). Phylum Arthropoda, Class Insecta. 2004. Canada: Queen Charlotte Islands, British Columbia. GenBank match - AB086631 (99.82%) ITS. **RESTRICTED ACCESS:** consult Curator.

Isaria coleopterorum (Samson & HC Evans) Samson & Hywel-Jones
[Sordariomycetes: Hypocreales]
Cordycipitaceae

- 9509 [SRCAMB VL-2091] V Likhovidov. [Coleoptera: Lampyridae]. 25 Aug 2006. Russian Federation: Moscow Region. Field Collection Number F-1086.
- 10163 [ERL 1823] S Gouli and V Gouli (Thr.-10-25). [Diptera: Tipulidae]. 2010. USA: Rupert, Vermont.

Isaria farinosa (Holmsk.) Fries
[Sordariomycetes: Hypocreales]

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

- 3 [ATCC 24319] PW Schaefer. 3rd instar larva, *Malacosoma americanum* [Lepidoptera: Lasiocampidae]. 6 Jun 1972. USA: Chapin Beach, Dennis, Massachusetts.
- 20 RS Soper ← I Majchrowicz (1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 27 Oct 1972. USA: Harrisburg, Pennsylvania.
- 38 *Leucoma salicis* [Lepidoptera: Lymantriidae]. 6 Dec 1974. Location not specified.
- 55 Acc'd 18 Nov 1982. India.
- 294 "MLC" pupa. 25 Jun 1976. Location not specified.
- 475 C Bajan. Rec'd Spring 1980. Poland: Poland.
- 476 C Bajan. Rec'd May 1980. Poland.
- 648 [FPMI 759] RG Lawlor. Pupa, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Sep 1981. USA: Michigan Hollow, West Danby, New York.
- 697 [FPMI 760] C Glenister. *Lymantria dispar* [Lepidoptera: Lymantriidae]. 20 Jan 1982. USA: Twin Glens, Tompkins County, New York.
- 799 DA Rodriguez Sierra ← A López. Pupa, *Premnotrypes vorax* [Coleoptera: Curculionidae]. Nov 1981. Colombia: Tibaitata, Mosquera, Nariño.
- 975 [GCRI 112-82] RA Hall. *Cydia pomonella* [Lepidoptera: Tortricidae]. Acc'd 17 Oct 1983. United Kingdom: England.
- 981 [GCRI 52-81] RA Hall. [Lepidoptera: Nymphalidae]. Acc'd 17 Oct 1983. United Kingdom: England.
- 1042 J Aoki (Cordy. 1). *Quadicalcarifera punctatella* [Lepidoptera: Notodontidae]. Aug 1982. Japan: Morioka City, Iwate Prefecture.
- 1065 [CNPS 26] F Moscardi. Pupa, *Chlosyne lacinia saundersii* [Lepidoptera: Nymphalidae]. 1983. Brazil: Londrina, Paraná.
- 1108 KV Deseö (27) ← Menarini. Larva, *Conopia myopaeformis* [Lepidoptera: Sesiidae]. Apr 1982. Italy: Ferrara, Emilia-Romagna.

- 1111 KV Deseö (32A) ← Becchi. Pupa, *Lobesia botrana* [Lepidoptera: Tortricidae]. Apr 1982. Italy: Modena, Emilia-Romagna.
- 1225 [INRA Pf-46] TJ Poprawski. *Laspeyresia medicaginus* [Lepidoptera: Tortricidae]. Apr 1981. France: Lusignan, Vienne.
- 1348 S Balazy (1584c). Pupa, [Diptera: Tachinidae]. 25 Sep 1983. Poland: Wielkopolski National Park.
- 1349 S Balazy (1584e). Pupa, [Diptera: Tachinidae]. 25 Sep 1983. Poland: Wielkopolski National Park.
- 1354 S Balazy (1594a). Rec'd 19 May 1984. Poland.
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- 4040 T Steenberg (260) ← L Øgaard. *Staphylinus olens* [Coleoptera: Staphylinidae]. Oct 1991. Denmark: Bagsværd, Zealand.
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- 5885 FE Vega (EBCL 98026). Larva, *Cydia pomonella* [Lepidoptera: Tortricidae]. 19 Feb 1998. France: Crespian, Gard.
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contact Curator
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contact Curator
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contact Curator

- 6489 BL Parker (SPT-KZ-419). Adult, [Coleoptera: Scarabaeidae] overwintering in soil. 6 Feb 2000. Kazakhstan: GPS Coordinates N 43°08.530' E 076°36.526'. **RESTRICTED ACCESS:**
contact Curator
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contact Curator
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contact Curator
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contact Curator
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contact Curator
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contact Curator
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contact Curator
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- Isaria farinosa*(?)** (Holmsk.) Fries
[Sordariomycetes: Hypocreales]
Cordycipitaceae. Current name: *Isaria farinosa*
(Holm:Fries) Fries nom. conserv.
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[Sordariomycetes: Hypocreales]
Cordycipitaceae
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[Sordariomycetes: Hypocreales]
Cordycipitaceae. Major synonym: *Paecilomyces fumosoroseus* (Wize) Brown & Smith. Reclassified during a phylogenetically necessary reclassification of *Paecilomyces* Section *Isarioidea*.
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- 2749 GW Riethmacher (L4). *Plutella xylostella* [Lepidoptera: Plutellidae]. 21 Mar 1989. Philippines: La Trinidad, Benguet.
- 2804 GW Riethmacher (B12p). Soil, using *Tenebrio molitor* [Coleoptera: Tenebrionidae] as a trap. 11 Apr 1989. Philippines: Sta. Barbara, Pangasinan.
- 2956 CENARGEN (CG 123). *Spaethiella* sp. [Coleoptera: Chrysomelidae]. Rec'd 14 Mar 1990. Brazil: Manaus, Amazonas.

- 3076 BM Cawley ← R Hernandez-Armenta. Immature, *Bemisia tabaci* [Homoptera: Aleyrodidae] on shade house-grown *Gerbera* sp. 10 Jul 1990. USA: Naples, Florida.
- 3083 AD Ali. *Bemisia tabaci* [Homoptera: Aleyrodidae] on *Gerbera* sp. Rec'd 12 Sep 1990. USA: nursery, nr. Alva, Florida.
- 3177 GW Riethmacher (B23). Soil, using *Tenebrio molitor* [Coleoptera: Tenebrioidae] as a trap. 18 Dec 1989. Philippines: Gumaca, Quezon.
- 3179 GW Riethmacher (B32). Soil, using *Tenebrio molitor* [Coleoptera: Tenebrioidae] as a trap. 6 Feb 1990. Philippines: La Trinidad, Benguet.
- 3188 GW Riethmacher (B43b). Soil, using *Tenebrio molitor* [Coleoptera: Tenebrioidae] as a trap. 3 May 1990. Philippines: La Trinidad, Benguet.
- 3302 J Gutierrez Samperio (18) ← ERD Reyes. *Diaphania hyalinata* [Lepidoptera: Pyralidae] on melon. 1990. Mexico: Michoacán, Baja California.
- 3313 J Gutierrez Samperio (29) ← ERD Reyes. *Bemisia* sp. [Homoptera: Aleyrodidae] on watermelon. 1990. Mexico: Tecomán, Colima.
- 3322 Yoder Bros. Inc (F2-4 BR). *Bemisia tabaci* [Homoptera: Aleyrodidae] on *Gerbera* sp. Dec 1990. USA: Fort Myers, Florida.
- 3408 AD Ali. *Bemisia tabaci* [Homoptera: Aleyrodidae]. Rec'd 6 Apr 1992. Location not specified. selected for resistance to benomyl at recommended field strength.
- 3429 K Ostrovska (51). [Hemiptera: Pentatomidae]. 25 Sep 1991. Costa Rica: Carrara.
- 3458 AD Ali. *Myzus persicae* [Homoptera: Aphididae]. Rec'd 6 Apr 1992. Location not specified.
- 3480 CENARGEN (CG 35). Leaves of *Cyperus rotundus*. Apr 1991. Brazil: Brasília, Distrito Federal.
- 3581 SP Wraight (11). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 3 Feb 1992. USA: cabbage field, McAllen, Texas.
- 3590 TJ Poprawski (21). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 3 Feb 1992. USA: cabbage field, McAllen, Texas.
- 3594 TJ Poprawski (25). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 3 Feb 1992. USA: cabbage field, McAllen, Texas.
- 3660 TJ Poprawski (43). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae] on hibiscus. 28 Jan 1992. USA: Calexico, California.
- 3662 TJ Poprawski (45). Nymph, *Bemisia tabaci* [Homoptera: Aleyrodidae] on hibiscus. 28 Jan 1992. USA: Calexico, California.
- 3663 TJ Poprawski (48). Nymph, *Bemisia tabaci* [Homoptera: Aleyrodidae] on orchid tree. 28 Jan 1992. USA: Calexico, California.
- 3682 LS Osborne (PFR-97). [Homoptera: Aphididae]. Rec'd Apr 1992. USA: Central Florida Research and Education Center, Apopka, Florida. With identification as PFR-97, this is the basis for commercialized biocontrol products registered by the US Environmental Protection Agency.
- 3699 LA Lacey (Ma17). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 7 Apr 1992. India: Padappai.
- 3700 LA Lacey (Ma18). Nymph, *Bemisia tabaci* [Homoptera: Aleyrodidae] on eggplant. 10 Apr 1992. India: Padappai.
- 3800 ERD Reyes (PF4). Adult, *Bemisia* sp. [Homoptera: Aleyrodidae] watermelon. 6 Jan 1991. Mexico: Colima.
- 3824 [ATCC 24318; FPMI 961] N Underwood (AR-SEF3682). *Diuraphis noxia* [Homoptera: Aphididae]. Rec'd Jan 1993. Laboratory manipulation.
- 3843 LA Lacey (Pfr19). Nymph, *Bemisia tabaci* [Homoptera: Aleyrodidae] ?. Apr 1992. India: Padappai.
- 3848 LA Lacey (92112). *Bemisia tabaci* [Homoptera: Aleyrodidae] Cotton. 4 Oct 1992. Pakistan: Multan.
- 3851 LA Lacey (92123). *Bemisia tabaci* [Homoptera: Aleyrodidae] Cotton. 16 Oct 1992. Pakistan: Multan.
- 3852 [JB Tavares BRA-000141] MS Tigano-Milani (CG-335). Soil. Rec'd 13 Jan 1993. Brazil.
- 3857 [JB Tavares BRA-000159] MS Tigano-Milani (CG-338). Soil. Rec'd 13 Jan 1993. Brazil.
- 3878 LA Lacey (92118) ← D Shakeel. *Bemisia tabaci* [Homoptera: Aleyrodidae]. 11 Oct 1992. Pakistan: Multan.
- 3889 A Hara ← LS Osborne. *Bemisia tabaci* [Homoptera: Aleyrodidae]. Rec'd 22 Feb 1993. USA: Island of Hawaii, Hawaii.
- 3917 Acc'd 23 Aug 1993.
- 3982 [INRA Pfr045] LA Lacey (93019). *Pieris brassicae* [Lepidoptera: Pieridae]. 1978. France: Ile de France.
- 3984 [INRA Pfr039] LA Lacey (93021) or (93021) ← INRA (fr039). *Scotia segetum* [Lepidoptera: Noctuidae]. 1976. France: Ile de France.
- 3985 [INRA Pfr032] LA Lacey (93022). *Scotia ipsilon* [Lepidoptera: Noctuidae]. 1976. France: Ile de France.
- 3986 [INRA Pfr035] LA Lacey (93023). *Mamestra brassicae* [Lepidoptera: Noctuidae]. 1976. France: Ile de France.
- 3987 [INRA Pfr013] LA Lacey (93024). *Lycophotia* sp. [Lepidoptera: Noctuidae]. 1976. France: Provence.
- 3988 [INRA Pfr024] LA Lacey (93025). *Chilo suppressalis* [Lepidoptera: Pyralidae]. 1976. France: Ile de France.
- 3989 [INRA Pfr004] LA Lacey (93026). *Mamestra brassicae* [Lepidoptera: Noctuidae]. 1972. France: Ile de France.
- 4205 LA Lacey (94036). *Trialeurodes vaporariorum* [Homoptera: Aleyrodidae] Sanchus. 24 Mar 1994. Malaysia: Kuala Terla.
- 4383 LA Lacey (94009) ← A Farices (34). *Diuraphis noxia* [Homoptera: Aphididae]. 19 Jan 1994. France: La Valette.

- 4400 LA Lacey (94097). [Homoptera: Aphididae] eggplant. 24 Mar 1994. Malaysia: Kuala Terla.
- 4401 LA Lacey (94061). *Trialeurodes vaporariorum* [Homoptera: Aleyrodidae] eggplant. 24 Mar 1994. Malaysia: Kuala Terla.
- 4404 LA Lacey (94029). *Trialeurodes vaporariorum* [Homoptera: Aleyrodidae] Sonchus. 24 Mar 1994. Malaysia: Kuala Terla.
- 4406 LA Lacey (94065). *Trialeurodes vaporariorum* [Homoptera: Aleyrodidae] Sonchus. 24 Mar 1994. Malaysia: Kuala Terla.
- 4407 LA Lacey (94068). *Trialeurodes vaporariorum* [Homoptera: Aleyrodidae] Sonchus. 24 Mar 1994. Malaysia: Kuala Terla.
- 4408 LA Lacey (94069). *Trialeurodes vaporariorum* [Homoptera: Aleyrodidae] Sonchus. 24 Mar 1994. Malaysia: Kuala Terla.
- 4409 LA Lacey (94070). *Trialeurodes vaporariorum* [Homoptera: Aleyrodidae] Sonchus. 24 Mar 1994. Malaysia: Kuala Terla.
- 4410 LA Lacey (94071). *Trialeurodes vaporariorum* [Homoptera: Aleyrodidae] Sonchus. 24 Mar 1994. Malaysia: Kuala Terla.
- 4411 LA Lacey (94072). *Trialeurodes vaporariorum* [Homoptera: Aleyrodidae] Sonchus. 24 Mar 1994. Malaysia: Kuala Terla.
- 4413 LA Lacey (94075). *Trialeurodes vaporariorum* [Homoptera: Aleyrodidae] Sonchus. 24 Mar 1994. Malaysia: Kuala Terla.
- 4414 LA Lacey (94076). *Trialeurodes vaporariorum* [Homoptera: Aleyrodidae] Sonchus. 24 Mar 1994. Malaysia: Kuala Terla.
- 4415 LA Lacey (94077). *Trialeurodes vaporariorum* [Homoptera: Aleyrodidae] Sonchus. 24 Mar 1994. Malaysia: Kuala Terla.
- 4459 [ARSEF 3699] J McManus (DnPfu193Pss1). *Diuraphis noxia* [Homoptera: Aphididae]. Rec'd 14 Jun 1994. Laboratory manipulation: USPSNL; Ithaca, NY. Single spore isolate from formulated ARSEF 3699. Passed through *Diuraphis noxia* 12 May 94.
- 4460 [ARSEF 3699] J McManus (DnPfu193Pss2). *Diuraphis noxia* [Homoptera: Aphididae]. Rec'd 14 Jun 1994. Laboratory manipulation: USPSNL; Ithaca, NY. Single spore isolates from formulated ARSEF 3699. Passed through RWA 5/12/94.
- 4461 [ARSEF 3699] J McManus (DnPfu193Pss3). *Diuraphis noxia* [Homoptera: Aphididae]. Rec'd 14 Jun 1994. Laboratory manipulation: USPSNL; Ithaca, NY. Single spore isolate from formulated ARSEF 3699. Passed through *Diuraphis noxia* 12 May 94.
- 4479 LA Lacey (Pfr, PA-97) ← LS Osborne. Host not specified. Rec'd 12 Jul 1994. USA: Apopka, Florida.
- 4480 LA Lacey (P.fr.3660). Host not specified. Rec'd 12 Jul 1994. USA: Calexico, California.
- 4481 LA Lacey (Pfr3663). Host not specified. Rec'd 12 Jul 1994. USA: Calexico, California.
- 4482 LA Lacey (92133) ← A Kirk. Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 19 Sep 1992. Nepal: Katmandu.
- 4483 LA Lacey (92134) ← A Kirk. Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 19 Sep 1992. Nepal: Katmandu.
- 4484 LA Lacey (92135) ← A Kirk. Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 19 Sep 1992. Nepal: Katmandu.
- 4485 LA Lacey (92136) ← A Kirk. Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 19 Sep 1992. Nepal: Katmandu.
- 4486 LA Lacey (92138) ← A Kirk. Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 19 Sep 1992. Nepal: Katmandu.
- 4487 LA Lacey (Pfr3572). Host not specified. 19 Sep 1992. USA: McAllen, Texas.
- 4488 LA Lacey (Pfr3594). Host not specified. 19 Sep 1992. USA: McAllen, Texas.
- 4489 LA Lacey (Pfr3698). Host not specified. Rec'd 12 Jul 1994. USA: El Centro, California.
- 4490 LA Lacey (Ma8). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 7 Apr 1992. India: Padappai.
- 4491 LA Lacey (Ma17). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 7 Apr 1992. India: Padappai.
- 4492 LA Lacey (Ma18). Nymph, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 7 Apr 1992. India: Padappai.
- 4493 LA Lacey (Ma19). Nymph, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 7 Apr 1992. India: Padappai.
- 4494 LA Lacey (Ma20). Nymph, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 7 Apr 1992. India: Padappai.
- 4495 LA Lacey (Ma21). Nymph, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 7 Apr 1992. India: Padappai.
- 4496 LA Lacey (Ma22). Nymph, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 7 Apr 1992. India: Padappai.
- 4497 LA Lacey (Ma27). Nymph, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 7 Apr 1992. India: Padappai.
- 4498 LA Lacey (92111). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 14 Oct 1992. Pakistan: Multan.
- 4499 LA Lacey (992114). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 14 Oct 1992. Pakistan: Multan.
- 4500 LA Lacey (992115). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 14 Oct 1992. Pakistan: Multan.
- 4501 LA Lacey (992117). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 14 Oct 1992. Pakistan: Multan.
- 4502 LA Lacey (92118). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 14 Oct 1992. Pakistan: Multan.
- 4503 LA Lacey (992119). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 14 Oct 1992. Pakistan: Multan.
- 4698 J McManus (DnPfu28 and 96009ss#1.3Pss#1) ← LA Lacey (96009). Adult, *Diuraphis noxia* [Homoptera: Aphididae]. Aug 1994. USA: USPSNL. Lab. manipulation., Ithaca, New York.

- 4699 J McManus (DnPfu29 and 2198.3P) ← ARSEF (2198). Adult, *Diuraphis noxia* [Homoptera: Aphididae]. 24 Aug 1994. USA: USPSNL. Lab. manipulation., Ithaca, New York. ARSEF 2198 passed through and reisolated from RWA.
- 4700 J McManus (DnPfu28 and 2749.3Pss#1) ← ARSEF (2749). Adult, *Diuraphis noxia* [Homoptera: Aphididae]. Aug 1994. USA: USPSNL. Lab. manipulation., Ithaca, New York. ARSEF 2749 passed through and reisolated from RWA.
- 4701 J McManus (DnPfu28 and 3889.3Pss#1). Adult, *Diuraphis noxia* [Homoptera: Aphididae]. Aug 1994. USA: USPSNL. Lab. manipulation., Ithaca, New York. ARSEF 3889 passed through and reisolated from RWA.
- 4702 J McManus (DnPfu29 and 4460.3Pss#1) ← ARSEF (4460). Adult, *Diuraphis noxia* [Homoptera: Aphididae]. Aug 1994. USA: USPSNL. Lab. manipulation., Ithaca, New York. ARSEF 4460 passed through and reisolated from RWA.
- 4703 Adult, *Diuraphis noxia* [Homoptera: Aphididae]. Aug 1994. USA: USPSNL. Lab. manipulation., Ithaca, New York. ARSEF 4460 passed through and reisolated from RWA.
- 4704 J McManus (DnPfu29 and 4480.3P) ← ARSEF (4480). Adult, *Diuraphis noxia* [Homoptera: Aphididae]. 24 Aug 1994. USA: USPSNL. Lab. manipulation., Ithaca, New York. ARSEF 4480 passed through and reisolated from RWA.
- 4705 J McManus (DnPfu28 and 4481.3Pss#1) ← ARSEF (4481). Adult, *Diuraphis noxia* [Homoptera: Aphididae]. Aug 1994. USA: USPSNL. Lab. manipulation., Ithaca, New York. ARSEF 4481 passed through and reisolated from RWA.
- 4706 J McManus (DnPfu28 and 4482.3Pss#1). Adult, *Diuraphis noxia* [Homoptera: Aphididae]. Aug 1994. USA: USPSNL. Lab. manipulation., Ithaca, New York. ARSEF 4482 passed through and reisolated from RWA.
- 4707 J McManus (DnPfu29 and 4487.3P). Adult, *Diuraphis noxia* [Homoptera: Aphididae]. 24 Aug 1994. USA: USPSNL. Lab. manipulation., Ithaca, New York. ARSEF 4487 passed through and reisolated from RWA.
- 4708 J McManus (DnPfu29 and 4489.3P) ← ARSEF (4489). Adult, *Diuraphis noxia* [Homoptera: Aphididae]. 24 Aug 1994. USA: USPSNL. Lab. manipulation., Ithaca, New York. ARSEF 4489 passed through and reisolated from RWA.
- 4709 J McManus (DnPfu29 and 4491.3P) ← ARSEF (4491). Adult, *Diuraphis noxia* [Homoptera: Aphididae]. 24 Aug 1994. USA: USPSNL. Lab. manipulation., Ithaca, New York. ARSEF 4491 passed through and reisolated from RWA.
- 4710 J McManus (DnPfu29 and 4492.3P) ← ARSEF (4492). Adult, *Diuraphis noxia* [Homoptera: Aphididae]. 24 Aug 1994. USA: USPSNL. Lab. manipulation., Ithaca, New York. ARSEF 4492 passed through and reisolated from RWA.
- 4711 J McManus (DnPfu29 and 4493.3P) ← ARSEF (4493). Adult, *Diuraphis noxia* [Homoptera: Aphididae]. 24 Aug 1994. USA: USPSNL. Lab. manipulation., Ithaca, New York. ARSEF 4493 passed through and reisolated from RWA.
- 5085 LA Lacey (95075). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 12 Dec 1995. Pakistan: Multan.
- 5086 LA Lacey (95076). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 12 Dec 1995. Pakistan: Multan.
- 5087 LA Lacey (95077). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 12 Dec 1995. Pakistan: Multan.
- 5088 LA Lacey (95078). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 12 Dec 1995. Pakistan: Multan.
- 5089 LA Lacey (95079). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 12 Dec 1995. Pakistan: Multan.
- 5090 LA Lacey (95080). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 12 Dec 1995. Pakistan: Multan.
- 5107 LA Lacey (95097). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 12 Dec 1995. Pakistan: Multan.
- 5113 LA Lacey (95103). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 12 Dec 1995. Pakistan: Multan.
- 5115 LA Lacey (95105). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 12 Dec 1995. Pakistan: Multan.
- 5116 LA Lacey (95106). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 12 Dec 1995. Pakistan: Multan.
- 5117 LA Lacey (95107). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 12 Dec 1995. Pakistan: Multan.
- 5118 LA Lacey (95108). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 12 Dec 1995. Pakistan: Multan.
- 5119 LA Lacey (95109). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 12 Dec 1995. Pakistan: Multan.
- 5121 LA Lacey (95111). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 12 Dec 1995. Pakistan: Multan.
- 5122 LA Lacey (95071). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 12 Dec 1995. Pakistan: Multan.
- 5154 DR Sosa-Gómez (CNPSO-P77). *Bemisia argentifolii* [Homoptera: Aleyrodidae]. 30 Jan 1996. Brazil: Primeiro de Maio, Paraná.
- 5155 DR Sosa-Gómez (CNPSO-P78). *Bemisia argentifolii* [Homoptera: Aleyrodidae]. 30 Jan 1996. Brazil: Primeiro de Maio, Paraná.
- 5156 DR Sosa-Gómez (CNPSO-P79). *Bemisia argentifolii* [Homoptera: Aleyrodidae]. 14 Mar 1996. Brazil: Primeiro de Maio, Paraná.
- 5157 DR Sosa-Gómez (CNPSO-P80). *Bemisia argentifolii* [Homoptera: Aleyrodidae]. 14 Mar 1996. Brazil: Primeiro de Maio, Paraná.
- 5158 DR Sosa-Gómez (CNPSO-P81). *Bemisia argentifolii* [Homoptera: Aleyrodidae]. 14 Mar 1996. Brazil: Primeiro de Maio, Paraná.

- 5159 DR Sosa-Gómez (CNPSO-P82). *Bemisia argentifolii* [Homoptera: Aleyrodidae]. 14 Mar 1996. Brazil: Primeiro de Maio, Paraná.
- 5251 SARL (1) ← SP Wraight (LEP-1). Larva, [Lepidoptera] Broccoli leaf. 18 Nov 1992. USA: Santa Maria, Texas.
- 5252 SARL (2) ← SP Wraight (LEP-2). Larva, [Lepidoptera] Broccoli leaf. 18 Nov 1992. USA: Santa Maria, Texas.
- 5253 SARL (3) ← SP Wraight (EC-1). Adult, *Eretmocerus californicus* [Hymenoptera: Aphelinidae] Broccoli. 18 Nov 1996. USA: Santa Maria, Texas.
- 5254 SARL (4) ← SP Wraight (EC-2). Adult, *Eretmocerus californicus* [Hymenoptera: Aphelinidae] Broccoli. 18 Nov 1996. USA: Santa Maria, Texas.
- 5255 SARL (5) ← SP Wraight (EC-3). Adult, *Eretmocerus californicus* [Hymenoptera: Aphelinidae] Broccoli. 18 Nov 1992. USA: Santa Maria, Texas.
- 5256 SARL (6) ← SP Wraight (EC-4). Adult, *Eretmocerus californicus* [Hymenoptera: Aphelinidae] Broccoli. 18 Nov 1992. USA: Santa Maria, Texas.
- 5257 SARL (7) ← SP Wraight (EC-5). Adult, *Eretmocerus californicus* [Hymenoptera: Aphelinidae] Broccoli. 18 Nov 1992. USA: Santa Maria, Texas.
- 5258 SARL (8) ← SP Wraight (EC-6). Adult, *Eretmocerus californicus* [Hymenoptera: Aphelinidae] Broccoli. 18 Nov 1992. USA: Santa Maria, Texas.
- 5260 SARL (10) ← SP Wraight (SPW-16). *Bemisia tabaci* [Homoptera: Aleyrodidae] Broccoli. 18 Nov 1992. USA: Santa Maria, Texas.
- 5261 SARL (11) ← SP Wraight (SPW-17). *Bemisia tabaci* [Homoptera: Aleyrodidae] Broccoli. 18 Nov 1992. USA: Santa Maria, Texas.
- 5262 SARL (12) ← SP Wraight (SPW-18). *Bemisia tabaci* [Homoptera: Aleyrodidae] Broccoli. 18 Nov 1992. USA: Santa Maria, Texas.
- 5263 SARL (13) ← SP Wraight (SPW-19). *Bemisia tabaci* [Homoptera: Aleyrodidae] Broccoli. 18 Nov 1992. USA: Santa Maria, Texas.
- 5264 SARL (14) ← SP Wraight (SPW-20). *Bemisia tabaci* [Homoptera: Aleyrodidae] Broccoli. 18 Nov 1992. USA: Santa Maria, Texas.
- 5265 SARL (15) ← SP Wraight (SPW-21). *Bemisia tabaci* [Homoptera: Aleyrodidae] Broccoli. 18 Nov 1992. USA: Santa Maria, Texas.
- 5266 SARL (16) ← SP Wraight (SPW-22). *Bemisia tabaci* [Homoptera: Aleyrodidae] Broccoli. 18 Nov 1992. USA: Santa Maria, Texas.
- 5267 SARL (17) ← SP Wraight (SPW-23). *Bemisia tabaci* [Homoptera: Aleyrodidae] Broccoli leaf. 18 Nov 1992. USA: Santa Maria, Texas.
- 5268 SARL (18) ← SP Wraight (SPW-24). *Bemisia tabaci* [Homoptera: Aleyrodidae] Broccoli leaf. 18 Nov 1992. USA: Santa Maria, Texas. Many of the conidia seem a bit shorter and more ovoid than is usual for this species. Conidia in mass do have the gray/pink appearance expected of Pfr.
- 5269 SARL (19) ← SP Wraight (SPW-29). Nymph, *Bemisia tabaci* [Homoptera: Aleyrodidae] Cabbage leaf. 10 Feb 1993. USA: Santa Maria, Texas.
- 5270 SARL (20) ← SP Wraight (SPW-30). Nymph, *Bemisia tabaci* [Homoptera: Aleyrodidae] Cabbage leaf. 10 Feb 1993. USA: Santa Maria, Texas.
- 5271 SARL (21) ← SP Wraight (SPW-31). Nymph, *Bemisia tabaci* [Homoptera: Aleyrodidae] Cabbage leaf. 10 Feb 1993. USA: Santa Maria, Texas.
- 5272 SARL (30) ← SP Wraight ← LA Lacey (92119) ← APHIS (WFP-362). *Bemisia tabaci* [Homoptera: Aleyrodidae]. 14 Oct 1992. Pakistan: Multan.
- 5297 [APHIS WFP-363] SARL (34) ← LA Lacey (92135) ← A Kirk. *Bemisia tabaci* [Homoptera: Aleyrodidae]. 6 Oct 1996. Nepal: Katmandu.
- 5298 [APHIS WFP-362] SARL (35) ← LA Lacey (92118). *Bemisia tabaci* [Homoptera: Aleyrodidae]. 14 Oct 1992. Pakistan: Multan.
- 5299 SARL (36) ← SP Wraight (LACEY 921155-BT1) ← SARL (28). *Bemisia tabaci* [Homoptera: Aleyrodidae]. Rec'd 27 Aug 1996. Location not specified: Laboratory manipulation.
- 5300 SARL (37) ← SP Wraight (Lacey 92133-Bt1) ← SARL (29). *Bemisia tabaci* [Homoptera: Aleyrodidae]. Rec'd 27 Aug 1996. Location not specified: Laboratory manipulation.
- 5301 SARL (38) ← S Wraight (Lacey 92119-Bt1) ← SARL (30). *Bemisia tabaci* [Homoptera: Aleyrodidae]. Rec'd 27 Aug 1996. Location not specified: Laboratory manipulation.
- 5302 SARL (39) ← S Wraight (Lacey Ma19-Bt1) ← SARL (31). *Bemisia tabaci* [Homoptera: Aleyrodidae]. Rec'd 27 Aug 1996. Location not specified: Laboratory manipulation.
- 5303 SARL (40) ← SP Wraight (Lacey Ma21-Bt1). *Bemisia tabaci* [Homoptera: Aleyrodidae]. Rec'd 27 Aug 1996. Location not specified: Laboratory manipulation.
- 5304 SARL (42) ← SP Wraight (Lacey 92135-Bt1) ← SARL (34). *Bemisia tabaci* [Homoptera: Aleyrodidae]. Rec'd 27 Aug 1996. Location not specified: Laboratory manipulation.
- 5305 SARL (43) ← SP Wraight (Lacey 92118-Bt1) ← SARL (35). *Bemisia tabaci* [Homoptera: Aleyrodidae]. Rec'd 27 Aug 1996. Location not specified: Laboratory manipulation.
- 5307 SARL (45) ← SP Wraight. *Bemisia tabaci* [Homoptera: Aleyrodidae]. 3 Mar 1993. USA: Santa Maria, Texas.
- 5308 SARL (98) ← SP Wraight (SPW-34). *Bemisia tabaci* [Homoptera: Aleyrodidae]. 26 Mar 1993. USA: Greenhouse, SARL, Weslaco, Texas.

- 5309 SARL (99) ← SP Wraight (SPW-35). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae] Broccoli. 26 Mar 1993. USA: Greenhouse, SARL, Weslaco, Texas.
- 5310 SARL (100) ← SP Wraight (SPW-36). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae] Broccoli. 26 Mar 1993. USA: Greenhouse, SARL, Weslaco, Texas.
- 5311 SARL (101) ← SP Wraight (SPW-37). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae] Broccoli. 26 Mar 1993. USA: Greenhouse, SARL, Weslaco, Texas.
- 5312 SARL (102) ← SP Wraight (SPW-38). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae] Broccoli. 26 Mar 1993. USA: Greenhouse, SARL, Weslaco, Texas.
- 5313 SARL (103) ← SP Wraight (SPW-39). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae] Broccoli. 26 Mar 1993. USA: Greenhouse, SARL, Weslaco, Texas.
- 5314 SARL (104) ← SP Wraight (SPW-40). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae] Broccoli. 26 Mar 1993. USA: Greenhouse, SARL, Weslaco, Texas.
- 5315 SARL (105) ← SP Wraight (SPW-41). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae] Broccoli. 26 Mar 1993. USA: Greenhouse, SARL, Weslaco, Texas.
- 5316 SARL (118) ← SP Wraight (3572-Bt-9) ← ARSEF (3572). *Bemisia tabaci* [Homoptera: Aleyrodidae]. 10 Mar 1993. USA: Weslaco, Texas.
- 5317 SARL (119) ← SP Wraight (3572-Bt-10) ← ARSEF (3572). *Bemisia tabaci* [Homoptera: Aleyrodidae]. 10 Mar 1993. USA: Weslaco, Texas.
- 5318 SARL (120) ← SP Wraight (3572-Bt-11) ← ARSEF (3572). *Bemisia tabaci* [Homoptera: Aleyrodidae]. 10 Mar 1993. USA: Weslaco, Texas.
- 5319 SARL (121) ← SP Wraight (3572-Bt-12) ← ARSEF (3572). *Bemisia tabaci* [Homoptera: Aleyrodidae]. 10 Mar 1993. USA: Weslaco, Texas.
- 5320 SARL (124) ← SP Wraight (SPW-50). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae] Broccoli. 8 Sep 1993. USA: Weslaco, Texas. Conidia seem a bit shorter and more ovoid than would be normal for this species and colony/conidial mass is a bit less colored than expected.
- 5322 SARL (126) ← SP Wraight (SPW-52) ← JA Correa. Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae] Soybean. 9 Sep 1993. USA: Rio Farm variety trial field, Monte Alto, Texas.
- 5323 SARL (127) ← SP Wraight (SPW-53) ← JA Correa. Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae] Soybean. 9 Sep 1993. USA: Rio Farm variety trial field, Monte Alto, Texas.
- 5324 SARL (128) ← SP Wraight (SPW-54) ← JA Correa. Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae] Soybean. 9 Sep 1993. USA: Rio Farm variety trial field, Monte Alto, Texas.
- 5325 SARL (129) ← SP Wraight (SPW-55). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae] Soybean. 9 Sep 1993. USA: Rio Farm variety trial field, Monte Alto, Texas.
- 5326 SARL (130) ← SP Wraight (SPW-56) ← JA Correa. Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae] Soybean. 9 Sep 1993. USA: Rio Farm variety trial field, Monte Alto, Texas.
- 5327 SARL (131) ← SP Wraight (3572-Bt-1) ← ARSEF (3572). Nymph, *Bemisia tabaci* [Homoptera: Aleyrodidae] Cotton. Rec'd 27 Aug 1996. USA: Phoenix, Arizona.
- 5328 SARL (132) ← SP Wraight (3572-Bt-2) ← ARSEF (3572). Nymph, *Bemisia tabaci* [Homoptera: Aleyrodidae] Cotton. Rec'd 27 Aug 1996. USA: Phoenix, Arizona.
- 5329 SARL (145) ← SP Wraight (3572-Btx3) ← ARSEF (3572). *Bemisia tabaci* [Homoptera: Aleyrodidae]. Rec'd 27 Aug 1996. Location not specified: Laboratory manipulation.
- 5330 SARL (147) ← S Doerfler and B Flores ← TJ Poprawski. Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae] Okra. 6 Sep 1994. USA: Harlingen, Texas.
- 5331 SARL (149) ← S Doerfler, B Flores and TJ Poprawski. Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae] Okra. 6 Sep 1994. USA: Harlingen, Texas.
- 5462 TJ Poprawski (TJP927). 3rd instar larva, *Bemisia argentifolii* [Homoptera: Aleyrodidae]. Rec'd 9 May 1997. USA: Weslaco, Texas. From Mycotech 612 prepared as freeze-dried blastospores.
- 5463 TJ Poprawski (TJP928). 3rd instar larva, *Bemisia argentifolii* [Homoptera: Aleyrodidae]. Rec'd 9 May 1997. USA: Weslaco, Texas. From Mycotech 612 prepared as air-dried blastospores.
- 5464 TJ Poprawski (TJP929). 3rd instar larva, *Bemisia argentifolii* [Homoptera: Aleyrodidae]. Rec'd 9 May 1997. USA: Weslaco, Texas. From Mycotech 612 prepared as fresh blastospores.
- 5475 LA Lacey (EBCL 92116). *Bemisia tabaci* [Homoptera: Aleyrodidae]. 27 Sep 1992. Pakistan: Multan.
- 5476 LA Lacey (EBCL 92117). *Bemisia tabaci* [Homoptera: Aleyrodidae]. 27 Sep 1992. Pakistan: Multan.
- 5540 FA Cantone. Rec'd 2 Jun 2000. Laboratory manipulation: USPSNL; Ithaca, NY. Single spore isolate from ARSEF 4461 passed through *Plutella xylostella*.
- 5627 I Vänninen (SF86-82). Larva, *Tenebrio molitor* [Coleoptera: Tenebrionidae] as bait from soil. Aug 1986. Finland: Kymenlaakso.
- 5694 JM Sung (KEFC-919). [Coleoptera]. 28 Jun 1996. Republic of Korea: Book-Bang, Hong-Cheon Kun, Kangwon-do.

- 5844 T Steenberg (SSL 58). Larva, *Alphitobius diaperinus* [Coleoptera: Tenebrionidae]. Rec'd 26 Aug 1998. Originally isolated from soil.
- 5845 T Steenberg (SSL 59). Larva, *Alphitobius diaperinus* [Coleoptera: Tenebrionidae]. Rec'd 26 Aug 1998. Originally isolated from soil.
- 5846 T Steenberg (SSL 61). Larva, *Alphitobius diaperinus* [Coleoptera: Tenebrionidae]. Rec'd 26 Aug 1998. Originally isolated from soil.
- 5847 T Steenberg (SSL 62). Larva, *Alphitobius diaperinus* [Coleoptera: Tenebrionidae]. Rec'd 26 Aug 1998. Originally isolated from soil.
- 5855 T Steenberg (SSL 531). Nymph, *Blattella germanica* [Dictyoptera: Blattellidae]. 20 Aug 1996. Denmark: Hospital, Copenhagen, Zealand.
- 5860 T Steenberg (SSL 617). Adult, *Musca domestica* [Diptera: Muscidae]. Mar 1997. Denmark: Stable, Lyng, Zealand.
- 5874 FE Vega (EBCL 98001). Larva, *Plutella xylostella* [Lepidoptera: Plutellidae]. 22 Aug 1997. Romania: Voroneț.
- 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.
- 6434 DEN Rangel (JAB 11). Biotype B, *Bemisia tabaci* [Homoptera: Aleyrodidae] on cotton. Mar 1998. Brazil: Miguelópolis, São Paulo.
- 6435 DEN Rangel (JAB 12). Biotype B, *Bemisia tabaci* [Homoptera: Aleyrodidae] on poinsettia. 3 Sep 1999. Brazil: Glasshouse, FCAV/UNESP, Jaboticabal, São Paulo.
- 6562 D Chandler (HRI 402.93). *Bemisia tabaci* [Homoptera: Aleyrodidae]. Rec'd 13 Jul 2000. United Kingdom.
- 6610 JL Hatting (2). Unspecified tick, [Acari]. Rec'd 27 Sep 2000. Hungary: Budapest, Budapest.
- 6615 JL Hatting. Rec'd 27 Sep 2000.
- 6730 FE Vega (EBCL 97054). *Hypothenemus hampei* [Coleoptera: Scolytidae]. Rec'd 23 Feb 2001. Ivory Coast.
- 6789 FJ Posada (CEFC F-0001). Nymph & adult, [Homoptera: Aphididae] on *Montanoa ovatifolia* (DC) Schultz-Bip., arboloco. May 2000. Colombia: Greenhouse, Chinchiná, Caldas.
- 6797 G Mercadier (EBCL 00049). *Bemisia* sp. [Homoptera: Aleyrodidae]. 7 Aug 2000. Hong Kong: Tai Lung Experimental Station, Sheung Shui.
- 6798 G Mercadier (EBCL 00050). *Bemisia* sp. [Homoptera: Aleyrodidae]. 7 Aug 2000. Hong Kong: Tai Lung Experimental Station, Sheung Shui.
- 6799 G Mercadier (EBCL 00051). Pupa, *Plutella xylostella* [Lepidoptera: Plutellidae] on *Brassica oleracea* L., cabbage. 13 Jul 2000. Australia: Tableland, Atherton, Queensland.
- 6800 G Mercadier (EBCL 00052). Pupa, *Plutella xylostella* [Lepidoptera: Plutellidae] on *Brassica oleracea* L., cabbage. 13 Jul 2000. Australia: Tableland, Atherton, Queensland.
- 6893 E Zhioua (T81). *Galleria mellonella* [Lepidoptera: Pyralidae] as bait from soil. Rec'd May 2001.
- 6916 C López Lastra (2). Adult, *Trialeurodes vaporariorum* [Homoptera: Aleyrodidae] on *Lycopersicon esculentum* Miller, tomato in covered greenhouses. 1 Jun 2001. Argentina: Colonia Urquiza, La Plata, Buenos Aires.
- 7029 L Li. Rec'd 6 May 2002.
- 7050 C López Lastra. [Homoptera: spf. Fulgoroidea]. Nov 2001. Argentina: La Plata, Buenos Aires.
- 7051 C López Lastra. Adult, *Trialeurodes vaporariorum* [Homoptera: Aleyrodidae] on *Lycopersicon esculentum* Miller, tomato crop. 23 Apr 2002. Argentina: Colonia Urquiza, La Plata, Buenos Aires.
- 7069 T Steenberg (319). Engorged female, *Ixodes ricinus* [Acari: Ixodidae] Collected from deer. Oct 1991. Denmark: Jægersborg Dyrehave, Zealand.
- 7204 [CEP 051] C López Lastra. *Trialeurodes vaporariorum* [Homoptera: Aleyrodidae] on *Apium graveolens* var. *dulce* (Miller) Pers., celery. 9 Apr 2003. Argentina: El Peligro, La Plata, Buenos Aires. **RESTRICTED ACCESS:** consult Curator.
- 7205 [CEP 055] C López Lastra. *Trialeurodes vaporariorum* [Homoptera: Aleyrodidae] on *Apium graveolens* var. *dulce* (Miller) Pers., celery. 9 Jun 2003. Argentina: El Peligro, La Plata, Buenos Aires. **RESTRICTED ACCESS:** consult Curator.
- 7284 FE Vega (MPM-5). Adult, *Hypothenemus hampei* [Coleoptera: Scolytidae]. Rec'd 8 Jan 2004. Mexico: Tapachula, Chiapas.
- 7347 M Liu. 12 Aug 2003. USA: Stasley residence, La Belle, Florida.
- 7523 M Filotas. Rec'd 5 Nov 2004.
- 7716 [SRCAM VLI/B-173] V Likhovidov ← BA Borisov. Rec'd 29 Sep 2003.
- 7740 [SRCAM VLI/B-15] V Likhovidov ← BA Borisov. Rec'd 29 Sep 2003.
- 7743 [SRCAM VLI/B-101] V Likhovidov ← BA Borisov. Rec'd 29 Sep 2003.
- 8142 LS Bauer and H Liu (MF-233). 4th instar larva, *Agrilus planipennis* [Coleoptera: Buprestidae]. 28 Jul 2006. USA: Brighton, Michigan.
- 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.
- 8716 [CEP 302] CP D'Alessandro and C López Lastra. Adult, *Trialeurodes vaporariorum* [Homoptera: Aleyrodidae]. 22 May 2007. **RESTRICTED ACCESS:** *consult Curator*.
- 8717 [CEP 303] CP D'Alessandro and C López Lastra. Adult, *Trialeurodes vaporariorum* [Homoptera: Aleyrodidae] on *Apium graveolens* L., celery crop. 4 Jun 2007. Argentina: Quinta Marian del Pino, Abasto, La Plata, Buenos Aires. **RESTRICTED ACCESS:** *consult Curator*.
- 8718 [CEP 304] CP D'Alessandro and C López Lastra. Adult, *Trialeurodes vaporariorum* [Homoptera: Aleyrodidae] on *Lycopersicon esculentum* Miller, tomato crop. 3 Oct 2007. Argentina: Quinta Marcelo Maita, Colonia Urquiza, La Plata, Buenos Aires. **RESTRICTED ACCESS:** *consult Curator*.
- 8719 [CEP 305] CP D'Alessandro and C López Lastra. Adult, *Trialeurodes vaporariorum* [Homoptera: Aleyrodidae] on *Lycopersicon esculentum* Miller, tomato crop. 3 Oct 2007. Argentina: Quinta Marcelo Maita, Colonia Urquiza, La Plata, Buenos Aires. **RESTRICTED ACCESS:** *consult Curator*.
- 8720 [CEP 306] CP D'Alessandro and C López Lastra. Adult, *Trialeurodes vaporariorum* [Homoptera: Aleyrodidae] on *Lycopersicon esculentum* Miller, tomato crop. 10 Oct 2007. Argentina: Quinta Marcelo Maita, Colonia Urquiza, La Plata, Buenos Aires. **RESTRICTED ACCESS:** *consult Curator*.
- 8721 [CEP 307] CP D'Alessandro and C López Lastra. Adult, *Trialeurodes vaporariorum* [Homoptera: Aleyrodidae] on *Lycopersicon esculentum* Miller, tomato crop. 16 Oct 2007. Argentina: Quinta Marcelo Maita, Colonia Urquiza, La Plata, Buenos Aires. **RESTRICTED ACCESS:** *consult Curator*.
- 8723 [CEP 308] CP D'Alessandro and C López Lastra. Adult, *Trialeurodes vaporariorum* [Homoptera: Aleyrodidae] on *Phaseolus vulgaris* L., string bean. 4 Jun 2007. Argentina: Quinta Marcelo Maita, Colonia Urquiza, La Plata, Buenos Aires. **RESTRICTED ACCESS:** *consult Curator*.
- 8724 [CEP 309] CP D'Alessandro and C López Lastra. Adult, *Trialeurodes vaporariorum* [Homoptera: Aleyrodidae] on *Beta vulgaris* subsp. *cicla* (L.), chard. 6 Jun 2007. Argentina: Quinta Marcelo Maita, Colonia Urquiza, La Plata, Buenos Aires. **RESTRICTED ACCESS:** *consult Curator*.
- 8725 [CEP 310] CP D'Alessandro and C López Lastra. Adult, *Trialeurodes vaporariorum* [Homoptera: Aleyrodidae] on *Beta vulgaris* subsp. *cicla* (L.), chard. 6 Jun 2007. Argentina: Quinta Marcelo Maita, Colonia Urquiza, La Plata, Buenos Aires. **RESTRICTED ACCESS:** *consult Curator*.
- 8726 [CEP 311] CP D'Alessandro and C López Lastra. Adult, *Trialeurodes vaporariorum* [Homoptera: Aleyrodidae] on *Beta vulgaris* subsp. *cicla* (L.), chard. 6 Jun 2007. Argentina: Quinta Marcelo Maita, Colonia Urquiza, La Plata, Buenos Aires. **RESTRICTED ACCESS:** *consult Curator*.
- 8727 [CEP 312] CP D'Alessandro and C López Lastra. Adult, *Trialeurodes vaporariorum* [Homoptera: Aleyrodidae] on *Phaseolus vulgaris* L., string bean. 13 Jun 2007. Argentina: Quinta Marcelo Maita, Colonia Urquiza, La Plata, Buenos Aires. **RESTRICTED ACCESS:** *consult Curator*.
- 8728 [CEP 313] CP D'Alessandro and C López Lastra. Adult, *Trialeurodes vaporariorum* [Homoptera: Aleyrodidae] on *Solanum melongena* L., eggplant. 13 Jun 2007. Argentina: Quinta Marcelo Maita, Colonia Urquiza, La Plata, Buenos Aires. **RESTRICTED ACCESS:** *consult Curator*.
- 8729 [CEP 314] CP D'Alessandro and C López Lastra. Adult, *Trialeurodes vaporariorum* [Homoptera: Aleyrodidae] on *Phaseolus vulgaris* L., string bean. 22 May 2007. Argentina: Quinta Marcelo Maita, Colonia Urquiza, La Plata, Buenos Aires. **RESTRICTED ACCESS:** *consult Curator*.
- 8730 [CEP 315] CP D'Alessandro and C López Lastra. Adult, *Trialeurodes vaporariorum* [Homoptera: Aleyrodidae] on *Phaseolus vulgaris* L., string bean. 22 May 2007. Argentina: Quinta Marcelo Maita, Colonia Urquiza, La Plata, Buenos Aires. **RESTRICTED ACCESS:** *consult Curator*.
- 8840 [CSIRO FI-1275] [Coleoptera: Chrysomelidae]. 5 Aug 1998. Australia: Tasmania.
- 8892 [CSIRO FI-1296] *Rhopaea magnicornis* [Coleoptera: Scarabaeidae] from insect A11. 22 Dec 1998. Australia: Condong, New South Wales.
- 8928 [CEP 316] CP D'Alessandro and C López Lastra. Adult, *Trialeurodes vaporariorum* [Homoptera: Aleyrodidae] on *Phaseolus vulgaris* L., string bean. 22 May 2007. Argentina: Colonia Urquiza, La Plata, Buenos Aires. **RESTRICTED ACCESS:** *consult Curator*.
- 9294 [ERL 1594] VS Gouli (Thr-08-P3). Isolated from soil sample. 2008. USA: Vermont.
- 9380 E Groden. Larva, *Galleria mellonella* [Lepidoptera: Pyralidae]. 17 Jun 2009. USA: Acadia National Park, Mt. 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.
- 9521 [SRCAMB VL-2057] V Likhovidov. *Coccinella septempunctata* [Coleoptera: Coccinellidae]. Aug 2000. Ukraine: Kherson Oblast. Field Collection Number F-749.
- 9582 [ERL 1739] S Gouli and V Gouli (Thr.-08-P/16). Isolated from soil sample. 2008. USA: Vermont.
- 9583 [ERL 1740] S Gouli (Thr.-08-P/17) and V Gouli. Isolated from soil sample. 2008. USA: Vermont.
- 9584 [ERL 1741] S Gouli and V Gouli (Thr.-08-P/18). Isolated from soil sample. 2008. USA: Vermont.
- 9585 [ERL 1742] S Gouli (Thr.-08-P/19) and V Gouli. Isolated from soil sample. 2008. USA: Vermont.
- 9586 [ERL 1743] S Gouli and V Gouli (Thr.-08-P/20). Isolated from soil sample. 2008. USA: Vermont.
- 9602 X Zou (9). [Coleoptera]. Rec'd 19 Jan 2010. PR China: Guizhou Province.
- 10224 M Kereselidze. Pupa, *Hyphantria cunea* [Lepidoptera: Arctiidae] from bark of *Morus* sp., mulberry. Sep 2008. Republic of Georgia: western Georgia.
- 10258 2010.
- Isaria guaensis*** Rombach & Humber (unpubl. sp. nov.) [Sordariomycetes: Hypocreales]
Cordycipitaceae
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- 2152 MC Rombach (190386-1). [Orthoptera: Gryllidae]. 19 Mar 1986. Indonesia: burial caves at Londa, nr. Makale, Sulawesi Selatan, Celebes.
- 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*.
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- 322 GR Buckingham. *Litodactylus leucogaster* [Coleoptera: Curculionidae]. Dec 1978. USA: Gainesville, Florida.
- 704 RS Soper. *Bombyx mori* [Lepidoptera: Bombycidae]. 11 Nov 1981. PR China: Hangzhou, Zhijiang.
- 3303 J Gutierrez Samperio (19) ← ERD Reyes. *Bemisia* sp. [Homoptera: Aleyrodidae] on watermelon. 1990. Mexico: Tecomán, Colima.
- 3573 TJ Poprawski (3). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 3 Feb 1992. USA: cabbage field, McAllen, Texas.
- 3577 TJ Poprawski (7). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 3 Feb 1992. USA: cabbage field, McAllen, Texas.
- 3776 SP Wraight (SPW-11). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae] poinsettia leaves. 24 Aug 1992. USA: Weslaco, Texas.
- 3778 SP Wraight (F92-2) ← J Salinus. *Bemisia tabaci* [Homoptera: Aleyrodidae]. 9 Mar 1992. USA: Shary Plantation, Mission, Texas.
- 3981 LA Lacey (93018) ← INRA (Pfr028). *Mamestra brassicae* [Lepidoptera: Noctuidae]. 1975. France: Ile de France.
- 5259 SARL (9) ← SP Wraight (SPW-15). *Bemisia tabaci* [Homoptera: Aleyrodidae] Broccoli. 18 Nov 1992. USA: Santa Maria, Texas.
- 5321 SARL (125) ← SP Wraight (SPW-51). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae] Broccoli. 8 Sep 1993. USA: Weslaco, Texas.
- 5806 DA Rodríguez Sierra (UJ89002). Rec'd 7 Aug 1998. Commercial isolate.
- 7119 HE Cabanillas. Adult, [Coleoptera] on wild olive tree. 29 Oct 2002. USA: Weslaco, Texas.
- 7477 [CEP 107] C López Lastra. *Trialeurodes vaporariorum* [Homoptera: Aleyrodidae] on *Lycopersicon esculentum* Miller, tomato crop. 4 Apr 2004. Argentina: Colonia Urquiza, La Plata, Buenos Aires.
- Isaria poprawskii*** Cabanillas, Humber, de León & Jones [Sordariomycetes: Hypocreales]
Cordycipitaceae
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- 7028 HE Cabanillas. *Bemisia argentifolii* [Homoptera: Aleyrodidae] on *Solanum melongena* L., eggplant in greenhouse. 28 Sep 2001. USA: Kika de la Garza Subtropical Agricultural Research Center, Weslaco, Texas. CULTURE EX TYPE.
- Isaria sinclairii*** (Berkeley) Lloyd [Sordariomycetes: Hypocreales]
Cordycipitaceae
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- 6925 [ATCC 24400] Nymph, *Mogannia hebes* [Homoptera: Cicadidae]. Rec'd 30 Nov 2001. Republic of China: Taiwan. Produces thermozymocidin, myriocidin.
- Isaria tenuipes*** Peck [Sordariomycetes: Hypocreales]
Cordycipitaceae. Major synonym: *Paecilomyces tenuipes* (Peck) Samson. Reclassified during a phylogenetically necessary reclassification of *Paecilomyces* Section *Isarioidea*.
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- 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.
- 5700 JM Sung (KEFC-1662). Pupa, Phylum Arthropoda, Class Insecta. 20 Sep 1997. Republic of Korea: Book-Bang, Hong-Cheon Kun, Kangwon-do.
- 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.
- 7735 [SRCAM F-196] V Likhovidov (B-104) ← BA Borisov. Rec'd 14 Mar 2005.
- 7790 [SRCAM VLI-63] V Likhovidov. Rec'd 29 Sep 2003.
- 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.
- 9533 [SRCAMB VL-1565/4] V Likhovidov. [Araneida]. 14 Sep 2004. Russian Federation: Caucasus region, Karachayevo-Cherkessiya Republ. Field Collection Number F-554.
- 9534 [SRCAMB B-667] V Likhovidov ← BA Borisov. Larva, [Lepidoptera]. 8 Jul 2005. Ukraine: Kiev. Field Collection Number F-1033.
- Paecilomyces* sp.**
[Sordariomycetes: Hypocreales]
- These still unidentified species has yet been assigned to a correct genus after the recent gene-based reclassification of species out of *Paecilomyces* Section *Isarioidea*; this original generic identification remains provisional until a more thorough analyses of these isolates are completed.
- 309 DW Roberts ← FL Briggs. *Epiphyas postvittana* [Lepidoptera: Tortricidae]. Acc'd Mar 1979. New Zealand.
- 385 WG Yendol. Rec'd 8 Aug 1979. PR China: North Bridges Peoples' Commune, Shanghai, Kiangsu.
- 680 DW Roberts (101081-6). *Recilia dorsalis* [Homoptera: Cicadellidae]. 10 Oct 1981. PR China: Jansui, Jiangsu.
- 971 [GCRI 50-81] RA Hall ← J Fargues. Acc'd 17 Oct 1983. France.
- 1008 J Aoki (Nom. 1) ← K Katagiri ← T Kushida. *Sesamia inferens* [Lepidoptera: Noctuidae]. Dec 1968. Japan: Hachioji, Tokyo Prefecture.
- 2350 [ARSEF 2378] MC Rombach (131286-6). Pupa, [Diptera] on *Croton* sp. 13 Dec 1986. Indonesia: tropical rainforest, Gunung Merapi, Yogyakarta, Java.
- 2354 [ARSEF 2377 (never frozen)] MC Rombach (201286-6). [Araneida]. 20 Dec 1986. Philippines: rainforest, Mt. Makiling, Los Baños, Manila.
- 2378 [ARSEF 2350] MC Rombach (131286-6). Pupa, [Diptera] on *Croton* sp. 13 Dec 1986. Indonesia: tropical rainforest, Gunung Merapi, Yogyakarta, Java.
- 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.
- 3101 L Loch (CB-75). *Nezara viridula* [Hemiptera: Pentatomidae]. 1986. Brazil: Piracicaba, São Paulo.
- 3545 M Brownbridge (B-38). Soil, using *Galleria mellonella* [Lepidoptera: Pyralidae] as a trap. 19 Nov 1991. USA: Ralph's sugar maple stand, Warren, Vermont.
- 3566 M Brownbridge (R-48). Rec'd 10 Jan 1992. Location not specified.
- 3768 EW Davidson. [Diptera: Drosophilidae]. Summer 1992. USA: Arizona.
- 3772 SP Wraight (F92-5) ← J Salinas. *Bemisia tabaci* [Homoptera: Aleyrodidae]. 17 Apr 1992. USA: USDA-APHIS Biological Control Laboratory Greenhouse, Mission, Texas.
- 3774 SP Wraight (SPW-5). Larva, *Bemisia tabaci* [Homoptera: Aleyrodidae] poinsettia leaves. 24 Aug 1992. USA: Weslaco, Texas.
- 3775 SP Wraight (SPW-6). Larva, *Bemisia tabaci* [Homoptera: Aleyrodidae] poinsettia leaves. 24 Aug 1992. USA: Weslaco, Texas.
- 3777 SP Wraight (SPW-12). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae] poinsettia leaves. 24 Aug 1992. USA: Weslaco, Texas.
- 3780 SP Wraight (SPW-7). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae] poinsettia leaves. 24 Aug 1992. USA: Weslaco, Texas.

- 3781 SP Wraight (SPW-8). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae] poinsettia leaves. 24 Aug 1992. USA: Weslaco, Texas.
- 3782 SP Wraight (SPW-9). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae] poinsettia leaves. 24 Aug 1992. USA: Weslaco, Texas.
- 3783 SP Wraight (SPW-9). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae] cotton leaves. 12 Jun 1992. USA: Weslaco, Texas.
- 3784 SP Wraight (SPW-1). Larva, *Bemisia tabaci* [Homoptera: Aleyrodidae] poinsettia leaves. 12 Jun 1992. USA: Weslaco, Texas.
- 3785 SP Wraight (SPW-5). Larva, *Bemisia tabaci* [Homoptera: Aleyrodidae] poinsettia leaves. 24 Aug 1992. USA: Weslaco, Texas.
- 3786 SP Wraight (SPW-10). Larva, *Bemisia tabaci* [Homoptera: Aleyrodidae] poinsettia leaves. 24 Aug 1992. USA: Weslaco, Texas.
- 3787 SP Wraight () ← J Salinas (F92-6). *Bemisia tabaci* [Homoptera: Aleyrodidae] eggplant leaves. 18 Apr 1992. USA: Mission, Texas.
- 3788 SP Wraight () ← B.A. Mullin (BO-1). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae] cotton leaves. 12 Jun 1992. USA: Weslaco, Texas.
- 3853 MS Tigano-Milani (CG-186). Soil. Rec'd 13 Jan 1993. Brazil.
- 3870 LA Lacey (92133) ← A Kirk. *Bemisia tabaci* [Homoptera: Aleyrodidae]. 19 Sep 1992. Nepal: Katmandu.
- 3871 LA Lacey (92135) ← A Kirk. *Bemisia tabaci* [Homoptera: Aleyrodidae]. 19 Sep 1993. Nepal: Katmandu.
- 3872 LA Lacey (92137) ← A Kirk. *Bemisia tabaci* [Homoptera: Aleyrodidae]. 19 Sep 1993. Nepal: Katmandu.
- 3873 LA Lacey (Pfr19). *Bemisia tabaci* [Homoptera: Aleyrodidae]. 11 Apr 1992. India: Padappai.
- 3874 LA Lacey (92114) ← D Shakeel. *Bemisia tabaci* [Homoptera: Aleyrodidae]. 14 Oct 1992. Pakistan: Multan.
- 3875 LA Lacey (92115) ← D Shakeel. *Bemisia tabaci* [Homoptera: Aleyrodidae]. 11 Oct 1992. Pakistan: Multan.
- 3877 LA Lacey (92117) ← D Shakeel. *Bemisia tabaci* [Homoptera: Aleyrodidae]. 11 Oct 1992. Pakistan: Multan.
- 4452 LA Lacey (94110). Soil. 18 Apr 1994. Japan: Edosaki Golf Course.
- 4742 [DAT 343] AC Rath (F343) ← H Yip (HY26). Soil. 31 Dec 1987. Australia: Glen Morey, Woodbury, Tasmania.
- 4985 LA Lacey (95041). *Bemisia tabaci* [Homoptera: Aleyrodidae] Cabbage. 22 May 1995. Taiwan: AVRDC-Greenhouse.
- 4986 LA Lacey (95042). *Bemisia tabaci* [Homoptera: Aleyrodidae] cabbage. 22 May 1995. Taiwan: AVRDC-Greenhouse.
- 4987 LA Lacey (95043). *Bemisia tabaci* [Homoptera: Aleyrodidae] cabbage. 22 May 1995. Taiwan: AVRDC-Greenhouse.
- 4988 LA Lacey (95044). *Bemisia tabaci* [Homoptera: Aleyrodidae] cabbage. 22 May 1995. Taiwan: AVRDC-Greenhouse.
- 4989 LA Lacey (95045). *Bemisia tabaci* [Homoptera: Aleyrodidae] cabbage. 22 May 1995. Taiwan: AVRDC-Greenhouse.
- 5091 LA Lacey (95081). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 12 Dec 1995. Pakistan: Multan.
- 5092 LA Lacey (95082). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 12 Dec 1995. Pakistan: Multan.
- 5093 LA Lacey (95083). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 12 Dec 1995. Pakistan: Multan.
- 5094 LA Lacey (95084). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 12 Dec 1995. Pakistan: Multan.
- 5095 LA Lacey (95085). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 12 Dec 1995. Pakistan: Multan.
- 5096 LA Lacey (95086). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 12 Dec 1995. Pakistan: Multan.
- 5097 LA Lacey (95087). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 12 Dec 1995. Pakistan: Multan.
- 5098 LA Lacey (95088). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 12 Dec 1995. Pakistan: Multan.
- 5099 LA Lacey (95089). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 12 Dec 1995. Pakistan: Multan.
- 5100 LA Lacey (95090). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 12 Dec 1995. Pakistan: Multan.
- 5101 LA Lacey (95091). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 12 Dec 1995. Pakistan: Multan.
- 5102 LA Lacey (95092). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 12 Dec 1995. Pakistan: Multan.
- 5103 LA Lacey (95093). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 12 Dec 1995. Pakistan: Multan.
- 5104 LA Lacey (95094). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 12 Dec 1995. Pakistan: Multan.
- 5105 LA Lacey (95095). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 12 Dec 1995. Pakistan: Multan.
- 5106 LA Lacey (95096). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 12 Dec 1995. Pakistan: Multan.
- 5108 LA Lacey (95098). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 12 Dec 1995. Pakistan: Multan.
- 5109 LA Lacey (95099). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 12 Dec 1995. Pakistan: Multan.
- 5110 LA Lacey (95100). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 12 Dec 1995. Pakistan: Multan.
- 5111 LA Lacey (95101). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 12 Dec 1995. Pakistan: Multan.
- 5112 LA Lacey (95102). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 12 Dec 1995. Pakistan: Multan.
- 5114 LA Lacey (95104). Adult, *Bemisia tabaci* [Homoptera: Aleyrodidae]. 12 Dec 1995. Pakistan: Multan.

- 5160 DR Sosa-Gómez (CNPSO-P83). *Bemisia argentifolii* [Homoptera: Aleyrodidae]. 14 Mar 1996. Brazil: Primeiro de Maio, Paraná.
- 5179 S Gouli (GA-88). *Adelges tsugae* [Homoptera: Adelgidae] on *Tsuga canadensis*. 14 Feb 1996. USA: Mt. Tom, Holyoke, Massachusetts.
- 5180 S Gouli (GA-89). *Adelges tsugae* [Homoptera: Adelgidae] on *Tsuga canadensis*. 14 Mar 1996. USA: Mt. Tom, Holyoke, Massachusetts.
- 5181 S Gouli (GA-90). [Araneida: Araneae]. 28 May 1995. USA: R. Angellilo's sugar maple stand, North Field, Vermont.
- 5183 S Gouli (GA-93). [Araneida: Araneae]. 22 Jun 1995. USA: Motyka's sugar maple stand, Williamstown, Vermont.
- 5184 S Gouli (GA-94). [Coleoptera: Curculionidae]. 25 Jun 1995. USA: Motyka's sugar maple stand, Williamstown, Vermont.
- 5185 S Gouli (GA-95). Phylum Arthropoda, Class Diplopoda. 28 May 1995. USA: Motyka's sugar maple stand, Williamstown, Vermont.
- 5189 S Gouli (GA-99). Larva, Phylum Arthropoda, Class Insecta. 24 Jun 1995. USA: Motyka's sugar maple stand, Williamstown, Vermont.
- 5190 S Gouli (GA-100). [Araneida: Araneae]. 25 Jun 1995. USA: R. Angellilo's sugar maple stand, North Field, Vermont.
- 5192 S Gouli (GA-102). [Opiliones]. 29 Jun 1995. USA: R. Angellilo's sugar maple stand, North Field, Vermont.
- 5193 S Gouli (GA-103). [Coleoptera: Curculionidae]. 23 Jun 1995. USA: R. Angellilo's sugar maple stand, North Field, Vermont.
- 5402 Laboratory contaminant. Acc'd 14 Jan 1997.
- 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.
- 6339 5th instar larva, 23 Jan 1997. Colombia: Farm of C.I. Macagual, Florencia, Caquetá.
- 6883 DG Boucias (3936). [Hymenoptera: Tenthredinoidea]. Rec'd 7 Jun 2001. USA: Florida.
- 7064 Acc'd 3 Aug 2004.
- 7065 Acc'd 4 Aug 2004.
- 7075 KT Hodge (PR16). [Hemiptera: Pentatomidae] on *Acanthaceae*. 5 Jul 2002. USA: El Yunque, Caribbean National Forest, Anhalito Trail, tabonuco forest, Río Grande Municipio, Puerto Rico.
- 7388 M Liu (ml190). 17 Dec 2003. USA: Toro Negro, Puerto Rico.
- 7721 [SRCAM VLI-281] V Likhovidov. Rec'd 29 Sep 2003.
- 7741 [SRCAM VLI/B-55] V Likhovidov ← BA Borisov. Rec'd 29 Sep 2003.
- 7742 [SRCAM VLI-275] V Likhovidov. Rec'd 29 Sep 2003.
- 7744 [SRCAM VLI/B-59/1] V Likhovidov ← BA Borisov. Rec'd 29 Sep 2003.
- 7745 [SRCAM VLI/B-59/2] V Likhovidov ← BA Borisov. Rec'd 29 Sep 2003.
- 7746 [SRCAM VLI-488] V Likhovidov. Rec'd 29 Sep 2003.
- 7747 [SRCAM VLI-478] V Likhovidov. Rec'd 29 Sep 2003.
- 7756 [SRCAM VLI-61] V Likhovidov. Rec'd 29 Sep 2003.
- 7800 L Erickson and CA Fuller (?#3 V29UP all). Workers, *Nasutitermes acajutlae* [Isoptera: Termitidae]. 7 Jul 2005. USA: Lameshur Bay, Saint John, Virgin Islands.
- 7801 L Erickson and CA Fuller (#8b HH23P all). Workers, *Nasutitermes acajutlae* [Isoptera: Termitidae]. 7 Jul 2005. USA: Hurricane Hole, Saint John, Virgin Islands.
- 7803 L Erickson and CA Fuller (#8 V29UP all). Workers, *Nasutitermes acajutlae* [Isoptera: Termitidae]. 7 Jul 2005. USA: Lameshur Bay, Saint John, Virgin Islands.
- 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*.
- 7996 BC King (6). Rec'd 7 Apr 2006. Canada: Pacific Spirit Regional Park, Vancouver, British Columbia. GenBank match - AY624179 (100%) ITS. **RESTRICTED ACCESS:** *consult Curator*.
- 7997 BC King (16). Rec'd 7 Apr 2006. Canada: Pacific Spirit Regional Park, Vancouver, British Columbia. GenBank match - AY624179 (100%) ITS. **RESTRICTED ACCESS:** *consult Curator*.
- 7998 BC King (18). Rec'd 7 Apr 2006. Canada: Pacific Spirit Regional Park, Vancouver, British Columbia. GenBank match - AY624179 (100%) ITS. **RESTRICTED ACCESS:** *consult Curator*.
- 7999 BC King (23). 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*.
- 8002 BC King (48). Rec'd 7 Apr 2006. Canada: Squamish, British Columbia. GenBank match - AY624179 (100%) ITS. **RESTRICTED ACCESS:** *consult Curator*.
- 8003 BC King (51). Rec'd 7 Apr 2006. Canada: Pacific Spirit Regional Park, Vancouver, British Columbia. GenBank match - AY624179 (100%) ITS. **RESTRICTED ACCESS:** *consult Curator*.

- 8004 BC King (55). Rec'd 7 Apr 2006. USA: near Breitenbush Hot Springs, Detroit, Oregon. GenBank match - AY624179 (100%) ITS. **RESTRICTED ACCESS:** *consult Curator.*
- 8005 BC King (63). Rec'd 7 Apr 2006. Canada: Pacific Spirit Regional Park, Vancouver, British Columbia. GenBank match - AY624179 (100%) ITS. **RESTRICTED ACCESS:** *consult Curator.*
- 8006 BC King (68). Rec'd 7 Apr 2006. Canada: Pacific Spirit Regional Park, Vancouver, British Columbia. GenBank match - AY624179 (100%) ITS. **RESTRICTED ACCESS:** *consult Curator.*
- 8007 BC King (69). [Hymenoptera]. Rec'd 7 Apr 2006. Canada: Pacific Spirit Regional Park, Vancouver, British Columbia. GenBank match - AY624179 (100%) ITS. **RESTRICTED ACCESS:** *consult Curator.*
- 8008 BC King (70). [Hymenoptera]. Rec'd 7 Apr 2006. Canada: Pacific Spirit Regional Park, Vancouver, British Columbia. GenBank match - AY624179 (100%) ITS. **RESTRICTED ACCESS:** *consult Curator.*
- 8316 JM Meyer. Adult, *Diaphorina citri* [Homoptera: Psyllidae]. Oct 2005. USA: Polk County, Florida. 28°06'295" N, 81°42'895" W.

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.

- 984 [FPMI 757] J Aoki (Paec. 6) ← K Katagiri ← T Kushida. *Heptophylla picea* [Coleoptera: Scarabaeidae]. Feb 1972. Japan: Hachioji, Tokyo Prefecture.
- 990 [FPMI 758] J Aoki (Paec. 7) ← K Katagiri ← T Kushida. *Gastropacha orientalis* [Lepidoptera: Lasiocampidae]. Jul 1969. Japan: Hachioji, Tokyo Prefecture.

Paecilomyces crustaceus(?) Apinis & Chesters
[Eurotiomycetes: Eurotiales]

Trichocomaceae. This species has not been reclassified into a correct genus according to its genomic sequences following the recent gene-based reclassification of *Paecilomyces* Section *Isarioidea*.

- 6462 [CIAT 047] D Peck. 5th instar larva, *Zulia carbonaria* [Homoptera: Cercopidae]. 25 May 1999. Colombia: La Palma Farm, Santander de Quilichao, Cauca.
- 6467 [CIAT 052] D Peck. Adult, *Zulia carbonaria* [Homoptera: Cercopidae]. 25 May 1999. Colombia: La Palma Farm, Santander de Quilichao, Cauca.

Paecilomyces lilacinus(?) (Thom) Samson
[Sordariomycetes: Hypocreales]

Ophiocordycipitaceae. This species has not been reclassified into a correct genus according to its genomic sequences following the recent gene-based reclassification of *Paecilomyces* Section *Isarioidea*.

- 6325 Nymph, 16 Feb 1997. Colombia: Farm of C.I. Macagual, Florencia, Caquetá.
- 6458 [CIAT 043] D Peck. Adult, female, *Zulia carbonaria* [Homoptera: Cercopidae]. 26 May 1999. Colombia: Santander de Quilichao, Cauca.

Paecilomyces marquandii (Masse) Hughes
[Sordariomycetes: Hypocreales]

Clavicipitaceae. This species has been placed in the Hypocreales by phylogenetic analysis but not into a correct genus according to its genomic sequences. The recent reclassification of *Paecilomyces* Section *Isarioidea* requires this species placement in a different genus.

- 3855 [JB Tavares BRA-000167] MS Tigano-Milani (CG-371). Rec'd 13 Jan 1993. Brazil.
- 9527 [SRCAMB AS-528] V Likhovidov. Isolated from soil sample. 29 Aug 2004. Russian Federation: Krasnodarsky Krai. Field Collection Number F-970.
- 9529 [SRCAMB AS-433] V Likhovidov. Isolated from soil sample. Aug 1999. Russian Federation: Tver Region. Field Collection Number F-266.
- 9530 [SRCAMB AS-582] V Likhovidov. Isolated from soil sample. 16 Jul 2003. Russian Federation: Kedrovaya Pad Nature Reserve, Primorsky Krai. Field Collection Number F-784.
- 9928 [ERL 1772] S Gouli (Thr.-09-4) and V Gouli. [Thysanoptera: Thripidae]. 2010. USA: Vermont.
- 9929 [ERL 1773] S Gouli and V Gouli (Thr.-09-5). [Thysanoptera: Thripidae]. 2010. USA: Vermont.

Paecilomyces reniformis Samson & HC Evans in Samson
[Sordariomycetes: Hypocreales]

The recent reclassification of *Paecilomyces* Section *Isarioidea* requires this species eventual reassignment to a different genus.

- 429 DW Roberts. [Orthoptera: Tettigoniidae] on rice. 31 Oct 1979. Philippines: IRRI, Los Baños, Manila.
- 484 RS Soper. [Orthoptera: Tettigoniidae] on rice. 5 May 1980. Philippines: IRRI, Los Baños, Manila.
- 577 RS Soper. [Orthoptera: Tettigoniidae] on rice. 24 Feb 1981. Indonesia: Diski Village, Medan District, Sumatera Utara.
- 7040 RG Hollingsworth (KNF2002-10). [Orthoptera: Tettigoniidae]. 26 Jan 2002. USA: Bayfront area, Hilo, Hawaii.
- 7041 RG Hollingsworth (KNF002-11). [Orthoptera: Tettigoniidae]. 26 Jan 2002. USA: Bayfront area, Hilo, Hawaii.

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.

Paecilomyces viridis Segretain ex Samson
[Sordariomycetes: Hypocreales]

This species has not been reclassified into a correct genus according to its genomic sequences following the recent gene-based reclassification of *Paecilomyces* Section *Isarioidea*.

2456 UAMH (2994) ← Pasteur Institute (CIP-849). Rec'd 28 Jul 1987. Location not specified.

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.

410 CW McCoy. *Diaprepes abbreviata* [Coleoptera: Curculionidae]. 20 Jul 1979. USA: Apopka, Florida.

531 DW Roberts (82180-13b). [Hemiptera: Pentatomidae]. 21 Aug 1980. Malaysia.

723 [CNPFAF 82-1-6-10; CP 17] RA Daoust. *Lagria vilosa* [Coleoptera: Lagriidae]. 6 Jan 1982. Brazil: CNPAF, Goiânia, Goiás.

763 PM Chang. *Scotinophara coarctata* [Hemiptera: Pentatomidae]. 3 Feb 1982. Malaysia: Rice Research Center, Mardi, Bumbong Lima, Icepala Batas, Wellesley Province.

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.

1552 MC Rombach (PAEC) ← MM Salleh. *Scotinophara coarctata* [Hemiptera: Pentatomidae] on rice. May 1984. Malaysia: Seberang Perai.

1951 [CENARGEN CG 301; CNPAF 85-05-02; CP 176] R Pereira. *Cerotoma* sp. [Coleoptera: Chrysomelidae]. 2 May 1985. Brazil: Campos, Rio de Janeiro.

2078 [CP 196] JC Lord and BP Magalhães. *Deois flavopicta* [Homoptera: Cercopidae]. 1985. Brazil: Hidrolândia, Goiás.

2155 BN Muthappa (PNG 12710). *Anoplolepsis longipes* [Hymenoptera: Formicidae]. Rec'd 12 May 1986. Papua New Guinea.

2181 MC Rombach ← LT Villacarlos. Egg mass, *Meloidogyne* sp. [Tylenchida: Heteroderidae] on potato. Acc'd 31 May 1986. Philippines: Matalom, Leyte.

2182 MC Rombach ← LT Villacarlos. Egg mass, *Meloidogyne* sp. [Tylenchida: Heteroderidae] on potato. Acc'd 31 May 1986. Philippines: Ormoc, Leyte.

2183 MC Rombach ← LT Villacarlos. Egg mass, *Meloidogyne* sp. [Tylenchida: Heteroderidae] on potato. Acc'd 31 May 1986. Peru.

2184 MC Rombach ← LT Villacarlos. Egg mass, *Meloidogyne* sp. [Tylenchida: Heteroderidae] on potato. Acc'd 31 May 1986. Philippines: University of the Philippines, Los Baños, Manila.

2185 MC Rombach ← LT Villacarlos. Egg mass, *Meloidogyne* sp. [Tylenchida: Heteroderidae] on potato. Acc'd 31 May 1986. Philippines: Carigara, Leyte.

2186 MC Rombach ← LT Villacarlos. Egg mass, *Meloidogyne* sp. [Tylenchida: Heteroderidae] on potato. Acc'd 31 May 1986. Philippines: Abuyog, Leyte.

2215 [CNPFAF 86-06-05-2; CP 211] DW Roberts ← PMOJ Neves. *Tibraca limbativentres* [Hemiptera: Pentatomidae]. 5 Jun 1986. Brazil: CNPAF, Goiânia, Goiás.

2233 K Narayanan (8). *Meloidogyne* sp. [Tylenchida: Heteroderidae]. Rec'd 27 Aug 1986. India.

2952 [CP 273] SP Wraight ← CA da Silva. *Lagria vilosa* [Coleoptera: Lagriidae]. 8 Nov 1988. Brazil: CNPAF, Goiânia, Goiás.

3047 MS Goettel (4B-A). Soil. Jul 1990. Mali: Mordiah.

3049 MS Goettel (4B-B). Soil. Jul 1990. Mali: Mordiah.

3469 CENARGEN (CG 181). Soil. Jun 1990. Brazil: Canarana, Mato Grosso.

3481 CENARGEN (CG 36). Egg, *Deois flavopicta* [Homoptera: Cercopidae]. Sep 1991. Brazil: Brasília, Distrito Federal.

3511 I Quintela (VL3). Rec'd 13 Dec 1991. Location not specified.

3512 I Quintela (VL4). Rec'd 13 Dec 1991. Location not specified.

3846 LA Lacey (92144). *Trialeurodes vaporariorum* [Homoptera: Aleyrodidae] Jasmine. Rec'd 24 Nov 1992. India: Rampur.

3854 [JB Tavares BRA-000167] MS Tigano-Milani (CG-371). Rec'd 13 Jan 1993. Brazil.

5805 DA Rodríguez Sierra (UJ89001). *Opsiphanes cassinae* [Lepidoptera: Nymphalidae] on *Elaeis guineensis*. Rec'd 7 Aug 1998. Colombia: Cesar.

5876 FE Vega (EBCL 98005). Adult, *Hypothenemus hampei* [Coleoptera: Scolytidae]. Oct 1997. Benin: Niaouli.

5877 FE Vega (EBCL 98008). Adult, *Hypothenemus hampei* [Coleoptera: Scolytidae]. Oct 1997. Benin: Niaouli.

- 5880 FE Vega (EBCL 98015). Adult, *Hypothenemus hampei* [Coleoptera: Scolytidae]. Oct 1997. Benin: Niaouli.
- 5882 FE Vega (EBCL 98022). Adult, *Hypothenemus hampei* [Coleoptera: Scolytidae]. Oct 1997. Benin: Niaouli.
- 6018 BL Parker ← V Gouli (SPT-R-183). Overwintering adult, *Eurygaster* sp. [Hemiptera: Scutelleridae]. 18 Sep 1998. Russian Federation: Volgograd.
- 6021 BL Parker ← V Gouli (SPT-R-196). Overwintering adult, *Eurygaster* sp. [Hemiptera: Scutelleridae]. 22 Sep 1998. Russian Federation: Krasnii Sulin, Rostov.
- 6024 BL Parker ← V Gouli (SPT-R-206). Overwintering adult, *Eurygaster* sp. [Hemiptera: Scutelleridae]. 22 Sep 1998. Russian Federation: Krasnii Sulin, Rostov.
- 6026 BL Parker ← V Gouli (SPT-R-246). Overwintering adult, *Eurygaster* sp. [Hemiptera: Scutelleridae]. 22 Sep 1998. Russian Federation: Krasnii Sulin, Rostov.
- 6080 BL Parker (SPT-2-319/1). Adult, *Eurygaster* sp. [Hemiptera: Scutelleridae]. Fall 1998. Syria: Al Kseabiia.
- 6081 BL Parker (SPT-U-325). Adult, *Eurygaster* sp. [Hemiptera: Scutelleridae]. 13 Jan 1999. Uzbekistan: GPS coordinates - N 40°52.116', E 069°55.812'.
- 6082 BL Parker (SPT-U-329). Adult, *Eurygaster* sp. [Hemiptera: Scutelleridae]. 18 Jan 1999. Uzbekistan: GPS coordinates - N 40°50.450', E 069°56.680'.
- 6084 BL Parker (SPT-U-306). Adult, *Eurygaster* sp. [Hemiptera: Scutelleridae]. 16 Jan 1999. Uzbekistan: Site d, SW of Samarkand, Mirankul region.
- 6094 BL Parker (SPT-U-332). Adult, *Eurygaster* sp. [Hemiptera: Scutelleridae]. 18 Jan 1999. Uzbekistan: GPS coordinates - N 40°50.450', E 069°56.680'.
- 6110 BL Parker (SPT-2-279). Adult, [Coleoptera: Scarabaeidae]. 24 Jan 1999. Syria: Al Kseabiia.
- 6114 BL Parker (SPT-2-345). Adult, *Eurygaster* sp. [Hemiptera: Scutelleridae]. 24 Jan 1999. Syria: Al Kseabiia.
- 6116 BL Parker (SPT-2-359). Adult, *Eurygaster* sp. [Hemiptera: Scutelleridae]. 24 Jan 1999. Syria: Al Kseabiia.
- 6117 BL Parker (SPT-U-361). Adult, *Eurygaster* sp. [Hemiptera: Scutelleridae]. 18 Jan 1999. Uzbekistan: GPS coordinates - N 40°50.450', E 069°56.680'.
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- 6188 FE Vega (EBCL 99024). *Hypothenemus hampei* [Coleoptera: Scolytidae]. Dec 1998. Benin: Site 3, Niaouli.
- 6190 FE Vega (EBCL 99027). *Hypothenemus hampei* [Coleoptera: Scolytidae]. Dec 1998. Benin: Site 2, Niaouli.
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- 6340 Adult, *Zulia pubescens* [Homoptera: Cercopidae]. 23 Jan 1997. Colombia: Farm of C.I. Macagual, Florencia, Caquetá.
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contact Curator
- 6502 BL Parker (SPT-KZ-461). Adult, *Eurygaster* sp. [Hemiptera: Scutelleridae] overwintering in soil. 4 Feb 2000. Kazakhstan: GPS Coordinates N 43°22.366' E 077°20.486'. **RESTRICTED ACCESS:**
contact Curator
- 6621 Acc'd 20 May 2003.
- 6985 [PPRI 7098] JL Hatting. *Diuraphis noxia* [Homoptera: Aphididae]. 14 Jan 2002. South Africa: ARC-Small Grain Institute Greenhouse, Bethlehem, Orange Free State.
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- 7545 BJ Cole (C25). *Pogonomyrmex occidentalis* [Hymenoptera: Formicidae] Colony 3217. Summer 2004. USA: Mesa County, Colorado.
- 7546 BJ Cole (C31). *Pogonomyrmex occidentalis* [Hymenoptera: Formicidae] Colony c574. Summer 2004. USA: Mesa County, Colorado.
- 7547 BJ Cole (C40). *Pogonomyrmex occidentalis* [Hymenoptera: Formicidae] Colony 620. Summer 2004. USA: Mesa County, Colorado.
- 7548 BJ Cole (C41). *Pogonomyrmex occidentalis* [Hymenoptera: Formicidae] Colony c3860. Summer 2004. USA: Mesa County, Colorado.
- 7549 BJ Cole (C44). *Pogonomyrmex occidentalis* [Hymenoptera: Formicidae] Colony 418. Summer 2004. USA: Mesa County, Colorado.
- 8268 RJ Pereault (plsi#1). Isolated from soil sample. Jul 2006. USA: orchard B, Frankfort, Michigan.
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- 8918 [ERL 196] BL Parker (AVRDC 0058B). *Tenebrio molitor* [Coleoptera: Tenebrionidae] as bait from soil. 1994. Republic of China: Taiwan.
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- 8920 [ERL 267] BL Parker (AVRDC 0527B). *Tenebrio molitor* [Coleoptera: Tenebrionidae] as bait from soil. 1994. Republic of China: Taiwan.
- 8921 [ERL 268] BL Parker (AVRDC 0529B). *Tenebrio molitor* [Coleoptera: Tenebrionidae] as bait from soil. 1994. Republic of China: Taiwan.
- 8922 [ERL 280] BL Parker (AVRDC 0587B). *Tenebrio molitor* [Coleoptera: Tenebrionidae] as bait from soil. 1994. Republic of China: Taiwan.
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- 9356 ST Jaronski (TX0902). Isolated from soil on dodine medium. Rec'd 10 Nov 2009. USA: onion field, Weslaco, Texas. Plot 6 sample A2 (bulk soil).
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- 9371 A Morales (#1A). Larva, *Popillia japonica* [Coleoptera: Scarabaeidae]. 5 Nov 2004. USA: Battle Island State Park Golf Course, Fulton, New York.
- 9522 [SRCAMB VL-1330/1] V Likhovidov. Isolated from surface of stroma of *Cordyceps roseus* 10 Jul 2003. Russian Federation: Kedrovaya Pad Nature Reserve, Primorsky Krai. Field Collection Number F-592.
- 9523 [SRCAMB VL-818] V Likhovidov. [Homoptera: Cicadellidae]. 16 Jul 2002. Russian Federation: Kunashir Island, Sakhalin Region. Field Collection Number F-756.
- 9524 [SRCAMB VL-2059] V Likhovidov. Larva, [Coleoptera: Elateridae] Isolated from *Cordyceps* sp. Aug 2005. Belarus: Belavezhskaya Puscha National Park. Field Collection Number F-882.
- 9525 [SRCAMB AS-485] V Likhovidov. Isolated from soil sample. 22 May 2004. Ukraine: Askania-Nova Reserve, Kherson Oblast. Field Collection Number F-951.
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- 10225 A Khan. *Edessa mediatubunda* [Hemiptera: Pentatomidae] on *Datura* sp. 20 Jun 2010. West Indies: Barrackpore, Trinidad.

Evlachovaea sp.

- [Coleoptera: Elateridae]
Agriotes 7403
- [Coleoptera: Scarabaeidae]
Phyllophaga menetriesi 7551
- [Coleoptera: Scolytidae]
Dendroctonus rufipennis 1017
- [Dermaptera]
Unknown species 7602
- [Diptera: Bibionidae]
Plecia 7372
- [Diptera: Stratiomyidae]
Chiromyza 6146
- [Hemiptera: Tingidae]
Leptopharsa heveae 6635 6638 6639
6640 6641
- [Hymenoptera: Formicidae]
Pogonomyrmex occidentalis 7543
- [Hymenoptera: Sphecidae]
Unknown species 2545
- [Hymenoptera: Tenthredinidae]
Monophadnus elongatulus 1576
- [Lepidoptera]
Unknown species 7599 7600 7601
- [Lepidoptera: Brassolidae]
Brassolis 2297
Brassolis sophorea 2613 2620
- [Lepidoptera: Gelechiidae]
Sitotroga cerealella 5703
- [Lepidoptera: Noctuidae]
Spodoptera frugiperda 959
- [Lepidoptera: Oecophoridae]
Anteotricha 2614 2615
- [Lepidoptera: Pyralidae]
Galleria mellonella 8439 8441 8442
8449

Evlachovaea kintrischica

- [Coleoptera: Chrysomelidae]
Agelastica alni 7218 8058

Isaria sp.

- [Coleoptera]
Unknown species 9519
- [Diptera: Tipulidae]
Unknown species 9508
- [Hemiptera: Scutelleridae]
Eurygaster 10363 10364 10365 10366
10367 10368 10369 10370 10371
10372 10373 10374 10375 10376
10377 10378 10379 10380 10381
10382 10383 10384 10385
- [Homoptera: Psyllidae]
Unknown species 9517
- [Thysanoptera: Thripidae]
Taeniothrips inconsequens 10162
10231 10232 10233

Isaria amoenerosea

- [Coleoptera: Lagriidae]
Lagria vilosa 741 744 2220 2958 2959
2960 4097
- [Coleoptera: Meloidae]
Unknown species 4849

Isaria andoi

- [Diptera: Cecidomyiidae]
Resseliella odai 1684

Isaria cateniannulata

- [Coleoptera: Curculionidae]
Unknown species 6241
Brachyderes incanus 6243
- [Lepidoptera]
Unknown species 6240 9601
- [Lepidoptera: Lymantriidae]
Lymantria dissoluta 6242

Isaria cateniobliqua

- [Coleoptera]
Unknown species 6244
- [Orthoptera: Acridoidea]
Unknown species 6283

Isaria coleopterorum

- [Coleoptera: Lampyridae]
Unknown species 9509
- [Diptera: Tipulidae]
Unknown species 10163

Isaria farinosa

- [Araneida]
Unknown species 2376
- [Araneida: Araneae]
Unknown species 5191
- [Coleoptera]
Unknown species 2355 2379 9516
- [Coleoptera: Buprestidae]
Agrius planipennis 9944 9945
- [Coleoptera: Carabidae]
Agonum dorsale 4029 4044
Bembidion lampros 4043
Hapalus sp. 4045
- [Coleoptera: Cerambycidae]
Unknown species 5073 5074 5075 5080
7276
Anoplophora glabripennis 8411
- [Coleoptera: Chrysomelidae]
Unknown species 6491
Pyrrhalta luteola 1507 1508
- [Coleoptera: Coccinellidae]
Unknown species 5754 5834
- [Coleoptera: Curculionidae]
Otiorynchus sulcatus 2431 2937
Premnotrypes vorax 799
Sitona lineatus 4039
- [Coleoptera: Lagriidae]
Lagria vilosa 1957
- [Coleoptera: Scarabaeidae]
Unknown species 6488 6489
Cylcocephala signaticolis 2973
- [Coleoptera: Scolytidae]
Dendroctonus micans 9269 9270 9275
9276 9277 9278
- [Coleoptera: Silphidae]
Unknown species 9511
- [Coleoptera: Staphylinidae]
Staphylinus olens 4040
- [Coleoptera: Tenebrionidae]
Unknown species 5699
Alphitobius diaperinus 5858
Tenebrio molitor 8917
- [Collembola]
Unknown species 6482
- [Diptera]
Unknown species 10156 10160 10165

- [Diptera: Culicidae]
Aedes albifasciatus 2971
Aedes sierrensis 1939
- [Diptera: Tachinidae]
Unknown species 1348 1349
- [Diptera: Xylophagidae]
Unknown species 9512
- [Hemiptera: Lygaeidae]
Unknown species 6496
- [Hemiptera: Miridae]
Unknown species 6607
- [Hemiptera: Pentatomidae]
Aelia 6097 6098 6493 6497
- [Hemiptera: Scutelleridae]
Eurygaster 5675 5676 5679 6012 6017
6020 6044 6481 6490 6495
Eurygaster integriceps 6288
- [Homoptera: Adelgidae]
Adelges tsugae 5178 5760 5761 5774
5775 5776 5784 5788 5790 5792
5797 5799 5800 5801 5802 5826
5827 5830 6028 6029 6030 6031
6032 6033 6034 6036 6037 6038
6048 6049
- [Homoptera: Aleyrodidae]
Aleurocanthus woglumi 2954
Bemisia tabaci 3572 3574 3575 3576
3578 3579 3580 3582 3583 3584
3585 3586 3587 3588 3589 3591
3592 3593 3658 3659 3661 5081
5082 5083 5084 5306
Trialeurodes vaporariorum 4405 4412
- [Homoptera: Aphididae]
Diuraphis noxia 6222 6609 6983
- [Homoptera: Coccidae]
Unknown species 9513
- [Homoptera: Delphacidae]
Nilaparvata lugens 2375
- [Hymenoptera]
Unknown species 7249 7262
- [Hymenoptera: Formicidae]
Unknown species 9510
- [Hymenoptera: Formicoidea]
Unknown species 9514
- [Hymenoptera: Pamphiliidae]
Acantholyda erythrocephala 5548
- [Hymenoptera: Tenthredinidae]
Pristiphora erichsonii 1851
- [Lepidoptera]
Unknown species 2822 3152 4090 5996
6245 7118 7714
- [Lepidoptera: Arctiidae]
Pyrrharctia isabella 3017
- [Lepidoptera: Cossidae]
Prionoxystus robiniae 2269
- [Lepidoptera: Geometridae]
Alosophila pometaria 5368
Lambdina athasaria 3537 3538
- [Lepidoptera: Lasiocampidae]
Unknown species 9515
Malacosoma americanum 3
- [Lepidoptera: Lymantriidae]
Leucoma salicis 38
Lymantria dispar 20 648 697 2057
2131 2564 2835 3221 3490 3491
3492 3493 3494 3495 3496 3497

3498 3499 3500 3501 3502 3503	[Diptera: Calliphoridae]	[Lepidoptera: Noctuidae]
3504 3505 3506 3507 3508 3517	<i>Calliphora</i> 1646	<i>Lycophotia</i> 3987
3518 3519 3520 3521 3522 3523	[Diptera: Muscidae]	<i>Mamestra brassicae</i> 3986 3989
3524 3525 3526 3533 3595 3596	<i>Musca autumnalis</i> 1626	<i>Scotia ipsilon</i> 3985
3597 3598 3599 3664 3665 3666	<i>Musca domestica</i> 1644 1645 1867 1868	<i>Scotia segetum</i> 3984
[Lepidoptera: Noctuidae]	5860	<i>Spodoptera</i> 2734
<i>Agrotis segetum</i> 4010	[Hemiptera: Miridae]	[Lepidoptera: Pieridae]
<i>Rivula atimeta</i> 2344	<i>Adelphocoris</i> 1530 1532	<i>Pieris brassicae</i> 3982
<i>Spodoptera</i> 2546	[Hemiptera: Pentatomidae]	[Lepidoptera: Plutellidae]
[Lepidoptera: Notodontidae]	Unknown species 3429	<i>Plutella xylostella</i> 2749 5874 6799 6800
<i>Quadicalcarifera punctatella</i> 1042	[Homoptera: Aleyrodidae]	[Lepidoptera: Pyralidae]
[Lepidoptera: Nymphalidae]	<i>Bemisia</i> 3313 3800 6797 6798	<i>Chilo suppressalis</i> 3988
Unknown species 981	<i>Bemisia argentifolii</i> 5154 5155 5156	<i>Diaphania hyalinata</i> 3302
<i>Chlosyne lacinia saundersii</i> 1065	5157 5158 5159 5462 5463 5464	<i>Galleria mellonella</i> 6893 8333 8337
[Lepidoptera: Pyralidae]	<i>Bemisia tabaci</i> 3076 3083 3322 3408	8345 8348 8448 9380
<i>Galleria mellonella</i> 7531 7574 7575	3581 3590 3594 3660 3662 3663	[Lepidoptera: Tortricidae]
7576 7961 7962 8770	3699 3700 3843 3848 3851 3878	<i>Cydia pomonella</i> 6192 6203 6204
<i>Ostrinia nubilalis</i> 3983	3889 4482 4483 4484 4485 4486	
[Lepidoptera: Sesiidae]	4490 4491 4492 4493 4494 4495	
<i>Conopia myopaeformis</i> 1108	4496 4497 4498 4499 4500 4501	
[Lepidoptera: Tortricidae]	4502 4503 5085 5086 5087 5088	
<i>Cydia pomonella</i> 975 5883 5884 5885	5089 5090 5107 5113 5115 5116	
6200 6202 6207	5117 5118 5119 5121 5122 5260	
<i>Laspeyresia medicagicus</i> 1225	5261 5262 5263 5264 5265 5266	
<i>Lobesia botrana</i> 1111	5267 5268 5269 5270 5271 5272	
[Opiliones]	5297 5298 5299 5300 5301 5302	
Unknown species 5194	5303 5304 5305 5307 5308 5309	
[Thysanoptera: Thripidae]	5310 5311 5312 5313 5314 5315	
<i>Taeniothrips inconsequens</i> 3564 10155	5316 5317 5318 5319 5320 5322	
10157 10158 10159 10161	5323 5324 5325 5326 5327 5328	
	5329 5330 5331 5475 5476 6434	
	6435 6562	
Isaria flavovirescens	<i>Trialeurodes vaporariorum</i> 2658 4205	
[Diptera: Cecidomyiidae]	4401 4404 4406 4407 4408 4409	
<i>Resseliella odai</i> 1686	4410 4411 4413 4414 4415 6916	
	7051 7204 7205 8716 8717 8718	
Isaria fumosorosea	8719 8720 8721 8723 8724 8725	
[Acari]	8726 8727 8728 8729 8730 8928	
Unknown species 6610	[Homoptera: Aphididae]	
[Acari: Ixodidae]	Unknown species 3682 4400 6789	
<i>Ixodes ricinus</i> 7069	<i>Diuraphis noxia</i> 3824 4383 4459 4460	
[Coleoptera]	4461 4698 4699 4700 4701 4702	
Unknown species 5694 9602	4703 4704 4705 4706 4707 4708	
[Coleoptera: Buprestidae]	4709 4710 4711	
<i>Agrilus planipennis</i> 8142	<i>Myzus persicae</i> 3458	
[Coleoptera: Chrysomelidae]	[Homoptera: Delphacidae]	
Unknown species 8840	<i>Nilaparvata lugens</i> 2198 2429	
<i>Pyrrhalta luteola</i> 1506	[Homoptera: Pseudococcidae]	
<i>Spaethiella</i> 2956	<i>Phenacoccus solani</i> 2247	
[Coleoptera: Coccinellidae]	[Homoptera: Psyllidae]	
<i>Coccinella septempunctata</i> 9521	<i>Heteropsylla incisa</i> 2175	
[Coleoptera: Lagriidae]	[Homoptera: spf. Fulgoroidea]	
<i>Lagria vilosa</i> 722 2216 2217 2219 2221	Unknown species 7050	
[Coleoptera: Scarabaeidae]	[Hymenoptera: Aphelinidae]	
<i>Popillia japonica</i> 2679	<i>Eretmocerus californicus</i> 5253 5254	
<i>Rhopaea magnicornis</i> 8892	5255 5256 5257 5258	
[Coleoptera: Scolytidae]	[Lepidoptera]	
<i>Hypothenemus hampei</i> 6730 7284	Unknown species 5251 5252 9520	
[Coleoptera: Tenebrionidae]	[Lepidoptera: Arctiidae]	
<i>Alphitobius diaperinus</i> 5844 5845 5846	<i>Hyphantria cunea</i> 1568 1569 1577	
5847	1578 1579 10224	
<i>Tenebrio molitor</i> 5627	[Lepidoptera: Bombycidae]	
[Dictyoptera: Blattellidae]	<i>Bombyx mori</i> 720 989 1005	
<i>Blattella germanica</i> 5855	[Lepidoptera: Lymantriidae]	
[Diptera]	<i>Lymantria dispar</i> 6206	
Unknown species 887		
[Diptera: ?Stratiomyidae]		
Unknown species 2425		

Host by Fungus

Paecilomyces sp. *Purpureocillium lilacinum*

Paecilomyces sp.

- [Araneida]
Unknown species 2354
- [Araneida: Araneae]
Unknown species 5181 5183 5190
- [Coleoptera: Curculionidae]
Unknown species 5184 5193
- [Diptera]
Unknown species 2350 2378
- [Diptera: Drosophilidae]
Unknown species 3768
- [Hemiptera: Pentatomidae]
Unknown species 7075
Nezara viridula 3101
- [Homoptera: Adelgidae]
Adelges tsugae 5179 5180
- [Homoptera: Aleyrodidae]
Bemisia argentifolii 5160
Bemisia tabaci 3772 3774 3775 3777
3780 3781 3782 3783 3784 3785
3786 3787 3788 3870 3871 3872
3873 3874 3875 3877 4985 4986
4987 4988 4989 5091 5092 5093
5094 5095 5096 5097 5098 5099
5100 5101 5102 5103 5104 5105
5106 5108 5109 5110 5111 5112
5114
- [Homoptera: Cicadellidae]
Recilia dorsalis 680
- [Homoptera: Psyllidae]
Diaphorina citri 8316
- [Hymenoptera]
Unknown species 8007 8008
- [Hymenoptera: Tenthredinoidea]
Unknown species 6883
- [Isoptera: Termitidae]
Nasutitermes acajutlae 7800 7801 7803
- [Lepidoptera]
Unknown species 7995 8001
- [Lepidoptera: Limacodidae]
Natada michonta 2616 2617 2618
- [Lepidoptera: Noctuidae]
Sesamia inferens 1008
- [Lepidoptera: Tortricidae]
Cydia pomonella 6193 6198
Epiphyas postvittana 309
- [Opiliones]
Unknown species 5192

Paecilomyces canadensis

- [Coleoptera: Scarabaeidae]
Heptophylla picea 984
- [Lepidoptera: Lasiocampidae]
Gastropacha orientalis 990

Paecilomyces crustaceus(?)

- [Homoptera: Cercopidae]
Zulia carbonaria 6462 6467

Paecilomyces lilacinus(?)

- [Homoptera: Cercopidae]
Zulia carbonaria 6458

Paecilomyces marquandii

- [Thysanoptera: Thripidae]
Unknown species 9928 9929

Paecilomyces reniformis

- [Orthoptera: Tettigoniidae]
Unknown species 429 484 577 7040
7041

Paecilomyces sinensis

- [Lepidoptera: Hepialidae]
Unknown species 6284 6285

Purpureocillium lilacinum

- [Araneida]
Unknown species 9528
- [Coleoptera: Chrysomelidae]
Cerotoma 1951
- [Coleoptera: Curculionidae]
Diaprepes abbreviata 410
- [Coleoptera: Elateridae]
Unknown species 9524
- [Coleoptera: Lagriidae]
Lagria vilosa 723 2952
- [Coleoptera: Scarabaeidae]
Unknown species 6110
Popillia japonica 9371
- [Coleoptera: Scolytidae]
Hypothenemus hampei 5876 5877 5880
5882 6188 6190
- [Coleoptera: Tenebrionidae]
Tenebrio molitor 8918 8919 8920 8921
8922
- [Hemiptera: Pentatomidae]
Unknown species 531
Edessa mediatubunda 10225
Scotinophara coarctata 763 1552
Tibraca limbativentres 2215
- [Hemiptera: Reduviidae]
Triatoma infestans 7478
- [Hemiptera: Scutelleridae]
Eurygaster 6018 6021 6024 6026 6080
6081 6082 6084 6094 6114 6116
6117 6494 6502
- [Homoptera]
Unknown species 9604
- [Homoptera: Aleyrodidae]
Singhiella simplex 9610
Trialeurodes vaporariorum 3846
- [Homoptera: Aphididae]
Diuraphis noxia 6985
- [Homoptera: Cercopidae]
Deois flavopicta 2078 3481
Zulia pubescens 6340
- [Homoptera: Cicadellidae]
Unknown species 9523
- [Homoptera: Cicadidae]
Unknown species 6247
- [Hymenoptera: Formicidae]
Anoplolepis longipes 2155
Pogonomyrma occidentalis 7545 7546
7547 7548 7549
- [Isoptera: Termitidae]
Nasutitermes corniger 8456
- [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

[Tylenchida: Heteroderidae]

Meloidogyne 2181 2182 2183 2184 2185
2186 2233

Animalia

Arthropoda • Arachnida

Acari

Hungary
Isaria fumosorosea 6610

Acari: Ixodidae

Ixodes ricinus
Denmark
Isaria fumosorosea 7069

Araneida

Philippines
Isaria farinosa 2376
Paecilomyces sp. 2354
Russian Federation
Isaria tenuipes 9533
Purpureocillium lilacinum 9528

Araneida: Araneae

USA, Vermont
Isaria farinosa 5191
Paecilomyces sp. 5181 5183 5190

Opiliones

USA, Vermont
Isaria farinosa 5194
Paecilomyces sp. 5192

Arthropoda • Entognatha

Kyrgyz Republic
Isaria farinosa 6482

Arthropoda • Insecta

Belarus
Isaria sp. 9519
Philippines
Isaria farinosa 2355 2379
PR China
Isaria cateniobliva 6244
Isaria fumosorosea 9602
Republic of Korea
Isaria fumosorosea 5694
Ukraine
Isaria farinosa 9516
USA, Texas
Isaria javanica 7119

Coleoptera: Buprestidae

Agrilus planipennis
USA, Michigan
Isaria farinosa 9944 9945
Isaria fumosorosea 8142

Coleoptera: Carabidae

Agonum dorsale
Denmark
Isaria farinosa 4029 4044
Bembidion lampros
Denmark
Isaria farinosa 4043

Hapalus sp.
Denmark
Isaria farinosa 4045

Coleoptera: Cerambycidae

France
Isaria farinosa 5073 5074 5075 5080
Republic of Korea
Isaria farinosa 7276
Anoplophora glabripennis
USA, New York
Isaria farinosa 8411

Coleoptera: Chrysomelidae

Australia
Isaria fumosorosea 8840
Kazakhstan
Isaria farinosa 6491
Agelastica alni
Republic of Georgia
Evlachovaea kintrischica 7218 8058
Cerotoma sp.
Brazil, Rio de Janeiro
Purpureocillium lilacinum 1951
Pyrhalta luteola
France
Isaria farinosa 1507 1508
Isaria fumosorosea 1506
Spaethiella sp.
Brazil, Amazonas
Isaria fumosorosea 2956

Coleoptera: Coccinellidae

Turkey
Isaria farinosa 5754 5834
Coccinella septempunctata
Ukraine
Isaria fumosorosea 9521

Coleoptera: Curculionidae

PR China
Isaria cateniannulata 6241
USA, Vermont
Paecilomyces sp. 5184 5193
Brachyderes incanus
PR China
Isaria cateniannulata 6243
Diaprepes abbreviata
USA, Florida
Purpureocillium lilacinum 410
Litodactylus leucogaster
USA, Florida
Isaria javanica 322
Otiorynchus sulcatus
USA, Oregon
Isaria farinosa 2431 2937
Premnotrypes vorax
Colombia
Isaria farinosa 799
Sitona lineatus
Denmark
Isaria farinosa 4039

Coleoptera: Elateridae

Belarus
Purpureocillium lilacinum 9524
Agriotes sp.
Germany
Evlachovaea sp. 7403

Coleoptera: Lagriidae

Lagria vilosa
Brazil
Isaria amoenerosea 4097
Brazil, Alagoas
Isaria farinosa 1957
Brazil, Goiás
Isaria amoenerosea 741 744 2220
2958 2959 2960
Isaria fumosorosea 722 2216 2217
2219 2221
Purpureocillium lilacinum 723 2952

Coleoptera: Lampyridae

Russian Federation
Isaria coleopterorum 9509

Coleoptera: Meloidae

Republic of Korea
Isaria amoenerosea 4849

Coleoptera: Scarabaeidae

Kazakhstan
Isaria farinosa 6488 6489
Syria
Purpureocillium lilacinum 6110
Cylcocephala signaticolis
Argentina
Isaria farinosa 2973
Heptophylla picea
Japan
Paecilomyces canadensis 984
Phyllophaga menetriesi
Colombia
Evlachovaea sp. 7551
Popillia japonica
Portugal
Isaria fumosorosea 2679
USA, New York
Purpureocillium lilacinum 9371
Rhopaea magnicornis
Australia
Isaria fumosorosea 8892

Coleoptera: Scolytidae

Dendroctonus micans
Turkey
Isaria farinosa 9269 9270 9275 9276
9277 9278
Dendroctonus rufipennis
Canada, British Columbia
Evlachovaea sp. 1017
Hypothenemus hampei
Benin
Purpureocillium lilacinum 5876
5877 5880 5882 6188 6190
Ivory Coast
Isaria fumosorosea 6730
Mexico
Isaria fumosorosea 7284

Coleoptera: Silphidae
Russian Federation
Isaria farinosa 9511

Coleoptera: Staphylinidae
Staphylinus olens
Denmark
Isaria farinosa 4040

Coleoptera: Tenebrionidae
Republic of Korea
Isaria farinosa 5699
Alphitobius diaperinus
Isaria fumosorosea 5844 5845 5846
5847
Denmark
Isaria farinosa 5858
Tenebrio molitor
Finland
Isaria fumosorosea 5627
Republic of China
Isaria farinosa 8917
Purpureocillium lilacinum 8918
8919 8920 8921 8922

Dermaptera
Russian Federation
Evlachovaea sp. 7602

Dictyoptera: Blattellidae
Blattella germanica
Denmark
Isaria fumosorosea 5855

Diptera
France
Isaria fumosorosea 887
Indonesia, Yogyakarta, Java
Paecilomyces sp. 2350 2378
USA, New York
Isaria farinosa 10165
USA, Vermont
Isaria farinosa 10156 10160

Diptera: ?Stratiomyidae
Indonesia, Jawa Barat, Java
Isaria fumosorosea 2425

Diptera: Bibionidae
Plecia sp.
USA, Mississippi
Evlachovaea sp. 7372

Diptera: Calliphoridae
Calliphora sp.
France
Isaria fumosorosea 1646

Diptera: Cecidomyiidae
Resseliella odai
Japan
Isaria andoi 1684
Isaria flavovirescens 1686

Diptera: Culicidae
Aedes albifasciatus
Argentina
Isaria farinosa 2971
Aedes sierrensis
USA, California
Isaria farinosa 1939

Diptera: Drosophilidae
USA, Arizona
Paecilomyces sp. 3768

Diptera: Muscidae
Musca autumnalis
France
Isaria fumosorosea 1626
Musca domestica
Denmark
Isaria fumosorosea 5860
France
Isaria fumosorosea 1644 1645 1867
1868

Diptera: Stratiomyidae
Chiromyza sp.
Brazil, Minas Gerais
Evlachovaea sp. 6146

Diptera: Tachinidae
Poland
Isaria farinosa 1348 1349

Diptera: Tipulidae
Ukraine
Isaria sp. 9508
USA, Vermont
Isaria coleopterorum 10163

Diptera: Xylophagidae
Russian Federation
Isaria farinosa 9512

Hemiptera: Lygaeidae
Kazakhstan
Isaria farinosa 6496

Hemiptera: Miridae
South Africa
Isaria farinosa 6607
Adelphocoris sp.
Italy
Isaria fumosorosea 1530 1532

Hemiptera: Pentatomidae
Costa Rica
Isaria fumosorosea 3429
Malaysia
Purpureocillium lilacinum 531
USA, Puerto Rico
Paecilomyces sp. 7075
Aelia sp.
Kazakhstan
Isaria farinosa 6493 6497
Uzbekistan
Isaria farinosa 6097 6098
Edessa meditabunda
West Indies
Purpureocillium lilacinum 10225
Nezara viridula
Brazil, São Paulo
Paecilomyces sp. 3101
Scotinophara coarctata
Malaysia
Purpureocillium lilacinum 763
1552
Tibraca limbativentres
Brazil, Goiás
Purpureocillium lilacinum 2215

Hemiptera: Reduviidae
Triatoma infestans
Argentina
Purpureocillium lilacinum 7478

Hemiptera: Scutelleridae
Eurygaster sp.
Iran
Isaria sp. 10363 10364 10365 10366
10367 10368 10369 10370 10371
10372 10373 10374 10375 10376
10377 10379 10380 10381 10382
10383 10384 10385

Kazakhstan
Isaria farinosa 6481 6490 6495
Purpureocillium lilacinum 6494
6502

Republic of Kazakhstan
Isaria sp. 10378
Russian Federation
Isaria farinosa 6012 6017 6020 6044
Purpureocillium lilacinum 6018
6021 6024 6026

Syria
Purpureocillium lilacinum 6080
6114 6116

Turkey
Isaria farinosa 5675 5676 5679

Uzbekistan
Purpureocillium lilacinum 6081
6082 6084 6094 6117
Eurygaster integriceps
Iran
Isaria farinosa 6288

Hemiptera: Tingidae
Leptopharsa heveae
Brazil, Amazonas
Evlachovaea sp. 6638
Brazil, Distrito Federal
Evlachovaea sp. 6641
Brazil, Mato Grosso
Evlachovaea sp. 6635 6639 6640

Homoptera
Mexico
Purpureocillium lilacinum 9604

Homoptera: Adelgidae
Adelges tsugae
PR China
Isaria farinosa 6028 6029 6030 6031
6032 6033 6034 6036 6037 6038
6048 6049
USA, Connecticut
Isaria farinosa 5826 5827
USA, Massachusetts
Isaria farinosa 5178 5774 5775 5776
5784 5788 5790 5792 5797 5799
5800 5801 5802 5830
Paecilomyces sp. 5179 5180
USA, Virginia
Isaria farinosa 5760 5761

Fungus by Host and Location

Homoptera: Aleyrodidae Hymenoptera: Aphelinidae

Homoptera: Aleyrodidae		
<i>Aleurocanthus woglumi</i>		
USA, Florida		
<i>Isaria farinosa</i> 2954		
<i>Bemisia</i> sp.		
Hong Kong		
<i>Isaria fumosorosea</i> 6797 6798		
Mexico		
<i>Isaria fumosorosea</i> 3313 3800		
<i>Isaria javanica</i> 3303		
<i>Bemisia argentifolii</i>		
Brazil, Paraná		
<i>Isaria fumosorosea</i> 5154 5155 5156		
5157 5158 5159		
<i>Paecilomyces</i> sp. 5160		
USA, Texas		
<i>Isaria fumosorosea</i> 5462 5463 5464		
<i>Isaria poprawskii</i> 7028		
<i>Bemisia tabaci</i>		
Brazil, São Paulo		
<i>Isaria fumosorosea</i> 6434 6435		
India		
<i>Isaria fumosorosea</i> 3699 3700 3843		
4490 4491 4492 4493 4494 4495		
4496 4497		
<i>Paecilomyces</i> sp. 3873		
Location not specified		
<i>Isaria fumosorosea</i> 3408 5299 5300		
5301 5302 5303 5304 5305 5329		
Nepal		
<i>Isaria fumosorosea</i> 4482 4483 4484		
4485 4486 5297		
<i>Paecilomyces</i> sp. 3870 3871 3872		
Pakistan		
<i>Isaria farinosa</i> 5081 5082 5083 5084		
<i>Isaria fumosorosea</i> 3848 3851 3878		
4498 4499 4500 4501 4502 4503		
5085 5086 5087 5088 5089 5090		
5107 5113 5115 5116 5117 5118		
5119 5121 5122 5272 5298 5475		
5476		
<i>Paecilomyces</i> sp. 3874 3875 3877		
5091 5092 5093 5094 5095 5096		
5097 5098 5099 5100 5101 5102		
5103 5104 5105 5106 5108 5109		
5110 5111 5112 5114		
Taiwan		
<i>Paecilomyces</i> sp. 4985 4986 4987		
4988 4989		
United Kingdom		
<i>Isaria fumosorosea</i> 6562		
USA, Arizona		
<i>Isaria fumosorosea</i> 5327 5328		
USA, California		
<i>Isaria farinosa</i> 3658 3659 3661		
<i>Isaria fumosorosea</i> 3660 3662 3663		
USA, Florida		
<i>Isaria fumosorosea</i> 3076 3083 3322		
USA, Hawaii		
<i>Isaria fumosorosea</i> 3889		
USA, Texas		
<i>Isaria farinosa</i> 3572 3574 3575 3576		
3578 3579 3580 3582 3583 3584		
3585 3586 3587 3588 3589 3591		
3592 3593 5306		
<i>Isaria fumosorosea</i> 3581 3590 3594		
5260 5261 5262 5263 5264 5265		
5266 5267 5268 5269 5270 5271		
5307 5308 5309 5310 5311 5312		
5313 5314 5315 5316 5317 5318		
5319 5320 5322 5323 5324 5325		
5326 5330 5331		
<i>Isaria javanica</i> 3573 3577 3776 3778		
5259 5321		
<i>Paecilomyces</i> sp. 3772 3774 3775		
3777 3780 3781 3782 3783 3784		
3785 3786 3787 3788		
<i>Singhiella simplex</i>		
USA, Florida		
<i>Purpureocillium lilacinum</i> 9610		
<i>Trialeurodes vaporariorum</i>		
<i>Isaria fumosorosea</i> 8716		
Argentina		
<i>Isaria fumosorosea</i> 6916 7051 7204		
7205 8717 8718 8719 8720 8721		
8723 8724 8725 8726 8727 8728		
8729 8730 8928		
<i>Isaria javanica</i> 7477		
India		
<i>Purpureocillium lilacinum</i> 3846		
Malaysia		
<i>Isaria farinosa</i> 4405 4412		
<i>Isaria fumosorosea</i> 4205 4401 4404		
4406 4407 4408 4409 4410 4411		
4413 4414 4415		
USA, Florida		
<i>Isaria fumosorosea</i> 2658		
Homoptera: Aphididae		
Colombia		
<i>Isaria fumosorosea</i> 6789		
Malaysia		
<i>Isaria fumosorosea</i> 4400		
USA, Florida		
<i>Isaria fumosorosea</i> 3682		
<i>Diuraphis noxia</i>		
France		
<i>Isaria fumosorosea</i> 4383		
Laboratory manipulation		
<i>Isaria fumosorosea</i> 3824 4459 4460		
4461		
Lesotho		
<i>Isaria farinosa</i> 6609		
South Africa		
<i>Isaria farinosa</i> 6222 6983		
<i>Purpureocillium lilacinum</i> 6985		
USA, New York		
<i>Isaria fumosorosea</i> 4698 4699 4700		
4701 4702 4703 4704 4705 4706		
4707 4708 4709 4710 4711		
<i>Myzus persicae</i>		
Location not specified		
<i>Isaria fumosorosea</i> 3458		
Homoptera: Cercopidae		
<i>Deois flavopicta</i>		
Brazil, Distrito Federal		
<i>Purpureocillium lilacinum</i> 3481		
Brazil, Goiás		
<i>Purpureocillium lilacinum</i> 2078		
<i>Zulia carbonaria</i>		
Colombia		
<i>Paecilomyces crustaceus</i> (?) 6462		
6467		
<i>Paecilomyces lilacinus</i> (?) 6458		
<i>Zulia pubescens</i>		
Colombia		
<i>Purpureocillium lilacinum</i> 6340		
Homoptera: Cicadellidae		
Russian Federation		
<i>Purpureocillium lilacinum</i> 9523		
<i>Recilia dorsalis</i>		
PR China		
<i>Paecilomyces</i> sp. 680		
Homoptera: Cicadidae		
PR China		
<i>Purpureocillium lilacinum</i> 6247		
<i>Mogannia hebes</i>		
Republic of China		
<i>Isaria sinclairii</i> 6925		
Homoptera: Coccidae		
Ukraine		
<i>Isaria farinosa</i> 9513		
Homoptera: Delphacidae		
<i>Nilaparvata lugens</i>		
Indonesia, Jawa Barat, Java		
<i>Isaria fumosorosea</i> 2429		
Philippines		
<i>Isaria farinosa</i> 2375		
<i>Isaria fumosorosea</i> 2198		
Homoptera: Pseudococcidae		
<i>Phenacoccus solani</i>		
USA, Florida		
<i>Isaria fumosorosea</i> 2247		
Homoptera: Psyllidae		
Russian Federation		
<i>Isaria</i> sp. 9517		
<i>Diaphorina citri</i>		
USA, Florida		
<i>Paecilomyces</i> sp. 8316		
<i>Heteropsylla incisa</i>		
Philippines		
<i>Isaria fumosorosea</i> 2175		
Homoptera: spf. Fulgoroidea		
Argentina		
<i>Isaria fumosorosea</i> 7050		
Hymenoptera		
Canada, British Columbia		
<i>Paecilomyces</i> sp. 8007 8008		
Republic of Korea		
<i>Isaria farinosa</i> 7249 7262		
Hymenoptera: Aphelinidae		
<i>Eretmocerus californicus</i>		
USA, Texas		
<i>Isaria fumosorosea</i> 5253 5254 5255		
5256 5257 5258		

Hymenoptera: Formicidae

Russian Federation
Isaria farinosa 9510
Anoplolepis longipes
Papua New Guinea
Purpureocillium lilacinum 2155
Pogonomyrmex occidentalis
USA, Colorado
Evlachovaea sp. 7543
Purpureocillium lilacinum 7545
7546 7547 7548 7549

Hymenoptera: Formicoidea

Belarus
Isaria farinosa 9514

Hymenoptera: Pamphiliidae

Acantholyda erythrocephala
USA, New York
Isaria farinosa 5548

Hymenoptera: Sphecidae

Mexico
Evlachovaea sp. 2545

Hymenoptera: Tenthredinidae

Monophadnus elongatulus
Italy
Evlachovaea sp. 1576
Pristiphora erichsonii
Canada, British Columbia
Isaria farinosa 1851

Hymenoptera: Tenthredinoidea

USA, Florida
Paecilomyces sp. 6883

Isoptera: Termitidae

Nasutitermes acajutlae
USA, Virgin Islands
Paecilomyces sp. 7800 7801 7803
Nasutitermes corniger
Panama
Purpureocillium lilacinum 8456

Lepidoptera

Canada, British Columbia
Paecilomyces sp. 7995 8001
Denmark
Isaria farinosa 7118
Mexico
Isaria farinosa 2822
PR China
Isaria cateniannulata 6240 9601
Isaria farinosa 6245
Isaria tenuipes 6249
Russian Federation
Evlachovaea sp. 7600 7601
Isaria farinosa 7714
Isaria fumosorosea 9520
Isaria tenuipes 9531 9532
Ukraine
Evlachovaea sp. 7599
Isaria tenuipes 9534
USA, New York
Isaria farinosa 3152 4090
Isaria tenuipes 5134 5135
USA, Oregon
Isaria farinosa 5996

USA, Texas
Isaria fumosorosea 5251 5252

Lepidoptera: Arctiidae

Hyphantria cunea
Italy
Isaria fumosorosea 1568 1569 1577
1578 1579
Republic of Georgia
Isaria fumosorosea 10224
Pyrrharctia isabella
USA, New York
Isaria farinosa 3017

Lepidoptera: Bombycidae

Bombyx mori
Japan
Isaria fumosorosea 989 1005
Purpureocillium lilacinum 986
PR China
Isaria fumosorosea 720
Isaria javanica 704

Lepidoptera: Brassolidae

Brassolis sp.
Colombia
Evlachovaea sp. 2297
Brassolis sophorea
Brazil, Pará
Evlachovaea sp. 2613
Brazil, Sergipe
Evlachovaea sp. 2620

Lepidoptera: Cossidae

Prionoxystus robiniae
USA, Kentucky
Isaria farinosa 2269

Lepidoptera: Gelechiidae

Sitotroga cerealella
South Africa
Evlachovaea sp. 5703

Lepidoptera: Geometridae

Alosophila pometaria
Canada, Alberta
Isaria farinosa 5368
Lambdina athasaria
USA, Vermont
Isaria farinosa 3537 3538

Lepidoptera: Hepialidae

PR China
Paecilomyces sinensis 6284 6285

Lepidoptera: Lasiocampidae

Russian Federation
Isaria farinosa 9515
Gastropacha orientalis
Japan
Paecilomyces canadensis 990
Malacosoma americanum
USA, Massachusetts
Isaria farinosa 3

Lepidoptera: Limacodidae

Natada michonta
Brazil, Pará
Paecilomyces sp. 2616 2617 2618

Lepidoptera: Lymantriidae

Leucoma salicis
Location not specified
Isaria farinosa 38
Lymantria dispar
France
Isaria fumosorosea 6206
USA, Maryland
Isaria farinosa 2131 2835 3492 3498
3507 3524 3526 3666
USA, New York
Isaria farinosa 648 697 2564 3595
3596 3597 3598 3599
USA, Oregon
Isaria farinosa 2057
USA, Pennsylvania
Isaria farinosa 20 3221 3491 3499
3500 3506 3523
USA, Virginia
Isaria farinosa 3490 3493 3494 3496
3497 3501 3502 3503 3504 3505
3508 3664 3665
USA, West Virginia
Isaria farinosa 3495 3517 3518 3519
3520 3521 3522 3525 3533
Lymantria dissoluta
PR China
Isaria cateniannulata 6242

Lepidoptera: Noctuidae

Brazil
Isaria tenuipes 4096
Brazil, Mato Grosso
Isaria tenuipes 3939
Brazil, Paraná
Isaria tenuipes 3938
Agrotis segetum
Denmark
Isaria farinosa 4010
Lycophotia sp.
France
Isaria fumosorosea 3987
Mamestra brassicae
France
Isaria fumosorosea 3986 3989
Isaria javanica 3981
Mocis latipes
Mexico
Isaria tenuipes 6889
Rivula atimeta
Philippines
Isaria farinosa 2344
Scotia ipsilon
France
Isaria fumosorosea 3985
Scotia segetum
France
Isaria fumosorosea 3984
Sesamia inferens
Japan
Paecilomyces sp. 1008
Spodoptera sp.
Location not specified
Isaria farinosa 2546
Philippines
Isaria fumosorosea 2734

Fungus by Host and Location

Lepidoptera: Noctuidae
Tylenchida: Heteroderidae

Spodoptera frugiperda
Brazil, Paraná
Evlachovaea sp. 959
Mexico
Isaria tenuipes 2488 2489 2490 2491

Lepidoptera: Notodontidae

Quadicalcarifera punctatella
Japan
Isaria farinosa 1042

Lepidoptera: Nymphalidae

United Kingdom
Isaria farinosa 981
Agraulis vanillae
Colombia
Isaria tenuipes 6788
Chlosyne lacinia saundersii
Brazil, Paraná
Isaria farinosa 1065
Purpureocillium lilacinum 1058
Opsiphanes cassinae
Colombia
Purpureocillium lilacinum 5805

Lepidoptera: Oecophoridae

Anteotricha sp.
Brazil, Pará
Evlachovaea sp. 2614 2615

Lepidoptera: Pieridae

Pieris brassicae
France
Isaria fumosorosea 3982

Lepidoptera: Plutellidae

Plutella xylostella
Australia
Isaria fumosorosea 6799 6800
Benin
Purpureocillium lilacinum 6183
6197
Philippines
Isaria fumosorosea 2749
Romania
Isaria fumosorosea 5874

Lepidoptera: Pyralidae

Chilo suppressalis
France
Isaria fumosorosea 3988
Diaphania hyalinata
Mexico
Isaria fumosorosea 3302
Galleria mellonella
Isaria fumosorosea 6893
Nicaragua
Purpureocillium lilacinum 8311
8312
Norway
Isaria farinosa 7574 7575 7576
Switzerland
Isaria farinosa 7531
Turkey
Evlachovaea sp. 8439 8441 8442
8449
Isaria fumosorosea 8333 8337 8345
8348 8448

USA, Alaska
Isaria farinosa 7961 7962
USA, Maine
Isaria fumosorosea 9380
USA, North Carolina
Isaria farinosa 8770
Ostrinia nubilalis
France
Isaria farinosa 3983

Lepidoptera: Sesiidae

Conopia myopaeformis
Italy
Isaria farinosa 1108

Lepidoptera: Tortricidae

Cydia pomonella
Bulgaria
Isaria farinosa 6207
Isaria fumosorosea 6192
France
Isaria farinosa 5883 5884 5885 6200
6202
Isaria fumosorosea 6203 6204
Paecilomyces sp. 6193 6198
United Kingdom
Isaria farinosa 975
Epiphyas postvittana
New Zealand
Paecilomyces sp. 309
Laspeyresia medicaginis
France
Isaria farinosa 1225
Lobesia botrana
Italy
Isaria farinosa 1111

Orthoptera: Acridoidea

PR China
Isaria cateniobliqua 6283

Orthoptera: Gryllidae

Indonesia, Sulawesi Selatan, Celebes
Isaria guaensis 2152

Orthoptera: Tettigoniidae

Indonesia, Sumatera Utara
Paecilomyces reniformis 577
Philippines
Paecilomyces reniformis 429 484
USA, Hawaii
Paecilomyces reniformis 7040 7041

Thysanoptera: Thripidae

USA, Vermont
Paecilomyces marquandii 9928
9929
Taeniothrips inconsequens
USA, New York
Isaria sp. 10162
USA, Vermont
Isaria farinosa 3564 10155 10157
10158 10159 10161
Isaria sp. 10231 10232 10233

Nemata • Secernentea

Tylenchida: Heteroderidae

Meloidogyne sp.
India
Purpureocillium lilacinum 2233
Peru
Purpureocillium lilacinum 2183
Philippines
Purpureocillium lilacinum 2181
2182 2184 2185 2186

Antarctica*Isaria farinosa* 2975**Argentina**

Buenos Aires

Isaria farinosa 2971 2973 7777*Isaria fumosorosea* 6916 7050 7051

7204 7205 8717 8718 8719 8720 8721

8723 8724 8725 8726 8727 8728 8729

8730 8928

Isaria javanica 7477

Santiago del Estero

Purpureocillium lilacinum 7478**Australia**

New South Wales

Isaria fumosorosea 8892

Queensland

Isaria fumosorosea 6799 6800

Tasmania

Isaria fumosorosea 8840*Paecilomyces* sp. 4742**Belarus***Isaria farinosa* 9514*Isaria* sp. 9519*Purpureocillium lilacinum* 9524**Benin***Purpureocillium lilacinum* 5876 5877

5880 5882 6188 6190

Ouémé

Purpureocillium lilacinum 6183 6197**Brazil***Isaria amoenerosea* 4097*Isaria fumosorosea* 3852 3857*Isaria tenuipes* 4096*Purpureocillium lilacinum* 3854*Paecilomyces marquandii* 3855*Paecilomyces* sp. 3853

Alagoas

Isaria farinosa 1957

Amazonas

Evlachovaea sp. 6638*Isaria fumosorosea* 2956

Distrito Federal

Evlachovaea sp. 6641*Isaria fumosorosea* 3480*Purpureocillium lilacinum* 3481

Goiás

Isaria amoenerosea 741 744 2220 2958

2959 2960

Isaria fumosorosea 722 2216 2217

2219 2221

Purpureocillium lilacinum 723 2078

2215 2952

Mato Grosso

Evlachovaea sp. 6635 6639 6640*Isaria tenuipes* 3939*Purpureocillium lilacinum* 3469

Minas Gerais

Evlachovaea sp. 6146

Pará

Evlachovaea sp. 2613 2614 2615*Paecilomyces* sp. 2616 2617 2618

Paraná

Evlachovaea sp. 959*Isaria farinosa* 1065*Isaria fumosorosea* 5154 5155 5156

5157 5158 5159

Isaria tenuipes 3938*Purpureocillium lilacinum* 1058*Paecilomyces* sp. 5160

Rio de Janeiro

Purpureocillium lilacinum 1951

São Paulo

Isaria fumosorosea 6434 6435*Paecilomyces* sp. 3101

Sergipe

Evlachovaea sp. 2620**Bulgaria***Isaria farinosa* 6207*Isaria fumosorosea* 6192**Canada**

Alberta

Isaria farinosa 5368

British Columbia

Evlachovaea sp. 1017*Isaria cicadae*(?) 7973*Isaria farinosa* 1851 8016 8017 8018

8019 8020 8021

Paecilomyces sp. 7995 7996 7997 7998

7999 8001 8002 8003 8005 8006 8007

8008

Colombia

Caldas

Isaria fumosorosea 6789*Isaria tenuipes* 6788

Caquetá

Purpureocillium lilacinum 6340*Paecilomyces lilacinus*(?) 6325*Paecilomyces* sp. 6339

Cauca

Evlachovaea sp. 7551*Paecilomyces crustaceus*(?) 6462 6467*Paecilomyces lilacinus*(?) 6458

Cesar

Purpureocillium lilacinum 5805

Meta

Evlachovaea sp. 2297

Nariño

Isaria farinosa 799**Costa Rica***Isaria fumosorosea* 3429**Denmark***Isaria farinosa* 4043 4044

Jutland

Isaria farinosa 5858 7118

Zealand

Isaria farinosa 4010 4039 4045*Isaria fumosorosea* 5855 5860 7069

Zeeland

Isaria farinosa 4029 4040**Ecuador***Isaria farinosa* 2556**Finland***Isaria fumosorosea* 5627**France***Isaria fumosorosea* 1644 1645 6206*Paecilomyces* sp. 971

Béarn

Isaria farinosa 3983

de Gourgas

Isaria farinosa 5080

Gard

Isaria farinosa 5883 5884 5885 6200

6202

Isaria fumosorosea 6203 6204*Paecilomyces* sp. 6193 6198

Hérault

Isaria farinosa 5073 5074 5075

Ile de France

Isaria fumosorosea 3982 3984 3985

3986 3988 3989

Isaria javanica 3981

La Valette

Isaria fumosorosea 4383

Morbihan

Isaria fumosorosea 1867 1868

Paris

Isaria fumosorosea 887

Provence

Isaria fumosorosea 3987

Seine-Maritime

Isaria fumosorosea 1626

Vaucluse

Isaria farinosa 1507 1508*Isaria fumosorosea* 1506

Vienne

Isaria farinosa 1225

Yvelines

Isaria fumosorosea 1646**Germany**

Rhein Hessen-Pfalz

Evlachovaea sp. 7403**Hong Kong***Isaria fumosorosea* 6797 6798**Hungary**

Budapest

Isaria fumosorosea 6610**India***Isaria farinosa* 55*Isaria fumosorosea* 3699 3700 3843

4490 4491 4492 4493 4494 4495 4496

4497

Purpureocillium lilacinum 2233 3846*Paecilomyces* sp. 3873**Indonesia**

Jawa Barat, Java

Isaria fumosorosea 2425 2429

Sulawesi Selatan, Celebes

Isaria guaensis 2152

Sumatera Utara

Paecilomyces reniformis 577

Yogyakarta, Java

Paecilomyces sp. 2350 2378

- Iran**
Isaria sp. 10363 10364 10365 10366
10367 10368 10369 10370 10371
10372 10373 10374 10375 10376
10377 10379 10380 10381 10382
10383 10384 10385
Esfahan
Isaria farinosa 6288
- Italy**
Emilia-Romagna
Evlachovaea sp. 1576
Isaria farinosa 1108 1111
Isaria fumosorosea 1568 1569 1577
1578 1579
Umbria
Isaria fumosorosea 1530 1532
- Ivory Coast**
Isaria fumosorosea 6730
- Japan**
Paecilomyces sp. 4452
Iwate Prefecture
Isaria farinosa 1042
Oita Prefecture
Isaria andoi 1684
Isaria flavovirescens 1686
Saitama Prefecture
Isaria fumosorosea 989
Tokyo Prefecture
Isaria fumosorosea 1005
Paecilomyces canadensis 984 990
Purpureocillium lilacinum 986
Paecilomyces sp. 1008
- Kazakhstan**
Isaria farinosa 6481 6488 6489 6490
6491 6493 6495 6496 6497
Purpureocillium lilacinum 6494 6502
- Kyrgyz Republic**
Isaria farinosa 6482
- Laboratory manipulation**
Isaria fumosorosea 3824 4459 4460
4461 5540
- Lesotho**
Isaria farinosa 6609
- Malaysia**
Isaria farinosa 4405 4412
Isaria fumosorosea 4205 4400 4401
4404 4406 4407 4408 4409 4410 4411
4413 4414 4415
Purpureocillium lilacinum 531 1552
Wellesley Province
Purpureocillium lilacinum 763
- Mali**
Purpureocillium lilacinum 3047 3049
- Mexico**
Baja California
Isaria fumosorosea 3302
Chiapas
Isaria fumosorosea 7284
Colima
Isaria fumosorosea 3313 3800
Isaria javanica 3303
Durango
Isaria farinosa 2822
Nuevo Leon
Evlachovaea sp. 2545
Tabasco
Isaria tenuipes 6889
Tamaulipas
Isaria tenuipes 2488 2489 2490 2491
Yucatán
Purpureocillium lilacinum 9604
- Nepal**
Isaria farinosa 7243
Isaria fumosorosea 4482 4483 4484
4485 4486 5297
Paecilomyces sp. 3870 3871 3872
- New Zealand**
Paecilomyces sp. 309
- Nicaragua**
Masaya
Purpureocillium lilacinum 8311 8312
- Norway**
Sogn og Fjordane
Isaria farinosa 7574 7575 7576
- Pakistan**
Isaria farinosa 5081 5082 5083 5084
Isaria fumosorosea 3848 3851 3878
4498 4499 4500 4501 4502 4503 5085
5086 5087 5088 5089 5090 5107 5113
5115 5116 5117 5118 5119 5121 5122
5272 5298 5475 5476
Paecilomyces sp. 3874 3875 3877 5091
5092 5093 5094 5095 5096 5097 5098
5099 5100 5101 5102 5103 5104 5105
5106 5108 5109 5110 5111 5112 5114
- Panama**
Purpureocillium lilacinum 8456
- Papua New Guinea**
Purpureocillium lilacinum 2155
- Peru**
Purpureocillium lilacinum 2183
- Philippines**
Benguet
Isaria farinosa 2724 2726 3191
Isaria fumosorosea 2733 2734 2744
2745 2749 3179 3188
Leyte
Isaria fumosorosea 2175
Purpureocillium lilacinum 2181 2182
2185 2186
Manila
Isaria farinosa 2344 2355 2375 2376
2379
Isaria fumosorosea 2198
- Purpureocillium lilacinum* 2184
Paecilomyces reniformis 429 484
Paecilomyces sp. 2354
Pangasinan
Isaria amoenerosea 3192
Isaria fumosorosea 2804
Quezon
Isaria farinosa 2807 3183 3184 3185
3186
Isaria fumosorosea 3177
- Poland**
Isaria farinosa 475 476 1348 1349
1354 1355 1358
Isaria fumosorosea 240
- Portugal**
Azores
Isaria fumosorosea 2679
- PR China**
Paecilomyces sinensis 6284 6285
Anhui
Isaria cateniannulata 6240 6241 6242
6243
Isaria cateniobliqua 6244 6283
Isaria farinosa 6246
Isaria tenuipes 6249
Purpureocillium lilacinum 6247
Guizhou Province
Isaria cateniannulata 9601
Isaria fumosorosea 9602
Jiangsu
Paecilomyces sp. 680
Kiangsu
Paecilomyces sp. 385
Sichuan Province
Isaria farinosa 6028 6029 6030 6031
6032 6033 6034 6036 6037 6038 6048
6049
Yunnan
Isaria farinosa 6245
Zhijiang
Isaria fumosorosea 720
Isaria javanica 704
- Republic of China**
Taiwan
Isaria farinosa 8917
Isaria sinclairii 6925
Purpureocillium lilacinum 8918 8919
8920 8921 8922
- Republic of Georgia**
Isaria fumosorosea 10224
Autonomous Republic of Adjara
Evlachovaea kintrischica 7218 8058
- Republic of Kazakhstan**
Isaria sp. 10378
- Republic of Korea**
Gyeonggi Province
Isaria farinosa 5699 7249
Kangwon-do
Isaria amoenerosea 4849
Isaria farinosa 7245 7262 7263 7276
Isaria fumosorosea 5694
Isaria tenuipes 5700

Geographical Origin

Romania

Isaria fumosorosea 5874

Russian Federation

Purpureocillium lilacinum 6018

Astrakhan Oblast

Evlachovaea sp. 7602

Karachayevo-Cherkessiya Republ

Isaria farinosa 9511*Isaria tenuipes* 9533

Krasnodarsky Krai

Isaria farinosa 9512*Isaria fumosorosea* 9520*Isaria tenuipes* 9531 9532*Purpureocillium lilacinum* 9526 9528*Paecilomyces marquandii* 9527

Moscow Region

Isaria coleopterorum 9509*Isaria farinosa* 9515

Primorsky Krai

Isaria farinosa 7714 7715*Isaria* sp. 9517 9518*Purpureocillium lilacinum* 9522*Paecilomyces marquandii* 9530

Rostov

Isaria farinosa 6012 6017 6020 6044*Purpureocillium lilacinum* 6021 6024 6026

Sakhalin Region

Evlachovaea sp. 7600 7601*Isaria farinosa* 9510*Purpureocillium lilacinum* 9523

Tver Region

Paecilomyces marquandii 9529

South Africa

Cape Province

Isaria farinosa 6607 6611

Orange Free State

Evlachovaea sp. 5703*Isaria farinosa* 6222 6983*Purpureocillium lilacinum* 6985

Switzerland

Bern

Isaria farinosa 7531

Syria

Purpureocillium lilacinum 6080 6110

6114 6116

Taiwan

Paecilomyces sp. 4985 4986 4987 4988

4989

Turkey

Artvin

Isaria fumosorosea 8348

Gaziantep

Isaria farinosa 5675 5754 5834

Giresun

Evlachovaea sp. 8439*Isaria fumosorosea* 8345

Kahraman Maras

Isaria farinosa 5676 5679

Ordu

Evlachovaea sp. 8441 8442 8449

Rize

Isaria fumosorosea 8337 8448

Trabzon

Isaria farinosa 9269 9270 9275 9276 9277 9278*Isaria fumosorosea* 8333

Ukraine

Isaria farinosa 9513*Isaria tenuipes* 9534

Kherson Oblast

Evlachovaea sp. 7599*Isaria farinosa* 9516*Isaria fumosorosea* 9521*Isaria* sp. 9508*Purpureocillium lilacinum* 9525

United Kingdom

Isaria fumosorosea 6562

England

Isaria farinosa 975 981

USA

Alaska

Isaria farinosa 7961 7962

Arizona

Isaria fumosorosea 5327 5328*Paecilomyces* sp. 3768

California

Evlachovaea sp. 9164 9165 9166 9167

9168 9169 9170 9171 9172 9173 9174

9185 9186 9187 9188 9189 9190 9191

9192 9237

Isaria farinosa 1939 3658 3659 3661*Isaria fumosorosea* 3660 3662 3663

4480 4481 4489

Purpureocillium lilacinum 9238 9239

9240 10128 10129 10130

Colorado

Evlachovaea sp. 7543*Purpureocillium lilacinum* 7545 7546

7547 7548 7549

Connecticut

Isaria farinosa 5826 5827

Florida

Isaria farinosa 2954*Isaria fumosorosea* 2247 2658 3076

3083 3322 3682 4479 7347

Isaria javanica 322*Purpureocillium lilacinum* 410 9610*Paecilomyces* sp. 6883 8316

Hawaii

Isaria farinosa 7094*Isaria fumosorosea* 3889*Paecilomyces reniformis* 7040 7041

Kentucky

Isaria farinosa 2269

Maine

Isaria fumosorosea 9380

Maryland

Isaria farinosa 2131 2835 3492 3498

3507 3524 3526 3666

Massachusetts

Isaria farinosa 3 5178 5774 5775 5776

5784 5788 5790 5792 5797 5799 5800

5801 5802 5830

Paecilomyces sp. 5179 5180

Michigan

Isaria farinosa 9944 9945*Isaria farinosa*(?) 8806*Isaria fumosorosea* 8142*Purpureocillium lilacinum* 8268 8269

Mississippi

Evlachovaea sp. 7372

New York

Isaria farinosa 648 697 2564 3017

3152 3461 3595 3596 3597 3598 3599

4090 5548 8411 10165

Isaria fumosorosea 4698 4699 4700

4701 4702 4703 4704 4705 4706 4707

4708 4709 4710 4711

Isaria sp. 10162*Isaria tenuipes* 5134 5135*Purpureocillium lilacinum* 9371

North Carolina

Isaria farinosa 8770

Oregon

Isaria farinosa 2057 2431 2937 5996*Paecilomyces* sp. 8004

Pennsylvania

Isaria farinosa 20 3221 3491 3499

3500 3506 3523

Puerto Rico

Paecilomyces sp. 7075 7388

Tennessee

Isaria cateniannulata 8310

Texas

Isaria farinosa 3572 3574 3575 3576

3578 3579 3580 3582 3583 3584 3585

3586 3587 3588 3589 3591 3592 3593

5306

Isaria fumosorosea 3581 3590 3594

4487 4488 5251 5252 5253 5254 5255

5256 5257 5258 5260 5261 5262 5263

5264 5265 5266 5267 5268 5269 5270

5271 5307 5308 5309 5310 5311 5312

5313 5314 5315 5316 5317 5318 5319

5320 5322 5323 5324 5325 5326 5330

5331 5462 5463 5464

Isaria javanica 3573 3577 3776 3778

5259 5321 7119

Isaria poprawskii 7028*Purpureocillium lilacinum* 9356 9357*Paecilomyces* sp. 3772 3774 3775 3777

3780 3781 3782 3783 3784 3785 3786

3787 3788

Vermont

Isaria coleopterorum 10163*Isaria farinosa* 3537 3538 3564 5191

5194 9292 9293 9574 9575 9576 9577

9578 9579 9580 10155 10156 10157

10158 10159 10160 10161

Isaria farinosa(?) 9567 9568 9569

9570 9571 9572 9573 9581

Isaria fumosorosea 9294 9582 9583

9584 9585 9586

Isaria sp. 10231 10232 10233*Paecilomyces marquandii* 9928 9929*Paecilomyces* sp. 3545 5181 5183 5184

5185 5189 5190 5192 5193

Virgin Islands

Paecilomyces sp. 7800 7801 7803

Virginia

Isaria farinosa 3490 3493 3494 3496
3497 3501 3502 3503 3504 3505 3508
3664 3665 5760 5761

Washington

Isaria farinosa 8022

West Virginia

Isaria farinosa 3495 3517 3518 3519
3520 3521 3522 3525 3533 3771

Uzbekistan

Isaria farinosa 6097 6098
Purpureocillium lilacinum 6081 6082
6084 6094 6117

West Indies

Trinidad

Purpureocillium lilacinum 10225

Agudelo-Silva, Fernando

10S87 *Isaria farinosa* 2431

Alves, Sergio Batista

715 *Evlachovaea* sp. 2613
716 *Evlachovaea* sp. 2614
717 *Evlachovaea* sp. 2615
718 *Paecilomyces* sp. 2616
719 *Paecilomyces* sp. 2617
720 *Paecilomyces* sp. 2618
758 *Evlachovaea* sp. 2620
ESALQ 1225 *Evlachovaea* sp. 6635
ESALQ 1228 *Evlachovaea* sp. 6638
ESALQ 1229 *Evlachovaea* sp. 6639
ESALQ 1230 *Evlachovaea* sp. 6640
ESALQ 1235 *Evlachovaea* sp. 6641

Aoki, Joji

Cordy. 1 *Isaria farinosa* 1042
Nom. 1 *Paecilomyces* sp. 1008
Paec. 2 *Isaria fumosorosea* 1005
Paec. 3 *Isaria fumosorosea* 989
Paec. 5 *Purpureocillium lilacinum* 986
Paec. 6 *Paecilomyces canadensis* 984
Paec. 7 *Paecilomyces canadensis* 990

APHIS

WFP-362 *Isaria fumosorosea* 5298
WFP-362 *Isaria fumosorosea* 5272
WFP-363 *Isaria fumosorosea* 5297

ARSEF

2198 *Isaria fumosorosea* 4699
2344 *Isaria farinosa* 2375
2350 *Paecilomyces* sp. 2378
2355 *Isaria farinosa* 2379
2375 (never frozen) *Isaria farinosa* 2344
2377 (never frozen) *Paecilomyces* sp.
2354
2378 *Paecilomyces* sp. 2350
2379 (never frozen) *Isaria farinosa* 2355
2749 *Isaria fumosorosea* 4700
3572 *Isaria fumosorosea* 5329
3572 *Isaria fumosorosea* 5328
3572 *Isaria fumosorosea* 5327
3572 *Isaria fumosorosea* 5319
3572 *Isaria fumosorosea* 5318
3572 *Isaria fumosorosea* 5317
3572 *Isaria fumosorosea* 5316
3699 *Isaria fumosorosea* 4461
3699 *Isaria fumosorosea* 4460
3699 *Isaria fumosorosea* 4459
4460 *Isaria fumosorosea* 4702
4480 *Isaria fumosorosea* 4704
4481 *Isaria fumosorosea* 4705
4489 *Isaria fumosorosea* 4708
4491 *Isaria fumosorosea* 4709
4492 *Isaria fumosorosea* 4710
4493 *Isaria fumosorosea* 4711

ATCC

24318 *Isaria fumosorosea* 3824
24319 *Isaria farinosa* 3
24400 *Isaria sinclairii* 6925

Avery, Pasco B.

1 DAT 10⁻² *Purpureocillium lilacinum*
9610
B2-1 *Purpureocillium lilacinum* 9610

B.A. Mullin

BO-1 *Paecilomyces* sp. 3788

Balazy, Stanislaw

1584c *Isaria farinosa* 1348
1584e *Isaria farinosa* 1349
1594a *Isaria farinosa* 1354
1594b *Isaria farinosa* 1355
1595e *Isaria farinosa* 1358

Bauer, Leah S.

Legg Park 1 *Isaria farinosa* 9944
Legg Park 2 *Isaria farinosa* 9945

Borisov, Boris A.

B.B. 2 *Evlachovaea kintrischica* 8058
B.B. 2 *Evlachovaea kintrischica* 7218

Boucias, Drion G.

3936 *Paecilomyces* sp. 6883

Brownbridge, Michael

B-38 *Paecilomyces* sp. 3545
CA-126 *Purpureocillium lilacinum* 9238
CA-128 *Purpureocillium lilacinum* 9239
CA-131 *Purpureocillium lilacinum* 9240
CA-741 *Evlachovaea* sp. 9164
CA-743 *Evlachovaea* sp. 9170
CA-744 *Evlachovaea* sp. 9171
CA-745 *Evlachovaea* sp. 9185
CA-746 *Evlachovaea* sp. 9186
CA-747 *Evlachovaea* sp. 9189
CA-773 *Evlachovaea* sp. 9165
CA-774 *Evlachovaea* sp. 9168
CA-775 *Evlachovaea* sp. 9172
CA-776 *Evlachovaea* sp. 9173
CA-777 *Evlachovaea* sp. 9174
CA-778 *Evlachovaea* sp. 9237
CA-779 *Evlachovaea* sp. 9187
CA-780 *Evlachovaea* sp. 9190
CA-797 *Evlachovaea* sp. 9166
CA-798 *Evlachovaea* sp. 9167
CA-799 *Evlachovaea* sp. 9169
CA-800 *Evlachovaea* sp. 9188
CA-801 *Evlachovaea* sp. 9191
CA-802 *Evlachovaea* sp. 9192
HL-1.1 *Isaria farinosa* 3537
HL-2.3 *Isaria farinosa* 3538
R-38 *Isaria farinosa* 3564
R-48 *Paecilomyces* sp. 3566

Castrillo, Louela A.

A2s8 *Isaria farinosa*(?) 8806

CBS

111113 *Isaria farinosa* 7118
118466 *Isaria andoi* 1684

CENARGEN

CG 123 *Isaria fumosorosea* 2956
CG 162 *Isaria amoenerosea* 2958
CG 163 *Isaria amoenerosea* 2959
CG 164 *Isaria amoenerosea* 2960
CG 181 *Purpureocillium lilacinum* 3469
CG 301 *Purpureocillium lilacinum* 1951
CG 35 *Isaria fumosorosea* 3480
CG 36 *Purpureocillium lilacinum* 3481

CEP

(S) 004 *Isaria farinosa* 7777
051 *Isaria fumosorosea* 7204
055 *Isaria fumosorosea* 7205
071 *Purpureocillium lilacinum* 7478
107 *Isaria javanica* 7477
302 *Isaria fumosorosea* 8716
303 *Isaria fumosorosea* 8717
304 *Isaria fumosorosea* 8718
305 *Isaria fumosorosea* 8719
306 *Isaria fumosorosea* 8720
307 *Isaria fumosorosea* 8721
308 *Isaria fumosorosea* 8723
309 *Isaria fumosorosea* 8724
310 *Isaria fumosorosea* 8725
311 *Isaria fumosorosea* 8726
312 *Isaria fumosorosea* 8727
313 *Isaria fumosorosea* 8728
314 *Isaria fumosorosea* 8729
315 *Isaria fumosorosea* 8730
316 *Isaria fumosorosea* 8928

Chandler, David

HRI 402.93 *Isaria fumosorosea* 6562

CIAT

043 *Paecilomyces lilacinus*(?) 6458
047 *Paecilomyces crustaceus*(?) 6462
052 *Paecilomyces crustaceus*(?) 6467
301 *Evlachovaea* sp. 7551

CMPPB

150 *Evlachovaea kintrischica* 8058
150 *Evlachovaea kintrischica* 7218

CNPAF

82-1-15-05 *Isaria fumosorosea* 722
82-1-15-06 *Isaria amoenerosea* 741
82-1-6-10 *Purpureocillium lilacinum* 723
82-2-15-05 *Isaria amoenerosea* 744
83-01-06B (CB 15) *Evlachovaea* sp. 959
85-05-02 *Purpureocillium lilacinum* 1951
85-7-22-1 *Isaria farinosa* 1957
86-06-02-2 *Isaria fumosorosea* 2217
86-06-05-1 *Isaria fumosorosea* 2221
86-06-05-1 *Isaria fumosorosea* 2216
86-06-05-2 *Purpureocillium lilacinum*
2215
86-06-05-3 *Isaria fumosorosea* 2219
86-06-05-4 *Isaria amoenerosea* 2220

CNPS

26 *Isaria farinosa* 1065
30B *Purpureocillium lilacinum* 1058

Cole, Blaine J.

C25 *Purpureocillium lilacinum* 7545
C31 *Purpureocillium lilacinum* 7546
C40 *Purpureocillium lilacinum* 7547
C41 *Purpureocillium lilacinum* 7548
C44 *Purpureocillium lilacinum* 7549
C6 *Evlachovaea* sp. 7543

Cortez Madrigal, Hipolito

Pm *Isaria tenuipes* 6889

CP

105 *Evlachovaea* sp. 959
17 *Purpureocillium lilacinum* 723
176 *Purpureocillium lilacinum* 1951
18 *Isaria fumosorosea* 722
182 *Isaria farinosa* 1957
19 *Isaria amoenerosea* 741
196 *Purpureocillium lilacinum* 2078
211 *Purpureocillium lilacinum* 2215
212 *Isaria fumosorosea* 2216
213 *Isaria fumosorosea* 2217
215 *Isaria fumosorosea* 2219
216 *Isaria amoenerosea* 2220
217 *Isaria fumosorosea* 2221
26 *Isaria amoenerosea* 744
273 *Purpureocillium lilacinum* 2952

CSIRO

FI-0935 *Isaria farinosa* 8599
FI-0938 *Purpureocillium lilacinum* 8600
FI-1275 *Isaria fumosorosea* 8840
FI-1296 *Isaria fumosorosea* 8892

DAT

343 *Paecilomyces* sp. 4742

Demirbag, Zihni

KTU-1 *Isaria fumosorosea* 8333
KTU-13 *Isaria fumosorosea* 8345
KTU-16 *Isaria fumosorosea* 8348
KTU-33 *Evlachovaea* sp. 8439
KTU-35 *Evlachovaea* sp. 8441
KTU-36 *Evlachovaea* sp. 8442
KTU-42 *Isaria fumosorosea* 8448
KTU-43 *Evlachovaea* sp. 8449
KTU-5 *Isaria fumosorosea* 8337

Deseö, Katlin V.

101 *Isaria fumosorosea* 1568
104 *Isaria fumosorosea* 1577
107 *Isaria fumosorosea* 1569
108 *Isaria fumosorosea* 1578
110 *Isaria fumosorosea* 1579
27 *Isaria farinosa* 1108
32A *Isaria farinosa* 1111
93 *Evlachovaea* sp. 1576

EcoScience Corporation

32-51 *Isaria farinosa* 2937

ERL

148 *Isaria farinosa* 5776
1592 *Isaria farinosa* 9292
1593 *Isaria farinosa* 9293
1594 *Isaria fumosorosea* 9294
1724 *Isaria farinosa*(?) 9567
1725 *Isaria farinosa*(?) 9568
1726 *Isaria farinosa*(?) 9569
1727 *Isaria farinosa*(?) 9570
1728 *Isaria farinosa*(?) 9571
1729 *Isaria farinosa*(?) 9572
1730 *Isaria farinosa*(?) 9573
1731 *Isaria farinosa* 9574
1732 *Isaria farinosa* 9575
1733 *Isaria farinosa* 9576
1734 *Isaria farinosa* 9577
1735 *Isaria farinosa* 9578
1736 *Isaria farinosa* 9579
1737 *Isaria farinosa* 9580
1738 *Isaria farinosa*(?) 9581
1739 *Isaria fumosorosea* 9582
1740 *Isaria fumosorosea* 9583
1741 *Isaria fumosorosea* 9584
1742 *Isaria fumosorosea* 9585
1743 *Isaria fumosorosea* 9586
1772 *Paecilomyces marquandii* 9928
1773 *Paecilomyces marquandii* 9929
1815 *Isaria farinosa* 10155
1816 *Isaria farinosa* 10156
1817 *Isaria farinosa* 10157
1818 *Isaria farinosa* 10158
1819 *Isaria farinosa* 10159
1820 *Isaria farinosa* 10160
1821 *Isaria farinosa* 10161
1822 *Isaria* sp. 10162
1823 *Isaria coleopterorum* 10163
1825 *Isaria farinosa* 10165
1897 *Isaria* sp. 10231
1898 *Isaria* sp. 10232
1899 *Isaria* sp. 10233
196 *Purpureocillium lilacinum* 8918
213 *Purpureocillium lilacinum* 8919
253 *Isaria farinosa* 8917
267 *Purpureocillium lilacinum* 8920
268 *Purpureocillium lilacinum* 8921
280 *Purpureocillium lilacinum* 8922
390 *Isaria* sp. 10363
391 *Isaria* sp. 10364
392 *Isaria* sp. 10365
393 *Isaria* sp. 10366
394 *Isaria* sp. 10367
395 *Isaria* sp. 10368
396 *Isaria* sp. 10369
397 *Isaria* sp. 10370
398 *Isaria* sp. 10371
399 *Isaria* sp. 10372
400 *Isaria* sp. 10373
401 *Isaria* sp. 10374
402 *Isaria* sp. 10375
403 *Isaria* sp. 10376
404 *Isaria* sp. 10377
527 *Isaria* sp. 10378
540 *Isaria* sp. 10379
548 *Isaria* sp. 10380
549 *Isaria* sp. 10381
554 *Isaria* sp. 10382

556 *Isaria* sp. 10383
561 *Isaria* sp. 10384
571 *Isaria* sp. 10385
588 *Purpureocillium lilacinum* 10127
688 *Purpureocillium lilacinum* 9238
689 *Purpureocillium lilacinum* 10128
757 *Evlachovaea* sp. 9164
759 *Evlachovaea* sp. 9165
760 *Evlachovaea* sp. 9166
761 *Evlachovaea* sp. 9167
762 *Evlachovaea* sp. 9168
763 *Evlachovaea* sp. 9169
764 *Evlachovaea* sp. 9170
765 *Evlachovaea* sp. 9171
766 *Evlachovaea* sp. 9172
767 *Evlachovaea* sp. 9173
768 *Evlachovaea* sp. 9174
769 *Evlachovaea* sp. 9185
770 *Evlachovaea* sp. 9186
771 *Evlachovaea* sp. 9237
772 *Evlachovaea* sp. 9187
773 *Evlachovaea* sp. 9188
774 *Evlachovaea* sp. 9189
776 *Evlachovaea* sp. 9190
777 *Evlachovaea* sp. 9191
778 *Evlachovaea* sp. 9192
818 *Purpureocillium lilacinum* 9239
819 *Purpureocillium lilacinum* 10129
820 *Purpureocillium lilacinum* 10130
821 *Purpureocillium lilacinum* 9240

Farices, Angela

34 *Isaria fumosorosea* 4383

Farrokhi, Shahram

PPDRI 3 *Isaria farinosa* 6288

Forschler, Brian T.

RF-1 *Isaria farinosa* 2269

FPMI

757 *Paecilomyces canadensis* 984
758 *Paecilomyces canadensis* 990
759 *Isaria farinosa* 648
760 *Isaria farinosa* 697
961 *Isaria fumosorosea* 3824

Fuller, Claire A.

#8 V29UP all *Paecilomyces* sp. 7803
#8b HH23P all *Paecilomyces* sp. 7801
?#3 V29UP all *Paecilomyces* sp. 7800

GCRI

112-82 *Isaria farinosa* 975
50-81 *Paecilomyces* sp. 971
52-81 *Isaria farinosa* 981

Goettel, Mark S.

4B-A *Purpureocillium lilacinum* 3047
4B-B *Purpureocillium lilacinum* 3049

Gouli, Svetlana

CA-127 *Purpureocillium lilacinum* 10128
CA-130 *Purpureocillium lilacinum* 10130
GA-100 *Paecilomyces* sp. 5190
GA-101 *Isaria farinosa* 5191
GA-102 *Paecilomyces* sp. 5192
GA-103 *Paecilomyces* sp. 5193
GA-88 *Paecilomyces* sp. 5179
GA-89 *Paecilomyces* sp. 5180
GA-90 *Paecilomyces* sp. 5181
GA-92 *Isaria farinosa* 5194
GA-93 *Paecilomyces* sp. 5183
GA-94 *Paecilomyces* sp. 5184
GA-95 *Paecilomyces* sp. 5185
GA-99 *Paecilomyces* sp. 5189
GP-65 *Isaria farinosa* 5178
Thr-08-P1 *Isaria farinosa* 9292
Thr.-08-P/1 *Isaria farinosa*(?) 9567
Thr.-08-P/11 *Isaria farinosa* 9577
Thr.-08-P/13 *Isaria farinosa* 9579
Thr.-08-P/15 *Isaria farinosa*(?) 9581
Thr.-08-P/17 *Isaria fumosorosea* 9583
Thr.-08-P/19 *Isaria fumosorosea* 9585
Thr.-08-P/3 *Isaria farinosa*(?) 9569
Thr.-08-P/5 *Isaria farinosa*(?) 9571
Thr.-08-P/7 *Isaria farinosa*(?) 9573
Thr.-08-P/9 *Isaria farinosa* 9575
Thr.-09-4 *Paecilomyces marquandii* 9928
Thr.-10-105 *Isaria* sp. 10231
Thr.-10-106 *Isaria* sp. 10232
Thr.-10-107 *Isaria* sp. 10233
Thr.-10-18 *Isaria farinosa* 10156
Thr.-10-20 *Isaria farinosa* 10158
Thr.-10-22 *Isaria farinosa* 10160
Thr.-10-24 *Isaria* sp. 10162

Gouli, Vladimir

CA-129 *Purpureocillium lilacinum* 10129
SPT-R-160 *Isaria farinosa* 6012
SPT-R-172 *Isaria farinosa* 6044
SPT-R-175 *Isaria farinosa* 6017
SPT-R-183 *Purpureocillium lilacinum*
6018
SPT-R-185(b) *Isaria farinosa* 6020
SPT-R-196 *Purpureocillium lilacinum*
6021
SPT-R-206 *Purpureocillium lilacinum*
6024
SPT-R-246 *Purpureocillium lilacinum*
6026
Thr-08-P2 *Isaria farinosa* 9293
Thr.-08-P/10 *Isaria farinosa* 9576
Thr.-08-P/12 *Isaria farinosa* 9578
Thr.-08-P/14 *Isaria farinosa* 9580
Thr.-08-P/16 *Isaria fumosorosea* 9582
Thr.-08-P/18 *Isaria fumosorosea* 9584
Thr.-08-P/2 *Isaria farinosa*(?) 9568
Thr.-08-P/20 *Isaria fumosorosea* 9586
Thr.-08-P/4 *Isaria farinosa*(?) 9570
Thr.-08-P/6 *Isaria farinosa*(?) 9572
Thr.-08-P/8 *Isaria farinosa* 9574
Thr.-09-5 *Paecilomyces marquandii* 9929
Thr.-10-17 *Isaria farinosa* 10155
Thr.-10-19 *Isaria farinosa* 10157
Thr.-10-21 *Isaria farinosa* 10159
Thr.-10-23 *Isaria farinosa* 10161

Thr.-10-25 *Isaria coleopterorum* 10163
Thr.-10-27 *Isaria farinosa* 10165

Gouli, Vladimir & Svetlana

Thr-08-P3 *Isaria fumosorosea* 9294

Gutierrez Samperio, Jorge

18 *Isaria fumosorosea* 3302
19 *Isaria javanica* 3303
29 *Isaria fumosorosea* 3313

Hajek, Ann E.

02 NY 5-6-1 *Isaria farinosa* 8411
1 *Isaria farinosa* 3664
102a *Isaria farinosa* 3520
128b *Isaria farinosa* 3521
140a *Isaria farinosa* 3522
145b *Isaria farinosa* 3523
146 *Isaria farinosa* 3596
149 *Isaria farinosa* 3597
166a *Isaria farinosa* 3524
18b *Isaria farinosa* 3493
1b *Isaria farinosa* 3490
203b *Isaria farinosa* 3525
216b *Isaria farinosa* 3526
21a *Isaria farinosa* 3494
23 *Isaria farinosa* 3665
26a *Isaria farinosa* 3495
27 *Isaria farinosa* 3666
298b *Isaria farinosa* 3533
32c *Isaria farinosa* 3496
35 *Isaria farinosa* 3595
36a *Isaria farinosa* 3497
370 *Isaria farinosa* 3598
37c *Isaria farinosa* 3498
438 *Isaria farinosa* 3599
47b *Isaria farinosa* 3500
49b *Isaria farinosa* 3501
4a *Isaria farinosa* 3491
52b *Isaria farinosa* 3502
53a *Isaria farinosa* 3503
54b *Isaria farinosa* 3504
57b *Isaria farinosa* 3505
62a *Isaria farinosa* 3506
64a *Isaria farinosa* 3507
68c *Isaria farinosa* 3508
91a *Isaria farinosa* 3517
94b *Isaria farinosa* 3518
95a *Isaria farinosa* 3519
9b *Isaria farinosa* 3492
Red b (40) *Isaria farinosa* 3499

Hatting, Justin L.

1 *Evlachovaea* sp. 5703
2 *Isaria fumosorosea* 6610
Lesotho A *Isaria farinosa* 6609
Sample B *Isaria farinosa* 6607

Hodge, Kathie T.

kth12 *Isaria farinosa* 4090
kth32a *Isaria tenuipes* 5134
kth32b *Isaria tenuipes* 5135
PR16 *Paecilomyces* sp. 7075

Holdom, David G.

080287-2 *Isaria fumosorosea* 2425
220287 *Isaria fumosorosea* 2429

Hollingsworth, Robert G.

KNF002-11 *Paecilomyces reniformis*
7041
KNF2002-10 *Paecilomyces reniformis*
7040

Huang, Bo

G-S-2 *Isaria cateniannulata* 8310

INRA

51 *Isaria fumosorosea* 887
fr039 *Isaria fumosorosea* 3984
PF-46 *Isaria farinosa* 1225
Pfr004 *Isaria fumosorosea* 3989
Pfr013 *Isaria fumosorosea* 3987
Pfr024 *Isaria fumosorosea* 3988
Pfr028 *Isaria javanica* 3981
Pfr032 *Isaria fumosorosea* 3985
Pfr035 *Isaria fumosorosea* 3986
Pfr039 *Isaria fumosorosea* 3984
Pfr040 *Isaria farinosa* 3983
Pfr045 *Isaria fumosorosea* 3982

Jaronski, Stefan T.

TX0902 *Purpureocillium lilacinum* 9356
TX0903 *Purpureocillium lilacinum* 9357

Keller, Siegfried

955 *Isaria farinosa* 7531

King, Brian C.

10 *Isaria farinosa* 8018
11 *Isaria farinosa* 8019
16 *Paecilomyces* sp. 7997
18 *Paecilomyces* sp. 7998
2 *Paecilomyces* sp. 7995
22 *Isaria farinosa* 8020
23 *Paecilomyces* sp. 7999
27 *Paecilomyces* sp. 8001
43 *Isaria farinosa* 8021
47 *Isaria farinosa* 8017
48 *Paecilomyces* sp. 8002
51 *Paecilomyces* sp. 8003
53 *Isaria cicadae*(?) 7973
55 *Paecilomyces* sp. 8004
6 *Paecilomyces* sp. 7996
63 *Paecilomyces* sp. 8005
68 *Paecilomyces* sp. 8006
69 *Paecilomyces* sp. 8007
7 *Isaria farinosa* 8016
70 *Paecilomyces* sp. 8008
75 *Isaria farinosa* 8022
Spec 1 *Isaria farinosa* 8252

Klingen, Ingeborg

NCRI 164/02 *Isaria farinosa* 7575
NCRI 170/02 *Isaria farinosa* 7576
NCRI 95/02 *Isaria farinosa* 7574

Krueger, Steve V.

549 *Isaria farinosa* 3461

Lacey, Lawrence A.

4A *Isaria farinosa* 7961
5A *Isaria farinosa* 7962
92111 *Isaria fumosorosea* 4498
92112 *Isaria fumosorosea* 3848
92114 *Paecilomyces* sp. 3874
92115 *Paecilomyces* sp. 3875
92117 *Paecilomyces* sp. 3877
92118 *Isaria fumosorosea* 5298
92118 *Isaria fumosorosea* 4502
92118 *Isaria fumosorosea* 3878
92119 *Isaria fumosorosea* 5272
92123 *Isaria fumosorosea* 3851
92133 *Isaria fumosorosea* 4482
92133 *Paecilomyces* sp. 3870
92134 *Isaria fumosorosea* 4483
92135 *Isaria fumosorosea* 5297
92135 *Isaria fumosorosea* 4484
92135 *Paecilomyces* sp. 3871
92136 *Isaria fumosorosea* 4485
92137 *Paecilomyces* sp. 3872
92138 *Isaria fumosorosea* 4486
92144 *Purpureocillium lilacinum* 3846
93018 *Isaria javanica* 3981
93019 *Isaria fumosorosea* 3982
93020 *Isaria farinosa* 3983
93021 *Isaria fumosorosea* 3984
93021 *Isaria fumosorosea* 3984
93022 *Isaria fumosorosea* 3985
93023 *Isaria fumosorosea* 3986
93024 *Isaria fumosorosea* 3987
93025 *Isaria fumosorosea* 3988
93026 *Isaria fumosorosea* 3989
94006 *Isaria tenuipes* 4096
94007 *Isaria amoenerosea* 4097
94009 *Isaria fumosorosea* 4383
94029 *Isaria fumosorosea* 4404
94036 *Isaria fumosorosea* 4205
94061 *Isaria fumosorosea* 4401
94064 *Isaria farinosa* 4405
94065 *Isaria fumosorosea* 4406
94068 *Isaria fumosorosea* 4407
94069 *Isaria fumosorosea* 4408
94070 *Isaria fumosorosea* 4409
94071 *Isaria fumosorosea* 4410
94072 *Isaria fumosorosea* 4411
94073 *Isaria farinosa* 4412
94075 *Isaria fumosorosea* 4413
94076 *Isaria fumosorosea* 4414
94077 *Isaria fumosorosea* 4415
94097 *Isaria fumosorosea* 4400
94110 *Paecilomyces* sp. 4452
95041 *Paecilomyces* sp. 4985
95042 *Paecilomyces* sp. 4986
95043 *Paecilomyces* sp. 4987
95044 *Paecilomyces* sp. 4988
95045 *Paecilomyces* sp. 4989
95065 *Isaria farinosa* 5073
95066 *Isaria farinosa* 5074
95067 *Isaria farinosa* 5075
95069 *Isaria farinosa* 5080
95070 *Isaria farinosa* 5081
95071 *Isaria fumosorosea* 5122
95072 *Isaria farinosa* 5082
95073 *Isaria farinosa* 5083
95074 *Isaria farinosa* 5084

95075 *Isaria fumosorosea* 5085
95076 *Isaria fumosorosea* 5086
95077 *Isaria fumosorosea* 5087
95078 *Isaria fumosorosea* 5088
95079 *Isaria fumosorosea* 5089
95080 *Isaria fumosorosea* 5090
95081 *Paecilomyces* sp. 5091
95082 *Paecilomyces* sp. 5092
95083 *Paecilomyces* sp. 5093
95084 *Paecilomyces* sp. 5094
95085 *Paecilomyces* sp. 5095
95086 *Paecilomyces* sp. 5096
95087 *Paecilomyces* sp. 5097
95088 *Paecilomyces* sp. 5098
95089 *Paecilomyces* sp. 5099
95090 *Paecilomyces* sp. 5100
95091 *Paecilomyces* sp. 5101
95092 *Paecilomyces* sp. 5102
95093 *Paecilomyces* sp. 5103
95094 *Paecilomyces* sp. 5104
95095 *Paecilomyces* sp. 5105
95096 *Paecilomyces* sp. 5106
95097 *Isaria fumosorosea* 5107
95098 *Paecilomyces* sp. 5108
95099 *Paecilomyces* sp. 5109
95100 *Paecilomyces* sp. 5110
95101 *Paecilomyces* sp. 5111
95102 *Paecilomyces* sp. 5112
95103 *Isaria fumosorosea* 5113
95104 *Paecilomyces* sp. 5114
95105 *Isaria fumosorosea* 5115
95106 *Isaria fumosorosea* 5116
95107 *Isaria fumosorosea* 5117
95108 *Isaria fumosorosea* 5118
95109 *Isaria fumosorosea* 5119
95111 *Isaria fumosorosea* 5121
96009 *Isaria fumosorosea* 4698
992114 *Isaria fumosorosea* 4499
992115 *Isaria fumosorosea* 4500
992117 *Isaria fumosorosea* 4501
992119 *Isaria fumosorosea* 4503
EBCL 92116 *Isaria fumosorosea* 5475
EBCL 92117 *Isaria fumosorosea* 5476
Ma17 *Isaria fumosorosea* 4491
Ma17 *Isaria fumosorosea* 3699
Ma18 *Isaria fumosorosea* 4492
Ma18 *Isaria fumosorosea* 3700
Ma19 *Isaria fumosorosea* 4493
Ma20 *Isaria fumosorosea* 4494
Ma21 *Isaria fumosorosea* 4495
Ma22 *Isaria fumosorosea* 4496
Ma27 *Isaria fumosorosea* 4497
Ma8 *Isaria fumosorosea* 4490
P.fr.3660 *Isaria fumosorosea* 4480
Pfr, PA-97 *Isaria fumosorosea* 4479
Pfr19 *Paecilomyces* sp. 3873
Pfr19 *Isaria fumosorosea* 3843
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Likhovidov, Vladimir

B-102 *Isaria farinosa* 7736
B-104 *Isaria tenuipes* 7735
B-331 *Isaria farinosa* 7739
B-404 *Isaria farinosa* 7734
VLI-1040/1 *Isaria farinosa* 7737
VLI-51 *Isaria farinosa* 7733

Liu, Houping

MF-233 *Isaria fumosorosea* 8142

Liu, Miao

ml190 *Paecilomyces* sp. 7388

Loch, Luiz

CB-75 *Paecilomyces* sp. 3101

López Lastra, Claudia

2 *Isaria fumosorosea* 6916

Luz, Wolf Christian

eco 108 *Evlachovaea* sp. 8479
eco 112 *Purpureocillium lilacinum* 8483
eco 39 *Evlachovaea* sp. 8469
eco 74 *Evlachovaea* sp. 8474
eco 86 *Purpureocillium lilacinum* 8477
IP 126 *Evlachovaea* sp. 8486
IP 141 *Evlachovaea* sp. 8487
IP 142 *Evlachovaea* sp. 8488
IP 148 *Evlachovaea* sp. 8489
IP 154 *Evlachovaea* sp. 8490
IP 218 *Evlachovaea* sp. 8491
IP 67 *Evlachovaea* sp. 8485
T40 *Purpureocillium lilacinum* 8483

Majchrowicz, Irena

1 *Isaria farinosa* 20
61 *Isaria farinosa* 1507
71 *Isaria fumosorosea* 1506
76 *Isaria farinosa* 1508

McManus, Jennifer

DnPfu193Pss1 *Isaria fumosorosea* 4459
DnPfu193Pss2 *Isaria fumosorosea* 4460
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DnPfu28:2749.3Pss#1 *Isaria fumosorosea* 4700
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DnPfu28:4481.3Pss#1 *Isaria fumosorosea* 4705
DnPfu28:4482.3Pss#1 *Isaria fumosorosea* 4706
DnPfu28:96009ss#1.3Pss#1 *Isaria fumosorosea* 4698
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DnPfu29:4492.3P *Isaria fumosorosea* 4710

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- DnPfu29:4493.3P *Isaria fumosorosea* 4711
- Mercadier, Guy**
EBCL 00049 *Isaria fumosorosea* 6797
EBCL 00050 *Isaria fumosorosea* 6798
EBCL 00051 *Isaria fumosorosea* 6799
EBCL 00052 *Isaria fumosorosea* 6800
- Monzòn, Arnulfo**
BE157 *Purpureocillium lilacinum* 8311
BE175 *Purpureocillium lilacinum* 8312
- Morales, Anuar**
#1A *Purpureocillium lilacinum* 9371
- Muthappa, B.N.**
PNG 12710 *Purpureocillium lilacinum* 2155
- Narayanan, K.**
8 *Purpureocillium lilacinum* 2233
- NRRL**
A-27473 *Isaria farinosa* 2057
- Osborne, Lance S.**
PFR-97 *Isaria fumosorosea* 3682
UK-1 *Isaria fumosorosea* 2247
- Ostrowska, Katherine**
51 *Isaria fumosorosea* 3429
- Parker, Bruce L.**
AT 138 *Isaria farinosa* 5760
AT 139 *Isaria farinosa* 5761
AT 157 *Isaria farinosa* 5826
AT 159 *Isaria farinosa* 5827
AT-C-218 *Isaria farinosa* 6028
AT-C-234 *Isaria farinosa* 6029
AT-C-235 *Isaria farinosa* 6030
AT-C-237 *Isaria farinosa* 6031
AT-C-238 *Isaria farinosa* 6032
AT-C-242 *Isaria farinosa* 6033
AT-C-281 *Isaria farinosa* 6034
AT-C-286 *Isaria farinosa* 6036
AT-C-287 *Isaria farinosa* 6037
AT-C-288 *Isaria farinosa* 6038
AT-C-293 *Isaria farinosa* 6048
AT-C-294 *Isaria farinosa* 6049
AVRDC 0058B *Purpureocillium lilacinum* 8918
AVRDC 0286B *Purpureocillium lilacinum* 8919
AVRDC 0482B *Isaria farinosa* 8917
AVRDC 0527B *Purpureocillium lilacinum* 8920
AVRDC 0529B *Purpureocillium lilacinum* 8921
AVRDC 0587B *Purpureocillium lilacinum* 8922
HWA 1 *Isaria farinosa* 5775
HWA 112 *Isaria farinosa* 5784
HWA 134/2 *Isaria farinosa* 5788
HWA 144 *Isaria farinosa* 5790
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SP-475 *Isaria* sp. 10364
SP-486 *Isaria* sp. 10366
SP-501 *Isaria* sp. 10379
SP-509 *Isaria* sp. 10368
SP-515 *Isaria* sp. 10370
SP-516 *Isaria* sp. 10371
SP-518 *Isaria* sp. 10373
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0127B(bis) *Isaria fumosorosea* 1532
0141A *Isaria fumosorosea* 1644
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0172 *Isaria fumosorosea* 1868
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2 *Isaria farinosa* 3572
21 *Isaria fumosorosea* 3590
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0107 *Isaria cateniannulata* 6240
0189 *Isaria cateniobliqua* 6244
0190 *Isaria cateniobliqua* 6283
0200 *Purpureocillium lilacinum* 6247
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101081-6 *Paecilomyces* sp. 680
82180-13b *Purpureocillium lilacinum* 531

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131286-6 *Paecilomyces* sp. 2378
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161285-1 *Isaria fumosorosea* 2198
190386-1 *Isaria guaensis* 2152
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201286-6 *Paecilomyces* sp. 2354
201286-7 *Isaria farinosa* 2379
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F92-6 *Paecilomyces* sp. 3787

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101 *Isaria fumosorosea* 5311
102 *Isaria fumosorosea* 5312
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104 *Isaria fumosorosea* 5314
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11 *Isaria fumosorosea* 5261
118 *Isaria fumosorosea* 5316
119 *Isaria fumosorosea* 5317
12 *Isaria fumosorosea* 5262
120 *Isaria fumosorosea* 5318
121 *Isaria fumosorosea* 5319
124 *Isaria fumosorosea* 5320
125 *Isaria javanica* 5321
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127 *Isaria fumosorosea* 5323
128 *Isaria fumosorosea* 5324
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13 *Isaria fumosorosea* 5263
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131 *Isaria fumosorosea* 5327
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147 *Isaria fumosorosea* 5330
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16 *Isaria fumosorosea* 5266
17 *Isaria fumosorosea* 5267
18 *Isaria fumosorosea* 5268
19 *Isaria fumosorosea* 5269
2 *Isaria fumosorosea* 5252
20 *Isaria fumosorosea* 5270
21 *Isaria fumosorosea* 5271
28 *Isaria fumosorosea* 5299
29 *Isaria fumosorosea* 5300
3 *Isaria fumosorosea* 5253
30 *Isaria fumosorosea* 5301
30 *Isaria fumosorosea* 5272
31 *Isaria fumosorosea* 5302
34 *Isaria fumosorosea* 5304
34 *Isaria fumosorosea* 5297
35 *Isaria fumosorosea* 5305
35 *Isaria fumosorosea* 5298
36 *Isaria fumosorosea* 5299
37 *Isaria fumosorosea* 5300
38 *Isaria fumosorosea* 5301
39 *Isaria fumosorosea* 5302
4 *Isaria fumosorosea* 5254
40 *Isaria fumosorosea* 5303
42 *Isaria fumosorosea* 5304
43 *Isaria fumosorosea* 5305
44 *Isaria farinosa* 5306
45 *Isaria fumosorosea* 5307
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6 *Isaria fumosorosea* 5256
7 *Isaria fumosorosea* 5257
8 *Isaria fumosorosea* 5258
9 *Isaria javanica* 5259
98 *Isaria fumosorosea* 5308
99 *Isaria fumosorosea* 5309

Shimazu, Mitsuaki

48a *Isaria flavovirescens* 1686
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Skinner, Margaret

SP-473 *Isaria* sp. 10363
SP-484 *Isaria* sp. 10365
SP-487 *Isaria* sp. 10367
SP-514 *Isaria* sp. 10369
SP-517 *Isaria* sp. 10372
SP-520 *Isaria* sp. 10374
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SP-555 *Isaria* sp. 10382
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MD109#3 *Isaria farinosa* 2835

Tavares, Joao B.

BRA-000141 *Isaria fumosorosea* 3852
 BRA-000159 *Isaria fumosorosea* 3857
 BRA-000167 *Paecilomyces marquandii* 3855
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CG-186 *Paecilomyces* sp. 3853
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Ral 6 *Isaria farinosa* 8770

Turlington, Lewis

West Borax 1, colony B *Isaria farinosa* 1939

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2994 *Paecilomyces viridis* 2456

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ARSEF3682 *Isaria fumosorosea* 3824

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SF86-82 *Isaria fumosorosea* 5627

Vega, Fernando E.

EBCL 97054 *Isaria fumosorosea* 6730
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R599 *Evlachovaea* sp. 1017
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Wraight, Stephen P.

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 11 *Isaria fumosorosea* 3581
 12 *Isaria farinosa* 3582
 13 *Isaria farinosa* 3583
 14 *Isaria farinosa* 3584
 16 *Isaria farinosa* 3585
 17 *Isaria farinosa* 3586
 18 *Isaria farinosa* 3587
 19 *Isaria farinosa* 3588
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 3572-Bt-10 *Isaria fumosorosea* 5317
 3572-Bt-11 *Isaria fumosorosea* 5318
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 Lacey 92133-Bt1 *Isaria fumosorosea* 5300
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 SPW-17 *Isaria fumosorosea* 5261
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 SPW-19 *Isaria fumosorosea* 5263
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 SPW-30 *Isaria fumosorosea* 5270
 SPW-31 *Isaria fumosorosea* 5271
 SPW-32 *Isaria farinosa* 5306
 SPW-34 *Isaria fumosorosea* 5308

SPW-35 *Isaria fumosorosea* 5309
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SPW-37 *Isaria fumosorosea* 5311
SPW-38 *Isaria fumosorosea* 5312
SPW-39 *Isaria fumosorosea* 5313
SPW-40 *Isaria fumosorosea* 5314
SPW-41 *Isaria fumosorosea* 5315
SPW-5 *Paecilomyces* sp. 3785
SPW-5 *Paecilomyces* sp. 3774
SPW-50 *Isaria fumosorosea* 5320
SPW-51 *Isaria javanica* 5321
SPW-52 *Isaria fumosorosea* 5322
SPW-53 *Isaria fumosorosea* 5323
SPW-54 *Isaria fumosorosea* 5324
SPW-55 *Isaria fumosorosea* 5325
SPW-56 *Isaria fumosorosea* 5326
SPW-6 *Paecilomyces* sp. 3775
SPW-7 *Paecilomyces* sp. 3780
SPW-8 *Paecilomyces* sp. 3781
SPW-9 *Paecilomyces* sp. 3783
SPW-9 *Paecilomyces* sp. 3782

Wraight, Steve

Lacey 92119-Bt1 *Isaria fumosorosea*
5301
Lacey Ma19-Bt1 *Isaria fumosorosea*
5302

Yip, H.

HY26 *Paecilomyces* sp. 4742

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F2-28 *Isaria farinosa* 2954
F2-4 BR *Isaria fumosorosea* 3322

Zhioua, Elyes

T81 *Isaria fumosorosea* 6893

Zimmermann, Gisbert

E 1622/01 *Evlachovaea* sp. 7403

Zou, Xiao

8 *Isaria cateniannulata* 9601
9 *Isaria fumosorosea* 9602

3	<i>Isaria farinosa</i>	1868	<i>Isaria fumosorosea</i>	2937	<i>Isaria farinosa</i>
20	<i>Isaria farinosa</i>	1939	<i>Isaria farinosa</i>	2952	<i>Purpureocillium lilacinum</i>
38	<i>Isaria farinosa</i>	1951	<i>Purpureocillium lilacinum</i>	2954	<i>Isaria farinosa</i>
55	<i>Isaria farinosa</i>	1957	<i>Isaria farinosa</i>	2956	<i>Isaria fumosorosea</i>
240	<i>Isaria fumosorosea</i>	2057	<i>Isaria farinosa</i>	2958	<i>Isaria amoenerosea</i>
294	<i>Isaria farinosa</i>	2078	<i>Purpureocillium lilacinum</i>	2959	<i>Isaria amoenerosea</i>
309	<i>Paecilomyces</i> sp.	2131	<i>Isaria farinosa</i>	2960	<i>Isaria amoenerosea</i>
322	<i>Isaria javanica</i>	2152	<i>Isaria guaensis</i>	2971	<i>Isaria farinosa</i>
385	<i>Paecilomyces</i> sp.	2155	<i>Purpureocillium lilacinum</i>	2973	<i>Isaria farinosa</i>
410	<i>Purpureocillium lilacinum</i>	2175	<i>Isaria fumosorosea</i>	2975	<i>Isaria farinosa</i>
429	<i>Paecilomyces reniformis</i>	2181	<i>Purpureocillium lilacinum</i>	3017	<i>Isaria farinosa</i>
475	<i>Isaria farinosa</i>	2182	<i>Purpureocillium lilacinum</i>	3047	<i>Purpureocillium lilacinum</i>
476	<i>Isaria farinosa</i>	2183	<i>Purpureocillium lilacinum</i>	3049	<i>Purpureocillium lilacinum</i>
484	<i>Paecilomyces reniformis</i>	2184	<i>Purpureocillium lilacinum</i>	3076	<i>Isaria fumosorosea</i>
531	<i>Purpureocillium lilacinum</i>	2185	<i>Purpureocillium lilacinum</i>	3083	<i>Isaria fumosorosea</i>
577	<i>Paecilomyces reniformis</i>	2186	<i>Purpureocillium lilacinum</i>	3101	<i>Paecilomyces</i> sp.
648	<i>Isaria farinosa</i>	2198	<i>Isaria fumosorosea</i>	3152	<i>Isaria farinosa</i>
680	<i>Paecilomyces</i> sp.	2215	<i>Purpureocillium lilacinum</i>	3177	<i>Isaria fumosorosea</i>
697	<i>Isaria farinosa</i>	2216	<i>Isaria fumosorosea</i>	3179	<i>Isaria fumosorosea</i>
704	<i>Isaria javanica</i>	2217	<i>Isaria fumosorosea</i>	3183	<i>Isaria farinosa</i>
720	<i>Isaria fumosorosea</i>	2219	<i>Isaria fumosorosea</i>	3184	<i>Isaria farinosa</i>
722	<i>Isaria fumosorosea</i>	2220	<i>Isaria amoenerosea</i>	3185	<i>Isaria farinosa</i>
723	<i>Purpureocillium lilacinum</i>	2221	<i>Isaria fumosorosea</i>	3186	<i>Isaria farinosa</i>
741	<i>Isaria amoenerosea</i>	2233	<i>Purpureocillium lilacinum</i>	3188	<i>Isaria fumosorosea</i>
744	<i>Isaria amoenerosea</i>	2247	<i>Isaria fumosorosea</i>	3191	<i>Isaria farinosa</i>
763	<i>Purpureocillium lilacinum</i>	2269	<i>Isaria farinosa</i>	3192	<i>Isaria amoenerosea</i>
799	<i>Isaria farinosa</i>	2297	<i>Evlachovaea</i> sp.	3221	<i>Isaria farinosa</i>
887	<i>Isaria fumosorosea</i>	2344	<i>Isaria farinosa</i>	3302	<i>Isaria fumosorosea</i>
959	<i>Evlachovaea</i> sp.	2350	<i>Paecilomyces</i> sp.	3303	<i>Isaria javanica</i>
971	<i>Paecilomyces</i> sp.	2354	<i>Paecilomyces</i> sp.	3313	<i>Isaria fumosorosea</i>
975	<i>Isaria farinosa</i>	2355	<i>Isaria farinosa</i>	3322	<i>Isaria fumosorosea</i>
981	<i>Isaria farinosa</i>	2375	<i>Isaria farinosa</i>	3408	<i>Isaria fumosorosea</i>
984	<i>Paecilomyces canadensis</i>	2376	<i>Isaria farinosa</i>	3429	<i>Isaria fumosorosea</i>
986	<i>Purpureocillium lilacinum</i>	2378	<i>Paecilomyces</i> sp.	3458	<i>Isaria fumosorosea</i>
989	<i>Isaria fumosorosea</i>	2379	<i>Isaria farinosa</i>	3461	<i>Isaria farinosa</i>
990	<i>Paecilomyces canadensis</i>	2425	<i>Isaria fumosorosea</i>	3469	<i>Purpureocillium lilacinum</i>
1005	<i>Isaria fumosorosea</i>	2429	<i>Isaria fumosorosea</i>	3480	<i>Isaria fumosorosea</i>
1008	<i>Paecilomyces</i> sp.	2431	<i>Isaria farinosa</i>	3481	<i>Purpureocillium lilacinum</i>
1017	<i>Evlachovaea</i> sp.	2456	<i>Paecilomyces viridis</i>	3490	<i>Isaria farinosa</i>
1042	<i>Isaria farinosa</i>	2488	<i>Isaria tenuipes</i>	3491	<i>Isaria farinosa</i>
1058	<i>Purpureocillium lilacinum</i>	2489	<i>Isaria tenuipes</i>	3492	<i>Isaria farinosa</i>
1065	<i>Isaria farinosa</i>	2490	<i>Isaria tenuipes</i>	3493	<i>Isaria farinosa</i>
1108	<i>Isaria farinosa</i>	2491	<i>Isaria tenuipes</i>	3494	<i>Isaria farinosa</i>
1111	<i>Isaria farinosa</i>	2545	<i>Evlachovaea</i> sp.	3495	<i>Isaria farinosa</i>
1225	<i>Isaria farinosa</i>	2546	<i>Isaria farinosa</i>	3496	<i>Isaria farinosa</i>
1348	<i>Isaria farinosa</i>	2556	<i>Isaria farinosa</i>	3497	<i>Isaria farinosa</i>
1349	<i>Isaria farinosa</i>	2564	<i>Isaria farinosa</i>	3498	<i>Isaria farinosa</i>
1354	<i>Isaria farinosa</i>	2576	<i>Isaria farinosa</i>	3499	<i>Isaria farinosa</i>
1355	<i>Isaria farinosa</i>	2577	<i>Isaria farinosa</i>	3500	<i>Isaria farinosa</i>
1358	<i>Isaria farinosa</i>	2578	<i>Isaria farinosa</i>	3501	<i>Isaria farinosa</i>
1506	<i>Isaria fumosorosea</i>	2613	<i>Evlachovaea</i> sp.	3502	<i>Isaria farinosa</i>
1507	<i>Isaria farinosa</i>	2614	<i>Evlachovaea</i> sp.	3503	<i>Isaria farinosa</i>
1508	<i>Isaria farinosa</i>	2615	<i>Evlachovaea</i> sp.	3504	<i>Isaria farinosa</i>
1530	<i>Isaria fumosorosea</i>	2616	<i>Paecilomyces</i> sp.	3505	<i>Isaria farinosa</i>
1532	<i>Isaria fumosorosea</i>	2617	<i>Paecilomyces</i> sp.	3506	<i>Isaria farinosa</i>
1552	<i>Purpureocillium lilacinum</i>	2618	<i>Paecilomyces</i> sp.	3507	<i>Isaria farinosa</i>
1568	<i>Isaria fumosorosea</i>	2620	<i>Evlachovaea</i> sp.	3508	<i>Isaria farinosa</i>
1569	<i>Isaria fumosorosea</i>	2658	<i>Isaria fumosorosea</i>	3511	<i>Purpureocillium lilacinum</i>
1576	<i>Evlachovaea</i> sp.	2679	<i>Isaria fumosorosea</i>	3512	<i>Purpureocillium lilacinum</i>
1577	<i>Isaria fumosorosea</i>	2724	<i>Isaria farinosa</i>	3517	<i>Isaria farinosa</i>
1578	<i>Isaria fumosorosea</i>	2726	<i>Isaria farinosa</i>	3518	<i>Isaria farinosa</i>
1579	<i>Isaria fumosorosea</i>	2733	<i>Isaria fumosorosea</i>	3519	<i>Isaria farinosa</i>
1626	<i>Isaria fumosorosea</i>	2734	<i>Isaria fumosorosea</i>	3520	<i>Isaria farinosa</i>
1644	<i>Isaria fumosorosea</i>	2744	<i>Isaria fumosorosea</i>	3521	<i>Isaria farinosa</i>
1645	<i>Isaria fumosorosea</i>	2745	<i>Isaria fumosorosea</i>	3522	<i>Isaria farinosa</i>
1646	<i>Isaria fumosorosea</i>	2749	<i>Isaria fumosorosea</i>	3523	<i>Isaria farinosa</i>
1684	<i>Isaria andoi</i>	2804	<i>Isaria fumosorosea</i>	3524	<i>Isaria farinosa</i>
1686	<i>Isaria flavovirescens</i>	2807	<i>Isaria farinosa</i>	3525	<i>Isaria farinosa</i>
1851	<i>Isaria farinosa</i>	2822	<i>Isaria farinosa</i>	3526	<i>Isaria farinosa</i>
1867	<i>Isaria fumosorosea</i>	2835	<i>Isaria farinosa</i>	3533	<i>Isaria farinosa</i>

3537 Isaria farinosa	3854 Purpureocillium lilacinum	4495 Isaria fumosorosea
3538 Isaria farinosa	3855 Paecilomyces marquandii	4496 Isaria fumosorosea
3545 Paecilomyces sp.	3857 Isaria fumosorosea	4497 Isaria fumosorosea
3564 Isaria farinosa	3870 Paecilomyces sp.	4498 Isaria fumosorosea
3566 Paecilomyces sp.	3871 Paecilomyces sp.	4499 Isaria fumosorosea
3572 Isaria farinosa	3872 Paecilomyces sp.	4500 Isaria fumosorosea
3573 Isaria javanica	3873 Paecilomyces sp.	4501 Isaria fumosorosea
3574 Isaria farinosa	3874 Paecilomyces sp.	4502 Isaria fumosorosea
3575 Isaria farinosa	3875 Paecilomyces sp.	4503 Isaria fumosorosea
3576 Isaria farinosa	3877 Paecilomyces sp.	4698 Isaria fumosorosea
3577 Isaria javanica	3878 Isaria fumosorosea	4699 Isaria fumosorosea
3578 Isaria farinosa	3889 Isaria fumosorosea	4700 Isaria fumosorosea
3579 Isaria farinosa	3917 Isaria fumosorosea	4701 Isaria fumosorosea
3580 Isaria farinosa	3938 Isaria tenuipes	4702 Isaria fumosorosea
3581 Isaria fumosorosea	3939 Isaria tenuipes	4703 Isaria fumosorosea
3582 Isaria farinosa	3981 Isaria javanica	4704 Isaria fumosorosea
3583 Isaria farinosa	3982 Isaria fumosorosea	4705 Isaria fumosorosea
3584 Isaria farinosa	3983 Isaria farinosa	4706 Isaria fumosorosea
3585 Isaria farinosa	3984 Isaria fumosorosea	4707 Isaria fumosorosea
3586 Isaria farinosa	3985 Isaria fumosorosea	4708 Isaria fumosorosea
3587 Isaria farinosa	3986 Isaria fumosorosea	4709 Isaria fumosorosea
3588 Isaria farinosa	3987 Isaria fumosorosea	4710 Isaria fumosorosea
3589 Isaria farinosa	3988 Isaria fumosorosea	4711 Isaria fumosorosea
3590 Isaria fumosorosea	3989 Isaria fumosorosea	4742 Paecilomyces sp.
3591 Isaria farinosa	4010 Isaria farinosa	4849 Isaria amoenerosea
3592 Isaria farinosa	4029 Isaria farinosa	4985 Paecilomyces sp.
3593 Isaria farinosa	4039 Isaria farinosa	4986 Paecilomyces sp.
3594 Isaria fumosorosea	4040 Isaria farinosa	4987 Paecilomyces sp.
3595 Isaria farinosa	4043 Isaria farinosa	4988 Paecilomyces sp.
3596 Isaria farinosa	4044 Isaria farinosa	4989 Paecilomyces sp.
3597 Isaria farinosa	4045 Isaria farinosa	5073 Isaria farinosa
3598 Isaria farinosa	4090 Isaria farinosa	5074 Isaria farinosa
3599 Isaria farinosa	4096 Isaria tenuipes	5075 Isaria farinosa
3658 Isaria farinosa	4097 Isaria amoenerosea	5080 Isaria farinosa
3659 Isaria farinosa	4205 Isaria fumosorosea	5081 Isaria farinosa
3660 Isaria fumosorosea	4383 Isaria fumosorosea	5082 Isaria farinosa
3661 Isaria farinosa	4400 Isaria fumosorosea	5083 Isaria farinosa
3662 Isaria fumosorosea	4401 Isaria fumosorosea	5084 Isaria farinosa
3663 Isaria fumosorosea	4404 Isaria fumosorosea	5085 Isaria fumosorosea
3664 Isaria farinosa	4405 Isaria farinosa	5086 Isaria fumosorosea
3665 Isaria farinosa	4406 Isaria fumosorosea	5087 Isaria fumosorosea
3666 Isaria farinosa	4407 Isaria fumosorosea	5088 Isaria fumosorosea
3682 Isaria fumosorosea	4408 Isaria fumosorosea	5089 Isaria fumosorosea
3699 Isaria fumosorosea	4409 Isaria fumosorosea	5090 Isaria fumosorosea
3700 Isaria fumosorosea	4410 Isaria fumosorosea	5091 Paecilomyces sp.
3768 Paecilomyces sp.	4411 Isaria fumosorosea	5092 Paecilomyces sp.
3771 Isaria farinosa	4412 Isaria farinosa	5093 Paecilomyces sp.
3772 Paecilomyces sp.	4413 Isaria fumosorosea	5094 Paecilomyces sp.
3774 Paecilomyces sp.	4414 Isaria fumosorosea	5095 Paecilomyces sp.
3775 Paecilomyces sp.	4415 Isaria fumosorosea	5096 Paecilomyces sp.
3776 Isaria javanica	4452 Paecilomyces sp.	5097 Paecilomyces sp.
3777 Paecilomyces sp.	4459 Isaria fumosorosea	5098 Paecilomyces sp.
3778 Isaria javanica	4460 Isaria fumosorosea	5099 Paecilomyces sp.
3780 Paecilomyces sp.	4461 Isaria fumosorosea	5100 Paecilomyces sp.
3781 Paecilomyces sp.	4479 Isaria fumosorosea	5101 Paecilomyces sp.
3782 Paecilomyces sp.	4480 Isaria fumosorosea	5102 Paecilomyces sp.
3783 Paecilomyces sp.	4481 Isaria fumosorosea	5103 Paecilomyces sp.
3784 Paecilomyces sp.	4482 Isaria fumosorosea	5104 Paecilomyces sp.
3785 Paecilomyces sp.	4483 Isaria fumosorosea	5105 Paecilomyces sp.
3786 Paecilomyces sp.	4484 Isaria fumosorosea	5106 Paecilomyces sp.
3787 Paecilomyces sp.	4485 Isaria fumosorosea	5107 Isaria fumosorosea
3788 Paecilomyces sp.	4486 Isaria fumosorosea	5108 Paecilomyces sp.
3800 Isaria fumosorosea	4487 Isaria fumosorosea	5109 Paecilomyces sp.
3824 Isaria fumosorosea	4488 Isaria fumosorosea	5110 Paecilomyces sp.
3843 Isaria fumosorosea	4489 Isaria fumosorosea	5111 Paecilomyces sp.
3846 Purpureocillium lilacinum	4490 Isaria fumosorosea	5112 Paecilomyces sp.
3848 Isaria fumosorosea	4491 Isaria fumosorosea	5113 Isaria fumosorosea
3851 Isaria fumosorosea	4492 Isaria fumosorosea	5114 Paecilomyces sp.
3852 Isaria fumosorosea	4493 Isaria fumosorosea	5115 Isaria fumosorosea
3853 Paecilomyces sp.	4494 Isaria fumosorosea	5116 Isaria fumosorosea

5117	<i>Isaria fumosorosea</i>	5318	<i>Isaria fumosorosea</i>	6018	<i>Purpureocillium lilacinum</i>
5118	<i>Isaria fumosorosea</i>	5319	<i>Isaria fumosorosea</i>	6020	<i>Isaria farinosa</i>
5119	<i>Isaria fumosorosea</i>	5320	<i>Isaria fumosorosea</i>	6021	<i>Purpureocillium lilacinum</i>
5121	<i>Isaria fumosorosea</i>	5321	<i>Isaria javanica</i>	6024	<i>Purpureocillium lilacinum</i>
5122	<i>Isaria fumosorosea</i>	5322	<i>Isaria fumosorosea</i>	6026	<i>Purpureocillium lilacinum</i>
5134	<i>Isaria tenuipes</i>	5323	<i>Isaria fumosorosea</i>	6028	<i>Isaria farinosa</i>
5135	<i>Isaria tenuipes</i>	5324	<i>Isaria fumosorosea</i>	6029	<i>Isaria farinosa</i>
5154	<i>Isaria fumosorosea</i>	5325	<i>Isaria fumosorosea</i>	6030	<i>Isaria farinosa</i>
5155	<i>Isaria fumosorosea</i>	5326	<i>Isaria fumosorosea</i>	6031	<i>Isaria farinosa</i>
5156	<i>Isaria fumosorosea</i>	5327	<i>Isaria fumosorosea</i>	6032	<i>Isaria farinosa</i>
5157	<i>Isaria fumosorosea</i>	5328	<i>Isaria fumosorosea</i>	6033	<i>Isaria farinosa</i>
5158	<i>Isaria fumosorosea</i>	5329	<i>Isaria fumosorosea</i>	6034	<i>Isaria fumosorosea</i>
5159	<i>Isaria fumosorosea</i>	5330	<i>Isaria fumosorosea</i>	6036	<i>Isaria farinosa</i>
5160	<i>Paecilomyces</i> sp.	5331	<i>Isaria fumosorosea</i>	6037	<i>Isaria farinosa</i>
5178	<i>Isaria farinosa</i>	5368	<i>Isaria farinosa</i>	6038	<i>Isaria farinosa</i>
5179	<i>Paecilomyces</i> sp.	5402	<i>Paecilomyces</i> sp.	6044	<i>Isaria farinosa</i>
5180	<i>Paecilomyces</i> sp.	5462	<i>Isaria fumosorosea</i>	6048	<i>Isaria farinosa</i>
5181	<i>Paecilomyces</i> sp.	5463	<i>Isaria fumosorosea</i>	6049	<i>Isaria farinosa</i>
5183	<i>Paecilomyces</i> sp.	5464	<i>Isaria fumosorosea</i>	6080	<i>Purpureocillium lilacinum</i>
5184	<i>Paecilomyces</i> sp.	5475	<i>Isaria fumosorosea</i>	6081	<i>Purpureocillium lilacinum</i>
5185	<i>Paecilomyces</i> sp.	5476	<i>Isaria fumosorosea</i>	6082	<i>Purpureocillium lilacinum</i>
5189	<i>Paecilomyces</i> sp.	5540	<i>Isaria fumosorosea</i>	6084	<i>Purpureocillium lilacinum</i>
5190	<i>Paecilomyces</i> sp.	5548	<i>Isaria farinosa</i>	6094	<i>Purpureocillium lilacinum</i>
5191	<i>Isaria farinosa</i>	5627	<i>Isaria fumosorosea</i>	6097	<i>Isaria farinosa</i>
5192	<i>Paecilomyces</i> sp.	5675	<i>Isaria farinosa</i>	6098	<i>Isaria farinosa</i>
5193	<i>Paecilomyces</i> sp.	5676	<i>Isaria farinosa</i>	6110	<i>Purpureocillium lilacinum</i>
5194	<i>Isaria farinosa</i>	5679	<i>Isaria farinosa</i>	6114	<i>Purpureocillium lilacinum</i>
5251	<i>Isaria fumosorosea</i>	5694	<i>Isaria fumosorosea</i>	6116	<i>Purpureocillium lilacinum</i>
5252	<i>Isaria fumosorosea</i>	5699	<i>Isaria farinosa</i>	6117	<i>Purpureocillium lilacinum</i>
5253	<i>Isaria fumosorosea</i>	5700	<i>Isaria tenuipes</i>	6146	<i>Evlachovaea</i> sp.
5254	<i>Isaria fumosorosea</i>	5703	<i>Evlachovaea</i> sp.	6183	<i>Purpureocillium lilacinum</i>
5255	<i>Isaria fumosorosea</i>	5754	<i>Isaria farinosa</i>	6188	<i>Purpureocillium lilacinum</i>
5256	<i>Isaria fumosorosea</i>	5760	<i>Isaria farinosa</i>	6190	<i>Purpureocillium lilacinum</i>
5257	<i>Isaria fumosorosea</i>	5761	<i>Isaria farinosa</i>	6192	<i>Isaria fumosorosea</i>
5258	<i>Isaria fumosorosea</i>	5774	<i>Isaria farinosa</i>	6193	<i>Paecilomyces</i> sp.
5259	<i>Isaria javanica</i>	5775	<i>Isaria farinosa</i>	6197	<i>Purpureocillium lilacinum</i>
5260	<i>Isaria fumosorosea</i>	5776	<i>Isaria farinosa</i>	6198	<i>Paecilomyces</i> sp.
5261	<i>Isaria fumosorosea</i>	5784	<i>Isaria farinosa</i>	6200	<i>Isaria farinosa</i>
5262	<i>Isaria fumosorosea</i>	5788	<i>Isaria farinosa</i>	6202	<i>Isaria farinosa</i>
5263	<i>Isaria fumosorosea</i>	5790	<i>Isaria farinosa</i>	6203	<i>Isaria fumosorosea</i>
5264	<i>Isaria fumosorosea</i>	5792	<i>Isaria farinosa</i>	6204	<i>Isaria fumosorosea</i>
5265	<i>Isaria fumosorosea</i>	5797	<i>Isaria farinosa</i>	6206	<i>Isaria fumosorosea</i>
5266	<i>Isaria fumosorosea</i>	5799	<i>Isaria farinosa</i>	6207	<i>Isaria farinosa</i>
5267	<i>Isaria fumosorosea</i>	5800	<i>Isaria farinosa</i>	6222	<i>Isaria farinosa</i>
5268	<i>Isaria fumosorosea</i>	5801	<i>Isaria farinosa</i>	6240	<i>Isaria cateniannulata</i>
5269	<i>Isaria fumosorosea</i>	5802	<i>Isaria farinosa</i>	6241	<i>Isaria cateniannulata</i>
5270	<i>Isaria fumosorosea</i>	5805	<i>Purpureocillium lilacinum</i>	6242	<i>Isaria cateniannulata</i>
5271	<i>Isaria fumosorosea</i>	5806	<i>Isaria javanica</i>	6243	<i>Isaria cateniannulata</i>
5272	<i>Isaria fumosorosea</i>	5826	<i>Isaria farinosa</i>	6244	<i>Isaria cateniobliqua</i>
5297	<i>Isaria fumosorosea</i>	5827	<i>Isaria farinosa</i>	6245	<i>Isaria farinosa</i>
5298	<i>Isaria fumosorosea</i>	5830	<i>Isaria farinosa</i>	6246	<i>Isaria farinosa</i>
5299	<i>Isaria fumosorosea</i>	5834	<i>Isaria farinosa</i>	6247	<i>Purpureocillium lilacinum</i>
5300	<i>Isaria fumosorosea</i>	5844	<i>Isaria fumosorosea</i>	6249	<i>Isaria tenuipes</i>
5301	<i>Isaria fumosorosea</i>	5845	<i>Isaria fumosorosea</i>	6283	<i>Isaria cateniobliqua</i>
5302	<i>Isaria fumosorosea</i>	5846	<i>Isaria fumosorosea</i>	6284	<i>Paecilomyces sinensis</i>
5303	<i>Isaria fumosorosea</i>	5847	<i>Isaria fumosorosea</i>	6285	<i>Paecilomyces sinensis</i>
5304	<i>Isaria fumosorosea</i>	5855	<i>Isaria fumosorosea</i>	6288	<i>Isaria farinosa</i>
5305	<i>Isaria fumosorosea</i>	5858	<i>Isaria farinosa</i>	6325	<i>Paecilomyces lilacinus</i> (?)
5306	<i>Isaria farinosa</i>	5860	<i>Isaria fumosorosea</i>	6339	<i>Paecilomyces</i> sp.
5307	<i>Isaria fumosorosea</i>	5874	<i>Isaria fumosorosea</i>	6340	<i>Purpureocillium lilacinum</i>
5308	<i>Isaria fumosorosea</i>	5876	<i>Purpureocillium lilacinum</i>	6434	<i>Isaria fumosorosea</i>
5309	<i>Isaria fumosorosea</i>	5877	<i>Purpureocillium lilacinum</i>	6435	<i>Isaria fumosorosea</i>
5310	<i>Isaria fumosorosea</i>	5880	<i>Purpureocillium lilacinum</i>	6458	<i>Paecilomyces lilacinus</i> (?)
5311	<i>Isaria fumosorosea</i>	5882	<i>Purpureocillium lilacinum</i>	6462	<i>Paecilomyces crustaceus</i> (?)
5312	<i>Isaria fumosorosea</i>	5883	<i>Isaria farinosa</i>	6467	<i>Paecilomyces crustaceus</i> (?)
5313	<i>Isaria fumosorosea</i>	5884	<i>Isaria farinosa</i>	6481	<i>Isaria farinosa</i>
5314	<i>Isaria fumosorosea</i>	5885	<i>Isaria farinosa</i>	6482	<i>Isaria farinosa</i>
5315	<i>Isaria fumosorosea</i>	5996	<i>Isaria farinosa</i>	6488	<i>Isaria farinosa</i>
5316	<i>Isaria fumosorosea</i>	6012	<i>Isaria farinosa</i>	6489	<i>Isaria farinosa</i>
5317	<i>Isaria fumosorosea</i>	6017	<i>Isaria farinosa</i>	6490	<i>Isaria farinosa</i>

6491	<i>Isaria farinosa</i>	7547	<i>Purpureocillium lilacinum</i>	8016	<i>Isaria farinosa</i>
6493	<i>Isaria farinosa</i>	7548	<i>Purpureocillium lilacinum</i>	8017	<i>Isaria farinosa</i>
6494	<i>Purpureocillium lilacinum</i>	7549	<i>Purpureocillium lilacinum</i>	8018	<i>Isaria farinosa</i>
6495	<i>Isaria farinosa</i>	7551	<i>Evlachovaea</i> sp.	8019	<i>Isaria farinosa</i>
6496	<i>Isaria farinosa</i>	7574	<i>Isaria farinosa</i>	8020	<i>Isaria farinosa</i>
6497	<i>Isaria farinosa</i>	7575	<i>Isaria farinosa</i>	8021	<i>Isaria farinosa</i>
6502	<i>Purpureocillium lilacinum</i>	7576	<i>Isaria farinosa</i>	8022	<i>Isaria farinosa</i>
6562	<i>Isaria fumosorosea</i>	7599	<i>Evlachovaea</i> sp.	8058	<i>Evlachovaea kintrischica</i>
6607	<i>Isaria farinosa</i>	7600	<i>Evlachovaea</i> sp.	8142	<i>Isaria fumosorosea</i>
6609	<i>Isaria farinosa</i>	7601	<i>Evlachovaea</i> sp.	8251	<i>Isaria farinosa</i>
6610	<i>Isaria fumosorosea</i>	7602	<i>Evlachovaea</i> sp.	8252	<i>Isaria farinosa</i>
6611	<i>Isaria farinosa</i>	7714	<i>Isaria farinosa</i>	8268	<i>Purpureocillium lilacinum</i>
6615	<i>Isaria fumosorosea</i>	7715	<i>Isaria farinosa</i>	8269	<i>Purpureocillium lilacinum</i>
6619	<i>Isaria farinosa</i>	7716	<i>Isaria fumosorosea</i>	8310	<i>Isaria catenianulata</i>
6621	<i>Purpureocillium lilacinum</i>	7717	<i>Isaria farinosa</i>	8311	<i>Purpureocillium lilacinum</i>
6623	<i>Isaria farinosa</i>	7718	<i>Isaria farinosa</i>	8312	<i>Purpureocillium lilacinum</i>
6635	<i>Evlachovaea</i> sp.	7719	<i>Isaria farinosa</i>	8316	<i>Paecilomyces</i> sp.
6638	<i>Evlachovaea</i> sp.	7720	<i>Isaria farinosa</i>	8333	<i>Isaria fumosorosea</i>
6639	<i>Evlachovaea</i> sp.	7721	<i>Paecilomyces</i> sp.	8337	<i>Isaria fumosorosea</i>
6640	<i>Evlachovaea</i> sp.	7722	<i>Isaria farinosa</i>	8345	<i>Isaria fumosorosea</i>
6641	<i>Evlachovaea</i> sp.	7723	<i>Isaria farinosa</i>	8348	<i>Isaria fumosorosea</i>
6730	<i>Isaria fumosorosea</i>	7724	<i>Isaria farinosa</i>	8411	<i>Isaria farinosa</i>
6788	<i>Isaria tenuipes</i>	7725	<i>Isaria farinosa</i>	8439	<i>Evlachovaea</i> sp.
6789	<i>Isaria fumosorosea</i>	7726	<i>Isaria farinosa</i>	8441	<i>Evlachovaea</i> sp.
6797	<i>Isaria fumosorosea</i>	7727	<i>Isaria farinosa</i>	8442	<i>Evlachovaea</i> sp.
6798	<i>Isaria fumosorosea</i>	7728	<i>Isaria farinosa</i>	8448	<i>Isaria fumosorosea</i>
6799	<i>Isaria fumosorosea</i>	7729	<i>Isaria farinosa</i>	8449	<i>Evlachovaea</i> sp.
6800	<i>Isaria fumosorosea</i>	7730	<i>Isaria farinosa</i>	8456	<i>Purpureocillium lilacinum</i>
6883	<i>Paecilomyces</i> sp.	7731	<i>Isaria farinosa</i>	8469	<i>Evlachovaea</i> sp.
6889	<i>Isaria tenuipes</i>	7732	<i>Isaria farinosa</i>	8474	<i>Evlachovaea</i> sp.
6893	<i>Isaria fumosorosea</i>	7733	<i>Isaria farinosa</i>	8477	<i>Purpureocillium lilacinum</i>
6916	<i>Isaria fumosorosea</i>	7734	<i>Isaria farinosa</i>	8479	<i>Evlachovaea</i> sp.
6925	<i>Isaria sinclairii</i>	7735	<i>Isaria tenuipes</i>	8483	<i>Purpureocillium lilacinum</i>
6983	<i>Isaria farinosa</i>	7736	<i>Isaria farinosa</i>	8485	<i>Evlachovaea</i> sp.
6985	<i>Purpureocillium lilacinum</i>	7737	<i>Isaria farinosa</i>	8486	<i>Evlachovaea</i> sp.
7028	<i>Isaria poprawskii</i>	7739	<i>Isaria farinosa</i>	8487	<i>Evlachovaea</i> sp.
7029	<i>Isaria fumosorosea</i>	7740	<i>Isaria fumosorosea</i>	8488	<i>Evlachovaea</i> sp.
7040	<i>Paecilomyces reniformis</i>	7741	<i>Paecilomyces</i> sp.	8489	<i>Evlachovaea</i> sp.
7041	<i>Paecilomyces reniformis</i>	7742	<i>Paecilomyces</i> sp.	8490	<i>Evlachovaea</i> sp.
7050	<i>Isaria fumosorosea</i>	7743	<i>Isaria fumosorosea</i>	8491	<i>Evlachovaea</i> sp.
7051	<i>Isaria fumosorosea</i>	7744	<i>Paecilomyces</i> sp.	8599	<i>Isaria farinosa</i>
7064	<i>Paecilomyces</i> sp.	7745	<i>Paecilomyces</i> sp.	8600	<i>Purpureocillium lilacinum</i>
7065	<i>Paecilomyces</i> sp.	7746	<i>Paecilomyces</i> sp.	8716	<i>Isaria fumosorosea</i>
7069	<i>Isaria fumosorosea</i>	7747	<i>Paecilomyces</i> sp.	8717	<i>Isaria fumosorosea</i>
7075	<i>Paecilomyces</i> sp.	7756	<i>Paecilomyces</i> sp.	8718	<i>Isaria fumosorosea</i>
7094	<i>Isaria farinosa</i>	7777	<i>Isaria farinosa</i>	8719	<i>Isaria fumosorosea</i>
7118	<i>Isaria farinosa</i>	7790	<i>Isaria tenuipes</i>	8720	<i>Isaria fumosorosea</i>
7119	<i>Isaria javanica</i>	7800	<i>Paecilomyces</i> sp.	8721	<i>Isaria fumosorosea</i>
7204	<i>Isaria fumosorosea</i>	7801	<i>Paecilomyces</i> sp.	8723	<i>Isaria fumosorosea</i>
7205	<i>Isaria fumosorosea</i>	7803	<i>Paecilomyces</i> sp.	8724	<i>Isaria fumosorosea</i>
7218	<i>Evlachovaea kintrischica</i>	7961	<i>Isaria farinosa</i>	8725	<i>Isaria fumosorosea</i>
7219	<i>Isaria farinosa</i> (?)	7962	<i>Isaria farinosa</i>	8726	<i>Isaria fumosorosea</i>
7243	<i>Isaria farinosa</i>	7973	<i>Isaria cicadae</i> (?)	8727	<i>Isaria fumosorosea</i>
7245	<i>Isaria farinosa</i>	7990	<i>Evlachovaea</i> sp.	8728	<i>Isaria fumosorosea</i>
7249	<i>Isaria farinosa</i>	7991	<i>Evlachovaea</i> sp.	8729	<i>Isaria fumosorosea</i>
7262	<i>Isaria farinosa</i>	7992	<i>Evlachovaea</i> sp.	8730	<i>Isaria fumosorosea</i>
7263	<i>Isaria farinosa</i>	7993	<i>Evlachovaea</i> sp.	8770	<i>Isaria farinosa</i>
7276	<i>Isaria farinosa</i>	7995	<i>Paecilomyces</i> sp.	8806	<i>Isaria farinosa</i> (?)
7284	<i>Isaria fumosorosea</i>	7996	<i>Paecilomyces</i> sp.	8840	<i>Isaria fumosorosea</i>
7347	<i>Isaria fumosorosea</i>	7997	<i>Paecilomyces</i> sp.	8892	<i>Isaria fumosorosea</i>
7372	<i>Evlachovaea</i> sp.	7998	<i>Paecilomyces</i> sp.	8917	<i>Isaria farinosa</i>
7388	<i>Paecilomyces</i> sp.	7999	<i>Paecilomyces</i> sp.	8918	<i>Purpureocillium lilacinum</i>
7403	<i>Evlachovaea</i> sp.	8001	<i>Paecilomyces</i> sp.	8919	<i>Purpureocillium lilacinum</i>
7477	<i>Isaria javanica</i>	8002	<i>Paecilomyces</i> sp.	8920	<i>Purpureocillium lilacinum</i>
7478	<i>Purpureocillium lilacinum</i>	8003	<i>Paecilomyces</i> sp.	8921	<i>Purpureocillium lilacinum</i>
7523	<i>Isaria fumosorosea</i>	8004	<i>Paecilomyces</i> sp.	8922	<i>Purpureocillium lilacinum</i>
7531	<i>Isaria farinosa</i>	8005	<i>Paecilomyces</i> sp.	8928	<i>Isaria fumosorosea</i>
7543	<i>Evlachovaea</i> sp.	8006	<i>Paecilomyces</i> sp.	9164	<i>Evlachovaea</i> sp.
7545	<i>Purpureocillium lilacinum</i>	8007	<i>Paecilomyces</i> sp.	9165	<i>Evlachovaea</i> sp.
7546	<i>Purpureocillium lilacinum</i>	8008	<i>Paecilomyces</i> sp.	9166	<i>Evlachovaea</i> sp.

9167	<i>Evlachovaea</i> sp.	9577	<i>Isaria farinosa</i>	10370	<i>Isaria</i> sp.
9168	<i>Evlachovaea</i> sp.	9578	<i>Isaria farinosa</i>	10371	<i>Isaria</i> sp.
9169	<i>Evlachovaea</i> sp.	9579	<i>Isaria farinosa</i>	10372	<i>Isaria</i> sp.
9170	<i>Evlachovaea</i> sp.	9580	<i>Isaria farinosa</i>	10373	<i>Isaria</i> sp.
9171	<i>Evlachovaea</i> sp.	9581	<i>Isaria farinosa</i> (?)	10374	<i>Isaria</i> sp.
9172	<i>Evlachovaea</i> sp.	9582	<i>Isaria fumosorosea</i>	10375	<i>Isaria</i> sp.
9173	<i>Evlachovaea</i> sp.	9583	<i>Isaria fumosorosea</i>	10376	<i>Isaria</i> sp.
9174	<i>Evlachovaea</i> sp.	9584	<i>Isaria fumosorosea</i>	10377	<i>Isaria</i> sp.
9185	<i>Evlachovaea</i> sp.	9585	<i>Isaria fumosorosea</i>	10378	<i>Isaria</i> sp.
9186	<i>Evlachovaea</i> sp.	9586	<i>Isaria fumosorosea</i>	10379	<i>Isaria</i> sp.
9187	<i>Evlachovaea</i> sp.	9601	<i>Isaria cateniannulata</i>	10380	<i>Isaria</i> sp.
9188	<i>Evlachovaea</i> sp.	9602	<i>Isaria fumosorosea</i>	10381	<i>Isaria</i> sp.
9189	<i>Evlachovaea</i> sp.	9604	<i>Purpureocillium lilacinum</i>	10382	<i>Isaria</i> sp.
9190	<i>Evlachovaea</i> sp.	9610	<i>Purpureocillium lilacinum</i>	10383	<i>Isaria</i> sp.
9191	<i>Evlachovaea</i> sp.	9928	<i>Paecilomyces marquandii</i>	10384	<i>Isaria</i> sp.
9192	<i>Evlachovaea</i> sp.	9929	<i>Paecilomyces marquandii</i>	10385	<i>Isaria</i> sp.
9237	<i>Evlachovaea</i> sp.	9944	<i>Isaria farinosa</i>		
9238	<i>Purpureocillium lilacinum</i>	9945	<i>Isaria farinosa</i>		
9239	<i>Purpureocillium lilacinum</i>	10127	<i>Purpureocillium lilacinum</i>		
9240	<i>Purpureocillium lilacinum</i>	10128	<i>Purpureocillium lilacinum</i>		
9269	<i>Isaria farinosa</i>	10129	<i>Purpureocillium lilacinum</i>		
9270	<i>Isaria farinosa</i>	10130	<i>Purpureocillium lilacinum</i>		
9275	<i>Isaria farinosa</i>	10155	<i>Isaria farinosa</i>		
9276	<i>Isaria farinosa</i>	10156	<i>Isaria farinosa</i>		
9277	<i>Isaria farinosa</i>	10157	<i>Isaria farinosa</i>		
9278	<i>Isaria farinosa</i>	10158	<i>Isaria farinosa</i>		
9292	<i>Isaria farinosa</i>	10159	<i>Isaria farinosa</i>		
9293	<i>Isaria farinosa</i>	10160	<i>Isaria farinosa</i>		
9294	<i>Isaria fumosorosea</i>	10161	<i>Isaria farinosa</i>		
9356	<i>Purpureocillium lilacinum</i>	10162	<i>Isaria</i> sp.		
9357	<i>Purpureocillium lilacinum</i>	10163	<i>Isaria coleopterorum</i>		
9371	<i>Purpureocillium lilacinum</i>	10165	<i>Isaria farinosa</i>		
9380	<i>Isaria fumosorosea</i>	10224	<i>Isaria fumosorosea</i>		
9508	<i>Isaria</i> sp.	10225	<i>Purpureocillium lilacinum</i>		
9509	<i>Isaria coleopterorum</i>	10231	<i>Isaria</i> sp.		
9510	<i>Isaria farinosa</i>	10232	<i>Isaria</i> sp.		
9511	<i>Isaria farinosa</i>	10233	<i>Isaria</i> sp.		
9512	<i>Isaria farinosa</i>	10234	<i>Isaria</i> sp.		
9513	<i>Isaria farinosa</i>	10235	<i>Isaria</i> sp.		
9514	<i>Isaria farinosa</i>	10236	<i>Isaria</i> sp.		
9515	<i>Isaria farinosa</i>	10237	<i>Isaria</i> sp.		
9516	<i>Isaria farinosa</i>	10238	<i>Isaria</i> sp.		
9517	<i>Isaria</i> sp.	10239	<i>Isaria</i> sp.		
9518	<i>Isaria</i> sp.	10240	<i>Isaria</i> sp.		
9519	<i>Isaria</i> sp.	10241	<i>Isaria</i> sp.		
9520	<i>Isaria fumosorosea</i>	10242	<i>Isaria</i> sp.		
9521	<i>Isaria fumosorosea</i>	10243	<i>Isaria</i> sp.		
9522	<i>Purpureocillium lilacinum</i>	10244	<i>Isaria</i> sp.		
9523	<i>Purpureocillium lilacinum</i>	10245	<i>Isaria</i> sp.		
9524	<i>Purpureocillium lilacinum</i>	10246	<i>Isaria</i> sp.		
9525	<i>Purpureocillium lilacinum</i>	10247	<i>Isaria</i> sp.		
9526	<i>Purpureocillium lilacinum</i>	10248	<i>Isaria</i> sp.		
9527	<i>Paecilomyces marquandii</i>	10249	<i>Isaria</i> sp.		
9528	<i>Purpureocillium lilacinum</i>	10250	<i>Isaria</i> sp.		
9529	<i>Paecilomyces marquandii</i>	10251	<i>Isaria</i> sp.		
9530	<i>Paecilomyces marquandii</i>	10252	<i>Isaria</i> sp.		
9531	<i>Isaria tenuipes</i>	10253	<i>Isaria</i> sp.		
9532	<i>Isaria tenuipes</i>	10254	<i>Isaria</i> sp.		
9533	<i>Isaria tenuipes</i>	10255	<i>Isaria</i> sp.		
9534	<i>Isaria tenuipes</i>	10256	<i>Isaria</i> sp.		
9567	<i>Isaria farinosa</i> (?)	10257	<i>Isaria</i> sp.		
9568	<i>Isaria farinosa</i> (?)	10258	<i>Isaria fumosorosea</i>		
9569	<i>Isaria farinosa</i> (?)	10259	<i>Isaria</i> sp.		
9570	<i>Isaria farinosa</i> (?)	10363	<i>Isaria</i> sp.		
9571	<i>Isaria farinosa</i> (?)	10364	<i>Isaria</i> sp.		
9572	<i>Isaria farinosa</i> (?)	10365	<i>Isaria</i> sp.		
9573	<i>Isaria farinosa</i> (?)	10366	<i>Isaria</i> sp.		
9574	<i>Isaria farinosa</i>	10367	<i>Isaria</i> sp.		
9575	<i>Isaria farinosa</i>	10368	<i>Isaria</i> sp.		
9576	<i>Isaria farinosa</i>	10369	<i>Isaria</i> sp.		