

CNH meeting, 2017

The consortium's annual meeting in 2017 was held in Cromwell, Connecticut, in conjunction with the two-day Northeastern Natural History Conference. During the afternoon program Saturday, Tim Whitfeld of Brown and Patrick Sweeney of Yale organized a session entitled "Herbarium Collections: A Resource for 21st Century Botany, Ecology and Conservation."

Sweeney gave the first talk, presenting basic information on the CNH and its activities since it was created in 2008. He said there are 138 herbaria in the consortium's region, of which 67 are active members, located in nine northeast states and four Canadian provinces. The consortium's mission is primarily to help herbaria digitize their collections so specimen information can be made available through the consortium's online portal. The portal now serves information on more than 1.2 million plant specimens. The data are used extensively for research, most recently on changes in phenology, Sweeney said.

Mason Heberling a post-doctoral researcher based at the Carnegie Museum of Natural History in Pittsburgh spoke about new uses to which old herbarium collections are being put. Herbaria were originally organized for taxonomic and floristic studies, Heberling said, but a recent analysis of research papers based on herbarium specimens showed that, while traditional subjects remain important, they have been joined by functional trait analysis, biogeographical studies and research motivated by an interest in biodiversity conservation. The continued use of herbarium specimens for new research goals indicates that there is a continuing need to collect specimens to keep specimen data up to date.

Robert Jarvis of SUNY-Oswego spoke about the use of his university's collection to document the change in flowering time among plants of central New York. He studied eight woodland species, and all showed a trend toward earlier flowering, though the changes were not statistically significant in every species. *Hepatica acutiloba* showed a particularly pronounced change, flowering 20 days earlier than it did 29 years earlier.

Robert Naczi of the New York Botanical Garden reported on the preservation of written documents that are sometimes found on herbarium specimens. He said the documents, including notes on collecting locations and written correspondence with experts on particular plant families, can provide historically useful information. He cited one example that shed light on a dispute between N.L. Britton and M.L. Fernald about the validity of an *Eleocharis* species. In other cases, the letters or notes document examples of early introductions of non-native species, provide maps clarifying exact collection locations and include poems that give insight into botanists' creative lives. Information on the documents deserves to be entered into databases and linked to the relevant specimens so it becomes available to researchers, Naczi argued.

Sean Robinson of SUNY-Oneonta spoke about his work to create an online virtual herbarium for the more than 1 million specimens in the small collections at the many SUNY

campuses. He said he got a grant from SUNY to start the work and now is imaging specimens; the information is being distributed on the CNH portal already. Robinson said he also is developing “learning modules” to encourage use of the online specimen data by students.

The CNH business meeting was held in the evening, with Patrick Sweeney presiding.

Sweeney discussed the location of the 2018 CNH meeting, saying that he had explored the possibility of holding this year’s meeting in Canada, as discussed at the 2016 meeting, but no one expressed any willingness to organize the meeting. Several of those in attendance said they appreciated the CNH meeting’s being held in conjunction with the regional natural history conference, as it was this year. The Northeastern Natural History Conference will be held in Burlington, Vermont, in 2018 and Sweeney said he would explore the possibility of arranging the CNH meeting in conjunction with that meeting, hoping the proximity to Canadian herbaria would encourage more of their botanists to attend.

Several speakers during the afternoon sessions had mentioned that collecting activity has declined in recent decades, and CNH members discussed the possibility of the consortium’s sponsoring collecting activity and seeking grant support to help cover expenses. Janet Sullivan talked about an activity she organizes at UNH in which herbarium volunteers collect specimens in neglected areas of New Hampshire. The activity produces about 200 new specimens each year, with duplicates going to the New England Botanical Club herbarium at Harvard.

Tim Whitfield suggested that, if CNH members got together, each member could collect 20-30 specimens, keeping one specimen of each species for the member’s herbarium and donating a second to the state herbarium where the collections were made, which would reduce the mounting burden on any one herbarium.

Roberta Poland suggested that the activity could be spread out over a growing season, not just held as a single-day or weekend even, with small groups of collectors returning to an under-represented area several times during the summer to collect specimens.

Sweeney said that a working group should be organized to continue the discussion and to begin identifying areas where such collecting activity would be most useful.

Sweeney led a discussion about the possibility of the consortium’s being involved in a grant application seeking NSF support for databasing of small New England collections that are not yet entered in the CNH portal. A grant could be submitted as an NSF ADBC Partners to Existing Networks (PEN) under the NEVP Thematic Collections Network (TCN) grant, Sweeney said. Among the small collections that still need to be databased are those at Smith College, College of the Atlantic, Roger Williams Park in Rhode Island, Wheaton College, UMass-Boston, Framingham State University, Mount Holyoke and Woods Hole, among others. Although these collections are small, there are many of them, and each holds many specimens that are not duplicated in the region’s larger herbaria. This makes these holdings particularly important in

fully representing New England's botanical diversity on the CNH portal. Strong support was expressed for the idea of seeking such a supplemental grant, but Sweeney said the NSF requires that the PI for a PEN grant be someone who was not involved in the original grant. Bob Capers said he would talk with Susan Letcher, a newly appointed botanist at College of the Atlantic, about whether she might have time and interest in writing such a grant application.

Submitted by Bob Capers on May 4

Approved with minor edits by Patrick Sweeney on June 7