

The Microfungi Collections Consortium: A Networked Approach to Digitizing Small Fungi with Large Impacts on the Function and Health of Ecosystems

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Progress

MYCOLOGY COLLECTIONS PORTAL

Select Collections to be Analyzed

Collections

Statistics

618,816 MiCC records digitized

– 662,959 images

432,808 existing records


– 384,785 Stage 2 (fully transcribed) (37%)

– 118,868 Stage 3 (complete) (11%)


Selected Collection Statistics


Display List of Collections Analyzed

- 2,744,919 specimen records
- 673,493 (25%) georeferenced
- 1,048,413 (38%) imaged
- 2,158,822 (79%) identified to species
- 1,619 families
- 7,002 genera
- 92,791 species
- 97,741 total taxa (including subsp. and var.)

Show Statistics per Collection 

Extra Statistics

Show Family Distribution 




















































Show Geographic Distribution 

Load Stats for Past Year

Load Order Distribution

***including 109,232 type specimens**

Data management

- 
-  Academy of Natural Sciences of Drexel University (PH) [more info](#)
 -  Acadia University, E. C. Smith Herbarium (ACAD) [more info](#)
 -  Bishop Museum, Herbarium Pacificum (BISH) [more info](#)
 -  Brown University Herbarium (BRU) [more info](#)
 -  California State University Chico, Chico State Herbarium (CHSC) [more info](#)
 -  Clemson University Herbarium (CLEMS) [more info](#)
 -  College of the Atlantic, Acadia National Park Herbarium (HCOA) [more info](#)
 -  Cornell University, Plant Pathology Herbarium (CUP) [more info](#)
 -  Davis & Elkins College Herbarium (DEWV) [more info](#)
 -  Denver Botanic Garden, Sam Mitchel Herbarium of Fungi (DBG) [more info](#)
 -  Duke University, Herbarium Fungal Collection (DUKE) [more info](#)
 -  Eastern Illinois University (EIU) [more info](#)
 -  Field Museum of Natural History (F) [more info](#)
 -  Foray Newfoundland and Labrador Fungarium (FNL) [more info](#)
 -  Fort Lewis College Herbarium (FLD) [more info](#)
 -  Harvard University, Farlow Herbarium (FH) [more info](#)
 -  Indiana University (IND) [more info](#)
 -  Iowa State University, Ada Hayden Herbarium (ISC) [more info](#)
 -  Louisiana State University, Bernard Lowy Mycological Herbarium (LSUM) [more info](#)
 -  Miami University, Willard Sherman Turrell Herbarium (WSTU) [more info](#)
 -  Michigan State University Herbarium (MSU) [more info](#)
 -  New Brunswick Museum (NBM) [more info](#)
 -  New York Botanical Garden (NY) [more info](#)
 -  New York State Museum (NYS) [more info](#)
 -  North Carolina State University, Larry F. Grand Mycological Herbarium (NCSLG) [more info](#)
 -  Oregon State University Herbarium (OSC) [more info](#)
 -  Purdue University, Arthur Fungarium (PUR) [more info](#)
 -  Purdue University, Kriebel Herbarium (PUL) [more info](#)
 -  René-Pomerleau Herbarium (QFB) [more info](#)
 -  Royal Ontario Museum Fungarium (TRTC) [more info](#)
 -  Rutgers University, Chrysler Herbarium (CHRB) [more info](#)
 -  San Francisco State University, Harry D. Thiers Herbarium (SFSU) [more info](#)
 -  State University of New York College at Cortland (CORT) [more info](#)
 -  State University of New York, SUNY College of Environmental Science and Forestry Herbarium (SYRF) [more info](#)
 -  United States National Fungus Collections (BPI) [more info](#)
 -  Universidad de Buenos Aires (BAFC) [more info](#)
 -  Université de Montréal, Cercle des Mycologues de Montréal Fungarium (CMMF) [more info](#)
 -  University of Alabama Chytrid Culture Collection (UACCC) [more info](#)
 -  University of Arizona, Gilbertson Mycological Herbarium (ARIZ) [more info](#)
 -  University of Arkansas Fungarium (UARK) [more info](#)
 -  University of British Columbia Herbarium (UBC) [more info](#)
 -  University of California Berkeley, University Herbarium (UC) [more info](#)
 -  University of California Santa Cruz Fungal Herbarium (UCSC) [more info](#)
 -  University of Central Oklahoma Herbarium (CSU) [more info](#)
 -  University of Cincinnati, Margaret H. Fulford Herbarium (CINC) [more info](#)
 -  University of Florida Herbarium (FLAS) [more info](#)
 -  University of Georgia, Julian H. Miller Mycological Herbarium (GAM) [more info](#)
 -  University of Hawaii, Joseph F. Rock Herbarium (HAW-F) [more info](#)
 -  University of Illinois Herbarium (ILL) [more info](#)
 -  University of Illinois, Illinois Natural History Survey Fungarium (ILLS) [more info](#)
 -  University of Kansas, R. L. McGregor Herbarium (KANU) [more info](#)
 -  University of Maine, Richard Homola Mycological Herbarium (MAINE) [more info](#)
 -  University of Michigan Herbarium (MICH) [more info](#)
 -  University of Minnesota, Bell Museum of Natural History Herbarium Fungal Collection (MIN) [more info](#)
 -  University of Mississippi (MISS) [more info](#)
 -  University of Montana Herbarium (MONTU) [more info](#)
 -  University of Nebraska State Museum, C.E. Bessey Herbarium (NEB) [more info](#)
 -  University of North Carolina Chapel Hill Herbarium (NCU) [more info](#)
 -  University of Richmond (URV) [more info](#)
 -  University of South Alabama Herbarium (USAM) [more info](#)
 -  University of South Carolina, A. C. Moore Herbarium (USCH) [more info](#)
 -  University of South Florida Herbarium (USF) [more info](#)
 -  University of Tennessee Fungal Herbarium (TENN) [more info](#)
 -  University of Vermont, Pringle Herbarium, Macrofungi (VT) [more info](#)
 -  University of Washington Herbarium (WTU) [more info](#)
 -  University of Wisconsin-Madison Herbarium (WIS) [more info](#)
 -  University of Wyoming, Wilhelm G. Solheim Mycological Herbarium (RMS) [more info](#)
 -  USDA Forest Service, Center for Forest Mycology Research (CFMR) [more info](#)
 -  USDA Forest Service, Rocky Mountain Research Station (FPF) [more info](#)
 -  Utah State University, Intermountain Herbarium (USU-UTC) [more info](#)
 -  Virginia Tech University, Massey Herbarium (VPI) [more info](#)
 -  Washington State University, Charles Gardner Shaw Mycological Herbarium (WSP) [more info](#)

Data management

- 30 MiCC-only institutions / 21 MaCC-only institutions (21 MiCC/MaCC)
 - 38 MiCC institutions originally proposed; 13 MiCC institutions added
- 30 MiCC and MiCC/MaCC institutions are being digitized
- 21 MiCC and MiCC/MaCC institutions provide existing data
- 25 MiCC and MiCC/MaCC institutions are Live [primary db]
 - (Symbiota-generated GUIDs)
- 26 MiCC and MiCC/MaCC institutions are Snapshot [secondary db]
 - (need help generating GUIDs)
- Clean data vs. dirty data?
- Complete data vs. incomplete data?

Research uses of data

Taxa collected by Charles Leonard Smith in Nicaragua



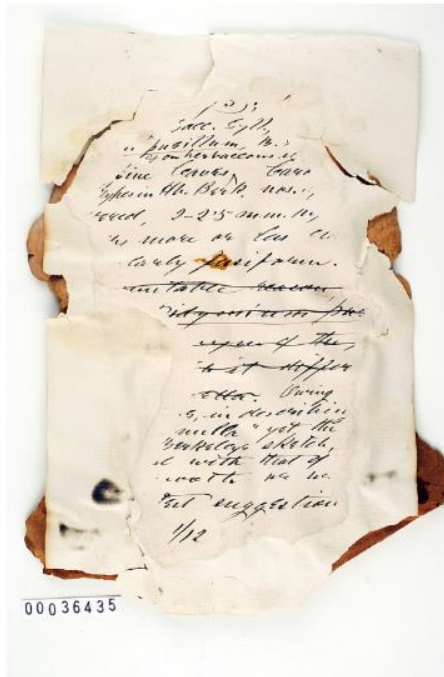
Navigation bar with iDigBio logo, search bar, and links: About iDigBio, Research, Technical Information, Education, My account, Log out.



Secondary navigation bar with links: About iDigBio, Collaborators, Upcoming Events, News, Contact, Site Map.

Researchers Use MyCoPortal to Track Down Specimens Lost for Over 100 Years

- Researchers**
Browse our specimen portal →
- Collections Staff**
Learn how your collection can benefit from our work →
- Teachers & Students**
Learning resources & opportunities to engage →



Specimens collected in Nicaragua by American mycologist Charles Leonard Smith in the late 19th century were thought to have been lost for over 100 years. Through records created on the MyCoPortal, Gregorio Delgado and Ondřej Koukol of EMLab P&K (Phoenix, AZ) and Charles University (Prague, Czech Republic), respectively, were able to locate physical specimens to examine for the presence of microfungi. Twenty-two taxa were identified by Delgado and Koukol, all of which were originally recorded by Smith in Nicaragua for the first time. The publication, "Microfungi from Nicaragua in a Historical Collection Kept at the Herbarium of the Charles University in Prague" details the circumstances of the discovery, and provides further information on the

historical context of the collections and their collector. This publication provides an excellent example of the use of online digitized specimen data for discovering specimens (some assumed to be long lost), and increasing our knowledge of species diversity and distributions.

Contributed by Alex Kuhn, Rhianna Baldree, and Teresa Iturriaga (Microfungi TCN)

Cantharellus supranus

ia in a historical collection of the Charles University Prague

* & Ondřej KOUKOL^b

North Phoenix, Phoenix, AZ 85027, USA

science, Charles University in Prague, Praha 2, Czech Republic

ry Collections Data Portal (MyCoPortal) Smith in Nicaragua during both expeditions I NY but also to a lesser extent in six other , LSUM, NCU, SYRF). They comprise

Management, oversight & sustainability

- help@mycoportal.org
- We own domain name (www.mycoportal.org)
- Personnel and infrastructure are in place at INHS (full-time Biological Informatician, virtual servers & mirrored backup units)
- Daily backups at INHS
- Fee-based structure for Symbiota or individual portals?
- Support from Mycological Society of America?

INHS Team



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What we have learned

- Digitization
 - Handwritten labels really suck!
 - Georeferencing provides a second screening of locality data and greatly improves data quality
 - Train the workers, not the PIs
 - Efficiency is contagious!
 - GUIDs, UIDs, SMUIDs...
- Broader Impacts
 - Teachers must be paid to attend workshops