

*USDA-ARS Collection
of Entomopathogenic
Fungal Cultures*

ARSEF

Isolates from DIPTERA



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

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Fully Indexed
Includes 795 isolates

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Front cover: Rhagionid fly infected with *Pandora blunckii*. Specimen collected by Eleanor Spence in Ithaca, NY, in June 2019. Photograph and fungus identification by LA Castrillo.

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

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

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

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

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

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

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

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

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

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

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

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

GENERAL AND PHYLOGENETIC RECLASSIFICATIONS OF FUNGI

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

Beauveria — [Rehner et al. 2011](#); [Kepler et al. 2017](#), [Khonsanit et al., 2020](#)

Fusarium — [O'Donnell et al. 2012](#)

Isaria - [Mongkolsamrit et al., 2018](#)

Metarhizium — [Bischoff et al. 2009](#); [Kepler & Rehner 2013](#); [Kepler et al. 2014](#)

Metacordyceps — [Kepler et al. 2012](#)

Polycephalomyces — [Kepler et al. 2013](#)

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

Family Clavicipitaceae

Humber (2012)

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

Aschersonia (syn. *Hypocrella*)

Other aschersonioid genera;

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

Updated (see Kepler et al. 2014)

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

Pochonia

Metapochonia

Rotiferophthora

Aschersonia (syn. *Hypocrella*)

Other aschersonioid genera;

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

Family Cordycipitaceae

Humber (2012)

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

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

Ascopolyporus

Conoidiocrella

Updated (see Kepler et al. 2017)*

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

Beauveria

Gibellula (synonym: *Granulomanus*)

Hevansia

Ascopolyporus

Conoidiocrella

Simplicillium

Family Ophiocordycipitaceae

Humber (2012)

Elaphocordyceps (synonym *Tolypocladium*)

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

Updated (see Quandt et al. 2014)*

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

Purpureocillium

Tolypocladium (synonym *Elaphocordyceps*)

Table 2. Phylum Entomophthoromycota (Humber 2012)

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

¹ Genus with phylogenetic support but still awaiting formal description.

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

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

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

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

FLAGELLATE FUNGI AND FUNGAL ALLIES

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

ENTOMOPHTHOROMYCOTA: A NEW PHYLUM*

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

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

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

* Updates by LA Castrillo (June 2020)

REFERENCES

- Bischoff JF**, Rehner SA, Humber RA. 2009. A multilocus phylogeny of the *Metarhizium anisopliae* lineage. *Mycologia* 101: 512–530.
- Braun U**. 2012. The impacts of the discontinuation of dual nomenclature of pleomorphic fungi: the trivial facts, problems, and strategies. *IMA Fungus* 3: 81–86.
- Gryganskyi AP**, Humber RA, Smith ME, Hodge K, Huang B, Voigt K, Vilgalys R. 2012a. Phylogenetic lineages in Entomophthoromycota. *Persoonia* 30: 94–105.
- Gryganskyi AP**, Humber RA, Smith ME, Miadlikovska J, Wu S, Voigt K, Walther G, Anishchenko IM, Vilgalys R. 2012b. Molecular phylogeny of the Entomophthoromycota. *Molecular and Phylogenetic Evolution* 65: 682–694.
- Gams W**, Humber RA, Jaklitsch W, Kirschner R, Stadler M. 2012. Minimizing the chaos following the loss of Article 59: Suggestions for a discussion. *Mycotaxon* 119: 495–507.
- Gams W**, Jaklitsch (& 77 signatories). 2011. Fungal nomenclature 3. A critical response to the 'Amsterdam Declaration'. *Mycotaxon* 116: 501–512.
- Hawksworth DL**. 2011. A new dawn for the naming of fungi: impacts of decisions made in Melbourne in July 2011 on the future publication and regulation of fungal names. *IMA Fungus* 2: 155–162.
- Hawksworth DL**. 2012. Managing and coping with names of pleomorphic fungi in a period of transition. *IMA Fungus* 3: 15–24.
- Hibbett DS**, Binder M, Bischoff JF, Blackwell M, Cannon PF, Eriksson O, Huhndorf S, James T, Kirk PM, Lücking R, Lumbsch T, Lutzoni F, Matheny PB, McLaughlin DJ, Powell MJ, Redhead S, Schoch CL, Spatafora JW, Stalpers JA, Vilgalys R, Aime MC, Aptroot A, Bauer R, Begerow D, Benny GL, Castlebury LA, Crous PW, Dai Y-C, Gams W, Geiser DM, Griffith GW, Gueidan C, Hawksworth DL, Hestmark G, Hosaka K, Humber RA, Hyde K, Köljalb U, Kurtzman CP, Larsson K-H, Lichtwardt R, Longcore J, Miadlikowska J, Miller A, Moncalvo J-M, Mozley-Standridge S, Oberwinkler F, Parmasto R, Reeb V, Rogers JD, Roux C, Ryvarden L, Sampaio JP, Schuessler A, Sugiyama J, Thorn RG, Tibell L, Untereiner WA, Walker C, Wang A, Weir A, Weiss M, White M, Winka K, Yao Y-J, Zhang N. 2007. A higher-level phylogenetic classification of the Fungi. *Mycological Research* 111: 509–547.
- Hibbett DS**, Taylor JW. 2013. Fungal systematics: Is a new age of enlightenment at hand? *Nature Reviews Microbiology* 11: 129–133.
- Hoffmann K**, Voigt K, Kirk PM. 2011. *Mortierellomycotina* subphyl. nov., based on multi-gene genealogies. *Mycotaxon* 115: 353–363.
- Humber RA**. 2012a. *HURRICANE WARNING!* How changed nomenclatural rules affect fungal entomopathogens. International Congress of Invertebrate Pathology and Microbial Control and 45th Annual meeting of the Society for Invertebrate Pathology. Buenos Aires, Argentina (<http://www.sipweb.org/docs/2012%20meeting%20program.pdf>).

- Humber RA.** 2012b. Entomophthoromycota: a new phylum and reclassification for entomophthoroid fungi. *Mycotaxon* 120: 477–492.
- James TY,** Kauff F, Schoch C, Matheny PB, Hofstetter V, Cox CJ, Celio G, Geuidan C, Fraker E, Miadlikowska J, Lumbsch HT, Rauhut A, Reeb V, Arnold AE, Amtoft A, Stajich JE, Hosaka K, Sung G-H, Johnson D, O'Rourke B, Crockett M, Binder M, Curtis JM, Slot JC, Wang Z, Wilson AW, Schüßler A, Longcore JE, O'Donnell K, Mozley-Standridge S, Porter D, Letcher PM, Powell MJ, Taylor JW, White MM, Griffith GW, Davies DR, Humber RA, Morton JB, Sugiyama J, Rossman A, Rogers JD, Pfister DH, Hewitt D, Hansen K, Hambleton S, Shoemaker RA, Kohlmeyer J, Volkmann-Kohlmeyer B, Spotts RA, Serdani M, Crous PW, Hughes KW, Matsuura K, Langer E, Langer G, Untereiner WA, Lücking R, Büdel B, Geiser DM, Aptroot A, Diederich P, Schmitt I, Schultz M, Yahr R, Hibbett DS, Lutzoni F, McLaughlin DJ, Spatafora JW, Vilgalys R. 2006. Reconstructing the early evolution of Fungi using a six-gene phylogeny. *Nature* (London) 443: 818–822.
- Johnson D,** Sung G-H, Hywel-Jones NL, Luangsa-ard JJ, Bischoff FJ, Kepler RM, Spatafora JW. 2009. Systematics and evolution of the genus *Torrubiella* (Hypocreales, Ascomycota). *Mycological Research* 113: 279–289.
- Keller S,** Petrini O. 2005. Keys to the identification of the arthropod genera of the families Entomophthoraceae and Neozygitaceae (Zygomycetes), with descriptions of three new subfamilies and a new genus. *Sydowia* 57: 23–53.
- Kepler R,** Sung G-H, Ban S, Nakagiri A, Chen M-J, Huang B, Li Z, Spatafora JW. 2012. New teleomorph combinations in the entomopathogenic genus *Metacordyceps*. *Mycologia* 104:182–197.
- Kepler R,** Ban S, Nakagiri A, Bischoff J, Hywel-Jones N, Owensby CA, Spatafora JW. 2013. The phylogenetic placement of hypocrealean insect pathogens in the genus *Polycephalomyces*: An application of One Fungus One Name. *Fungal Biology* 117: 611–622.
- Kepler RM,** Rehner SA. 2013. Genome-assisted development of nuclear intergenic sequence markers for entomopathogenic fungi of the *Metarhizium anisopliae* species complex. *Molecular Ecology Resources* 13: 210–217
- Kepler RM,** Humber RA, Bischoff JF, Rehner SA. 2014. Clarification of generic and species boundaries for *Metarhizium* and related fungi through multigene phylogenetics. *Mycologia* 106: 811–829.
- Kepler RM,** Luangsa-ard J, Hywel-Jones N, Quandt CA, Sung G-H, Rehner SA, Aime MC, Henkel TW, Sanjuan T, Zare R, Chen M, Li Z, Rossman AY, Spatfora JW, Shrestha B. 2017. A phylogenetically-based nomenclature for Cordycipitaceae (Hypocreales). *IMA Fungus* 8: 335–353.
- Khonsanit, A,** Luangsa-ard J, Thanakipipattana D, Noisripoom W, Chaitika, T, Kobmoo N. 2020. Cryptic diversity of the genus *Beauveria* with a new species from Thailand. *Mycological Progress* 19:291–315.
- Korf RP.** 2005. Reinventing taxonomy: a curmudgeon's view of 250 years of fungal taxonomy, the crisis in biodiversity, and the pitfalls of the phylogenetic age. *Mycotaxon* 93: 407–415.
- McNeill J,** Barrie FR, Buck WR, Demoulin V, Greuter W, Hawksworth DL, Herendeen PS, Knapp S, Marhold K, Prado J, Prud'homme van Reine WF, Smith GF, Wiersema JH, Turland NJ. 2012. *International Code of Nomenclature for algae, fungi, and plants* (Melbourne Code). Regnum Vegetabile 154. Koeltz Scientific Books: Koenigstein, Germany. [Also online at <http://www.iapt-taxon.org/nomen/main.php>]
- Money NP.** 2013. Against the naming of fungi. *Fungal Biology* 117: 463–465.
- Mongkolsamrit S,** Noisripoom W, Thanakitpipattana, Wutikhun T, Spatafora, JW, Luangsa-ard J. 2018. Disentangling cryptic species with Isaria-like morphs in Cordycipitaceae. *Mycologia* 110: 230–257.
- O'Donnell K,** Humber RA, Geiser DM, Kang S, Park B, Robert VARG, Crous PW, Johnston PR, Aoki T, Rooney AP, Rehner SA. 2012. Phylogenetic diversity of insecticolous fusaria inferred from multilocus DNA sequence data and their molecular identification via FUSARIUM-ID and Fusarium MLST. *Mycologia* 104: 427–445.
- Quandt CA,** Kepler RM, Gams W, Araujo JPM, Ban S, Evans HC, Hughes D, Humber R, Hywel-Jones N, Li Z, Luangsa-ard J, Rehner SA, Sanjuan T, Sato H, Shrestha B, Sung G-H, Yao Y-J, Zare R, Spatafora JW. 2014. Phylogenetically based nomenclatural proposals for Ophiocordycipitaceae (Hypocreales) with new combinations in *Tolypocladium*. *IMA Fungus* 5:121–134.

Rehner SA, Minnis AM, Sung G-H, Luangsa-ard JJ, Devotto L, Humber RA. 2011. Phylogenetic systematics of the anamorphic, entomopathogenic genus *Beauveria* (Hypocreales, Ascomycota). *Mycologia* 103: 1055–1073. (doi: 10.3852/10-302).

Schoch CL, Seifert KA, Huhndorf S, Robert V, Spouge JL, Levesque CA, Chen W, Bolchacova E, Voigt K, Crous PW, Miller AN, Wingfield MJ, Aime MC, An K-D, Bai F-Y, Barreto RW, Begerow D, Bergeron M-J, Blackwell M, Boekhout T, Bogale M, Boonyuen N, Burgaz AR, Buyck B, Cai L, Cai Q, Cardinali G, Chaverri P, Coppins BJ, Crespo A, Cubas P, Cummings C, Damm U, Beer ZW de, Hoog GS de, Del-Prado R, Dentinger B, Diéguez-Uribeondo J, Divakar PK, Douglas B, Dueñas M, Duong TA, Eberhardt U, Edwards JE, Elshahed MS, Fliegerova K, Furtado M, García MA, Ge Z-W, Griffith GW, Griffiths K, Groenewald JZ, Groenewald M, Grube M, Gryzenhout M, Guo L-D, Hagen F, Hambleton S, Hamelin RC, Hansen K, Harrold P, Heller G, Herrera C, Hirayama K, Hirooka Y, Ho H-M, Hoffmann K, Hofstetter V, Högnabba F, Hollingsworth PM, Hong S-B, Hosaka K, Houbraken J, Hughes K, Huhtinen S, Hyde KD, James T, Johnson EM, Johnson JE, Johnston PR, Jones EBG, Kelly LJ, Kirk PM, Knapp DG, Kõljalg U, Kovács GM, Kurtzman CP, Landvik S, Leavitt SD, Liggenstoffer AS, Liimatainen K, Lombard L, Luangsa-ard JJ, Lumbsch HT, Maganti H, Maharachchikumbura SSN, Martin MP, May TW, et al. 2012. Nuclear ribosomal internal transcribed spacer (ITS) region as a universal DNA barcode marker for Fungi. *Proceedings of the National Academy of Sciences (USA)* 109: 6241–6246.

Spatafora JW, Chang Y, Benny GL, Lazarus K, Smith ME, Berbee ML, Bonito G, Corradi N, Grogoriev I, Gryganskyi A, James TY, O'Donnell K, Roberson RW, Taylor TN, Uehling J, Vilgalys R, White MM. 2016. A phylum-based phylogenetic classification of zygomycete fungi based on genome-scale data. *Mycologia* 108: 1028–1046.

ARS Collection of Entomopathogenic Fungal Cultures

History and Purpose of the ARSEF Collection

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

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

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

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

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

Identifying and Acknowledging ARSEF Strains in Publications

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

Accession numbers of strains from commercial culture collections such as the American Type Culture Collection (ATCC), Centraalbureau voor 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 culture collections.**

Depositing and Exchanging Cultures

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

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

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

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

Diagnostic Services for Cultures and Specimens

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

Release of ARSEF Cultures from Containment or Quarantine

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

Ordering Information

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

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

Telephone: [+1] 607 255-7008

OR Email: Louela.Castrillo@usda.gov

Academic, Government, and Other Nonprofit Institutions

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

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

contact Curator

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

Commercial and Industrial Institutions

1–12 isolates [per calendar year]

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

Terms of Shipment

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

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

ARSEF reserves the right to refuse to ship isolates

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

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

Interpretation of Strain Accession Data

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

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

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

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

***Conidiobolus thromboides* Drechsler**

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

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

***Hirsutella thompsonii* Fisher**

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

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

Abbreviations

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

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

GCRI	Horticulture Research International (formerly, Glasshouse Crops Research Institute), Worthing Road, Littlehampton, W. Sussex BN17 6LP, England, UK
HACC	Hindustan Antibiotics Ltd., Pimpri, Poona, India
IMI	(Now incorporated in United Kingdom National Culture Collection [UKNCC]) CABI Bioscience, Bakeham Lane, Egham, Surrey TW20 9TY, UK
INRA	Station de Recherches de lutte Biologique et Biocoenotique, INRA (Institut National de la Recherche Agronomique), La Minière – 78280 Guyancourt, France
IPLB	Unité de Lutte Biologique, Institut Pasteur, 28 Rue de Dr. Roux, 75724 Paris, France
IRRI	International Rice Research Institute, P.O. Box 933, Manila, Philippines
KEFC	(see EFCC)
KSU	Kansas State University, Department of Entomology, Manhattan, Kansas 66506, USA
MAF	Ministry of Agriculture and Fisheries, Canterbury Agriculture and Science Centre, Ellesmere Junction Road, P.O. Box 24, Lincoln, New Zealand
MU	Miami University, Willard Sherman Turrell Herbarium, Department of Botany, 79 Upham Hall, Oxford, Ohio 45056, USA
NCTC	National Collection of Type Cultures, Public Health Laboratory Service, 61 Colindale Ave., London NW9 5HT, England, UK
NRRL	ARS Culture Collection, USDA-ARS National Center for Agricultural Utilization Research, 1815 N. University, Peoria, Illinois 61604, USA
PSU	The Pennsylvania State University, 211 Buckhout Laboratory, University Park, Pennsylvania 16802, USA
QEC	Queen Elizabeth College, University of London, Department of Biology, Campden Hill Road, London W8 7AH, England, UK
QM	U.S. Army Natick Laboratories (formerly, Quartermaster Research and Development Center), Natick Massachusetts. Note: This collection has been transferred to NRRL.
RSA	Rancho Santa Ana Botanic Garden, 1500 North College Ave., Claremont, California 91711, USA
SBI	Sugarcane Breeding Institute, Indian Council of Agricultural Research, Coimbatore – 641 007, Tamil Nadu, India
UAF	University of Arkansas, Department of Entomology, 321 Agriculture Building, Fayetteville, Arkansas 72701, USA
UAMH	University of Alberta Microfungus Collection, Devonian Botanic Garden, University of Alberta, Alberta T6G 2H7, Canada

List of isolates by insect host: order Diptera

[Oomycetes]

- 13229 Larva, [Diptera: Culicidae]. 5 Feb 2016. Brazil: RPPN SB Eco.. **RESTRICTED ACCESS:** *contact Curator*.
- 13232 Sentinel larva, [Diptera: Culicidae]. 8 Feb 2016. Brazil: SENAC, Gurupi, Tocantins. S 11° 44' 00.01", W 49° 04' 41.70". Sentinal 1 **RESTRICTED ACCESS:** *contact Curator*.
- 13243 Sentinel larva, [Diptera: Culicidae]. 12 Feb 2016. Brazil: Cavalos III, Tocantins. 12? 00' 31.80" S 49? 41' 16.89" W Sentinal 36 **RESTRICTED ACCESS:** *contact Curator*.
- 13250 Sentinel larva, [Diptera: Culicidae]. 11 Feb 2016. Brazil: Barjao de Taboca, Tocantins. S 12° 02' 43.49", W 49° 42' 27.08" Sentinal 23. **RESTRICTED ACCESS:** *contact Curator*.
- 13252 Sentinel larva, [Diptera: Culicidae]. 13 Feb 2016. Brazil: Aductor V, Tocantins. S 11° 53' 11.91", W 49° 42' 05.87" Sentinal 45. **RESTRICTED ACCESS:** *contact Curator*.
- 13253 Sentinel larva, [Diptera: Culicidae]. 16 Feb 2016. Brazil: Fazenda, Tocantins. S 10° 52' 10.35", W 49° 44' 15.88" Sentinal 57. **RESTRICTED ACCESS:** *contact Curator*.
- 13296 Larva, [Diptera: Culicidae]. 19 Feb 2016. Brazil: Fazenda, Tocantins. 10?52'10.35" S 49?44'15.88" W .
- 13297 Larva, [Diptera: Culicidae]. 16 Feb 2016. Brazil: Represa UFT, Tocantins. 11?44'35.14" S 49?03'04.14" W .
- 13299 Larva, [Diptera: Culicidae]. 9 Apr 2016. Brazil: RPPN Santa Branca Ecoturism. 16?25'04.67" S 49?05'45.90" W .
- 13300 Larva, [Diptera: Culicidae]. 22 Jun 2016. Brazil: RPPN Santa Branca Ecoturism. 16?25'04.77" S 49?05'45.97" W .
- 13301 Larva, [Diptera: Culicidae]. 14 Jul 2016. Brazil: RPPN Santa Branca Ecoturism. 16?25'04.77" S 49?05'45.90" W .

Unidentified / Hyphomycetes

- 7078 KT Hodge (PR31). [Diptera] on frond of *Prestoea montana*. 6 Jul 2002. USA: El Yunque, Caribbean National Forest, Tradewinds Trail, Río Grande Municipio, Puerto Rico.
- 10171 [ERL 1847] S Gouli and V Gouli (Thr.-10-55). [Diptera] fungus gnats. 2010. USA: Rupert, Vermont.
- 13244 Sentinel larva, [Diptera: Culicidae]. 13 Feb 2016. Brazil: Lago III, Tocantins. contaminant - not saved.
- 13254 Sentinel larva, [Diptera: Culicidae]. 16 Feb 2016. Brazil: Fazenda, Tocantins. S 10° 51' 47.97", W 49° 43' 32.34" Sentinal 59. **RESTRICTED ACCESS:** *contact Curator*.

Unidentified / Zygomycetes

- 5125 J Hatting (B.1). *Leucopis ninae* [Diptera: Chamaemyiidae]. Rec'd 25 Jan 1996. South Africa: Greenhouse, Bethlehem, Free State.

Unidentified Entomophthorales sp.

[Entomophthoromycotina: Entomophthorales]

- 7227 AE Hajek (03 NY 8-1-1). [Diptera: Tipulidae]. 13 Aug 2003. USA: Backyard, 205 Salem Drive, Ithaca, New York.
- 7228 AE Hajek (03 NY 8-1-2). [Diptera: Tipulidae]. 13 Aug 2003. USA: Backyard, 205 Salem Drive, Ithaca, New York.
- 7229 AE Hajek (03 NY 8-1-3). [Diptera: Tipulidae]. 13 Aug 2003. USA: Backyard, 205 Salem Drive, Ithaca, New York.
- 7230 AE Hajek (03 NY 8-1-4). [Diptera: Tipulidae]. 13 Aug 2003. USA: Backyard, 205 Salem Drive, Ithaca, New York.

Unidentified sp.

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

- 371 JP Kramer (4) or (130c). [Diptera: Tipulidae]. Location not specified.
- 1631 TJ Poprawski (0118B). Larva, *Calliphora* sp. [Diptera: Calliphoridae]. 27 Jun 1984. France: Sèvres, Yvelines.
- 1632 TJ Poprawski (0118C). Larva, *Calliphora* sp. [Diptera: Calliphoridae]. 27 Jun 1984. France: Sèvres, Yvelines.
- 1633 TJ Poprawski (0118D). Larva, *Calliphora* sp. [Diptera: Calliphoridae]. 27 Jun 1984. France: Sèvres, Yvelines.
- 1922 M Shimazu (FE2). [Diptera]. Summer 1985. USA: Allegany State Park, Salamanca, New York.
- 2029 TJ Poprawski (0173). [Diptera: Anthomyiidae]. France: Orgerus.
- 2563 JC Lord (Bartow C). *Anopheles* sp. [Diptera: Culicidae]. 8 Feb 1988. USA: abandoned phosphate pit, Bartow, Florida.
- 3123 K Ostrovska (53). *Lutzomyia* sp. [Diptera: Psychodidae]. Rec'd 3 Dec 1991. Costa Rica: La Montana.
- 3124 K Ostrovska (54). *Lutzomyia* sp. [Diptera: Psychodidae]. Rec'd 3 Dec 1991. Costa Rica: Nazareth, Guanacaste.
- 3227 M Nadeau (213). Adult, [Diptera: Simuliidae]. 1 Jun 1990. Canada: Réserve Faunique du Saint, Maurice, Québec.
- 3228 M Nadeau (336). Adult, [Diptera: Simuliidae]. 17 Jul 1990. Canada: Réserve Faunique du Saint, Maurice, Québec.

- 3230 M Nadeau (371). Adult, [Diptera: Simuliidae]. 31 Jul 1990. Canada: Réserve Faunique du Saint, Maurice, Québec.
- 3231 M Nadeau (362). Adult, [Diptera: Simuliidae]. 31 Jul 1990. Canada: Réserve Faunique du Saint, Maurice, Québec.
- 3232 M Nadeau (327). Adult, [Diptera: Simuliidae]. 4 Jul 1990. Canada: Réserve Faunique du Saint, Maurice, Québec.
- 3233 M Nadeau (373). Adult, [Diptera: Simuliidae]. 31 Jul 1990. Canada: Réserve Faunique du Saint, Maurice, Québec.
- 3235 M Nadeau (329). Adult, [Diptera: Simuliidae]. 4 Jul 1990. Canada: Réserve Faunique du Saint, Maurice, Québec.
- 3236 M Nadeau (454). Adult, [Diptera: Simuliidae]. 11 Sep 1990. Canada: Réserve Faunique du Saint, Maurice, Québec.
- 3245 M Nadeau (231). Adult, [Diptera: Simuliidae]. 19 Jun 1990. Canada: Réserve Faunique du Saint, Maurice, Québec.
- 3246 M Nadeau (240). Adult, [Diptera: Simuliidae]. 20 Jun 1990. Canada: Réserve Faunique du Saint, Maurice, Québec.
- 3247 M Nadeau (228). Adult, [Diptera: Simuliidae]. 19 Jun 1990. Canada: Réserve Faunique du Saint, Maurice, Québec.
- 3378 K Ostrovska (3) ← PG Lawlor. *Lutzomyia* sp. [Diptera: Psychodidae]. Jul 1991. Guatemala: Tical, Petén.
- 3380 K Ostrovska (6) ← GC Lanzaro. *Anopheles gambiae* [Diptera: Culicidae]. 24 Aug 1991. Mali: inside houses, Werekla, Koulikoro.
- 3381 K Ostrovska (9) ← GC Lanzaro. *Anopheles gambiae* [Diptera: Culicidae]. 24 Aug 1991. Mali: inside houses, Werekla, Koulikoro.
- 3413 K Ostrovska (20) ← MV Herrero. Male, *Lutzomyia saulensis* [Diptera: Psychodidae]. 22 Sep 1991. Costa Rica: Santa Rosa National Park, Guanacaste.
- 3417 K Ostrovska (26) ← MV Herrero. Male, *Lutzomyia saulensis* [Diptera: Psychodidae]. 22 Sep 1991. Costa Rica: Santa Rosa National Park, Guanacaste.
- 3419 K Ostrovska (29) ← MV Herrero. Male, *Lutzomyia saulensis* [Diptera: Psychodidae]. 22 Sep 1991. Costa Rica: Santa Rosa National Park, Guanacaste.
- 3420 K Ostrovska (31) ← MV Herrero. *Lutzomyia* sp. [Diptera: Psychodidae]. 22 Sep 1991. Costa Rica: Santa Rosa National Park, Guanacaste.
- 3421 K Ostrovska (33) ← MV Herrero. *Lutzomyia* sp. [Diptera: Psychodidae]. 23 Sep 1991. Costa Rica: Brasilito, Guanacaste.
- 3422 K Ostrovska (34) ← MV Herrero. Male, *Lutzomyia longipalpis* [Diptera: Psychodidae]. 23 Sep 1991. Costa Rica: Brasilito, Guanacaste.
- 3423 K Ostrovska (35). *Lutzomyia* sp. [Diptera: Psychodidae]. 21 Sep 1991. Costa Rica: Nazareth, Guanacaste.
- 3424 K Ostrovska (36). *Lutzomyia* sp. [Diptera: Psychodidae]. 21 Sep 1991. Costa Rica: Nazareth, Guanacaste.
- 3425 K Ostrovska (37). *Lutzomyia* sp. [Diptera: Psychodidae]. 21 Sep 1991. Costa Rica: Nazareth, Guanacaste.
- 3426 K Ostrovska (40). Male, *Lutzomyia trapidoi* [Diptera: Psychodidae]. 4 Oct 1991. Costa Rica: La Selva.
- 3427 K Ostrovska (42). *Lutzomyia* sp. [Diptera: Psychodidae]. 4 Oct 1991. Costa Rica: La Selva.
- 3428 K Ostrovska (47). *Lutzomyia* sp. [Diptera: Psychodidae]. 4 Oct 1991. Costa Rica: La Selva.
- 9334 [ERL 1634] S Gouli (SVG-09) and V Gouli. *Tipula* sp. [Diptera: Tipulidae]. 2009. USA: Vermont.
- 13289 Larva, [Diptera: Culicidae]. 9 Apr 2016. Brazil: RPPN Santa Branca Ecoturism. 16°25'03" S 49°05'41" W .
- Achlya** sp. Nees
[Peronosporomycetes: Saprolegniales]
Peronosporomycetes: Saprolegniales: Saprolegniaceae.
- 13234 Sentinel larva, [Diptera: Culicidae]. 9 Feb 2016. Brazil: Beira Rio, Gurupi, Tocantins. S 11° 44' 28.41", W 49° 03' 48.04". Sentinel 11 **RESTRICTED ACCESS:** *contact Curator.*
- 13238 Sentinel larva, [Diptera: Culicidae]. 9 Feb 2016. Brazil: Represa UFT, Gurupi, Tocantins. S 11° 44' 35.50", W 49° 03' 04.87". Sentinel 15 **RESTRICTED ACCESS:** *contact Curator.*
- 13239 Sentinel larva, [Diptera: Culicidae]. 9 Feb 2016. Brazil: Perto UFT, Gurupi, Tocantins. S 11° 44' 30.68", W 49° 02' 39.74". **RESTRICTED ACCESS:** *contact Curator.*
- 13242 Sentinel larva, [Diptera: Culicidae]. 11 Feb 2016. Brazil: Formosa, Tocantins. 12° 00' 17.55" S 49° 40' 44.09" W Sentinel 25 **RESTRICTED ACCESS:** *contact Curator.*
- 13245 Sentinel larva, [Diptera: Culicidae]. 16 Feb 2016. Brazil: Fazenda, Tocantins. 10° 52' 50.49" S 49° 42' 20.41" W Sentinel 62 **RESTRICTED ACCESS:** *contact Curator.*
- 13295 Larva, [Diptera: Culicidae]. 17 Feb 2016. Brazil: Cavalos VII, Tocantins. 11°58'14.04" S 49°41'05.69" W .
- 13298 Larva, [Diptera: Culicidae]. 9 Apr 2016. Brazil: RPPN Santa Branca Ecoturism. 16°25'04.77" S 49°05'45.90" W .
- Amoebidium appalachense** Siri, MM White & Lichtwardt
[Mesomycetozoa: Amoebidiales]
- 9181 RW Lichtwardt (TN-27-W1A). *Chironomus* sp. [Diptera: Chironomidae]. Jul 2004. USA: Great Smoky Mountains National Park, Tennessee.
- 9255 RW Lichtwardt (TN-27-A3(a)). *Chironomus* sp. [Diptera: Chironomidae]. Aug 2004. USA: Great Smoky Mountains National Park, Tennessee.

9256 RW Lichtwardt (TN-27-W4). *Chironomus* sp. [Diptera: Chironomidae]. Aug 2004. USA: Great Smoky Mountains National Park, Tennessee.

Amoebidium parasiticum Cienkowski
[Mesomycetozoa: Amoebidiales]

9183 RW Lichtwardt (JAP-7-2). *Chironomus* sp. [Diptera: Chironomidae]. Mar 1964. Japan: Honshu.

Arthrobotrys oligospora Fresenius
[Orbiliomycetes: Orbiliales]
Orbiliaceae

5561 I Klingen (TØF 20.1). Pupa, *Delia floralis* [Diptera: Anthomyiidae] as bait from soil. 26 Sep 1996. Norway: Sparbu, Nord Trøndelag.

5562 I Klingen (VFA 7.1). Larva, *Delia floralis* [Diptera: Anthomyiidae] as bait from soil. 4 Sep 1996. Norway: Trofors, Nordland.

Aspergillus flavus Link:Fries
[Eurotiomycetes: Eurotiales]
Trichocomaceae

3144 MS Goettel. *Neobullieria citellivora* [Diptera: Sarcophagidae]. 2 Nov 1990. Canada: Picture Butte, Alberta.

3430 K Ostrovska (52). [Diptera: Bombyliidae]. 29 Sep 1991. Costa Rica: La Selva.

***Aspergillus niger*(?)** van Tieghem
[Eurotiomycetes: Eurotiales]
Trichocomaceae

7975 BC King (56). *Drosophila* sp. [Diptera: Drosophilidae] from Tanglefoot trap. 2004. Canada: University of British Columbia laboratory, Vancouver, British Columbia. GenBank match - AY373850 (100%) ITS. **RESTRICTED ACCESS: consult Curator.**

Barbatospora ambicaudata MM White, Siri & Lichtwardt
[Kickellomycotina: Harpellales]
Legeriomycetaceae

9020 RW Lichtwardt (TN-49-W4A). *Simulium vandalicum* [Diptera: Simuliidae]. Aug 2004. USA: Great Smoky Mountains National Park, Tennessee.

Basidiobolus haptosporus Drechsler
[Entomophthoromycotina: Entomophthorales]
Basidiobolaceae. Synonym: *Basidiobolus meristosporus* Drechsler. *B. haptosporus* is a probable synonym of *B. ranarum*.

Caution: This species can cause human mycoses; most strains can be demonstrated to survive temperatures $\geq 37^\circ\text{C}$. Exercise caution to avoid inhalation of conidia or contact with cuts or abrasions.

1347 S Balazy (1580b). [Diptera: Brachycera] attached to decayed wood in a brook. 11 Aug 1983. Poland: Wielkopolski National Park.

Batkoa apiculata (Thaxter) Humber
[Entomophthoromycotina: Entomophthorales]

Entomophthoraceae. The nuclei of this taxon stain well and have granular contents when mounted in aceto-orcein or other nuclear stains. This fungus has a morphologically similar ancylistaceous fungus, *Conidiobolus pseudapiculatus* (q.v.), whose nuclei do not stain well and do not have granular contents.

919 [ARSEF 1661] S Keller (450). [Diptera: Sciaridae]. Nov 1982. Switzerland: Zürich.

927 [ARSEF 1660] S Keller (449). [Diptera: Sciaridae]. Nov 1982. Switzerland: Zürich.

1660 [ARSEF 927] S Keller (449). [Diptera: Sciaridae]. Nov 1982. Switzerland: Zürich.

1661 [ARSEF 919] S Keller (450). [Diptera: Sciaridae]. Nov 1982. Switzerland: Zürich.

3224 P Folker-Hansen (E and 020590). *Bradysia paupera* [Diptera: Sciaridae]. 2 May 1990. Denmark.

3225 P Folker-Hansen (F and 040590). *Bradysia paupera* [Diptera: Sciaridae]. 4 May 1990. Denmark.

3226 P Folker-Hansen (I and 080990). *Bradysia paupera* [Diptera: Sciaridae]. 8 Sep 1990. Denmark.

Batkoa gigantea (S Keller) Humber
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae

214 S Keller (74). *Tipula paludosa* [Diptera: Tipulidae]. Rec'd Spring 1978. Switzerland.

215 S Keller (75). *Tipula paludosa* [Diptera: Tipulidae]. Rec'd Spring 1978. Switzerland.

403 [FPMI 768] S Keller (36). *Tipula paludosa* [Diptera: Tipulidae]. 8 Sep 1976. Switzerland.

Batkoa major (Thaxter) Humber
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae

12251 K Adesso. Adult, *Drosophila suzukii* [Diptera: Drosophilidae] on fruit of *Cornus kousa* Hance, kousa dogwood. 16 Aug 2013. USA: Tennessee State University, Otis L. Floyd Nursery Research Center, McMinnville, Tennessee.

***Batkoa papillata*(?)** (Thaxter) Humber
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae

7068 MM White (NF-7-W3a). [Diptera: Simuliidae]. Rec'd 16 Oct 2002. Canada: Newfoundland.

Batkoa pseudapiculatus S Keller
[Entomophthoromycotina: Entomophthorales]

Ancylistaceae. This species is morphologically similar to *Batkoa apiculata* (q.v.) in the size and shape of its primary conidia and production of stout rhizoids with a discoid holdfast.

2493 J Eilenberg (KVL 6). *Psila rosae* [Diptera: Psilidae]. 25 May 1986. Denmark: Strandholm, Fårevejle, Vestsjælland.

Fungal Cultures

- 2496 J Eilenberg (KVL 11). *Psila rosae* [Diptera: Psilidae]. 2 Jun 1986. Denmark: Strandholm, Fårevejle, Vestsjælland.
- 2497 J Eilenberg (KVL 21). *Psila rosae* [Diptera: Psilidae]. 11 Aug 1986. Denmark: Strandholm, Fårevejle, Vestsjælland.
- 2502 J Eilenberg (KVL 24). *Psila rosae* [Diptera: Psilidae]. Aug 1986. Denmark: Strandholm, Fårevejle, Vestsjælland.
- Beauveria* sp.**
[Sordariomycetes: Hypocreales]
Cordycipitaceae. Almost all strains listed here closely resemble *B. bassiana* (or *B. brongniartii*) but were not so identified because of small (and possibly insignificant) differences in conidia size and/or shape.
-
- 13290 Larva, [Diptera: Culicidae]. 9 Apr 2016. Brazil: RPPN Santa Branca Ecoturism. 16°25'03.72" S 49°05'41.23" W .
- 13293 Larva, [Diptera: Culicidae]. 9 Apr 2016. Brazil: RPPN Santa Branca Ecoturism. 16°25'16.14" S 49°06'20.23" W .
- 13294 Larva, [Diptera: Culicidae]. 22 Sep 2016. Brazil: RPPN Santa Branca Ecoturism. 16°25'04.67" S 49°05'45.90" W .
- 13814 *Musca domestica* [Diptera: Muscidae]. 12 Jul 2018. USA: Shadybrae poultry farm, Marietta, Lancaster County, Pennsylvania. Alexandra Pagac collector.
- Beauveria bassiana*** (Balsamo-Crivelli) Vuillemin
[Sordariomycetes: Hypocreales]
Cordycipitaceae. Major synonym: *Beauveria densa* (Link:Fries) Picard
-
- 710 ST Jaronski. *Eristalis latifrons* [Diptera: Syrphidae]. Feb 1981. USA.
- 1150 TJ Poprawski (83-37). Adult, [Diptera: Tachinidae] parasitic on *Sitona lineatus* [Coleoptera: Curculionidae]. 17 Nov 1983. France: Senneville.
- 1151 TJ Poprawski (83-05). Pupa, *Delia radicum* [Diptera: Anthomyiidae]. 24 Aug 1983. Canada: L'Acadie, Québec.
- 1514 TJ Poprawski (0103A). Pupa, *Musca autumnalis* [Diptera: Muscidae]. 13 Jun 1984. France: Le Trait, Seine-Maritime.
- 1630 TJ Poprawski (0118A). Larva, *Calliphora* sp. [Diptera: Calliphoridae]. 27 Jun 1984. France: Sèvres, Yvelines.
- 1864 TJ Poprawski (0168). Adult, *Delia antiqua* [Diptera: Anthomyiidae]. Acc'd 25 Mar 1985. France: La Minière.
- 1865 TJ Poprawski (0169). Adult, *Delia antiqua* [Diptera: Anthomyiidae]. Acc'd 25 Mar 1985. France: La Minière.
- 1866 TJ Poprawski (0170). Adult, *Delia antiqua* [Diptera: Anthomyiidae]. Acc'd 25 Mar 1985. France: La Minière.
- 1955 [CNPAF 85-7-23-2; CP 180] JC Lord and BP Magalhães. [Diptera: Muscidae]. 23 Jul 1985. Brazil: Santana do Ipanema, Alagoas.
- 1962 [CP 188] JC Lord and BP Magalhães. [Diptera]. Jul 1985. Brazil: Ribeira do Pombal, Bahia.
- 2454 [NCTC 2227] UAMH (1514) ← IMI (12942) ← T Petch. [Diptera]. Rec'd 1 Jun 1987. Sri Lanka.
- 2953 [UAF 189] DC Steinkraus. Adult, *Musca domestica* [Diptera: Muscidae]. 21 Jul 1989. USA: dairy farm, Cayuga County, New York.
- 2972 K Ostrovska. *Phlebotomus papatasi* [Diptera: Psychodidae]. Rec'd 1 Oct 1991. United Kingdom: laboratory colony, London School for Tropical Medicine & Hygiene, London, England.
- 4012 T Steenberg (194) ← M Steen. *Delia radicum* [Diptera: Anthomyiidae]. Jul 1989. Denmark: Insect Rearing Unit, Zealand.
- 5339 DW Watson (P 89) ← CJ Geden (P 89). *Musca domestica* [Diptera: Muscidae]. Summer 1989. USA: Powell Farm, Seneca County, New York.
- 5340 DW Watson (L 89) ← CJ Geden (L 89). *Musca domestica* [Diptera: Muscidae]. Summer 1989. USA: Lockwood Farm, Cayuga County, New York.
- 5341 DW Watson (W 89) ← CJ Geden (W 89). *Musca domestica* [Diptera: Muscidae]. Summer 1989. USA: Wood Farm, Schuyler County, New York.
- 5342 DW Watson (B 90) ← CJ Geden (B 90). *Musca domestica* [Diptera: Muscidae]. Summer 1990. USA: Bishop Farm, Cayuga County, New York.
- 5343 DW Watson (D 90) ← CJ Geden (D 90). *Musca domestica* [Diptera: Muscidae]. Summer 1990. USA: Dann Farm, Tompkins County, New York.
- 5344 DW Watson (H 90) ← CJ Geden (H 90). *Musca domestica* [Diptera: Muscidae]. Summer 1990. USA: Howland Farm, Tioga County, New York.
- 5345 DW Watson (L 90) ← CJ Geden (L 90). *Musca domestica* [Diptera: Muscidae]. Summer 1990. USA: Lockwood Farm, Cayuga County, New York.
- 5346 DW Watson (Pow 90) ← CJ Geden (Pow 90). *Musca domestica* [Diptera: Muscidae]. Summer 1990. USA: Power Farm, Cortland County, New York.
- 5347 DW Watson (W 90) ← CJ Geden (W 90). *Musca domestica* [Diptera: Muscidae]. Summer 1990. USA: Wood Farm, Schuyler County, New York.
- 5861 T Steenberg (SSL 627). Adult, *Musca domestica* [Diptera: Muscidae]. Jul 1997. Denmark: Stable, Lyngø, Zealand.
- 5862 T Steenberg (SSL 628). Adult, *Haematobia irritans* [Diptera: Muscidae]. Jul 1997. Denmark: Store Vildmose, Jutland.
- 5863 T Steenberg (SSL 631). Adult, *Musca domestica* [Diptera: Muscidae]. Jul 1997. Denmark: Stable, Lyngø, Zealand.
- 5864 T Steenberg (SSL 633). Adult, *Haematobia irritans* [Diptera: Muscidae]. Aug 1997. Denmark: Store Vildmose, Jutland.

- 5865 T Steenberg (SSL 634). Adult, *Haematobia irritans* [Diptera: Muscidae]. Aug 1997. Denmark: Jenslev, Hornsherred, Zealand.
- 5866 T Steenberg (SSL 638). Adult, *Haematobia irritans* [Diptera: Muscidae]. Aug 1997. Denmark: Jenslev, Hornsherred, Zealand.
- 6553 D Chandler (HRI 347.92). Pupa, *Delia radicum* [Diptera: Anthomyiidae]. Rec'd 13 Jul 2000. United Kingdom.
- 6555 D Chandler (HRI 365.92). Adult, *Delia radicum* [Diptera: Anthomyiidae]. Rec'd 13 Jul 2000. United Kingdom.
- 6563 D Chandler (HRI 405.94). Pupa, *Delia radicum* [Diptera: Anthomyiidae]. Rec'd 13 Jul 2000. United Kingdom.
- 6564 D Chandler (HRI 407.95). *Delia radicum* [Diptera: Anthomyiidae]. Rec'd 13 Jul 2000. United Kingdom.
- 6565 D Chandler (HRI 417.96). *Tipula paludosa* [Diptera: Tipulidae]. Rec'd 13 Jul 2000. United Kingdom.
- 6566 D Chandler (HRI 461.99). [Diptera: Sciaridae]. Rec'd 13 Jul 2000. United Kingdom.
- 6567 D Chandler (HRI 462.99). [Diptera: Ephydriidae]. Rec'd 13 Jul 2000. United Kingdom.
- 6568 D Chandler (HRI 465.99). Adult, *Delia radicum* [Diptera: Anthomyiidae]. Rec'd 13 Jul 2000. United Kingdom.
- 7049 C López Lastra. *Musca domestica* [Diptera: Muscidae] from poultry houses. 20 Apr 2002. Argentina: El Peligro, La Plata, Buenos Aires.
- 7269 JM Sung (EFCC 6521). [Diptera]. 7 Jul 2001. Republic of Korea: Welchul Mt., Jheonnam.
- 7940 JABB of the Carolinas Inc. (HF23). *Musca domestica* [Diptera: Muscidae]. 1997. USA: Dairy farm, Bell, Florida. **RESTRICTED ACCESS:** *contact Curator.*
- 8031 NV Meyling (KVL 03-122). *Pegoplata aestiva* [Diptera: Anthomyiidae]. 31 Jul 2002. Denmark: Bakkegården, Copenhagen, Tåstrup, Zealand. 55°40' N, 12°18' E.
- 8245 LA Castrillo (ST1) ← M Filotas. Pupa, *Scatella tenuicosta* [Diptera: Ephydriidae]. 2003. USA: Cornell University, greenhouse, Ithaca, New York.
- 8246 LA Castrillo (ST2) ← M Filotas. Pupa, *Scatella tenuicosta* [Diptera: Ephydriidae]. 2003. USA: Cornell University, greenhouse, Ithaca, New York.
- 8247 LA Castrillo (ST11) ← M Filotas. Adult, *Scatella tenuicosta* [Diptera: Ephydriidae]. 2003. USA: Cornell University, greenhouse, Ithaca, New York.
- 8707 RG Hollingsworth (H4). [Diptera]. 3 Jan 2007. USA: Bird Park, Hawai'i Volcanoes National Park, Hawaii.
- 8712 RG Hollingsworth (H11). [Diptera]. 8 Mar 2007. USA: Bird Park, Hawai'i Volcanoes National Park, Hawaii.
- 10141 [ERL 1801] S Gouli and V Gouli (Thr.-10-4). [Diptera] fungus gnats. 2010. USA: Rupert, Vermont.
- 10142 [ERL 1802] S Gouli (Thr.-10-5) and V Gouli. [Diptera: Muscidae]. 2010. USA: Rupert, Vermont.
- 10149 [ERL 1809] S Gouli and V Gouli (Thr.-10-12). [Diptera] fungus gnats. 2010. USA: Underhill, Vermont.
- 11845 [ERL 2026] S Gouli (THR-11-16) and V Gouli. [Diptera: Muscidae]. 2011. USA: Rupert, Vermont.
- 13813 [CJ Geden L90] *Musca domestica* [Diptera: Muscidae]. Summer 1990. USA: Lockwood Farm, Cayuga County, New York.
- Beauveria bassiana sensu lato*** (Balsamo-Crivelli)
Vuillemin
[Sordariomycetes: Hypocreales]
Cordycipitaceae
-
- 13255 Larva, [Diptera: Culicidae]. 6 Dec 2016. Brazil: Aruanã, Goiás. **RESTRICTED ACCESS:** *contact Curator.*
- 13303 [LA Wood EN1] *Haematobia irritans* [Diptera: Muscidae]. 24 Nov 2010. USA: Beef cattle ranch, Gainesville, Florida.
- 13304 [LA Wood EN1-1] *Haematobia irritans* [Diptera: Muscidae]. 24 Nov 2010. Laboratory manipulation. First passage of ARSEF 13303 through lab reared host. 13 August 2012.
- 13305 [LA Wood EN1-3] *Haematobia irritans* [Diptera: Muscidae]. 24 Nov 2010. Laboratory manipulation. Third passage of ARSEF 13303 through lab reared host. 02 November 2012.
- 13306 [LA Wood EN1-5] *Haematobia irritans* [Diptera: Muscidae]. 24 Nov 2010. Laboratory manipulation. Fifth passage of ARSEF 13303 through lab reared host. 22 February 2013.
- 13307 [LA Wood EN1-7] *Haematobia irritans* [Diptera: Muscidae]. 24 Nov 2010. Laboratory manipulation. Seventh passage of ARSEF 13303 through lab reared host. 08 July 2013.
- Beauveria pseudobassiana*** SA Rehner & Humber
[Sordariomycetes: Hypocreales]
Cordycipitaceae. Defined primarily by genotypic characters
-
- 5867 T Steenberg (SSL 641). Adult, *Haematobia irritans* [Diptera: Muscidae]. Aug 1997. Denmark: Ramløse, Zealand.
- Bionectria* sp.**
[Sordariomycetes: Hypocreales]
: Bionectriaceae
-
- 13230 Larva, [Diptera: Culicidae]. 5 Feb 2016. Brazil: RPPN SB Eco.. **RESTRICTED ACCESS:** *contact Curator.*

Candida cf. pseudoglaebosa Suzuki & Nakase
[Saccharomycetes: Saccharomycetales]

- 7146 WK Reeves. Larva, *Wyeomyia smithii* [Diptera: Culicidae]. 23 May 2003. USA: Bull Pen Bog, Jackson County, North Carolina.

Coelomyxidium simulii Debaisieux
[Blastocladiomycetes: Blastocladiales]

Cultures are vegetative only. No zoospores have been induced by any medium or treatment used. Zoospore ultrastructure is typically blastocladial.

- 209 LS Bauer. *Simulium fibrinflatum* [Diptera: Simuliidae]. 10 Jun 1977. USA: Penobscot River, Winn, Maine.
- 218 LS Bauer. *Simulium venustum* [Diptera: Simuliidae]. 24 May 1978. USA: Otter Pond Creek, Milford, Maine.

Conidiobolus sp.

[Entomophthoromycotina: Entomophthorales]

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

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

- 89 JD Vandenberg. [Diptera: Tipulidae] on spruce. 29 Jun 1976. USA: campground on pond, McNally, Maine.
- 2494 J Eilenberg (KVL 15). [Diptera: Anthomyiidae]. 25 Jul 1986. Denmark: Svanholm, Malmöhus.
- 2498 J Eilenberg (KVL 25). *Ptychoptera contaminata* [Diptera: Ptychopteridae]. 25 Aug 1986. Denmark: Kattinge Vig, Roskilde.
- 2508 [CP 235] SM dos Santos. *Musca branca* [Diptera: Muscidae]. 28 Feb 1987. Brazil: house, Goiânia, Goiás.
- 2672 J Eilenberg (KVL 49). *Delia radicum* [Diptera: Anthomyiidae]. 2 Aug 1988. Denmark: Roskilde, Zealand.
- 6424 MK Er. 3rd instar larva, *Tipula paludosa* [Diptera: Tipulidae]. 18 Dec 1999. United Kingdom: Grassland for recreation, Northumberland, England.

Conidiobolus coronatus (Costantin) Batko
[Entomophthoromycotina: Entomophthorales]

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

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

- 3379 K Ostrovska (4) ← PG Lawlor. *Lutzomyia* sp. [Diptera: Psychodidae]. Jul 1991. Guatemala: Tical, Petén.
- 3414 K Ostrovska (21) ← MV Herrero. Female, *Lutzomyia sordelli* [Diptera: Psychodidae]. 22 Sep 1991. Costa Rica: Santa Rosa National Park, Guanacaste.
- 3415 K Ostrovska (22) ← MV Herrero. Female, *Lutzomyia sordelli* [Diptera: Psychodidae]. 22 Sep 1991. Costa Rica: Santa Rosa National Park, Guanacaste.
- 9940 C Pérez Martínez (Lyc0 1). *Lycoriella ingenua* [Diptera: Sciaridae]. Feb 2005. Mexico: Hongos Rioxal, S.A., Veracruz.
- 9941 C Pérez Martínez (Lyc0 4). *Lycoriella ingenua* [Diptera: Sciaridae]. Feb 2005. Mexico: Hongos Rioxal, S.A., Veracruz.
- 9942 C Pérez Martínez (Lyc0 5). *Lycoriella ingenua* [Diptera: Sciaridae]. Feb 2005. Mexico: Hongos Rioxal, S.A., Veracruz.

Conidiobolus macrosporus Srinivasan & Thirumalachar
[Entomophthoromycotina: Entomophthorales]
Ancylistaceae

- 12830 [IP 396] Adult, [Diptera]. 6 Dec 2014. Brazil: Aruanã, Goiás. S 14° 48' 50.97", W 51° 04' 39.49". **RESTRICTED ACCESS:** *contact Curator.*

Conidiobolus thromboides Drechsler
[Entomophthoromycotina: Entomophthorales]

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

- 5 RS Soper. Adult, [Diptera: Heliomyzidae]. 31 Jul 1972. USA: Aroostook State Farm, Presque Isle, Maine.
- 70 [ARSEF 3363; IPLB 4] G Remaudière ← R Krejzova. *Culex pipiens pipiens* [Diptera: Culicidae]. Acc'd Feb 1978. Czech Republic.
- 86 [ARSEF 87] I Majchrowicz (17 16.6). [Diptera]. Sep 1974. Poland: Wielkopolski National Park.
- 87 [ARSEF 86] I Majchrowicz (17 16.6). [Diptera]. Sep 1974. Poland: Wielkopolski National Park.

4996 J Hatting (2). *Leucopis ninae* [Diptera: Chamaemyiidae]. 1995. South Africa: Insect rearing colony, Bethlehem, Free State.

Crypticola sp. Humber, Frances & Sweeney in Frances, Sweeney & Humber
[Peronosporomycetes: Myzocytiopsidales]
Crypticolaceae

13236 Sentinel larva, [Diptera: Culicidae]. 9 Feb 2016. Brazil: Represa UFT, Gurupi, Tocantins. S 11° 44' 35.14", W 49° 04' 04.14". Sentinel 14 **RESTRICTED ACCESS:** contact Curator.

13240 Sentinel larva, [Diptera: Culicidae]. 9 Feb 2016. Brazil: Represa saneatins, Tocantins. S 11° 46' 38.83", W 49° 01' 39.92". Sentinel 18 **RESTRICTED ACCESS:** contact Curator.

13241 Sentinel larva, [Diptera: Culicidae]. 9 Feb 2016. Brazil: Represa saneatins, Tocantins. 11? 46' 55.73" S 49? 01' 28.11" W Sentinel 19 **RESTRICTED ACCESS:** contact Curator.

Crypticola clavulifera Humber, Frances & Sweeney in Frances, Sweeney & Humber
[Peronosporomycetes: Myzocytiopsidales]
Crypticolaceae

1940 [ARSEF ?2529; ATCC 76239] SP Frances and AW Sweeney. Larva, *Forcipomyia marksae* [Diptera: Ceratopogonidae] breeding in the leaf axils of *Taro* sp. 8 Jun 1985. Australia: Millaa Millaa, Queensland.

13235 Sentinel larva, [Diptera: Culicidae]. 9 Feb 2016. Brazil: Beira Rio, Gurupi, Tocantins. S 11° 44' 28.86", W 49° 03' 47.48". Sentinel 12 **RESTRICTED ACCESS:** contact Curator.

Culicinomyces bisporalis Sigler, Frances & Panter
[Sordariomycetes: Hypocreales]

1948 [UAMH 5174] SP Frances (MM1) and AW Sweeney. Larva, *Aedes kochi* [Diptera: Culicidae] breeding in leaf axils. 4 Jun 1984. Australia: Millaa Millaa, Queensland.

1949 [UAMH 5175] SP Frances (MM2) and AW Sweeney. Larva, *Aedes kochi* [Diptera: Culicidae] breeding in leaf axils. 8 Jun 1985. Australia: Millaa Millaa, Queensland. **RESTRICTED ACCESS:** consult Curator.

Culicinomyces clavisporus Couch, Romney & Rao
[Sordariomycetes: Hypocreales]

360 DW Roberts ← JN Couch. *Anopheles quadrimaculatus* [Diptera: Culicidae]. USA: University Lake, Chapel Hill, North Carolina.

372 [UAMH 4848] JN Couch. *Anopheles quadrimaculatus* [Diptera: Culicidae]. Rec'd 1979. USA: University Lake, Chapel Hill, North Carolina.

541 [ARSEF 644] DW Roberts ← AW Sweeney (298A). Larva, *Anopheles amictus hilli* [Diptera: Culicidae]. 31 Oct 1980. Australia: Sydney, New South Wales.

582 [UAMH 4849] LS Olive (single spore isolate #1) ← SV Romney. *Anopheles quadrimaculatus* [Diptera: Culicidae]. Rec'd 10 Apr 1981. USA: University Lake, Chapel Hill, North Carolina.

583 [UAMH 4869] LS Olive (single spore isolate #2) ← SV Romney. *Anopheles quadrimaculatus* [Diptera: Culicidae]. Rec'd 10 Apr 1981. USA: University Lake, Chapel Hill, North Carolina.

584 [UAMH 4850] LS Olive (single spore isolate #3) ← SV Romney. *Anopheles quadrimaculatus* [Diptera: Culicidae]. Rec'd 10 Apr 1981. USA: University Lake, Chapel Hill, North Carolina.

585 LS Olive (single spore isolate #4) ← SV Romney. *Anopheles quadrimaculatus* [Diptera: Culicidae]. Rec'd 10 Apr 1981. USA: University Lake, Chapel Hill, North Carolina.

644 [ARSEF 541 (lost)] AW Sweeney (298A). Larva, *Anopheles amictus hilli* [Diptera: Culicidae]. Rec'd 13 Oct 1981. Australia: Sydney, New South Wales.

645 AW Sweeney (298B). Larva, *Anopheles amictus hilli* [Diptera: Culicidae]. Rec'd 13 Aug 1981. Australia: Sydney, New South Wales.

706 [UAMH 4851] AL Knight. Larva, [Diptera: Culicidae]. Rec'd Feb 1982. USA: North Carolina.

964 [ATCC 52635; CBS 755.83; IMI 280342] UAMH (4618) ← MS Goettel (FI-59). Larva, *Culiseta inornata* [Diptera: Culicidae]. 12 Aug 1982. Canada: pond, N of Devon, Alberta.

1260 UAMH (4854) ← MS Goettel (25B). Larva, *Culiseta inornata* [Diptera: Culicidae]. Acc'd 3 May 1984. Laboratory manipulation.

2471 SP Frances (MI2). Larva, *Aedes rupestris* [Diptera: Culicidae]. 8 Dec 1981. Australia: Mittagong, New South Wales.

2472 SP Frances (MI4). Larva, *Aedes rupestris* [Diptera: Culicidae]. 5 Jan 1982. Australia: Mittagong, New South Wales.

2473 SP Frances (MI5). Larva, *Aedes rupestris* [Diptera: Culicidae]. 12 May 1982. Australia: Mittagong, New South Wales.

2474 SP Frances (MI7). Larva, *Aedes rupestris* [Diptera: Culicidae]. 19 May 1982. Australia: Mittagong, New South Wales.

2475 SP Frances (MI11). Larva, *Aedes rupestris* [Diptera: Culicidae]. 9 Jun 1982. Australia: Mittagong, New South Wales.

2476 SP Frances (MI17). Larva, *Aedes rupestris* [Diptera: Culicidae]. 18 Aug 1982. Australia: Mittagong, New South Wales.

2477 SP Frances (MI19). Larva, *Aedes rupestris* [Diptera: Culicidae]. 6 Apr 1983. Australia: Mittagong, New South Wales.

2478 SP Frances (MI21). Larva, *Dasyhelea* sp. [Diptera: Ceratopogonidae]. 27 Apr 1983. Australia: Mittagong, New South Wales.

- 2479 SP Frances (VI1). Larva, *Culiseta inconspicua* [Diptera: Culicidae]. 6 Dec 1984. Australia: Mallacoota, Victoria.
- 2480 SP Frances (QI1) ← DW Roberts and AW Sweeney. Larva, *Forcipomyia marksae* [Diptera: Ceratopogonidae]. 16 Aug 1985. Australia: Millaa Millaa, Queensland.
- 2481 SP Frances (QI2). Larva, *Forcipomyia marksae* [Diptera: Ceratopogonidae]. 30 Oct 1985. Australia: Millaa Millaa, Queensland.
- 2482 UAMH (4854) ← MS Goettel (25B). *Culiseta inornata* [Diptera: Culicidae]. Acc'd 19 Nov 1987. Laboratory manipulation.
- 2622 MS Goettel ← SP Frances (MI26) and AW Sweeney. [Diptera: Culicidae]. Acc'd 20 Oct 1988. Australia.

Entomophaga conglomerata (Sorokin) S Keller
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae

- 1847 N Wilding (106). Adult, [Diptera: Culicidae]. 20 Jul 1982. United Kingdom: water tank, Rothamsted Experimental Station, Hertfordshire, England.
- 2272 EL Cuebas-Incle (I). Adult, [Diptera: Chironomidae]. 26 Jul 1985. USA: Michigan Hollow, Danby, New York.
- 2273 EL Cuebas-Incle (II). Adult, [Diptera: Chironomidae]. 25 Sep 1986. USA: Michigan Hollow, Danby, New York.

Entomophaga tabanivora (Anderson & Magnarelli)
Humber
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae

- 627 [FPMI 769] BA Mullens. Female adult, *Atylotus thoracis* [Diptera: Tabanidae]. 16 Jul 1981. USA: Landers Corners Bog, Cortland County, New York.

Entomophthora culicis (Braun) Fresenius
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae

- 387 S Keller (55). [Diptera: Nematocera]. Rec'd 3 Oct 1979. Switzerland: Zürich.
- 780 JP Kramer. *Chironomus decorus* [Diptera: Chironomidae]. Jul 1981. USA: U.S. Dept. of Interior fish hatchery pond # 3, Ithaca, New York.
- 5811 J Eilenberg (KVL 98-4). [Diptera: Chironomidae]. Aug 1997. Denmark: KVL garden, Copenhagen, Frederiksberg, Zealand.

Entomophthora ferdinandii S Keller ex S Keller
[Entomophthoromycetes : Entomophthorales]

- 6918 A Bruun Jensen (KVL 99-92). *Coenosia tigrina* [Diptera: Muscidae]. 29 Jul 1999. Denmark: Ørslev, Zealand.

Entomophthora muscae (Cohn) Fresenius
[Entomophthoromycotina: Entomophthorales]

Entomophthoraceae. This taxon is a partially resolved species complex (see Keller, 1984, Mitt. Schweiz. Entomol. Ges. 57: 131-132). Most strains are provided only as vegetative protoplasts in liquid tissue culture medium.

- 16 [NRRL 3743] ATCC (15431) ← MJ Thirumalacher. *Musca domestica* [Diptera: Muscidae]. Rec'd 2 Oct 1972. India.
- 392 [ARSEF 466 (lost)] S Keller (39). [Diptera]. Rec'd 18 Oct 1979. Switzerland.
- 454 RA Humber ← JP Kramer. *Musca domestica* [Diptera: Muscidae]. Mar 1980. USA: laboratory colony, Ithaca, New York.
- 466 [ARSEF 392] S Keller (39). [Diptera]. Rec'd 27 May 1980. Switzerland.
- 556 RA Humber. *Musca domestica* [Diptera: Muscidae]. 11 Mar 1981. USA: JP Kramer's laboratory colony, Cornell University, Ithaca, New York.
- 557 BJ Martinell. *Musca domestica* [Diptera: Muscidae]. 10 Mar 1981. USA: Boyce Thompson Institute, Ithaca, New York.
- 651 BJ Martinell ← DE McCabe. *Pollenia rudis* [Diptera: Calliphoridae]. 5 Nov 1981. USA: Keuka Park, New York.
- 707 RA Humber. *Delia platura* [Diptera: Anthomyiidae]. 20 Feb 1982. United Kingdom: N Wilding's greenhouse colony, Rothamsted Experimental Station, Hertfordshire, England.
- 803 JD Vandenberg. *Musca domestica* [Diptera: Muscidae]. Acc'd 7 Mar 1988. USA: 119 Middaugh Rd., Brooktondale, New York.
- 826 DC Steinkraus. [Diptera: Syrphidae]. 1982. USA: Ithaca, New York.
- 969 BA Mullens. *Musca domestica* [Diptera: Muscidae]. Sep 1983. USA: Riverside, California.
- 2014 RA Humber. *Musca domestica* [Diptera: Muscidae]. 10 Mar 1981. USA: JP Kramer's laboratory colony, Cornell University, Ithaca, New York.
- 2087 TJ Poprawski (0195). Adult, [Diptera: Anthomyiidae] in rapeseed field. Acc'd 19 Feb 1986. France: Béhoust, Yvelines.
- 2088 TJ Poprawski (0196). Adult, [Diptera: Anthomyiidae] in rapeseed field. Acc'd 19 Feb 1986. France: Béhoust, Yvelines.
- 2089 TJ Poprawski (0197). Adult, *Delia* sp. [Diptera: Anthomyiidae] in sunflower field. Acc'd 19 Feb 1986. France: Béhoust, Yvelines.
- 2090 TJ Poprawski (0198). Adult, *Delia* sp. [Diptera: Anthomyiidae] in sunflower field. Acc'd 19 Feb 1986. France: Béhoust, Yvelines.
- 2172 BA Mullens. *Musca domestica* [Diptera: Muscidae]. Acc'd 30 May 1986. USA: Riverside, California.
- 2263 TJ Poprawski (8617). Adult, *Delia* sp. [Diptera: Anthomyiidae] on rapeseed. 16 Jun 1986. France: Béhoust, Yvelines.

- 2264 TJ Poprawski (8619). Adult, *Delia* sp. [Diptera: Anthomyiidae] on rapeseed. 16 Jun 1986. France: Béhoust, Yvelines.
- 2265 TJ Poprawski (8622). Adult, *Delia* sp. [Diptera: Anthomyiidae] on rapeseed. 19 Jun 1986. France: Béhoust, Yvelines.
- 2266 TJ Poprawski (8624). Adult, *Delia* sp. [Diptera: Anthomyiidae] on rapeseed. 19 Jun 1986. France: Béhoust, Yvelines.
- 2317 TJ Poprawski (8640). Adult, *Delia* sp. [Diptera: Anthomyiidae] on sugar beet. 14 Oct 1986. France: Béhoust, Yvelines.
- 2542 J Eilenberg (KVL 3) ← U Olesen. *Musca domestica* [Diptera: Muscidae]. Sep 1986. Denmark: Ribe, Filskov, Jutland.
- 2543 J Eilenberg (KVL 8) ← U Olesen. *Musca domestica* [Diptera: Muscidae]. Sep 1986. Denmark: Storkedal, Zealand.
- 2665 J Eilenberg (KVL 46). *Delia radicum* [Diptera: Anthomyiidae]. 14 Jun 1988. Denmark: Roskilde, Zealand.
- 2668 J Eilenberg (KVL 16). *Delia radicum* [Diptera: Anthomyiidae]. 25 Jul 1986. Denmark: Svanholm, Malmöhus.
- 2670 J Eilenberg (KVL 45). *Delia radicum* [Diptera: Anthomyiidae]. 14 Jun 1988. Denmark: Roskilde, Zealand.
- 2673 J Eilenberg (KVL 50). [Diptera: Syrphidae]. 2 Aug 1988. Denmark: Roskilde, Zealand.
- 2674 J Eilenberg (KVL 51). *Delia radicum* [Diptera: Anthomyiidae]. 28 Jul 1988. Denmark: Roskilde, Zealand.
- 2675 J Eilenberg (KVL 44). *Delia radicum* [Diptera: Anthomyiidae]. 14 Jun 1988. Denmark: Roskilde, Zealand.
- 2678 J Eilenberg (KVL 17). [Diptera: Anthomyiidae]. 31 Jul 1986. Denmark: Holmegaards Mose, Zealand.
- 3074 RI Carruthers and SB Krasnoff. Adult, *Delia antiqua* [Diptera: Anthomyiidae]. 9 Oct 1990. USA: Prattsburg, New York.
- 4786 J Eilenberg (KVL 96). *Delia radicum* [Diptera: Anthomyiidae]. Jul 1993. Denmark: Hegnstrup, Slangerup, Zealand.
- 4787 J Eilenberg (KVL 94). *Delia radicum* [Diptera: Anthomyiidae]. Rec'd 30 Sep 1994. Denmark: Hegnstrup, Slangerup, Zealand.
- 4788 J Eilenberg (KVL 95). *Delia radicum* [Diptera: Anthomyiidae]. Jul 1993. Denmark: Hegnstrup, Slangerup, Zealand.
- 4789 J Eilenberg (KVL 92). *Delia radicum* [Diptera: Anthomyiidae]. Jul 1993. Denmark: Hegnstrup, Slangerup, Zealand.
- 4790 J Eilenberg (KVL 93). *Delia radicum* [Diptera: Anthomyiidae]. Jul 1993. Denmark: Hegnstrup, Slangerup, Zealand.
- 5952 A Bruun Jensen (KVL 98-10). Adult, *Musca domestica* [Diptera: Muscidae]. 1 Sep 1998. Denmark: Dyssekilde, Hundested, Zealand.
- 5953 A Bruun Jensen (KVL 98-12). Adult, *Musca domestica* [Diptera: Muscidae]. 1 Sep 1998. Denmark: Dyssekilde, Hundested, Zealand.
- 5954 A Bruun Jensen (KVL 98-18). Adult, [Diptera: Muscidae]. 16 Aug 1998. Denmark: Amager, Zealand.
- 6121 A Bruun Jensen (KVL 99-1). Adult, *Musca domestica* [Diptera: Muscidae]. 7 Oct 1998. Denmark: Nordtoftedal, Farum, Zealand.
- 6122 A Bruun Jensen (KVL 99-2). Adult, *Musca domestica* [Diptera: Muscidae]. 7 Oct 1998. Denmark: Nordtoftedal, Farum, Zealand.
- 6123 A Bruun Jensen (KVL 99-3). Adult, *Musca domestica* [Diptera: Muscidae]. 7 Oct 1998. Denmark: Nordtoftedal, Farum, Zealand.
- 6124 A Bruun Jensen (KVL 99-5). Adult, *Musca domestica* [Diptera: Muscidae]. 7 Oct 1998. Denmark: Nordtoftedal, Farum, Zealand.
- 6125 A Bruun Jensen (KVL 99-6). Adult, *Musca domestica* [Diptera: Muscidae]. 7 Oct 1998. Denmark: Sigerslevøster, Zealand.
- 6126 A Bruun Jensen (KVL 99-7). Adult, *Musca domestica* [Diptera: Muscidae]. 7 Oct 1998. Denmark: Sigerslevøster, Zealand.
- 6127 A Bruun Jensen (KVL 99-8). Adult, *Musca domestica* [Diptera: Muscidae]. 7 Oct 1998. Denmark: Sigerslevøster, Zealand.
- 6128 A Bruun Jensen (KVL 99-9). Adult, *Musca domestica* [Diptera: Muscidae]. 7 Oct 1998. Denmark: Sigerslevøster, Zealand.
- 6129 A Bruun Jensen (KVL 99-10). Adult, *Musca domestica* [Diptera: Muscidae]. 7 Oct 1998. Denmark: Sigerslevøster, Zealand.
- 6130 A Bruun Jensen (KVL 99-11). Adult, *Musca domestica* [Diptera: Muscidae]. 7 Oct 1998. Denmark: Sigerslevøster, Zealand.
- 6131 A Bruun Jensen (KVL 99-12). Adult, *Musca domestica* [Diptera: Muscidae]. 7 Oct 1998. Denmark: Sigerslevøster, Zealand.
- 6132 A Bruun Jensen (KVL 99-13). Adult, *Musca domestica* [Diptera: Muscidae]. Sep 1998. Denmark: Kirke Såby, Zealand.
- 6133 A Bruun Jensen (KVL 99-14). Adult, *Musca domestica* [Diptera: Muscidae]. Sep 1998. Denmark: Kirke Såby, Zealand.
- 6134 A Bruun Jensen (KVL 99-15). Adult, *Musca domestica* [Diptera: Muscidae]. Sep 1998. Denmark: Kirke Såby, Zealand.
- 6135 A Bruun Jensen (KVL 99-16). Adult, *Musca domestica* [Diptera: Muscidae]. Sep 1998. Denmark: Kirke Såby, Zealand.
- 6136 A Bruun Jensen (KVL 99-17). Adult, *Musca domestica* [Diptera: Muscidae]. Sep 1998. Denmark: Kirke Såby, Zealand.

- 6140 A Bruun Jensen (KVL 99-22). Adult, *Musca domestica* [Diptera: Muscidae]. 20 Aug 1996. Denmark: Skævinge, Zealand.
- 6141 A Bruun Jensen (KVL 99-23). Adult, *Musca domestica* [Diptera: Muscidae]. 20 Aug 1996. Denmark: Skævinge, Zealand.
- 6164 A Bruun Jensen (KVL 99-4). Adult, *Musca domestica* [Diptera: Muscidae]. 7 Oct 1998. Denmark: Nordtoftedal, Farum, Zealand.
- 6165 A Bruun Jensen (KVL 99-21). Adult, *Musca domestica* [Diptera: Muscidae]. 20 Aug 1996. Denmark: Skævinge, Zealand.
- 6274 A Bruun Jensen ← I Kligen (NCRI 1-99). Female, *Delia radicum* [Diptera: Anthomyiidae]. Aug 1999. Norway: Ski, Akershus.
- 6701 A Bruun Jensen (KVL 00-92). [Diptera]. 29 Jun 2000. Denmark: Hundested, Zealand.
- 6706 A Bruun Jensen (KVL 99-75). *Delia radicum* [Diptera: Anthomyiidae]. 13 Jul 1999. Denmark: Hundested, Zealand.
- 6707 A Bruun Jensen (KVL 99-93). *Delia radicum* [Diptera: Anthomyiidae]. 13 Jul 1999. Denmark: Hegnstrup, Slangerup, Zealand.
- 6708 A Bruun Jensen (KVL 99-138). *Delia radicum* [Diptera: Anthomyiidae]. 13 Jul 1999. Denmark: Hegnstrup, Slangerup, Zealand.
- 6709 A Bruun Jensen (KVL 99-139). *Delia radicum* [Diptera: Anthomyiidae]. 13 Jul 1999. Denmark: Sengeløse, Zealand.
- 6710 A Bruun Jensen (KVL 01-21). *Delia radicum* [Diptera: Anthomyiidae]. 29 Jun 2000. Denmark: Hundested, Zealand.
- 6711 A Bruun Jensen (KVL 01-24). *Delia radicum* [Diptera: Anthomyiidae]. 23 Jul 2000. Denmark: Ørslev, Zealand.
- 6712 A Bruun Jensen (KVL 01-37). *Botanophila fugax* [Diptera: Anthomyiidae]. 30 Aug 2000. Denmark: Hegnstrup, Slangerup, Zealand.
- 6713 A Bruun Jensen (KVL 99-80). *Musca domestica* [Diptera: Muscidae]. 11 Jul 1999. Denmark: Sverkilde, Zealand.
- 6714 A Bruun Jensen (KVL 99-72). *Musca domestica* [Diptera: Muscidae]. 11 Jul 1999. Denmark: Sverkilde, Zealand.
- 6715 A Bruun Jensen (KVL 99-74). *Musca domestica* [Diptera: Muscidae]. 11 Jul 1999. Denmark: Sverkilde, Zealand.
- 6716 A Bruun Jensen (KVL 99-95). *Musca domestica* [Diptera: Muscidae]. 11 Jul 1999. Denmark: Sverkilde, Zealand.
- 6717 A Bruun Jensen (KVL 99-84). *Delia radicum* [Diptera: Anthomyiidae]. 13 Jul 1999. Denmark: Hegnstrup, Slangerup, Zealand.
- 6811 A Bruun Jensen (KVL 99-85). *Delia radicum* [Diptera: Anthomyiidae]. 13 Jul 1999. Denmark: Hegnstrup, Slangerup, Zealand.
- 6812 A Bruun Jensen (KVL 99-74). *Musca domestica* [Diptera: Muscidae]. 11 Jul 1999. Denmark: Sverkilde, Zealand.
- 6813 A Bruun Jensen (KVL 99-110). *Musca domestica* [Diptera: Muscidae]. 7 Oct 1999. Denmark: Knardrup, Zealand.
- 6814 A Bruun Jensen (KVL 99-109). *Delia radicum* [Diptera: Anthomyiidae]. 13 Jul 1999. Denmark: Hegnstrup, Slangerup, Zealand.
- 6815 A Bruun Jensen (KVL 99-102). *Delia radicum* [Diptera: Anthomyiidae]. 13 Jul 1999. Denmark: Sengeløse, Zealand.
- 6818 A Bruun Jensen (KVL 01-39). *Delia radicum* [Diptera: Anthomyiidae]. 18 Jul 2000. Denmark: Sengeløse, Zealand.
- 6821 A Bruun Jensen (KVL 01-22). *Delia radicum* [Diptera: Anthomyiidae]. 18 Jul 2000. Denmark: Sengeløse, Zealand.
- 7371 AE Hajek (04 NY 1-1-1). [Diptera]. 2 Jun 2004. USA: Yellow Barn State Forest, Dryden, New York.
- 13376 [HH de Fine Licht HHDFL 130914-01, KVL 14-115] *Musca domestica* [Diptera: Muscidae]. Rec'd 16 Nov 2017. Denmark: Birkedal farm cow stable, Slangerup, Zealand. 55.835571, 12.154350 genome sequenced.
- 13514 *Drosophila hydei* [Diptera: Drosophilidae]. 29 Jul 2015. USA: Berkeley, Alameda County, California.
- Entomophthora scatophagae*** Giard
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae
-
- 6704 A Bruun Jensen (KVL 00-60). *Scatophaga stercoraria* [Diptera: Scatophagidae]. 3 May 2000. Denmark: Tuse Næs, Zealand.
- 6705 A Bruun Jensen (KVL 00-61). *Scatophaga stercoraria* [Diptera: Scatophagidae]. 3 May 2000. Denmark: Tuse Næs, Zealand.
- Entomophthora schizophorae*** S Keller & Wilding in S Keller
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae
-
- 2540 J Eilenberg (KVL 1). *Psila rosae* [Diptera: Psilidae]. Aug 1984. Denmark: Strandholm, Fårevejle, Vestsjælland.
- 2541 J Eilenberg (KVL 2). *Psila rosae* [Diptera: Psilidae]. Sep 1985. Denmark: Strandholm, Fårevejle, Vestsjælland.
- 2667 J Eilenberg (KVL 13). *Psila rosae* [Diptera: Psilidae]. 23 Jun 1986. Denmark: Strandholm, Fårevejle, Vestsjælland.
- 4791 BA Mullens. *Pollenia rudis* [Diptera: Calliphoridae]. Rec'd 13 Sep 1994. USA: Riverside, California.
- 5348 DW Watson. *Musca domestica* [Diptera: Muscidae]. Aug 1987. USA: Seward, Nebraska.

- 6137 A Bruun Jensen (KVL 99-18). Adult, *Musca domestica* [Diptera: Muscidae]. 14 Aug 1996. Denmark: Roskilde, Zealand.
- 6138 A Bruun Jensen (KVL 99-19). Adult, *Musca domestica* [Diptera: Muscidae]. 14 Aug 1996. Denmark: Roskilde, Zealand.
- 6139 A Bruun Jensen (KVL 99-20). Adult, *Musca domestica* [Diptera: Muscidae]. 14 Aug 1996. Denmark: Roskilde, Zealand.
- 6142 A Bruun Jensen (KVL 99-24). Adult, *Musca domestica* [Diptera: Muscidae]. 10 Oct 1998. Denmark: Annisse, Zealand.
- 6143 A Bruun Jensen (KVL 99-25). Adult, *Musca domestica* [Diptera: Muscidae]. 10 Oct 1998. Denmark: Annisse, Zealand.
- 6703 A Bruun Jensen (KVL 01-38). *Pollenia* sp. [Diptera: Calliphoridae]. 2 Oct 2000. Denmark: Hundested, Zealand.
- 6816 A Bruun Jensen (KVL 00-94). *Pollenia* sp. [Diptera: Calliphoridae]. 2 Oct 2000. Denmark: Hundested, Zealand.
- 6817 A Bruun Jensen (KVL 00-93). *Pollenia* sp. [Diptera: Calliphoridae]. 4 Oct 2000. Denmark: Hundested, Zealand.

Entomophthora syrphi Giard

[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae

- 5955 A Bruun Jensen (KVL 98-19). Adult, *Triglyphus primus* [Diptera: Syrphidae]. 21 Aug 1998. Denmark: Zealand.
- 6702 A Bruun Jensen (KVL 01-36). *Platycheirus clypeatus* [Diptera: Syrphidae]. 9 Aug 2000. Denmark: Hegnstrup, Slangerup, Zealand.
- 6819 A Bruun Jensen (KVL 01-35). *Melanostoma scalare* [Diptera: Syrphidae]. Summer 2000. Denmark: Kalø, Jutland.
- 6820 A Bruun Jensen (KVL 01-34). *Melanostoma scalare* [Diptera: Syrphidae]. Summer 2000. Denmark: Kalø, Jutland.

***Erynia* sp.**

[Entomophthoromycotina: Entomophthorales]

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

- 876 [CNPAF 83-04-15-2B; CP 106] DW Roberts. [Diptera]. Apr 1983. Brazil: Barbalha, Ceará.
- 880 [CNPAF 83-04-15-2A; CP 110] BP Magalhães and DW Roberts. Adult, [Diptera]. Apr 1983. Brazil: Barbalha, Ceará.

- 884 [CNPAF 83-04-15-2C; CP 114] BP Magalhães and DW Roberts. Adult, [Diptera]. Apr 1983. Brazil: Barbalha, Ceará.
- 1338 S Balazy (1559). [Diptera: Brachycera] attached to the leaves of arboraceous plants. 22 May 1983. Poland: Bialowieza National Park.
- 2097 DG Holdom (130286). ?*Hydrellia* sp. [Diptera: Ephydriidae]. 13 Feb 1986. Indonesia: CIBA-GEIGY R & D Station, Cikampek, Jawa Barat, Java.
- 2433 CBO Keil. *Lycoriella mali* [Diptera: Sciaridae]. Rec'd 13 Aug 1987. Location not specified.
- 2434 CBO Keil. *Lycoriella mali* [Diptera: Sciaridae]. Rec'd 13 Aug 1987. Location not specified.
- 2495 J Eilenberg (KVL 14) ← T Møhl. [Diptera]. 30 Jun 1986. Denmark: Strandholm, Fårevejle, Vestsjælland.
- 2507 J Eilenberg (KVL 39) and N Wilding. [Diptera: Chironomidae]. 31 Aug 1987. United Kingdom: Rothamsted Experimental Station, Hertfordshire, England.

Erynia aquatica (Anderson & Ringo in Anderson & Anagnostakis) Humber

[Entomophthoromycotina: Entomophthorales]

Entomophthoraceae. Vegetative growth of this species is very sparse and slow. Strains should be in liquid tissue culture media incubated at 0-4°C.

- 364 RS Soper. [Diptera: Culicidae]. May 1979. USA: Cambridge, New York.
- 750 RA Humber and RG Lawlor. Adult, *Aedes* sp. [Diptera: Culicidae]. Acc'd 10 Dec 1987. USA: Cambridge, New York.
- 764 RA Humber and RG Lawlor. Pupa, [Diptera: Culicidae]. Jun 1982. USA: Memorial Rock, Sapsucker Woods, Ithaca, New York.
- 885 RA Humber. *Aedes* sp. [Diptera: Culicidae]. May 1983. USA: Sapsucker Woods, Ithaca, New York.

Erynia conica (Nowakowski) Remaudière & Hennebert

[Entomophthoromycotina: Entomophthorales]

Entomophthoraceae

- 401 S Keller (149). [Diptera]. 21 Aug 1978. Switzerland.
- 1439 N Hywel-Jones (H84178-2). *Simulium* sp. [Diptera: Simuliidae]. Jun 1984. United Kingdom: Fingle Bridge (River Teign), Devon, England.
- 1740 N Wilding (86). Adult, [Diptera: Culicidae]. 8 Sep 1978. United Kingdom: Rothamsted Experimental Station, Hertfordshire, England.
- 1752 S Keller (527). [Diptera: Simuliidae]. 24 Oct 1984. Switzerland.
- 1753 S Keller (528). [Diptera: Simuliidae]. 24 Oct 1984. Switzerland.
- 1755 S Keller (530). [Diptera: Simuliidae]. 24 Oct 1984. Switzerland.
- 2274 EL Cuebas-Incle (III). Adult, [Diptera: Chironomidae]. 2 Oct 1985. USA: Six Mile Creek, Brooktondale, New York.

- 2275 EL Cuebas-Incle (IV). Gravid female, [Diptera: Simuliidae]. 2 Oct 1985. USA: Six Mile Creek, Brooktondale, New York.
- 2277 EL Cuebas-Incle (VI). Adult, [Diptera: Chironomidae]. 20 Jun 1985. USA: Six Mile Creek, Ithaca, New York.
- 2278 EL Cuebas-Incle (VII). Adult, [Diptera: Chironomidae]. 24 Aug 1985. USA: outlet, Dryden Lake, Dryden, New York.
- 2405 RI Samuels. Adult, [Diptera: Chironomidae]. Sep 1986. United Kingdom: Avon, England.

Erynia curvispora (Nowakowski) Remaudière & Hennebert
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae

- 36 I MacDaniel. *Ochlerotatus triseriatus* [Diptera: Culicidae]. Aug 1974. USA: Maine.
- 402 S Keller (150). [Diptera: Chironomidae]. 21 Aug 1978. Switzerland.
- 802 EL Cuebas-Incle. Adult, *Simulium* sp. [Diptera: Simuliidae]. 24 Jul 1982. USA: outlet, Dryden Lake, Dryden, New York.
- 1754 S Keller (529). [Diptera: Simuliidae]. 24 Oct 1984. Switzerland.
- 3229 M Nadeau (222). Adult, [Diptera: Simuliidae]. 19 Jun 1990. Canada: Réserve Faunique du Saint, Maurice, Québec.

Erynia ovispora (Nowakowski) Remaudière & Hennebert
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae

- 398 S Keller (97). [Diptera: Psychodidae]. Jun 1978. Switzerland.
- 399 S Keller (100). [Diptera: Psychodidae]. 12 Jun 1978. Switzerland.
- 400 S Keller (102). [Diptera: Psychodidae]. 12 Jun 1978. Switzerland.

Erynia sciarae (Olive) Ben-Ze'ev & RG Kenneth
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae

- 1870 N Wilding (80) ← G Remaudière. Adult, [Diptera: Mycetophilidae] on soil. 30 Sep 1976. Location not specified.

Erynia sepulchralis (Thaxt.) Remaud. & Hennebert
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae

- 12250 AE Hajek. Adult, [Diptera: Tipulidae]. 3 Jul 2013. USA: Yellow Barn State Forest, Dryden, New York.

Eryniopsis caroliniana (Thaxter) Humber
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae

- 212 [ARSEF 642] S Keller (65). *Tipula paludosa* [Diptera: Tipulidae]. Rec'd Spring 1978. Switzerland.
- 213 [ARSEF 640] S Keller (69). *Tipula paludosa* [Diptera: Tipulidae]. Rec'd Spring 1978. Switzerland.
- 424 [ARSEF 641] S Keller (41). *Tipula paludosa* [Diptera: Tipulidae]. Rec'd 27 May 1980. Switzerland.
- 640 [ARSEF 213 (deaccessioned)] S Keller (69). *Tipula paludosa* [Diptera: Tipulidae]. Rec'd 10 Aug 1981. Switzerland.
- 641 [ARSEF 424 (lost)] S Keller (41). *Tipula paludosa* [Diptera: Tipulidae]. Rec'd 10 Aug 1981. Switzerland.
- 642 [ARSEF 212 (deaccessioned)] S Keller (65). *Tipula paludosa* [Diptera: Tipulidae]. Rec'd 10 Aug 1981. Switzerland.

Eryniopsis ptychopterae S Keller & Eilenberg
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae

- 2535 J Eilenberg (KVL 5). *Ptychoptera contaminata* [Diptera: Ptychopteridae]. 25 Aug 1986. Denmark: Kattinge Vig, Roskilde.
- 2671 J Eilenberg (KVL 48). *Ptychoptera contaminata* [Diptera: Ptychopteridae]. 9 Aug 1988. Denmark: Kattinge Vig, Roskilde.

***Evlachovaea* sp.**
[Sordariomycetes: Hypocreales]
Cordycipitaceae

- 6146 A Moino Junior. Larva, *Chiromyza* sp. [Diptera: Stratiomyidae]. Feb 1999. Brazil: Lavras, Minas Gerais.
- 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.

Furculomyces boomerangus (MC Williams & Lichtwardt) MC Williams & Lichtwardt
[Kickxellomycotina: Harpellales]
Legeriomycetaceae

- 9021 RW Lichtwardt (AUS-77-4). *Tanytarsus nr. inextentus* [Diptera: Chironomidae]. Apr 1987. Australia: Tasmania.
- 9077 RW Lichtwardt (AUS-42-6). *Procladius paludicola* [Diptera: Chironomidae]. Apr 1987. Australia: Victoria.
- 9259 RW Lichtwardt (AUS-42-7). *Psectrocladius paludicola* [Diptera: Chironomidae]. Apr 1987. Australia: Victoria.

- Furia americana*** (Thaxter) Humber
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae
-
- 742 [CNPAF 82-3-10-01; CP 32] RS Soper. [Diptera].
10 Mar 1982. Brazil: CNPAF, Goiânia, Goiás.
- 1240 [CNPAF 84-03-30-4B; CP 140] DW Roberts. [Dip-
tera]. 30 Mar 1984. Brazil: Francisco Beltrão, Paraná.
- 1242 [CNPAF 84-03-30-1A; CP 142] RA Daoust, BP
Magalhães and DW Roberts. [Diptera]. 30 Mar 1984.
Brazil: Francisco Beltrão, Paraná.
- 2192 [CNPAF 86-4-24; CP 202] SM dos Santos. [Diptera].
24 Apr 1986. Brazil: CNPAF, Goiânia, Goiás.
- 2194 [CNPAF 86-5-21-A; CP 204] SM dos Santos. [Dip-
tera]. 21 May 1986. Brazil: CNPAF, Goiânia, Goiás.

- Furia ithacensis*** (Kramer) Humber
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae
-
- 663 JP Kramer. *Symphoromyia hirta* [Diptera: Rha-
gionidae]. 1 Jul 1980. USA: Michigan Hollow, West
Danby, New York. CULTURE EX TYPE.
- 1339 S Balazy (1561). [Diptera: Empididae] attached
to the leaves of arboraceous plants. 22 May 1983.
Poland: Bialowieza National Park.
- 1340 S Balazy (1561a). [Diptera: Empididae] attached
to the leaves of arboraceous plants. 22 May 1983.
Poland: Bialowieza National Park.

- Fusarium* sp.**
[Sordariomycetes: Hypocreales]
Nectriaceae
-
- 1522 [NRRL 25083] TJ Poprawski (0121). Pupa, *Musca*
domestica [Diptera: Muscidae]. 5 Jul 1984. France:
La Clastre.
- 2414 K Narayanan (16). [Diptera]. Acc'd 6 May 1987.
India.
- 3382 [NRRL 25104] K Ostrowska (12) ← PG Lawlor.
Lutzomyia sp. [Diptera: Psychodidae]. Jul 1991.
Guatemala: Tical, Petén.
- 7382 A Majumdar. Pupa, *Tetanops myopaeformis* [Dip-
tera: Ulidiidae]. Rec'd 14 Jul 2004. USA: North
Dakota.
- 11948 J George (PSU 12-001) and NE Jenkins. *Ochlerotatus*
trivittatus [Diptera: Culicidae]. Rec'd 20 Feb 2013.
USA: Richland, Pennsylvania.
- 11949 J George (PSU 12-002) and NE Jenkins. *Culex*
pipiens pipiens [Diptera: Culicidae]. Rec'd 20 Feb
2013. USA: Richland, Pennsylvania.
- 11950 J George (PSU 12-003) and NE Jenkins. *Culex*
pipiens pipiens [Diptera: Culicidae]. Rec'd 20 Feb
2013. USA: Myerstown, Pennsylvania.

- Fusarium merismoides*** Corda
[Sordariomycetes: Hypocreales]
Nectriaceae
-
- 5511 I Klingen (BAL 4.2). Larva, *Delia floralis* [Diptera:
Anthomyiidae] as bait from soil. 18 Sep 1996. Norway:
Balsfjord, Troms.

- Fusarium oxysporum*** Schlechtendahl
[Sordariomycetes: Hypocreales]
Nectriaceae
-
- 1371 [NRRL 25131] TJ Poprawski (83-11). Pupa, *Delia*
radicum [Diptera: Anthomyiidae]. 24 Aug 1983.
Canada: L'Acadie, Québec.

- Fusarium solani*** (Martius) Saccardo
[Sordariomycetes: Hypocreales]
Nectriaceae
-
- 1148 TJ Poprawski (83-06). Pupa, *Delia radicum* [Diptera:
Anthomyiidae]. 24 Aug 1983. Canada: L'Acadie,
Québec.

- Fusarium verticillioides*** (Saccardo) Nirenberg (Petch)
W Gams
[Sordariomycetes: Hypocreales]
Synonym: *Verticillium indicum* (Petch) W Gams
-
- 2252 [NRRL 25087] TJ Poprawski (8627). Adult, [Diptera:
Bibionidae] on *Solidago* sp. 16 Jun 1986. France:
Béhoust, Yvelines.

- Geolegnia* sp.** Coker
[Oomycetes: Saprolegniales]
-
- 13357 Sentinel larva, [Diptera: Culicidae]. 27 Aug 2015.
Brazil: Santa Branca - Ecoturism. 16°25'05.09" S
49°05'45.46" W.

- Gliocladium* sp.**
[Sordariomycetes: Hypocreales]
-
- 13288 Larva, [Diptera: Culicidae]. 25 Feb 2016. Brazil:
RPPN Santa Branca Ecoturism. 16°25'03.39" S
49°05'41.23" W.

- Harpellales, genus undetermined***
[Kickxellomycotina: Harpellales]
-
- 9089 RW Lichtwardt (AS-42-1). *Corynoneura* sp. [Diptera:
Chironomidae]. Jan 1998. New Zealand: South Island.
- 9260 RW Lichtwardt (AS-42-3). *Cricotopus* sp. [Diptera:
Chironomidae]. Jan 1998. New Zealand: South Island.

***Hirsutella* sp.**

[Sordariomycetes: Hypocreales]

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

- 1551 MC Rombach (H.sep.) ← AT Barrion. *Sepedon spegeus* [Diptera: Sciomyzidae] on rice. 21 Jun 1984. Philippines: Brooke's Point region, Palawan.
- 13360 [C Montalva F6] [Diptera: Stratiomyidae]. 1 Oct 2016. Chile: Arboretum, Valdivia, Los Lagos.

Hirsutella* nr. *haptospora

[Sordariomycetes: Hypocreales]

Ophiocordycipitaceae

- 2228 S Balazy (1770). [Diptera: Itonididae] under pine bark. Acc'd 4 Sep 1986. Poland: District Forest, Sierakow, Pniewy.

***Hirsutella radiata* Petch**

[Sordariomycetes: Hypocreales]

Ophiocordycipitaceae

- 1369 S Balazy (1441). [Diptera: ?Lauxaniidae] on stem of *Urtica Dioica* in a deciduous forest. 1 Sep 1981. Poland: Wielkopolski National Park.

***Isaria* sp.**

[Sordariomycetes: Hypocreales]

Cordycipitaceae

- 9508 [SRCAMB B-183] V Likhovidov ← BA Borisov. [Diptera: Tipulidae]. 1999. Ukraine: Kherson Oblast. Field Collection Number F-1063.

***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 coleopterorum* (Samson & HC Evans) Samson & Hywel-Jones**

[Sordariomycetes: Hypocreales]

Cordycipitaceae

- 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.

- 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.
- 1939 L Turlington (West Borax 1, colony B). Sentinel larva, *Aedes sierrensis* [Diptera: Culicidae]. 28 Jun 1985. USA: nr. Clearlake, California.
- 2971 C López Lastra. Adult, *Aedes albifasciatus* [Diptera: Culicidae]. 13 Apr 1987. Argentina: Punta Lara, Buenos Aires.
- 9512 [SRCAMB VL-1624] V Likhovidov. Larva, [Diptera: Xylophagidae] Isolated from stroma of *Cordyceps corallomyces*. Sep 2004. Russian Federation: Caucasus region, Mostovsky District, Krasnodarsky Krai. Field Collection Number F-585.
- 10156 [ERL 1816] S Gouli (Thr.-10-18) and V Gouli. [Diptera] fungus gnats. 2010. USA: Rupert, Vermont.
- 10160 [ERL 1820] S Gouli (Thr.-10-22) and V Gouli. [Diptera] fungus gnats. 2010. USA: Bakersfield, Vermont.
- 10165 [ERL 1825] S Gouli and V Gouli (Thr.-10-27). [Diptera] fungus gnats. 2010. USA: Sharon Springs, New York.
- 11824 [ERL 2036] S Gouli (THR-11-25) and V Gouli. [Diptera: Tipulidae]. 2011. USA: Underhill, Vermont.
- 11826 [ERL 2038] S Gouli (THR-11-27) and V Gouli. [Diptera: Simuliidae]. 2011. USA: Underhill, Vermont.
- 11828 [ERL 2040] S Gouli (THR-11-29) and V Gouli. [Diptera: Bibionidae]. 2011. USA: Richford, Vermont.
- 11832 [ERL 2044] S Gouli (THR-11-33) and V Gouli. [Diptera: Muscidae]. 2011. USA: Richford, Vermont.
- 11834 [ERL 2046] S Gouli (THR-11-35) and V Gouli. [Diptera]. 2011. USA: Underhill, Vermont.
- 13362 [C Montalva F16] [Diptera]. 4 Jan 2017. Chile: Arboretum, Valdivia, Los Lagos. 39°47'58.07" S 73°15'45.69" W possible second fungal contaminant at low level.
- 13365 [C Montalva F28] [Diptera]. 9 Jan 2017. Chile: between Llanda Grande and Segundo Corral, Los Lagos. 41°59'19.71" S 71°54'31.80" W.

***Isaria flavovirescens* Shimazu & Humber (sp. nov., unpublished)**

[Sordariomycetes: Hypocreales]

Cordycipitaceae

- 1686 M Shimazu (48a) ← S Ando. *Resseliella odai* [Diptera: Cecidomyiidae]. 26 Jul 1984. Japan: Oita Prefecture. CULTURE EX TYPE.

Isaria fumosorosea Wize

[Sordariomycetes: Hypocreales]

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

- 887 [INRA 51] GG Soares (1) ← H Hoyer. Pupa, [Diptera]. Nov 1982. France: Paris, Paris.
- 1626 TJ Poprawski (0103B). Pupa, *Musca autumnalis* [Diptera: Muscidae]. 6 Aug 1984. France: Le Trait, Seine-Maritime.
- 1644 TJ Poprawski (0141A). Pupa, *Musca domestica* [Diptera: Muscidae]. 14 Aug 1984. France: Britang.
- 1645 TJ Poprawski (0141B). Pupa, *Musca domestica* [Diptera: Muscidae]. 14 Aug 1984. France: Britang.
- 1646 TJ Poprawski (0142). Pupa, *Calliphora* sp. [Diptera: Calliphoridae]. 17 Aug 1984. France: Béhoust, Yvelines.
- 1867 TJ Poprawski (0171). Pupa, *Musca domestica* [Diptera: Muscidae]. Acc'd 25 Mar 1985. France: Brittany, Morbihan.
- 1868 TJ Poprawski (0172). Pupa, *Musca domestica* [Diptera: Muscidae]. Acc'd 25 Mar 1985. France: Brittany, Morbihan.
- 2425 DG Holdom (080287-2). Larva, [Diptera: ?Stratiomyidae]. 8 Feb 1987. Indonesia: CIBA-GEIGY R & D Station, Cikampek, Jawa Barat, Java.
- 5860 T Steenberg (SSL 617). Adult, *Musca domestica* [Diptera: Muscidae]. Mar 1997. Denmark: Stable, Lyngø, Zealand.

Lagenidium giganteum Couch ex Redhead

[Peronosporomycetes: Lagenidiales]

Peronosporomycetes: Lagenidiales: Lagenidiaceae. ARSEF 373 is the ex-epitype isolate of this taxon to be used for future studies of the living organism

- 373 [ARSEF 746 (deaccessioned)] JN Couch ← SV Romney (LGNC-1). *Culiseta melanura* [Diptera: Culicidae]. 1975. USA: Chapel Hill, North Carolina. Ex-epitype isolate.
- 746 [ARSEF 373] SV Romney (LGNC-1). *Culiseta melanura* [Diptera: Culicidae]. 1975. USA: Chapel Hill, North Carolina.
- 748 AL Knight (LG/NC-2). [Diptera: Culicidae]. 1979. USA: Chapel Hill, North Carolina.
- 749 HC Chapman and FE Glenn. *Culex territans* [Diptera: Culicidae]. 1975. USA: Moss Bluff, Louisiana.
- 1384 EM McCray and CJ Umphlett. *Culex tarsalis* [Diptera: Culicidae]. 1979. USA: Colusa, California.
- 2529 [ARSEF ?1940] SP Frances (LAG) and AW Sweeney. Larva, *Forcipomyia marksae* [Diptera: Ceratopogonidae]. 8 Jun 1985. Australia: Millaa Millaa, Queensland.
- 2530 SP Frances (MALANDA1) and AW Sweeney. Larva, *Forcipomyia marksae* [Diptera: Ceratopogonidae]. 16 Apr 1986. Australia: Malanda, Queensland.

- 2531 [ATCC 76240] SP Frances (MILLAA1) and AW Sweeney. Larva, *Forcipomyia marksae* [Diptera: Ceratopogonidae]. 16 Apr 1986. Australia: Millaa Millaa, Queensland.
- 2532 SP Frances (MILLAA2) and AW Sweeney. Larva, *Forcipomyia marksae* [Diptera: Ceratopogonidae]. 16 Apr 1986. Australia: Millaa Millaa, Queensland.
- 2533 SP Frances (MILLAA3) and AW Sweeney. *Forcipomyia marksae* [Diptera: Ceratopogonidae]. 14 Jun 1987. Australia: Millaa Millaa, Queensland.
- 3326 JL Kerwin. Larva, [Diptera: Culicidae]. Rec'd 20 May 1991. Colombia: nr. Medellin, Antioquia.
- 3327 [ARSEF 3328 (deaccessioned)] JL Kerwin (BS). *Aedes melanimon* [Diptera: Culicidae]. May 1987. USA: duck club, Butte Sink area, nr. Colusa, California.
- 3328 [ARSEF 3327] JL Kerwin (BS). *Aedes melanimon* [Diptera: Culicidae]. May 1987. USA: duck club, Butte Sink area, nr. Colusa, California.

Lecanicillium sp.

[Sordariomycetes: Hypocreales]

Cordycipitaceae

- 7634 [SRCAMB B-259] V Likhovidov ← BA Borisov. Larva, [Diptera: Xylophagidae] Isolated from stroma of *Cordyceps* sp. 13 Jul 2003. Russian Federation: Kedrovaya Pad Nature Reserve, Primorsky Krai. Field Collection Number F-312.
- 7849 [SRCAMB B-88] V Likhovidov ← BA Borisov. Larva, [Diptera: Xylophagidae] Isolated from stroma of *Cordyceps corallomyces*. Aug 2002. Russian Federation: Lazovsky Nature Reserve, Primorsky Krai. Field Collection Number F-220.
- 11798 [ERL 2056] S Gouli (THR-11-45) and V Gouli. [Diptera: Bibionidae]. 2011. USA: Sharon Springs, New York.
- 13355 [Diptera: Culicidae] bamboo field. 20 Nov 2015. Brazil: Santa Branca - Ecoturism. 16°25'03.45" S 49°05'40.83" W.
- 13356 [Diptera: Culicidae] bamboo field. 18 Dec 2015. Brazil: Santa Branca - Ecoturism. 16°25'03.62" S 49°05'41.36" W.

Lecanicillium evansii(?) Zare & W. Gams

[Sordariomycetes: Hypocreales]

Cordycipitaceae

- 11785 [ERL 2009] S Gouli and V Gouli (THR-11-1). [Diptera]. 2011. USA: Langdon, New Hampshire.
- 11795 [ERL 2053] S Gouli and V Gouli (THR-11-42). [Diptera]. 2011. USA: Underhill, Vermont.
- 11796 [ERL 2054] S Gouli (THR-11-43) and V Gouli. [Diptera: Simuliidae]. 2011. USA: Sharon Springs, New York.

Fungal Cultures

Lecanicillium fusisporum(?) (W Gams) Zare & W Gams
[Sordariomycetes: Hypocreales]
Cordycipitaceae. Synonym: *Verticillium fusisporum* W. Gams

5578 T Steenberg (625). Adult, *Musca domestica* [Diptera: Muscidae]. Aug 1997. Denmark: Store Karleby, Zealand.

5579 T Steenberg (626). Adult, *Musca domestica* [Diptera: Muscidae]. Aug 1997. Denmark: Roskilde, Zealand.

Lecanicillium lecanii(?) (Zimmermann) Zare & Gams
[Sordariomycetes: Hypocreales]
Cordycipitaceae. Segregate species in *Lecanicillium lecanii* species complex; formerly classified as *Verticillium lecanii* (Zimmermann) Viégas.

5584 T Steenberg (A2). *Haematobia irritans* [Diptera: Muscidae]. Rec'd 17 Nov 1997. Denmark.

5585 T Steenberg (A16). *Haematobia irritans* [Diptera: Muscidae]. Rec'd 17 Nov 1997. Denmark.

Lecanicillium muscarium (Petch) Zare & W Gams
[Sordariomycetes: Hypocreales]
Cordycipitaceae. Segregate species in *Lecanicillium lecanii* species complex; formerly classified as *Verticillium lecanii* (Zimmermann) Viégas

810 E Ballard. *Ochlerotatus triseriatus* [Diptera: Culicidae]. 20 Jul 1982. USA: Berea, Kentucky.

2329 TJ Poprawski (8654). Adult, [Diptera: Tipulidae] on cotton. 29 Oct 1986. France: greenhouse, Béhoust, Yvelines.

3418 K Ostrovska (27) ← MV Herrero. Male, *Lutzomyia saulensis* [Diptera: Psychodidae]. 22 Sep 1991. Costa Rica: Santa Rosa National Park, Guanacaste.

5859 T Steenberg (SSL 615). Adult, *Musca domestica* [Diptera: Muscidae]. Mar 1997. Denmark: Stable, Helsingø, Zealand.

7224 [SRCAMB B-266] V Likhovidov ← BA Borisov. [Diptera]. 11 Jul 2003. Russian Federation: Kedrovaya Pad Nature Reserve, Primorsky Krai. Field Collection Number F-307.

9470 [SRCAMB VL-1713/2] V Likhovidov. [Diptera]. 23 Aug 2005. Ukraine: Autonomous Republic of Crimea. Field Collection Number F-775.

10173 [ERL 1851] S Gouli and V Gouli (Thr.-10-59). [Diptera] fungus gnats. 2010. USA: Sharon Springs, New York.

Lecanicillium psalliotae (Treschow) Zare & W Gams
[Sordariomycetes: Hypocreales]
Cordycipitaceae. Major synonym: *Verticillium psalliotae* Treschow

3416 K Ostrovska (25) ← MV Herrero. Female, *Lutzomyia sordelli* [Diptera: Psychodidae]. 22 Sep 1991. Costa Rica: Santa Rosa National Park, Guanacaste.

10179 [ERL 1858] S Gouli (Thr.-10-66) and V Gouli. [Diptera] fungus gnats. 2010. USA: Sharon Springs, New York.

Lecanicillium wallacei(?) HC Evans
[Sordariomycetes: Hypocreales]
Cordycipitaceae

10172 [ERL 1849] S Gouli and V Gouli (Thr.-10-57). [Diptera] fungus gnats. 2010. USA: Sharon Springs, New York.

10174 [ERL 1852] S Gouli (Thr.-10-60) and V Gouli. [Diptera] fungus gnats. 2010. USA: Rupert, Vermont.

Leptolegnia sp.
[Oomycetes: Saprolegniales]
Leptolegniaceae

13251 Sentinel larva, [Diptera: Culicidae]. 12 Feb 2016. Brazil: Cavalos VII, Tocantins. S 11° 58' 14.04", W 49° 41' 05.69" Sentinel 40. **RESTRICTED ACCESS:** contact Curator.

13302 Larva, [Diptera: Culicidae]. 14 Jul 2016. Brazil: RPPN Santa Branca Ecoturism. 16°25'05.13" S 49°05'45.70" W .

13358 Sentinel larva, [Diptera: Culicidae]. 5 Dec 2016. Brazil: Santa Branca - Ecoturism. 16°25'03.56" S 49°05'41.26" W.

13359 Sentinel larva, [Diptera: Culicidae]. 5 Dec 2016. Brazil: Santa Branca - Ecoturism. 16°25'03.56" S 49°05'41.26" W.

Leptolegnia chapmanii Seymour
[Oomycetes: Saprolegniales]
Leptolegniaceae

1385 TJ McInnis and WC Zattau. *Culex pipiens quinquefasciatus* [Diptera: Culicidae]. 1975. USA: South Carolina.

2562 [ARSEF 2680] JC Lord (Bartow A). *Mansonia titillans* [Diptera: Culicidae]. 8 Feb 1988. USA: abandoned phosphate pit, Bartow, Florida.

2680 [ARSEF 2562] JC Lord (Bartow A). *Mansonia titillans* [Diptera: Culicidae]. Rec'd 6 Feb 1989. USA: abandoned phosphate pit, Bartow, Florida.

2681 JC Lord ← TJ McInnis. *Culex pipiens quinquefasciatus* [Diptera: Culicidae]. Rec'd 6 Feb 1989. USA: Clemson, South Carolina. Ex-epitype culture.

2682 JC Lord. *Culex* sp. [Diptera: Culicidae]. 1987. USA: ground pool, Levy County, Florida.

5499 C López Lastra. 4th instar larva, *Aedes albifasciatus* [Diptera: Culicidae]. 25 Sep 1996. Argentina: Pond located in Melchor Romero, La Plata, Buenos Aires. **RESTRICTED ACCESS:** consult Curator.

6718 C López Lastra. 3rd instar larva, *Aedes aegypti* [Diptera: Culicidae]. Rec'd 19 Feb 2001. USA: Ithaca, New York. Laboratory reisolation of ARSEF 5499. **RESTRICTED ACCESS:** consult Curator.

- 7787 [CEP 196] C López Lastra. Larva, *Aedes albifasciatus* [Diptera: Culicidae]. 20 May 2005. Argentina: CEPAVE, La Plata, Buenos Aires. Re-isolated following passage through *Aedes aegypti* [Diptera: Culicidae] larva. **RESTRICTED ACCESS:** consult Curator.
- 12817 [CsF 181; IP 394] C Montalva. Sentinel larva, *Aedes aegypti* [Diptera: Culicidae] from floating trap collected after 24 hours. 6 Sep 2014. Lago Nery. **RESTRICTED ACCESS:** contact Curator.
- 12818 [CsF 193; IP 393] C Montalva. Sentinel larva, *Aedes aegypti* [Diptera: Culicidae] from floating trap collected after 24 hours. 10 Sep 2014. Brazil: Campus Samambaia, Universidade Federal de Goiás, Goiânia, Goiás. UTM Coordinates: 22K 0683232, 8164345. **RESTRICTED ACCESS:** contact Curator.
- 12819 [CsF 281; IP 390] C Montalva. Sentinel larva, *Aedes aegypti* [Diptera: Culicidae] from floating trap collected after 24 hours. 8 Oct 2014. Lago Verde. UTM Coordinates: 22K 0674783, 8165050. 754 m elevation, pH 4.3. **RESTRICTED ACCESS:** contact Curator.
- 12820 [CsF 295; IP 395] C Montalva. Sentinel larva, *Aedes aegypti* [Diptera: Culicidae] from floating trap collected after 24 hours. 18 Oct 2014. Lago Escola SB. UTM Coordinates: 22K 0700456, 8182416. 801 m elevation, pH 7.3. **RESTRICTED ACCESS:** contact Curator.
- 12827 [CsF 169; IP 389] C Montalva. Sentinel larva, *Aedes aegypti* [Diptera: Culicidae] from floating trap collected after 24 hours. 30 Aug 2014. RPPN SB. UTM Coordinates: 22K 0703330, 8183837. **RESTRICTED ACCESS:** contact Curator.
- 12828 [CsF 180; IP 390] C Montalva. Sentinel larva, *Aedes aegypti* [Diptera: Culicidae] from floating trap collected after 24 hours. 6 Sep 2014. Lago Nery. **RESTRICTED ACCESS:** contact Curator.
- 12829 [CsF 191; IP 392] C Montalva. Sentinel larva, *Aedes aegypti* [Diptera: Culicidae] from floating trap collected after 24 hours. 10 Sep 2014. Brazil: Campus Samambaia, Universidade Federal de Goiás, Goiânia, Goiás. UTM Coordinates: 22K 0683224 8164318. **RESTRICTED ACCESS:** contact Curator.
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- Mariannaea elegans* (Corda) Samson
[Sordariomycetes: Hypocreales]
Nectriaceae. Anamorph of *Nectria mariannaeae* Samuels & Seifert.
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- 9455 [SRCAMB VL-1718] V Likhovidov. Larva, [Diptera]. 23 Aug 2005. Ukraine: Autonomous Republic of Crimea. Field Collection Number F-1099.
- 9456 [SRCAMB B-450] V Likhovidov ← BA Borisov. Larva, [Diptera]. 2004. Russian Federation: Moscow Region. Field Collection Number F-939.
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- Metapochonia bulbillosa* (W Gams & Malla) Kepler, SA Rehner & Humber
[Sordariomycetes: Hypocreales]
Clavicipitaceae. Synonyms: *Verticillium cephalosporum* W Gams and *Pochonia bulbillosa* (W Gams & Malla) Zare & W Gams
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- 11800 [ERL 2058] S Gouli (THR-11-47) and V Gouli. [Diptera: Muscidae]. 2011. USA: Sharon Springs, New York.
-
- Metarhizium* sp.
[Sordariomycetes: Hypocreales]
Clavicipitaceae
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- 13292 Larva, [Diptera: Culicidae]. 9 Apr 2016. Brazil: RPPN Santa Branca Ecoturism. 16°25'16.14" S 49°06'20.23" W .
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- Metarhizium anisopliae* (Metschnikoff) Sorokin
[Sordariomycetes: Hypocreales]
Clavicipitaceae. Strains included here have not been reconfirmed geonomically to belong to *Metarhizium anisopliae* in the classification of Bischoff et al. (2009).
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- 9487 [SRCAMB VL-1757] V Likhovidov. [Diptera]. 27 Aug 2005. Ukraine: Autonomous Republic of Crimea. Field Collection Number F-737.
-
- Metarhizium anisopliae* sensu lato (Metschnikoff) Sorokin
[Sordariomycetes: Sordariomycetes]
Clavicipitaceae. These isolates were identified morphologically and have not yet been reidentified under the genomic classification of Bischoff et al. (2009).
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- 2105 DG Holdom (130286-3). ?*Hydrellia* sp. [Diptera: Ephydriidae]. 13 Feb 1986. Indonesia: CIBA-GEIGY R & D Station, Cikampek, Jawa Barat, Java.
- 3827 CF Andrade (IF#1). Larva, *Ochlerotatus triseriatus* [Diptera: Culicidae]. 11 May 1992. USA: Stair Park, Vestal, New York.
- 4600 [DAT 470] AC Rath (F470). Larva, *Boreoides tasmaniensis* [Diptera: Stratiomyidae]. 13 Oct 1991. Australia: Huonville, Tasmania.
- 4620 [DAT 469] AC Rath (F469). Larva, *Boreoides tasmaniensis* [Diptera: Stratiomyidae]. 31 Oct 1991. Australia: Franklin, Tasmania.
- 5520 I Klingen (TØF 22.1). Larva, *Delia floralis* [Diptera: Anthomyiidae] as bait from soil. 26 Sep 1996. Norway: Steinkjer, Nord Trøndelag.
- 7840 [CSIRO FI-0196] Larva, *Inopus rubriceps* [Diptera: Stratiomyidae]. 17 Feb 1987. Australia: Hapsberg, Tirroan via Gin Gin, Queensland.
- 7841 [CSIRO FI-0197] Larva, *Inopus rubriceps* [Diptera: Stratiomyidae]. 17 Feb 1987. Australia: Hapsberg, Tirroan via Gin Gin, Queensland.
- 7855 [CSIRO FI-0193] Larva, *Inopus rubriceps* [Diptera: Stratiomyidae]. 17 Feb 1987. Australia: Hapsberg, Tirroan via Gin Gin, Queensland.

- 7856 [CSIRO FI-0194] Larva, *Inopus rubriceps* [Diptera: Stratiomyidae]. 17 Feb 1987. Australia: Hapsberg, Tirroan via Gin Gin, Queensland.
- 7857 [CSIRO FI-0195] Larva, *Inopus rubriceps* [Diptera: Stratiomyidae]. 17 Feb 1987. Australia: Hapsberg, Tirroan via Gin Gin, Queensland.
- 7858 [CSIRO FI-0199] Larva, *Inopus rubriceps* [Diptera: Stratiomyidae]. 17 Feb 1987. Australia: Hapsberg, Tirroan via Gin Gin, Queensland.
- 7859 [CSIRO FI-0200] Larva, *Inopus rubriceps* [Diptera: Stratiomyidae]. 17 Feb 1987. Australia: Hapsberg, Tirroan via Gin Gin, Queensland.
- 7860 [CSIRO FI-201] Larva, *Inopus rubriceps* [Diptera: Stratiomyidae]. 17 Feb 1987. Australia: Hapsberg, Tirroan via Gin Gin, Queensland.
- 7861 [CSIRO FI-0202] Larva, *Inopus rubriceps* [Diptera: Stratiomyidae]. 17 Feb 1987. Australia: Hapsberg, Tirroan via Gin Gin, Queensland.
- 7914 [CSIRO FI-0324] Larva, *Inopus rubriceps* [Diptera: Stratiomyidae]. 17 Jan 1989. Australia: Sommerfield, Queensland.
- 7915 [CSIRO FI-0326] Larva, *Inopus rubriceps* [Diptera: Stratiomyidae]. 17 Jan 1989. Australia: Sommerfield, Queensland.
- 7916 [CSIRO FI-0332] Larva, *Inopus rubriceps* [Diptera: Stratiomyidae]. Winter 1989. Australia: Fairymead, Queensland.
- 7917 [CSIRO FI-0333] Larva, *Inopus rubriceps* [Diptera: Stratiomyidae]. Winter 1989. Australia: Fairymead, Queensland.
- 7918 [CSIRO FI-0334] Larva, *Inopus rubriceps* [Diptera: Stratiomyidae]. Winter 1989. Australia: Fairymead, Queensland.
- 7919 [CSIRO FI-0335] Larva, *Inopus rubriceps* [Diptera: Stratiomyidae]. Winter 1989. Australia: Fairymead, Queensland.
- 7920 [CSIRO FI-0336] Larva, *Inopus rubriceps* [Diptera: Stratiomyidae]. Winter 1989. Australia: Fairymead, Queensland.
- 7926 [CSIRO FI-0355] DG Holdom (030189-1). Larva, *Inopus rubriceps* [Diptera: Stratiomyidae]. Winter 1989. Australia: Walkers Point, Queensland.
- 8248 LA Castrillo (SFMa1) ← M Filotas. Pupa, *Scatella tenuicosta* [Diptera: Ephydriidae]. 2003. USA: Cornell University, greenhouse, Ithaca, New York.
- 8249 LA Castrillo (SFMa2) ← M Filotas. Pupa, *Scatella tenuicosta* [Diptera: Ephydriidae]. 2003. USA: Cornell University, greenhouse, Ithaca, New York.
- 9939 [ERL 1723] S Gouli (GA-09-M) and V Gouli. [Diptera]. 2009. USA: Vermont.
- 13222 MA Ansari (BNL105). *Tipula paludosa* [Diptera: Tipulidae] turf. Rec'd 17 Mar 2016. Wales.
- 13231 Larva, [Diptera: Culicidae]. 5 Feb 2016. Brazil: RPPN SB Eco.. **RESTRICTED ACCESS:** *contact Curator.*
- 13247 Sentinel larva, [Diptera: Culicidae]. 8 Feb 2016. Brazil: Gurupi Represa Unig, Tocantins. 11? 44° 08.84' S 49? 07' 29.94' W Sentinal 4 **RESTRICTED ACCESS:** *contact Curator.*
- Metarhizium anisopliae* sensu stricto** (Metschnikoff) Sorokin
[Sordariomycetes: Hypocreales]
Clavicipitaceae. These isolates have been genomically confirmed to belong in this narrowly redefined species (Bischoff et al. 2009)
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- 7418 [CSIRO FI-0322] Larva, [Diptera: Stratiomyidae]. 17 Jan 1989. Australia: Sommerfield, Queensland.
- 7419 [CSIRO FI-0323] Larva, [Diptera: Stratiomyidae]. 17 Jan 1989. Australia: Sommerfield, Queensland.
- 7423 [CSIRO FI-0331] Larva, [Diptera: Stratiomyidae]. 2 Jan 1989. Australia: Fairymead, Queensland.
- 7426 [CSIRO FI-0427] Larva, [Diptera: Stratiomyidae]. 14 Apr 1989. Australia: Dorvenison, Innisfail, Queensland.
- 7427 [CSIRO FI-0487] Adult, [Diptera: Stratiomyidae]. 2 Jun 1989. Australia: pupation site, Sommerfield, Queensland.
- 7428 [CSIRO FI-0488] Adult, [Diptera: Stratiomyidae]. 2 Jun 1989. Australia: pupation site, Sommerfield, Queensland.
- Metarhizium anisopliae* var. *anisopliae***
[Sordariomycetes: Hypocreales]
Clavicipitaceae. Species remaining here need genomic confirmation before reclassification under the classification of Bischoff et al. (2009).
-
- 6550 D Chandler (HRI 331.92). Larva, *Eumerus strigatus* [Diptera: Syrphidae]. Rec'd 13 Jul 2000. United Kingdom.
- Metarhizium brunneum*** Petch
[Sordariomycetes: Hypocreales]
Clavicipitaceae. Restored from synonymy variously with *M. anisopliae* and *M. album* as part of the genomic classification of Bischoff et al. (2009).
-
- 2974 C López Lastra. Adult, *Aedes crinifer* [Diptera: Culicidae]. 30 Nov 1988. Argentina: Los Talas, Berisso, Buenos Aires.
- 3826 CF Andrade (IF#2). Larva, *Ochlerotatus triseriatus* [Diptera: Culicidae]. 11 May 1992. USA: Stair Park, Vestal, New York.
- Metarhizium guizhouense*** QT Chen & HL Guo
[Sordariomycetes: Hypocreales]
Clavicipitaceae. Segregated from the *M. anisopliae* species complex as part of genomic reclassification of Bischoff et al. (2009), and all isolates genomically verified. Synonym: *M. taii* ZQ Liang & AY Liu. Teleomorph: *Cordyceps taii* ZQ Liang & AY Liu. Isolates genomically verified by at least 5'-TEF sequence data
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- 7420 [CSIRO FI-0327] Larva, [Diptera: Stratiomyidae]. 20 Jan 1989. Australia: Walkers Point, Queensland.

Metarhizium pingshaense QT Chen & HL Guo

[Sordariomycetes: Hypocreales]

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

- 7414 [CSIRO FI-0203] Larva, [Diptera: Stratiomyidae]. 17 Feb 1987. Australia: Hapsberg, Firran, New South Wales.
- 7421 [CSIRO FI-0328] Larva, [Diptera: Stratiomyidae]. 2 Jan 1989. Australia: monitoring site, Walkers Point, Queensland.
- 7422 [CSIRO FI-0330] Larva, [Diptera: Stratiomyidae]. 2 Jan 1989. Australia: Fairyhead, Queensland.
- 7425 [CSIRO FI-0379] Larva, [Diptera: Stratiomyidae]. 28 Mar 1989. Australia: S. Lines, South Kolan, Queensland.
- 7429 [CSIRO FI-0516] Larva, [Diptera: Stratiomyidae]. 28 Jun 1989. Australia: pupation site, Sommerfield, Queensland.
- 8497 [CSIRO FI-0337] Larva, *Inopus rubriceps* [Diptera: Stratiomyidae]. Winter 1989. Australia: Fairyhead, Queensland.

Mortierella sp.

[Mucormycotina: Mucorales]

- 13513 [AP Gryganskyi Sciarid fungus 3] *Lycoriella* sp. [Diptera: Sciaridae]. Rec'd 2 Apr 2018. USA: mushroom farm, Kennett Square, Chester County, Pennsylvania.

Myrothecium verrucaria (Albertini & Schweinitz)

Ditmar

[Sordariomycetes: Hypocreales]

- 9359 [ERL 1645] S Gouli (SVG-09/2) and V Gouli. *Tipula* sp. [Diptera: Tipulidae]. 2009. USA: Vermont.

Ophiocordyceps variabilis (Petch) GH Sung, JM

Sung, Hywel-Jones & Spatafora

[Sordariomycetes: Hypocreales]

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

- 4080 [ATCC 204364] KT Hodge (kth13). Larva, [Diptera: Xylophagidae] decaying wood. 29 Jul 1993. USA: Long Point, Raquette Lake, New York.
- 5365 [ATCC 204365] KT Hodge (kth50a). Larva, *Xylophagus* sp. [Diptera: Xylophagidae] Decorticated wood of *Tilia americana*. 3 Aug 1996. USA: Michigan Hollow State Forest, Finger Lakes Trail, Danby, New York.
- 5366 KT Hodge (kth50b). Larva, *Xylophagus* sp. [Diptera: Xylophagidae] Decorticated wood of *Tilia americana*. 3 Aug 1996. USA: Michigan Hollow State Forest, Finger Lakes Trail, Danby, New York.
- 5367 KT Hodge (kth51a). Larva, *Xylophagus* sp. [Diptera: Xylophagidae] on decorticated wood of *Tilia americana*. 3 Aug 1996. USA: Michigan Hollow State Forest, Finger Lakes Trail, Danby, New York.
- 5414 KT Hodge (kth50d). Larva, *Xylophagus* sp. [Diptera: Xylophagidae] on decorticated wood of *Tilia americana*. 3 Aug 1996. USA: Michigan Hollow State Forest, Finger Lakes Trail, Danby, New York. Single part ascospore isolate. Specimen accessioned as CUP 63882.
- 5415 KT Hodge (kth50f). Larva, *Xylophagus* sp. [Diptera: Xylophagidae] on decorticated wood of *Tilia americana*. 3 Aug 1996. USA: Michigan Hollow State Forest, Finger Lakes Trail, Danby, New York. Single part ascospore isolate. Specimen accessioned as CUP 63882.
- 5416 KT Hodge (kth50g). Larva, *Xylophagus* sp. [Diptera: Xylophagidae] on decorticated wood of *Tilia americana*. 3 Aug 1996. USA: Michigan Hollow State Forest, Finger Lakes Trail, Danby, New York. Single part ascospore isolate. Specimen accessioned as CUP 63882.
- 5417 KT Hodge (kth50h). Larva, *Xylophagus* sp. [Diptera: Xylophagidae] on decorticated wood of *Tilia americana*. 3 Aug 1996. USA: Michigan Hollow State Forest, Finger Lakes Trail, Danby, New York. Single part ascospore isolate. Specimen accessioned as CUP 63882.
- 5418 KT Hodge (kth50i). Larva, *Xylophagus* sp. [Diptera: Xylophagidae] on decorticated wood of *Tilia americana*. 3 Aug 1996. USA: Michigan Hollow State Forest, Finger Lakes Trail, Danby, New York. Single part ascospore isolate. Specimen accessioned as CUP 63882.
- 5419 KT Hodge (kth50j). Larva, *Xylophagus* sp. [Diptera: Xylophagidae] on decorticated wood of *Tilia americana*. 3 Aug 1996. USA: Michigan Hollow State Forest, Finger Lakes Trail, Danby, New York. Single part ascospore isolate. Specimen accessioned as CUP 63882.
- 5420 KT Hodge (kth50k). Larva, *Xylophagus* sp. [Diptera: Xylophagidae] on decorticated wood of *Tilia americana*. 3 Aug 1996. USA: Michigan Hollow State Forest, Finger Lakes Trail, Danby, New York. Single part ascospore isolate. Specimen accessioned as CUP 63882.
- 5421 KT Hodge (kth50l). Larva, *Xylophagus* sp. [Diptera: Xylophagidae] on decorticated wood of *Tilia americana*. 3 Aug 1996. USA: Michigan Hollow State Forest, Finger Lakes Trail, Danby, New York. Single part ascospore isolate. Specimen accessioned as CUP 63882.
- 5422 KT Hodge (kth50m). Larva, *Xylophagus* sp. [Diptera: Xylophagidae] on decorticated wood of *Tilia americana*. 3 Aug 1996. USA: Michigan Hollow State Forest, Finger Lakes Trail, Danby, New York. Single

- part ascospore isolate. Specimen accessioned as CUP 63882.
- 5423 KT Hodge (kth50n). Larva, *Xylophagus* sp. [Diptera: Xylophagidae] on decorticated wood of *Tilia americana*. 3 Aug 1996. USA: Michigan Hollow State Forest, Finger Lakes Trail, Danby, New York. Single part ascospore isolate. Specimen accessioned as CUP 63882.
- 5424 KT Hodge (kth50o). Larva, *Xylophagus* sp. [Diptera: Xylophagidae] on decorticated wood of *Tilia americana*. 3 Aug 1996. USA: Michigan Hollow State Forest, Finger Lakes Trail, Danby, New York. Single part ascospore isolate. Specimen accessioned as CUP 63882.
- 5425 KT Hodge (kth50p). Larva, *Xylophagus* sp. [Diptera: Xylophagidae] on decorticated wood of *Tilia americana*. 3 Aug 1996. USA: Michigan Hollow State Forest, Finger Lakes Trail, Danby, New York. Single part ascospore isolate. Specimen accessioned as CUP 63882.
- 5426 KT Hodge (kth50q). Larva, *Xylophagus* sp. [Diptera: Xylophagidae] on decorticated wood of *Tilia americana*. 3 Aug 1996. USA: Michigan Hollow State Forest, Finger Lakes Trail, Danby, New York. Single part ascospore isolate. Specimen accessioned as CUP 63882.
- 5427 KT Hodge (kth50r). Larva, *Xylophagus* sp. [Diptera: Xylophagidae] on decorticated wood of *Tilia americana*. 3 Aug 1996. USA: Michigan Hollow State Forest, Finger Lakes Trail, Danby, New York. Single part ascospore isolate. Specimen accessioned as CUP 63882.
- 5428 KT Hodge (kth50s). Larva, *Xylophagus* sp. [Diptera: Xylophagidae] on decorticated wood of *Tilia americana*. 3 Aug 1996. USA: Michigan Hollow State Forest, Finger Lakes Trail, Danby, New York. Single part ascospore isolate. Specimen accessioned as CUP 63882.
- 5429 KT Hodge (kth50t). Larva, *Xylophagus* sp. [Diptera: Xylophagidae] on decorticated wood of *Tilia americana*. 3 Aug 1996. USA: Michigan Hollow State Forest, Finger Lakes Trail, Danby, New York. Single part ascospore isolate. Specimen accessioned as CUP 63882.
- Paecilomyces* sp.**
[Sordariomycetes: Hypocreales]
These still unidentified species has yet been assigned to a correct genus after the recent gene-based reclassification of species out of *Paecilomyces* Section *Isarioidea*; this original generic identification remains provisional until a more thorough analyses of these isolates are completed.
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- 2350 [ARSEF 2378] MC Rombach (131286-6). Pupa, [Diptera] on *Croton* sp. 13 Dec 1986. Indonesia: tropical rainforest, Gunung Merapi, Yogyakarta, Java.
- 2378 [ARSEF 2350] MC Rombach (131286-6). Pupa, [Diptera] on *Croton* sp. 13 Dec 1986. Indonesia: tropical rainforest, Gunung Merapi, Yogyakarta, Java.
- 3768 EW Davidson. [Diptera: Drosophilidae]. Summer 1992. USA: Arizona.
- Pandora* sp.**
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae
-
- 5812 [Diptera]. 10 Aug 1998. Denmark.
- 13512 [AP Gryganskyi Sciarid fungus 2] [Diptera: Sciaridae]. Rec'd 2 Apr 2018. USA: mushroom farm, Kennett Square, Chester County, Pennsylvania.
- Pandora bullata*** (Thaxter & DM MacLeod in Humber)
Humber
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae
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- 9 [ARSEF 116; ATCC 24298] RS Soper. Adult, *Phaenicia sericata* [Diptera: Calliphoridae]. 2 Aug 1972. USA: Eastham, Massachusetts.
- 116 [ARSEF 9 (lost); ATCC 24298] RS Soper. Adult, *Phaenicia sericata* [Diptera: Calliphoridae]. 2 Aug 1972. USA: Eastham, Massachusetts.
- Pandora dipterigena*** (Thaxter) Humber
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae
-
- 131 N Wilding (1). [Diptera]. 24 Aug 1976. USA: Rogers Farm, Stillwater, Maine.
- 397 [ARSEF ?1066] S Keller (92). [Diptera: Nematocera]. 5 Jun 1978. Switzerland.
- 1144 [CSIRO EM696] M Shimazu (F-354). [Diptera: Calliphoridae]. Acc'd 8 Oct 1984. Japan: Tochigi Prefecture.
- 1422 S Balazy (1496c). [Diptera: Brachycera] attached to the underside of lime tree leaf in deciduous forest undergrowth. 4 Jun 1982. Poland: Bialowieza National Park.
- 1720 S Keller (521). [Diptera]. 18 Oct 1984. Switzerland: Trasadingen, Schaffhausen.
- 1887 M Shimazu. [Diptera: ?Sciaridae]. 1 Jun 1985. USA: Allegany State Park, Salamanca, New York.
- 1921 M Shimazu (FE3). [Diptera]. 20 Jun 1985. USA: Allegany State Park, Salamanca, New York.
- 1923 M Shimazu (FE1). [Diptera]. Summer 1985. USA: Allegany State Park, Salamanca, New York.
- Pandora gloeospora*** (Vuillemin) Humber
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae
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- 13406 [AP Gryganskyi Sciarid fungus 1] Adult, *Lycoriella* sp. [Diptera: Sciaridae]. Rec'd 18 Jan 2018. USA: mushroom house, Chester County, Pennsylvania.

Penicillium sp.

[Eurotiomycetes: Eurotiales]

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

7976 BC King (57). *Drosophila* sp. [Diptera: Drosophilidae] from Tanglefoot trap. 2004. Canada: University of British Columbia laboratory, Vancouver, British Columbia. GenBank match - AY373925 (100%) ITS. **RESTRICTED ACCESS:** *consult Curator.*

13233 Sentinel larva, [Diptera: Culicidae]. 8 Feb 2016. Brazil: SENAC, Gurupi, Tocantins. S 11° 44' 08.84", W 49° 07' 29.94". Sentinel 4 **RESTRICTED ACCESS:** *contact Curator.*

13246 Adult, [Diptera: Culicidae]. 24 Feb 2016. Brazil: Gurupi AD TNT, Tocantins. contaminant - not saved.

Pochonia chlamydosporia var. *chlamydosporia*

[Sordariomycetes: Hypocreales]

Clavicipitaceae. Synonym: *Verticillium chlamydosporium* Goddard

11786 [ERL 2010] S Gouli (THR-11-2) and V Gouli. [Diptera]. 2011. USA: Rupert, Vermont.

11810 [ERL 2070] S Gouli (THR-11-59) and V Gouli. [Diptera]. 2011. USA: Sharon Springs, New York.

Purpureocillium lilacinum (Thom) Luangsa-ard,

Houbraken, Hywel-Jones & Samson

[Sordariomycetes: Hypocreales]

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

13291 Larva, [Diptera: Culicidae]. 9 Apr 2016. Brazil: RPPN Santa Branca Ecotourism. 16°25'03.39" S 49°05'41.23" W.

Saprolegnia sp.

[Oomycetes: Saprolegniales]

Saprolegniaceae

179 I MacDaniel. Larva, [Diptera: Simuliidae]. 18 Jun 1977. USA: Little River, South Penobscot, Maine.

180 I MacDaniel. Larva, [Diptera: Simuliidae]. 18 Jun 1977. USA: Little River, South Penobscot, Maine.

6427 CE Beard (DP0100). [Diptera: Chironomidae]. 26 Jan 2000. USA: Clemson University, Lamaster Dairy, Willard's Pond outflow, Clemson, South Carolina.

Scopulariopsis sp.

[Sordariomycetes: Microascales]

2328 TJ Poprawski (8652). Pupa, *Lucilia illustris* [Diptera: Calliphoridae] on chicken dung. 16 Oct 1986. France: Béhoust, Yvelines.

Simplicillium lamellicola (FEV Smith) Zare & W

Gams

[Sordariomycetes: Hypocreales]

Cordycipitaceae. Major synonym: *Verticillium lamellicola* (F.E.V. Smith) W Gams

9480 [SRCAMB VL-1760/1] V Likhovidov. [Diptera: Muscidae]. 27 Aug 2005. Ukraine: Autonomous Republic of Crimea. Field Collection Number F-856.

Simplicillium lanosoniveum (F. H. Beyma) Zare &

W. Gams

[Sordariomycetes: Hypocreales]

Cordycipitaceae

8822 WC Luz. [Diptera: Culicidae] Culicine mosquito. Nov 2008. Tanzania: 8°23" S, 36°40" E (Ulanga District), Lupiro, Morogoro.

Smittium sp.

[Kickxellomycotina: Harpellales]

Harpellaceae

9034 RW Lichtwardt (CR-259-4). [Diptera: Chironomidae]. Nov 1991. Costa Rica.

9035 RW Lichtwardt (CR-239-12). *Tanytarsus* sp. [Diptera: Chironomidae]. Nov 1991. Costa Rica.

9038 RW Lichtwardt (TN-24-W8). [Diptera: Culicidae]. Jul 2004. USA: Great Smoky Mountains National Park, Tennessee.

9050 RW Lichtwardt (NOR-59-2). *Psectrocladius limbatus* [Diptera: Chironomidae]. Aug 2002. Norway.

9051 RW Lichtwardt (OR-4-W6). [Diptera]. Sep 2006. USA: Oregon.

9065 RW Lichtwardt (ALG-16-W28). [Diptera]. Aug 2004. Canada: Algonquin Provincial Park, Ontario.

9079 RW Lichtwardt (culture 12-1-3). [Diptera: Culicidae]. Aug 1996. Australia: Tasmania.

9081 RW Lichtwardt (TN-24-W11). [Diptera: Culicidae]. Jul 2004. USA: Great Smoky Mountains National Park, Tennessee.

9086 RW Lichtwardt (OR-18-W33). [Diptera: Tipulidae]. Sep 2005. USA: Oregon.

9087 RW Lichtwardt (AR-19-4S). [Diptera: Chironomidae]. Nov 1992. USA: Madison County, Arkansas.

9088 RW Lichtwardt (ALG-16-W27). [Diptera]. Aug 2004. Canada: Algonquin Provincial Park, Ontario.

9120 RW Lichtwardt (CR-169-22). *Polypedilum* sp. [Diptera: Chironomidae]. Jun 1988. Costa Rica.

9121 RW Lichtwardt (MO-16-2). *Orthocladius* sp. [Diptera: Chironomidae]. Jun 1988. USA: Missouri.

- 9145 RW Lichtwardt (MO-6-5). [Diptera: Chironomidae]. Apr 1993. USA: Missouri.
- 9146 RW Lichtwardt (SWE-3-5). *Orthocladus* sp. [Diptera: Chironomidae]. Jul 1971. Sweden: Norrbotten.
- 9147 RW Lichtwardt (SWI-7-6). *Pseudokiefferiella* sp. [Diptera: Chironomidae]. Aug 1971. Switzerland.
- 9148 RW Lichtwardt (TN-46-W8B). [Diptera: Culicidae]. Jul 2004. USA: Great Smoky Mountains National Park, Tennessee.
- 9265 RW Lichtwardt (ALG-16-WXXX). [Diptera]. Aug 2004. Canada: Algonquin Provincial Park, Ontario.
- Smittium acutum*** Lichtwardt & Grigg
[Kickxellomycotina: Harpellales]
Harpellaceae
-
- 9092 RW Lichtwardt (OK-5-1). [Diptera: Chironomidae]. May 1990. USA: Haskell County, Oklahoma.
- Smittium angustum*** MC Williams & Lichtwardt
[Kickxellomycotina: Harpellales]
-
- 9241 RW Lichtwardt (AUS-126-30). *Tanytarsus* sp. [Diptera: Chironomidae]. Apr 1991. Australia: Western Australia.
- Smittium annulatum*** Lichtwardt
[Kickxellomycotina: Harpellales]
-
- 9242 RW Lichtwardt (CR-143-8). [Diptera: Simuliidae]. May 1988. Costa Rica.
- Smittium caudatum*** Lichtwardt & Grigg
[Kickxellomycotina: Harpellales]
-
- 9000 RW Lichtwardt (OK-3-20). [Diptera: Chironomidae]. Jan 1989. USA: Oklahoma.
- 9261 RW Lichtwardt (OK-3-21). [Diptera: Chironomidae]. Jan 1989. USA: Haskell County, Oklahoma.
- Smittium coloradense*** Lichtwardt & MC Williams
[Kickxellomycotina: Harpellales]
-
- 9001 RW Lichtwardt (RMBL-13-41). *Cricotopus* sp. [Diptera: Chironomidae]. Jul 1985. USA: Gunnison County, Colorado.
- 9002 RW Lichtwardt (RMBL-13-49). *Orthocladus* sp. [Diptera: Chironomidae]. Jul 1985. USA: Gunnison County, Colorado.
- Smittium commune*** Lichtwardt & Grigg
[Kickxellomycotina: Harpellales]
Harpellaceae
-
- 9085 RW Lichtwardt (KS-2-25). [Diptera: Chironomidae]. Mar 1989. USA: Douglas County, Kansas.
- 9243 RW Lichtwardt (KS-5-4). *Microtendipes* sp. [Diptera: Chironomidae]. Apr 1993. USA: Anderson County, Kansas.
- 9244 RW Lichtwardt (KS-5-7). *Microtendipes* sp. [Diptera: Chironomidae]. Apr 1993. USA: Anderson County, Kansas.
- 9245 RW Lichtwardt (KS-5-8). *Microtendipes* sp. [Diptera: Chironomidae]. Apr 1993. USA: Anderson County, Kansas.
- Smittium culicis*** Manier
[Kickxellomycotina: Harpellales]
Harpellaceae
-
- 5204 C López Lastra (2). 4th instar larva, *Aedes albifasciatus* [Diptera: Culicidae]. Rec'd 26 Jun 1996. Argentina: Punta Lara, Ensenada, Buenos Aires.
- 5431 RW Lichtwardt (ARG-X-3) ← C Lopez Lastra (#2). 4th instar larva, *Culex renatoi* [Diptera: Culicidae] on *Eryngium cabreriae*. Rec'd 2 May 1997. Argentina: Punta Lara, Boca Cerrada, Ensenada, Buenos Aires.
- 5432 RW Lichtwardt (ARG-X-4) ← C López Lastra (#3). 4th instar larva, *Aedes albifasciatus* [Diptera: Culicidae]. Rec'd 2 May 1997. Argentina: Punta Lara, Boca Cerrada, Ensenada, Buenos Aires.
- 9003 RW Lichtwardt (43-1-2). *Chironomus* sp. [Diptera: Chironomidae]. Aug 1996. Australia: Tasmania.
- 9004 RW Lichtwardt (ARG-X-4). *Aedes albifasciatus* [Diptera: Culicidae]. May 1995. Argentina: La Plata, Buenos Aires.
- 9005 RW Lichtwardt (AUS-62-10). *Austrothaumalea* sp. [Diptera: Thaumaleidae]. Mar 1987. Australia: Victoria.
- 9006 RW Lichtwardt (AUS-62-16). *Limonia* sp. [Diptera: Tipulidae]. Mar 1987. Australia: Victoria.
- 9007 RW Lichtwardt (LCF-43-2). *Corynoneura* sp. [Diptera: Chironomidae]. Jan 1998. New Zealand: South Island.
- 9008 RW Lichtwardt (LEA-7-10). *Simulium vittatum* [Diptera: Simuliidae]. Jul 1981. USA: Leavenworth County, Kansas.
- 9009 RW Lichtwardt (WYO-51-11). *Aedes sticticus* [Diptera: Culicidae]. Sep 1965. USA: Teton County, Wyoming.
- 9010 RW Lichtwardt (GSMNP). [Diptera: Culicidae]. Dec 1989. USA: Great Smoky Mountains National Park, Tennessee.
- 9011 RW Lichtwardt (NY-2-C25). [Diptera: Chironomidae]. Nov 1998. USA: New York.
- 9031 RW Lichtwardt (ARG-X-3). [Diptera: Culicidae]. 1997. Argentina: Buenos Aires.
- 9040 RW Lichtwardt (AUS-62-17). *Limonia* sp. [Diptera: Tipulidae]. Mar 1987. Australia: Victoria.
- 9041 RW Lichtwardt (AUS-62-6). *Austrothaumalea* sp. [Diptera: Thaumaleidae]. Mar 1987. Australia: Victoria.
- 9045 RW Lichtwardt (FRA-15-5). *Chironomus* sp. [Diptera: Chironomidae]. Jul 1968. France: nr. Grenoble, Isère.
- 9046 RW Lichtwardt (FRA-15-7). *Chironomus* sp. [Diptera: Chironomidae]. Jul 1968. France: nr. Grenoble, Isère.

- 9057 RW Lichtwardt (T-12-1-4). [Diptera: Culicidae]. Aug 1996. Australia: Tasmania.
- 9059 RW Lichtwardt (UT-11-W(a)). [Diptera]. Jan 2006. USA: Utah.
- 9073 RW Lichtwardt (ALG-16-W3). [Diptera: Culicidae]. Aug 2004. Canada: Algonquin Provincial Park, Ontario.
- 9074 RW Lichtwardt (ZEA-6-3). *Culex pervigilans* [Diptera: Culicidae]. Jul 1983. New Zealand: North Island.
- 9084 RW Lichtwardt (LCF-8-1). [Diptera: Thaumaleidae]. Dec 1997. New Zealand: North Island.
- 9091 RW Lichtwardt (ALG-5-W8). [Diptera: Tipulidae]. Aug 2004. Canada: Algonquin Provincial Park, Ontario.
- 9093 RW Lichtwardt (LCF-43-12). *Corynoneura* sp. [Diptera: Chironomidae]. Jan 1998. New Zealand: South Island.
- 9123 RW Lichtwardt (culture 12-1-2). [Diptera: Culicidae]. Aug 1996. Australia: Tasmania.
- 9124 RW Lichtwardt (culture 35-1-1). [Diptera: Thaumaleidae]. Aug 1996. Australia: Tasmania.
- 9125 RW Lichtwardt (AUS-77-5). *Tanytarsus* sp. [Diptera: Chironomidae]. Mar 1987. Australia: Tasmania.
- 9126 RW Lichtwardt (CAN-X-1). *Prosimulium* sp. [Diptera: Simuliidae]. 1962. Canada.
- 9127 RW Lichtwardt (FRA-6-16). [Diptera: Chironomidae]. Jun 1968. France: Hérault.
- 9128 RW Lichtwardt (FRA-9-1). *Culex* sp. [Diptera: Culicidae]. Jun 1968. France: Hérault.
- 9129 RW Lichtwardt (FRA-15-2). [Diptera: Chironomidae]. Jul 1968. France: Southeastern France.
- 9130 RW Lichtwardt (WYO-51-14). *Aedes sticticus* [Diptera: Culicidae]. Sep 1965. USA: Teton County, Wyoming.
- 9140 RW Lichtwardt (culture 12-1-1). [Diptera: Culicidae]. Aug 1996. Australia: Tasmania.
- 9141 RW Lichtwardt (culture 12-1-4). [Diptera: Culicidae]. Aug 1996. Australia: Tasmania.
- 9142 RW Lichtwardt (culture 43-1-2). *Chironomus* sp. [Diptera: Chironomidae]. Aug 1996. Australia: Tasmania.
- 9143 RW Lichtwardt (ALG-5-W2b). *Dactylolabis montana* [Diptera: Tipulidae]. Aug 2004. Canada: Algonquin Provincial Park, Ontario.
- 9149 RW Lichtwardt (FRA-8-7). *Culex* sp. [Diptera: Culicidae]. Jun 1968. France: Montpellier, Hérault.

Smittium culicisoides Lichtwardt
[Kickxellomycotina: Harpellales]
Harpellaceae

- 9044 RW Lichtwardt (CR-253-12). [Diptera: Chironomidae]. Nov 1991. Costa Rica.

Smittium culisetae Lichtwardt
[Kickxellomycotina: Harpellales]
Harpellaceae

- 5200 C López Lastra (2'). Larva, *Aedes crinifer* [Diptera: Culicidae]. 24 Nov 1995. Costa Rica: Buenos Aires, Puntarenas.
- 5203 4th instar larva, *Culex dolosus* [Diptera: Culicidae]. Rec'd 26 Jun 1996. Location not specified.
- 5430 RW Lichtwardt (ARG-X-2) ← C Lopez Lastra (#1). 4th instar larva, *Culex dolosus* [Diptera: Culicidae]. Rec'd 2 May 1997. Argentina: Punta Lara, Boca Cerrada, Ensenada, Buenos Aires.
- 6810 CE Beard (DP170696). Cytospecies I11L-1, *Simulium vittatum* [Diptera: Simuliidae]. 17 Jun 1996. USA: Clemson University, Lamaster Dairy, Willard's Pond outflow, Clemson, South Carolina.
- 9012 RW Lichtwardt (COL-18-3). *Culiseta impatiens* [Diptera: Culicidae]. Aug 1963. USA: Gunnison County, Colorado.
- 9013 RW Lichtwardt (FL-X-1). *Aedes albopictus* [Diptera: Culicidae]. Mar 1993. USA: Florida.
- 9014 RW Lichtwardt (HAW-14-8). *Aedes albopictus* [Diptera: Culicidae]. Feb 1964. USA: Oahu, Hawaii.
- 9015 RW Lichtwardt (JAP-77-9). [Diptera: Culicidae]. Jul 1967. Japan: Kyushu.
- 9016 RW Lichtwardt (KS-108-02). *Aedes vexans* [Diptera: Culicidae]. Apr 2004. USA: Douglas County, Kansas.
- 9017 RW Lichtwardt (KS-108-06). *Aedes vexans* [Diptera: Culicidae]. Apr 2004. USA: Douglas County, Kansas.
- 9018 RW Lichtwardt (LEA-7-4). *Simulium vittatum* [Diptera: Simuliidae]. Jul 1981. USA: Leavenworth County, Kansas.
- 9024 RW Lichtwardt (La-6a-L1). [Diptera: Culicidae]. Feb 2002. USA: Baton Rouge Parish, Louisiana.
- 9025 RW Lichtwardt (AUS-2-8). *Chironomus alternans* [Diptera: Chironomidae]. Jul 1983. Australia: New South Wales.
- 9026 RW Lichtwardt (KAU-W-4). [Diptera: Culicidae]. Oct 1984. USA: Kauai, Hawaii.
- 9032 RW Lichtwardt (SC-DP-1). *Simulium vittatum* [Diptera: Simuliidae]. Jun 1996. USA: Pickens County, South Carolina.
- 9039 RW Lichtwardt (TN-27-A8). *Ochlerotatus japonicus* [Diptera: Culicidae]. Aug 2004. USA: Great Smoky Mountains National Park, Tennessee.
- 9047 RW Lichtwardt (HAW-5-8). *Aedes albopictus* [Diptera: Culicidae]. Jan 1964. USA: Hawaii.
- 9048 RW Lichtwardt (JAP-30-4). *Culex* sp. [Diptera: Culicidae]. Jun 1964. Japan: Shikoku.
- 9056 RW Lichtwardt (SMO599). *Culex restuans* [Diptera: Culicidae]. May 1999. USA: Pickens County, South Carolina.
- 9058 RW Lichtwardt (TN-46-6). [Diptera: Culicidae]. Aug 2004. USA: Great Smoky Mountains National Park, Tennessee.

- 9062 RW Lichtwardt (WYO-44-9). *Culiseta* sp. [Diptera: Culicidae]. Jul 1965. USA: Grand Teton National Park, Wyoming.
- 9069 RW Lichtwardt (TN-27-A8). *Ochlerotatus japonicus* [Diptera: Culicidae]. Jul 2004. USA: Great Smoky Mountains National Park, Tennessee.
- 9071 RW Lichtwardt (TN-46-A10). [Diptera: Culicidae]. Jul 2004. USA: Great Smoky Mountains National Park, Tennessee.
- 9075 RW Lichtwardt (ARG-X-5). [Diptera: Culicidae]. 1997. Argentina: La Plata, Buenos Aires.
- 9094 RW Lichtwardt (ARG-X-1). *Aedes crinifer* [Diptera: Culicidae]. 1997. Argentina: La Plata, Buenos Aires.
- 9095 RW Lichtwardt (CAL-X-2). *Culiseta incidens* [Diptera: Culicidae]. 1962. USA: California.
- 9096 RW Lichtwardt (CLW-2-44). *Simulium vittatum* [Diptera: Simuliidae]. 1965. USA: Minnesota.
- 9097 RW Lichtwardt (FRA-7-1). *Dasyhelea* sp. [Diptera: Ceratopogonidae]. Jun 1968. France.
- 9098 RW Lichtwardt (HAW-E-2). [Diptera: Culicidae]. Oct 1982. USA: Hawaii.
- 9099 RW Lichtwardt (HAW-5-5). *Aedes albopictus* [Diptera: Culicidae]. Dec 1963. USA: Oahu, Hawaii.
- 9100 RW Lichtwardt (HAW-5-7). *Aedes albopictus* [Diptera: Culicidae]. Jan 1964. USA: Oahu, Hawaii.
- 9101 RW Lichtwardt (HAW-5-9). *Aedes albopictus* [Diptera: Culicidae]. Jan 1964. USA: Oahu, Hawaii.
- 9102 RW Lichtwardt (HAW-13-2). *Aedes vexans* [Diptera: Culicidae]. Feb 1964. USA: Oahu, Hawaii.
- 9103 RW Lichtwardt (HAW-13-3). *Aedes vexans* [Diptera: Culicidae]. Feb 1964. USA: Oahu, Hawaii.
- 9104 RW Lichtwardt (HAW-14-5). *Aedes albopictus* [Diptera: Culicidae]. Feb 1964. USA: Oahu, Hawaii.
- 9105 RW Lichtwardt (HAW-14-5M). *Aedes albopictus* [Diptera: Culicidae]. Feb 1964. USA: Oahu, Hawaii.
- 9106 RW Lichtwardt (HAW-14-7). *Aedes albopictus* [Diptera: Culicidae]. Feb 1964. USA: Oahu, Hawaii.
- 9107 RW Lichtwardt (JAP-30-3). *Culex* sp. [Diptera: Culicidae]. Jun 1964. Japan: Shikoku.
- 9108 RW Lichtwardt (JAP-30-8). *Culex* sp. [Diptera: Culicidae]. Jun 1964. Japan: Shikoku.
- 9109 RW Lichtwardt (JAP-57-1). [Diptera: Culicidae]. Jul 1964. Japan: Honshu.
- 9110 RW Lichtwardt (JAP-77-7). [Diptera: Culicidae]. Jul 1967. Japan: Kyushu.
- 9111 RW Lichtwardt (JAP-77-8). [Diptera: Culicidae]. Jul 1967. Japan: Kyushu.
- 9112 RW Lichtwardt (LEA-7-2). *Simulium vittatum* [Diptera: Simuliidae]. Jul 1981. USA: Leavenworth County, Kansas.
- 9113 RW Lichtwardt (TN-24-A3). [Diptera: Culicidae]. Aug 2004. USA: Great Smoky Mountains National Park, Tennessee.
- 9114 RW Lichtwardt (WYO-42-26). *Orthocladius* sp. [Diptera: Chironomidae]. Jul 1965. USA: Grand Teton National Park, Wyoming.
- 9115 RW Lichtwardt (WYO-44-1). *Culiseta* sp. [Diptera: Culicidae]. Jul 1965. USA: Grand Teton National Park, Wyoming.
- 9131 RW Lichtwardt (ARG-X-2). *Culex dolosus* [Diptera: Culicidae]. Nov 1995. Argentina: Buenos Aires.
- 9132 RW Lichtwardt (SWI-4-13). [Diptera: Chironomidae]. Aug 1971. Switzerland.
- 9133 RW Lichtwardt (WYO-44-8). *Culiseta* sp. [Diptera: Culicidae]. Jul 1965. USA: Grand Teton National Park, Wyoming.
- 9246 RW Lichtwardt (NE-27-1). *Aedes vexans* [Diptera: Culicidae]. Jul 1979. USA: Kearney County, Nebraska.
- 9247 RW Lichtwardt (WYO-44-15). [Diptera: Culicidae]. Jul 1965. USA: Grand Teton National Park, Wyoming.
- 9262 RW Lichtwardt (WYO-44-11). [Diptera: Culicidae]. Jul 1965. USA: Teton County, Wyoming.
- Smittium cylindrosporum*** Lichtwardt & Arenas
[Kickxellomycotina: Harpellales]
- 9116 RW Lichtwardt (CHI-27-1). *Cricotopus* sp. [Diptera: Chironomidae]. Dec 1993. Chile: Southern Chile.
- 9248 RW Lichtwardt (CHI-20-04). *Cricotopus* sp. [Diptera: Chironomidae]. Oct 1993. Chile: Southern Chile.
- 9249 RW Lichtwardt (CHI-20-7). *Cricotopus* sp. [Diptera: Chironomidae]. Oct 1993. Chile: Southern Chile.
- Smittium dipterorum*** Lichtwardt
[Kickxellomycotina: Harpellales]
- 9250 RW Lichtwardt (CR-254-13). *Chironomus* sp. [Diptera: Chironomidae]. Nov 1991. Costa Rica.
- 9263 RW Lichtwardt (CR-253-14). *Simulium* sp. [Diptera: Simuliidae]. Nov 1991. Costa Rica.
- Smittium elongatum*** Lichtwardt
[Kickxellomycotina: Harpellales]
- 9251 RW Lichtwardt (AUS-59-5S). [Diptera: Chironomidae]. Mar 1987. Australia: Victoria.
- Smittium fecundum*** Lichtwardt & MC Williams
[Kickxellomycotina: Harpellales]
Legeriomycetaceae
- 9022 RW Lichtwardt (RMBL-64-5). *Psectrocladius* sp. [Diptera: Chironomidae]. Jul 1995. USA: Gunnison County, Colorado.
- 9083 RW Lichtwardt (RMBL-61-13). *Psectrocladius* sp. [Diptera: Chironomidae]. Jul 1995. USA: Gunnison County, Colorado.

Smittium gravimetallum Lichtwardt, Ferrington & Harford
[Kickxellomycotina: Harpellales]

- 9029 RW Lichtwardt (KS-F1-15). *Dicrotendipes fumidus* [Diptera: Chironomidae]. Jun 1996. USA: Cherokee County, Kansas.
- 9036 RW Lichtwardt (KS-F1-5). *Dicrotendipes fumidus* [Diptera: Chironomidae]. Jun 1996. USA: Cherokee County, Kansas.
- 9252 RW Lichtwardt (KS-F1-8). *Dicrotendipes fumidus* [Diptera: Chironomidae]. Jun 1996. USA: Cherokee County, Kansas.
- 9264 RW Lichtwardt (KS-F1-14). *Dicrotendipes fumidus* [Diptera: Chironomidae]. Jun 1996. USA: Cherokee County, Kansas.

Smittium imitatum Lichtwardt & Arenas
[Kickxellomycotina: Harpellales]
Harpellaceae

- 9033 RW Lichtwardt (CHI-9-4). *Simulium* sp. [Diptera: Simuliidae]. Dec 1993. Chile: Los Lagos.

Smittium lentaquaticum Siri, MM White & Lichtwardt
[Kickxellomycotina: Harpellales]

- 9068 RW Lichtwardt (TN-27-A4). *Chironomus* sp. [Diptera: Chironomidae]. Jul 2004. USA: Great Smoky Mountains National Park, Tennessee.
- 9082 RW Lichtwardt (TN-27-A5). [Diptera: Culicidae]. Jul 2004. USA: Great Smoky Mountains National Park, Tennessee.
- 9253 RW Lichtwardt (TN-27-A3(s)). *Chironomus* sp. [Diptera: Chironomidae]. Jul 2004. USA: Great Smoky Mountains National Park, Tennessee.

Smittium megazygosporum Manier & Coste
[Kickxellomycotina: Harpellales]
Harpellaceae

- 6275 CE Beard (DP161096). Cytospecies IILL-1, *Simulium vittatum* [Diptera: Simuliidae]. 16 Oct 1996. USA: Clemson University, Lamaster Dairy, Willard's Pond outflow, Clemson, South Carolina.
- 9037 RW Lichtwardt (SC-DP-2). *Simulium vittatum* [Diptera: Simuliidae]. Jun 1997. USA: Pickens County, South Carolina.

Smittium megazygosporum(?)
[Kickxellomycotina: Harpellales]

- 9027 RW Lichtwardt (BLH-16). *Orthocladius* sp. [Diptera: Chironomidae]. Jan 1999. USA: Chase County, Kansas.

Smittium morbosum Sweeney
[Kickxellomycotina: Harpellales]
Harpellaceae

- 9060 RW Lichtwardt (WKRa). *Ochlerotatus triseriatus* [Diptera: Culicidae]. Sep 2006. USA: South Carolina.
- 9061 RW Lichtwardt (WKRb). *Ochlerotatus triseriatus* [Diptera: Culicidae]. Sep 2006. USA: South Carolina.

Smittium mucronatum Manier & Mathiez ex Manier
[Kickxellomycotina: Harpellales]
Harpellaceae

- 9028 RW Lichtwardt (FRA-12-3). *Psectrocladius sordidellus* [Diptera: Chironomidae]. Jul 1968. France: Hérault.
- 9063 RW Lichtwardt (ALG-10-S8). [Diptera]. Aug 2004. Canada: Algonquin Provincial Park, Ontario.
- 9067 RW Lichtwardt (ALG-7-W7). [Diptera: Chironomidae]. Aug 2004. Canada: Algonquin Provincial Park, Ontario.
- 9090 RW Lichtwardt (ALG-7-W6). [Diptera: Chironomidae]. Aug 2004. Canada: Algonquin Provincial Park, Ontario.
- 9144 RW Lichtwardt (ALG-7-W10). [Diptera: Chironomidae]. Aug 2004. Canada: Algonquin Provincial Park, Ontario.

Smittium orthocladii Manier
[Kickxellomycotina: Harpellales]
Harpellaceae

- 9080 RW Lichtwardt (TN-3-4). [Diptera: Chironomidae]. Dec 1989. USA: Sumner County, Tennessee.

Smittium perforatum(?)
[Kickxellomycotina: Harpellales]

- 9055 RW Lichtwardt (RMBL-44-3). *Diamesa* sp. [Diptera: Chironomidae]. Jul 1995. USA: Gunnison County, Colorado.

Smittium phytotelmatum Lichtwardt
[Kickxellomycotina: Harpellales]
Harpellaceae

- 9076 RW Lichtwardt (CR-133-2). *Chironomus* sp. [Diptera: Chironomidae]. May 1988. Costa Rica.

Smittium simulatum Lichtwardt & Arenas
[Kickxellomycotina: Harpellales]
Harpellaceae

- 9042 RW Lichtwardt (CHI-8-7). *Aphrophila bidentata* [Diptera: Tipulidae]. Dec 1993. Chile: Southern Chile.
- 9078 RW Lichtwardt (CHI-8-3). *Aphrophila bidentata* [Diptera: Tipulidae]. Dec 1993. Chile: Southern Chile.
- 9117 RW Lichtwardt (CHI-8-4). *Aphrophila bidentata* [Diptera: Tipulidae]. Dec 1993. Chile: Southern Chile.

Smittium simulii Lichtwardt
[Kickxellomycotina: Harpellales]

- 9019 RW Lichtwardt (JAP-32-4). [Diptera: Chironomidae]. May 1964. Japan: Shikoku.
- 9043 RW Lichtwardt (CLW-10-6). *Simulium* sp. [Diptera: Simuliidae]. Aug 1965. USA: Minnesota.
- 9049 RW Lichtwardt (JAP-57-5). [Diptera: Simuliidae]. Jul 1964. Japan: Honshu.
- 9118 RW Lichtwardt (CLW-10-5). *Simulium* sp. [Diptera: Simuliidae]. 1965. USA: Minnesota.
- 9134 RW Lichtwardt (CLW-9-15). *Simulium* sp. [Diptera: Simuliidae]. 1965. USA: Minnesota.
- 9135 RW Lichtwardt (JAP-31-7). *Simulium uchidai* [Diptera: Simuliidae]. May 1964. Japan: Shikoku.
- 9136 RW Lichtwardt (JAP-33-2). [Diptera: Chironomidae]. May 1964. Japan: Shikoku.
- 9137 RW Lichtwardt (JAP-51-5). *Simulium* sp. [Diptera: Simuliidae]. Jul 1964. Japan: Honshu.
- 9138 RW Lichtwardt (JAP-51-18). *Simulium* sp. [Diptera: Simuliidae]. Jul 1964. Japan: Honshu.
- 9139 RW Lichtwardt (SWE-8-4). *Diamesa* sp. [Diptera: Chironomidae]. Jul 1971. Sweden: Norrbotten.
- 9254 RW Lichtwardt (CAL-8-1). *Simulium virgatum* [Diptera: Simuliidae]. Jun 1963. USA: Monterey County, California.

Smittium stenosporum
[Kickxellomycotina: Harpellales]

- 9023 RW Lichtwardt (OK-3-14). *Cricotopus* sp. [Diptera: Chironomidae]. Jan 1989. USA: Haskell County, Oklahoma.

Smittium tipulidarum MC Williams & Lichtwardt
[Kickxellomycotina: Harpellales]

- 9052 RW Lichtwardt (RMBL-14-10). *Elliptera astigmatica* [Diptera: Tipulidae]. Jul 1985. USA: Gunnison County, Colorado.
- 9053 RW Lichtwardt (RMBL-31-2). *Elliptera astigmatica* [Diptera: Tipulidae]. Jul 1985. USA: Gunnison County, Colorado.
- 9054 RW Lichtwardt (RMBL-31-4). *Elliptera astigmatica* [Diptera: Tipulidae]. Jul 1985. USA: Gunnison County, Colorado.
- 9122 RW Lichtwardt (RMBL-31-1). *Elliptera astigmatica* [Diptera: Tipulidae]. Jul 1985. USA: Gunnison County, Colorado.

Smittium tronadorium Lichtwardt, Ferrington & López Lastra
[Kickxellomycotina: Harpellales]

- 9030 RW Lichtwardt (ARG-24-20F). *Paraheptaggyia* sp. [Diptera: Chironomidae]. Nov 1996. Argentina: Río Negro.

Strongwellsea castrans Batko & Wiser
[Entomophthoromycotina: Entomophthorales]

Entomophthoraceae. Strains are provided as vegetative protoplasts in liquid tissue culture medium. No sustainable growth of walled hyphae, conidia, or resting spores has been produced by cultures.

- 3282 J Eilenberg (KVL 62). *Delia radicum* [Diptera: Anthomyiidae]. 8 Sep 1988. Denmark: Roskilde, Zealand.
- 3485 J Eilenberg (KVL 84). *Delia radicum* [Diptera: Anthomyiidae]. Aug 1991. Denmark: Slangerup, Frederiksberg.

***Syngliocladium* sp.**
[Sordariomycetes: Hypocreales]
Ophiocordycipitaceae

- 5217 KT Hodge (WOZ B) ← CA Wozniak. Larva, *Tetanops myopaeformis* [Diptera: Ulidiidae] Soil. Aug 1995. USA: Pembina Co., Buzz Baldwin Farm, St. Thomas, North Dakota.

Syngliocladium tetanopsis KT Hodge, Humber & Wozniak
[Sordariomycetes: Hypocreales]
Ophiocordycipitaceae

- 4972 KT Hodge ← CA Wozniak. *Tetanops myopaeformis* [Diptera: Ulidiidae]. 6 Jun 1995. USA: Red River Valley, North Dakota. Specimen deposited in Cornell Plant Pathology Herbarium as CUP 64915.
- 5497 [NRRL 21854] CA Wozniak (FSt1A8-2294). 3rd instar larva, *Tetanops myopaeformis* [Diptera: Ulidiidae]. Summer 1994. USA: Pembina County, St. Thomas, North Dakota. CULTURE EX TYPE; the holotype is a dried specimen of ARSEF 5497 in Cornell Plant Pathology Herbarium as CUP 64913.
- 5577 [NRRL 21853] CA Wozniak (FH1A11-295). 3rd instar larva, *Tetanops myopaeformis* [Diptera: Ulidiidae]. Rec'd 17 Dec 1997. USA: Traill County, Hillsboro, North Dakota.

Tolypocladium cylindrosporium W Gams
[Sordariomycetes: Hypocreales]
Ophiocordycipitaceae

- 705 GG Soares. *Aedes sierrensis* [Diptera: Culicidae]. Acc'd 17 Nov 1982. USA: California.
- 841 JS Pillai. *Aedes australis* [Diptera: Culicidae]. Acc'd 7 Jun 1983. New Zealand: Quoin Pt., Otago Peninsula, nr. Dunedin, South Island.
- 961 [CBS ?719.70; CCFC DAOM 183952] UAMH (4563) or (?4995) ← J Weiser ← JS Pillai. [Diptera: Culicidae]. Rec'd 9 Sep 1983. Czech Republic.
- 976 [GCRI 131-82] RA Hall ← JS Pillai. [Diptera: Culicidae]. Acc'd 17 Oct 1983. New Zealand: Quoin Pt., Otago Peninsula, nr. Dunedin, South Island.

- 1027 [GCRI 130-82] RA Hall ← JS Pillai. [Diptera: Culicidae]. 1982. New Zealand: Quoin Pt., Otago Peninsula, nr. Dunedin, South Island.
- 1028 [GCRI 132-82] RA Hall ← JS Pillai. [Diptera: Culicidae]. 1982. New Zealand: Quoin Pt., Otago Peninsula, nr. Dunedin, South Island.
- 1580 GG Soares (Tc4c). *Aedes sierrensis* [Diptera: Culicidae]. Acc'd 17 Sep 1984. USA: Novato, California.
- 2911 CBS (276.82) ← GG Soares. [Diptera: Culicidae]. 1982. New Zealand.
- 2912 CBS (989.73) ← LP Kish. *Plecia nearctica* [Diptera: Bibionidae]. 1973. USA: Florida.
- 5525 I Klingen (BAL 3). Larva, *Delia floralis* [Diptera: Anthomyiidae] as bait from soil. 18 Sep 1996. Norway: Balsfjord, Troms. **RESTRICTED ACCESS:** *contact Curator.*
- 5526 I Klingen (TØF 22.2). Larva, *Delia floralis* [Diptera: Anthomyiidae] as bait from soil. 26 Sep 1996. Norway: Steinkjer, Nord Trøndelag. **RESTRICTED ACCESS:** *contact Curator.*
- 5527 I Klingen (VFB 10.1). Larva, *Delia floralis* [Diptera: Anthomyiidae] as bait from soil. 4 Sep 1996. Norway: Grane, Nordland. **RESTRICTED ACCESS:** *contact Curator.*
- 5528 I Klingen (ØNN 2.2). Larva, *Delia floralis* [Diptera: Anthomyiidae] as bait from soil. 26 Sep 1996. Norway: Vestvågøy, Nordland. **RESTRICTED ACCESS:** *contact Curator.*
- 5529 I Klingen (ØNN 2.3). Larva, *Delia floralis* [Diptera: Anthomyiidae] as bait from soil. 26 Sep 1996. Norway: Vestvågøy, Nordland. **RESTRICTED ACCESS:** *contact Curator.*
- 5530 I Klingen (ØNN 3.1). Larva, *Delia floralis* [Diptera: Anthomyiidae] as bait from soil. 26 Sep 1996. Norway: Vestvågøy, Nordland. **RESTRICTED ACCESS:** *contact Curator.*
- 5531 I Klingen (ØNN 4.1). Larva, *Delia floralis* [Diptera: Anthomyiidae] as bait from soil. 26 Sep 1996. Norway: Vestvågøy, Nordland. **RESTRICTED ACCESS:** *contact Curator.*
- 5532 I Klingen (ØNN 4.2). Larva, *Delia floralis* [Diptera: Anthomyiidae] as bait from soil. 26 Sep 1996. Norway: Vestvågøy, Nordland. **RESTRICTED ACCESS:** *contact Curator.*
- 5558 I Klingen (ØNN 2.1). Larva, *Delia floralis* [Diptera: Anthomyiidae] as bait from soil. 26 Sep 1996. Norway: Valberg, Nordland. **RESTRICTED ACCESS:** *contact Curator.*
- 5559 I Klingen (ØNN 3.2). Pupa, *Delia floralis* [Diptera: Anthomyiidae] as bait from soil. 26 Sep 1996. Norway: Valberg, Nordland. **RESTRICTED ACCESS:** *contact Curator.*
- Tolypocladium extinguens* Samson & Soares
[Sordariomycetes: Hypocreales]
Ophiocordycipitaceae
- 2921 CBS (345.77) ← GJ Samuels. *Arachnocampa luminosa* [Diptera: Mycetophilidae]. 1977. New Zealand. CULTURE EX TYPE.
- Tolypocladium inflatum* W Gams
[Sordariomycetes: Hypocreales]
Ophiocordycipitaceae. Major synonym: *Tolypocladium niveum* (Rostrup) Bissett. Teleomorph: *Elaphocordyceps subsessilis* (Petch) GH Sung, JM Sung, Hywel-Jones & Spatafora
- 3281 CCFC (DAOM 198395) ← DD Strongman. Pupa, [Diptera: Tachinidae]. Rec'd Apr 1991. Canada: Acadia Forest Exp. Station, Fredericton, New Brunswick.
- Trichoderma* sp.
[Sordariomycetes: Hypocreales]
Hypocreaceae
- 5522 I Klingen (TØF 12.3). Larva, *Delia floralis* [Diptera: Anthomyiidae] as bait from soil. 25 Sep 1996. Norway: Steinkjer, Nord Trøndelag.
- Trichoderma* sp.
[Sordariomycetes: Hypocreales]
Hypocreaceae
- 13237 Sentinel larva, [Diptera: Culicidae]. 8 Feb 2016. Brazil: Jeep Club, Gurupi, Tocantins. S 11° 43' 56.77", W 49° 04' 53.74". Sentinal 8 **RESTRICTED ACCESS:** *contact Curator.*
- Verticillium lecanii* (Zimmerman) Viégas
[Sordariomycetes: Hypocreales]
Cordycipitaceae. A species complex now reclassified in *Lecanicillium* and distributed among three species. Isolates remaining here are being transferred to the appropriate species as they are re-examined.
- 5132 [Horticulture Research International 343.92] D Chandler (HRI 343.92). Pupa, *Delia radicum* [Diptera: Anthomyiidae] soil. 1992. United Kingdom: Wellesbourne, England.
- 6554 D Chandler (HRI 349.92). Pupa, *Delia radicum* [Diptera: Anthomyiidae]. Rec'd 13 Jul 2000. United Kingdom.
- 6561 D Chandler (HRI 399.93). Adult, *Scatella stagnalis* [Diptera: Ephydriidae]. Rec'd 13 Jul 2000. United Kingdom.
- Zoophthora lanceolata* (S Keller) Humber & Ben-Ze'ev
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae
- 426 [ARSEF ?468] S Keller (95). [Diptera: Nematocera]. Rec'd 6 Feb 1980. Switzerland: Rickenbach.
- 468 [ARSEF ?426] S Keller (95) ← G Remaudière. [Diptera: Brachycera]. Oct 1977. France.

Fungal Cultures

- 469 S Keller (115). [Diptera: Nematocera]. Rec'd 27 May 1980. Switzerland: Rickenbach.
- Zoophthora radicans*** (Brefeld) Batko
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae. Major synonyms: *Entomophthora sphaerosperma* Fresenius, *Entomophthora radicans* Brefeld, *Erynia radicans* (Brefeld) Humber, Ben-Ze'ev & Kenneth in Humber & Ben-Ze'ev.
-
- 18 RS Soper ← FR Holbrook. [Diptera: Drosophilidae]. USA: State of Maine Potato Field, Homestead, Florida.
- 388 S Keller (214). [Diptera]. Rec'd 3 Oct 1979. Switzerland: Zürich.
- 1336 [ARSEF 1428] S Balazy (1555). Adult, [Diptera: Nematocera] attached to the leaves of herbaceous plants on a leafy forest floor. 21 May 1983. Poland: Bialowieza National Park.
- 1337 S Balazy (1558b). [Diptera] attached to the underside of leaves of arboraceous plants. 22 May 1983. Poland: Bialowieza National Park.
- 1428 [ARSEF 1336] S Balazy (1555). [Diptera: Nematocera] attached to the leaves of herbaceous plants on a leafy forest floor. 21 May 1983. Poland: Bialowieza National Park.
- 2499 [ARSEF 2524 (deaccessioned)] J Eilenberg (KVL 32). [Diptera]. 24 Aug 1987. Denmark: Strandholm, Fårevejle, Vestsjælland.
- 2500 J Eilenberg (KVL 30). [Diptera]. 24 Aug 1987. Denmark: Strandholm, Fårevejle, Vestsjælland.
- 2501 J Eilenberg (KVL 31). [Diptera]. 24 Aug 1987. Denmark: Strandholm, Fårevejle, Vestsjælland.
- 2503 J Eilenberg (KVL 37). [Diptera]. 24 Aug 1987. Denmark: Strandholm, Fårevejle, Vestsjælland.
- 2506 J Eilenberg (KVL 35). [Diptera]. 24 Aug 1987. Denmark: Strandholm, Fårevejle, Vestsjælland.
- 2523 J Eilenberg (KVL 36). [Diptera]. 24 Aug 1987. Denmark: Strandholm, Fårevejle, Vestsjælland.
- 2524 [ARSEF 2499] J Eilenberg (KVL 32). [Diptera]. 24 Aug 1987. Denmark: Strandholm, Fårevejle, Vestsjælland.
- 2554 [ARSEF 2669 (deaccessioned)] J Eilenberg (KVL 38). [Diptera]. 24 Aug 1987. Denmark: Strandholm, Fårevejle, Vestsjælland.
- 2666 J Eilenberg (KVL 47). *Delia radicum* [Diptera: Anthomyiidae]. 28 Jul 1988. Denmark: Roskilde, Zealand.
- 2669 [ARSEF 2554] J Eilenberg (KVL 38). [Diptera]. 24 Aug 1987. Denmark: Strandholm, Fårevejle, Vestsjælland.
- 3489 J Eilenberg (KVL 47). *Delia radicum* [Diptera: Anthomyiidae]. 28 Jul 1988. Denmark: Roskilde, Zealand.
- 8466 AV Toledo (ZR062). Adult, [Diptera]. 13 May 2007. Argentina: La Plata, Buenos Aires.

- [Diptera: Culicidae]
Unknown species 13229 13232 13243
13250 13252 13253 13296 13297
13299 13300 13301
- Unidentified / Hyphomycetes**
[Diptera]
Unknown species 7078 10171
[Diptera: Culicidae]
Unknown species 13244 13254
- Unidentified / Zygomycetes**
[Diptera: Chamaemyiidae]
Leucopis ninae 5125
- Unidentified Entomophthorales sp.**
[Diptera: Tipulidae]
Unknown species 7227 7228 7229 7230
- Unidentified sp.**
[Diptera]
Unknown species 1922
[Diptera: Anthomyiidae]
Unknown species 2029
[Diptera: Calliphoridae]
Calliphora 1631 1632 1633
[Diptera: Culicidae]
Unknown species 13289
Anopheles 2563
Anopheles gambiae 3380 3381
[Diptera: Psychodidae]
Lutzomyia 3123 3124 3378 3420 3421
3423 3424 3425 3427 3428
Lutzomyia longipalpis 3422
Lutzomyia saulensis 3413 3417 3419
Lutzomyia trapidoi 3426
[Diptera: Simuliidae]
Unknown species 3227 3228 3230 3231
3232 3233 3235 3236 3245 3246
3247
[Diptera: Tipulidae]
Unknown species 371
Tipula 9334
- Achlya sp.**
[Diptera: Culicidae]
Unknown species 13234 13238 13239
13242 13245 13295 13298
- Amoebidium appalachense**
[Diptera: Chironomidae]
Chironomus 9181 9255 9256
- Amoebidium parasiticum**
[Diptera: Chironomidae]
Chironomus 9183
- Arthrobotrys oligospora**
[Diptera: Anthomyiidae]
Delia floralis 5561 5562
- Aspergillus flavus**
[Diptera: Bombyliidae]
Unknown species 3430
[Diptera: Sarcophagidae]
Neobullieria citellivora 3144
- Aspergillus niger(?)**
[Diptera: Drosophilidae]
Drosophila 7975
- Barbatospora ambicaudata**
[Diptera: Simuliidae]
Simulium vandalicum 9020
- Basidiobolus haptosporus**
[Diptera: Brachycera]
Unknown species 1347
- Batkoa apiculata**
[Diptera: Sciaridae]
Unknown species 919 927 1660 1661
Bradysia paupera 3224 3225 3226
- Batkoa gigantea**
[Diptera: Tipulidae]
Tipula paludosa 214 215 403
- Batkoa major**
[Diptera: Drosophilidae]
Drosophila suzukii 12251
- Batkoa papillata(?)**
[Diptera: Simuliidae]
Unknown species 7068
- Batkoa pseudapiculatus**
[Diptera: Psilidae]
Psila rosae 2493 2496 2497 2502
- Beauveria sp.**
[Diptera: Culicidae]
Unknown species 13290 13293 13294
[Diptera: Muscidae]
Musca domestica 13814
- Beauveria bassiana**
[Diptera]
Unknown species 1962 2454 7269 8707
8712 10141 10149
[Diptera: Anthomyiidae]
Delia antiqua 1864 1865 1866
Delia radicum 1151 4012 6553 6555
6563 6564 6568
Pegoplata aestiva 8031
[Diptera: Calliphoridae]
Calliphora 1630
[Diptera: Ephydriidae]
Unknown species 6567
Scatella tenuicosta 8245 8246 8247
[Diptera: Muscidae]
Unknown species 1955 10142 11845
Haematobia irritans 5862 5864 5865
5866
Musca autumnalis 1514
Musca domestica 2953 5339 5340 5341
5342 5343 5344 5345 5346 5347
5861 5863 7049 7940 13813
[Diptera: Psychodidae]
Phlebotomus papatasi 2972
[Diptera: Sciaridae]
Unknown species 6566
[Diptera: Syrphidae]
Eristalis latifrons 710
[Diptera: Tachinidae]
Unknown species 1150
[Diptera: Tipulidae]
Tipula paludosa 6565
- Beauveria bassiana sensu lato**
[Diptera: Culicidae]
Unknown species 13255
[Diptera: Muscidae]
Haematobia irritans 13303 13304
13305 13306 13307
- Beauveria pseudobassiana**
[Diptera: Muscidae]
Haematobia irritans 5867
- Bionectria sp.**
[Diptera: Culicidae]
Unknown species 13230
- Candida cf. pseudoglaebosa**
[Diptera: Culicidae]
Wyeomyia smithii 7146
- Coelomycidium simulii**
[Diptera: Simuliidae]
Simulium fibrinflatum 209
Simulium venustum 218
- Conidiobolus sp.**
[Diptera: Anthomyiidae]
Unknown species 2494
Delia radicum 2672
[Diptera: Muscidae]
Musca branca 2508
[Diptera: Ptychopteridae]
Ptychoptera contaminata 2498
[Diptera: Tipulidae]
Unknown species 89
Tipula paludosa 6424
- Conidiobolus coronatus**
[Diptera: Psychodidae]
Lutzomyia 3379
Lutzomyia sordelli 3414 3415
[Diptera: Sciaridae]
Lycoriella ingenua 9940 9941 9942
- Conidiobolus macrosporus**
[Diptera]
Unknown species 12830
- Conidiobolus thromboides**
[Diptera]
Unknown species 86 87
[Diptera: Chamaemyiidae]
Leucopis ninae 4996
[Diptera: Culicidae]
Culex pipiens pipiens 70
[Diptera: Heliomyzidae]
Unknown species 5
- Crypticola sp.**
[Diptera: Culicidae]
Unknown species 13236 13240 13241
- Crypticola clavulifera**
[Diptera: Ceratopogonidae]
Forcipomyia marksae 1940
[Diptera: Culicidae]
Unknown species 13235
- Culicinomyces bisporalis**
[Diptera: Culicidae]
Aedes kochi 1948 1949

- Culicinomyces clavisporus**
[Diptera: Ceratopogonidae]
Dasyhelea 2478
Forcipomyia marksae 2480 2481
[Diptera: Culicidae]
Unknown species 706 2622
Aedes rupestris 2471 2472 2473 2474
2475 2476 2477
Anopheles amictus hilli 541 644 645
Anopheles quadrimaculatus 360 372
582 583 584 585
Culiseta inconspicua 2479
Culiseta inornata 964 1260 2482
- Entomophaga conglomerata**
[Diptera: Chironomidae]
Unknown species 2272 2273
[Diptera: Culicidae]
Unknown species 1847
- Entomophaga tabanivora**
[Diptera: Tabanidae]
Atylotus thoracis 627
- Entomophthora culicis**
[Diptera: Chironomidae]
Unknown species 5811
Chironomus decorus 780
[Diptera: Nematocera]
Unknown species 387
- Entomophthora ferdinandii**
[Diptera: Muscidae]
Coenosia tigrina 6918
- Entomophthora muscae**
[Diptera]
Unknown species 392 466 6701 7371
[Diptera: Anthomyiidae]
Unknown species 2087 2088 2678
Botanophila fugax 6712
Delia 2089 2090 2263 2264 2265 2266
2317
Delia antiqua 3074
Delia platura 707
Delia radicum 2665 2668 2670 2674
2675 4786 4787 4788 4789 4790
6274 6706 6707 6708 6709 6710
6711 6717 6811 6814 6815 6818
6821
[Diptera: Calliphoridae]
Pollenia rudis 651
[Diptera: Drosophilidae]
Drosophila hydei 13514
[Diptera: Muscidae]
Unknown species 5954
Musca domestica 16 454 556 557 803
969 2014 2172 2542 2543 5952
5953 6121 6122 6123 6124 6125
6126 6127 6128 6129 6130 6131
6132 6133 6134 6135 6136 6140
6141 6164 6165 6713 6714 6715
6716 6812 6813 13376
[Diptera: Syrphidae]
Unknown species 826 2673
- Entomophthora scatophagae**
[Diptera: Scatophagidae]
Scatophaga stercoraria 6704 6705
- Entomophthora schizophorae**
[Diptera: Calliphoridae]
Pollenia 6703 6816 6817
Pollenia rudis 4791
[Diptera: Muscidae]
Musca domestica 5348 6137 6138 6139
6142 6143
[Diptera: Psilidae]
Psila rosae 2540 2541 2667
- Entomophthora syrphi**
[Diptera: Syrphidae]
Melanostoma scalare 6819 6820
Platycheirus clypeatus 6702
Triglyphus primus 5955
- Erynia sp.**
[Diptera]
Unknown species 876 880 884 2495
[Diptera: Brachycera]
Unknown species 1338
[Diptera: Chironomidae]
Unknown species 2507
[Diptera: Ephydriidae]
?Hydrellia 2097
[Diptera: Sciaridae]
Lycoriella mali 2433 2434
- Erynia aquatica**
[Diptera: Culicidae]
Unknown species 364 764
Aedes 750 885
- Erynia conica**
[Diptera]
Unknown species 401
[Diptera: Chironomidae]
Unknown species 2274 2277 2278 2405
[Diptera: Culicidae]
Unknown species 1740
[Diptera: Simuliidae]
Unknown species 1752 1753 1755 2275
Simulium 1439
- Erynia curvispora**
[Diptera: Chironomidae]
Unknown species 402
[Diptera: Culicidae]
Ochlerotatus triseriatus 36
[Diptera: Simuliidae]
Unknown species 1754 3229
Simulium 802
- Erynia ovispora**
[Diptera: Psychodidae]
Unknown species 398 399 400
- Erynia sciarae**
[Diptera: Mycetophilidae]
Unknown species 1870
- Erynia sepulchralis**
[Diptera: Tipulidae]
Unknown species 12250
- Eryniopsis caroliniana**
[Diptera: Tipulidae]
Tipula paludosa 212 213 424 640 641
642
- Eryniopsis ptychopterae**
[Diptera: Ptychopteridae]
Ptychoptera contaminata 2535 2671
- Evlachovaea sp.**
[Diptera: Bibionidae]
Plecia 7372
[Diptera: Stratiomyidae]
Chiromyza 6146
- Furculomyces boomerangus**
[Diptera: Chironomidae]
Procladius paludicola 9077
Psectrocladius paludicola 9259
Tanytarsus nr. inextentus 9021
- Furia americana**
[Diptera]
Unknown species 742 1240 1242 2192
2194
- Furia ithacensis**
[Diptera: Empididae]
Unknown species 1339 1340
[Diptera: Rhagionidae]
Symphoromyia hirta 663
- Fusarium sp.**
[Diptera]
Unknown species 2414
[Diptera: Culicidae]
Culex pipiens pipiens 11949 11950
Ochlerotatus trivittatus 11948
[Diptera: Muscidae]
Musca domestica 1522
[Diptera: Psychodidae]
Lutzomyia 3382
[Diptera: Ulidiidae]
Tetanops myopaeformis 7382
- Fusarium merismoides**
[Diptera: Anthomyiidae]
Delia floralis 5511
- Fusarium oxysporum**
[Diptera: Anthomyiidae]
Delia radicum 1371
- Fusarium solani**
[Diptera: Anthomyiidae]
Delia radicum 1148
- Fusarium verticillioides**
[Diptera: Bibionidae]
Unknown species 2252
- Geolegnia sp.**
[Diptera: Culicidae]
Unknown species 13357
- Gliocladium sp.**
[Diptera: Culicidae]
Unknown species 13288
- Harpellales, genus undetermined**
[Diptera: Chironomidae]
Corynoneura 9089
Cricotopus 9260

Hirsutella sp. [Diptera: Sciomyzidae] <i>Sepedon sphegeus</i> 1551 [Diptera: Stratiomyidae] Unknown species 13360	Lagenidium giganteum [Diptera: Ceratopogonidae] <i>Forcipomyia marksae</i> 2529 2530 2531 2532 2533 [Diptera: Culicidae] Unknown species 748 3326 <i>Aedes melanimon</i> 3327 3328 <i>Culex tarsalis</i> 1384 <i>Culex territans</i> 749 <i>Culiseta melanura</i> 373 746	Mariannaea elegans [Diptera] Unknown species 9455 9456
Hirsutella nr. haptospora [Diptera: Itonididae] Unknown species 2228		Metapochonia bulbillosa [Diptera: Muscidae] Unknown species 11800
Hirsutella radiata [Diptera: ?Lauxaniidae] Unknown species 1369	Lecanicillium sp. [Diptera: Bibionidae] Unknown species 11798 [Diptera: Culicidae] Unknown species 13355 13356 [Diptera: Xylophagidae] Unknown species 7634 7849	Metarhizium sp. [Diptera: Culicidae] Unknown species 13292
Isaria sp. [Diptera: Tipulidae] Unknown species 9508	Lecanicillium sp. [Diptera: Bibionidae] Unknown species 11798 [Diptera: Culicidae] Unknown species 13355 13356 [Diptera: Xylophagidae] Unknown species 7634 7849	Metarhizium anisopliae [Diptera] Unknown species 9487
Isaria andoi [Diptera: Cecidomyiidae] <i>Resseliella odai</i> 1684	Lecanicillium evansii (?) [Diptera] Unknown species 11785 11795 [Diptera: Simuliidae] Unknown species 11796	Metarhizium anisopliae sensu lato [Diptera] Unknown species 9939 [Diptera: Anthomyiidae] <i>Delia floralis</i> 5520 [Diptera: Culicidae] Unknown species 13231 13247 <i>Ochlerotatus triseriatus</i> 3827 [Diptera: Ephydriidae] <i>?Hydrellia</i> 2105 <i>Scatella tenuicosta</i> 8248 8249 [Diptera: Stratiomyidae] <i>Boreoides tasmaniensis</i> 4600 4620 <i>Inopus rubriceps</i> 7840 7841 7855 7856 7857 7858 7859 7860 7861 7914 7915 7916 7917 7918 7919 7920 7926 [Diptera: Tipulidae] <i>Tipula paludosa</i> 13222
Isaria coleopterorum [Diptera: Tipulidae] Unknown species 10163	Lecanicillium fusisporum (?) [Diptera: Muscidae] <i>Musca domestica</i> 5578 5579	Metarhizium anisopliae sensu stricto [Diptera: Stratiomyidae] Unknown species 7418 7419 7423 7426 7427 7428
Isaria farinosa [Diptera] Unknown species 10156 10160 10165 11834 13362 13365 [Diptera: Bibionidae] Unknown species 11828 [Diptera: Culicidae] <i>Aedes albifasciatus</i> 2971 <i>Aedes sierrensis</i> 1939 [Diptera: Muscidae] Unknown species 11832 [Diptera: Simuliidae] Unknown species 11826 [Diptera: Tachinidae] Unknown species 1348 1349 [Diptera: Tipulidae] Unknown species 11824 [Diptera: Xylophagidae] Unknown species 9512	Lecanicillium lecanii (?) [Diptera: Muscidae] <i>Haematobia irritans</i> 5584 5585	Metarhizium anisopliae var. anisopliae [Diptera: Syrphidae] <i>Eumerus strigatus</i> 6550
Isaria flavovirescens [Diptera: Cecidomyiidae] <i>Resseliella odai</i> 1686	Lecanicillium muscarium [Diptera] Unknown species 7224 9470 10173 [Diptera: Culicidae] <i>Ochlerotatus triseriatus</i> 810 [Diptera: Muscidae] <i>Musca domestica</i> 5859 [Diptera: Psychodidae] <i>Lutzomyia saulensis</i> 3418 [Diptera: Tipulidae] Unknown species 2329	Metarhizium brunneum [Diptera: Culicidae] <i>Aedes crinifer</i> 2974 <i>Ochlerotatus triseriatus</i> 3826
Isaria fumosorosea [Diptera] Unknown species 887 [Diptera: ?Stratiomyidae] Unknown species 2425 [Diptera: Calliphoridae] <i>Calliphora</i> 1646 [Diptera: Muscidae] <i>Musca autumnalis</i> 1626 <i>Musca domestica</i> 1644 1645 1867 1868 5860	Lecanicillium psalliotae [Diptera] Unknown species 10179 [Diptera: Psychodidae] <i>Lutzomyia sordelli</i> 3416	Metarhizium guizhouense [Diptera: Stratiomyidae] Unknown species 7420
	Lecanicillium wallacei (?) [Diptera] Unknown species 10172 10174	Metarhizium pingshaense [Diptera: Stratiomyidae] Unknown species 7414 7421 7422 7425 7429 <i>Inopus rubriceps</i> 8497
	Leptolegnia sp. [Diptera: Culicidae] Unknown species 13251 13302 13358 13359	Mortierella sp. [Diptera: Sciaridae] <i>Lycoriella</i> 13513
	Leptolegnia chapmanii [Diptera: Culicidae] <i>Aedes aegypti</i> 6718 12817 12818 12819 12820 12827 12828 12829 <i>Aedes albifasciatus</i> 5499 7787 <i>Culex</i> 2682 <i>Culex pipiens quinquefasciatus</i> 1385 2681 <i>Mansonia titillans</i> 2562 2680	Myrothecium verrucaria [Diptera: Tipulidae] <i>Tipula</i> 9359

- Ophiocordyceps variabilis**
[Diptera: Xylophagidae]
Unknown species 4080
Xylophagus sp. 5365 5366 5367 5414
5415 5416 5417 5418 5419 5420
5421 5422 5423 5424 5425 5426
5427 5428 5429
- Paecilomyces** sp.
[Diptera]
Unknown species 2350 2378
[Diptera: Drosophilidae]
Unknown species 3768
- Pandora** sp.
[Diptera]
Unknown species 5812
[Diptera: Sciaridae]
Unknown species 13512
- Pandora bullata**
[Diptera: Calliphoridae]
Phaenicia sericata 9 116
- Pandora dipterigena**
[Diptera]
Unknown species 131 1720 1921 1923
[Diptera: ?Sciaridae]
Unknown species 1887
[Diptera: Brachycera]
Unknown species 1422
[Diptera: Calliphoridae]
Unknown species 1144
[Diptera: Nematocera]
Unknown species 397
- Pandora gloeospora**
[Diptera: Sciaridae]
Lycoriella 13406
- Penicillium** sp.
[Diptera: Culicidae]
Unknown species 13233 13246
[Diptera: Drosophilidae]
Drosophila 7976
- Pochonia chlamydosporia** var. **chlamydosporia**
[Diptera]
Unknown species 11786 11810
- Purpureocillium lilacinum**
[Diptera: Culicidae]
Unknown species 13291
- Saprolegnia** sp.
[Diptera: Chironomidae]
Unknown species 6427
[Diptera: Simuliidae]
Unknown species 179 180
- Scopulariopsis** sp.
[Diptera: Calliphoridae]
Lucilia illustris 2328
- Simplicillium lamellicola**
[Diptera: Muscidae]
Unknown species 9480
- Simplicillium lanosniveum**
[Diptera: Culicidae]
Unknown species 8822
- Smittium** sp.
[Diptera]
Unknown species 9051 9065 9088 9265
[Diptera: Chironomidae]
Unknown species 9034 9087 9145
Orthocladus 9121 9146
Polypedilum 9120
Psectrocladius limbatellus 9050
Pseudokiefferiella 9147
Tanytarsus 9035
[Diptera: Culicidae]
Unknown species 9038 9079 9081 9148
[Diptera: Tipulidae]
Unknown species 9086
- Smittium acutum**
[Diptera: Chironomidae]
Unknown species 9092
- Smittium angustum**
[Diptera: Chironomidae]
Tanytarsus 9241
- Smittium annulatum**
[Diptera: Simuliidae]
Unknown species 9242
- Smittium caudatum**
[Diptera: Chironomidae]
Unknown species 9000 9261
- Smittium coloradense**
[Diptera: Chironomidae]
Cricotopus 9001
Orthocladus 9002
- Smittium commune**
[Diptera: Chironomidae]
Unknown species 9085
Microtendipes 9243 9244 9245
- Smittium culicis**
[Diptera]
Unknown species 9059
[Diptera: Chironomidae]
Unknown species 9011 9127 9129
Chironomus 9003 9045 9046 9142
Corynoneura 9007 9093
Tanytarsus 9125
[Diptera: Culicidae]
Unknown species 9010 9031 9057 9073
9123 9140 9141
Aedes albifasciatus 5204 5432 9004
Aedes sticticus 9009 9130
Culex 9128 9149
Culex pervigilans 9074
Culex renatoi 5431
[Diptera: Simuliidae]
Prosimulium 9126
Simulium vittatum 9008
[Diptera: Thaumaleidae]
Unknown species 9084 9124
Austrothaumalea 9005 9041
[Diptera: Tipulidae]
Unknown species 9091
- Dactyloblabis montana* 9143
Limonia 9006 9040
- Smittium culicisoides**
[Diptera: Chironomidae]
Unknown species 9044
- Smittium culisetæ**
[Diptera: Ceratopogonidae]
Dasyhelea 9097
[Diptera: Chironomidae]
Unknown species 9132
Chironomus alternans 9025
Orthocladus 9114
[Diptera: Culicidae]
Unknown species 9015 9024 9026 9058
9071 9075 9098 9109 9110 9111
9113 9247 9262
Aedes albopictus 9013 9014 9047 9099
9100 9101 9104 9105 9106
Aedes crinifer 5200 9094
Aedes vexans 9016 9017 9102 9103
9246
Culex 9048 9107 9108
Culex dolosus 5203 5430 9131
Culex restuans 9056
Culiseta 9062 9115 9133
Culiseta impatiens 9012
Culiseta incidens 9095
Ochlerotatus japonicus 9039 9069
[Diptera: Simuliidae]
Simulium vittatum 6810 9018 9032
9096 9112
- Smittium cylindrosporum**
[Diptera: Chironomidae]
Cricotopus 9116 9248 9249
- Smittium dipterorum**
[Diptera: Chironomidae]
Chironomus 9250
[Diptera: Simuliidae]
Simulium 9263
- Smittium elongatum**
[Diptera: Chironomidae]
Unknown species 9251
- Smittium fecundum**
[Diptera: Chironomidae]
Psectrocladius 9022 9083
- Smittium gravimetallum**
[Diptera: Chironomidae]
Dicrotendipes fumidus 9029 9036 9252
9264
- Smittium imitatum**
[Diptera: Simuliidae]
Simulium 9033
- Smittium lentaquaticum**
[Diptera: Chironomidae]
Chironomus 9068 9253
[Diptera: Culicidae]
Unknown species 9082
- Smittium megazygosporum**
[Diptera: Simuliidae]
Simulium vittatum 6275 9037

- Smittium megazygosporum**(?)
[Diptera: Chironomidae]
Orthocladus 9027
- Smittium morbosum**
[Diptera: Culicidae]
Ochlerotatus triseriatus 9060 9061
- Smittium mucronatum**
[Diptera]
Unknown species 9063
[Diptera: Chironomidae]
Unknown species 9067 9090 9144
Psectrocladius sordidellus 9028
- Smittium orthocladii**
[Diptera: Chironomidae]
Unknown species 9080
- Smittium perforatum**(?)
[Diptera: Chironomidae]
Diamesa 9055
- Smittium phytotelmatum**
[Diptera: Chironomidae]
Chironomus 9076
- Smittium simulatum**
[Diptera: Tipulidae]
Aphrophila bidentata 9042 9078 9117
- Smittium simulii**
[Diptera: Chironomidae]
Unknown species 9019 9136
Diamesa 9139
[Diptera: Simuliidae]
Unknown species 9049
Simulium 9043 9118 9134 9137 9138
Simulium uchidai 9135
Simulium virgatum 9254
- Smittium stenosporum**
[Diptera: Chironomidae]
Cricotopus 9023
- Smittium tipulidarum**
[Diptera: Tipulidae]
Elliptera astigmatica 9052 9053 9054
9122
- Smittium tronadorium**
[Diptera: Chironomidae]
Paraheptagyia 9030
- Strongwellsea castrans**
[Diptera: Anthomyiidae]
Delia radicum 3282 3485
- Syngliocladium sp.**
[Diptera: Ulidiidae]
Tetanops myopaeformis 5217
- Syngliocladium tetanopsis**
[Diptera: Ulidiidae]
Tetanops myopaeformis 4972 5497
5577
- Tolypocladium cylindrosporum**
[Diptera: Anthomyiidae]
Delia floralis 5525 5526 5527 5528
5529 5530 5531 5532 5558 5559
- [Diptera: Bibionidae]
Plecia nearctica 2912
- [Diptera: Culicidae]
Unknown species 961 976 1027 1028
2911
Aedes australis 841
Aedes sierrensis 705 1580
- Tolypocladium extinguens**
[Diptera: Mycetophilidae]
Arachnocampa luminosa 2921
- Tolypocladium inflatum**
[Diptera: Tachinidae]
Unknown species 3281
- Trichoderma sp.**
[Diptera: Anthomyiidae]
Delia floralis 5522
- Trichoderma sp.**
[Diptera: Culicidae]
Unknown species 13237
- Verticillium lecanii**
[Diptera: Anthomyiidae]
Delia radicum 5132 6554
- [Diptera: Ephydriidae]
Scatella stagnalis 6561
- Zoophthora lanceolata**
[Diptera: Brachycera]
Unknown species 468
- [Diptera: Nematocera]
Unknown species 426 469
- Zoophthora radicans**
[Diptera]
Unknown species 388 1337 2499 2500
2501 2503 2506 2523 2524 2554
2669 8466
- [Diptera: Anthomyiidae]
Delia radicum 2666 3489
- [Diptera: Drosophilidae]
Unknown species 18
- [Diptera: Nematocera]
Unknown species 1336 1428

Animalia

Arthropoda • Insecta

Diptera

Argentina
Zoophthora radicans 8466
 Brazil, Goiás
Conidiobolus macrosporus 12830
 Brazil, Bahia
Beauveria bassiana 1962
 Brazil, Ceará
Erynia sp. 876 880 884
 Brazil, Goiás
Furia americana 742 2192 2194
 Brazil, Paraná
Furia americana 1240 1242
 Canada, Ontario
Smittium mucronatum 9063
Smittium sp. 9065 9088 9265
 Chile
Isaria farinosa 13362 13365
 Denmark
Entomophthora muscae 6701
Erynia sp. 2495 5812
Zoophthora radicans 2499 2500
 2501 2503 2506 2523 2524 2554
 2669
 France
Isaria fumosorosea 887
 India
Fusarium sp. 2414
 Indonesia, Yogyakarta, Java
Paecilomyces sp. 2350 2378
 Israel
 138
 Poland
Conidiobolus thromboides 86 87
Zoophthora radicans 1337
 Republic of Korea
Beauveria bassiana 7269
 Russian Federation
Lecanicillium muscarium 7224
Mariannaea elegans 9456
 Sri Lanka
Beauveria bassiana 2454
 Switzerland
Entomophthora muscae 392 466
Erynia conica 401
Pandora dipterigena 1720
Zoophthora radicans 388
 Ukraine
Lecanicillium muscarium 9470
Metarhizium anisopliae 9487
Mariannaea elegans 9455
 USA, Hawaii
Beauveria bassiana 8707 8712
 USA, Vermont
Beauveria bassiana 10141 10149
 USA, New York
Entomophthora muscae 7371

USA, Vermont
Isaria farinosa 10156 10160
 USA, New York
Isaria farinosa 10165
 USA, Vermont
Isaria farinosa 11834
 USA, New Hampshire
Lecanicillium evansii(?) 11785
 USA, Vermont
Lecanicillium evansii(?) 11795
 USA, New York
Lecanicillium muscarium 10173
Lecanicillium psalliotae 10179
Lecanicillium wallacei(?) 10172
 USA, Vermont
Lecanicillium wallacei(?) 10174
Metarhizium anisopliae sensu lato
 9939
 USA, New York
Pandora dipterigena 1921 1923
 USA, Vermont
Pochonia chlamydosporia var.
chlamydosporia 11786
 USA, New York
Pochonia chlamydosporia var.
chlamydosporia 11810
 USA, Utah
Smittium culicis 9059
 USA, Oregon
Smittium sp. 9051
 USA, New York
 Unidentified sp. 1922
 USA, Puerto Rico
 Unidentified / Hyphomycetes 7078
 USA, Vermont
 Unidentified / Hyphomycetes
 10171
 USA, Maine
Pandora dipterigena 131

Diptera: ?Lauxaniidae

Poland
Hirsutella radiata 1369

Diptera: ?Sciaridae

USA, New York
Pandora dipterigena 1887

Diptera: ?Stratiomyidae

Indonesia, Jawa Barat, Java
Isaria fumosorosea 2425

Diptera: Anthomyiidae

Denmark
Conidiobolus sp. 2494
Entomophthora muscae 2678
 France
Entomophthora muscae 2087 2088
 Unidentified sp. 2029
Botanophila fugax
 Denmark
Entomophthora muscae 6712
Delia sp.
 France
Entomophthora muscae 2089 2090
 2263 2264 2265 2266 2317

Delia antiqua
 France
Beauveria bassiana 1864 1865 1866
 USA, New York
Entomophthora muscae 3074
Delia floralis
 Norway
Arthrotrix oligospora 5561 5562
Fusarium merismoides 5511
Metarhizium anisopliae sensu lato
 5520
Tolyposcladium cylindrosporium
 5525 5526 5527 5528 5529 5530
 5531 5532 5558 5559
Trichoderma sp. 5522
Delia platura
 United Kingdom
Entomophthora muscae 707
Delia radicum
 Canada, Québec
Beauveria bassiana 1151
Fusarium oxysporum 1371
Fusarium solani 1148
 Denmark
Beauveria bassiana 4012
Conidiobolus sp. 2672
Entomophthora muscae 2665 2668
 2670 2674 2675 4786 4787 4788
 4789 4790 6706 6707 6708 6709
 6710 6711 6717 6811 6814 6815
 6818 6821
Strongwellsea castrans 3282 3485
Zoophthora radicans 2666 3489
 Norway
Entomophthora muscae 6274
 United Kingdom
Beauveria bassiana 6553 6555 6563
 6564 6568
Verticillium lecanii 5132 6554
Pegoplatia aestiva
 Denmark
Beauveria bassiana 8031

Diptera: Bibionidae

France
Fusarium verticillioides 2252
 USA, Vermont
Isaria farinosa 11828
 USA, New York
Lecanicillium sp. 11798
Plecia sp.
 USA, Mississippi
Evlachovaea sp. 7372
Plecia nearctica
 USA, Florida
Tolyposcladium cylindrosporium
 2912

Diptera: Bombyliidae

Costa Rica
Aspergillus flavus 3430

Diptera: Brachycera

France
Zoophthora lanceolata 468
 Poland
Basidiobolus haptosporus 1347

- Erynia* sp. 1338
Pandora dipterigena 1422
- Diptera: Calliphoridae**
 Japan
Pandora dipterigena 1144
Calliphora sp.
 France
Beauveria bassiana 1630
Isaria fumosorosea 1646
 Unidentified sp. 1631 1632 1633
Lucilia illustris
 France
Scopulariopsis sp. 2328
Phaenicia sericata
 USA, Massachusetts
Pandora bullata 9 116
Pollenia sp.
 Denmark
Entomophthora schizophorae 6703
 6816 6817
Pollenia rudis
 USA, New York
Entomophthora muscae 651
 USA, California
Entomophthora schizophorae 4791
- Diptera: Cecidomyiidae**
Resseliella odai
 Japan
Isaria andoi 1684
Isaria flavovirescens 1686
- Diptera: Ceratopogonidae**
Dasyhelea sp.
 Australia
Culicinomyces clavisporus 2478
 France
Smittium culisetae 9097
Forcipomyia marksae
 Australia
Crypticola clavulifera 1940
Culicinomyces clavisporus 2480
 2481
Lagenidium giganteum 2529 2530
 2531 2532 2533
- Diptera: Chamaemyiidae**
Leucopis ninae
 South Africa
Conidiobolus thromboides 4996
 Unidentified / Zygomycetes 5125
- Diptera: Chironomidae**
 Australia
Smittium elongatum 9251
 Canada, Ontario
Smittium mucronatum 9067 9090
 9144
 Costa Rica
Smittium culicisoides 9044
Smittium sp. 9034
 Denmark
Entomophthora culicis 5811
 France
Smittium culicis 9127 9129
 Japan
Smittium simulii 9019 9136
- Switzerland
Erynia curvispora 402
Smittium culisetae 9132
 United Kingdom
Erynia conica 2405
Erynia sp. 2507
 USA, South Carolina
Saprolegnia sp. 6427
 USA, Oklahoma
Smittium acutum 9092
Smittium caudatum 9000 9261
 USA, Kansas
Smittium commune 9085
 USA, New York
Smittium culicis 9011
 USA, Tennessee
Smittium orthocladii 9080
 USA, Arkansas
Smittium sp. 9087
 USA, Missouri
Smittium sp. 9145
 USA, New York
Entomophaga conglomerata 2272
 2273
Erynia conica 2274 2277 2278
Chironomus sp.
 Australia
Smittium culicis 9003 9142
 Costa Rica
Smittium dipterorum 9250
Smittium phytotelmatum 9076
 France
Smittium culicis 9045 9046
 Japan
Amoebidium parasiticum 9183
 USA, Tennessee
Amoebidium appalachense 9181
 9255 9256
Smittium lentaquaticum 9068 9253
Chironomus alternans
 Australia
Smittium culisetae 9025
Chironomus decorus
 USA, New York
Entomophthora culicis 780
Corynoneura sp.
 New Zealand
Harpellales, genus undetermined
 9089
Smittium culicis 9007 9093
Cricotopus sp.
 Chile
Smittium cylindrosporum 9116
 9248 9249
 New Zealand
Harpellales, genus undetermined
 9260
 USA, Colorado
Smittium coloradense 9001
 USA, Oklahoma
Smittium stenosporum 9023
Diamesa sp.
 Sweden
Smittium simulii 9139
 USA, Colorado
Smittium perforatum(?) 9055
- Dicrotendipes fumidus*
 USA, Kansas
Smittium gravimetalum 9029 9036
 9252 9264
Microtendipes sp.
 USA, Kansas
Smittium commune 9243 9244 9245
Orthocladus sp.
 Sweden
Smittium sp. 9146
 USA, Colorado
Smittium coloradense 9002
 USA, Wyoming
Smittium culisetae 9114
 USA, Kansas
Smittium megazygosporum(?) 9027
 USA, Missouri
Smittium sp. 9121
Paraheptagya sp.
 Argentina
Smittium tronadorium 9030
Polypedilum sp.
 Costa Rica
Smittium sp. 9120
Procladius paludicola
 Australia
Furculomyces boomerangus 9077
Psectrocladius sp.
 USA, Colorado
Smittium fecundum 9022 9083
Psectrocladius limbatellus
 Norway
Smittium sp. 9050
Psectrocladius paludicola
 Australia
Furculomyces boomerangus 9259
Psectrocladius sordidellus
 France
Smittium mucronatum 9028
Pseudokiefferiella sp.
 Switzerland
Smittium sp. 9147
Tanytarsus sp.
 Australia
Smittium angustum 9241
Smittium culicis 9125
 Costa Rica
Smittium sp. 9035
Tanytarsus nr. inextentus
 Australia
Furculomyces boomerangus 9021
- Diptera: Culicidae**
 Argentina
Smittium culisetae 9075
Smittium culicis 9031
 Australia
Culicinomyces clavisporus 2622
Smittium culicis 9057 9123 9140
 9141
Smittium sp. 9079
 Brazil, Tocantins
Achlya sp. 13234 13238 13239 13242
 13245 13295
 Brazil
Achlya sp. 13298

Brazil, Goiás	USA, Hawaii	USA, Nebraska
<i>Beauveria bassiana</i> sensu lato	<i>Smittium culisetae</i> 9098	<i>Smittium culisetae</i> 9246
13255	USA, Tennessee	<i>Anopheles</i> sp.
Brazil	<i>Smittium culisetae</i> 9113	USA, Florida
<i>Bionectria</i> sp. 13230	USA, Wyoming	Unidentified sp. 2563
<i>Beauveria</i> sp. 13290 13293 13294	<i>Smittium culisetae</i> 9247 9262	<i>Anopheles amictus hilli</i>
Brazil, Tocantins	USA, Tennessee	Australia
<i>Crypticola clavulifera</i> 13235	<i>Smittium culicis</i> 9010	<i>Culicinomyces clavisporus</i> 541 644
<i>Crypticola</i> sp. 13236 13240 13241	<i>Smittium lentaquaticum</i> 9082	645
Brazil	<i>Smittium</i> sp. 9038 9081 9148	<i>Anopheles gambiae</i>
<i>Geolegnia</i> sp. 13357 13288 13355	USA, New York	Mali
13356	<i>Erynia aquatica</i> 364	Unidentified sp. 3380 3381
Brazil, Tocantins	<i>Aedes</i> sp.	<i>Anopheles quadrimaculatus</i>
<i>Leptolegnia</i> sp. 13251	USA, New York	USA, North Carolina
Brazil	<i>Erynia aquatica</i> 750 885	<i>Culicinomyces clavisporus</i> 360 372
<i>Leptolegnia</i> sp. 13302 13358 13359	<i>Aedes aegypti</i>	582 583 584 585
<i>Metarhizium anisopliae</i> sensu lato	<i>Leptolegnia chapmanii</i> 12817 12819	<i>Culex</i> sp.
13231	12820 12827 12828	France
Brazil, Tocantins	Brazil, Goiás	<i>Smittium culicis</i> 9128 9149
<i>Metarhizium anisopliae</i> sensu lato	<i>Leptolegnia chapmanii</i> 12818 12829	Japan
13247	USA, New York	<i>Smittium culisetae</i> 9048 9107 9108
Brazil	<i>Leptolegnia chapmanii</i> 6718	USA, Florida
<i>Metarhizium</i> sp. 13292 13229	<i>Aedes albifasciatus</i>	<i>Leptolegnia chapmanii</i> 2682
Brazil, Tocantins	Argentina	<i>Culex dolosus</i>
13232 13243 13250 13252 13253	<i>Isaria farinosa</i> 2971	Argentina
13296 13297	<i>Leptolegnia chapmanii</i> 5499 7787	<i>Smittium culisetae</i> 5430 9131
Brazil	<i>Smittium culicis</i> 5204 5432 9004	Location not specified
13299 13300 13301	<i>Aedes albopictus</i>	<i>Smittium culisetae</i> 5203
<i>Purpureocillium lilacinum</i> 13291	USA, Florida	<i>Culex pervigilans</i>
Brazil, Tocantins	<i>Smittium culisetae</i> 9013	New Zealand
<i>Penicillium</i> sp. 13233 13246 13237	USA, Hawaii	<i>Smittium culicis</i> 9074
Brazil	<i>Smittium culisetae</i> 9014 9047 9099	<i>Culex pipiens pipiens</i>
Unidentified sp. 13289	9100 9101 9104 9105 9106	Czech Republic
Brazil, Tocantins	<i>Aedes australis</i>	<i>Conidiobolus thromboides</i> 70
Unidentified / Hyphomycetes	New Zealand	USA, Pennsylvania
13244 13254	<i>Tolypocladium cylindrosporium</i> 841	<i>Fusarium</i> sp. 11949 11950
Canada, Ontario	<i>Aedes crinifer</i>	<i>Culex pipiens quinquefasciatus</i>
<i>Smittium culicis</i> 9073	Argentina	USA, South Carolina
Colombia	<i>Metarhizium brunneum</i> 2974	<i>Leptolegnia chapmanii</i> 1385 2681
<i>Lagenidium giganteum</i> 3326	<i>Smittium culisetae</i> 9094	<i>Culex renatoi</i>
Czech Republic	Costa Rica	Argentina
<i>Tolypocladium cylindrosporium</i> 961	<i>Smittium culisetae</i> 5200	<i>Smittium culicis</i> 5431
Japan	<i>Aedes kochi</i>	<i>Culex restuans</i>
<i>Smittium culisetae</i> 9015 9109 9110	Australia	USA, South Carolina
9111	<i>Culicinomyces bisporalis</i> 1948 1949	<i>Smittium culisetae</i> 9056
New Zealand	<i>Aedes melanimon</i>	<i>Culex tarsalis</i>
<i>Tolypocladium cylindrosporium</i> 976	USA, California	USA, California
1027 1028 2911	<i>Lagenidium giganteum</i> 3327 3328	<i>Lagenidium giganteum</i> 1384
Tanzania	<i>Aedes rupestris</i>	<i>Culex territans</i>
<i>Simplicillium lanosoniveum</i> 8822	Australia	USA, Louisiana
United Kingdom	<i>Culicinomyces clavisporus</i> 2471	<i>Lagenidium giganteum</i> 749
<i>Entomophaga conglomerata</i> 1847	2472 2473 2474 2475 2476 2477	<i>Culiseta</i> sp.
<i>Erynia conica</i> 1740	<i>Aedes sierrensis</i>	USA, Wyoming
USA, North Carolina	USA, California	<i>Smittium culisetae</i> 9062 9115 9133
<i>Culicinomyces clavisporus</i> 706	<i>Isaria farinosa</i> 1939	<i>Culiseta impatiens</i>
USA, New York	<i>Tolypocladium cylindrosporium</i> 705	USA, Colorado
<i>Erynia aquatica</i> 764	1580	<i>Smittium culisetae</i> 9012
USA, North Carolina	<i>Aedes sticticus</i>	<i>Culiseta incidens</i>
<i>Lagenidium giganteum</i> 748	USA, Wyoming	USA, California
USA, Louisiana	<i>Smittium culicis</i> 9009 9130	<i>Smittium culisetae</i> 9095
<i>Smittium culisetae</i> 9024	<i>Aedes vexans</i>	<i>Culiseta inconspicua</i>
USA, Hawaii	USA, Kansas	Australia
<i>Smittium culisetae</i> 9026	<i>Smittium culisetae</i> 9016 9017	<i>Culicinomyces clavisporus</i> 2479
USA, Tennessee	USA, Hawaii	<i>Culiseta inornata</i>
<i>Smittium culisetae</i> 9058 9071	<i>Smittium culisetae</i> 9102 9103	Canada, Alberta
		<i>Culicinomyces clavisporus</i> 964

Laboratory manipulation
Culicinomyces clavisporus 1260
2482
Culiseta melanura
USA, North Carolina
Lagenidium giganteum 746 373
Mansonina titillans
USA, Florida
Leptolegnia chapmanii 2562 2680
Ochlerotatus japonicus
USA, Tennessee
Smittium culisetae 9039 9069
Ochlerotatus triseriatus
USA, Kentucky
Lecanicillium muscarium 810
USA, New York
Metarhizium anisopliae sensu lato
3827
Metarhizium brunneum 3826
USA, South Carolina
Smittium morbosum 9060 9061
USA, Maine
Erynia curvispora 36
Ochlerotatus trivittatus
USA, Pennsylvania
Fusarium sp. 11948
Wyeomyia smithii
USA, North Carolina
Candida cf. pseudoglebosa 7146

Diptera: Drosophilidae
USA, Arizona
Paecilomyces sp. 3768
USA, Florida
Zoopthora radicans 18
Drosophila sp.
Canada, British Columbia
Aspergillus niger(?) 7975
Penicillium sp. 7976
Drosophila hydei
USA, California
Entomophthora muscae 13514
Drosophila suzukii
USA, Tennessee
Batkoa major 12251

Diptera: Empididae
Poland
Furia ithacensis 1339 1340

Diptera: Ephydriidae
United Kingdom
Beauveria bassiana 6567
? *Hydrellia* sp.
Indonesia, Jawa Barat, Java
Erynia sp. 2097
Metarhizium anisopliae sensu lato
2105
Scatella stagnalis
United Kingdom
Verticillium lecanii 6561
Scatella tenuicosta
USA, New York
Beauveria bassiana 8245 8246 8247
Metarhizium anisopliae sensu lato
8248 8249

Diptera: Heliomyzidae
USA, Maine
Conidiobolus thromboides 5

Diptera: Itonididae
Poland
Hirsutella nr. *haptospora* 2228

Diptera: Muscidae
Brazil, Alagoas
Beauveria bassiana 1955
Denmark
Entomophthora muscae 5954
Ukraine
Simplicillium lamellicola 9480
USA, Vermont
Beauveria bassiana 10142 11845
Isaria fumosorosea 11832
USA, New York
Metapochonia bulbilosa 11800
Coenosia tigrina
Denmark
Entomophthora ferdinandii 6918
Haematobia irritans
Denmark
Beauveria bassiana 5862 5864 5865
5866
Beauveria pseudobassiana 5867
Lecanicillium lecanii(?) 5584 5585
Laboratory manipulation
Beauveria bassiana sensu lato
13304 13305 13306 13307
USA, Florida
Beauveria bassiana sensu lato
13303
Musca autumnalis
France
Beauveria bassiana 1514
Isaria fumosorosea 1626
Musca branca
Brazil, Goiás
Conidiobolus sp. 2508
Musca domestica
Argentina
Beauveria bassiana 7049
Denmark
Beauveria bassiana 5861 5863
Entomophthora muscae 2542 2543
5952 5953 6121 6122 6123 6124
6125 6126 6127 6128 6129 6130
6131 6132 6133 6134 6135 6136
6140 6141 6164 6165 6713 6714
6715 6716 6812 6813 13376
Entomophthora schizophorae 6137
6138 6139 6142 6143
Isaria fumosorosea 5860
Lecanicillium fusisporum(?) 5578
5579
Lecanicillium muscarium 5859
France
Fusarium sp. 1522
Isaria fumosorosea 1644 1645 1867
1868
India
Entomophthora muscae 16

USA, New York
Beauveria bassiana 5340 5341 5342
5343 5344 5345 5346 5347
USA, Florida
Beauveria bassiana 7940
USA, New York
Beauveria bassiana 13813
USA, Pennsylvania
Beauveria sp. 13814
USA, New York
Entomophthora muscae 556 557 803
2014
USA, California
Entomophthora muscae 2172
USA, Nebraska
Entomophthora schizophorae 5348
USA, California
Entomophthora muscae 969
USA, New York
Beauveria bassiana 2953 5339
Entomophthora muscae 454

Diptera: Mycetophilidae
Location not specified
Erynia sciarae 1870
Arachnocampa luminosa
New Zealand
Tolyptocladium extinguens 2921

Diptera: Nematocera
Poland
Zoopthora radicans 1336 1428
Switzerland
Entomophthora culicis 387
Pandora dipterigena 397
Zoopthora lanceolata 426 469

Diptera: Psilidae
Psila rosae
Denmark
Batkoa pseudapiculatus 2493 2496
2497 2502
Entomophthora schizophorae 2540
2541 2667

Diptera: Psychodidae
Switzerland
Erynia ovispora 398 399 400
Lutzomyia sp.
Costa Rica
Unidentified sp. 3123 3124 3420
3421 3423 3424 3425 3427 3428
Guatemala
Conidiobolus coronatus 3379
Fusarium sp. 3382 3378
Lutzomyia longipalpis
Costa Rica
Unidentified sp. 3422
Lutzomyia saulensis
Costa Rica
Lecanicillium muscarium 3418
Unidentified sp. 3413 3417 3419
Lutzomyia sordelli
Costa Rica
Conidiobolus coronatus 3414 3415
Lecanicillium psalliotae 3416

- Lutzomyia trapidoi*
Costa Rica
Unidentified sp. 3426
- Phlebotomus papatasi*
United Kingdom
Beauveria bassiana 2972
- Diptera: Ptychopteridae**
Ptychoptera contaminata
Denmark
Conidiobolus sp. 2498
Eryniopsis ptychopterae 2535 2671
- Diptera: Rhagionidae**
Symphoromyia hirta
USA, New York
Furia ithacensis 663
- Diptera: Sarcophagidae**
Neobullieria citellivora
Canada, Alberta
Aspergillus flavus 3144
- Diptera: Scatophagidae**
Scatophaga stercoraria
Denmark
Entomophthora scatophagae 6704
6705
- Diptera: Sciaridae**
Switzerland
Batkoa apiculata 919 927 1660 1661
United Kingdom
Beauveria bassiana 6566
USA, Pennsylvania
Pandora sp. 13512
Bradysia paupera
Denmark
Batkoa apiculata 3224 3225 3226
Lycoriella sp.
USA, Pennsylvania
Mortierella sp. 13513
Pandora gloeospora 13406
Lycoriella ingenua
Mexico
Conidiobolus coronatus 9940 9941
9942
Lycoriella mali
Location not specified
Erynia sp. 2433 2434
- Diptera: Sciomyzidae**
Sepedon sphegeus
Philippines
Hirsutella sp. 1551
- Diptera: Simuliidae**
Canada, Newfoundland
Batkoa papillata(?) 7068
Canada, Québec
Erynia curvispora 3229
Unidentified sp. 3227 3228 3230
3231 3232 3233 3235 3236 3245
3246 3247
Costa Rica
Smittium annulatum 9242
Japan
Smittium simulii 9049
- Switzerland
Erynia conica 1752 1753 1755
Erynia curvispora 1754
USA, Vermont
Isaria farinosa 11826
USA, New York
Lecanicillium evansii(?) 11796
USA, Maine
Saprolegnia sp. 179 180
USA, New York
Erynia conica 2275
Prosimulium sp.
Canada
Smittium culicis 9126
Simulium sp.
Chile
Smittium imitatum 9033
Costa Rica
Smittium dipterorum 9263
Japan
Smittium simulii 9137 9138
United Kingdom
Erynia conica 1439
USA, New York
Erynia curvispora 802
USA, Minnesota
Smittium simulii 9043 9118 9134
Simulium fibrinflatum
USA, Maine
Coelomyxidium simulii 209
Simulium uchidai
Japan
Smittium simulii 9135
Simulium vandalicum
USA, Tennessee
Barbatospora ambicaudata 9020
Simulium venustum
USA, Maine
Coelomyxidium simulii 218
Simulium virgatum
USA, California
Smittium simulii 9254
Simulium vittatum
USA, South Carolina
Smittium culisetae 6810
USA, Kansas
Smittium culisetae 9018
USA, South Carolina
Smittium culisetae 9032
USA, Minnesota
Smittium culisetae 9096
USA, Kansas
Smittium culisetae 9112
Smittium culicis 9008
USA, South Carolina
Smittium megazygosporum 6275
9037
- Diptera: Stratiomyidae**
Australia
Metarhizium anisopliae sensu
stricto 7418 7419 7423 7426 7427
7428
Metarhizium guizhouense 7420
Metarhizium pingshaense 7414
7421 7422 7425 7429
- Chile
Hirsutella sp. 13360
Boreoides tasmaniensis
Australia
Metarhizium anisopliae sensu lato
4600 4620
Chiromyza sp.
Brazil, Minas Gerais
Eolachovaea sp. 6146
Inopus rubriceps
Australia
Metarhizium anisopliae sensu lato
7840 7841 7855 7856 7857 7858
7859 7860 7861 7914 7915 7916
7917 7918 7919 7920 7926
Metarhizium pingshaense 8497
- Diptera: Syrphidae**
Denmark
Entomophthora muscae 2673
USA, New York
Entomophthora muscae 826
Eristalis latifrons
USA
Beauveria bassiana 710
Eumerus strigatus
United Kingdom
Metarhizium anisopliae var. *anisopliae* 6550
Melanostoma scalare
Denmark
Entomophthora syrphi 6819 6820
Platycheirus clypeatus
Denmark
Entomophthora syrphi 6702
Triglyphus primus
Denmark
Entomophthora syrphi 5955
- Diptera: Tabanidae**
Atylotus thoracis
USA, New York
Entomophaga tabanivora 627
- Diptera: Tachinidae**
Canada, New Brunswick
Tolypocladium inflatum 3281
France
Beauveria bassiana 1150
Poland
Isaria farinosa 1348 1349
- Diptera: Thaumaleidae**
Australia
Smittium culicis 9124
New Zealand
Smittium culicis 9084
Austrothaumalea sp.
Australia
Smittium culicis 9005 9041
- Diptera: Tipulidae**
Canada, Ontario
Smittium culicis 9091
France
Lecanicillium muscarium 2329
Location not specified
Unidentified sp. 371

Ukraine
 Isaria sp. 9508
USA, New York
 Erynia sepulchralis 12250
USA, Vermont
 Isaria coleopterorum 10163
 Isaria farinosa 11824
USA, Oregon
 Smittium sp. 9086
USA, New York
 Unidentified Entomophthorales sp.
 7227 7228 7229 7230
USA, Maine
 Conidiobolus sp. 89
Aphrophila bidentata
Chile
 Smittium simulatum 9042 9078
 9117
Dactylolabis montana
Canada, Ontario
 Smittium culicis 9143
Elliptera astigmatica
USA, Colorado
 Smittium tipulidarum 9052 9053
 9054 9122
Limonia sp.
Australia
 Smittium culicis 9006 9040
Tipula sp.
USA, Vermont
 Myrothecium verrucaria 9359
 Unidentified sp. 9334
Tipula paludosa
Switzerland
 Batkoa gigantea 214 215 403
 Eryniopsis caroliniana 212 213 424
 640 641 642
United Kingdom
 Beauveria bassiana 6565
 Conidiobolus sp. 6424
Wales
 Metarhizium anisopliae sensu lato
 13222

Diptera: Ulidiidae

Tetanops myopaeformis
USA, North Dakota
 Fusarium sp. 7382
 Syngliocladium sp. 5217
 Syngliocladium tetanopsis 4972
 5497 5577

Diptera: Xylophagidae

Russian Federation
 Isaria farinosa 9512
 Lecanicillium sp. 7634 7849
USA, New York
 Ophiocordyceps variabilis 4080
Xylophagus sp.
USA, New York
 Ophiocordyceps variabilis 5365 5366
 5367 5414 5415 5416 5417 5418
 5419 5420 5421 5422 5423 5424
 5425 5426 5427 5428 5429

Geographical Origin

Argentina

Buenos Aires
Beauveria bassiana 7049
Isaria farinosa 2971
Leptolegnia chapmanii 5499 7787
Metarhizium brunneum 2974
Smittium culisetae 5430 9075 9094
9131
Smittium culicis 5204 5431 5432 9004
9031
Zoophthora radicans 8466
Río Negro
Smittium tronadorium 9030

Australia

Culicinomyces clavisorus 2622
New South Wales
Culicinomyces clavisorus 541 644
645 2471 2472 2473 2474 2475 2476
2477 2478
Metarhizium pingshaense 7414
Smittium culisetae 9025
Queensland
Crypticola clavulifera 1940
Culicinomyces bisporalis 1948 1949
Culicinomyces clavisorus 2480 2481
Lagenidium giganteum 2529 2530
2531 2532 2533
Metarhizium anisopliae sensu lato
7840 7841 7855 7856 7857 7858 7859
7860 7861 7914 7915 7916 7917 7918
7919 7920 7926
Metarhizium anisopliae sensu stricto
7418 7419 7423 7426 7427 7428
Metarhizium guizhouense 7420
Metarhizium pingshaense 7421 7422
7425 7429 8497
Tasmania
Furculomyces boomerangus 9021
Metarhizium anisopliae sensu lato
4600 4620
Smittium culicis 9003 9057 9123 9124
9125 9140 9141 9142
Smittium sp. 9079
Victoria
Culicinomyces clavisorus 2479
Furculomyces boomerangus 9077 9259
Smittium culicis 9005 9006 9040 9041
Smittium elongatum 9251
Western Australia
Smittium angustum 9241

Brazil

Achlya sp. 13298
Bionectria sp. 13230
Beauveria sp. 13290 13293 13294
Geolegnia sp. 13357
Gliocladium sp. 13288
Lecanicillium sp. 13355 13356
Leptolegnia sp. 13302 13358 13359
Metarhizium anisopliae sensu lato
13231
Metarhizium sp. 13292
13229 13299 13300 13301
Purpureocillium lilacinum 13291
Unidentified sp. 13289

Alagoas

Beauveria bassiana 1955

Bahia

Beauveria bassiana 1962

Ceará

Erynia sp. 876 880 884

Goiás

Beauveria bassiana sensu lato 13255
Conidiobolus macrosporus 12830
Conidiobolus sp. 2508
Furia americana 742 2192 2194
Leptolegnia chapmanii 12818 12829

Minas Gerais

Evlachovaea sp. 6146

Paraná

Furia americana 1240 1242

Tocantins

Achlya sp. 13234 13238 13239 13242
13245 13295
Crypticola clavulifera 13235
Crypticola sp. 13236 13240 13241
Leptolegnia sp. 13251
Metarhizium anisopliae sensu lato
13247
13232 13243 13250 13252 13253 13296
13297
Penicillium sp. 13233 13246
Trichoderma sp. 13237
Unidentified / Hyphomycetes 13244
13254

Canada

Smittium culicis 9126

Alberta

Aspergillus flavus 3144
Culicinomyces clavisorus 964

British Columbia

Aspergillus niger(?) 7975
Penicillium sp. 7976

New Brunswick

Tolypocladium inflatum 3281

Newfoundland

Batkoa papillata(?) 7068

Ontario

Smittium culicis 9073 9091 9143
Smittium mucronatum 9063 9067
9090 9144
Smittium sp. 9065 9088 9265

Québec

Beauveria bassiana 1151
Erynia curvispora 3229
Fusarium oxysporum 1371
Fusarium solani 1148
Unidentified sp. 3227 3228 3230 3231
3232 3233 3235 3236 3245 3246 3247

Chile

Smittium cylindrosporium 9116 9248
9249
Smittium simulatum 9042 9078 9117

Los Lagos

Hirsutella sp. 13360
Isaria farinosa 13362 13365
Smittium imitatum 9033

Colombia

Antioquia

Lagenidium giganteum 3326

Costa Rica

Aspergillus flavus 3430
Smittium annulatum 9242
Smittium culicisoides 9044
Smittium dipterorum 9250 9263
Smittium phytotelmatum 9076
Smittium sp. 9034 9035 9120
Unidentified sp. 3123 3426 3427 3428

Guanacaste

Conidiobolus coronatus 3414 3415
Lecanicillium muscarium 3418
Lecanicillium psalliota 3416
Unidentified sp. 3124 3413 3417 3419
3420 3421 3422 3423 3424 3425

Puntarenas

Smittium culisetae 5200

Czech Republic

Conidiobolus thromboides 70
Tolypocladium cylindrosporium 961

Denmark

Batkoa apiculata 3224 3225 3226
Lecanicillium lecanii(?) 5584 5585
Pandora sp. 5812

Frederiksberg

Strongwellsea castrans 3485

Jutland

Beauveria bassiana 5862 5864
Entomophthora muscae 2542
Entomophthora syrphi 6819 6820

Malmöhus

Conidiobolus sp. 2494
Entomophthora muscae 2668

Roskilde

Conidiobolus sp. 2498
Eryniopsis ptychopterae 2535 2671

Vestsjælland

Batkoa pseudapiculatus 2493 2496
2497 2502
Entomophthora schizophorae 2540
2541 2667
Erynia sp. 2495
Zoophthora radicans 2499 2500 2501
2503 2506 2523 2524 2554 2669

Zealand

Beauveria bassiana 4012 5861 5863
5865 5866 8031
Beauveria pseudobassiana 5867
Conidiobolus sp. 2672
Entomophthora culicis 5811
Entomophthora ferdinandii 6918
Entomophthora muscae 2665 2670
2673 2674 2675 4786 4787 4788 4789
4790 5952 5953 5954 6121 6122 6123
6124 6125 6126 6127 6128 6129 6130
6131 6132 6133 6134 6135 6136 6140
6141 6164 6165 6701 6706 6707 6708
6709 6710 6711 6712 6713 6714 6715
6716 6717 6811 6812 6813 6814 6815
6818 6821 13376
Entomophthora scatophagae 6704
6705

- Entomophthora schizophorae* 6137
6138 6139 6142 6143 6703 6816 6817
Entomophthora syrphi 5955 6702
Isaria fumosorosea 5860
Lecanicillium fuisporum(?) 5578
5579
Lecanicillium muscarium 5859
Strongwellsea castrans 3282
Zoophthora radicans 2666 3489
- Zeeland
Entomophthora muscae 2543 2678
- France**
Beauveria bassiana 1150 1864 1865
1866
Fusarium sp. 1522
Isaria fumosorosea 1644 1645
Smittium culisetae 9097
Smittium culicis 9129
Zoophthora lanceolata 468
- Hérault
Smittium culicis 9127 9128 9149
Smittium mucronatum 9028
- Isère
Smittium culicis 9045 9046
- Morbihan
Isaria fumosorosea 1867 1868
- Orgerus
Unidentified sp. 2029
- Paris
Isaria fumosorosea 887
- Seine-Maritime
Beauveria bassiana 1514
Isaria fumosorosea 1626
- Yvelines
Beauveria bassiana 1630
Entomophthora muscae 2087 2088
2089 2090 2263 2264 2265 2266 2317
Isaria fumosorosea 1646
Lecanicillium muscarium 2329
Scopulariopsis sp. 2328
Unidentified sp. 1631 1632 1633
Fusarium verticillioides 2252
- Guatemala**
Petén
Conidiobolus coronatus 3379
Fusarium sp. 3382
Unidentified sp. 3378
- India**
Entomophthora muscae 16
Fusarium sp. 2414
- Indonesia**
Jawa Barat, Java
Erynia sp. 2097
Isaria fumosorosea 2425
Metarhizium anisopliae sensu lato
2105
Yogyakarta, Java
Paecilomyces sp. 2350 2378
- Israel**
Hamerkaz
138
- Japan**
Honshu
Amoebidium parasiticum 9183
Smittium culisetae 9109
Smittium simulii 9049 9137 9138
- Kyushu
Smittium culisetae 9015 9110 9111
- Oita Prefecture
Isaria andoi 1684
Isaria flavovirescens 1686
- Shikoku
Smittium culisetae 9048 9107 9108
Smittium simulii 9019 9135 9136
- Tochigi Prefecture
Pandora dipterigena 1144
- Laboratory manipulation**
Beauveria bassiana sensu lato 13304
13305 13306 13307
Culicinomyces clavisporus 1260 2482
- Mali**
Koulikoro
Unidentified sp. 3380 3381
- Mexico**
Veracruz
Conidiobolus coronatus 9940 9941
9942
- New Zealand**
Tolypocladium extinguens 2921
Tolypocladium cylindrosporium 2911
- North Island
Smittium culicis 9074 9084
- South Island
Harpellales, genus undetermined 9089
9260
Smittium culicis 9007 9093
Tolypocladium cylindrosporium 841
976 1027 1028
- Norway**
Smittium sp. 9050
- Akershus
Entomophthora muscae 6274
- Nord Trøndelag
Arthrotrichia oligospora 5561
Metarhizium anisopliae sensu lato
5520
Tolypocladium cylindrosporium 5526
Trichoderma sp. 5522
- Nordland
Arthrotrichia oligospora 5562
Tolypocladium cylindrosporium 5527
5528 5529 5530 5531 5532 5558
5559
- Troms
Fusarium merismoides 5511
Tolypocladium cylindrosporium 5525
- Philippines**
Palawan
Hirsutella sp. 1551
- Poland**
Basidiobolus haptosporus 1347
Conidiobolus thromboides 86 87
Erynia sp. 1338
Furia ithacensis 1339 1340
Hirsutella radiata 1369
Isaria farinosa 1348 1349
Pandora dipterigena 1422
Zoophthora radicans 1336 1337 1428
- Pniewy
Hirsutella nr. *haptospora* 2228
- Republic of Korea**
Jheonnam
Beauveria bassiana 7269
- Russian Federation**
Krasnodarsky Krai
Isaria farinosa 9512
- Moscow Region
Mariannaea elegans 9456
- Primorsky Krai
Lecanicillium muscarium 7224
Lecanicillium sp. 7634 7849
- South Africa**
Free State
Conidiobolus thromboides 4996
Unidentified / Zygomycetes 5125
- Sri Lanka**
Beauveria bassiana 2454
- Sweden**
Norrbotten
Smittium simulii 9139
Smittium sp. 9146
- Switzerland**
Batkoa apiculata 919 927 1660 1661
Batkoa gigantea 214 215 403
Entomophthora culicis 387
Entomophthora muscae 392 466
Eryniopsis caroliniana 212 213 424
640 641 642
Erynia conica 401 1752 1753 1755
Erynia curvispora 402 1754
Erynia ovispora 398 399 400
Pandora dipterigena 397
Smittium culisetae 9132
Smittium sp. 9147
Zoophthora lanceolata 426 469
Zoophthora radicans 388
- Schaffhausen
Pandora dipterigena 1720
- Tanzania**
Morogoro
Simplicillium lanosoniveum 8822
- Ukraine**
Autonomous Republic of Crimea
Lecanicillium muscarium 9470
Metarhizium anisopliae 9487
Mariannaea elegans 9455
Simplicillium lamellicola 9480
- Kherson Oblast
Isaria sp. 9508

Geographical Origin

United Kingdom
Wales

United Kingdom

Beauveria bassiana 6553 6555 6563
6564 6565 6566 6567 6568
Metarhizium anisopliae var. *anisopliae* 6550
Verticillium lecanii 6554 6561

England

Beauveria bassiana 2972
Conidiobolus sp. 6424
Entomophaga conglomerata 1847
Entomophthora muscae 707
Erynia conica 1439 1740 2405
Erynia sp. 2507
Verticillium lecanii 5132

USA

Beauveria bassiana 710

Arizona

Paecilomyces sp. 3768

Arkansas

Smittium sp. 9087

California

Entomophthora muscae 969 2172
13514
Entomophthora schizophorae 4791
Isaria farinosa 1939
Lagenidium giganteum 1384 3327
3328
Smittium culisetae 9095
Smittium simulii 9254
Tolypocladium cylindrosporum 705
1580

Colorado

Smittium coloradense 9001 9002
Smittium culisetae 9012
Smittium fecundum 9022 9083
Smittium perforatum(?) 9055
Smittium tipulidarum 9052 9053 9054
9122

Florida

Beauveria bassiana 7940
Beauveria bassiana sensu lato 13303
Leptolegnia chapmanii 2562 2680 2682
Smittium culisetae 9013
Tolypocladium cylindrosporum 2912
Unidentified sp. 2563
Zoophthora radicans 18

Hawaii

Beauveria bassiana 8707 8712
Smittium culisetae 9014 9026 9047
9098 9099 9100 9101 9102 9103 9104
9105 9106

Kansas

Smittium commune 9085 9243 9244
9245
Smittium culisetae 9016 9017 9018
9112
Smittium culicis 9008
Smittium gravimetalum 9029 9036
9252 9264
Smittium megazygosporum(?) 9027

Kentucky

Lecanicillium muscarium 810

Louisiana

Lagenidium giganteum 749
Smittium culisetae 9024

Maine

Coelomycidium simulii 209 218
Conidiobolus sp. 89
Conidiobolus thromboides 5
Erynia curvispora 36
Pandora dipterigena 131
Saprolegnia sp. 179 180

Massachusetts

Pandora bullata 9 116

Minnesota

Smittium culisetae 9096
Smittium simulii 9043 9118 9134

Mississippi

Eulachovaea sp. 7372

Missouri

Smittium sp. 9121 9145

Nebraska

Entomophthora schizophorae 5348
Smittium culisetae 9246

New Hampshire

Lecanicillium evansii(?) 11785

New York

Beauveria bassiana 2953 5339 5340
5341 5342 5343 5344 5345 5346 5347
8245 8246 8247 13813
Ophiocordyceps variabilis 4080 5365
5366 5367 5414 5415 5416 5417 5418
5419 5420 5421 5422 5423 5424 5425
5426 5427 5428 5429

Entomophaga conglomerata 2272
2273

Entomophaga tabanivora 627

Entomophthora culicis 780

Entomophthora muscae 454 556 557
651 803 826 2014 3074 7371

Erynia aquatica 364 750 764 885

Erynia conica 2274 2275 2277 2278

Erynia curvispora 802

Erynia sepulchralis 12250

Furia ithacensis 663

Isaria farinosa 10165

Lecanicillium evansii(?) 11796

Lecanicillium muscarium 10173

Lecanicillium psalliotae 10179

Lecanicillium sp. 11798

Lecanicillium wallacei(?) 10172

Leptolegnia chapmanii 6718

Metarhizium anisopliae sensu lato
3827 8248 8249

Metarhizium brunneum 3826

Pandora dipterigena 1887 1921 1923

Metapochonia bulbilosa 11800

Pochonia chlamydosporia var.
chlamydosporia 11810

Smittium culicis 9011

Unidentified sp. 1922

Unidentified Entomophthorales sp.
7227 7228 7229 7230

North Carolina

Candida cf. pseudoglebosa 7146

Culicinomyces clavisporus 360 372

582 583 584 585 706

Lagenidium giganteum 373 746 748

North Dakota

Fusarium sp. 7382

Syngliocladium sp. 5217

Syngliocladium tetanopsis 4972 5497
5577

Oklahoma

Smittium acutum 9092
Smittium caudatum 9000 9261
Smittium stenosporum 9023

Oregon

Smittium sp. 9051 9086

Pennsylvania

Beauveria sp. 13814
Fusarium sp. 11948 11949 11950
Mortierella sp. 13513
Pandora gloeospora 13406
Pandora sp. 13512

Puerto Rico

Unidentified / Hyphomycetes 7078

South Carolina

Leptolegnia chapmanii 1385 2681
Saprolegnia sp. 6427
Smittium culisetae 6810 9032 9056
Smittium megazygosporum 6275 9037
Smittium morbosum 9060 9061

Tennessee

Amoebidium appalachense 9181 9255
9256

Batkoa major 12251

Barbatospora ambicaudata 9020

Smittium culisetae 9039 9058 9069
9071 9113

Smittium culicis 9010

Smittium lentaquaticum 9068 9082
9253

Smittium orthocladii 9080

Smittium sp. 9038 9081 9148

Utah

Smittium culicis 9059

Vermont

Beauveria bassiana 10141 10142
10149 11845

Isaria coleopterorum 10163

Isaria farinosa 10156 10160 11824
11826 11828 11832 11834

Lecanicillium evansii(?) 11795

Lecanicillium wallacei(?) 10174

Metarhizium anisopliae sensu lato
9939

Myrothecium verrucaria 9359

Pochonia chlamydosporia var.
chlamydosporia 11786

Unidentified sp. 9334

Unidentified / Hyphomycetes 10171

Wyoming

Smittium culisetae 9062 9114 9115
9133 9247 9262

Smittium culicis 9009 9130

Wales

Metarhizium anisopliae sensu lato
13222

Andrade, C.F.

- IF#1 *Metarhizium anisopliae* sensu lato 3827
IF#2 *Metarhizium brunneum* 3826

Ansari, Minshad Ali

- BNL105 *Metarhizium anisopliae* sensu lato 13222

ARSEF

- ?1066 *Pandora dipterigena* 397
?1940 *Lagenidium giganteum* 2529
?2529 *Crypticola clavulifera* 1940
?426 *Zoophthora lanceolata* 468
?468 *Zoophthora lanceolata* 426
116 *Pandora bullata* 9
1336 *Zoophthora radicans* 1428
1428 *Zoophthora radicans* 1336
1660 *Batkoa apiculata* 927
1661 *Batkoa apiculata* 919
212 (deaccessioned) *Eryniopsis caroliniana* 642
213 (deaccessioned) *Eryniopsis caroliniana* 640
2350 *Paecilomyces* sp. 2378
2378 *Paecilomyces* sp. 2350
2499 *Zoophthora radicans* 2524
2524 (deaccessioned) *Zoophthora radicans* 2499
2554 *Zoophthora radicans* 2669
2562 *Leptolegnia chapmanii* 2680
2669 (deaccessioned) *Zoophthora radicans* 2554
2680 *Leptolegnia chapmanii* 2562
3327 *Lagenidium giganteum* 3328
3328 (deaccessioned) *Lagenidium giganteum* 3327
3363 *Conidiobolus thromboides* 70
373 *Lagenidium giganteum* 746
392 *Entomophthora muscae* 466
424 (lost) *Eryniopsis caroliniana* 641
466 (lost) *Entomophthora muscae* 392
541 (lost) *Culicinomyces clavisporus* 644
640 *Eryniopsis caroliniana* 213
641 *Eryniopsis caroliniana* 424
642 *Eryniopsis caroliniana* 212
644 *Culicinomyces clavisporus* 541
746 (deaccessioned) *Lagenidium giganteum* 373
86 *Conidiobolus thromboides* 87
87 *Conidiobolus thromboides* 86
9 (lost) *Pandora bullata* 116
919 *Batkoa apiculata* 1661
927 *Batkoa apiculata* 1660

ATCC

- 15431 *Entomophthora muscae* 16
204364 *Ophiocordyceps variabilis* 4080
204365 *Ophiocordyceps variabilis* 5365
24298 *Pandora bullata* 9
24298 *Pandora bullata* 116
52635 *Culicinomyces clavisporus* 964
76239 *Crypticola clavulifera* 1940
76240 *Lagenidium giganteum* 2531

Balazy, Stanislaw

- 1441 *Hirsutella radiata* 1369
1496c *Pandora dipterigena* 1422
1555 *Zoophthora radicans* 1336
1555 *Zoophthora radicans* 1428
1558b *Zoophthora radicans* 1337
1559 *Erynia* sp. 1338
1561 *Furia ithacensis* 1339
1561a *Furia ithacensis* 1340
1580b *Basidiobolus haptosporus* 1347
1584c *Isaria farinosa* 1348
1584e *Isaria farinosa* 1349
1770 *Hirsutella* nr. *haptospora* 2228

Beard, Charles E.

- DP0100 *Saprolegnia* sp. 6427
DP161096 *Smittium megazygosporum* 6275
DP170696 *Smittium culisetae* 6810

Bruun Jensen, Annette

- KVL 00-60 *Entomophthora scatophagae* 6704
KVL 00-61 *Entomophthora scatophagae* 6705
KVL 00-92 *Entomophthora muscae* 6701
KVL 00-93 *Entomophthora schizophorae* 6817
KVL 00-94 *Entomophthora schizophorae* 6816
KVL 01-21 *Entomophthora muscae* 6710
KVL 01-22 *Entomophthora muscae* 6821
KVL 01-24 *Entomophthora muscae* 6711
KVL 01-34 *Entomophthora syrphi* 6820
KVL 01-35 *Entomophthora syrphi* 6819
KVL 01-36 *Entomophthora syrphi* 6702
KVL 01-37 *Entomophthora muscae* 6712
KVL 01-38 *Entomophthora schizophorae* 6703
KVL 01-39 *Entomophthora muscae* 6818
KVL 98-10 *Entomophthora muscae* 5952
KVL 98-12 *Entomophthora muscae* 5953
KVL 98-18 *Entomophthora muscae* 5954
KVL 98-19 *Entomophthora syrphi* 5955
KVL 99-1 *Entomophthora muscae* 6121
KVL 99-10 *Entomophthora muscae* 6129
KVL 99-102 *Entomophthora muscae* 6815
KVL 99-109 *Entomophthora muscae* 6814
KVL 99-11 *Entomophthora muscae* 6130
KVL 99-110 *Entomophthora muscae* 6813
KVL 99-12 *Entomophthora muscae* 6131
KVL 99-13 *Entomophthora muscae* 6132
KVL 99-138 *Entomophthora muscae* 6708
KVL 99-139 *Entomophthora muscae* 6709
KVL 99-14 *Entomophthora muscae* 6133
KVL 99-15 *Entomophthora muscae* 6134
KVL 99-16 *Entomophthora muscae* 6135
KVL 99-17 *Entomophthora muscae* 6136
KVL 99-18 *Entomophthora schizophorae* 6137
KVL 99-19 *Entomophthora schizophorae* 6138

- KVL 99-2 *Entomophthora muscae* 6122
KVL 99-20 *Entomophthora schizophorae* 6139
KVL 99-21 *Entomophthora muscae* 6165
KVL 99-22 *Entomophthora muscae* 6140
KVL 99-23 *Entomophthora muscae* 6141
KVL 99-24 *Entomophthora schizophorae* 6142
KVL 99-25 *Entomophthora schizophorae* 6143
KVL 99-3 *Entomophthora muscae* 6123
KVL 99-4 *Entomophthora muscae* 6164
KVL 99-5 *Entomophthora muscae* 6124
KVL 99-6 *Entomophthora muscae* 6125
KVL 99-7 *Entomophthora muscae* 6126
KVL 99-72 *Entomophthora muscae* 6714
KVL 99-74 *Entomophthora muscae* 6715
KVL 99-74 *Entomophthora muscae* 6812
KVL 99-75 *Entomophthora muscae* 6706
KVL 99-8 *Entomophthora muscae* 6127
KVL 99-80 *Entomophthora muscae* 6713
KVL 99-84 *Entomophthora muscae* 6717
KVL 99-85 *Entomophthora muscae* 6811
KVL 99-9 *Entomophthora muscae* 6128
KVL 99-92 *Entomophthora ferdinandii* 6918
KVL 99-93 *Entomophthora muscae* 6707
KVL 99-95 *Entomophthora muscae* 6716

Castrillo, Louela A.

- SFMa1 *Metarhizium anisopliae* sensu lato 8248
SFMa2 *Metarhizium anisopliae* sensu lato 8249
ST1 *Beauveria bassiana* 8245
ST11 *Beauveria bassiana* 8247
ST2 *Beauveria bassiana* 8246

CBS

- ?719.70 *Tolyposcladium cylindrosporium* 961
118466 *Isaria andoi* 1684
276.82 *Tolyposcladium cylindrosporium* 2911
345.77 *Tolyposcladium extinguens* 2921
755.83 *Culicinomyces clavisporus* 964
989.73 *Tolyposcladium cylindrosporium* 2912

CCFC

- DAOM 183952 *Tolyposcladium cylindrosporium* 961
DAOM 198395 *Tolyposcladium inflatum* 3281

CEP

- 196 *Leptolegnia chapmanii* 7787

Chandler, David

- HRI 462.99 *Beauveria bassiana* 6567
HRI 331.92 *Metarhizium anisopliae* var. *anisopliae* 6550
HRI 343.92 *Verticillium lecanii* 5132
HRI 347.92 *Beauveria bassiana* 6553
HRI 349.92 *Verticillium lecanii* 6554
HRI 365.92 *Beauveria bassiana* 6555
HRI 399.93 *Verticillium lecanii* 6561
HRI 405.94 *Beauveria bassiana* 6563

Alternate Collections

- HRI 407.95 *Beauveria bassiana* 6564
 HRI 417.96 *Beauveria bassiana* 6565
 HRI 461.99 *Beauveria bassiana* 6566
 HRI 465.99 *Beauveria bassiana* 6568
- CNPAF**
 82-3-10-01 *Furia americana* 742
 83-04-15-2A *Erynia* sp. 880
 83-04-15-2B *Erynia* sp. 876
 83-04-15-2C *Erynia* sp. 884
 84-03-30-1A *Furia americana* 1242
 84-03-30-4B *Furia americana* 1240
 85-7-23-2 *Beauveria bassiana* 1955
 86-4-24 *Furia americana* 2192
 86-5-21-A *Furia americana* 2194
- CP**
 106 *Erynia* sp. 876
 110 *Erynia* sp. 880
 114 *Erynia* sp. 884
 140 *Furia americana* 1240
 142 *Furia americana* 1242
 180 *Beauveria bassiana* 1955
 188 *Beauveria bassiana* 1962
 202 *Furia americana* 2192
 204 *Furia americana* 2194
 235 *Conidiobolus* sp. 2508
 32 *Furia americana* 742
- CsF**
 169 *Leptolegnia chapmanii* 12827
 180 *Leptolegnia chapmanii* 12828
 181 *Leptolegnia chapmanii* 12817
 191 *Leptolegnia chapmanii* 12829
 193 *Leptolegnia chapmanii* 12818
 281 *Leptolegnia chapmanii* 12819
 295 *Leptolegnia chapmanii* 12820
- CSIRO**
 EM696 *Pandora dipterigena* 1144
 FI-0193 *Metarhizium anisopliae* sensu lato 7855
 FI-0194 *Metarhizium anisopliae* sensu lato 7856
 FI-0195 *Metarhizium anisopliae* sensu lato 7857
 FI-0196 *Metarhizium anisopliae* sensu lato 7840
 FI-0197 *Metarhizium anisopliae* sensu lato 7841
 FI-0199 *Metarhizium anisopliae* sensu lato 7858
 FI-0200 *Metarhizium anisopliae* sensu lato 7859
 FI-0202 *Metarhizium anisopliae* sensu lato 7861
 FI-0203 *Metarhizium pingshaense* 7414
 FI-0322 *Metarhizium anisopliae* sensu stricto 7418
 FI-0323 *Metarhizium anisopliae* sensu stricto 7419
 FI-0324 *Metarhizium anisopliae* sensu lato 7914
 FI-0326 *Metarhizium anisopliae* sensu lato 7915
 FI-0327 *Metarhizium guizhouense* 7420
 FI-0328 *Metarhizium pingshaense* 7421
 FI-0330 *Metarhizium pingshaense* 7422
- FI-0331 *Metarhizium anisopliae* sensu stricto 7423
 FI-0332 *Metarhizium anisopliae* sensu lato 7916
 FI-0333 *Metarhizium anisopliae* sensu lato 7917
 FI-0334 *Metarhizium anisopliae* sensu lato 7918
 FI-0335 *Metarhizium anisopliae* sensu lato 7919
 FI-0336 *Metarhizium anisopliae* sensu lato 7920
 FI-0337 *Metarhizium pingshaense* 8497
 FI-0355 *Metarhizium anisopliae* sensu lato 7926
 FI-0379 *Metarhizium pingshaense* 7425
 FI-0427 *Metarhizium anisopliae* sensu stricto 7426
 FI-0487 *Metarhizium anisopliae* sensu stricto 7427
 FI-0488 *Metarhizium anisopliae* sensu stricto 7428
 FI-0516 *Metarhizium pingshaense* 7429
 FI-201 *Metarhizium anisopliae* sensu lato 7860
- Cuebas-Incle, Esteban L.**
 I *Entomophaga conglomerata* 2272
 II *Entomophaga conglomerata* 2273
 III *Erynia conica* 2274
 IV *Erynia conica* 2275
 VI *Erynia conica* 2277
 VII *Erynia conica* 2278
- DAT**
 469 *Metarhizium anisopliae* sensu lato 4620
 470 *Metarhizium anisopliae* sensu lato 4600
- de Fine Licht, Henrik Hjarvard**
 HHDFL 130914-01 *Entomophthora muscae* 13376
 KVL 14-115 *Entomophthora muscae* 13376
- Eilenberg, Jørgen**
 KVL 1 *Entomophthora schizophorae* 2540
 KVL 11 *Batkoa pseudapiculatus* 2496
 KVL 13 *Entomophthora schizophorae* 2667
 KVL 14 *Erynia* sp. 2495
 KVL 15 *Conidiobolus* sp. 2494
 KVL 16 *Entomophthora muscae* 2668
 KVL 17 *Entomophthora muscae* 2678
 KVL 2 *Entomophthora schizophorae* 2541
 KVL 21 *Batkoa pseudapiculatus* 2497
 KVL 24 *Batkoa pseudapiculatus* 2502
 KVL 25 *Conidiobolus* sp. 2498
 KVL 3 *Entomophthora muscae* 2542
 KVL 30 *Zoophthora radicans* 2500
 KVL 31 *Zoophthora radicans* 2501
 KVL 32 *Zoophthora radicans* 2499
 KVL 32 *Zoophthora radicans* 2524
 KVL 35 *Zoophthora radicans* 2506
 KVL 36 *Zoophthora radicans* 2523
- KVL 37 *Zoophthora radicans* 2503
 KVL 38 *Zoophthora radicans* 2554
 KVL 38 *Zoophthora radicans* 2669
 KVL 39 *Erynia* sp. 2507
 KVL 44 *Entomophthora muscae* 2675
 KVL 45 *Entomophthora muscae* 2670
 KVL 46 *Entomophthora muscae* 2665
 KVL 47 *Zoophthora radicans* 2666
 KVL 47 *Zoophthora radicans* 3489
 KVL 48 *Eryniopsis ptychopterae* 2671
 KVL 49 *Conidiobolus* sp. 2672
 KVL 5 *Eryniopsis ptychopterae* 2535
 KVL 50 *Entomophthora muscae* 2673
 KVL 51 *Entomophthora muscae* 2674
 KVL 6 *Batkoa pseudapiculatus* 2493
 KVL 62 *Strongwellsea castrans* 3282
 KVL 8 *Entomophthora muscae* 2543
 KVL 84 *Strongwellsea castrans* 3485
 KVL 92 *Entomophthora muscae* 4789
 KVL 93 *Entomophthora muscae* 4790
 KVL 94 *Entomophthora muscae* 4787
 KVL 95 *Entomophthora muscae* 4788
 KVL 96 *Entomophthora muscae* 4786
 KVL 98-4 *Entomophthora culicis* 5811
- ERL**
 1634 Unidentified sp. 9334
 1645 *Myrothecium verrucaria* 9359
 1723 *Metarhizium anisopliae* sensu lato 9939
 1801 *Beauveria bassiana* 10141
 1802 *Beauveria bassiana* 10142
 1809 *Beauveria bassiana* 10149
 1816 *Isaria farinosa* 10156
 1820 *Isaria farinosa* 10160
 1823 *Isaria coleopterorum* 10163
 1825 *Isaria farinosa* 10165
 1847 Unidentified / *Hyphomycetes* 10171
 1849 *Lecanicillium wallacei*(?) 10172
 1851 *Lecanicillium muscarium* 10173
 1852 *Lecanicillium wallacei*(?) 10174
 1858 *Lecanicillium psalliotae* 10179
 2009 *Lecanicillium evansii*(?) 11785
 2010 *Pochonia chlamydosporia* var. *chlamydosporia* 11786
 2026 *Beauveria bassiana* 11845
 2036 *Isaria farinosa* 11824
 2038 *Isaria farinosa* 11826
 2040 *Isaria farinosa* 11828
 2044 *Isaria farinosa* 11832
 2046 *Isaria farinosa* 11834
 2053 *Lecanicillium evansii*(?) 11795
 2054 *Lecanicillium evansii*(?) 11796
 2056 *Lecanicillium* sp. 11798
 2058 *Metapochonia bulbilosa* 11800
 2070 *Pochonia chlamydosporia* var. *chlamydosporia* 11810
- Folker-Hansen, Pernille**
 E:020590 *Batkoa apiculata* 3224
 F:040590 *Batkoa apiculata* 3225
 I:080990 *Batkoa apiculata* 3226
- FPMI**
 768 *Batkoa gigantea* 403
 769 *Entomophaga tabanivora* 627

Frances, Stephen P.

LAG *Lagenidium giganteum* 2529
MALANDA1 *Lagenidium giganteum*
2530
MI11 *Culicinomyces clavisporus* 2475
MI17 *Culicinomyces clavisporus* 2476
MI19 *Culicinomyces clavisporus* 2477
MI2 *Culicinomyces clavisporus* 2471
MI21 *Culicinomyces clavisporus* 2478
MI26 *Culicinomyces clavisporus* 2622
MI4 *Culicinomyces clavisporus* 2472
MI5 *Culicinomyces clavisporus* 2473
MI7 *Culicinomyces clavisporus* 2474
MILLAA1 *Lagenidium giganteum* 2531
MILLAA2 *Lagenidium giganteum* 2532
MILLAA3 *Lagenidium giganteum* 2533
MM1 *Culicinomyces bisporalis* 1948
MM2 *Culicinomyces bisporalis* 1949
QI1 *Culicinomyces clavisporus* 2480
QI2 *Culicinomyces clavisporus* 2481
VI1 *Culicinomyces clavisporus* 2479

GCRI

130-82 *Tolypocladium cylindrosporum*
1027
131-82 *Tolypocladium cylindrosporum*
976
132-82 *Tolypocladium cylindrosporum*
1028

Geden, Christopher J.

B 90 *Beauveria bassiana* 5342
D 90 *Beauveria bassiana* 5343
H 90 *Beauveria bassiana* 5344
L 89 *Beauveria bassiana* 5340
L 90 *Beauveria bassiana* 5345
L90 *Beauveria bassiana* 13813
P 89 *Beauveria bassiana* 5339
Pow 90 *Beauveria bassiana* 5346
W 89 *Beauveria bassiana* 5341
W 90 *Beauveria bassiana* 5347

George, Justin

PSU 12-001 *Fusarium* sp. 11948
PSU 12-002 *Fusarium* sp. 11949
PSU 12-003 *Fusarium* sp. 11950

Goettel, Mark S.

25B *Culicinomyces clavisporus* 1260
25B *Culicinomyces clavisporus* 2482
FI-59 *Culicinomyces clavisporus* 964

Gouli, Svetlana

GA-09-M *Metarhizium anisopliae* sensu
lato 9939
SVG-09 Unidentified sp. 9334
SVG-09/2 *Myrothecium verrucaria* 9359
THR-11-16 *Beauveria bassiana* 11845
THR-11-2 *Pochonia chlamydosporia* var.
chlamydosporia 11786
THR-11-25 *Isaria farinosa* 11824
THR-11-27 *Isaria farinosa* 11826
THR-11-29 *Isaria farinosa* 11828
THR-11-33 *Isaria farinosa* 11832
THR-11-35 *Isaria farinosa* 11834
THR-11-43 *Lecanicillium evansii*(?)
11796
THR-11-45 *Lecanicillium* sp. 11798

THR-11-47 *Metapochonia bulbillosa*
11800
THR-11-59 *Pochonia chlamydosporia*
var. *chlamydosporia* 11810
Thr.-10-18 *Isaria farinosa* 10156
Thr.-10-22 *Isaria farinosa* 10160
Thr.-10-5 *Beauveria bassiana* 10142
Thr.-10-60 *Lecanicillium wallacei*(?)
10174
Thr.-10-66 *Lecanicillium psalliotae*
10179

Gouli, Vladimir

THR-11-1 *Lecanicillium evansii*(?)
11785
THR-11-42 *Lecanicillium evansii*(?)
11795
Thr.-10-12 *Beauveria bassiana* 10149
Thr.-10-25 *Isaria coleopterorum* 10163
Thr.-10-27 *Isaria farinosa* 10165
Thr.-10-4 *Beauveria bassiana* 10141
Thr.-10-55 Unidentified / Hyphomycetes
10171
Thr.-10-57 *Lecanicillium wallacei*(?)
10172
Thr.-10-59 *Lecanicillium muscarium*
10173

Gryganskyi, Andrii P.

Sciariid fungus 1 *Pandora gloeospora*
13406
Sciariid fungus 2 *Pandora* sp. 13512
Sciariid fungus 3 *Mortierella* sp. 13513

Hajek, Ann E.

03 NY 8-1-3 Unidentified Entomophtho-
rales sp. 7229
03 NY 8-1-1 Unidentified Entomophtho-
rales sp. 7227
03 NY 8-1-2 Unidentified Entomophtho-
rales sp. 7228
03 NY 8-1-4 Unidentified Entomophtho-
rales sp. 7230
04 NY 1-1-1 *Entomophthora muscae*
7371

Hatting, Justin

2 *Conidiobolus thromboides* 4996
B.1 Unidentified / Zygomycetes 5125

Hodge, Kathie T.

kth13 *Ophiocordyceps variabilis* 4080
kth50a *Ophiocordyceps variabilis* 5365
kth50b *Ophiocordyceps variabilis* 5366
kth50d *Ophiocordyceps variabilis* 5414
kth50f *Ophiocordyceps variabilis* 5415
kth50g *Ophiocordyceps variabilis* 5416
kth50h *Ophiocordyceps variabilis* 5417
kth50i *Ophiocordyceps variabilis* 5418
kth50j *Ophiocordyceps variabilis* 5419
kth50k *Ophiocordyceps variabilis* 5420
kth50l *Ophiocordyceps variabilis* 5421
kth50m *Ophiocordyceps variabilis* 5422
kth50n *Ophiocordyceps variabilis* 5423
kth50o *Ophiocordyceps variabilis* 5424
kth50p *Ophiocordyceps variabilis* 5425
kth50q *Ophiocordyceps variabilis* 5426
kth50r *Ophiocordyceps variabilis* 5427

kth50s *Ophiocordyceps variabilis* 5428
kth50t *Ophiocordyceps variabilis* 5429
kth51a *Ophiocordyceps variabilis* 5367
PR31 Unidentified / Hyphomycetes
7078
WOZ B *Synghiocladium* sp. 5217

Holdom, David G.

030189-1 *Metarhizium anisopliae* sensu
lato 7926
080287-2 *Isaria fumosorosea* 2425
130286 *Erynia* sp. 2097
130286-3 *Metarhizium anisopliae* sensu
lato 2105

Hollingsworth, Robert G.

H11 *Beauveria bassiana* 8712
H4 *Beauveria bassiana* 8707

Horticulture Research International

343.92 *Verticillium lecanii* 5132

Hywel-Jones, Nigel

H84178-2 *Erynia conica* 1439

IMI

12942 *Beauveria bassiana* 2454
280342 *Culicinomyces clavisporus* 964

INRA

51 *Isaria fumosorosea* 887

IP

389 *Leptolegnia chapmanii* 12827
390 *Leptolegnia chapmanii* 12819
390 *Leptolegnia chapmanii* 12828
392 *Leptolegnia chapmanii* 12829
393 *Leptolegnia chapmanii* 12818
394 *Leptolegnia chapmanii* 12817
395 *Leptolegnia chapmanii* 12820
396 *Conidiobolus macrosporus* 12830

IPLB

4 *Conidiobolus thromboides* 70

JABB of the Carolinas Inc.

HF23 *Beauveria bassiana* 7940

Keller, Siegfried

100 *Erynia ovispora* 399
102 *Erynia ovispora* 400
115 *Zoophthora lanceolata* 469
149 *Erynia conica* 401
150 *Erynia curvispora* 402
214 *Zoophthora radicans* 388
36 *Batkoa gigantea* 403
39 *Entomophthora muscae* 392
39 *Entomophthora muscae* 466
41 *Eryniopsis caroliniana* 424
41 *Eryniopsis caroliniana* 641
449 *Batkoa apiculata* 927
449 *Batkoa apiculata* 1660
450 *Batkoa apiculata* 919
450 *Batkoa apiculata* 1661
521 *Pandora dipterigena* 1720
527 *Erynia conica* 1752
528 *Erynia conica* 1753
529 *Erynia curvispora* 1754
530 *Erynia conica* 1755
55 *Entomophthora culicis* 387

- 65 *Eryniopsis caroliniana* 212
65 *Eryniopsis caroliniana* 642
69 *Eryniopsis caroliniana* 213
69 *Eryniopsis caroliniana* 640
74 *Batkoa gigantea* 214
75 *Batkoa gigantea* 215
92 *Pandora dipterigena* 397
95 *Zoophthora lanceolata* 426
95 *Zoophthora lanceolata* 468
97 *Erynia ovispora* 398
- Kenneth, Robert G.**
3098 *Unidentified* 138
- Kerwin, James L.**
BS *Lagenidium giganteum* 3327
BS *Lagenidium giganteum* 3328
- King, Brian C.**
56 *Aspergillus niger*(?) 7975
57 *Penicillium* sp. 7976
- Klingen, Ingeborg**
BAL 3 *Tolypocladium cylindrosporum*
5525
BAL 4.2 *Fusarium merismoides* 5511
NCRI 1-99 *Entomophthora muscae* 6274
ØNN 2.1 *Tolypocladium cylindrosporum*
5558
ØNN 2.2 *Tolypocladium cylindrosporum*
5528
ØNN 2.3 *Tolypocladium cylindrosporum*
5529
ØNN 3.1 *Tolypocladium cylindrosporum*
5530
ØNN 3.2 *Tolypocladium cylindrosporum*
5559
ØNN 4.1 *Tolypocladium cylindrosporum*
5531
ØNN 4.2 *Tolypocladium cylindrosporum*
5532
TØF 12.3 *Trichoderma* sp. 5522
TØF 20.1 *Arthrotrichia oligospora* 5561
TØF 22.1 *Metarhizium anisopliae* sensu
lato 5520
TØF 22.2 *Tolypocladium cylindrosporum*
5526
VFA 7.1 *Arthrotrichia oligospora* 5562
VFB 10.1 *Tolypocladium cylindrosporum*
5527
- Knight, A.L.**
LG/NC-2 *Lagenidium giganteum* 748
- Kramer, John P.**
130c *Unidentified* sp. 371
4 *Unidentified* sp. 371
- Lichtwardt, Robert W.**
43-1-2 *Smittium culicis* 9003
ALG-10-S8 *Smittium mucronatum* 9063
ALG-16-W27 *Smittium* sp. 9088
ALG-16-W28 *Smittium* sp. 9065
ALG-16-W3 *Smittium culicis* 9073
ALG-16-WXXX *Smittium* sp. 9265
ALG-5-W2b *Smittium culicis* 9143
ALG-5-W8 *Smittium culicis* 9091
ALG-7-W10 *Smittium mucronatum* 9144
ALG-7-W6 *Smittium mucronatum* 9090
ALG-7-W7 *Smittium mucronatum* 9067
AR-19-4S *Smittium* sp. 9087
ARG-24-20F *Smittium tronadorium*
9030
ARG-X-1 *Smittium culisetae* 9094
ARG-X-2 *Smittium culisetae* 5430
ARG-X-2 *Smittium culisetae* 9131
ARG-X-3 *Smittium culicis* 5431
ARG-X-3 *Smittium culicis* 9031
ARG-X-4 *Smittium culicis* 5432
ARG-X-4 *Smittium culicis* 9004
ARG-X-5 *Smittium culisetae* 9075
AS-42-1 *Harpellales, genus undeter-*
mined 9089
AS-42-3 *Harpellales, genus undeter-*
mined 9260
AUS-126-30 *Smittium angustum* 9241
AUS-2-8 *Smittium culisetae* 9025
AUS-42-6 *Furculomyces boomerangus*
9077
AUS-42-7 *Furculomyces boomerangus*
9259
AUS-59-5S *Smittium elongatum* 9251
AUS-62-10 *Smittium culicis* 9005
AUS-62-16 *Smittium culicis* 9006
AUS-62-17 *Smittium culicis* 9040
AUS-62-6 *Smittium culicis* 9041
AUS-77-4 *Furculomyces boomerangus*
9021
AUS-77-5 *Smittium culicis* 9125
BLH-16 *Smittium megazygosporum*(?)
9027
CAL-8-1 *Smittium simulii* 9254
CAL-X-2 *Smittium culisetae* 9095
CAN-X-1 *Smittium culicis* 9126
CHI-20-04 *Smittium cylindrosporum*
9248
CHI-20-7 *Smittium cylindrosporum* 9249
CHI-27-1 *Smittium cylindrosporum* 9116
CHI-8-3 *Smittium simulatum* 9078
CHI-8-4 *Smittium simulatum* 9117
CHI-8-7 *Smittium simulatum* 9042
CHI-9-4 *Smittium imitatum* 9033
CLW-10-5 *Smittium simulii* 9118
CLW-10-6 *Smittium simulii* 9043
CLW-2-44 *Smittium culisetae* 9096
CLW-9-15 *Smittium simulii* 9134
COL-18-3 *Smittium culisetae* 9012
CR-133-2 *Smittium phytotelmatum* 9076
CR-143-8 *Smittium annulatum* 9242
CR-169-22 *Smittium* sp. 9120
CR-239-12 *Smittium* sp. 9035
CR-253-12 *Smittium culicisoides* 9044
CR-253-14 *Smittium dipterorum* 9263
CR-254-13 *Smittium dipterorum* 9250
CR-259-4 *Smittium* sp. 9034
culture 12-1-1 *Smittium culicis* 9140
culture 12-1-2 *Smittium culicis* 9123
culture 12-1-3 *Smittium* sp. 9079
culture 12-1-4 *Smittium culicis* 9141
culture 35-1-1 *Smittium culicis* 9124
culture 43-1-2 *Smittium culicis* 9142
FL-X-1 *Smittium culisetae* 9013
FRA-12-3 *Smittium mucronatum* 9028
FRA-15-2 *Smittium culicis* 9129
FRA-15-5 *Smittium culicis* 9045
FRA-15-7 *Smittium culicis* 9046
FRA-6-16 *Smittium culicis* 9127
FRA-7-1 *Smittium culisetae* 9097
FRA-8-7 *Smittium culicis* 9149
FRA-9-1 *Smittium culicis* 9128
GSMNP *Smittium culicis* 9010
HAW-13-2 *Smittium culisetae* 9102
HAW-13-3 *Smittium culisetae* 9103
HAW-14-5 *Smittium culisetae* 9104
HAW-14-5M *Smittium culisetae* 9105
HAW-14-7 *Smittium culisetae* 9106
HAW-14-8 *Smittium culisetae* 9014
HAW-5-5 *Smittium culisetae* 9099
HAW-5-7 *Smittium culisetae* 9100
HAW-5-8 *Smittium culisetae* 9047
HAW-5-9 *Smittium culisetae* 9101
HAW-E-2 *Smittium culisetae* 9098
JAP-30-3 *Smittium culisetae* 9107
JAP-30-4 *Smittium culisetae* 9048
JAP-30-8 *Smittium culisetae* 9108
JAP-31-7 *Smittium simulii* 9135
JAP-32-4 *Smittium simulii* 9019
JAP-33-2 *Smittium simulii* 9136
JAP-51-18 *Smittium simulii* 9138
JAP-51-5 *Smittium simulii* 9137
JAP-57-1 *Smittium culisetae* 9109
JAP-57-5 *Smittium simulii* 9049
JAP-7-2 *Amoebidium parasiticum* 9183
JAP-77-7 *Smittium culisetae* 9110
JAP-77-8 *Smittium culisetae* 9111
JAP-77-9 *Smittium culisetae* 9015
KAU-W-4 *Smittium culisetae* 9026
KS-108-02 *Smittium culisetae* 9016
KS-108-06 *Smittium culisetae* 9017
KS-2-25 *Smittium commune* 9085
KS-5-4 *Smittium commune* 9243
KS-5-7 *Smittium commune* 9244
KS-5-8 *Smittium commune* 9245
KS-F1-14 *Smittium gravimetallum* 9264
KS-F1-15 *Smittium gravimetallum* 9029
KS-F1-5 *Smittium gravimetallum* 9036
KS-F1-8 *Smittium gravimetallum* 9252
La-6a-L1 *Smittium culisetae* 9024
LCF-43-12 *Smittium culicis* 9093
LCF-43-2 *Smittium culicis* 9007
LCF-8-1 *Smittium culicis* 9084
LEA-7-10 *Smittium culicis* 9008
LEA-7-2 *Smittium culisetae* 9112
LEA-7-4 *Smittium culisetae* 9018
MO-16-2 *Smittium* sp. 9121
MO-6-5 *Smittium* sp. 9145
NE-27-1 *Smittium culisetae* 9246
NOR-59-2 *Smittium* sp. 9050
NY-2-C25 *Smittium culicis* 9011
OK-3-14 *Smittium stenoporum* 9023
OK-3-20 *Smittium caudatum* 9000
OK-3-21 *Smittium caudatum* 9261
OK-5-1 *Smittium acutum* 9092
OR-18-W33 *Smittium* sp. 9086
OR-4-W6 *Smittium* sp. 9051
RMBL-13-41 *Smittium coloradense* 9001
RMBL-13-49 *Smittium coloradense* 9002
RMBL-14-10 *Smittium tipulidarum* 9052
RMBL-31-1 *Smittium tipulidarum* 9122
RMBL-31-2 *Smittium tipulidarum* 9053
RMBL-31-4 *Smittium tipulidarum* 9054

- RMBL-44-3 *Smittium perforatum*(?) 9055
RMBL-61-13 *Smittium fecundum* 9083
RMBL-64-5 *Smittium fecundum* 9022
SC-DP-1 *Smittium culisetae* 9032
SC-DP-2 *Smittium megazygosporum* 9037
SMO599 *Smittium culisetae* 9056
SWE-3-5 *Smittium* sp. 9146
SWE-8-4 *Smittium simillii* 9139
SWI-4-13 *Smittium culisetae* 9132
SWI-7-6 *Smittium* sp. 9147
T-12-1-4 *Smittium culicis* 9057
TN-24-A3 *Smittium culisetae* 9113
TN-24-W11 *Smittium* sp. 9081
TN-24-W8 *Smittium* sp. 9038
TN-27-A3(a) *Amoebidium appalachense* 9255
TN-27-A3(s) *Smittium lentaquaticum* 9253
TN-27-A4 *Smittium lentaquaticum* 9068
TN-27-A5 *Smittium lentaquaticum* 9082
TN-27-A8 *Smittium culisetae* 9039
TN-27-A8 *Smittium culisetae* 9069
TN-27-W1A *Amoebidium appalachense* 9181
TN-27-W4 *Amoebidium appalachense* 9256
TN-3-4 *Smittium orthocladii* 9080
TN-46-6 *Smittium culisetae* 9058
TN-46-A10 *Smittium culisetae* 9071
TN-46-W8B *Smittium* sp. 9148
TN-49-W4A *Barbatospora ambicaudata* 9020
UT-11-W(a) *Smittium culicis* 9059
WKRa *Smittium morbosum* 9060
WKRb *Smittium morbosum* 9061
WYO-42-26 *Smittium culisetae* 9114
WYO-44-1 *Smittium culisetae* 9115
WYO-44-11 *Smittium culisetae* 9262
WYO-44-15 *Smittium culisetae* 9247
WYO-44-8 *Smittium culisetae* 9133
WYO-44-9 *Smittium culisetae* 9062
WYO-51-11 *Smittium culicis* 9009
WYO-51-14 *Smittium culicis* 9130
ZEA-6-3 *Smittium culicis* 9074
- Lopez Lastra, Claudia**
#1 *Smittium culisetae* 5430
#2 *Smittium culicis* 5431
#3 *Smittium culicis* 5432
2 *Smittium culicis* 5204
2' *Smittium culisetae* 5200
- Lord, Jeffrey C.**
Bartow A *Leptolegnia chapmanii* 2562
Bartow A *Leptolegnia chapmanii* 2680
Bartow C Unidentified sp. 2563
- Majchrowicz, Irena**
17 16.6 *Conidiobolus thromboides* 86
17 16.6 *Conidiobolus thromboides* 87
- Meyling, Nicolai Vitt**
KVL 03-122 *Beauveria bassiana* 8031
- Montalva, Cristian**
F16 *Isaria farinosa* 13362
F28 *Isaria farinosa* 13365
F6 *Hirsutella* sp. 13360
- Nadeau, Martin**
213 Unidentified sp. 3227
222 *Erynia curvispora* 3229
228 Unidentified sp. 3247
231 Unidentified sp. 3245
240 Unidentified sp. 3246
327 Unidentified sp. 3232
329 Unidentified sp. 3235
336 Unidentified sp. 3228
362 Unidentified sp. 3231
371 Unidentified sp. 3230
373 Unidentified sp. 3233
454 Unidentified sp. 3236
- Narayanan, K.**
16 *Fusarium* sp. 2414
- NCTC**
2227 *Beauveria bassiana* 2454
- NRRL**
21853 *Syngliocladium tetanopsis* 5577
21854 *Syngliocladium tetanopsis* 5497
25083 *Fusarium* sp. 1522
25087 *Fusarium verticillioides* 2252
25104 *Fusarium* sp. 3382
25131 *Fusarium oxysporum* 1371
3743 *Entomophthora muscae* 16
- Olive, Lindsey S.**
single spore isolate #1 *Culicinomyces clavisporus* 582
single spore isolate #2 *Culicinomyces clavisporus* 583
single spore isolate #3 *Culicinomyces clavisporus* 584
single spore isolate #4 *Culicinomyces clavisporus* 585
- Ostrowska, Katherine**
12 *Fusarium* sp. 3382
20 Unidentified sp. 3413
21 *Conidiobolus coronatus* 3414
22 *Conidiobolus coronatus* 3415
25 *Lecanicillium psalliotae* 3416
26 Unidentified sp. 3417
27 *Lecanicillium muscarium* 3418
29 Unidentified sp. 3419
3 Unidentified sp. 3378
31 Unidentified sp. 3420
33 Unidentified sp. 3421
34 Unidentified sp. 3422
35 Unidentified sp. 3423
36 Unidentified sp. 3424
37 Unidentified sp. 3425
4 *Conidiobolus coronatus* 3379
40 Unidentified sp. 3426
42 Unidentified sp. 3427
47 Unidentified sp. 3428
52 *Aspergillus flavus* 3430
53 Unidentified sp. 3123
54 Unidentified sp. 3124
6 Unidentified sp. 3380
- 9 Unidentified sp. 3381
- Pérez Martínez, Carolina**
Lyco 1 *Conidiobolus coronatus* 9940
Lyco 4 *Conidiobolus coronatus* 9941
Lyco 5 *Conidiobolus coronatus* 9942
- Poprawski, Tadeusz J.**
0103A *Beauveria bassiana* 1514
0103B *Isaria fumosorosea* 1626
0118A *Beauveria bassiana* 1630
0118B Unidentified sp. 1631
0118C Unidentified sp. 1632
0118D Unidentified sp. 1633
0121 *Fusarium* sp. 1522
0141A *Isaria fumosorosea* 1644
0141B *Isaria fumosorosea* 1645
0142 *Isaria fumosorosea* 1646
0168 *Beauveria bassiana* 1864
0169 *Beauveria bassiana* 1865
0170 *Beauveria bassiana* 1866
0171 *Isaria fumosorosea* 1867
0172 *Isaria fumosorosea* 1868
0173 Unidentified sp. 2029
0195 *Entomophthora muscae* 2087
0196 *Entomophthora muscae* 2088
0197 *Entomophthora muscae* 2089
0198 *Entomophthora muscae* 2090
83-05 *Beauveria bassiana* 1151
83-06 *Fusarium solani* 1148
83-11 *Fusarium oxysporum* 1371
83-37 *Beauveria bassiana* 1150
8617 *Entomophthora muscae* 2263
8619 *Entomophthora muscae* 2264
8622 *Entomophthora muscae* 2265
8624 *Entomophthora muscae* 2266
8627 *Fusarium verticillioides* 2252
8640 *Entomophthora muscae* 2317
8652 *Scopulariopsis* sp. 2328
8654 *Lecanicillium muscarium* 2329
- Rath, Andrew C.**
F469 *Metarhizium anisopliae* sensu lato 4620
F470 *Metarhizium anisopliae* sensu lato 4600
- Rombach, Michiel C.**
131286-6 *Paecilomyces* sp. 2350
131286-6 *Paecilomyces* sp. 2378
H.sep. *Hirsutella* sp. 1551
- Romney, Steven V.**
LGNC-1 *Lagenidium giganteum* 373
LGNC-1 *Lagenidium giganteum* 746
- Shimazu, Mitsuaki**
48a *Isaria flavovirescens* 1686
F-354 *Pandora dipterigena* 1144
F-430(4) *Isaria andoi* 1684
FE1 *Pandora dipterigena* 1923
FE2 Unidentified sp. 1922
FE3 *Pandora dipterigena* 1921
- Soares, George G.**
1 *Isaria fumosorosea* 887
Tc4c *Tolyposcladium cylindrosporum* 1580

SRCAMB

B-183 *Isaria* sp. 9508
 B-259 *Lecanicillium* sp. 7634
 B-266 *Lecanicillium muscarium* 7224
 B-450 *Mariannaea elegans* 9456
 B-88 *Lecanicillium* sp. 7849
 VL-1624 *Isaria farinosa* 9512
 VL-1713/2 *Lecanicillium muscarium*
 9470
 VL-1718 *Mariannaea elegans* 9455
 VL-1757 *Metarhizium anisopliae* 9487
 VL-1760/1 *Simplicillium lamellicola*
 9480

Steenberg, Tove

194 *Beauveria bassiana* 4012
 625 *Lecanicillium fusisporum*(?) 5578
 626 *Lecanicillium fusisporum*(?) 5579
 A16 *Lecanicillium lecanii*(?) 5585
 A2 *Lecanicillium lecanii*(?) 5584
 SSL 615 *Lecanicillium muscarium* 5859
 SSL 617 *Isaria fumosorosea* 5860
 SSL 627 *Beauveria bassiana* 5861
 SSL 628 *Beauveria bassiana* 5862
 SSL 631 *Beauveria bassiana* 5863
 SSL 633 *Beauveria bassiana* 5864
 SSL 634 *Beauveria bassiana* 5865
 SSL 638 *Beauveria bassiana* 5866
 SSL 641 *Beauveria pseudobassiana* 5867

Sung, Jae-Mo

EFCC 6521 *Beauveria bassiana* 7269

Sweeney, Anthony W.

298A *Culicinomyces clavisporus* 541
 298A *Culicinomyces clavisporus* 644
 298B *Culicinomyces clavisporus* 645

Toledo, Andrea V.

ZR062 *Zoophthora radicans* 8466

Turlington, Lewis

West Borax 1, colony B *Isaria farinosa*
 1939

UAF

189 *Beauveria bassiana* 2953

UAMH

?4995 *Tolyposcladium cylindrosporum* 961
 1514 *Beauveria bassiana* 2454
 4563 *Tolyposcladium cylindrosporum* 961
 4618 *Culicinomyces clavisporus* 964
 4848 *Culicinomyces clavisporus* 372
 4849 *Culicinomyces clavisporus* 582
 4850 *Culicinomyces clavisporus* 584
 4851 *Culicinomyces clavisporus* 706
 4854 *Culicinomyces clavisporus* 1260
 4854 *Culicinomyces clavisporus* 2482
 4869 *Culicinomyces clavisporus* 583
 5174 *Culicinomyces bisporalis* 1948
 5175 *Culicinomyces bisporalis* 1949

Watson, D. Wesley

B 90 *Beauveria bassiana* 5342
 D 90 *Beauveria bassiana* 5343
 H 90 *Beauveria bassiana* 5344
 L 89 *Beauveria bassiana* 5340
 L 90 *Beauveria bassiana* 5345
 P 89 *Beauveria bassiana* 5339
 Pow 90 *Beauveria bassiana* 5346
 W 89 *Beauveria bassiana* 5341
 W 90 *Beauveria bassiana* 5347

White, Merlin M.

NF-7-W3a *Batkoa papillata*(?) 7068

Wilding, Neil

1 *Pandora dipterigena* 131
 106 *Entomophaga conglomerata* 1847
 80 *Erynia sciarae* 1870
 86 *Erynia conica* 1740

Wood, Lois A.

EN1 *Beauveria bassiana sensu lato* 13303
 EN1-1 *Beauveria bassiana sensu lato*
 13304
 EN1-3 *Beauveria bassiana sensu lato*
 13305
 EN1-5 *Beauveria bassiana sensu lato*
 13306
 EN1-7 *Beauveria bassiana sensu lato*
 13307

Wozniak, Chris A.

FHi1A11-295 *Synghiocladium tetanopsis*
 5577
 FSt1A8-2294 *Synghiocladium tetanopsis*
 5497

5	<i>Conidiobolus thromboides</i>	826	<i>Entomophthora muscae</i>	1939	<i>Isaria farinosa</i>
9	<i>Pandora bullata</i>	841	<i>Tolypocladium cylindrosporium</i>	1940	<i>Cryptocola clavulifera</i>
16	<i>Entomophthora muscae</i>	876	<i>Erynia</i> sp.	1948	<i>Culicinomyces bisporalis</i>
18	<i>Zoophthora radicans</i>	880	<i>Erynia</i> sp.	1949	<i>Culicinomyces bisporalis</i>
36	<i>Erynia curvispora</i>	884	<i>Erynia</i> sp.	1955	<i>Beauveria bassiana</i>
70	<i>Conidiobolus thromboides</i>	885	<i>Erynia aquatica</i>	1962	<i>Beauveria bassiana</i>
86	<i>Conidiobolus thromboides</i>	887	<i>Isaria fumosorosea</i>	2014	<i>Entomophthora muscae</i>
87	<i>Conidiobolus thromboides</i>	919	<i>Batkoa apiculata</i>	2029	Unidentified sp.
89	<i>Conidiobolus</i> sp.	927	<i>Batkoa apiculata</i>	2087	<i>Entomophthora muscae</i>
116	<i>Pandora bullata</i>	961	<i>Tolypocladium cylindrosporium</i>	2088	<i>Entomophthora muscae</i>
131	<i>Pandora dipterigena</i>	964	<i>Culicinomyces clavisporus</i>	2089	<i>Entomophthora muscae</i>
138		969	<i>Entomophthora muscae</i>	2090	<i>Entomophthora muscae</i>
179	<i>Saprolegnia</i> sp.	976	<i>Tolypocladium cylindrosporium</i>	2097	<i>Erynia</i> sp.
180	<i>Saprolegnia</i> sp.	1027	<i>Tolypocladium cylindrosporium</i>	2105	<i>Metarhizium anisopliae sensu lato</i>
209	<i>Coelomyces simulii</i>	1028	<i>Tolypocladium cylindrosporium</i>	2172	<i>Entomophthora muscae</i>
212	<i>Eryniopsis caroliniana</i>	1144	<i>Pandora dipterigena</i>	2192	<i>Furia americana</i>
213	<i>Eryniopsis caroliniana</i>	1148	<i>Fusarium solani</i>	2194	<i>Furia americana</i>
214	<i>Batkoa gigantea</i>	1150	<i>Beauveria bassiana</i>	2228	<i>Hirsutella</i> nr. <i>haptospora</i>
215	<i>Batkoa gigantea</i>	1151	<i>Beauveria bassiana</i>	2252	<i>Fusarium verticillioides</i>
218	<i>Coelomyces simulii</i>	1240	<i>Furia americana</i>	2263	<i>Entomophthora muscae</i>
360	<i>Culicinomyces clavisporus</i>	1242	<i>Furia americana</i>	2264	<i>Entomophthora muscae</i>
364	<i>Erynia aquatica</i>	1260	<i>Culicinomyces clavisporus</i>	2265	<i>Entomophthora muscae</i>
371	Unidentified sp.	1336	<i>Zoophthora radicans</i>	2266	<i>Entomophthora muscae</i>
372	<i>Culicinomyces clavisporus</i>	1337	<i>Zoophthora radicans</i>	2272	<i>Entomophaga conglomerata</i>
373	<i>Lagenidium giganteum</i>	1338	<i>Erynia</i> sp.	2273	<i>Entomophaga conglomerata</i>
387	<i>Entomophthora culicis</i>	1339	<i>Furia ithacensis</i>	2274	<i>Erynia conica</i>
388	<i>Zoophthora radicans</i>	1340	<i>Furia ithacensis</i>	2275	<i>Erynia conica</i>
392	<i>Entomophthora muscae</i>	1347	<i>Basidiobolus haptosporus</i>	2277	<i>Erynia conica</i>
397	<i>Pandora dipterigena</i>	1348	<i>Isaria farinosa</i>	2278	<i>Erynia conica</i>
398	<i>Erynia ovispora</i>	1349	<i>Isaria farinosa</i>	2317	<i>Entomophthora muscae</i>
399	<i>Erynia ovispora</i>	1369	<i>Hirsutella radiata</i>	2328	<i>Scopulariopsis</i> sp.
400	<i>Erynia ovispora</i>	1371	<i>Fusarium oxysporum</i>	2329	<i>Lecanicillium muscarium</i>
401	<i>Erynia conica</i>	1384	<i>Lagenidium giganteum</i>	2350	<i>Paecilomyces</i> sp.
402	<i>Erynia curvispora</i>	1385	<i>Leptolegnia chapmanii</i>	2378	<i>Paecilomyces</i> sp.
403	<i>Batkoa gigantea</i>	1422	<i>Pandora dipterigena</i>	2405	<i>Erynia conica</i>
424	<i>Eryniopsis caroliniana</i>	1428	<i>Zoophthora radicans</i>	2414	<i>Fusarium</i> sp.
426	<i>Zoophthora lanceolata</i>	1439	<i>Erynia conica</i>	2425	<i>Isaria fumosorosea</i>
454	<i>Entomophthora muscae</i>	1514	<i>Beauveria bassiana</i>	2433	<i>Erynia</i> sp.
466	<i>Entomophthora muscae</i>	1522	<i>Fusarium</i> sp.	2434	<i>Erynia</i> sp.
468	<i>Zoophthora lanceolata</i>	1551	<i>Hirsutella</i> sp.	2454	<i>Beauveria bassiana</i>
469	<i>Zoophthora lanceolata</i>	1580	<i>Tolypocladium cylindrosporium</i>	2471	<i>Culicinomyces clavisporus</i>
541	<i>Culicinomyces clavisporus</i>	1626	<i>Isaria fumosorosea</i>	2472	<i>Culicinomyces clavisporus</i>
556	<i>Entomophthora muscae</i>	1630	<i>Beauveria bassiana</i>	2473	<i>Culicinomyces clavisporus</i>
557	<i>Entomophthora muscae</i>	1631	Unidentified sp.	2474	<i>Culicinomyces clavisporus</i>
582	<i>Culicinomyces clavisporus</i>	1632	Unidentified sp.	2475	<i>Culicinomyces clavisporus</i>
583	<i>Culicinomyces clavisporus</i>	1633	Unidentified sp.	2476	<i>Culicinomyces clavisporus</i>
584	<i>Culicinomyces clavisporus</i>	1644	<i>Isaria fumosorosea</i>	2477	<i>Culicinomyces clavisporus</i>
585	<i>Culicinomyces clavisporus</i>	1645	<i>Isaria fumosorosea</i>	2478	<i>Culicinomyces clavisporus</i>
627	<i>Entomophaga tabanivora</i>	1646	<i>Isaria fumosorosea</i>	2479	<i>Culicinomyces clavisporus</i>
640	<i>Eryniopsis caroliniana</i>	1660	<i>Batkoa apiculata</i>	2480	<i>Culicinomyces clavisporus</i>
641	<i>Eryniopsis caroliniana</i>	1661	<i>Batkoa apiculata</i>	2481	<i>Culicinomyces clavisporus</i>
642	<i>Eryniopsis caroliniana</i>	1684	<i>Isaria andoi</i>	2482	<i>Culicinomyces clavisporus</i>
644	<i>Culicinomyces clavisporus</i>	1686	<i>Isaria flavovirescens</i>	2493	<i>Batkoa pseudapiculatus</i>
645	<i>Culicinomyces clavisporus</i>	1720	<i>Pandora dipterigena</i>	2494	<i>Conidiobolus</i> sp.
651	<i>Entomophthora muscae</i>	1740	<i>Erynia conica</i>	2495	<i>Erynia</i> sp.
663	<i>Furia ithacensis</i>	1752	<i>Erynia conica</i>	2496	<i>Batkoa pseudapiculatus</i>
705	<i>Tolypocladium cylindrosporium</i>	1753	<i>Erynia conica</i>	2497	<i>Batkoa pseudapiculatus</i>
706	<i>Culicinomyces clavisporus</i>	1754	<i>Erynia curvispora</i>	2498	<i>Conidiobolus</i> sp.
707	<i>Entomophthora muscae</i>	1755	<i>Erynia conica</i>	2499	<i>Zoophthora radicans</i>
710	<i>Beauveria bassiana</i>	1847	<i>Entomophaga conglomerata</i>	2500	<i>Zoophthora radicans</i>
742	<i>Furia americana</i>	1864	<i>Beauveria bassiana</i>	2501	<i>Zoophthora radicans</i>
746	<i>Lagenidium giganteum</i>	1865	<i>Beauveria bassiana</i>	2502	<i>Batkoa pseudapiculatus</i>
748	<i>Lagenidium giganteum</i>	1866	<i>Beauveria bassiana</i>	2503	<i>Zoophthora radicans</i>
749	<i>Lagenidium giganteum</i>	1867	<i>Isaria fumosorosea</i>	2506	<i>Zoophthora radicans</i>
750	<i>Erynia aquatica</i>	1868	<i>Isaria fumosorosea</i>	2507	<i>Erynia</i> sp.
764	<i>Erynia aquatica</i>	1870	<i>Erynia sciarae</i>	2508	<i>Conidiobolus</i> sp.
780	<i>Entomophthora culicis</i>	1887	<i>Pandora dipterigena</i>	2523	<i>Zoophthora radicans</i>
802	<i>Erynia curvispora</i>	1921	<i>Pandora dipterigena</i>	2524	<i>Zoophthora radicans</i>
803	<i>Entomophthora muscae</i>	1922	Unidentified sp.	2529	<i>Lagenidium giganteum</i>
810	<i>Lecanicillium muscarium</i>	1923	<i>Pandora dipterigena</i>	2530	<i>Lagenidium giganteum</i>

ARSEF Number

2531	<i>Lagenidium giganteum</i>	3420	Unidentified sp.	5525	<i>Tolypocladium cylindrosporum</i>
2532	<i>Lagenidium giganteum</i>	3421	Unidentified sp.	5526	<i>Tolypocladium cylindrosporum</i>
2533	<i>Lagenidium giganteum</i>	3422	Unidentified sp.	5527	<i>Tolypocladium cylindrosporum</i>
2535	<i>Eryniopsis ptychopterae</i>	3423	Unidentified sp.	5528	<i>Tolypocladium cylindrosporum</i>
2540	<i>Entomophthora schizophorae</i>	3424	Unidentified sp.	5529	<i>Tolypocladium cylindrosporum</i>
2541	<i>Entomophthora schizophorae</i>	3425	Unidentified sp.	5530	<i>Tolypocladium cylindrosporum</i>
2542	<i>Entomophthora muscae</i>	3426	Unidentified sp.	5531	<i>Tolypocladium cylindrosporum</i>
2543	<i>Entomophthora muscae</i>	3427	Unidentified sp.	5532	<i>Tolypocladium cylindrosporum</i>
2554	<i>Zoopphthora radicans</i>	3428	Unidentified sp.	5558	<i>Tolypocladium cylindrosporum</i>
2562	<i>Leptolegnia chapmanii</i>	3430	<i>Aspergillus flavus</i>	5559	<i>Tolypocladium cylindrosporum</i>
2563	Unidentified sp.	3485	<i>Strongwellsea castrans</i>	5561	<i>Arthrobotrys oligospora</i>
2622	<i>Culicinomyces clavisporus</i>	3489	<i>Zoopphthora radicans</i>	5562	<i>Arthrobotrys oligospora</i>
2665	<i>Entomophthora muscae</i>	3768	<i>Paecilomyces</i> sp.	5577	<i>Syngliocladium tetanopsis</i>
2666	<i>Zoopphthora radicans</i>	3826	<i>Metarhizium brunneum</i>	5578	<i>Lecanicillium fusisporum</i> (?)
2667	<i>Entomophthora schizophorae</i>	3827	<i>Metarhizium anisopliae sensu lato</i>	5579	<i>Lecanicillium fusisporum</i> (?)
2668	<i>Entomophthora muscae</i>	4012	<i>Beauveria bassiana</i>	5584	<i>Lecanicillium lecanii</i> (?)
2669	<i>Zoopphthora radicans</i>	4080	<i>Ophiocordyceps variabilis</i>	5585	<i>Lecanicillium lecanii</i> (?)
2670	<i>Entomophthora muscae</i>	4600	<i>Metarhizium anisopliae sensu lato</i>	5811	<i>Entomophthora culicis</i>
2671	<i>Eryniopsis ptychopterae</i>	4620	<i>Metarhizium anisopliae sensu lato</i>	5812	<i>Pandora</i> sp.
2672	<i>Conidiobolus</i> sp.	4786	<i>Entomophthora muscae</i>	5859	<i>Lecanicillium muscarium</i>
2673	<i>Entomophthora muscae</i>	4787	<i>Entomophthora muscae</i>	5860	<i>Isaria fumosorosea</i>
2674	<i>Entomophthora muscae</i>	4788	<i>Entomophthora muscae</i>	5861	<i>Beauveria bassiana</i>
2675	<i>Entomophthora muscae</i>	4789	<i>Entomophthora muscae</i>	5862	<i>Beauveria bassiana</i>
2678	<i>Entomophthora muscae</i>	4790	<i>Entomophthora muscae</i>	5863	<i>Beauveria bassiana</i>
2680	<i>Leptolegnia chapmanii</i>	4791	<i>Entomophthora schizophorae</i>	5864	<i>Beauveria bassiana</i>
2681	<i>Leptolegnia chapmanii</i>	4972	<i>Syngliocladium tetanopsis</i>	5865	<i>Beauveria bassiana</i>
2682	<i>Leptolegnia chapmanii</i>	4996	<i>Conidiobolus thromboides</i>	5866	<i>Beauveria bassiana</i>
2911	<i>Tolypocladium cylindrosporum</i>	5125	Unidentified / <i>Zygomycetes</i>	5867	<i>Beauveria pseudobassiana</i>
2912	<i>Tolypocladium cylindrosporum</i>	5132	<i>Verticillium lecanii</i>	5952	<i>Entomophthora muscae</i>
2921	<i>Tolypocladium extinguens</i>	5200	<i>Smittium culisetae</i>	5953	<i>Entomophthora muscae</i>
2953	<i>Beauveria bassiana</i>	5203	<i>Smittium culisetae</i>	5954	<i>Entomophthora muscae</i>
2971	<i>Isaria farinosa</i>	5204	<i>Smittium culicis</i>	5955	<i>Entomophthora syrphi</i>
2972	<i>Beauveria bassiana</i>	5217	<i>Syngliocladium</i> sp.	6121	<i>Entomophthora muscae</i>
2974	<i>Metarhizium brunneum</i>	5339	<i>Beauveria bassiana</i>	6122	<i>Entomophthora muscae</i>
3074	<i>Entomophthora muscae</i>	5340	<i>Beauveria bassiana</i>	6123	<i>Entomophthora muscae</i>
3123	Unidentified sp.	5341	<i>Beauveria bassiana</i>	6124	<i>Entomophthora muscae</i>
3124	Unidentified sp.	5342	<i>Beauveria bassiana</i>	6125	<i>Entomophthora muscae</i>
3144	<i>Aspergillus flavus</i>	5343	<i>Beauveria bassiana</i>	6126	<i>Entomophthora muscae</i>
3224	<i>Batkoa apiculata</i>	5344	<i>Beauveria bassiana</i>	6127	<i>Entomophthora muscae</i>
3225	<i>Batkoa apiculata</i>	5345	<i>Beauveria bassiana</i>	6128	<i>Entomophthora muscae</i>
3226	<i>Batkoa apiculata</i>	5346	<i>Beauveria bassiana</i>	6129	<i>Entomophthora muscae</i>
3227	Unidentified sp.	5347	<i>Beauveria bassiana</i>	6130	<i>Entomophthora muscae</i>
3228	Unidentified sp.	5348	<i>Entomophthora schizophorae</i>	6131	<i>Entomophthora muscae</i>
3229	<i>Erynia curvispora</i>	5365	<i>Ophiocordyceps variabilis</i>	6132	<i>Entomophthora muscae</i>
3230	Unidentified sp.	5366	<i>Ophiocordyceps variabilis</i>	6133	<i>Entomophthora muscae</i>
3231	Unidentified sp.	5367	<i>Ophiocordyceps variabilis</i>	6134	<i>Entomophthora muscae</i>
3232	Unidentified sp.	5414	<i>Ophiocordyceps variabilis</i>	6135	<i>Entomophthora muscae</i>
3233	Unidentified sp.	5415	<i>Ophiocordyceps variabilis</i>	6136	<i>Entomophthora muscae</i>
3235	Unidentified sp.	5416	<i>Ophiocordyceps variabilis</i>	6137	<i>Entomophthora schizophorae</i>
3236	Unidentified sp.	5417	<i>Ophiocordyceps variabilis</i>	6138	<i>Entomophthora schizophorae</i>
3245	Unidentified sp.	5418	<i>Ophiocordyceps variabilis</i>	6139	<i>Entomophthora schizophorae</i>
3246	Unidentified sp.	5419	<i>Ophiocordyceps variabilis</i>	6140	<i>Entomophthora muscae</i>
3247	Unidentified sp.	5420	<i>Ophiocordyceps variabilis</i>	6141	<i>Entomophthora muscae</i>
3281	<i>Tolypocladium inflatum</i>	5421	<i>Ophiocordyceps variabilis</i>	6142	<i>Entomophthora schizophorae</i>
3282	<i>Strongwellsea castrans</i>	5422	<i>Ophiocordyceps variabilis</i>	6143	<i>Entomophthora schizophorae</i>
3326	<i>Lagenidium giganteum</i>	5423	<i>Ophiocordyceps variabilis</i>	6146	<i>Evlachovaea</i> sp.
3327	<i>Lagenidium giganteum</i>	5424	<i>Ophiocordyceps variabilis</i>	6164	<i>Entomophthora muscae</i>
3328	<i>Lagenidium giganteum</i>	5425	<i>Ophiocordyceps variabilis</i>	6165	<i>Entomophthora muscae</i>
3378	Unidentified sp.	5426	<i>Ophiocordyceps variabilis</i>	6274	<i>Entomophthora muscae</i>
3379	<i>Conidiobolus coronatus</i>	5427	<i>Ophiocordyceps variabilis</i>	6275	<i>Smittium megazygosporum</i>
3380	Unidentified sp.	5428	<i>Ophiocordyceps variabilis</i>	6424	<i>Conidiobolus</i> sp.
3381	Unidentified sp.	5429	<i>Ophiocordyceps variabilis</i>	6427	<i>Saprolegnia</i> sp.
3382	<i>Fusarium</i> sp.	5430	<i>Smittium culisetae</i>	6550	<i>Metarhizium anisopliae</i> var. <i>anisopliae</i>
3413	Unidentified sp.	5431	<i>Smittium culicis</i>	6553	<i>Beauveria bassiana</i>
3414	<i>Conidiobolus coronatus</i>	5432	<i>Smittium culicis</i>	6554	<i>Verticillium lecanii</i>
3415	<i>Conidiobolus coronatus</i>	5497	<i>Syngliocladium tetanopsis</i>	6555	<i>Beauveria bassiana</i>
3416	<i>Lecanicillium psalliotae</i>	5499	<i>Leptolegnia chapmanii</i>	6561	<i>Verticillium lecanii</i>
3417	Unidentified sp.	5511	<i>Fusarium merismoides</i>	6563	<i>Beauveria bassiana</i>
3418	<i>Lecanicillium muscarium</i>	5520	<i>Metarhizium anisopliae sensu lato</i>	6564	<i>Beauveria bassiana</i>
3419	Unidentified sp.	5522	<i>Trichoderma</i> sp.		

6565	<i>Beauveria bassiana</i>	7860	<i>Metarhizium anisopliae</i> sensu lato	9046	<i>Smittium culicis</i>
6566	<i>Beauveria bassiana</i>	7861	<i>Metarhizium anisopliae</i> sensu lato	9047	<i>Smittium culisetae</i>
6567	<i>Beauveria bassiana</i>	7914	<i>Metarhizium anisopliae</i> sensu lato	9048	<i>Smittium culisetae</i>
6568	<i>Beauveria bassiana</i>	7915	<i>Metarhizium anisopliae</i> sensu lato	9049	<i>Smittium simulii</i>
6701	<i>Entomophthora muscae</i>	7916	<i>Metarhizium anisopliae</i> sensu lato	9050	<i>Smittium</i> sp.
6702	<i>Entomophthora syrphi</i>	7917	<i>Metarhizium anisopliae</i> sensu lato	9051	<i>Smittium</i> sp.
6703	<i>Entomophthora schizophorae</i>	7918	<i>Metarhizium anisopliae</i> sensu lato	9052	<i>Smittium tipulidarum</i>
6704	<i>Entomophthora scatophagae</i>	7919	<i>Metarhizium anisopliae</i> sensu lato	9053	<i>Smittium tipulidarum</i>
6705	<i>Entomophthora scatophagae</i>	7920	<i>Metarhizium anisopliae</i> sensu lato	9054	<i>Smittium tipulidarum</i>
6706	<i>Entomophthora muscae</i>	7926	<i>Metarhizium anisopliae</i> sensu lato	9055	<i>Smittium perforatum</i> (?)
6707	<i>Entomophthora muscae</i>	7940	<i>Beauveria bassiana</i>	9056	<i>Smittium culisetae</i>
6708	<i>Entomophthora muscae</i>	7975	<i>Aspergillus niger</i> (?)	9057	<i>Smittium culicis</i>
6709	<i>Entomophthora muscae</i>	7976	<i>Penicillium</i> sp.	9058	<i>Smittium culisetae</i>
6710	<i>Entomophthora muscae</i>	8031	<i>Beauveria bassiana</i>	9059	<i>Smittium culicis</i>
6711	<i>Entomophthora muscae</i>	8245	<i>Beauveria bassiana</i>	9060	<i>Smittium morbosum</i>
6712	<i>Entomophthora muscae</i>	8246	<i>Beauveria bassiana</i>	9061	<i>Smittium morbosum</i>
6713	<i>Entomophthora muscae</i>	8247	<i>Beauveria bassiana</i>	9062	<i>Smittium culisetae</i>
6714	<i>Entomophthora muscae</i>	8248	<i>Metarhizium anisopliae</i> sensu lato	9063	<i>Smittium mucronatum</i>
6715	<i>Entomophthora muscae</i>	8249	<i>Metarhizium anisopliae</i> sensu lato	9065	<i>Smittium</i> sp.
6716	<i>Entomophthora muscae</i>	8466	<i>Zoopthora radicans</i>	9067	<i>Smittium mucronatum</i>
6717	<i>Entomophthora muscae</i>	8497	<i>Metarhizium pingshaense</i>	9068	<i>Smittium lentaquaticum</i>
6718	<i>Leptolegnia chapmanii</i>	8707	<i>Beauveria bassiana</i>	9069	<i>Smittium culisetae</i>
6810	<i>Smittium culisetae</i>	8712	<i>Beauveria bassiana</i>	9071	<i>Smittium culisetae</i>
6811	<i>Entomophthora muscae</i>	8822	<i>Simplicillium lanosoniveum</i>	9073	<i>Smittium culicis</i>
6812	<i>Entomophthora muscae</i>	9000	<i>Smittium caudatum</i>	9074	<i>Smittium culicis</i>
6813	<i>Entomophthora muscae</i>	9001	<i>Smittium coloradense</i>	9075	<i>Smittium culisetae</i>
6814	<i>Entomophthora muscae</i>	9002	<i>Smittium coloradense</i>	9076	<i>Smittium phytotelmatum</i>
6815	<i>Entomophthora muscae</i>	9003	<i>Smittium culicis</i>	9077	<i>Furculomyces boomerangus</i>
6816	<i>Entomophthora schizophorae</i>	9004	<i>Smittium culicis</i>	9078	<i>Smittium simulatum</i>
6817	<i>Entomophthora schizophorae</i>	9005	<i>Smittium culicis</i>	9079	<i>Smittium</i> sp.
6818	<i>Entomophthora muscae</i>	9006	<i>Smittium culicis</i>	9080	<i>Smittium orthocladii</i>
6819	<i>Entomophthora syrphi</i>	9007	<i>Smittium culicis</i>	9081	<i>Smittium</i> sp.
6820	<i>Entomophthora syrphi</i>	9008	<i>Smittium culicis</i>	9082	<i>Smittium lentaquaticum</i>
6821	<i>Entomophthora muscae</i>	9009	<i>Smittium culicis</i>	9083	<i>Smittium fecundum</i>
6918	<i>Entomophthora ferdinandii</i>	9010	<i>Smittium culicis</i>	9084	<i>Smittium culicis</i>
7049	<i>Beauveria bassiana</i>	9011	<i>Smittium culicis</i>	9085	<i>Smittium commune</i>
7068	<i>Batkoa papillata</i> (?)	9012	<i>Smittium culisetae</i>	9086	<i>Smittium</i> sp.
7078	Unidentified / <i>Hyphomycetes</i>	9013	<i>Smittium culisetae</i>	9087	<i>Smittium</i> sp.
7146	<i>Candida</i> cf. <i>pseudoglebosa</i>	9014	<i>Smittium culisetae</i>	9088	<i>Smittium</i> sp.
7224	<i>Lecanicillium muscarium</i>	9015	<i>Smittium culisetae</i>	9089	<i>Harpellales</i> , genus undetermined
7227	Unidentified <i>Entomophthorales</i> sp.	9016	<i>Smittium culisetae</i>	9090	<i>Smittium mucronatum</i>
7228	Unidentified <i>Entomophthorales</i> sp.	9017	<i>Smittium culisetae</i>	9091	<i>Smittium culicis</i>
7229	Unidentified <i>Entomophthorales</i> sp.	9018	<i>Smittium culisetae</i>	9092	<i>Smittium acutum</i>
7230	Unidentified <i>Entomophthorales</i> sp.	9019	<i>Smittium simulii</i>	9093	<i>Smittium culicis</i>
7269	<i>Beauveria bassiana</i>	9020	<i>Barbatospora ambicaudata</i>	9094	<i>Smittium culisetae</i>
7371	<i>Entomophthora muscae</i>	9021	<i>Furculomyces boomerangus</i>	9095	<i>Smittium culisetae</i>
7372	<i>Evlachovaea</i> sp.	9022	<i>Smittium fecundum</i>	9096	<i>Smittium culisetae</i>
7382	<i>Fusarium</i> sp.	9023	<i>Smittium stenosporum</i>	9097	<i>Smittium culisetae</i>
7414	<i>Metarhizium pingshaense</i>	9024	<i>Smittium culisetae</i>	9098	<i>Smittium culisetae</i>
7418	<i>Metarhizium anisopliae</i> sensu stricto	9025	<i>Smittium culisetae</i>	9099	<i>Smittium culisetae</i>
7419	<i>Metarhizium anisopliae</i> sensu stricto	9026	<i>Smittium culisetae</i>	9100	<i>Smittium culisetae</i>
7420	<i>Metarhizium guizhouense</i>	9027	<i>Smittium megazygosporum</i> (?)	9101	<i>Smittium culisetae</i>
7421	<i>Metarhizium pingshaense</i>	9028	<i>Smittium mucronatum</i>	9102	<i>Smittium culisetae</i>
7422	<i>Metarhizium pingshaense</i>	9029	<i>Smittium gravimetallum</i>	9103	<i>Smittium culisetae</i>
7423	<i>Metarhizium anisopliae</i> sensu stricto	9030	<i>Smittium tronadorium</i>	9104	<i>Smittium culisetae</i>
7425	<i>Metarhizium pingshaense</i>	9031	<i>Smittium culicis</i>	9105	<i>Smittium culisetae</i>
7426	<i>Metarhizium anisopliae</i> sensu stricto	9032	<i>Smittium culisetae</i>	9106	<i>Smittium culisetae</i>
7427	<i>Metarhizium anisopliae</i> sensu stricto	9033	<i>Smittium imitatum</i>	9107	<i>Smittium culisetae</i>
7428	<i>Metarhizium anisopliae</i> sensu stricto	9034	<i>Smittium</i> sp.	9108	<i>Smittium culisetae</i>
7429	<i>Metarhizium pingshaense</i>	9035	<i>Smittium</i> sp.	9109	<i>Smittium culisetae</i>
7634	<i>Lecanicillium</i> sp.	9036	<i>Smittium gravimetallum</i>	9110	<i>Smittium culisetae</i>
7787	<i>Leptolegnia chapmanii</i>	9037	<i>Smittium megazygosporum</i>	9111	<i>Smittium culisetae</i>
7840	<i>Metarhizium anisopliae</i> sensu lato	9038	<i>Smittium</i> sp.	9112	<i>Smittium culisetae</i>
7841	<i>Metarhizium anisopliae</i> sensu lato	9039	<i>Smittium culisetae</i>	9113	<i>Smittium culisetae</i>
7849	<i>Lecanicillium</i> sp.	9040	<i>Smittium culicis</i>	9114	<i>Smittium culisetae</i>
7855	<i>Metarhizium anisopliae</i> sensu lato	9041	<i>Smittium culicis</i>	9115	<i>Smittium culisetae</i>
7856	<i>Metarhizium anisopliae</i> sensu lato	9042	<i>Smittium simulatum</i>	9116	<i>Smittium cylindrosporum</i>
7857	<i>Metarhizium anisopliae</i> sensu lato	9043	<i>Smittium simulii</i>	9117	<i>Smittium simulatum</i>
7858	<i>Metarhizium anisopliae</i> sensu lato	9044	<i>Smittium culicisoides</i>	9118	<i>Smittium simulii</i>
7859	<i>Metarhizium anisopliae</i> sensu lato	9045	<i>Smittium culicis</i>	9120	<i>Smittium</i> sp.

ARSEF Number

9121	Smittium sp.	10156	Isaria farinosa	13295	Achlya sp.
9122	Smittium tipulidarum	10160	Isaria farinosa	13296	
9123	Smittium culicis	10163	Isaria coleopterorum	13297	
9124	Smittium culicis	10165	Isaria farinosa	13298	Achlya sp.
9125	Smittium culicis	10171	Unidentified / Hyphomycetes	13299	
9126	Smittium culicis	10172	Lecanicillium wallacei(?)	13300	
9127	Smittium culicis	10173	Lecanicillium muscarium	13301	
9128	Smittium culicis	10174	Lecanicillium wallacei(?)	13302	Leptolegnia sp.
9129	Smittium culicis	10179	Lecanicillium psalliotae	13303	Beauveria bassiana sensu lato
9130	Smittium culicis	11785	Lecanicillium evansii(?)	13304	Beauveria bassiana sensu lato
9131	Smittium culisetae	11786	Pochonia chlamydosporia var. chlamydosporia	13305	Beauveria bassiana sensu lato
9132	Smittium culisetae	11795	Lecanicillium evansii(?)	13306	Beauveria bassiana sensu lato
9133	Smittium culisetae	11796	Lecanicillium evansii(?)	13307	Beauveria bassiana sensu lato
9134	Smittium simulii	11798	Lecanicillium sp.	13355	Lecanicillium sp.
9135	Smittium simulii	11800	Metapochonia bulbillosa	13356	Lecanicillium sp.
9136	Smittium simulii	11810	Pochonia chlamydosporia var. chlamydosporia	13357	Geolegnia sp.
9137	Smittium simulii	11824	Isaria farinosa	13358	Leptolegnia sp.
9138	Smittium simulii	11826	Isaria farinosa	13359	Leptolegnia sp.
9139	Smittium simulii	11828	Isaria farinosa	13360	Hirsutella sp.
9140	Smittium culicis	11832	Isaria farinosa	13362	Isaria farinosa
9141	Smittium culicis	11834	Isaria farinosa	13365	Isaria farinosa
9142	Smittium culicis	11834	Isaria farinosa	13376	Entomophthora muscae
9143	Smittium culicis	11845	Beauveria bassiana	13406	Pandora gloeospora
9144	Smittium mucronatum	11948	Fusarium sp.	13512	Pandora sp.
9145	Smittium sp.	11949	Fusarium sp.	13513	Mortierella sp.
9146	Smittium sp.	11950	Fusarium sp.	13514	Entomophthora muscae
9147	Smittium sp.	12250	Erynia sepulchralis	13813	Beauveria bassiana
9148	Smittium sp.	12251	Batkoa major	13814	Beauveria sp.
9149	Smittium culicis	12817	Leptolegnia chapmanii		
9181	Amoebidium appalachense	12818	Leptolegnia chapmanii		
9183	Amoebidium parasiticum	12819	Leptolegnia chapmanii		
9241	Smittium angustum	12820	Leptolegnia chapmanii		
9242	Smittium annulatum	12827	Leptolegnia chapmanii		
9243	Smittium commune	12828	Leptolegnia chapmanii		
9244	Smittium commune	12829	Leptolegnia chapmanii		
9245	Smittium commune	12830	Conidiobolus macrosporus		
9246	Smittium culisetae	13222	Metarhizium anisopliae sensu lato		
9247	Smittium culisetae	13229			
9248	Smittium cylindrosporum	13230	Bionectria sp.		
9249	Smittium cylindrosporum	13231	Metarhizium anisopliae sensu lato		
9250	Smittium dipterorum	13232			
9251	Smittium elongatum	13233	Penicillium sp.		
9252	Smittium gravimetallum	13234	Achlya sp.		
9253	Smittium lentaquaticum	13235	Crypticola clavulifera		
9254	Smittium simulii	13236	Crypticola sp.		
9255	Amoebidium appalachense	13237	Trichoderma sp.		
9256	Amoebidium appalachense	13238	Achlya sp.		
9259	Furculomyces boomerangus	13239	Achlya sp.		
9260	Harpellales, genus undetermined	13240	Crypticola sp.		
9261	Smittium caudatum	13241	Crypticola sp.		
9262	Smittium culisetae	13242	Achlya sp.		
9263	Smittium dipterorum	13243			
9264	Smittium gravimetallum	13244	Unidentified / Hyphomycetes		
9265	Smittium sp.	13245	Achlya sp.		
9334	Unidentified sp.	13246	Penicillium sp.		
9359	Myrothecium verrucaria	13247	Metarhizium anisopliae sensu lato		
9455	Mariannaea elegans	13250			
9456	Mariannaea elegans	13251	Leptolegnia sp.		
9470	Lecanicillium muscarium	13252			
9480	Simplicillium lamellicola	13253			
9487	Metarhizium anisopliae	13254	Unidentified / Hyphomycetes		
9508	Isaria sp.	13255	Beauveria bassiana sensu lato		
9512	Isaria farinosa	13288	Gliocladium sp.		
9939	Metarhizium anisopliae sensu lato	13289	Unidentified sp.		
9940	Conidiobolus coronatus	13290	Beauveria sp.		
9941	Conidiobolus coronatus	13291	Purpureocillium lilacinum		
9942	Conidiobolus coronatus	13292	Metarhizium sp.		
10141	Beauveria bassiana	13293	Beauveria sp.		
10142	Beauveria bassiana	13294	Beauveria sp.		
10149	Beauveria bassiana				