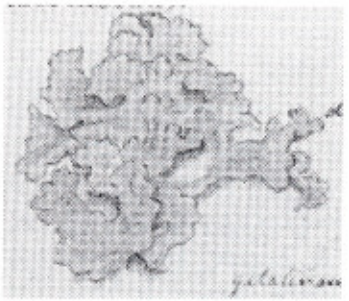

Newsletter of the FRIENDS OF THE FARLOW

Number 43 Spring 2004 K. Griffith, Editor

The Geneva Sayre Fellowship 2003
Studying The Farlow Lichen Collections from the British Isles

Mark R.D. Seaward

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I was indeed fortunate to work in the Farlow Herbarium during August 2003, thanks to the generosity of the Geneva Sayre Fellowship. Although much of my time was spent examining the internationally important Thomas Taylor lichen collection, I also had the opportunity to avail myself of the Reference Library of Cryptogamic Botany, to give a lecture on "Lichens, Agents of Monumental Destruction" to a most appreciative audience of botanists, participate in a lichenological field trip to Orange County and generally experience Harvard life, spending most of my evenings in bookshops and restaurants in the company of most hospitable colleagues.

The main objective of my visit to the Farlow was to make a detailed examination of its 19th century British and Irish lichen collections, which have not hitherto been investigated *in toto* in terms of their contribution to our knowledge of their collectors and their value in on-going ecological and phytogeographical studies. As Director of the British Lichen Society's Mapping Scheme since its inception in 1963 I have been active in detailing the contents of many British and Irish herbaria (currently, for example, working on major collections at Oxford and Manchester Universities) and in reviewing archival material and literature sources to complement the bibliographical survey to 1975 (Hawksworth & Seaward, 1977).

It is clear from my studies that collections and archival material pertaining to several key British lichenologists are in herbaria and libraries outside the British Isles. One such important depository is the Farlow, which contains the collection of Thomas Taylor (1786-1848). He was undoubtedly a most able lichenologist (as well as bryologist) and certainly Ireland's premier cryptogamic botanist during the first half of the 19th century. Limited numbers of his lichen specimens are to be found in several

Clara Cummings Walk
Saturday, May 1, 2004. See page 8.

British and Irish herbaria (eg. The British Museum, The Manchester Museum, National Botanic Gardens, Dublin) which bear testimony to his observations and taxonomic abilities, but his major collection, including a significant number of type specimens, purchased by the Farlow Herbarium, needs a more detailed study than has hitherto been undertaken.

Thomas Taylor

It is fitting that I should refer to Geneva Sayre's excellent biographical account and biographical studies of Taylor (Sayre 1983, 1987). He was born in India, actually on a boat on the Ganges on 10 May 1786, where his father, on active duty with the Bengal Army of the British East India Company, had married an Indian lady ('Begum'). At the age of seven, Thomas, eldest of four sons and four daughters, was sent home to Ireland to be educated at a French school in Cork. He entered Trinity College, Dublin in 1802, and graduated with a BA in 1807; soon after he took up medical studies, qualifying in 1814. Thomas married in 1809, inheriting estates in Dunkerron (Co.Kerry) and Dublin respectively through the deaths of his own father and his father-in-law.

Despite a successful medical practice in Dublin, his chief inclination was already to botany, being a member of an enthusiastic group of amateur botanists, including John Templeton (1766-1825) and Ellen Hutchins (1781-1815), whose lichen collections, incidentally, are contained within the Taylor herbarium at the Farlow (see below). Taylor's particular interest at this time was bryology, which culminated in the publication of *Muscologia Britannica* (Hooker & Taylor, 1818; 2nd ed. 1827). By 1817, Taylor was searching for more congenial employment since he had suffered a reduction in his income and was finding life in Dublin increasingly expensive, together with demanding 'epidemic fever' work which left him little time for botany. In January 1820, Taylor was appointed Professor of Natural History at the Royal Cork Institution, lecturing on mineralogy, zoology and botany and taking over the Secretaryship in 1827. The Curator of the Botanical Garden at this time was James Drummond (c.1784-1863), who after disposing of his plants in 1829 (his lichens are also in Taylor's collection at the Farlow), emigrated to Australia. A year or so later, Taylor resigned from the Institution. On the whole, his time there had been unpropitious, doing little collecting, judging by his herbarium, and publishing nothing. He retired to his estate in Dunkerron, near Kenmare, spending much time improving his house and garden, and engaging in local politics. Here he remained for the rest of his life, during which he published most of his papers on bryophytes, lichens and fungi, including the second part of *Flora Hibernica* covering the bryophytes and lichens (Taylor 1836); here also he amassed his extensive lichen herbarium, most of his specimens bearing the label 'Dunkerron'. Taylor also received specimens from correspondents throughout the world (especially Australia and South America), studies of some of which were

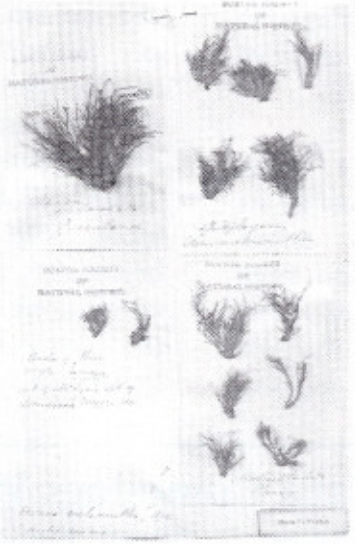

Fig. 1. *Usnea sphacelata*

published; these too are to be found in his collection at the Farlow. Attending to those afflicted by the declining economic circumstances of Ireland, exacerbated by the potato famine and outbreak of fever, took a heavy toll on Taylor, who died on 4 February 1848.

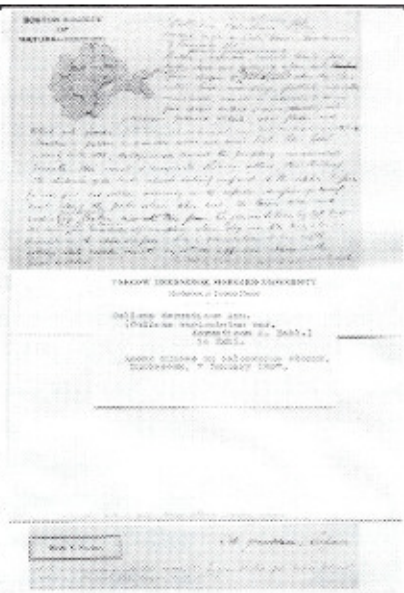

Fig. 2. *Collema auriforme*

Taylor's herbarium was purchased in 1849 by John Lowell, a Boston financier, who donated his herbarium, including Taylor's lichens, to the Boston Society of Natural History in 1857. During this time many of the lichens were examined, and some annotated, by Edward Tuckerman, but it is also interesting to note that the collection was added to (perhaps by as much as 30%) during its time with Lowell and/or the Boston Society. The cryptogams, including the lichens were donated to the Farlow in 1941.

Approximately 180 collectors are represented, some only by the odd packet, but nevertheless including some famous names such as the botanists Acharius, Borrer, Darwin, E. Fries, J. and W. Hooker, von Humboldt, Menzies, Schaerer, Spruce and Tuckerman, and the explorers Beechy, Franklin, Parry and Richardson. In all, 26 countries and islands are represented by significant numbers of packets, with occasional packets from a further 45 countries and islands. Here and there, through label details of the specimens collected (**Figure 1**), the researcher gets fascinating glimpses of exploration in such places as Egypt, the Arctic (including voyages to the north pole and in search of the north-west passage) and the Pacific Ocean, and of such curiosities as a specimen of *Pseudevernia furfuracea* (obviously added to the Taylor collection whilst held by the Boston Society) originating from "a mummy unrolled by the Montreal Nat.Hist.Soc.1859, the age of w'ch was est. at 500 to 800 yr B.C. Several handfuls were found on the chest of the mummy...& within all the wrappings".

As regards Taylor's Irish lichen collections, these are particularly important in that they contain many critical taxa (including numerous type specimens) richly supported by sketches and annotations (**Figure 2**). Although most of the material is localized, some specimens have place names which proved elusive to track down, even on early 19th century maps, and some specimens, particularly those collected by Ellen Hutchins, are without localities (but assumed to be collected from the Bantry area). A catalogue of these holdings is currently being prepared.

Work at the Farlow also provided me with the opportunity to examine lichen material collected from Hong Kong in 1854 and 1855 during the United Sates North Pacific Exploring Expedition, 1853-1856. A considerable number of specimens, as well as those taxa investigated by Tuckerman (see Pfister & Sayre, 1978), were tracked down; this important survey includes records additional to (or at least earlier to) those listed in recent publications (Aptroot & Seaward, 1999; Aptroot & Sipman 2001). The accessibility to this and the Taylor collection and the granting of permission to have material on loan are greatly appreciated.

The Farlow Herbarium is a major lichenological resource of international importance. Those given the opportunity to investigate its contents are both fortunate and privileged. I am deeply indebted to Harvard University, as a recipient of the Geneva Sayre Fellowship, and more particularly to Donald Pfister and Scott LaGreca, for furnishing me with research facilities and supporting my work in so many ways.

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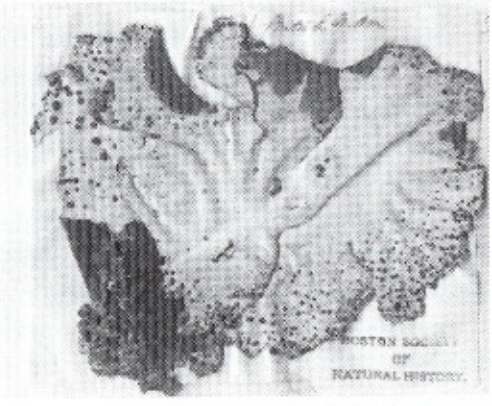

More about Thomas Taylor and his Herbarium ...

by Judy Warnement

Mark Seaward presents a wonderful introduction to life and scientific contributions of Thomas Taylor, citing papers by the late Dr. Geneva Sayre. Sayre, a long-term research associate at the Farlow Herbarium, found Taylor and his herbarium to be intriguing subjects. She combed archives in Ireland, the United Kingdom and the United States for Taylor correspondence, and interviewed his descendents in Ireland and Canada. The family gave her a copy of an unpublished manuscript written in 1912 by Taylor's grandson, Henry, which documented the Taylor genealogy and Henry's reminiscences. Sayre also traced the path of Taylor's famed herbarium.

Taylor enjoyed the respect of his peers throughout his life, and his esteemed collaborator, William J. Hooker, lamented his passing in a notice in the London Journal of Botany, (1848. 7: 162). Hooker said:

> Few naturalists had studied more deeply, and few more successfully, as his various writings testify, the Cryptogamic plants of all parts of the globe, especially the *Musci*, *Hepaticae*, and *Lichens* and the recent additions to his Herbarium, many of which we ourselves had the happiness of contributing, would have given him occupation for many years to come, in the determining and describing them. (p. 162)

Hooker also noted that Taylor's herbarium, library, and microscopes "will be, bye-and-bye, offered for public sale, or disposed by private contract." He followed the progress of the sale of the herbarium, writing in the

Journal (p. 385) later in 1848:

> … we are now given to understand that if not taken by private contract, it will be offered for sale in London. The value set upon the entire collection, by competent judges, is 200 pounds.

The suspense builds when Hooker prints a detailed inventory of the 8,138-sheet herbarium on p. 445-446. He mentions that it includes illustrations, manuscript observations, and "several parcels of duplicate specimens." Hooker announces early in 1849 (Hooker's Journal of Botany. 1849. 1: 63):

> It may be interesting to many of our readers to know that the rich Cryptogamic Herbarium of the late Dr. Taylor, with all his drawings and MSS., were purchased by a distinguished and patriotic individual of Boston, U.S.A., Mr. Lowell. Happily there are many rising Cryptogamic botanists in the United States who will avail themselves of the treasures existing in this collection, while describing the plants of their own country.

John Amory Lowell, a Boston financier, member and patron of the Boston Society of Natural History, and close friend of Asa Gray, maintained an impressive personal library and herbarium. The Taylor Herbarium must have been a jewel in his collection, but he generously gave the bryophyte specimens to Gray for Harvard. Gray immediately sent them on to William Sullivant in Ohio for determination. They remained with Sullivant until his death in 1873.

In 1857 Lowell donated the remainder of the Taylor Herbarium to the Boston Society of Natural History. It was there that Edward Tuckerman examined and annotated the lichens. Seaward notes that additional specimens were added to the collection, perhaps during this period. The Society gave their portion of Taylor Herbarium to the Farlow Herbarium in 1941. The reunited collection has been a major attraction to bryologists, lichenologists and mycologists ever since. A limited supply of Geneva Sayre's two reprints, "A Thomas Taylor Bibliography," and "Biographical Sketch of Thomas Taylor," are available on request.

Lanting Eyes the Farlow

The internationally acclaimed nature photographer Frans Lanting has brought his eye to focus "through a glass darkly" on the diatoms in the Farlow. Long recognized as microorganims with strikingly beautiful glass cell walls, diatoms are one of several groups chosen by Lanting to illustrate the earth's biodiversity. Working with Bob Edgar at the Farlow since 2003 and using the Herbaria's Nomarski inteference microscope, he is capturing images destined to be part of a major travelling exhibit and book produced in association with Naturalis, the National Museum of Natural History of the Netherlands. Mr. Lanting is well-known for his books *Jungles* (2000), *Eye to Eye* (1997) and *Bonobo, The Forgotten Ape* (1997), as photographer-in-residence at the National Geographic Society and for receipt of the Sierra Club's Ansel Adams Award. Look him up at www.lanting.com/home.html.

LaGreca Named Curator of Lichens at the Natural HistoryMuseum, London

by Judy Warnement

Scott LaGreca, Curatorial/Research Assistant at the Farlow Herbarium since January of 1998, moves on this spring to become the Curator of Lichens at the Natural History Museum (NHM) in London. NHM is known for its vast, historical collections, and Scott will be responsible for the museum's 395,000 prepared lichen specimens, including 10,000 type specimens. He will also have the opportunity to work with the noted lichenologist, William Purvis.

A native of Rochester, New York, Scott earned his bachelor degree from Cornell University in 1991. He pursued a graduate degree at Duke University under William L. and Chicita F. Culberson, receiving his Ph.D. in 1997. His thesis was entitled, "The systematics and evolution of the lichen genus *Ramalina* with an emphasis on the *Ramalina americana* complex."

In 1998 Scott came to the Farlow Herbarium on a three-year postdoctoral appointment as a Curatorial/Research Associate. His primary responsibility was to manage the transfer and storage of the Bartram moss herbarium as part of an NSF-funded herbarium renovation project developed by Curator Donald Pfister. This was no small task since it meant relocating more than 450,000 specimens. Once the specimens were arranged in the new compact shelving and the terms of the grant were fulfilled, Scott's appointment was extended. He moved on to incorporate into the Farlow Herbarium the backlog of lichen specimens from the Clark University Lichen Herbarium, and the lichens collected by Lucy C. Raup in 1939 at Brintnell Lake (formerly Glacier Lake), NWT, Canada.

The project that he is the most proud of starting is the update of the nomenclature and the reorganization of the Farlow Lichen Herbarium. Scott estimates that the project is more than two-thirds complete and hopes that others will be inspired to finish the work.

Scott's research on *Ramalina* has continued and resulted in published papers on the chemotaxonomy and the phylogenetics of the genus. He was a visiting scientist in Copenhagen from May through June, 1998, working with colleagues on molecular population genetics of *Xanthoria parietina* and *X. elegans*. Scott looks forward to working on a phylogenetic study of the *Ramalina siliquosa* group of lichens in their native habitats in the United Kingdom and elsewhere in Europe.

Shortly after Scott's arrival in Cambridge, he found himself surrounded by other lichen enthusiasts and he became a central figure in their research endeavors. Most recently, they completed a survey of lichens and bryophytes found on the Boston Harbor Islands that was funded by the Massachusetts Natural Heritage and Endangered Species Program. He has also been an active member of the Friends of the Farlow, contributing papers to the Newsletter, leading groups on the annual Clara Cummings walks, and sharing his expertise with FOF members. He is proud to have recruited two new members who are now familiar faces at the Farlow, Mary Lincoln and Doug Greene.

In addition to his Farlow duties, Scott has worked as a teaching assistant at Harvard, held lichen identification sessions, led nature walks at the historic Fort Warren on Georges Island, and recently created and distributed a "memorial set of specimens" in honor of his late advisor, Dr. William Culberson. Scott's friendly face, his modest good nature, his sense of humor, and his willingness to share his knowledge will be missed. However, the Friends of the Farlow will have him as a good friend in London with access to those remarkable collections. We wish him great success and happiness in his new position, and we hope he will return to the Farlow often.

More about Scott ...

"Shipwrecked"

by Douglas N. Greene

As we all jumped into the cold water on that sunny June 2001 morning, Scott led the way. Seven of us were working on the Boston Harbor Islands Project. We collected bryophytes and lichens, depending on our specialties, and other data. Jet planes took off and landed from Logan airport every few minutes, but "our" island was oblivious to the busy world around it. I recall someone collecting a *Ramalina sp.* from a tree but I was busy finding the only *Cladina sp.* on the Island. We meticulously scrutinized every substrate for any bryophytes and lichens.

The Winthrop Harbormaster had said that he would come around midafternoon in his small craft before the tide went out. Promptly at the assigned time Scott and a few of the others waded out in three feet of water to the Harbormaster's boat 60 feet off Snake Island. Shortly I myself joined the wet but triumphant surveyors with my bag of rocks, wood and soils. Scott was happily pointing out all the marine life that was appearing in the shallows: crabs, moon snails and some small fish.

Time didn't wait for the tide though. In what appeared to me a few minutes time, the outgoing tide had lowered the water level to about 2 feet. Still the rest of the crew hadn't made it to the boat and were casually walking towards us from the far point of the beach. The Harbormaster had a look of concern as the boat started to list to the port side. He started up the motor but with all its torque it wouldn't move. We were grounded.

"Abandon Ship" - or something like that - was said. Scott, the ever-calm leader, was enjoying the adventure. He understood the seriousness of the situation well enough: an evening being marooned in the middle of the ocean of Winthrop harbor. With zest and vigor Scott, braving the dangerous waters and mud flat, lowered himself into the water, calmly assuring the others that it was safe to follow. Even with the viscous moon snails and crabs trolling for their next meals right around his feet, he confidently smiled and laughed. We all soon followed and stood there up to our knees.

We were thankful to be rescued within the hour by the Harbormaster's son and others, piloting a pair of "Zodiacs" that could brave the shallows. Throughout our ordeal, Scott LaGreca showed the "right stuff"; others would have cowered in fear and hopelessness, but Scott never flinched in his hour of disaster.

I will always remember that day, Scott. We'll all miss you at the Farlow Herbarium. We wish you good health and happiness in your new position at the Museum of Natural History in London.

Clara Cummings Walk
Saturday, May 1, 2004
10:00 AM—3:00 PM

The Ninth Annual Clara Cummings Walk will be held on Saturday, May 1, 2004 at the Manchester-Essex Wilderness Conservation Area in Manchester. The Wilderness Area is easily accessible from Route 128 (exit 15). The Manchester-Essex woods comprise an area of 1,500 largely unfragmented acres which were never farmed. Extensive rock outcrops and undisturbed soils result in high species diversity. In addition, both red maple and cedar swamp habitats are present. We will be joined by interested members of the Manchester-Essex Conservation Trust, which owns 500 acres in the Wilderness Area. Specialists will lead walks and help identify bryophytes, lichens and fungi.

Meet, rain or shine, at 10 AM in the parking lot on School Street (on the left) one half mile north of exit 15 off Route 128. Bring lunch, water, raingear, insect repellent, and a hand lens.

Member News

A huge vote of thanks to **Linda Berard** for being our excellent Newsletter Editor for the past 6 years. We'll greatly miss her diligence and common sense.

In the forthcoming 2004 issue of the journal *Diatom Research*, **Bob Edgar** and colleagues J.P. Kociolek (California Academy of Sciences) and S.M.Edgar (Bigelow Laboratory for Ocean Sciences) have described a new species of Miocene freshwater planktonic diatom from Oregon. The new species description emphasizes a novel quantitative description of the covariation of cell wall characters with the life cycle and statistically compares this covariation with that in closely related species as part of the diagnosis.

On Friday, Dec. 19 at 2:42 PM, curatorial assistant **Eileen Wozek**, and husband Jack, welcomed their first child, Ella Margaret Wozek, into the world. Congratulations Eileen and Jack! Eileen is currently out on maternity leave.

The Farlow welcomes new addition **Genevieve Gentry-Lewis** to our ranks. Gen received her bachelors degree from U. Mass Amherst, where she majored in General Biology. She's also a whiz with computers, and has been very generous helping us solve some computer problems. Gen is currently working at the Farlow on Tuesdays and Thursdays—if you see her, do say hello.

Don Pfister was featured in an article called "Beyond the mushroom : Donald Pfister defends the 'other' fungi", published in the winter 2004 issue of Colloquy (a quarterly magazine for alumni of Harvard's Graduate School of Art and Sciences).

In January, graduate student **David Hewitt** braved sub-zero temperatures and visited the McLaughlin lab at the University of Minnesota, St. Paul. Among other things, David learned transmission electron microscopy for use in his comparative, phylogenetic study of ascomycete fruiting body development. His trip was funded through the National Science Foundation's "Assembling the Fungal Tree of Life" project.

Dr. Teresa Iturriaga, from the Department of Biologia de Organismos, Universidad Simon Bolivar, is visiting the Farlow from February through May. Her primary goal is

the completion of monographic work on the discomycete genus *Cookeina*, in collaboration with Don Pfister. Teresa is also busy with preparations for a book on the systematics of inoperculate discomycetes, which will be co-edited with Don. Her visit is funded through the generosity of Harvard's David Rockefeller Center for Latin American Studies. Teresa has visited the Farlow on numerous occasions in the past, and it always a pleasure to have her here with us.

Graduate student **Kris Peterson** returned from Kansas to consult with Donald Pfister from March 7 through March 14. It was very good to see her again.

The Annual FOF Book Sale

The FOF Annual Book Sale list will be mailed in April to FOF members whose dues are up to date. (If you're not paid up, get those dues in soon! You still have time.) Many of this year's offerings come from the John Minot collection, donated to the Farlow by George Riner on behalf of the Boston Mycological Club. We would also like to thank other donors including Bob and Nancy Reid, Elizabeth Kneiper, Linda Berard and Sam Hammer. Donations for future sales are always appreciated.

Summer Courses at Eagle Hill

The following 2004 advance and professional level botany seminars will be offered at the Humboldt Institute on the coast of eastern Maine:

May 23—29 David Richardson
"Lichens and Lichen Ecology"

May 30—June 5 Nancy Slack
"Bryophytes and Bryophyte Ecology"

June 6—12 Irwin M. Brodo
"Crustose Lichens of Coastal Maine"

June 13—19 Irwin M. Brodo
"Crustose Lichens: Special Topics: Lecanora, Ochrolechia and Sterile Crusts"

June 13—19 Richard Andrus
"Advanced Sphagnum Field Studies"

July 5—11 Alan Baker
"Freshwater and Marine Microscopic Algae"

July 11—17 Stanley Cichowitz
"Photography Through the Microscope and Close-up Photography"

July 25—31 Steven Stephenson
"An Introduction to Myxomycetes"

August 8—14 Gretchen Halpert
"Botanical Illustration: From Floras and Field Guides to Porcelain"

August 22—28 Donald Pfister and Meredith Blackwell
"Biology of Fungi"

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