

Mississippi Rare Plants: A Case Study in the Herbarium

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In June 2007, the Mississippi Natural Heritage Program requested label data for specimens of plants on that state's rare and endangered list. As the UNC Herbarium is one of the largest collections in the southeastern United States, we were confident that we'd find some of the 456 species on Mississippi's list.

Matt Gromlich, senior at the N.C. School of Science & Mathematics in Durham, took on this project to tally Mississippi's rare flora. Together with volunteers Susan Giles and Betsy Via, Matt scoured more than 450 herbarium cases, entered label information into our database, and then quickly re-filed each specimen.

Of the 456 species that Mississippi is currently tracking, we found 225 in our collection. Because we have multiple examples of some of the species, label information for 606 specimens was sent to Jackson, Mississippi. The oldest specimen found was one of *Chasmanthium ornithorhynchum* collected on 6 July 1898 by Samuel Mills Tracy in Biloxi, Mississippi. The newest collection, *Hamamelis ovalis*, was dated 18 January 2006 and collected by Steven Leonard on Camp Shelby in Perry County.

Early in the project, Matt noticed that some specimens were inventoried in 1977 by Mary Love May for Mississippi Natural Heritage. Mary Love May earned a B.A. (1978) and M.A. (1982) in Botany from UNC-Chapel Hill and continues to be a generous donor to the North Carolina Botanical Garden. She and other botanists combed herbaria in the 1970s for rare plant specimens; location information from those herbarium labels was the basis for the first generation of rare plant maps and lists. Matt and I realized that we were re-inventorying the UNC Herbarium, precisely 30 years later! Out of the 606 specimens that Matt found and catalogued, about 70 had been inventoried by Mary Love May in 1977.

This is the first time that the UNC Herbarium has been systematically re-inventoried by an out-of-state Natural Heritage Program. In addition to updating Mississippi's database of rare

plant locations, this re-inventory is shining light on the evolution of Mississippi's rare plant list.

When I asked Matthew Smith, GIS analyst with the Mississippi Natural Heritage Program, about the history of Mississippi's rare plant list, he described the first official tracking list this way: "It's a faded document called the 'Special Plant List' and contains 113 plant species. . . . The document is not dated

but I have traced it with some confidence to late 1977 or early 1978, [because] it bears the name Cheryl Pilgrim and is lovingly festooned with the signatures of 'Cheryl Phillips,' 'Mr. and Mrs. Phillips,' and hearts everywhere. Memoranda from that period reveal that Cheryl Pilgrim was the Program's 18 year-old secretary at the time, and that she left to marry Robert Phillips in May 1978. [The Special Plant List] appears to be based on an earlier (prehistoric) list of 96 species given to the program upon its inception by 'Drs. Watson and McDaniels.'"

"Sidney McDaniel and Ray Watson [were] both from Mississippi State University," said Dr. Lucile McCook, curator of the Pullen Herbarium, University of Mississippi. "I suspect the list was put together by them sitting down and coming up with a bunch of species that they rarely saw. Ray Watson's specialty was trees."

After completing the inventory of plant specimens being tracked by Mississippi, Matt Gromlich decided to forge ahead and comb the herbarium for species tracked by Alabama. Moreover, South Carolina has contacted the UNC Herbarium to do an inventory!

The University of North Carolina Herbarium may appear to be metal cases of dead plants, but it is in fact a treasure trove of biodiversity—a record of plants

over time and space. These "dead plants" are an invaluable resource to today's botanists working diligently to protect America's living plants, animals, and the beautiful places in which they live.



Matt Gromlich (top), senior at the N.C. School of Science & Mathematics, inventoried the UNC Herbarium in 2007 for rare and endangered plants of Mississippi. Mary Love May (bottom), inventoried the UNC Herbarium in 1977 for Mississippi rare and endangered plants.