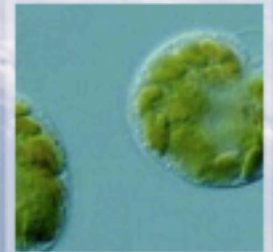
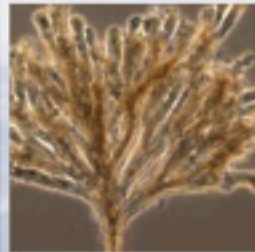
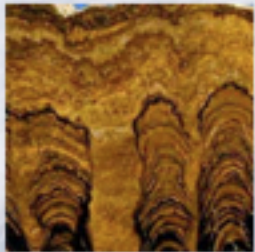


Semantic Biodiversity Workbench for the The Encyclopedia of Life



Who am I?

- Naturalist
- Citizen Mycologist
- Software Professional
- Director of Biodiversity Informatics for EOL
- Director of the MBL Center for Library and Informatics







What is EOL?

Imagine an electronic page for each species of organism on Earth... - E.O.Wilson

Global Access to Knowledge About Life on Earth

Mushroom Observer



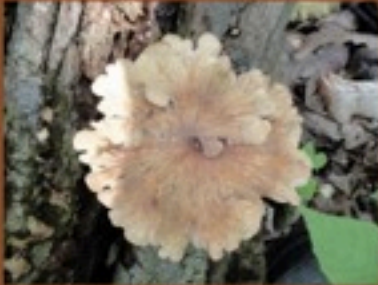


MUSHROOM OBSERVER

Find: Observations Refine Search | Advanced Search (51319 results in 0.06 sec)

Show: Everything | Observations | Names | Locations | Projects | Species Lists

Activity Log

1 2 3 4 5 6 ... 856 | Next >

| | | |
|---|--|---|
|  <p>Observation Created</p> |  <p>Observation Created</p> |  <p>Observation Created</p> |
| <p><i>Bolbitis reticulatus</i> (Pers.:Fr.) Rick, (68850) Westmoreland Co., Pennsylvania, USA 2011-06-09: Ham, (Hamilton)</p> | <p><i>Xanthoconium separans</i> (Peck) Halling & Both (68831) Port Dover, Ontario, Canada 2011-06-09: Eva Skiffic (Evica)</p> <p>Proposed name created by Mycowalt: <i>Xanthoconium separans</i> (Peck) Halling & Both</p> | <p><i>Polyporus</i> sp. P. Micheli ex Adams, (68843) Port Dover, Ontario, Canada 2011-06-09: Eva Skiffic (Evica)</p> <p>Proposed name created by Mycowalt: <i>Polyporus leptocephalus</i> (Jacq.) Fr.</p> |
|  | <p>Location Created: Mormon Emigrant Trail, Placer Co., California, USA by Alan Rockefeller</p> |  |

<http://mushroomobserver.org/>

Macroscopic Fungal Ontology

- Focus on macroscopic features
- Easily understood features and values
- Access to term definitions

Example

Overall shape: Stipitate agaric, Shelf, Jelly fungi, Crust fungi, Club, Branching, Gastroid, Earthstar, Stalked puffball, Birdnest fungi, Stinkhorn, Cup fungi, Stalked ascomycete

Hymenophore Type: Gilled, Pored, Toothed, Smooth, Wrinkled

Size from above: Decimal range in millimeters

Spore Color: Black, Dark Brown, Brown, Light Brown, Gray, Off White, White, Pink, Red, Orange, Yellow, Green, Blue, Purple

Agaricus campestris: (Overall shape, Stipitate agaric), (Hymenophore Type, Gilled), (Size from above, 40-150), (Spore Color, Dark Brown)

Morchella elata: (Overall shape, Stalked ascomycete), (Hymenophore Type, Pored), (Size from above, 20-60), (Spore Color, Yellow)

Protégé Example

Challenges

- Handling measurements
- Handling different ages
- Dependent features
- Features that don't apply vs. Unknown values

Dependent Features



Pholiota alnicola



Phallus hadriani

Dependent Feature

Pileus disc color: Black, Dark Brown, Brown, Light Brown, Gray, Off White, White, Pink, Red, Orange, Yellow, Green, Blue, Purple

- Only relevant when Overall shape is:
Stipitate agaric
-

Head color: Black, Dark Brown, Brown, Light Brown, Gray, Off White, White, Pink, Red, Orange, Yellow, Green, Blue, Purple

- Only relevant when Overall shape is one of:
Stalked puffball, Stinkhorn, Stalked ascomycete

Semantic Biodiversity Workbench

- Process for creating morphological ontologies
- Ontology refinement process
- Text => Draft ontology
- Associating scientific names with triples

Phallus drewesii



Phallus drewesii Desjardin et B.A. Perry, sp. nov.

Ovum 6–12 3 6–10 mm, brunneum. Receptaculum maturum cum pseudostipite cylindraceo vel subcylindraceo 20–45 mm alto, 4–7 mm crasso, reticulato-lacunoso, albo; pileolo conico, 7–15 3 5–7 mm, reticulato, cum apice aperto; gleba olivaceo-brunnea; volva brunnea; odore foetida. Basidiosporae 3.0–3.5(–3.8) 3 1.6–2.0 mm, ellipsoideae, laeves, hyalinae vel pallide-brunneae.

Gregarium ad lignum putridum. Holotypus hic designatus: Africa, Saõ Tomé, Parque Nacional Obo, 14 Apr 2008, DED 8227 (SFSU).

P. Hadriani. Stipite tereti, maculis cineraceis distincto; pileo brevi, non cellulato.

P. hadriani has a smooth stalk with distinctive dark staining or spotting; cap is small and not 'cellular'

P. impudicus, L. Stipite tereti cribroso; pileo brevi celluloso.

P. impudicus has a smooth perforated stalk; cap is small and 'cellular'

Scientific Names

Phallus hadriani may be distinguished from the similar *P. impudicus* (the common stinkhorn) by the presence of a pink or violet-colored volva at the base of the stem, and by differences in odor.

from Wikipedia

Semantic Vernaculars

- Defining terms with triples
- What is observed when a name is used?

What species is this?



Chroogomphus vinicolor?



It's a PineSpike!

```
biosv:PineSpike label "PineSpike" ;  
  biosv:overallShape "Stipitate agaric" ;  
  biosv:hymenophoreType "Gilled" ;  
  biosv:minSizeFromAbove 20 ;  
  biosv:maxSizeFromAbove 100 ;  
  biosv:overallShape "Stipitate agaric" ;  
  biosv:sporeColor "Black" ;  
  biosv:pileusDiscColor "Brown" ;  
  biosv:pileusDiscColor "Dark Brown" ;  
  biosv:pileusFleshColor "Orange" ;  
  biosv:gillAttachment "Decurrent" .
```

Questions?