Summer 2014

"This is not a hand lens. It's a florascope!"

Florascope

The Newsletter of the A. C. Moore Herbarium
University of South Carolina

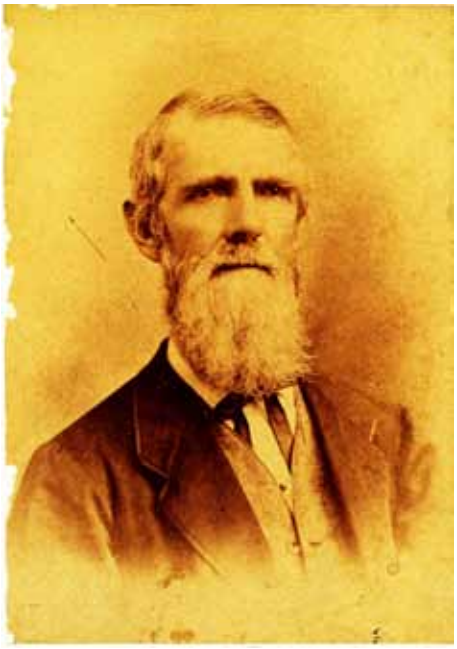
Ravenel: SC Scientist of the Mid-1800s

Henry William Ravenel (1814-1887), a South Carolinian, was one of the foremost botanists of the American Civil War era. His birthplace is frequently indicated as either Pineville or Pooshee, in present-day Berkeley County although Ravenel himself refers in his journal as being born at the Wedge Plantation in Charleston County. Despite the questions regarding his birthplace, Ravenel's later life is well-documented, in his extensive journals (begun at the age of 45), portions of which are excerpted in a biography (*Henry William Ravenel, 1814-1887, South Carolina Scientist in the Civil War Era*, by Tamara H. Haygood, University of Alabama Press).

Ravenel attended the Pineville Academy, and then was a student at South Carolina College from 1829, graduating in 1832. Following his marriage in 1835, he settled near his parents, building a main home at Northampton, and a summer home at Pinopolis. In 1853, he moved for health reasons to Aiken, living first at Hampton Hill outside the city and then in Aiken itself.

He soon established himself as an eager student of natural history, and his interests in botany, and especially mycology, continued through his middle and later years. Ravenel developed friendships and correspondence with an extensive range of contemporary botanists, and he shared with them many of the specimens he collected. His scientific interests focused especially on the collection of fleshy fungi; Ravenel's five-volume sets of dried fungal specimens, *Fungi Caroliniai Exsiccati* (1853-1860), and his contributions to the eight-volume series *Fungi Americani Exsiccatti* (London, 1878-1882), were widely distributed, upon a subscription basis, and many of these collections now figure heavily into the systematic taxonomy of fungi.

Ravenel was also, throughout his life, a serious collector of vascular plants, and his personal herbarium, with over 6,500 individual plant specimens, remains of great research significance, especially for current understanding of the flora of the southeastern United States. Through international correspondence and exchange, however, his collections boast a significant cosmopolitan element as well. While some specimens obtained through exchange predate his own birth, other collections as well as correspondence from his children indicate that he was actively collecting up until his passing. The breadth of his collections matches his interests, which stretched beyond systematics to related disciplines such as economic botany, public health, and ecology. These related pursuits are reflected through the presence of vouchered agricultural specimens within his herbarium, and are also evident in his own words.



Through the latter half of his life, Ravenel kept a detailed journal in which he revealed not only his thoughts on the major defining event of his lifetime, the American Civil War, but also his observations as a scientist and naturalist. His life's work was fragmented posthumously contrary to his desire for it to remain a single

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Henry William Ravenel

entity. While large portions of the collection remain relatively complete and stable, others have been further disbanded or lost forever. Ravenel's private collection of vascular plants, which was housed for many years at Converse College in Spartanburg, is now located in the University of South Carolina's Department of Biological Sciences, as the H. W. Ravenel Collection of Converse College, within USC's A. C. Moore Herbarium. Interdisciplinary collaboration and renewed interest in the research potential of these historic specimens has resulted in a better understanding of the status and distribution of Ravenel's collections. Currently proposed projects include the 're-unification' of these disarticulated elements in an online environment aimed at facilitating and extending the reach of continued research.

As a way of celebrating the life and contributions of Ravenel to his state, nation, and University during the bicentennial of his birth year, we are pleased to offer a symposium on Saturday, September 20. This Symposium , "H. W. Ravenel 1814-1887: Two Centuries of Botany in South Carolina," will take place at Currell College Auditorium, room 107, on the USC campus, and is free of charge, and open to the public. The program begins at 9:00 a.m. with an introduction by Rudy Mancke. Featured speakers will be Richard Porcher, David Rembert, and Harry Shealy. A tour of the Herbarium (Coker Life Sciences, room 208) for viewing the Ravenel collection will be available, and a sampling of his specimens will be on display at McKissick Museum. Additionally, selected items from Ravenel's works and writings (these including an original of *Fungi Exsiccatti* as well as his journals) will be on display at The South Caroliniana Library, on the Horseshoe. The program concludes about 4 p.m.

H. W. Ravenel 1814-1887: Two Centuries of Botany in South Carolina Symposium.

Sept 20, 9 a.m. Currell College Auditorium (room 107). Save the date!

Ravenel's scientific colleagues

The study of botany lends itself to collaboration, in part from a kind of "show and tell" that pervades new discovery. Ravenel's associates were largely developed from his extensive collaboration with botanists outside South Carolina, some of whom contributed to the remaining portion of his vascular plant collection.

Moses Ashley Curtis (1808-1872). An Episcopal minister, Curtis was one of Ravenel's closest friends among contemporary botanists. Though he is most often associated with Hillsboro, N.C., where he first moved from Massachusetts in 1841 and returned again in his later years, he spent some important and very active years from 1847-1856, at Society Hill, in South Carolina. His best-known works were two volumes on North Carolina botany, published in 1860 and 1867, and, like Ravenel, Curtis played an important role in collecting for the eight-volume series North American Fungi.

Stephen Thayer Olney (1812-1878). Olney, a native Rhode Islander, was established in business in Augusta, where he and Ravenel made contact, their relationship probably encouraged by Asa Gray at Harvard. Olney's return to Rhode Island led to extensive plant collecting, especially around Providence, and later to a flora of the state. Whereas Ravenel was a specialist in fungi, Olney was a student of algae. Olney's vascular plant collection is currently at Brown University, which also features a number of specimens from Ravenel, exchanged with Olney.

Samuel Barnum Mead (1799-1850). A pioneering physician and botanist in Illinois, Mead's voluminous botanical collections were made between 1830 and 1880. He collaborated with most of the botanists of his period, actively trading specimens. Mead's collections are itemized in his 1846 publication "Catalog of plants growing spontaneously in the State of Illinois, the principal part near Augusta, Hancock County," in *Prairie Farmer* (6: 35-36, 60, 93, 119-122). Within Ravenel's vascular plant collection, Mead's offerings are among the earliest collections.

Frank Lamson-Scribner (1851-1938). Lamson-Scribner served as botanist on the Northern Transcontinental Survey in 1883, inventorying grasses and forage plants in the Montana Territory, and was eventually an important member of the botanical staff at the Smithsonian Institution. From 1888 to 1895, Lamson-Scribner was professor of botany and horticulture at the University of Tennessee in Knoxville.

William Marriott Canby (1831-1904). Canby was an inveterate plant collector, his travels including Florida and the Pacific Northwest. Most of his specimens, and the ones exchanged with Ravenel, are from Delaware. Canby is memorialized with *Oxypolis canbyi* (now in the genus *Tiedemannia*) as well as *Lobelia canbyi*, both of which occur on the coastal plain of South Carolina. He and Ravenel probably never met; Canby retired to North Augusta shortly before his death (and after Ravenel's).

Lewis Reeves Gibbes (1810-1894). Gibbes was born in Charleston and became an alumnus of South Carolina College (1829), graduating the year Ravenel entered as an undergraduate. In 1835 Gibbes published a "Catalogue" of the plants of Columbia and its vicinity, representing the first botanical work centered

Ravenel's specimen of "Yellow poplar," *Liriodendron tulipifera*, from Berkeley County.

in present-day Richland County. Gibbes served as an instructor at South Carolina College, and then became a member of faculty at the College of Charleston, where he was a professor of mathematics, astronomy, and physics.

Alvin Wentworth Chapman (1809-1899). Chapman was born and spent his early life in Massachusetts, moving to Georgia, and then Apalachicola, Florida, where he established himself as one of the premier botanists prior to the Civil War. He collaborated extensively with Asa Gray, and published the first edition of his monumental *Flora of the Southern United States* in 1860. Chapman's herbarium is well-represented in the Ravenel collection.

Joseph Hinson Mellichamp (1829-1903). Mellichamp established himself as an important botanist and plant collector during his time in Bluffton.

Ravenel's contribution to agriculture

Ravenel's reputation as a mycologist led to his appointment by the US government as an advisor for cattle diseases, especially in Texas, following the Civil War. He left South Carolina for several months the spring of 1869 to collect and analyze potential fungal pathogens in Texas. He also used this time to augment his vascular plant collections, collecting among other items the type material for a new sedge, *Rhynchospora indianolensis*.

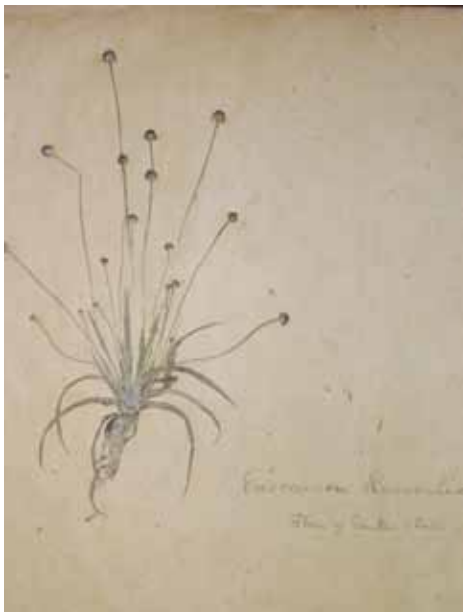
Beyond the taxonomy of local fungi and vascular plants, Ravenel exhibited a keen interest in gardening and agriculture, one of his principal interests being the development of new plant materials for various uses. Southern gardens since the founding of the nation were largely duplicates of northern counterparts, which themselves were largely developed from European "models." Prior to the Civil War, gardening was often conceptualized as an activity for women, a sort of diversional activity from social constraints, whereas outright agriculture and the production of useful crops were for men. "Kitchen gardens" would be close to the house, featuring medicinal plants as well as culinary herbs. Ravenel more broadly envisioned gardens incorporating utilitarian as well as ornamental roles. Ravenel served in a variety of capacities as an agricultural advisor for the *Charleston Weekly News & Courier.* He was a long-term member of the Black Oak Agricultural Society. Ravenel authored a short book, "The Southern Gardener" in 1871, intending this work as a simple guide for beginning gardeners. His approach followed his own maxim, "There are thousands of people who pretend to have gardens and do not understand how to cultivate them to advantage." In his approach plant "luxuries" had as much a place in the garden as the "necessities." Ravenel's own garden in Aiken was apparently quite a showplace, and featured a variety of new species and innovative plantings.

NEH Grant Awarded!

Digitizing the Ravenel Collections

An unprecedented interdisciplinary collaboration between the A. C. Moore Herbarium, the South Caroliniana Library, Thomas Cooper Library - Digital Collections, and the Center for Digital Humanities at USC successfully secured funding from the National Endowment for the Humanities. The funding will support "Plants and Planter: Henry William Ravenel and the Convergence of Science and Agriculture in the Nineteenth-Century South." This unique project involves the digitization and reunification of the Henry William Ravenel Collection of Converse College (roughly 6,200 plant specimens) with his handwritten private journals and correspondence (nearly 5,000 pages). An online portal will provide full-text searching and browsing of the resultant digital collections and georeferenced localities of botanical specimens will be viewable through a mapping interface.

Since beginning work on this project in June 2014, Will Richardson has successfully completed specimen image capture for more than half the collection and Dylan Cobb has captured label data from several hundred specimens. The project will be completed at the end of April 2015. Funds from the Wade T. Batson Endowment for the A. C. Moore Herbarium were used to purchase imaging equipment and for a portion of student salaries.



Eriocaulon ravenelli was named in Ravenel's honor by his colleague A. W. Chapman.

Herbarium Report

The A. C. Moore Herbarium now includes approximately 120,000 collected specimens, including 6,512 within the H. W. Ravenel Collection of Converse College. Unprocessed specimens, our "works in progress," number about 10,000 specimens. Since our last issue of the *Florascope* (2012), we have mounted and accessioned approximately 6,000 new sheets. Most of our new additions arise from field work in South Carolina, notably by staff of the SC Heritage Trust Program, as well as from material sent to us on exchange by other herbaria.

In spite of the looming situation of overcrowding, we have committed to a five-year exchange program (limited to 1,000 specimens) with the Institute of Tropical Botany in Ho Chi Minh City, . This exchange is envisioned as a way of developing a collection of southeastern Asian taxa for teaching purposes. Eleven loans have been made since 2012, with a total of 304 specimens sent to other researchers for study.

Approximately 70% of the Ravenel Collection of Converse College has been repaired and accessioned (4,566 specimens), and is now available for study and loans. As an example, we were fortunate recently to have the leading expert on North American hawthorns, Dr. James Phipps at the University of Western Ontario, borrow and annotate a large majority of the *Crataegus* within the Ravenel herbarium. Making these specimens available to other scientists would surely have pleased Ravenel, as he intended for his amassed specimens to be used and studied.

The herbarium maintains a particularly large collection of aquatic species. Pictured here in situ is "Floating heart," *Nymphoides aquatica.*

New kinds of Specimens

Our Herbarium is and always be dominated by plant specimens from South Carolina. In addition, we have accumulated a variety of specimens from other places. As you might expect, plants of the Southeastern US are the second largest of the accessioned specimens, and then the rest of North America.

Do you think we might have specimens from other parts of the world? You've already read about our collaboration with a Vietnamese Herbarium, as a way of bolstering our collection of eastern Asian species, primarily for teaching purposes. Many of the specimens we have already received from Ho Chi Minh City represent tropical families not present in North America at all. Plus, it's nice to be able to compare genera and species shared by our region with central Vietnam. Many of these Vietnamese specimens have already been put to practical use in teaching, being put on display for students in the most recent Spring Flora class (BIOL 527). Beyond Vietnam, our collection includes sheets from the European Alps, and central Poland, as representative European plants.

We've also been able, this year, to begin developing the algal collection on hand for a number of years, but never accessioned. Our own Richard Zingmark, now retired, has graciously offered his entire assortment of marine macroalgae that he collected (mostly from California and the Caribbean), as well as all of the collections made by his students at USC: most of these are from Georgetown County.

In Memoriam

Dr. Alessandro Barchiesi

We are saddened by the loss of our friend, Alessandro Barchiesi (1925-2013). Born in Rome, Italy, he was a son of the late Arnaldo Valerio and Ida Guardabassi Barchiesi. The oldest of three sons, he graduated from the University of Rome with a degree in medicine. He joined Catholic Missions as a physician in Tanzania for five years. After completing his residency in Psychiatry at Illinois State Psychiatric Institute in November 1962, he began his own practice in Chicago until 1971. He joined the Veterans Hospital in Columbia as a psychiatrist in 1971, retiring in 1995. "Sandro" was a devoted volunteer in the herbarium from 1995 until 2002. We are pleased to have several hundred of his collections now on hand, many collected from areas poorly represented otherwise in our collection (for example, Mitchell County, NC). He was witty and cheerful, and we were thrilled to have him with us, even for such a short time.

Edelweiss (*Leontopodium alpinum*) from northern Italy, specimen collected by Alessandro's Barchlesi's father.

Student Helpers Introduce Themselves

Angie Korabik. Hey there! My name is Angie Korabik, and I am a rising sophomore at USC. I am a Biology major extremely interested in ecology, and I hope to add a minor in Marine Science before I graduate. I grew up about 15 minutes outside of Chicago, and many of my childhood summers were spent outdoors, exploring the woods near my house with my brother and sister. Near the end of eighth grade, I started to help my parents with the gardening, and I've held a strong fascination with plants and the outdoors ever since.


Angie Korabik

I was first introduced to collections work last summer when I interned at the Field Museum of Natural History in downtown Chicago. I worked in the insects division of the Zoology Department, where I learned to identify insects to species, as well as how to prepare the specimen to join the museum's larger collection. I still volunteer there when I go home, but now most of my collections experience is based in the A. C. Moore Herbarium.

As the collections manager, I take care of many basic functions that keep the Herbarium running, from mounting specimens, to going through donated collections, to sweeping the floor. I hope to continue my work in the Herbarium through my next three years at USC before I proceed to grad school to focus on Ecology and Evolution.

Besides finding an awesome career studying ecology, one of my life goals is to become at least trilingual. After six years of studying Mandarin Chinese, I am planning to travel to Chengdu, China in January to spend the semester abroad completing my Chinese Studies minor. Hopefully I'll be able to find some sort of Biology internship while abroad as well! Be sure to stop by the Herbarium whenever you can! We'd love to have you!

Dylan Cobb. I actually wasn't even sure what exactly a herbarium was before I started working here. I pictured some sort of large greenhouse with living plants in it, as opposed to the reality of thousands of dried plant specimens in large cabinets, pressed and glued onto large sheets of paper along with stamps and labels containing information about them.

My job involves taking the important information for each plant in our collection and putting it into a computer database. This information can be anything from the plant's genus and species to the collecting information and life cycle stage of the specimen. This is actually quite important because eventually our database will be accessible online and will be used in collaboration with several other Herbarium databases to make information about the thousands of plant specimens we have more accessible.

It was fairly easy to get the hang of databasing, at least until I started working on the Ravenel specimens from the mid to late 1800s. It was here that I learned that I would have to decipher some difficult 19th century cursive handwriting.

Another collection that I found especially interesting was the Vietnamese collection. Dr. Nelson has spent some time working with Vietnamese botanists to set up an exchange between our herbarium and their own, and these plants tend to be particularly eye-catching and sometimes smell like tea. The growing algae collection is really cool as well. I often find myself looking at some of our algal specimens and thinking that they look like a watercolor painting.

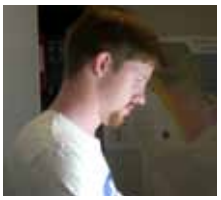

Dylan Cobb

To summarize, the Herbarium is both an interesting and enjoyable place to work, both because of the people that I work with and the nature of the work itself.

Will Richardson. I am Will Richardson, and I have had the pleasure of digitizing the Henry William Ravenel Collection of Converse College this summer in the A.C. Moore Herbarium.

I grew up in Sumter, where I developed a love for the outdoors. I remember many long summer days spent in the woods behind my house building forts with friends and enjoying the wealth of resources that South Carolina's environment has to offer.

My interests in the natural world continued to develop until high school when I was inspired to pursue these interests in the academic realm. It is unlikely that I would have ever realized my love for botany had it not been for my high school biology teacher, Mr. Hugh Hill. Mr. Hill is a former student of USC Professor Emeritus of Biology and first official curator of the A.C. Moore Herbarium, Dr. Wade T. Batson. Mr. Hill's teaching philosophy was deeply influenced by Dr. Batson, and his unique teaching style allowed me to enjoy many field trips while in high school to areas of significant botanical interest and variety such as Peachtree Rock and Forty-Acre Rock.


Will Richardson

During my early years of college while transitioning away from Biomedical Engineering to Biochemistry, I reawakened my love for botany while taking Professor Rudy Mancke's Natural History of South Carolina class. That class allowed me to experience again the joy of investigating the outdoors on a consistent basis as a naturalist and inevitably led me to change my major yet again. I chose to major in both Biology and Philosophy so that I could focus my scientific pursuits more exclusively on botany while still getting the full liberal arts experience that I want out of my education.

Working with specimens of historical value has been rewarding, giving me a greater appreciation of the botanists that have preceded me.

How YOU can help A.C. Moore

Despite the tight quarters in which the A. C. Moore Herbarium finds itself, our activities have not slowed down. If anything, we are busier than ever, with plenty of different teaching and research projects going on, as well as the plant identifications service which we provide. These various forms of activity are resulting in a continuing flood of specimens being processed, accessioned, and digitized… including the specimens within the Henry W. Ravenel Collection of Converse College. Thus, our space limitations are on two levels: physical space within the herbarium cases now on hand (no additional cases can fit inside the Herbarium!), and working space for staff and visitors. The Herbarium has occupied its current 1,400 square feet of floor space since 1992. It may be unlikely that private citizens can easily help with our space shortages, but they can easily help financially with a gift to the Herbarium. Donations to the Herbarium can be made to the W. T. Batson Endowment for the A. C. Moore herbarium; such funds are used for part-time student employment, as well as for every-day material needs, primarily adequate amounts of mounting paper. (A check made out to the herbarium's Endowment should be made payable to the "USC Educational Foundation," with a note reading "Batson Endowment—Moore Herbarium," and mailed to J. M. Herr, Jr., Chair of the Herbarium Endowment Committee, Department of Biological Sciences, University of South Carolina, Columbia, SC 29208. It's as simple as that!) Your gift to the Herbarium is much appreciated, and definitely put to good use. Thank you so much!

It's often crowded in the herbarium!

A. C. MOORE HERBARIUM
University of South Carolina

Florascope

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Editor.....John Nelson
Identification..... Plantman
Layout .....Tim Donahue

website: www.herbarium.org
email: nelson@sc.edu
803/777-8196

A. C. Moore Herbarium
Department of Biological Sciences
University of South Carolina
Coker Life Sciences 208
Columbia, SC 29208

university of south carolina
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