

History of Mycology at the  
University of North Carolina at Chapel Hill

Mid-Atlantic States Mycology Conference 2021  
via Zoom due to Covid-19 Pandemic

Carol Ann McCormick  
Curatrix

University of North Carolina at Chapel Hill  
Herbarium (NCU)

# I Know 3 Fungi



# Herbaria have official acronyms

- **P** : Museum National d'Histoire Naturelle
- **NY**: New York Botanical Garden
- **DUKE**: Duke University
- **NCU**: Univ of North Carolina at Chapel Hill
- **NCSLG**: North Carolina State University  
mycological herbarium

INDEX HERBARIORUM:

<http://sweetgum.nybg.org/science/ih/>

# William R. Burk provided key resources

Kilfoil, Burk & Appleton. 2005. A List of Dissertations & Graduate Theses in Botany Completed at the University of North Carolina at Chapel Hill, 1912-2005. John N. Couch Biology Library – Botany Section, UNC-Chapel Hill

Burk, William R. “Chapter 15. History of the Department of Botany at the University of North Carolina at Chapel Hill”. In prep.

Burk, William R. From Tobacco Farm to Botany Laboratory. Alma Leonora Holland Beers: The first female botanist at the University of North Carolina at Chapel Hill.

AT RIGHT: 1979 Triangle Area Mushroom Club Foray: David Green, Owen McConnell, Bill Burk, Harriet Sato, Julius Schnegg

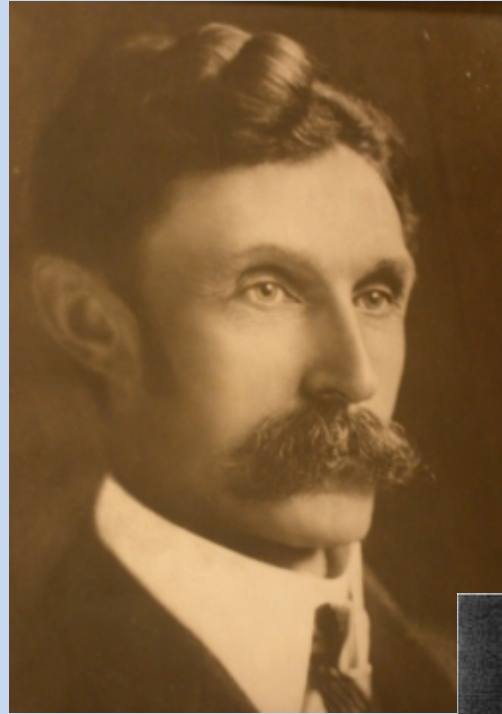


# Joseph Austin Holmes

(1859-1915)

1881: Bachelor of Agriculture,  
Cornell University

**1881-1891:** Professor of Geology &  
Natural History, UNC - Chapel Hill;  
“University Museum”



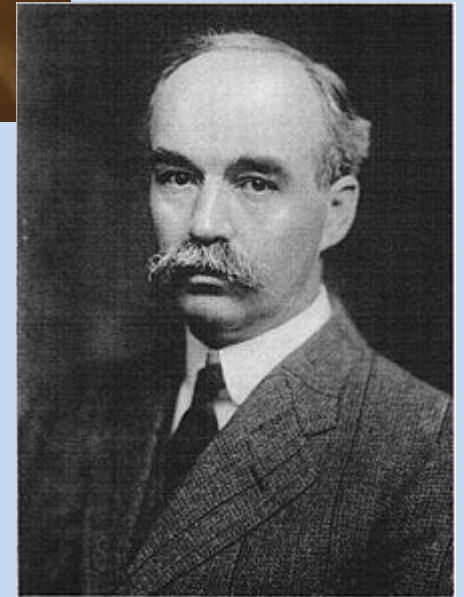
# George Francis Atkinson

(1854 - 1918 *flu pandemic*)

1885: B.A. Cornell University

**1885-1888:** Assoc. Professor,  
entomology & zoology UNC-CH  
(Univ. of South Carolina,  
A&M of Alabama)

1892: Cornell University; CUP



**William Chambers Coker**  
(1872-1953)

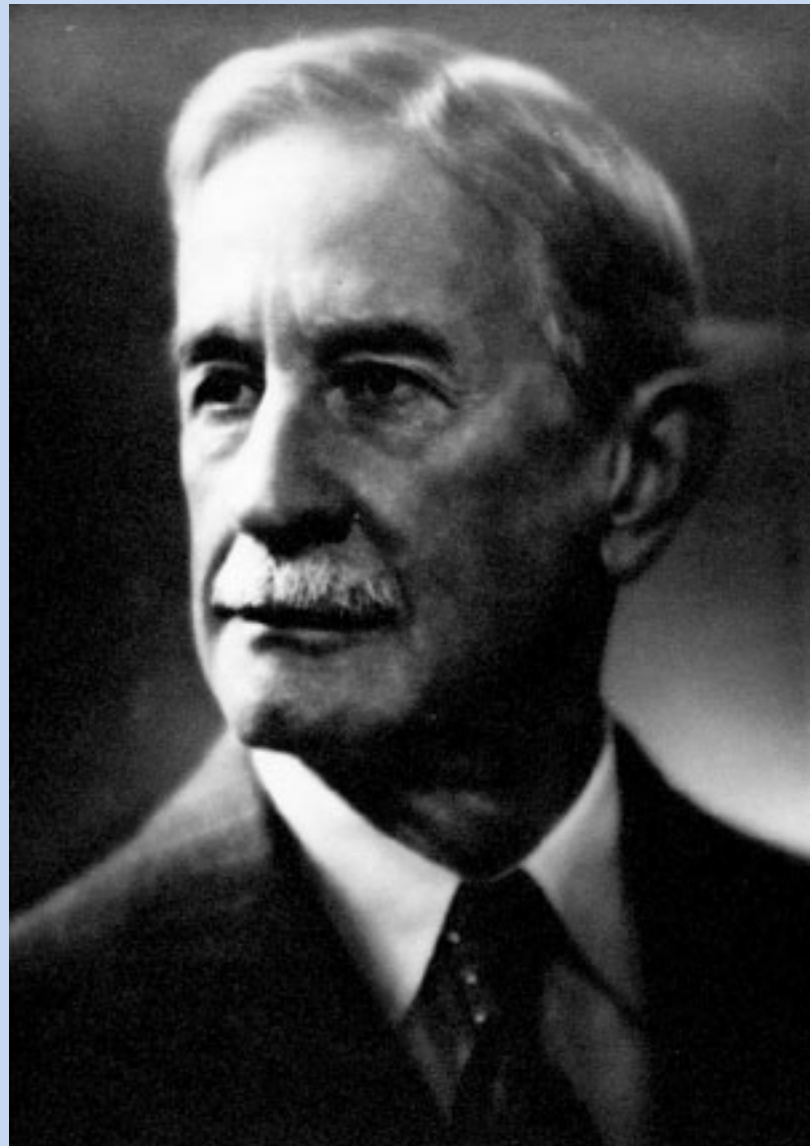
**1894:** B.S. University of  
South Carolina  
“The Other Carolina”

**1901:** Ph.D. Johns Hopkins  
University

**1902:** Associate Professor of  
Biology, UNC-Chapel Hill

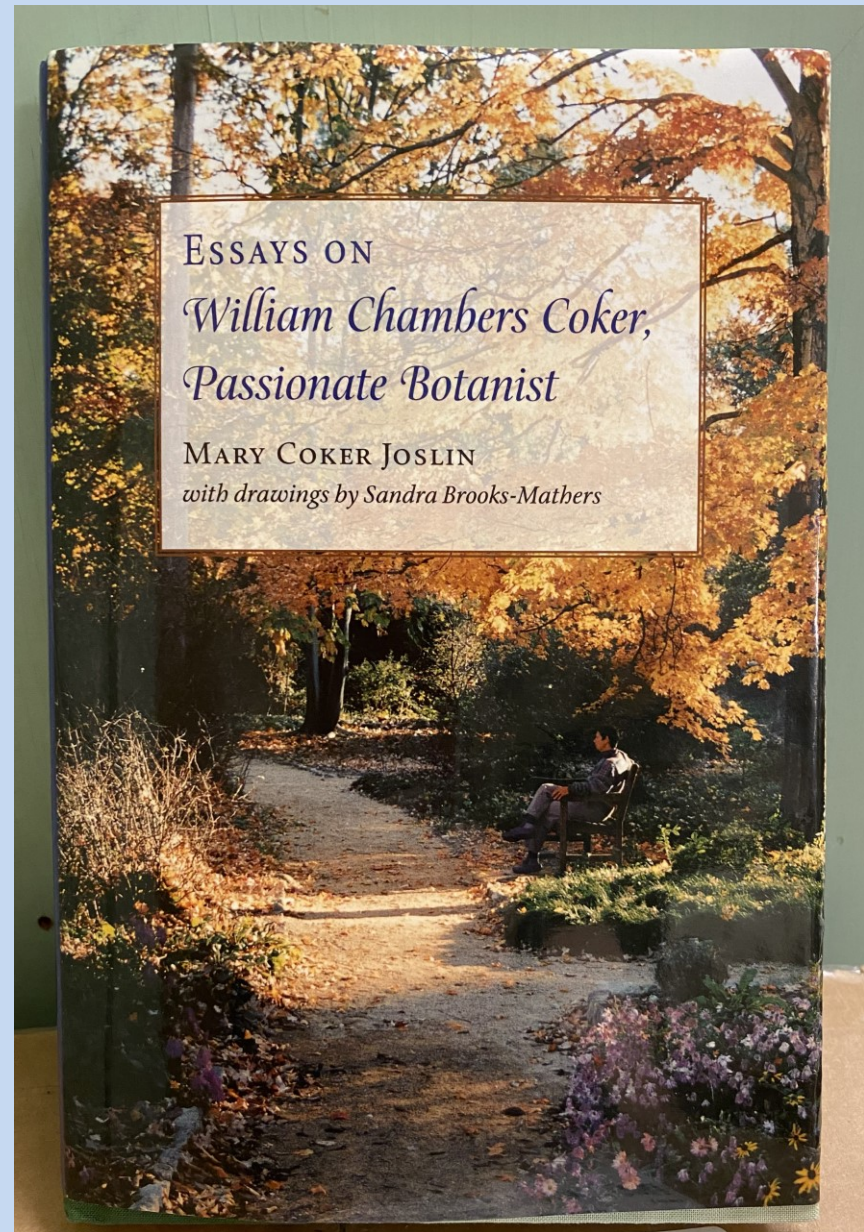
**1908-44:** 1<sup>st</sup> Chair of Botany  
Department, UNC-Chapel Hill  
Founded Herbarium NCU

26 Masters students  
9 Doctoral students



**Mary Coker Joslin wrote  
biography of her uncle in  
2003**

Centennial Celebration in 2003 of the  
Coker Arboretum on the UNC-CH  
campus



## **Alma Holland Beers**

(1892-1974)

**1917:** enrolled in summer school at UNC-CH in Field & Economic Botany taught by W.C. Coker

**1918:** hired as undergrad assistant by Coker

**1925:** B.A. UNC-Chapel Hill,  
Phi Beta Kappa

**1926-1944:** Alma Holland Beers  
taught/assisted in : General Botany;  
Structure, Growth & Classification of the  
Ferns; History of Botany

**1938:** Research Assistant (salary of  
\$1,795)

**1944:** Assistant to J. N. Couch, 2<sup>nd</sup> Chair  
of Botany

**1947-1951:** Executive Editor Journal of  
the Elisha Mitchell Scientific Society

**1951:** Retired





# Most labels are handwritten

HERBARIUM #210  
OF  
THE UNIVERSITY OF NORTH CAROLINA  
FUNGI

No. 210 Date 9-22-05

LOCALITY Under edge of rock on  
edge of branch near  
meeting of waters

VOLVA.

SPORES.

UNC Herbarium  
NCU-F-0007977

*Corticium ochroleucum  
flavifolium*  
C. H. Kauffman

HERBARIUM OF THE UNIVERSITY OF NORTH CAROLINA  
PLANTS OF CHAPEL HILL, N. C. 11

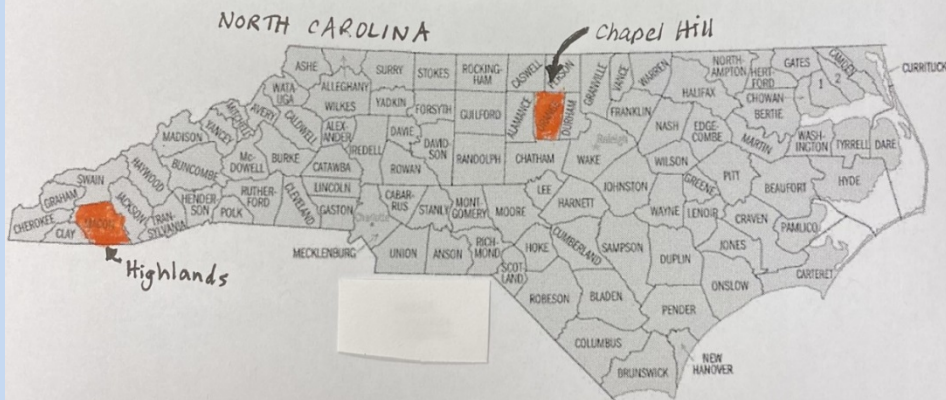
*gennicum*  
~~*Hydnum fuliginos-violaceum*~~  
Deciduous woods just west  
of cemetery

No. 3435 Date Aug. 16, '19 Coll. A. Holland

UNC Herbarium  
NCU-F-0008576

# Highlands was an important collecting location

(L-R) James Lide Coker, Jr.,  
William Chambers Coker,  
Alma Holland Beers,  
John Nathaniel Couch



## Herbarium of the University of North Carolina

*Amanita frostiana* Plk.  
In rich <sup>mixed</sup> chestnut woods along  
Harrison's Lake, Highlands, N.C.  
No. 8788 Date July 29, 1931 Coll. W. C. Coker +  
Alma Holland

UNC Herbarium  
NCU-F-0000371



## Highlands Biological Station continues to offer field classes to university students and the public

“The W. C. Coker Laboratory, built in 1958 with National Science Foundation support, was comprehensively renovated in 2013. Named in honor of distinguished botanist & mycologist William Chambers Coker, who served as the 2nd Director of HBS (1935-1945), this facility is the academic center of HBS.”



## **John Nathaniel Couch (1896-1986)**

B.A. University of Nancy (France)

**1922:** MA “Spore formation & discharge in some genera of water molds” Advisor: Coker

**1922:** Assistant Professor UNC-CH

**1924:** PhD “Sexual reproduction & variability in the genus *Dictyuchus*”  
Advisor: Coker

**1944-1960:** 2<sup>nd</sup> Chair of Botany

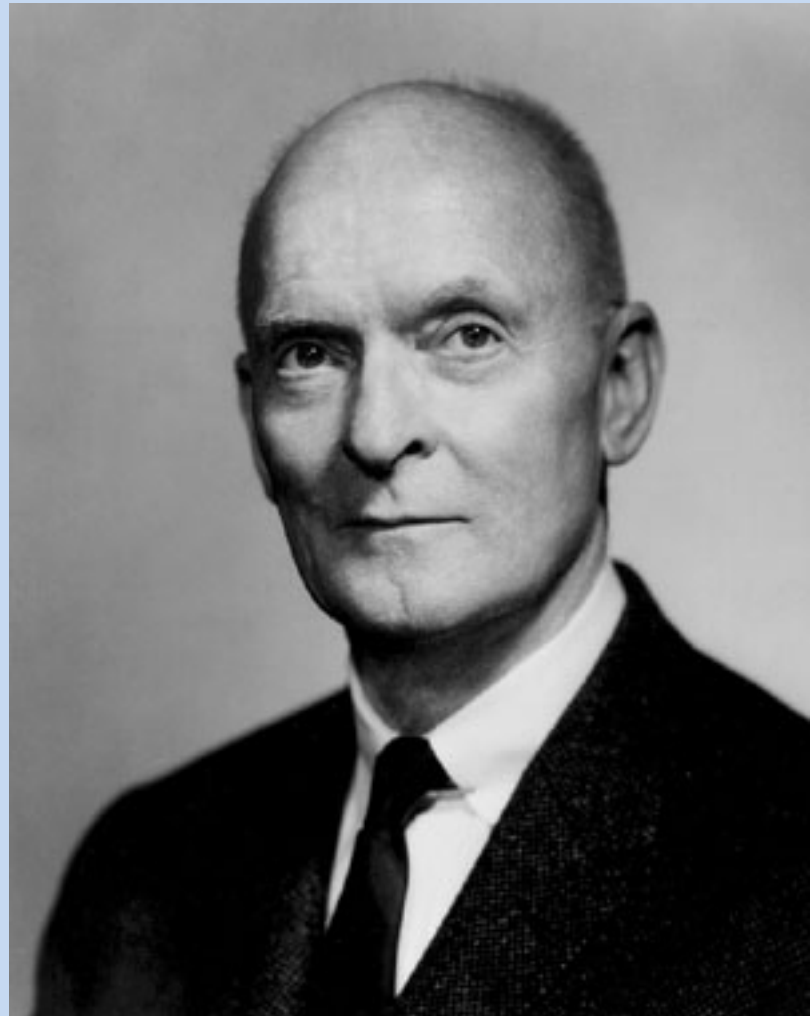
27 Masters degree students

15 Doctoral degree students

*Septobasidium*

*Actinoplanes*: discovered by Couch;  
he believed were possible link between  
bacteria & fungi

*Coelomomyces*: parasitize mosquito  
larvae



## Dissertations on fungi (*sensu lato*) 1920's & 1930's

Source: Kilfoil, Burk & Appleton. 2005. A List of Dissertations & Graduate Theses in Botany Completed at the University of North Carolina at Chapel Hill, 1912-2005. John N. Couch Biology Library – Botany Section, UNC-Chapel Hill

Year	Dissertation author	(Advisor)	Degree	Thesis title
1922	Couch, John Nathaniel	(Coker)	MA	Spore formation & discharge in some genera of water molds
1923	Totten, Henry Roland	(Coker)	PhD	Description, life history, and mycorrhizal character of <i>Rhizopogon parasiticus</i>
1924	Couch, John Nathaniel	(Coker)	PhD	Sexual reproduction & variability in the genus <i>Dictyuchus</i>
1925	Harvey, James Vernon	(Coker)	MA	A study in the water molds and <i>Pythiums</i> occurring in the soils of Chapel Hill
1927	Matthews, Velma	(Coker)	MA	Studies on Saprolegniaceae and the genus <i>Pythium</i>
1927	Patterson, Paul	(Coker)	MA	Fertilization & oogenesis in <i>Achlya colorata</i>
1930	Matthews, Velma	(Coker)	PhD	Studies on the genera <i>Nematosporagnium</i> and <i>Pythium</i>
1930	Ward, Mary Williams	(Coker & Couch)	MA	Studies in aquatic fungi: I. Observations on a new species of <i>Thraustotheca</i> ; II. Observations on <i>Rhizophlyctis rosea</i> (de Bary & Woronine) Fischer
1936	Raper, John Robert	(Coker & Couch)	MA	Heterothallism & sterility in <i>Achlya</i> and observations on the cytology of <i>Achlya bisexualis</i>
1937	Ritchie, Donald Dirk	(Couch & Coker)	MA	The morphology of the perithecium of <i>Sordaria fimicola</i>
1937	Shanor, Leland	(Coker & Couch)	MA	Observations on the development & cytology of the sexual organs of <i>Thraustotheca clavata</i>
1938	Doubles, James A., Jr.	(Coker)	MA	Myxomycetes of the Chapel Hill area
1938	Foust Lombard, Frances	(Couch)	MA	Studies on <i>Rozella</i> and <i>Pleolpidium</i>
1938	Christenberry, George	(Coker)	MA	A study in the effect of light of various periods and wave lengths on the growth and asexual reproduction of <i>Choanephora cucurbitarum</i>
1939	Cox, Hiden Toy	(Couch)	MA	A new genus of the Rhizidiaceae
1939	Shanor, Leland	(Coker & Couch)	PhD	Studies in the genus <i>Olpidiopsis</i> (Cornu) Fischer
1939	Whiffen Barksdale, Alma	(Couch)	MA	The cytology of <i>Octomyxa achlyae</i>

# Velma Dare Matthews

(1904-1958)

B. A. NC College for Women (UNC-Greensboro)

**1927:** M.A. Studies on the Saprolegniaceae and the genus *Pythium* Advisor: Coker

**1930:** Ph.D. Studies on the genera *Nematosporangium* & *Pythium* Advisor: Coker

Smith Prize for Research 1930

Coker College, Hartsville, SC



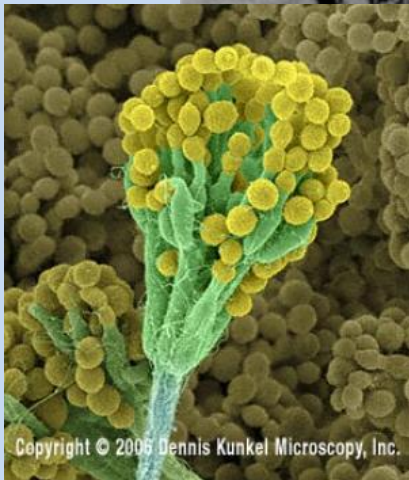
# Kenneth Raper

(1908-1987)



1929: B.A. UNC-Chapel Hill  
1931: M.A. George Washington Univ.  
1936: Ph.D. Harvard University

In 1944 Raper & colleagues discovered *Penicillium chrysogenum*, which Raper called “the great grand-daddy” of all the cultures used to produce Penicillin, on a molded cantaloupe that a Peoria woman brought to the lab. While the original strain of *Penicillium* produced ca. 40 units/ml of penicillin, the Peoria cantaloupe strain produced 70-80 units/ml, and a mutant isolated from that strain yielded 250 units/ml. Industrial strains of *P. chrysogenum* now produce 50,000 units/ml.



# Frances K. Foust Lombard

(1915-1995)

1936: A.B. in Education from  
Women's College of North Carolina  
(UNC-Greensboro)

**1938:** M.A. Studies on *Rozella* and  
*Pleolpidium* Advisor: Couch

Wood-decaying fungi

Center for Forest Mycology Research  
in the Forest Products Lab of the  
USDA in Madison, Wisconsin





## Dissertations on fungi during the 1940's were primarily done by women: Rosie the Riveter & Mary the Mycologist

1940	Burton, M. Gwendolyn	(Coker & Couch)	MA	Oogenesis & fertilization in <i>Pythiopsis intermedia</i>
1940	Doubles, James A., Jr.	(Coker & Couch)	PhD	A taxonomic study of the Myxomycetes of North Carolina
1940	Christenberry, George	(Couch)	PhD	A taxonomic study of the Mucorales in the Southeastern United States
1940	Olive, Lindsay S.	(Coker)	MA	Studies in the genus <i>Gymnosporantium</i>
1941	Orr, Harold Eugene	(Couch)	MA	Gametogenesis & fertilization in <i>Pythium puulchrum</i>
1941	Ziegler, Arthur William	(Couch & Coker)	MA	Gametogenesis of <i>Achlya recurva</i> Cornu
1941	Whiffen Barkdale, Alma	(Couch)	PhD	Culture studies in the Chytridiales with relation to growth on synthetic media & decomposition of cellulose
1942	Setzer, Elsie Graham	(Coker)	MA	Sporogenesis in <i>Isoachyla anisospora</i> (De Bary) Coker
1942	Garwood, Marion Ethel	(Couch)	MA	<i>Rhipidium</i> and <i>Blastocladia</i> in North Carolina
1942	Hendricks, Caroline F.	(Couch)	MA	Observations on the development & cytology of <i>Blastocladiella cystogena</i>
1942	Olive, Lindsay S.	(Coker)	PhD	Cytology, morphology & parasitism of <i>Thekopsora hydrangea</i>
1944	Allen, Ruth Ellis	(Couch)	MA	Four acrosporic species of <i>Aspergillus</i> found on tea leaves
1944	Sherwin, Helen Shedd	(Couch)	MA	Some wild yeasts found around Chapel Hill
1946	Parker, Helen Moore	(Couch)	MA	Studies in the nutrition of some aquatic Myxomycetes
1946	Stewart, Josephine	(Couch)	MA	Studies on <i>Rhizophidium coronum</i> Hanson
1947	Longest, Pauline Moser	(Couch)	MA	The structure of the flagella in certain algae and fungi and its bearing on classification
1947	Ritchie, Donald Dirk	(Newcomer)	PhD	The cytology of the formation & structure of zoospores in <i>Allomyces</i>
1948	Huneycutt, Maeburn Bruce	(Couch)	MA	Keratinophilic phycomycetes. I. A new genus of the Saprolegniaceae
1948	Ziegler, Arthur William	(Couch)	PhD	A comparative study of zygote germination in the Saprolegniaceae
1949	Pendergrass, William R.	(Couch)	MA	Studies on a plasmodiophoraceous parasite, <i>Octomyxa brevillegniae</i>

# Alma Whiffen Barksdale

(1916-1982)

1937: B.A., Maryville College

1939: M.A. The cytology of *Octomyxa achlyae*

1941: Ph.D. Culture studies in the Chytridiales with relation to growth on synthetic media and decomposition of cellulose

1943-52: Upjohn Company

1955: New York Botanical  
Garden



# Lindsay S. Olive

(1917-1988)

**1938:** B. A. UNC-Chapel Hill

**1940:** M. A. Studies in the genus  
*Gymnosporangium* Advisor: Coker

**1942:** Ph.D. Cytology, morphology, and  
parasitism of *Thekopsora hydrangea*  
Advisor: Coker

USDA, Univ of Georgia, LSU,  
Columbia University & NY

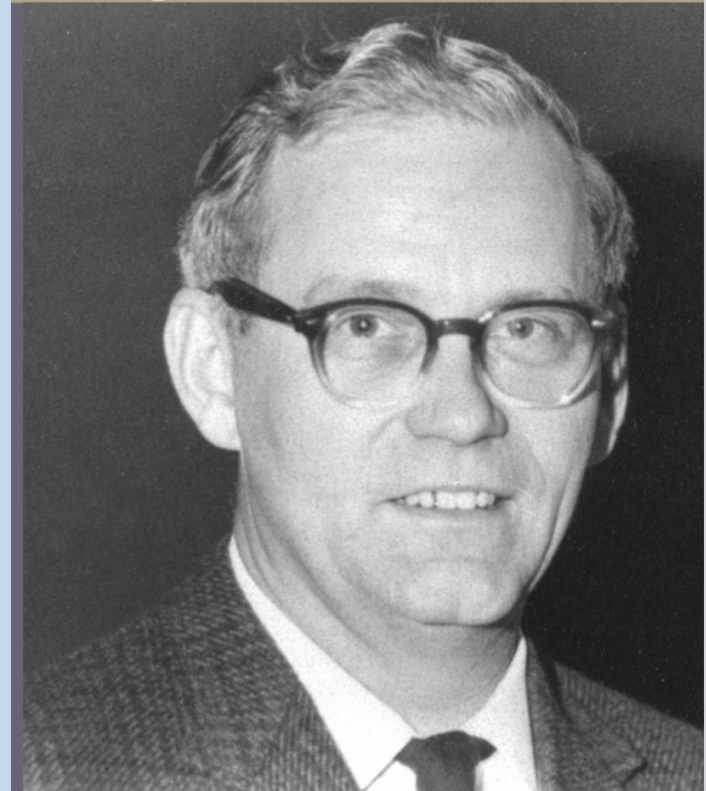
**1968-1982:** UNC-CH Botany faculty

Masters students: 4

Doctoral students: 8

1975: “The Mycetozoans” monograph

1983: National Academy of Sciences



**Dissertations on fungi during the 1950's**  
**No woman who eared a graduate degree at Carolina was hired as Botany faculty**

1950	Hobbs, Jesse Harrison	(Couch)	MA	Studies in <i>Rhizidiomyces apophysatus</i> Zopf.
1950	Read, Mildred Conner	(Adams)	MA	An anatomical study of <i>Carpinus caroliniana</i> infected with <i>Septobasidium pseudopedicellatum</i>
1950	Koch, William Julian	(Couch)	MA	A study of the motile cells of <i>Vaucheria</i>
1952	Johns, Robert M.	(Couch)	MA	A morphological study of <i>Gonapodya polymorpha</i>
1953	Goldie-Smith, Elizabeth K.	(Couch)	PhD	Studies in the Plasmodiophoraceae
1954	Jeffreys, Donald Bearss	(Couch & Greulach)	MA	Tropisms & responses to growth substances of <i>Coprinus sterquilinus</i>
1954	Miller, Charles Edward	(Couch)	MA	A new member of the aquatic Synchytriaceae
1955	Huneycutt, Maeburn Bruce	(Couch)	PhD	Studies on the morphology, taxonomy, & physiology of some lower aquatic phycomycetes, especially keratinophilic forms
1956	Koch, William Julian	(Couch)	PhD	Studies in the Chytridiales, with special reference to the structure, movement & systematic significance of the swimming reproductive cell
1957	Miller, Charles Edward	(Couch)	PhD	Morphology, cytology and life history of <i>Sorosphaera veronicae</i> and <i>Ligniera verrucosa</i>
1958	Leitner, Jane Gage	(Coker)	MA	New species of <i>Achlya</i> and <i>Apodachlya</i>
1959	Mullins, John Thomas	(Couch)	PhD	Studies on the life history & development of <i>Pringsheimiella dioica</i> Couch
1959	Register, Thomas Eugene	(Koch)	MA	Morphological variation in a new species of <i>Phlyctochytrium</i>

# William “Willy” Koch

(1924-2009)

**1947:** B.A. Botany UNC-CH

**1950:** M.A. Botany A study of the motile cells of *Vaucheria* (Couch)

**1956:** Ph.D. Botany Studies in the Chytridiales, with special reference to the structure, movement & systematic significance of the swimming reproductive cell (Couch)

Masters students: 10

Doctoral students: 2

*Kochiomyces* named in his honor

Best known for his lively teaching style (his father, Frederick, was a drama professor!)



## Dissertations during the 1960's reflect shift to using fungi as model organisms to study basic cell biology & genetics

1960	Whitlock, Patricia Anne	(Couch)	MA	Studies in the distribution & taxonomy of some members of the Actinoplanaceae of North Carolina
1961	Umphlett, Clyde Jefferson	(Couch)	PhD	Comparative studies in the genus <i>Coelomomyces</i> Keilin
1964	Slifkin, Miriam Kresses	(Couch)	MA	Studies in the parasitism of <i>Olipidiopsis incrassata</i> on members of the Saprolegniaceae
1964	Szaniszló, Paul Joseph	(Couch & Hommersand)	MA	Effects of light & temperature on oogonia formation in <i>Saprolegnia diclinia</i> Humphrey
1965	Clausz, John C.	(Koch)	MA	Some factors affecting germination of oospores of <i>Achlya hypogyna</i>
1966	Bernstein, Linda Beryl	(Koch)	MA	A biosystematic study of 8 isolates of <i>Rhizophlyctis rosea</i> with emphasis on zoospore variability
1966	Sherwood, William Allen	(Couch)	PhD	Some physiological & genetical aspects of heterothallism in the water mold <i>Dictyuchus</i>
1966	Bostick, Linda Roane	(Koch)	MA	Studies of the morphology & cytology of <i>Chytrium hyalinus</i> Karling
1967	Slifkin, Miriam Kresses	(Couch)	PhD	Studies of somatic nuclear behavior in <i>Saprolegnia delica</i>
1967	Szaniszló, Paul Joseph	(Couch)	PhD	Comparison of the cell-wall composition & intracellular pigmentation of some strains of Actinoplanaceae"
1968	Bland, Charles Everette	(Couch)	PhD	Structure & development in some genera of the Actinoplanaceae
1968	Leonard, Richard Carlton	(Domnas)	PhD	A physiological study of <i>Pilimelia teravasa</i> (Actinoplanaceae)
1968	Damon, Carol Ann	(Barry)	MA	A linkage map of 19 temperature sensitive mutants of <i>Neurospora crassa</i>
1969	Nesom, Margaret Green	(Umphlett)	MA	Observations on the distribution of certain aquatic Phycomycetes in granite outcrop soil

# Miriam Kresses Slifkin

(1925-2020)

B. A. University of Alabama

**1964:** M.A. Studies in the parasitism of *Olipidiopsis incrassata* on members of the Saprolegniaceae. Advisor: Couch

**1967:** Ph.D. Studies of somatic nuclear behavior in *Saprolegnia delica*.  
Advisor: Couch

Nat'l Inst of Environmental Health Sciences  
National Organization for Women  
Orange County Rape Crisis Center  
Open UNC-CH Morehead Scholarship to  
women students



## Dissertations on fungi during the 1970's reflect new faculty members' research interests

1970	Clausz, John Clay	(Umphlett)	PhD	Distribution of propagules of species of the Saprolegniaceae in the NC Botanical Garden lake and some possible controlling factors
1970	Martin, Wm.W., III	(Umphlett)	PhD	A morphological & cytological study of <i>Coelomyces punctatus</i> "
1970	Bond, Harold A.	(Couch)	MS	An ecological study of <i>Coelomomyces</i> in the Piedmont area of North Carolina
1971	McInnis, Thomas M.	(Domnas)	PhD	A physiological & biological investigation of the aquatic Phycomycete <i>Lagenidium</i> sp.; a facultative parasite of certain mosquito larvae
1971	Erdos, Gregory William	(Olive)	PhD	Ultrastructure & development of <i>Endemosarca</i> : a new plasmodial parasite of ciliates
1971	Michalski, Chester J.	(Domnas)	PhD	Metabolic control, purification and properties of B-glucosidase from <i>Actinoplanes</i> sp. #1700
1972	Tingle, Constance L.	(Koch)	MA	Some physiological aspects of oogonia formation in <i>Saprolegnia diclina</i>
1973	Katz, Barry A.	(Leith)	MA	Phenology & enzyme activity of leaf litter inhabiting micro-fungi in the Blackwood Division of the Duke Forest, North Carolina
1973	McNitt, Rand Edwin	(Koch & Olive)	PhD	Light & electron microscopy of <i>Phlycochytrium irregulare</i> Koch
1973	Nesom, Margaret Green	(Umphlett)	PhD	Life cycle and ultrastructure of the cellular slime mold, <i>Copromyxa arborescens</i>
1974	Powell, Martha J.	(Koch)	PhD	Developmental studies of the chytrid <i>Entophlyctis variabile</i> sp. n. : a light & electron microscopic investigation
1974	Shew, Harry Wayne	(Barry)	MA	Induced mitotic recombination in <i>Neurospora crassa</i>
1975	Dykstra, Michael Jack	(Olive)	PhD	<i>Sorodiploghrys stercorea</i> , a light and electron microscope investigation
1976	Knight, Alan L.	(Olive)	MS	Host range & temperature requirements of <i>Culicinomyces clavosporus</i>
1976	Sargent, Karen G.	(Domnas)	MS	Preliminary investigation into biological control of <i>Limnoria</i> using <i>Fusarium solani</i>
1978	Spiegel, Frederick W.	(Olive)	PhD	<i>Planosrotostelium aurantium</i> : a light & electron microscopic investigation of development in a simple eumycetozoon
1978	Raisher, Eric L.	(Barry)	MS	Cytogenetics of <i>Neurospora crassa</i> meiotic behavior in translation Strain AR 179
1979	Schell, Wiley A.	(Olive)	MS	Techniques for isolating fungi from blood specimens
1979	Katz, Barry A.	(Lieth)	PhD	The ecology of pine litter decomposition: phenology, horizontal & vertical distribution of fungi associated with loblolly pine needles ( <i>Pinus taeda</i> ) in the canopy and on the forest floor



## 1980's brought great changes to Botany Department... and mycology went molecular

1981	Dean, David Devereux	(Domnas)	PhD	The extracellular proteolytic enzymes of <i>Lagenidium giganteum</i>
1981	White, Alan Robert	(Brown)	PhD	The characterization of the mode of action of the cellulase enzyme system of the fungus <i>Trichoderma reesei</i>
1981	Senior, Laura B.	(Koch)	MS	Study of the mycorrhizal organs of <i>Tipularia discolor</i> , the crippled crane fly orchid
1982	Deasey, Mary Clare	(Olive)	PhD	Aspects of sorogenesis in the cellular slime mold <i>Fonticula alba</i>
1982	Warner, Steven Alan	(Domnas)	PhD	Biosynthesis & metabolism of sterols by pantonemic fungi
1983	Whitney, Kenneth Dean	(Olive)	PhD	An ultrastructural study of sporocarp development in the mycetozoans <i>Schizoplasmodium cavostelioides</i> and <i>Cavostelium apophysatum</i> "
1985	Cassidey, Jeane Rhodes	(Pukkila)	PhD	Ribosomal RNA genes in <i>Coprinus</i>
1985	Eierman, David F.	(Domnas)	PhD	A lipoprotein from the Oomycete fungus <i>Lagenidium giganteum</i>
1992	Gallagher, Patricia A.	(Domnas)	PhD	Aspects of lipid metabolism in <i>Lagenidium giganteum</i>
1993	Freedman, Toby Beth	(Pukkila)	PhD	Recognition of homologous DNA sequences in the basidiomycete <i>Coprinus cinereus</i>
1997	Bowerman, Linda L	(Domnas)	PhD	Ultrastructure of <i>Lagenidium caudatum</i>

# In 2012 NCU received NSF grant to catalog mycological herbarium



The screenshot shows the Mycology Collections Portal website. At the top, there is a browser address bar with the URL "mycoportal.org" and a refresh icon. Below the address bar is a banner image with the text "MYCOLOGY COLLECTIONS PORTAL" overlaid. Underneath the banner is a navigation menu with links for "Home", "Explore", "Crowdsource", "Checklist Projects", "Other Resources", and "Acknowledgements". On the right side of the navigation menu, there are links for "Log In", "New Account", and "Sitemap". The main content area features a "Welcome to the Mycology Collections data Portal" section with a paragraph of introductory text. To the right of this section is a "News and Events" sidebar containing a list of recent updates.

AA mycoportal.org

## MYCOLOGY COLLECTIONS PORTAL

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

### Welcome to the Mycology Collections data Portal

The Mycology Collections data 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.

#### News and Events

- Microfungi Collections Consortium (MICC) website now live
- fdex: a simplified names database, primarily for projecting taxonomic hierarchy for fungal taxa.
- NSF Press Release #15

# Step #1 was to Get Organized!



Daniel Adams re-organized NCU's fungi alphabetically by genus, species



# Mycportal is a consortium of herbaria

2:15 ↗

mycoportal.org

MYCOLOGY COLLECTIONS PORTAL

Home Explore CiteSpace Checklist Projects Other Resources Acknowledgements Log In New Account Settings

Specimens & Observations Specimens Observations

Select/Deselect All

- Academy of Natural Sciences of Drexel University (PH) more info
- Acadia University, E. C. Smith Herbarium (ACAD) more info
- Addis Ababa University, specimen-based (ETH) more info
- Atlas of Living Australia specimen-based fungal data (N/A) more info
- Bamfield Marine Science Centre (BMSC) more info
- Bishop Museum, Herbarium Pacificum (BISH) more info
- Botanical Research Institute of Texas (BRIT) more info
- Brazil SpeciesLink Fungi data from iDigBio (N/A) more info
- Bridgewater College Herbarium (BDWR) 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 Gardens, Sam Mitchell Herbarium of Fungi (DBG-DBG) more info
- Duke University, Herbarium Fungal Collection (DUKE) more info
- Eastern Illinois University (EIU) more info
- Ecuador Fungi data from FungiWebEcuador (QCAM) more info
- Estonian Museum of Natural History (TAM) more info
- Facultad de Ciencias Exactas y Naturales (BAFC-H) 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
- Herbarium Amanitarum Rooseveltensis (RET) more info
- Herbarium Senckenbergianum (FR) more info
- Humboldt State University Fungarium (HSC) more info
- Indiana University (IND) more info
- Institute of Agricultural and Environmental Sciences of the Estonian University of Life Sciences (TAAM & EAA) more info
- Institute of the Industrial Ecology Problems of the North

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- Institute of the Industrial Ecology Problems of the North of Kola Science Center of the Russian Academy of Sciences. (INEP-F) more info
- Intermountain Herbarium (fungi, not lichens), Utah State University (USU-UTC) more info
- International Collection of Microorganisms from Plants (ICMP) more info
- Iowa State University, Ada Hayden Herbarium (ISC) more info
- Jewell and Arline Moss Settle Herbarium at SUNY Oneonta (SUCCO) more info
- Kean University (KEAN) more info
- Louisiana State University, Bernard Lowy Mycological Herbarium (LSUM-Fungi) more info
- Miami University, Willard Sherman Turrell Herbarium (MU) more info
- Michigan State University Herbarium (MSC) more info
- Museo Nacional de Costa Rica, specimen-based (CR) more info
- Museum of Northern Arizona (MNA) more info
- Mushroom Mountain Fungarium (N/A) more info
- National Herbarium of Mexico Fungal Collection (Hongos del Herbario Nacional de México) (TBUNAM-MEXU-FU) more info
- National Museum of Nature and Science - Japan (TNS-F) more info
- Natural History Museum of Utah Fungarium (UT) more info
- New Brunswick Museum (NBM) more info
- New York Botanical Garden (NY) more info
- New York State Museum (NYS) more info
- New Zealand Fungarium (PDD) more info
- North Carolina State University, Larry F. Grand Mycological Herbarium (NCSL-G) more info
- Oregon State University Herbarium (OSC) more info
- Patuxent Research Refuge - Maryland (USFWS-PRR) more info
- Purdue University, Arthur Fungarium (PUR) more info
- Purdue University, Kriebel Herbarium (PUL) more info
- René Pomerleau Herbarium (QFB) more info
- Royal Botanic Garden Edinburgh (E) more info
- Royal Ontario Museum Fungarium (TRTC) more info
- Rutgers University, Chrysler Herbarium - Mycology Collection (CHRB) more info
- San Francisco State University, Harry D. Thiers Herbarium (SFSU) more info
- Santa Barbara Botanic Garden (SBBG) more info
- Slovenian Fungal Database (Mikoteka in herbarij) Gozdarskega inštituta Slovenije, specimen-based (LJF) 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

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- University of South Alabama Herbarium (USAM) more info
- University of South Carolina, A. C. Moore Herbarium (USCH-Fungi) more info
- University of South Florida Herbarium (USF) more info
- University of Tartu Natural History Museum (TU) more info
- University of Tennessee Fungal Herbarium (TENN-F) more info
- University of Tennessee, Chattanooga (UCHT-F) 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 Wisconsin-Stevens Point Herbarium (UWSP) more info
- University of Wyoming, Wilhelm G. Solheim Mycological Herbarium (RMS) more info
- Uppsala University, Museum of Evolution (UPS-BOT) more info
- USDA Forest Service, Center for Forest Mycology Research (CFMR) more info
- USDA Forest Service, Rocky Mountain Research Station (FPF) more info
- USDA United States National Fungus Collections (BPI) more info
- Valdosta State University Herbarium (VSC) more info
- Virginia Tech University, Massey Herbarium (VPI) more info
- Washington State University, Charles Gardner Shaw Mycological Herbarium (WSP) more info
- Western Colorado University Herbarium (WSC) more info
- Yugra State University Fungarium, specimen-based (YSU-F) more info

Addis Ababa University, observation-based (ETH) more info

Atlas of Living Australia observation-based fungal data (N/A) more info

Cryptogamic Russian Information System (CRIS) Observational Data (N/A) more info

Foray Newfoundland and Labrador, observation-based (FNL) more info

Fungal Records Database of Britain and Ireland (British Mycological Society) more info

Fungal records database of Khanty-Mansi Autonomous Okrug - Yugra (YSU) more info

iNaturalist Research Grade Observations (iNat) more info

Index of the C.G. Lloyd Mycological Collection Specimens Housed at BPI (BPI) more info

Indian Ascomycetes Fungal Database (IASD) more info

Indian Marine Fungi Database (IMUD) more info

Indian Mushroom Database (IMUD) more info

Indian Myxomycetes Database (IMUD) more info

Indian Rust Fungal Database (IRFD) more info

Long Island Mycological Club (LIMC) more info

Search >

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- State University of New York, SUNY College of Environmental Science and Forestry Herbarium (SYRF) more info
- Swat University Fungarium (SWAT) more info
- Swedish Museum of Natural History (S) more info
- Tallinn Botanic Garden (TALL) more info
- Universidad de Guadalajara (IBUG) 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, specimen-based (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 California, Los Angeles (LA) more info
- University of Central Florida (FTU) more info
- University of Central Oklahoma Herbarium (CSU) more info
- University of Cincinnati, Margaret H. Fulford Herbarium (CINC) more info
- University of Copenhagen (C) 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-KU-F) more info
- University of Maine, Richard Homola Mycological Herbarium (MAINE) more info
- University of Manitoba (WIN) 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 New Mexico Herbarium Mycological Collection (UNM-Fungi) more info
- University of North Carolina at Chapel Hill Herbarium (NCU) more info
- University of Oslo, Natural History Museum Fungarium (O) more info
- University of Richmond (URU) more info

# A sample record in mycoportal

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

**Collector Info**

Catalog Number <sup>?</sup> Other Cat. #s <sup>?</sup> Collector <sup>?</sup> Number <sup>?</sup> Date <sup>?</sup> Dupes?  Auto search

NCU-F-0004464 11052 Matthews, Velma Dare 1938-10-11

Associated Collectors <sup>?</sup> Verbatim Date <sup>?</sup>

Exsiccati Title Number

**Latest Identification**

Scientific Name <sup>?</sup> Author <sup>?</sup>

Clavaria mucida Pers.

ID Qualifier <sup>?</sup> Family <sup>?</sup> Clavariaceae

Identified By <sup>?</sup> Matthews, Velma Dare Date Identified <sup>?</sup> 1938-10-11

**Locality**

Country <sup>?</sup> State/Province <sup>?</sup> County <sup>?</sup> Municipality <sup>?</sup> Location ID <sup>?</sup>

United States South Carolina Lancaster

Locality <sup>?</sup>

By stream near '40 Acre Rock'

Security: Security not applied <sup>?</sup> Deactivate Locality Lookup

Latitude Longitude Uncertainty <sup>?</sup> Datum <sup>?</sup> Verbatim Coordinates <sup>?</sup>

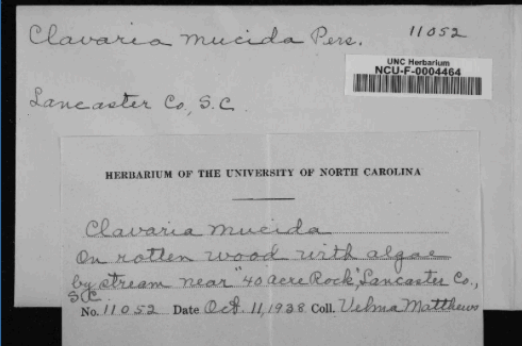
34.6752 -80.5236 1000 C F WGS84

Elevation in Meters <sup>?</sup> Verbatim Elevation <sup>?</sup> Depth in Meters <sup>?</sup> Verbatim Depth <sup>?</sup>

Georeferenced By Georeference Sources <sup>?</sup> Georeference Remarks

**Label Processing**

Zoom? + - Rotate: L <> R  Med Res.  High Res.



OCR Image  Options

OCR whole image

OCR w/ analysis

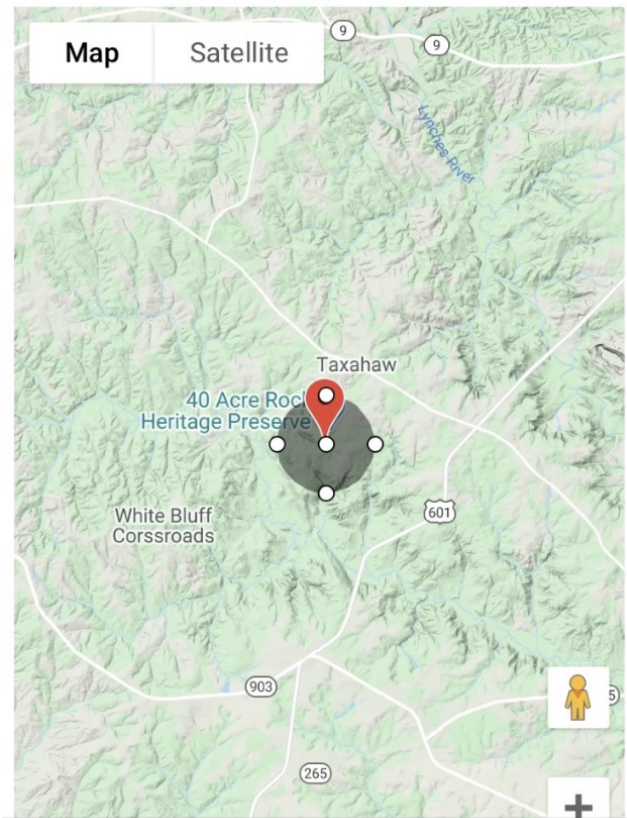
Image 1 of 1

# Geolocating specimens within mycoportal is easy

Click on the map to capture coordinates, or drag marker. Enter uncertainty to create an error radius circle around the marker. The Submit Coordinates button will transfer the information to form.

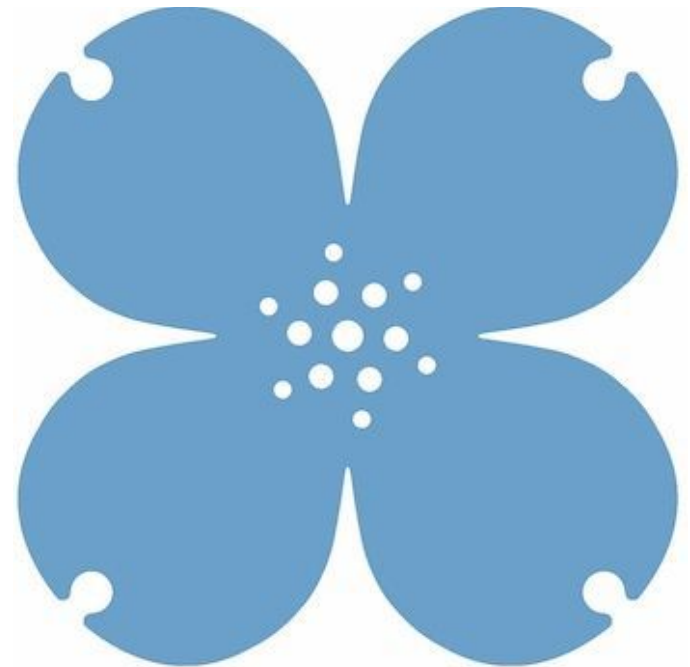
Latitude:  Longitude:

Uncertainty in Meters:



# NCU on mycoportal.org

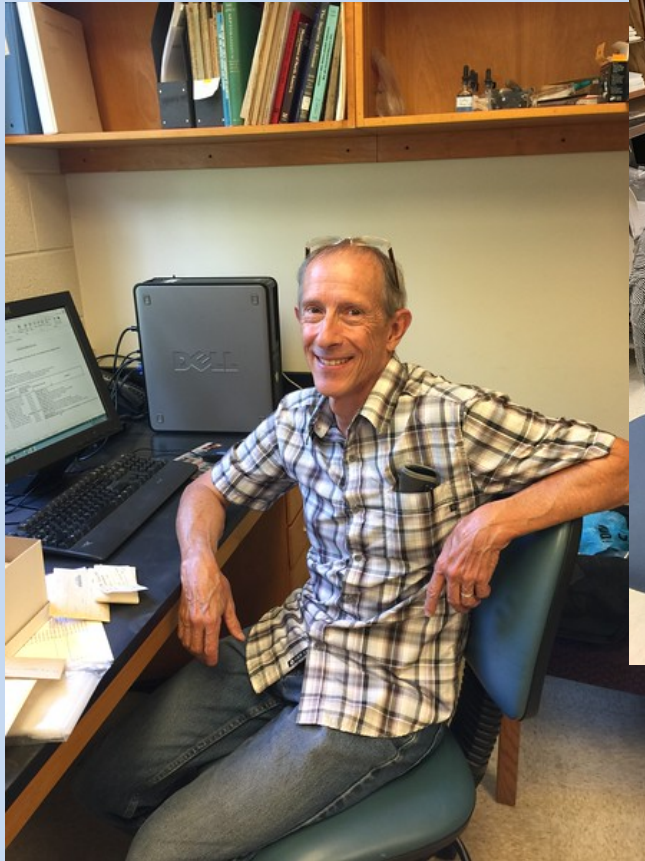
- 31,356 specimen records
- 81% of those are georeferenced (lat/long)
- 98% of those have images (label)
- 6,350 species
- 1835 – 2021 ... and onward!



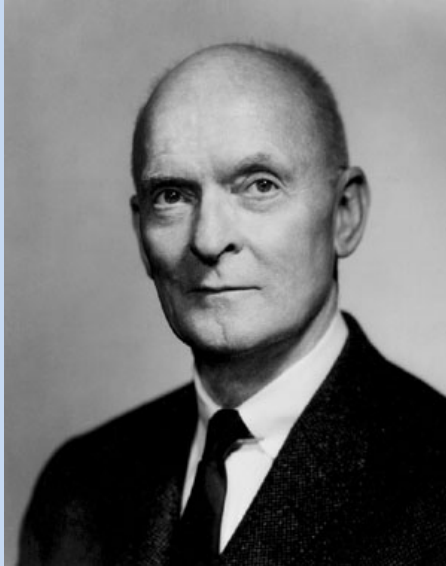


# Mycology Re-invigorated

Dr. Van Cotter, Meriel Goodwin, Dan Meyers, Corbin Bryan



# Back to the Future



John Couch: Water molds (*Achlya*)

Amy Gladfelter: “We are interested in fungi in the marine environment not only to find new biological problems but because they may be relevant for cycles of plankton growth & decomposition that is important for carbon cycling”

# Thanks!

Bill Burk UNC-CH Couch Library (retired)

Fungal Group at UNC-CH:

Dr. Van Cotter, Meriel Goodwin,

Daniel Meyers, Corbin Bryan, Linda Bowerman,

Davis Upchurch, Carlene Cliver, Ezra Knight

NCU: Liane Salgado, Shanna Oberreiter, Daniel Adams

NY: Dr. Barbara Thiers

ILLS: Dr. Andrew Miller [mycoportal.org](http://mycoportal.org) Curator

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# Up Next: Dan Meyers

