



Newsletter of the **FRIENDS**  
OF THE  
**FARLOW**

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L.B. Berard, editor

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## Counting Fungi

*Donald H. Pfister*

How many large fungi, Basidiomycota and Ascomycota, might one expect to find in a forest in eastern Massachusetts? This is one of the questions asked by a group of mycologists who surveyed the fungi in a portion of the Tactical Training Area at Devens Reserve Forces Training Area in Lancaster County, Massachusetts. The investigators were the author, Kitty Griffith, Pete Griffith, Bill Neill, Wanda Metcalf, Ellen Neeland, George Riner, Zhihong Zhong, and Marcia Jacob.

We worked for two summers on a grant from The Nature Conservancy administered by the Natural Heritage and Endangered Species Program of the Massachusetts Division of Fisheries and Wildlife. The goal was deceptively simple — collect and identify the fungi found on weekly collecting trips to the area. What we found might answer in part the question posed above.

Almost weekly collecting trips were made in 1998 and 1999. At the end of the second summer the taxon count stands at 437 definitively identified species. This is based on the identification of about 1025 collections. As might be expected there are a number of questionable identifications or

cases where, as in large and complex genera, it was impossible to satisfactorily identify species. When verified and unverified species are taken together we estimate that we saw perhaps 530 different species in the reserve.

From observations and collections we assembled a short list of 57 species. This represents essentially the most commonly encountered macrofungi, those fungi predictably collected in mixed forests in New England. They are the conspicuous fungi of field guides -- fungi that are large, obvious, and often brightly colored.

Exceptions to this generalization do exist. Because we were looking for it, we have many records of the small, moss-inhabiting *Rickenella fibula*. Most of the species on the list are mycorrhizal, again a situation that one might expect. Because of the nature of the land use in the Reserve we encountered fewer leaf litter fungi and wood rot fungi than perhaps might be expected in similar areas.

The area, once forested, was cleared and farmed in the last century. About 62 percent of the area is forested and a portion of the study site is maintained as grasslands

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**Clara Cummings Walk**  
**Sunday, May 7, 2000. See page 5.**

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through a controlled burn program (Hunt *et al.*, 1995). The area is used as a training facility and in some districts the soil is highly disturbed and compacted because of heavy vehicular traffic. Erratic burns are also a hallmark. The tract as a whole represents one of the largest managed natural areas in the state.

But the nagging question is, "How does this area compare with similar areas in New England?" Of course similar areas are difficult to define since the Devens site has been used intensively for Army training of a variety of types for many years and fires are frequent in the area. Still if we had a complete record of the fungi from an adjacent forest we would be better able to evaluate the Devens site.

We found that there were only two compilations with which we could compare our data: the *Checklist of New England Fungi* (Minot and Lever, 1981) and *Seasonal Occurrences of 250 Common New England Mushrooms for the Years 1964-1983* (Lever *et al.*, 1985). These documents, produced by the Boston Mycological Club, are often overlooked, but they provide a glimpse into the distribution of macrofungi in New England and give the only estimates of what one might expect to find. The checklist includes 1,564 taxa of larger Basidiomycota, Ascomycota and Myxomycota but it does not provide locality or habitat information. Lever *et al.* (1985) plot the seasonal occurrence of 250 taxa, again representing Basidiomycota, Ascomycota and the Myxomycota from records of collections within 200 miles of Boston.

We have collected about one third of the taxa from the checklist and have recorded more than the 250 taxa of the seasonal occurrence list. Numbers are deceptive since these listings include Ascomycetes and Myxomycetes, groups not collected by us. Nonetheless studies such as

this one surely indicate the need to collect fungi and document their occurrences even in what we might suspect to be well-collected areas, such as eastern Massachusetts.

As a further historical comparison I looked back at the *Icones Farlowianae* (1929). This illustrated volume was begun by W. G. Farlow in about 1890 when he hired Joseph Bridgham to begin illustrating the common fungi of New England. The work continued under Farlow's direction until his death in 1919 with L. C. C. Kreiger illustrating for Farlow from 1902 to about 1911. The results of their efforts were about 600 fine portraits of New England fungi, only some of which were published. The final volume was prepared by E. A. Burt and contains 103 color plates that illustrate and describe 141 species.

To assuage my curiosity I looked back at the illustrations to see if we had noted any species not found in Farlow's more than 30 years work on his project. I found that every fungus was accounted for, particularly if one allows for some of the vicissitudes of nomenclature, except the little agarics on mosses mentioned above, *Richenella fibula*. This no doubt was present in Farlow's time but perhaps was dismissed for the purpose of the *Icones* because of its diminutive size.

Our knowledge of the larger fungi is far from complete; our knowledge of the smaller ones is completely inadequate. We did not even attempt to collect the Ascomycetes on wood, litter and soil. A list of such fungi would no doubt contain many surprises and many new and undescribed taxa. In the age of being able to race around the world on the internet we often lose sight of the fact that we can go to our own backyard to find new, exciting, and unexplored territory.

#### References:

Farlow, W. G. 1929. *Icones Farlowianae: Illustrations of the Larger Fungi of*

*Eastern North America* (with descriptive text by E. A. Burt). Published by the Farlow Library and Herbarium, Harvard University.

Hunt, D. M., K. B. Searcy, R. E. Zaremba, and C. R. Lombardi. 1995. The vascular plants of Fort Devens, Massachusetts. *Rhodora* 97: 208-244.

Lever, R., M. Schaechter, and R. Trail. 1985. *Seasonal Occurrence of 250 Common New England Mushrooms for the Years 1964-1983*. Published by the Boston Mycological Club.

Minot, J. and R. Lever. [1981]. *Checklist of New England Fungi Reported by Club Members 1896-1981*. Published by the Boston Mycological Club.

### Temple Gift to the Farlow

The Farlow received a gift of \$10,000 from the estate of Ruth Z. Temple as a contribution to the Geneva Sayre Fund. Professor Temple was a long time friend of Geneva Sayre who worked on collections at the Farlow from 1972 to the mid 1980s. The Geneva Sayre fund supports visits to the herbarium and library by established scholars.

### From FoF's President

Dear Friends,

About two years ago, Bob Edgar suggested that I consider running for the presidency of the Friends of the Farlow to give Elizabeth Kneiper a much-deserved respite from her duties. It was hard to imagine the FoF without Elizabeth in charge, but eventually I agreed.

Now as President my first task is to thank Elizabeth, on behalf of cryptogamic botanists everywhere, for the time, energy, and love that she has devoted to the FoF. Our society and our science are richer for her efforts. I am delighted (relieved!) that Elizabeth will continue to play an integral

role in orchestrating the activities of the FoF.

This year our activities will include the Clara Cummings walk, annual meeting and lecture, book sale, and Cabot Library exhibit. In addition, the FoF will continue to support research visits to the Farlow from graduate students and established scientists through the Friends of the Farlow Graduate Fellowship and Harvey Pofcher Visiting Scholars' Program. Thus, the FoF is an active, vital society that does much to promote the study of cryptogams.

To maintain and expand our programs it will be necessary to increase our membership. In the months ahead, I will solicit your ideas for ways to make the FoF more attractive to potential new members. In the meantime, I ask you to suggest to your colleagues, students, and associates that they join the FoF or, if appropriate, apply for one of our fellowships. In so doing, they will celebrate the history of North American cryptogamic botany, while ensuring its future.

Sincerely,



*David Hibbett, our new President, is a former Postdoctoral Fellow at the Farlow and presently an Assistant Professor in the Department of Biology at Clark University in Worcester, Massachusetts.*

### Books Needed

One of the events that has generated FoF activity and revenue has been the annual book sale. This year we have only a few titles to offer. Please check your shelves and send your books now.

## News of the Farlow

*Scott LaGreca*

Lichenologist Dr. **Larry St. Clair** of Brigham Young University in Provo, Utah, visited the Farlow in December and gave an HUH seminar entitled "Soil Crust Communities: Structure and Function".

**Pat Ledlie** of Buckfield, Maine, visited the New England Botanical Club's cryptogam collection in February and borrowed many Maine mosses for a floristic study organized by **Bruce Allen** (Missouri Botanical Garden).

**Scott LaGreca** gave an HUH seminar in February entitled "New and Interesting Species of *Lecanora* (Lichens) from North America". This talk summarized results from last summer's *Lecanora* workshop and from Scott's systematic investigations of the *L. symmicta* group, being done in collaboration with **Doug Greene**.

**Dobri Ivanov**, a lichenologist at the Botanical Garden, Varna, Bulgaria, will be visiting the Farlow periodically for the next six months to use the lichen herbarium and to attend our Farlow Discussion Group.

Thanks to librarian **Judy Warnement**, a new display case, previously used by the famous ethnomycologist Gordon Wasson, is now in the Farlow lobby. The current exhibit, by graduate student **Kris Peterson**, features her enigmatic pet fungus *Cyttaria* (see page 5).

**Elizabeth Kneiper** recently returned from Utah, where she took a course on soil crust cryptogams taught by **Larry St. Clair**.

In late March **Don Pfister**, **Rick Weinstein**, **Kris Peterson** and **Zhihong Zhong** were in Washington, DC, attending an NSF-sponsored conference for laboratories funded by the PEET research program.

### Summer Courses on Cryptogams

Don Pfister will be teaching a weeklong seminar on Ascomycetes this summer at

Humboldt Field Research Institute in Steuben, Maine. Five other courses on cryptogams will also be offered. For further information contact the institute at 207-546-2821 or [humboldt@nemaine.com](mailto:humboldt@nemaine.com).

### Discussion Group Meets

The Farlow Discussion Group meets every other Friday for lunch to talk about journal articles, Farlow research projects, or specimen identification. Discussion topics are announced via email; if you are interested in being on the email list, please email Scott LaGreca at:

[lichens@oeb.harvard.edu](mailto:lichens@oeb.harvard.edu).

### FoF Financial Report

July 1, 1998 - June 30, 1999

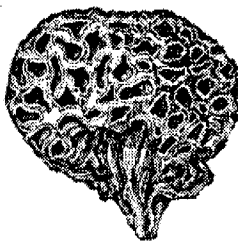
Beginning Balance .....	<b>\$10,634</b>
Income	
Membership .....	2323
Book Sale .....	1,058
Miscellaneous .....	166
Total .....	3,547
Expenses	
Library Displays .....	116
Library Archivist .....	368
FoF Fellowship .....	966
<i>Lecanora</i> Workshop .....	25
Christmas Cards .....	94
Annual Meeting .....	632
Newsletter (2) .....	563
Fundraising (mailing) .....	200
Misc .....	7
Total .....	2,971
Closing Balance .....	<b>\$ 11,210</b>
Pofcher Fund	
Starting Balance .....	0
Income .....	1,760
Closing Balance .....	\$ 1,760
Endowment	
Balance 7/1/98 .....	<b>\$ 32,780</b>
Interest .....	2,011
Balance 6/30/99 .....	<b>\$ 34,791</b>
<i>Phil May, Treasurer</i>	

## On Display in the Farlow Lobby

### *Cyttaria*: A Curious Fungus

Kris Peterson

The eleven species of *Cyttaria* are obligate parasites of *Nothofagus*, the southern beech. Southern Hemisphere endemics, *Cyttaria* and *Nothofagus* are found in southern South America, eastern Australia, Tasmania, and New Zealand. Although *Nothofagus* also inhabits New Caledonia and New Guinea, *Cyttaria* is absent in these areas.



From Darwin's Voyage of the Beagle

First described by Miles Berkeley from collections made by Charles Darwin, the fruiting bodies of *Cyttaria* resemble orange golf balls. In *Voyage of the Beagle*, the fascinated Darwin related *Cyttaria*'s "curious" shape and "singular" association with *Nothofagus*. Intrigued by these reports, the Farlow's own Roland Thaxter wrote in his South American diary that in the forests of Tierra del Fuego he most wanted to "behold with [his] own eyes *Cyttaria*."

A weak parasite, *Cyttaria* may produce incredible numbers of knotted distortions, or galls, on the branches and trunk of its host. Traditionally, the native peoples of Patagonia used the fruiting bodies as food and the galls as weapons. Today, researchers are investigating an anti-tumor compound extracted from *Cyttaria*.

As in the time of Darwin and Thaxter this fungus continues to captivate natural historians, including those interested in coevolution, biogeography, and life cycles.

## Lichen Lit Guide Online

Phil May recently announced that his new Farlow lichen website is now available. Among many other features, the site provides a comprehensive list of literature sources for identifying North American lichens. The URL is <http://www.herbaria.harvard.edu/Data/Farlow/lichenguide/index.html>.

## Farlow Library Hours

The Farlow Library is presently open from 9:00 AM-noon every weekday and from 1:00-5:00 PM Mondays and Fridays.

## Cummings Walk

Elizabeth Kneiper

Our annual Clara Cummings Walk will be held this year on **Sunday, May 7** from **9:30 AM until about 3:00 PM** in the Blue Hills Reservation. We will meet in the parking lot at the Blue Hills Trailside Museum at 9:30 AM and travel as a group to Ponkapoag Bog.

Our special guest/leader will be Norton Miller, Principal Scientist of the Biological Survey at the New York State Museum. Combined with the locale, Dr. Miller's presence will make this walk a great opportunity for those interested in mosses. The relatively late date should be a boon for all fungi aficionados, too. Don Pfister and David Hibbett will be on hand to lead the mycology group. Doug Greene and Elizabeth Kneiper will help with lichens.

Bring a lunch and gear appropriate for the weather. This is a rain or shine event. There will be no collecting.

**Directions:** From Route 93 North or South take Exit 2B. Route 138 North towards Milton. The Blue Hills Trailside Museum is located on the right of Route 138 approximately 3/4 of a mile from the exit. (Blue Hills Information Number is 617-333-0690.)