

Newsletter of the **FRIENDS**
OF THE
FARLOW

Number 32

Spring 1998

L.B. Berard, editor

Lichen Hunting in French Guiana

Phil May

“Have you ever slept in a hammock?” This question—sprung out of the blue more than a year ago—was the first hint that I might be doing some tropical lichenology.

This past November I spent three weeks collecting lichens for The New York Botanical Garden in French Guiana. Our expedition of nine botanists was led by Scott Mori of NYBG under the sponsorship of the National Geographic Society. Scott and his colleagues have been studying the vascular plant flora of the Saül region in central French Guiana since 1975. In recent years he has expanded the project to include bryophytes, lichens and non-lichenized fungi. Although Dick Harris and other lichenologists have collected lichens extensively near Saül in past years, the November expedition featured a week-long trip to Mont Galbao, the highest peak in the area. No lichens had been collected there previously.

To refresh your memory, French Guiana lies on the northeast coast of South America between Venezuela and Brazil, along with Surinam and Guyana. French Guiana is the southernmost of the three former Guianas, sitting only a few degrees north of the equator. It is probably best known as the location of Devil’s Island, the notorious prison featured in the movie “Papillon.”

We arrived in Cayenne, the capital city, via San Juan and Martinique then flew by prop plane to Saül, a jungle village in the middle of

the country. The lowland rain forest in central French Guiana is still intact. Five minutes after leaving Cayenne one sees below no roads, no buildings, no signs of man: only an endless wilderness of forest. The distant canopies undulate gently with textbook-perfect cauliflower texture. As we lost altitude for landing, the forest resolved itself into an abundance of individual canopy tetures, flowering trees, and low emergents -- a hint of tropical diversity.

Saül village is a real frontier outpost. It has a few simple houses, a tiny outdoor market run by Hmong farmers from Laos, one church, a tiny post office, a one-room school, and an assortment of people walking about with rifles and backpacks. Many passersby had compasses dangling from their necks—homesteaders in to do a bit of shopping. One German colonist we met made a big impression on us all: a cross between Brünhilde and Annie Oakley.

We stayed at Les Eaux Claires, a tiny

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“auberge” a few miles outside of town. Accommodations consisted of a large shed (“carbet”) with a dirt floor and no walls. For furniture we

had one large picnic table, one small table for processing specimens, two drying ovens, and a couple of deck chairs placed under the eaves. We hung our hammocks and mosquito nets between the side beams of the carbet, all seven men and two women. With wet laundry and gear hanging everywhere, it was close quarters, but no one seemed to mind.

The auberge had recently installed a shed of flush toilets and showers a few minutes away from our carbet, so we had a more luxurious time than expected. We washed laundry in the creek and ate in a beautifully finished, open-sided, dining carbet with hardwood floors. Food was excellent—a variety of homegrown and store-bought fruits, vegetables, and meats, supplemented by wild game; wine, cold beer, and fresh lemonade were plentifully available. This was an expedition?

The lowland tropical moist forest around Les Eaux Claires is absolutely beautiful. The trees are not as tall as those in the dipterocarp forests of Malaysia; but the canopy emergents do reach 150 feet in height, and there are many trees with huge boles. The understory is fairly open, and the trees well spaced except near edges and gaps. A moderate number of lianas and climbers adds visual variety without cluttering up the sightlines. The general effect is gorgeous. It is easy to fall in love with the forest, and I most certainly did.

A typical field day at Les Eaux Claires consisted of 7:00 A.M. breakfast with departure soon afterwards for the forest. The six flowering plant botanists spent their days scouting flowering trees, climbing 10 or 15 meters up a nearby trunk, hoisting up clippers mounted on a long pole, and snipping off the flowering or fruiting branches. The specimens were then

field-pressed by nonclimbing members of team.

The cryptogamic botanists had an entirely different routine. Sabine Huhndorf (a pyrenomycete specialist from the Field Museum) would go off to find the dampest place in the locality. Due to unusually dry conditions she had poor collecting the entire trip. Bill Buck

and Barbara Thiers (the moss and hepatic experts from NYBG) and I did the usual cryptogamic thing: collect everything in sight. For lichens that meant collecting from tree trunks, lianas, and the occasional fallen branches, as there were no rocks and no ground-dwelling lichens. The lichens growing on tree trunks and lianas near the forest floor are specialized for humid, low-light conditions. Almost all are crustose in

growth form, and most have the alga *Trentepohlia* as photobiont. The Graphidaceae and Thelotremataceae are particularly well represented.

The canopy is a different situation entirely. With bright, dry, windy conditions, the lichen flora at the genus level resembles that of temperate climates. Foliose and fruticose lichens are common. Most species have coccoid green algae as photobionts. Lecanoralean lichens dominate the flora. As I had strict instructions not to collect any more understory lichens near camp, I kept hoping to find (or arrange!) a recent tree fall, so I could collect canopy lichens. However, this never came about.

There is one mountain near Saül, Mont Galbao, just high enough to attract daytime fog (i.e., low clouds) during the rainy season and nighttime fog year round. Many lichen species thrive in fog, and the lichens of true cloud forests are rather different from those of lowland forest. This difference is due to higher



Mont Galbao Expedition Members (L to R): Phil May, Sabine Huhndorf, Mats Gustafsson, Jose (Assist. Guide), and Bruno Wallnöfer. Not shown: Bill Buck and Yvan (Guide).

Photo by Bill Buck at Les Eaux Claires

light levels, cooler and more variable temperatures, and a different diurnal and seasonal wetting/drying pattern. Collecting lichens on Mont

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Galbao was the principal object of my trip.

So Sabine and I plus two angiosperm botanists, Matts from Sweden and Bruno from Austria, set off by jeep, then foot, with our guides Yvan and Jose for Mont Galbao.

The hike to Mont Galbao base camp took about four hours, half of which was a bushwhack by compass. On arrival the guides erected a jagged line of four small tarps, where we botanists hung our hammocks and gear. Inadvertently three of the tarps were pitched under a tree with ripe fruit. Each night the wind and animals would knock down fruit from high in the canopy. The small hard fruits would ricochet down onto our tarps with a loud whack. You can imagine the effect as you are drifting off to sleep.

I discovered during our stay at Mont Galbao the value of carrying a compass when going out at night. The plateau was densely covered with understory trees in addition to the usual large trunks and scattered tree-fall gaps. Without a light in camp, it could be difficult to find your way back from only fifty meters away. Returning one evening, I was soon lost and had to shout for someone to turn on a light to guide me back. I had been heading in the opposite direction from camp.

Our daily routine consisted of primitive breakfast followed by 8:00 A.M. departure for the summit, a steep climb of 1500 feet. On the summit I collected lichens from the trunks of living and fallen trees, from lianas, and from the few rocks I could find. I visited many forest gaps, looking for light-loving foliose and fruticose genera but not finding them. Bruno spent his days climbing trees for flowers and fruits, which he cut off with ten-meter rope-

operated pruning shears. Matts and Jose served as ground support. I spent much time with Bruno's discarded branches searching for, but again not finding, canopy species. Either the branches were too low, or the foggy conditions resulted in species more typical of shaded trunks.

After lunch of stale rolls and canned meat, we summit botanists continued working through the afternoon, returning to camp at dusk. I numbered and reexamined my collections in the semi-darkness and then ladle-bathed in the creek by headlamp. Dinner of oversalted rice and canned meat (or sometimes smoked peccary and fowl—both shot by Yvan) was followed by bed.

Bill, who had recovered from a brief illness, arrived the third day and soon vacuumed up every bryophyte species on the summit. He had been there a few years earlier and mainly was trying to find new records for the moss florula he is preparing. We took one day off to collect in the saddle between two peaks—a palm swamp which drained into a waterfall, the source of base-camp creek. Here, by crawling deeply under an overhanging boulder, I found *Flakea*, a squamulose genus not previously known from the Guianas. After six days at Mont Galbao, we retraced our route to the auberge, packed, and returned home via Saül, Cayenne, Martinique, and San Juan.

Although I had a great time in French Guiana and collected several hundred specimens, I was a little disappointed in the lichens from Mont Galbao. They seemed distressingly similar to those in the lowland forest, whereas my goal was to collect different genera and

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families. According to Bruno, the summit forest of Mont Galbao, though different from the surrounding lowlands, is not a true cloud for-

est, which is found at much higher altitudes.

All my collections were carried back to Dick Harris at NYBG. In mid-February of 1998 I visited Dick, and we sorted the lichens to genus. It turns out that the lichens I collected on Mont Galbao were indeed in the same genera as the lowland lichens: mostly *Graphis*, *Phaeographis*, *Graphina*; *Thelotrema*, *Ocellularia*, *Myriotrema*; *Porina* s.l., *Dimerella*, *Coenogonium*; "*Lecidea*" s.l., *Leptogium*, and various sterile species. However, it also turns out that the species composition was quite different than the lowland collections Dick made on his own visit to Saül. This was a pleasing result.

Putting species names on the collections will be a daunting task for someone. According to André Aptroot, one-third to one-half of all corticolous lichen species in recent collections from Guyana and Venezuela could not be named. These unnamed lichens await generic monographers who will circumscribe and describe the new species. Given the shortage of alpha taxonomists, my specimens from French Guiana may not be completely dealt with for a long time.

Phil May, Vice President of the Friends of the Farlow, is coauthor with John Sheard of an article on Amandinea in the summer 1997 Bryologist and is sole author of "Ophioparma lapponica — a misunderstood species" in the December 1997 Harvard Papers in Botany. At present he and Ernie Brodo are revising Ernie's 1985 "Guide to the Literature for the Identification of North American Lichens."

FOF Fellowship Awarded to Jamie Platt

The FOF Graduate Fellowship will bring Jamie Platt, a Ph.D. candidate at Oregon State University, to the Farlow Herbarium in August. Her FOF fellowship will enable her to study and sample collections for DNA sequencing and will promote understanding of relationships among the Helotiales and some lichenized taxa. For further information on our FOF Research Fellowship, please go to our web page.

Reference Requests

Your FOF membership gives you access to the references in the Botany Libraries.



Lisa DeCesare, Reference Librarian and Archivist at the Botany Libraries, welcomes your requests for photocopies. Please direct your requests to:

Lisa DeCesare
Harvard University Herbaria
22 Divinity Ave., Cambridge, MA 02138
FAX: (617) 495-8654
email ldecesar@oeb.harvard.edu.

Summer Seminar on Discomycetes

There will be a flurry of activity this summer on discomycetes studies with the presence of several students, both graduate and undergraduate, and with visitors. We will be taking over one of the teaching labs and will be doing field work around New England. This will provide a unique opportunity to exchange ideas and learn about these beautiful fungi. Space in the lab may be limited but there will be a chance for Friends to hear lectures and participate in field trips. For further information contact:

Donald H. Pfister
Asa Gray Professor of Systematic Botany
Harvard University Herbaria
22 Divinity Ave., Cambridge, MA 02138

News of the Farlow

F.A. "Mimi" Harrington, who was a post-doctoral fellow, has left and is at Cornell University working in a fungal genetics lab.

Richard Weinstein will be joining the Farlow as post-doctoral fellow on the PEET grant and will work on the monograph of the Sarcoscyphineae. Rick, who has done recent field work in Antarctica, is completing his Ph.D. in fungal ecology at Cambridge University in England.

Christine Liebson joined the staff this March as a Curatorial Assistant to **Scott LaGreca**. Christine is working on curation and integration of the bryophyte collections, a resource of almost half a million specimens.

Graduate students have been admitted for next year and among the admittees is **Kris Peterson** who will be beginning work on ascomycetes with **Don Pfister**. Kris comes to us with a master's degree from San Francisco State University where she worked on the genus *Agaricus* in Hawaii. We look forward to her arrival in the summer.

Teresa Iturriago, from Venezuela, will spend several months in Cambridge this summer working on molecular and morphological studies in *Cookeina*, a tropical discomycete. As a visiting scholar she will be involved in our monographic studies of the Sarcoscyphineae.

Memorial Service

It is with great sadness that we announce the death of **Reed C. Rollins** (December 7, 1911 - April 28, 1998), Asa Gray Professor of Systematic Botany, Emeritus, the Director of the Gray Herbarium (1948-1978) and a member of the FOF Steering Committee. A memorial service will be held on **May 22, 1998** at 2:00 P.M. at Memorial Church, Harvard Yard. A reception will follow in the Farlow Library. Contributions may be made to the Reed C. Rollins Fund for Botanical Field Work, Harvard University Herbaria, 22 Divinity Avenue, Cambridge, MA 02138.

FOF Financial Report

July 1, 1996 - June 30, 1997

Beginning Balance	\$ 6,297.28
Income	
Membership	3,373.16
Book Sale	1,831.58
Total	5,204.74
Expenses	
Newsletter	
Printing 1996	411.80
Printing 1997	1,049.50
Postage 1996	255.64
Postage 1997	429.64
Imaging	34.00
Book Sale	47.62
Christmas Cards	157.30
Annual Meeting	736.34
Supplies	35.95
Misc	119.85
Total	3,277.64
Closing Balance	\$ 8,224.38
Endowment	
Balance 7/1/96	\$ 31,105.72
Interest	1,764.33
Balance 6/30/97	\$ 32,870.05

1998 Annual FOF Meeting

Our annual FOF meeting will be held the afternoon of **Saturday, November 7, 1998**. A further announcement will be forthcoming.

Dr. David Hibbett and Elizabeth Kneiper will have mounted the seventh FOF cryptogamic display in the Cabot Science Library. The topic will be the phylogenetics of fungi. The exhibit will run for November and December.

New FOF Web Page

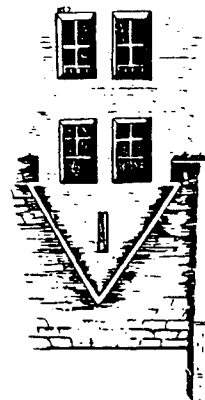
Turn to the Friends of the Farlow web page at <http://www.herbaria.harvard.edu/fof/friends.html> for information on membership, our research fellowship, upcoming events, links to cryptogamic references, and Friends of the Farlow items for sale.

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OF CRYPTOGAMIC

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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, \$5-25; Full member, \$25; Sponsor, \$50-100; Benefactor, \$1000 or more. To join please make your check payable to the **Friends of the Farlow** and send to the address below. The membership year runs from January 1st to December 31st. Members receive a discount on Farlow publications and services, participate in book sales, annual meetings and other events, and receive a special welcome at the Farlow. This newsletter is published twice a year, in April and October. For more information, contact the Farlow Reference Library, 20 Divinity Avenue, Cambridge, MA 02138 USA (Tel. 617-495-2369; FAX 617-495-9484).