

Mushroom Observer and the Role of Observers

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Who am I?

- ◆ Naturalist
- ◆ Mycologist
- ◆ Software Professional
(DreamWorks, Apple, SRI)
- ◆ Creator of Mushroom Observer
- ◆ Director of Biodiversity Informatics for EOL
- ◆ Director of the MBL Center for Library and Informatics



Armillaria mellea (Vahl) P. Kumm.

California, USA
© 1994 Nathan Wilson

Mushroom Observer

<http://mushroomobserver.org>

- ◆ Started in 2006
- ◆ Global Community
- ◆ Open Content
- ◆ 3,500 Observers
- ◆ 100,000 Observations
- ◆ 250,000 Photos



Clavaria sulcata (Overeem) R.H. Petersen

New Zealand

© 2007 Inski

Engaging the Public



- ◆ “Scratch your own itch”
- ◆ “Start with an existing crowd”
- ◆ “If you treat them as your most important asset, they will return the favor by becoming your most important asset”
- ◆ Enjoy the struggle, encourage humor



Homo sapiens L. &
Gyroporus cyanescens (Bull.) Quél.
Massachusetts, USA
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Identifications & Dialog

Proposed Names: [Propose Another Name](#)


Proposed Name	User	Community Vote	Your Vote	
Calvatia indigo	pg_harvey	9% (6)	<input type="text" value="Doubtful"/>	
Recognized by sight				
Bovista indigo	shroomydan	-51% (5)	<input type="text" value="Doubtful"/>	
Recognized by sight				

Map: [Hide thumbnail map.](#)
 Images: [\(small thumbnails\)](#)



[Okay](#) | [Useful](#) | [Good](#) | [Great](#)

For each name listed above select your opinion of how well that name applies to this observation. Select 'Propose Another Name' if you want to suggest another option. See the [How to Use](#) page for more details on how the votes are tallied.

 = Observer's choice

 = Current consensus

Comments: [Add Comment](#)

Created: **2011-04-01 14:23:15 EDT (-0400)**

By: [else](#)

Summary: **i love the first of April!**

Engaging the Public

- ◆ Embrace laziness
- ◆ Accept garbage
- ◆ Deal gently with conflicts
- ◆ Avoid anonymity & privacy
- ◆ Make it easy to become an expert



Homo sapiens L. &
Gyroporus cyanescens (Bull.) Qué.
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Automated Data Sharing

The screenshot shows the EOL (Encyclopedia of Life) website interface. At the top left is the EOL logo and the text "Encyclopedia of Life". To the right is a search bar with the text "Search EOL ..." and a "GO" button. Below this is the "Mushroom Observer" project page. The page features a profile picture of a mushroom with eyes, the title "Mushroom Observer", and the text "Last updated 2 days ago". There are social media buttons for "Tweet" (with a count of 0) and "Like". A paragraph of text describes the project as a collaborative mycology-related website. Below the text are navigation controls: "SORT COLLECTION BY" set to "Oldest" and "VIEW AS" set to "Gallery". A pagination bar shows page numbers 1, 2, 3, 4, 5, ..., 120, 121, 122, and "Next". On the left side, there are sidebar boxes for "Collection newsfeed", "Managers", "18251 total items", and "eOL 2708 taxa". At the bottom of the main content area, there is a row of five small images showing various mushrooms and fungi.

nwilson@eol.org - <http://mushroomobserver.org> - <http://eol.org>

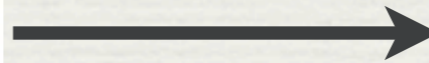
Licensing & Data Reuse



Copyright ©1994 [Nathan Wilson \(nathan\)](#)



76 pages



File usage

The following pages on the English Wikipedia link to this file

- [Agaricaceae](#)
- [Agaricales](#)
- [Agaricus](#)
- [Agaricus campestris](#)
- [List of Agaricaceae genera](#)
- [List of Agaricales families](#)
- [List of Agaricus species](#)

Global file usage

The following other wikis use this file:

- [Usage on ar.wikipedia.org](#)
 - [غاريقون](#)
 - [غاريقونية](#)
 - [غاريقونيات](#)
 - [غاريقون الحقول](#)
- [Usage on ast.wikipedia.org](#)
 - [Xampiñón](#)
- [Usage on az.wikipedia.org](#)
 - [Aqarikkimilər](#)
- [Usage on be.wikipedia.org](#)
 - [Шампіньён звычайны](#)

Occurrence Map for *Agaricus campestris* L.



Herbarium Specimens

- ◆ % with herbarium specimens: ???
- ◆ % users who have made a specimen: ???



Amanita pachycolea D.E. Stuntz

California, USA

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Herbarium Specimens

- ♦ % with herbarium specimens: 15-20%
- ♦ % users who have made a specimen: 28%



Amanita pachycolea D.E. Stuntz

California, USA

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Herbarium Specimens

- ◆ Next Steps
 - ◆ Professional Herbarium Collaboration
 - ◆ Validate and assess these numbers!



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California, USA

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Improving Identifications

- ♦ 28% above the species level
- ♦ 65% below 'expert' confidence
- ♦ 56% have no notes
- ♦ Average note length: 179



Russula Pers.
Massachusetts, USA
© 2012 Nathan Wilson



Amanita Pers.
California, USA
© 2007 Ron Pastorino

Improving Identifications

- ◆ Better review process
- ◆ Document observations
- ◆ Computable descriptions
- ◆ Standardize 'Provisional' Names



Russula Pers.
Massachusetts, USA
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Amanita Pers.
California, USA
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What is an observation?

- ♦ Just the Facts
- ♦ Observed Features
 - ♦ Macroscopic
 - ♦ Microscopic
 - ♦ Molecular



Digital Photomicrograph of
Amylosporus campbellii (Berk.) Ryvardeen
California, USA, © 2007 Darvin DeShazer†

What is a species?

- ◆ Concept: “A group of organisms capable of interbreeding and producing fertile offspring”
- ◆ Definition: Type specimen, a name, and a circumscription that is **believed** to describe the species that specimen belongs to



Morchella importuna M.Kuo,
O'Donnell & T.J. Volk
California, USA
© 2002 Darwin DeShazer††

Linnaeus, We Have a Problem!

- ◆ Look Alikes
 - ◆ Cryptic Species
 - ◆ Paraphyletic & Polyphyletic Groups
 - ◆ Convergent Evolution
- ◆ Changing Circumscriptions



Scleroderma citrinum Pers.

Massachusetts, USA

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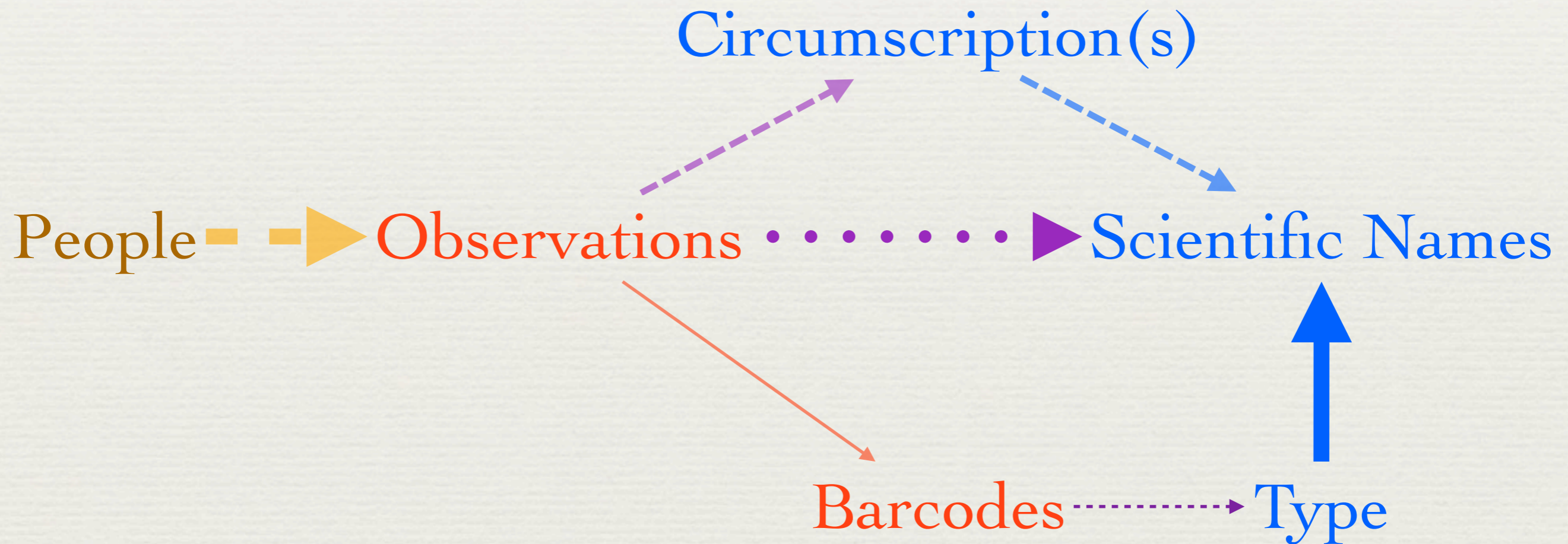


Elaphomyces Nees

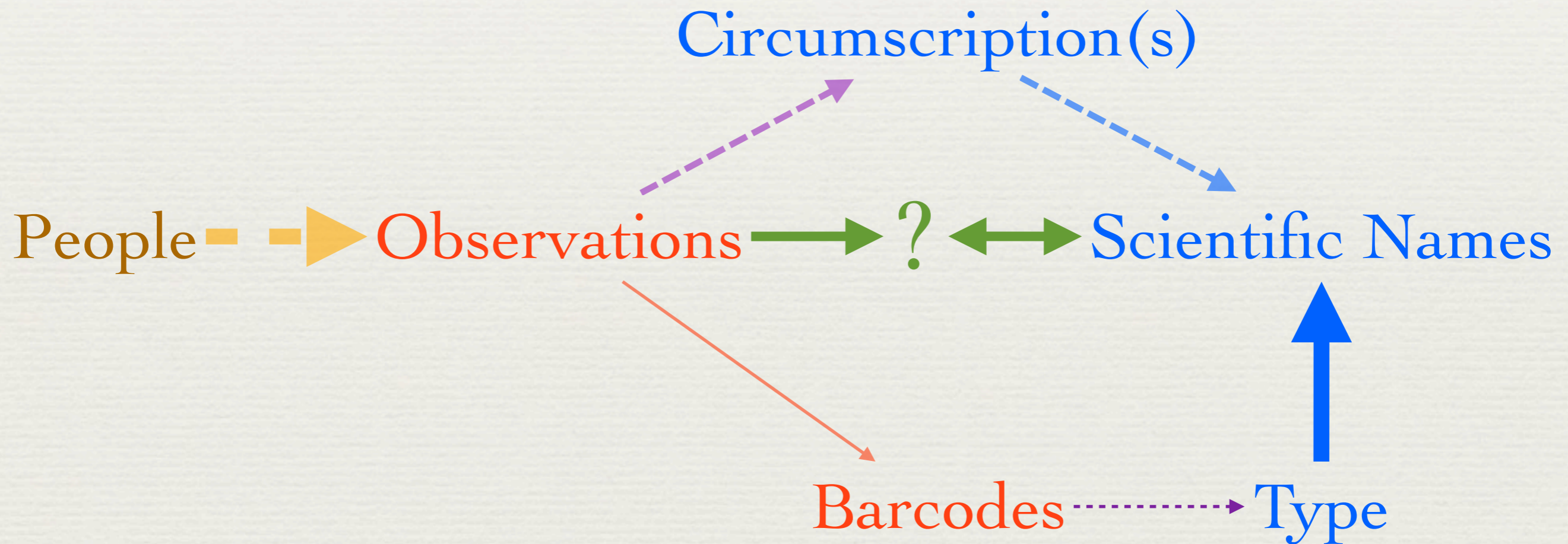
New Hampshire, USA

© 2009 Noah Siegel†

Observations & Scientific Names



Observations & Scientific Names



What's Needed?

- ♦ Names for Shared Observational Experiences
 - ♦ Peer-Reviewed
 - ♦ Distinct, Unique, Memorable
- ♦ Computable Definitions
 - ♦ 'Duck' Typing
 - ♦ Semantic Web Technology
- ♦ Connections to Traditional Scientific Names



Amanita Pers.
California, USA
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- ◆ My Mom
- ◆ Margaret McKinney
- ◆ David Arora
- ◆ Mushroom Observer Community
- ◆ Jason Hollinger
- ◆ EOL & Marine Biological Laboratory
- ◆ and many more...



Cantharellus californicus Arora & Dunham
California, USA
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