

*FESIN 2012—North American Mycoflora*

# **Rooting out *Phaeocollybia***

**LESSONS LEARNED --  
A SECOND CHANCE!**

*Lorelei Norvell*

*Pacific Northwest Mycology Service*

*Portland, Oregon USA*



*Exeter*

# *Phaeocollybia*\* of NW North America

1991–1998 PhD research + 1994–2012 US FS+BLM NW Forest Plan

**Ecology & distribution**

**Morphology**

**Biology**

**Development**

**Taxonomy 1** *via morphospecies*

**Systematics 2** (*RFLPs, NT-SYS, Phylip*)

**Phylogenetics** (*ITS sequence analyses*)

**Bar coding**



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*\*An enigmatic uncommon genus — large enough to mesmerize, small enough to master*

# ***KNOW THY BEAST***

**The WHOLE genus**

*monographs, papers,  
mycobiotas, reports*

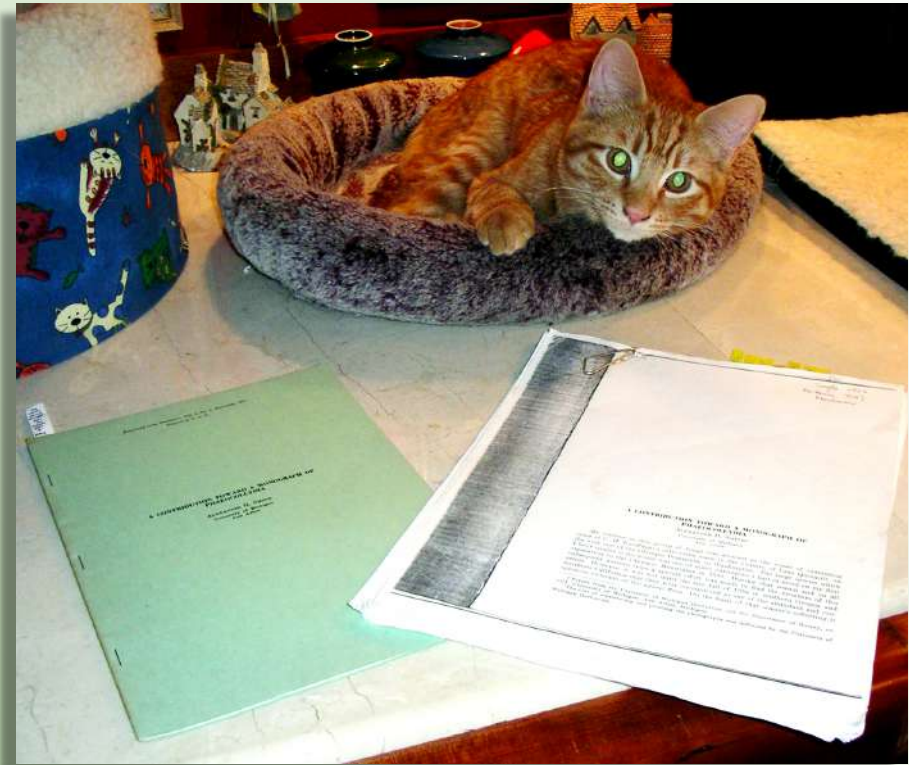
**The Excel ‘exegesis’**

*one cell = one character state?*

*‘diagnostic’ character or developmental variation?*

**Hard drive ≠ brain?**

*zenning vs. multivariate analyses*



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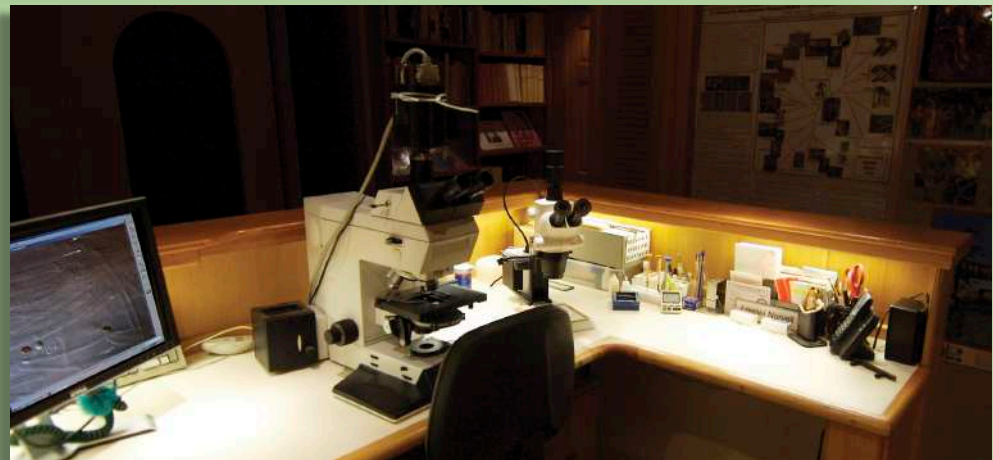
**Collect!**

**Borrow!**

**Beseech!**

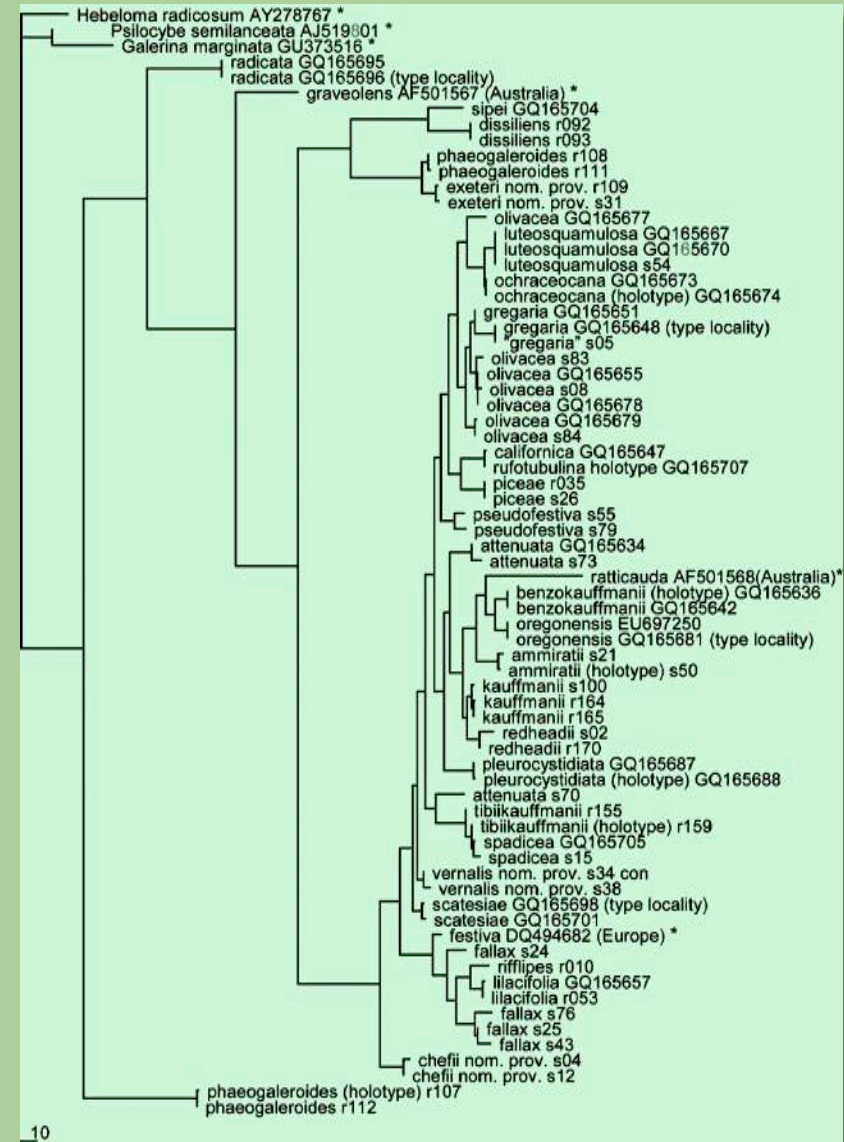
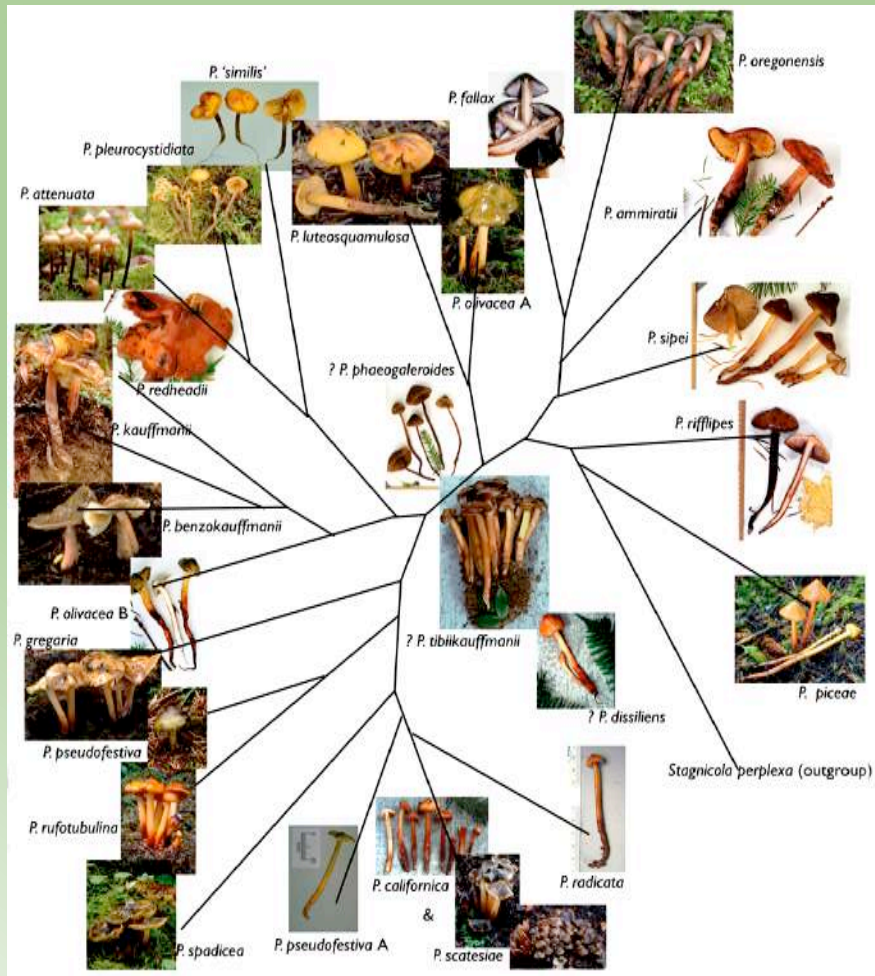
\*We're talking thousands here

**Examine!**



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FESIN 2012—North American Mycoflora: LONG LIVE THE ITS!



^RFLPs

SEQUENCES—>

and now **BAR CODES!**

# DNA contamination in old types



Redhead



Loring



Exeter

1995: *P. rufotubulina*

2012: ~~*P. rufotubulina*~~

≠

*P. californica*

=

*P. californica*

=

*P. scatesiae*

≠

*P. scatesiae*

## PLUS

A 'sea of sensus' .... wrong holotype designation ... hybrids ...  
missing pseudorhizas ... black gels ... Phylip & NT-SYS ...  
moronic book vault managers ... no money! ... **NO TIME!!!**

**OREGON–WASHINGTON RECIPROCITY GRANT**

**STUNTZ FOUNDATION FELLOWSHIP**

**NORVELL HOUSEHOLD BUDGET** (*repeat ad nauseum*)

**THE 1992 BARRON-REDHEAD RAINFOREST EXPEDITION**

**AMMIRATI BAIL-OUTS**

**MSA GRADUATE FELLOWSHIP**

**NORTHWEST FOREST PLAN (USDA-FS & USDI BLM)**

**BLM COST-SHARES AND OUR MAN IN SALEM**

**THE 2000 ROY HALLING TALAMANCAN OAK EXPEDITION**

**OREGON NATURAL HERITAGE PROGRAM**

*FESIN 2012—North American Mycoflora:*

*NO WOMAN IS AN ISLAND*

**Peers, colleagues,  
gurus, friends,  
'citizen scientists,'  
professors,  
undergrads,  
grads, hunters,  
students, Bill  
Clinton, postdocs,  
us government agencies, botanists, grade-schoolers,  
gene jockeys, photographers, herbarium curators,  
technicians, co-authors, forayers, surveyors, field  
trippers, phylogeneticists, librarians, and more ....**





FESIN 2012—North American Mycoflora: 1993–2012 PUBLICATIONS



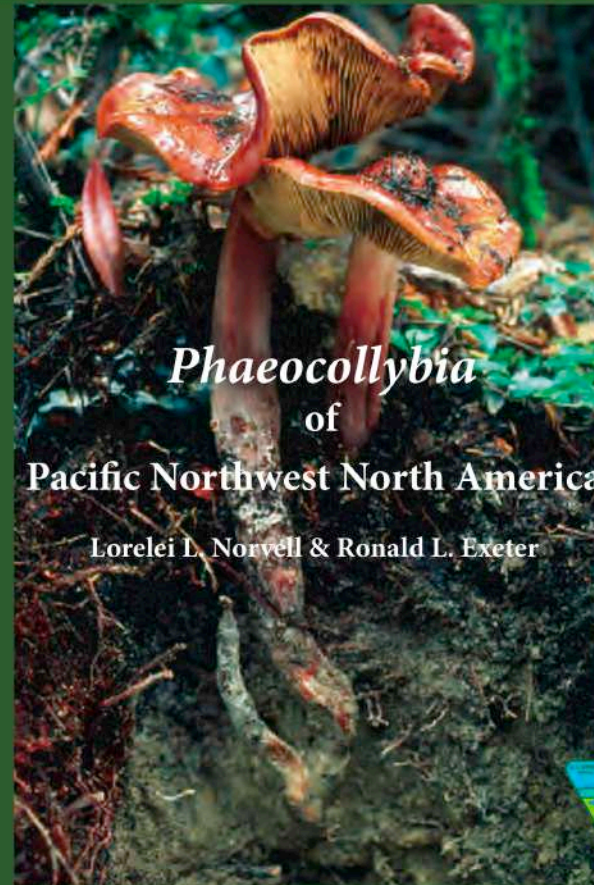
**NEW! *Phaeocollybia* of Pacific Northwest North America**

A new mushroom identification guide by Lorelei Norvell and Ron Exeter was released in June 2009. The publication offers full-color photos, line drawings, and descriptions of the 25 *Phaeocollybia* species of Oregon, Washington, Idaho, California, and British Columbia. The 228-page book covers the ecology and biology in depth and provides identification keys and over 500 color photos showing these elusive mushrooms in the field, on the lab bench, and under the microscope.

usdi-blm

*Phaeocollybia* of PNW North America

Norvell & Exeter



BLM  
Salem District

To purchase *Phaeocollybia* of Pacific Northwest North America from the Bureau of Land Management or for additional information, please contact Ron Exeter by e-mail (<Ronald\_Exeter@blm.gov>, include "Phaeocollybia book" in the subject line), phone (503-315-5963), or snail mail (c/o USDI-BLM Salem District Office, 1717 Fabry SE, Salem OR 97231).

**9 scientific papers + 5 popular articles + ~25 government reports  
+ 1 391-p. dissertation + 1 228-p. regional monograph + the *SECOND CHANCE!***



Exeter



Norvell



Norvell

**Announcing the  
*PHAEOCOLLYBIA* WEBSITE  
for *P. radicata*!!!!**

***oops...***

*FESIN 2012—North American Mycoflora:*  
***PHAEOCOLLYBIA EXPANSION—WHO, HOW, WHY?***



Exeter