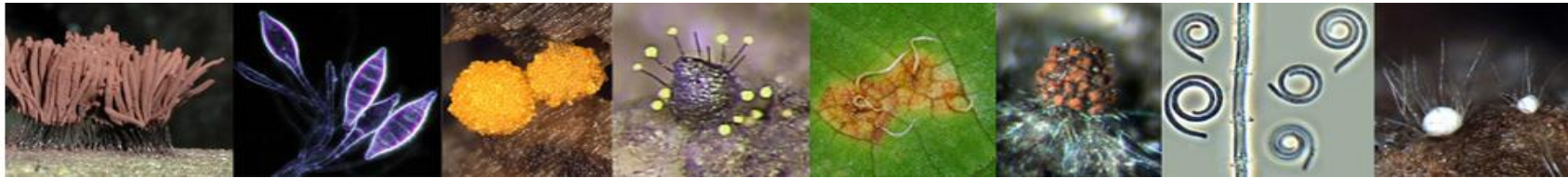# Voice Driven Command Control (VDCC)

Philip J. Anders – Biological Informatician

Microfungi Collections Consortium TCN

Illinois Natural History Survey
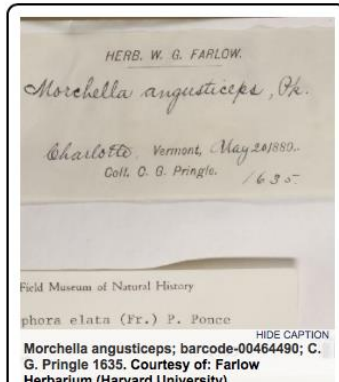
University of Illinois at Urbana-Champaign

MYCOLOGY COLLECTIONS PORTAL

The Consortium will digitize specimen descriptions, illustrations and annotation notes for more than 1.2 million North American microfungi specimens.

38 institutions in 31 states to digitize their microfungi records

1,223,370 specimens to digitize. Geo-reference ~113,000 existing records. By September 2018.

Skeletal records -> Transcribing -> Geo-referencing

MiCC
Microfungi Collections Consortium
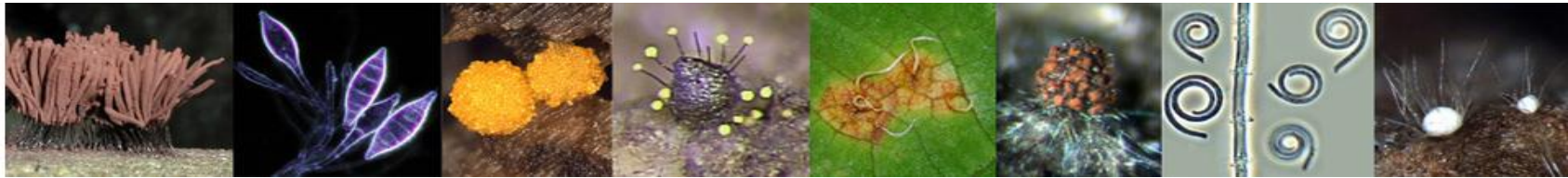
MYCOLOGY COLLECTIONS PORTAL

MyCoPortal Home

Home | Explore | Crowdsource | Checklist Projects | Other Resources | Acknowledgements
Log In | New Account | Sitem

Welcome to the Mycology Collections data Portal

The Mycology Collections Portal (MyCoPortal) is more than just a web site - it is a suite of user-friendly, web-based data access technologies to aid taxonomists, field biologists, ecologists, educators, and citizen scientists in the study of fungal diversity. The data are derived from a network of universities, botanical gardens, museums, and agencies that provide taxonomic, environmental, and specimen-based information. Using the Symbiota (http://symbiota.org) system of virtual online floras, these data are directly accessible to dynamically generate geo-referenced species checklists, distribution maps, and interactive identification keys, all linked with a rich collection of digital imagery documenting fungal diversity of North America.

Fungus of the Day

HERB. W. G. FARLOW.
Morchella angusticeps, Pk.
Charlotte Vermont, May 20 1893.
Coll. C. G. Pringle. 1635.
Field Museum of Natural History

HIDE CAPTION
Morchella angusticeps; barcode-00464490; C. G. Pringle 1635. Courtesy of: Farlow Herbarium (Harvard University)

News and Events
- NSF Press Release (#15-092) - NSF awards fifth round of grants to enhance America's biodiversity collections
- NSF Press Release (#12-082) - US National Science Foundation awards support for The Macrofungi Collection Consortium, a collaboration of 35 institutions in 24 states for the purpose of databasing some 1.4 million dried scientific specimens of macrofungi (NSF ADBC 1206197).
- December 2013 - 1,546,358 occurrence records supplied by 31 different data providers have been integrated into MyCoPortal.
- NEW - MaCC records are now part of the Zooniverse project Notes from Nature. Please help us by transcribing specimen labels (link).
- Image provided by New York Botanical Garden.

mycoportal.org
MyCoPortal Occurrence Editor

University of Illinois Herbarium (ILL)
Home >> Collection Management >> Public Display >> Editor
|< << | 5 of 44035 | >> >| >*

Occurrence Data | Determination History | Images | Linked Resources | Admin

Collector Info
Catalog Number | Other Numbers | Collector | Number | Date | Dupes?
ILL00010180 | | F. L. Stevens No. 1079 | 1079 | 1923-08-16 | Auto search
Associated Collectors | Verbatim Date
Exsiccati Title | Number

Latest Identification
Scientific Name | Author
Coleosporium attaleae
ID Qualifier | Family | Coleosporiaceae
Identified By | Date Identified

Locality
Country | State/Province | County | Municipality
Locality
Locality Security
Latitude | Longitude | Uncertainty | Datum | Verbatim Coordinates
Tools
Elevation in Meters | Verbatim Elevation

Misc
Habitat

Label Processing
Med Res. | High Res.

ILLINOIS COLLECTION

OCR Image | Options
OCR whole image
OCR w/ analysis
Image 2 of 2=>>

Symbiota Promoting Bio-Collaboration

ILLINOIS NATURAL HISTORY SURVEY
PRAIRIE RESEARCH INSTITUTE

NSF
iDigBio
Integrated Digitized Biocollections

Skeletal records, Transcribing, Geolocation
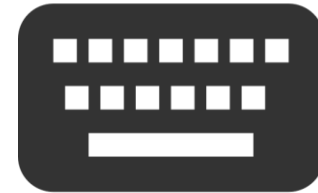
- Time
- Automation/OCR
- Speed

Record editing

- Key stroke

- Cut and paste

Workflow

- Staging tasks
- People

Repetition

- Undo, redo & duplication
- Quality control/Error checking
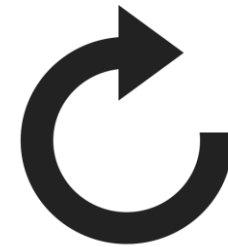
Processing improvements

- Streamline workflow
- Open source solutions
  - Minimal added costs
  - Accessible to existing systems
  - Custom development
  - Existing workflows (ie. Symbiota)
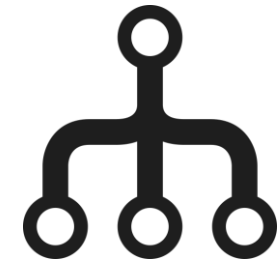
VDCC: Simple interface

- Browser plugin
  - Minimal additional training
  - No need for additional software
- Built-in
  - Error checking
  - Repeated tasks
  - User settings

VDCC: Components

- Speech to text to form
  - HTML5 speech to text input

VDCC: Components

- Speech to text to form
  - HTML5 speech to text input
  - JavaScript command list interface

VDCC: Components

- Speech to text to form
  - HTML5 speech to text input
  - JavaScript command list interface
  - Apply form modifications
    - Form Submit pre-processor

VDCC: Browser plugin

- Command options
  - Parses page form objects on load
  - Defines elements to be effected
    - <form> <input /> </form>

VDCC: Browser plugin

- Command options
  - Parses page form objects on load
  - Defines elements to be effected
    - <form> <input /> </form>
    - Association with name, id, or text attributes

VDCC: Text input examples

- Command options
  - "change name to Chris"
  - "change state to Illinois"
  - "change age to 32"
  - "append comments with My statement of additional notes STOP append"

VDCC: Select item examples

- Command options
  - "change yesorno to yes"
  - "reset color"
  - "select color blue"
  - "select color red"

VDCC: Batch processing examples

- Command options
  - "undo change name"
  - "redo change name"
  - "submit form"
  - "copy"

VDCC: <form /> processing

- Form parsing challenges
  - identifying name, id, or <select>Text</select>
  - Handling all form elements
    - text field
    - textarea
    - radio button
    - checkbox
    - select and multi-select

VDCC: <form /> processing

- Form parsing challenges
  - Attribute value consistency
    - <input name="firstname" … />
    - <input name="first_name" … />
    - <input name="fname" … />

VDCC: <form /> processing

- Form parsing challenges
  - identifying name, id, or <select>Text</select>
    - <input name="firstname" … />
    - <input id="firstname" … />
    - <select><option value="firstname" >First name</option> …

VDCC: Command list processing

- Error correction
  - Natural language processing
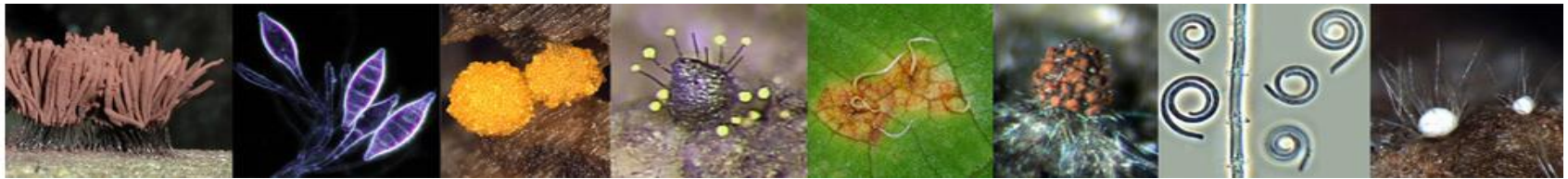 - Limiting choices based on data

VDCC: Turn On, Turn Off

- ## Opt out
  - Enable or disable plugin loading
  - Form processing

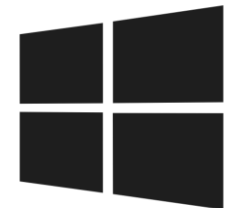# VDCC: No browser support, no problem

- Using other speech to text functions with Command Control widget
  - Mac OS X: Dictation and speech
  - Microsoft Windows speech recognition
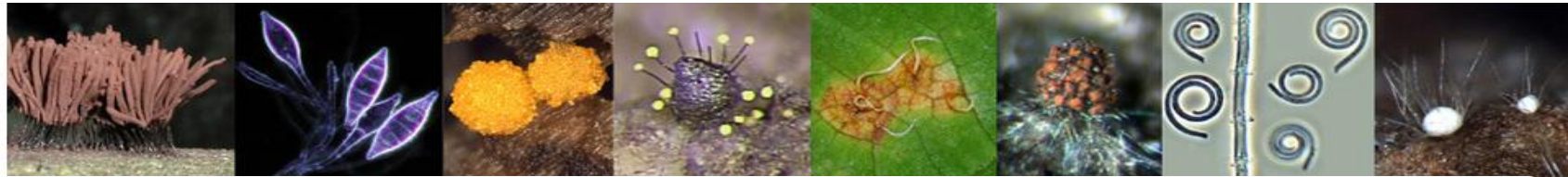 - iOS and Android
  - Third party software

VDCC: Example demo

- Example demo: Simple form
  - http://www.microfungi.org/static/SpeechInput/index.html
  - Google Chrome widget
  - Mac OS X: Dictation and speech

mycoportal.org

MyCoPortal Occurrence Editor

University of Illinois Herbarium (ILL)

Label Processing

○ Med Res.   ○ High Res.

| Occurrence Data | Determination History | Images | Linked Resources | Admin |

Collector Info   <<

Catalog Number ?	Other Numbers ?	Collector ?	Number ?	Date ?	
ILL00010180		F. L. Stevens No. 1079	1079	1923-08-16	Dupes?

☐ Auto search

Associated Collectors ?   Verbatim Date ?

Exsiccati Title   Number

Latest Identification

Scientific Name ?   Author ?
Coleosporium attaleae

ID Qualifier ?   Family ? Coleosporiaceae

Identified By ?   Date Identified ?

Locality

Country	State/Province	County	Municipality

Locality

☐ Locality Security

Latitude	Longitude	Uncertainty ?	Datum ?	Verbatim Coordinates

Tools   <<

Elevation in Meters	Verbatim Elevation

<<

Misc

Habitat

OCR Image

Options
☐ OCR whole image
☐ OCR w/ analysis

Image 2 of 2 =>>

Will this save time?

- Use case
  - Constructing a complete list of commands, apply once
  - Transcription events in Symbiota
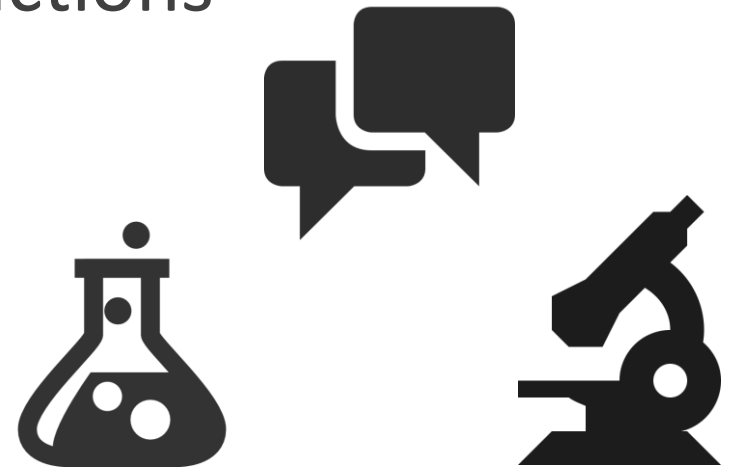 - Mobile device annotations

Recap

- Existing software plugin
  - Open source
  - User options stored
  - Undo/Redo/Repeat

Potential

- Speech to text -> text to speech interactions

Potential

- Speech to text -> text to speech interactions
  - Voice correction response
  - 'Staged' form interactions
  - Copy command from clipboard or third party software

Questions

- http://www.microfungi.org/vdcc
- Philip Anders anders2@illinois.edu