Newsletter of the FRIENDS OF THE FARLOW

Volume 4 Number 1, October 1985 Geraldine C. Kaye, Editor

A MYCOLOGIST VISITS THE MOUNTAIN OF THE MIST

The Nineteenth Century was the golden age of botanical exploration. Those were the days of the notable explorer-naturalists such as Humboldt and Bonpland, Darwin, and Spruce. Their pioneering explorations have left us a legacy of exotic biological specimens that may be still the only record of the biota of particular places, especially in the tropics. These unique specimens are the foundation for the taxonomy of groups which may occur only in the region. Today, although many areas are still unexplored, the emphasis of science has shifted from field research and exploration toward laboratory-oriented studies.

A notable exception to this modern trend occurred in 1984-85 when a multinational, multidisciplinary expedition, partially financed by the National Science Foundation, went to Cerro de la Neblina in southern Venezuela. Neblina, the "Mountain of the Mist," is an isolated, flat-topped sandstone mountain straddling the border between Brazil and Venezuela. Plant collector/biologist Richard Spruce (see last Newsletter) was apparently the first European to see this massif in 1853, although he did not reach it. Only in 1953 did a group of explorers led by Bassett Maguire from the New York Botanical Garden investigate the mountain.

Dr. Roy Halling, who reports here on his part in the Venezuelan-American expedition to Cerro de la Neblina, is a member of the Advisory Board of Friends of the Farlow. Roy was at Farlow Herbarium from 1980 until 1983, when he went to the New York Botanical Garden. He is a mycologist with a particular interest in the agaric genus Collybia. He took this photograph of Neblina from a helicopter on an uncharacteristically clear day.

One might ask, "Why go there at all?" The answer lies in the geological history of the area. Neblina is the highest and one of the most isolated remnants of a plateau mountain system in northern South America known as the Guayana Highland. The original sandstone plateau, the Roraima Formation, was formed of Precambrian sandstone sediments resting on a granitic basement. It has eroded over 1.6 billion years into scattered relic mountains called tepuis with the remains of the old plateau on the summits. The tepuis have never been glaciated, covered by inland seas, or folded and bent by tectonic activity; they remain essentially as they were when they were formed. Thus, Neblina is a remote mountain island surrounded by a jungle sea. Biologically Neblina represents a 250-square-mile haven where evolution has proceeded uninterrupted by drastic events since terrestrial life appeared there.

For me, a trip to this mountain was a rare opportunity--a chance to collect mushrooms in a place few people have ever been. In mid-January 1985, along with two dozen or so other biologists (entomologists, mammalogists, ornithologists, and other botanists), we left Caracas by jet for Puerto Ayacucho along the Rio Orinoco, and then by military transport (a Hercules cargo plane) to San Carlos de Rio Negro. This latter town, a frontier outpost, is also a classic locality visited by Humboldt and Spruce. From this point, our mode of travel differed substantially from that of Humboldt and Spruce, in that we had two helicopters! Approximately 100 miles to the southeast lay Cerro de la Neblina, a mere 45 minutes by helicopter across the unbroken rain forest (as the parrot flies), but a 10-day trip on rivers during high water with an outboard motor if you know how to get there.

Base camp had been carved out of the jungle near the base of the tepui in January 1984. The camp had been occupied by a series of biologists off and on for a month to a month and a half at a time. Buildings were constructed from native logs and 3 to 4 inch wide palm boards; roofs were made of corrugated tin. The walls were only half the height of the side to allow cooling breezes (and lots of black flies) through. Altogether we had two and a half buildings for hooking up our hammocks and mosquito nets (the latter essential), and another half building for a laboratory. About one dozen native workers came with us from San Carlos to act as cooks, trail cutters, collectors, and hunters.

Twelve camps were established on the Neblina massif itself, ranging in elevation from 700 to 2000 m. Many of the sites were in cloud forests made up of pitcher plant bogs, brittle-stemmed shrubs that looked like artichokes on stalks, and palms along the streams. Other sites seemed to be a monoculture of a giant, terrestrial yellowish-green bromeliad (Brocchinia tatei). Some of the hanging valleys were particularly rich in bryophytes, lichens, and fungi; there seemed to be fewer flying/biting insects, and fortunately it was a lot cooler than at base camp.

At the high camps, the weather was unpredictable: one minute it was foggy with a misting rain, and the next it was sunny with intense solar radiation. One of the main logistical problems of collecting mushrooms was designing a method for drying and storing specimens in a humid environment without a continuous and reliable supply of electricity (we had a gasoline powered generator running for only three hours per night). Experimentation revealed that a wooden frame with screen shelves over a kerosene stove could dry specimens satisfactorily (plenty of kerosene was available because of the helicopters), and knotted plastic bags containing the specimen and a few grains of a dessicant seemed to keep the collections dry and mold-free.

Although we were located almost directly on the equator in a vast tropical rain forest, during my 40-day stay we experienced a dry period. This prevented the mycological returns from being as great as they might have been; but in spite of this I made interesting collections. Most of the agarics collected were small members of the Tricholomataceae. Large fleshy fungi such as boletes and amanitas are not usually encountered in Amazonian rain forests. Some of the most interesting fungi encountered were clavarias and species of Cordyceps. From above, the Cordyceps look like slender fingers pushing up through the soil or rotten log. However, by digging carefully around the fruiting body, one finds that it is attached to the larval stage of an insect, frequently a beetle or moth. Although Cordyceps species may be encountered in north temperate zones, the genus is far more common and diverse in the tropics.

From January 1984 to March 1985 a total of seven cryptogamic botanists collected at Neblina: mycologists Amy Rossman, Teresita Iturriaga, and Gary Samuels in addition to myself; lichenology graduate student Lois

Brako; and bryologist William R. Buck and his graduate student Inés Sastre de Jesús. The collection of specimens by specialists is one of the most important factors that sets the Neblina expedition apart from earlier ones. In the explorations of the 19th Century, and sometimes even more recently, collections of all groups of organisms were made by general collectors and shipped back to Europe for study by scientists who rarely, if ever, saw in living form the organisms they described.

It is too early to tell what the impact of the 1984-85 Neblina expedition will have on cryptogamic botany. As specimens are processed, they will be distributed to specialists for naming, and where material is ample, duplicates will be sent to major herbaria all over the world. Also, a journal is being established to provide an outlet for publication on all aspects of the biology of this fascinating area; it will take years for the many scientists involved to work out and publish all the relationships and implications of the strange organisms.

In addition to the trip's significance to science, for me the expedition was an incomparable experience. In retrospect, the difficult aspects (poor diet, frequent delays, scorpion sting) seem very minor in comparison with the thrill of discovering for myself the strange and beautiful world of Cerro de la Neblina.

THE CHANGING OF THE GUARD

This fall we welcome a new Executive Committee. FoF bylaws provide for the election of officers every three years. The terms of the first, "charter," set of officers expired this year. The new slate (not too different from the old slate) is:

President: Robert K. Edgar. Bob is professor of biology at Southeastern Massachusetts University, Dartmouth MA, where he teaches courses in population and evolutionary biology. His research interests are diatom biology and the history thereof. He has been affiliated with the Farlow as a Research Associate since 1976. Bob has done yeoman service as FoF secretary for the past three years.

Vice-President (continuing): Barry L. Wulff, professor of biology at Eastern Connecticut State University, teaches botany and ecology. His fields of research include marine algal ecology and fungal systematics. In addition, he leads foreign expeditions for the Appalachian Mountain Club.

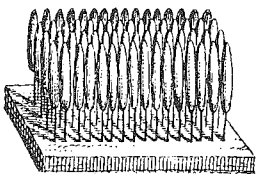
Secretary: Anna M. Reid is librarian of the New England Botanical Club, an amateur bryologist, and a biographer of the American lichenologist Edward Tuckerman (whose collections reside in the Farlow along with some of his correspondence). She has been a member of FoF's Advisory Board since its inception.

Treasurer (continuing): Harvey Pofcher is an amateur botanist and business consultant who divides his time between Massachusetts and Vermont. His participation in FoF continues a long-standing and active interest in the Farlow.

Retiring president Moselio Schaechter sent a letter to all members, saying, in part,

> "I will not seek re-election...I believe that renewal helps, especially since the organization will be in very capable hands...The Farlow embodies a tradition which I have learned to treasure. The feeling of continuity that I have when I set foot in the Farlow engenders a trust in the future. I am most grateful for this...I am deeply honored to have held office in the Friends of the Farlow and will not readily forget the experience."

Elio's enthusiasm and organizational ability were the principal motivating forces in the formation of FoF. We're grateful to him, in turn. And, we won't let him forget us!



NEWS NEWS NEWS

Mycological Literature

Jean R. Boise, formerly of the New York Botanical Garden, has joined the Mycological Literature project mentioned in the last Newsletter. The project, aimed at indexing the literature on fungi before 1821, is funded by the National Science Foundation. Jean and Donald Pfister are delving into the mycological past, listing the names of genera and species of fungi which were proposed by the authors who worked after Carl Linnaeus published the Species Plantarum in 1753 but before Elias Fries published the first volume of the Systema Mycologicum. The search has become necessary because of recent changes in the International Code of Botanical Nomenclature. Combing the literature in search of mislaid Latin names may seem like drudgery to many people, but the two are discovering many interesting things, not the least of which is that mycology did not begin with Fries, as is commonly assumed, but was in full swing by 1800. Jean has been responsible for entering some 5000 names into the computer files. Don is working on various of the authors and has in mind a full translation and annotation of the introduction to Fries's Systema.

Farlow People

New Bunting Fellow Llewellya Hillis-Colinvaux will spend her fellowship year working on algae in the Farlow phycology lab. She is a marine biologist from Ohio State University and an authority on Halimeda, a genus of primarily tropical reef-forming green algae. She is just back from an expedition to the People's Republic of China. The Bunting Fellowships, awarded by the Bunting Institute of Radcliffe College, are intended to help women further their scholarly work by making available to them Harvard's resources and community activities.

Allan Bornstein, herbarium intern, has a nine-month appointment to work at the Gray/Arnold and Farlow Herbaria to learn how large herbaria operate. Allan comes from the University of Michigan, where he obtained his Ph.D. for his work on the plant family Piperaceae. His internship is supported by the National Museum Act.

We've had a busy season for visiting scholars. Some of the visitors were mycologists David Pegler of Kew, England; Bob Shoemaker of Ottawa, Canada; Françoise Candoussau of France; Josiah Lowe of Syracuse, NY; and Kent McKnight of Washington D.C.. Bryologists included William Steere of New York and Ron Pursell of Penn State University. Australian phycologist Sophie Ducker paid a brief visit. The most unlikely visitor was the great-great-granddaughter of Thomas Taylor, nineteenth-century bryologist whose collections and drawings are at the Farlow. Particularly advantageous: a culinary writer compiling a mushroom cookbook (she brings samples!)

Two Farlow people gave papers at the annual meetings of the American Institute of Biological Sciences in Gainesville, FL in August. Elizabeth Kneiper talked about "The former and present lichen flora of the Boston metropolitan area" to the American Bryological & Lichenological Assn. (work she did some years ago with Martha Sherwood, using the historic herbarium specimens in the Farlow collection); and Jean Boise reported to the Mycological Society of America on what happens when "A traditional fungal taxonomist tries cladistics."

Dodge Collections Arrive

Carroll W. Dodge was the first curator of the Farlow Library and Herbarium when, after Farlow's death in 1919, the cryptogamic collections were united at Harvard. Dr. Dodge remained at the Farlow until 1932 when he went to St. Louis, Missouri to become a professor at Washington University and mycologist at the Missouri Botanical Garden. While at the Farlow, Dr. Dodge literally built the place: it was he who designed the "new" Herbarium wing, and it was he who negotiated the purchase of many of our special collections. He oversaw the library. He did much of his now classic work on the hypogeous fungi. He published on lichens, translating the E. A. Gäumann text into English, thus providing generations with the classic Comparative Morphology of Fungi. He began his work on medical mycology here also. Dr. Dodge has now given various of his fungus and lichen collections to the Farlow as well as his library of lichenology books. These materials are not yet available--much processing needs to be done--but they will eventually be accessible for use by qualified workers.

From the Library

Last spring we reluctantly said goodbye to Jim Brasley, who has been our student assistant for four years and is familiar to many FoF members as the cheerful and efficient overseer of FoF Open Saturdays. (It's in the nature of students to graduate eventually.) We wish Jim the best of luck with his plans for the future, which may well include architecture.

Book Sale III was the usual smash success: of 127 books listed, 80 were sold to 38 bidders, raising over $1000 in the process. (We already have our first donations for Book Sale IV!)

Gerry Kaye went to Ottawa, Canada in June, to the annual meeting of the Council on Botanical and Horticultural Libraries, where she was elected Vice-President/President Elect of the international group. She is also a contributing editor to MUSHROOM, The Journal of Wild Mushrooming, and has written articles for other mycological publications. She is currently reorganizing operations of Harvard's Economic Botany Library, which has been closed for some months, in preparation for an October reopening.

We've decided to discontinue our First Saturday library openings. The consistently low attendance indicated the service wasn't needed and didn't warrant the effort necessary to open the building.

The Twentieth Century arrives at the library--We finally have air conditioning in the stacks! Next: a computer of our very own!

Prize reference question of the season: "Isn't it true that colored mushrooms are poisonous, and the brighter the color the stronger the poison?"

Clathroidastrum

The woodcuts of the slime mold Clathroidastrum (now Stemonitis) are from Pier' Antonio Micheli's Nova plantarum genera, published in Florence in 1729.

PUBLICATIONS AVAILABLE

A bibliographic account of exsiccatae containing fungi by Donald H. Pfister.

For those involved in herbarium work and in sorting old specimens of fungi we offer a guide to titles, authors, and dates of publication of exsiccatae containing fungi. (Exsiccatae are uniform sets of specimens of plants which were sent to other herbaria as voucher specimens.) Don Pfister has compiled the listing and written the summary. It was published in vol. 23 of MYCOTAXON and is available from the Farlow at a cost of $6.00 plus 50 cents postage.

Seasonal occurrence of 250 common New England Mushrooms for the years 1964-1983 compiled by Ruth Lever, M. Schaechter, and R. Trial. 24 pages. $4 plus 50 cents postage.

This publication of the Boston Mycological Club presents in graph form the cumulation of 20 years of records of the club's weekly walks from late June to late October. By looking at the bar graphs you can see at what time of year and how abundantly a given species has been found. To our knowledge, such a wealth of information has never before been available for North America. The habits of familiar mushrooms take on interesting and surprising patterns viewed in this format.

Our "Publications Available" list has been computerized and should be more easily kept up to date. It includes both free reprints and items for sale. Please feel free to request a copy.

Greetings!

Once again, we'll have notecards and Season's Greetings cards available, both old favorites and new designs:

Oyster mushroom (shown on mailing panel of this issue)
Pholiota (on mailing panel, Oct. 1984)

Notecards: 6 for $2

Seasons Greetings: 6 for $3

Rose Treat's seaweed notecards: *4 for $4*

Unusual museum postcards with mushroom-related motifs (2 each of 3 designs): *6 for $2*

Please add 50¢ per order for postage.

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FIRST CLASS

FRIENDS of the FARLOW

SAVE NOVEMBER 9 FOR ANNUAL MEETING

Our Annual Meeting No. 4 (already!) will be held Saturday, November 9, at the Harvard University Herbaria Building, 22 Divinity Avenue, Cambridge, Mass. beginning at 3:30 p.m. After a short business meeting, Dr. Meredith Blackwell will speak on "Slime molds in the Sonoran Desert." The Boston Mycological Club will join us for this special occasion. Our by-now-traditional reception in the library will be from 5 to 6:30 p.m.

Dr. Blackwell, an Associate Professor at Louisiana State University, Baton Rouge, has worked on the taxonomy and ecology of several groups of fungi: Basidiomycetes (particularly polypores), Myxomycetes, and entomogenous fungi (fungi that live on insects). She was a student of C.J. Alexopoulos of textbook fame. While at the Farlow she'll spend some time working with our collections.

Friends of the Farlow is an international group of amateur and professional botanists concerned with supporting the programs and resources of the Farlow Reference Library and Herbarium of Cryptogamic Botany of Harvard University. Membership categories are: Associate member, $5-15; Full member, $25; Sponsor, $50-$1000; Benefactor, over $1000. Membership year runs from 1 July to 30 June. (To join, please make check payable to Friends of the Farlow and send to address below.) Members receive a discount on Farlow publications, and participate in book sales and other events. This Newsletter is published twice a year. For more information please contact the Editor at the Farlow Reference Library, 20 Divinity Avenue, Cambridge MA 02138, U.S.A. (tel. 617-495-1269).