

Minutes of 2001 annual meeting of the Consortium of Northeastern Herbaria

The 2011 annual meeting of the Consortium of Northeastern Herbaria was held from June 6-7 at the Academy of Natural Sciences in Philadelphia, where Tatyana Livshultz and Alina Freire-Fierro acted as hosts. Three field trips were offered on Sunday, June 5 – to Longwood Gardens, to the Pine Barrens in New Jersey, and to the Nottingham Barrens.

Following welcoming remarks by Academy President George Gephart, CNH Steering Committee Chair Patrick Sweeney reviewed the history of the consortium for the benefit of new members, and he provided an overview of consortium activities during the past year. Sweeney said 56 herbaria have become members of the consortium, which is about 40% of all those in the consortium's 9-state, 5-province region. An overwhelming majority of herbaria in the region are small, having fewer than 10,000 specimens, although the cumulative total for all herbaria in the region is more than 24 million specimens, Sweeney said. He spoke about a portal on the consortium's web page where, within a few weeks, users will be able to conduct searches of about 200,000 specimens held in consortium herbaria and already databased. Among the details that need to be worked out before the site can go live are data-sharing agreements. Eventually, the portal will be able to serve data to GBIF.

Tatyana Livshultz, Assistant Curator of Botany at ANSP, spoke about the Academy, which will celebrate its 200th anniversary in 2012 and is the oldest herbarium in the Americas. It has a total of about 1.4 million specimens, including the pre-eminent 18th and 19th century American collection because of Philadelphia's prominence at that time and because the Academy was associated with many early collectors, including Michaux, Pursh, and Barton. It houses much of Nuttall's herbarium, as well as the Lewis & Clark herbarium. While proud of its rich history, Livshultz said the academy also remains very active, improving its facilities, databasing its entire collection of vascular plant types – some 26,999 specimens – and participating in a recently funded lichen/bryophyte databasing project. After 199 years of independence, the Academy recently announced an agreement to affiliate with Drexel University, which will increase the involvement of undergraduate and graduate students in academy activities.

Dorothy Allard of the University of Vermont and Jennifer Doubt of the Canadian Museum of Nature reported on a collaborative project in which they investigated the advantage of local knowledge in georeferencing specimens. There is a widespread belief that knowledge of local place names, a region's flora, the collectors that have worked in an area and the resources available could make georeferencing of local specimens easier than georeferencing of specimens from more distant areas. Working with Paul Wise, a volunteer who does georeferencing for the Canadian Museum, Allard and Doubt compared their performance with 20 specimens georeferenced twice – once at each herbarium. Their comparison showed that local knowledge improved the georeferencing of only four specimens, and the difference between the locations

assigned for a specimen was never more than 7.7 km. They concluded that, because so much information now is available online, it may make sense to exchange only the most difficult specimens to see if local knowledge can help find those locations.

Bob Capers of the University of Connecticut reported on progress in a 3-year NSF-funded databasing project. He said the project is behind schedule because they were overly optimistic about the databasing rate that undergraduate students could achieve and because students don't work regular 40-hour weeks. So much money has been unspent that the project will be extended for a fourth year, during which Capers said the original goals of the project should be nearly met.

Tim Dickinson and Deb Metsger of the Royal Ontario Museum's Green Plant herbarium talked about their databasing of scrapbooks, seed collections and photographic slides as well as traditional herbarium specimens. They said digitizing their collections provides a valuable community service. For example, they digitized a large collection of color transparencies, and these subsequently have been widely used in various publications.

Luc Brouillet provided an update on Canadensys and the VASCAN (vascular plant database) project, which involves 30 biological collections nationwide (including 21 herbaria and 5 botanical gardens) with a total of 13 million specimens. The goal of the project is to digitize, georeference and share online data on 3 million specimens by 2013. A web portal exists already and the vascular plant database now provides distribution information on species occurring in Canada, based on the literature, and it can be used to build checklists for individual provinces, habitats or plant types. Specimen data will be added as they become available. Brouillet said they also are working on a new version of BioGeomancer, which provides tools for georeferencing specimens.

Elizabeth Farnsworth spoke about the New England Wildflower Society's Go-Botany initiative, which will develop tools to increase botanical knowledge among the lay public and citizen scientists while also providing useful tools for more sophisticated botanists. Financed with a \$2.49 million grant from the National Science Foundation, the initiative will develop software that will allow devices such as smart phones to be used for plant identification in the field. Building on Arthur Haines' *Flora Novae-Angliae*, which will be published later this year, Go Botany will provide online keys for plant identification; readers will be able to choose among several keys, depending on their botanical skills. Photographs, distributional information and links to additional information all will be available.

Michael Gallagher reported on the JSTOR Plant Science project, which provides online access to information on type specimens, research articles and other resources. The project includes the Global Plants Initiative, which itself includes two networks established through the African and Latin American plants initiatives that create digital images of type specimens in

those regions. Gallagher said the intent of the project is to increase collaboration, to repatriate type specimens to the nations where they were collected, and to increase the value of the material through aggregation. More than 300,000 type specimens were imaged through the African initiative and more than 700,000 through the Latin American project. These projects now have been expanded into the Global Plants Initiative. In addition to type specimens and research articles, the Plant Science project has made available online more than 20,000 paintings, drawings and photographs of organisms, historically important correspondence involving early botanists, and important reference works.

Rob Naczi of the New York Botanical Garden reported on his progress in producing a new manual of the vascular plants of the Northeast U.S. and eastern Canada. He said the project is still in its infancy but that the audience is large and the need is great. Since the second edition of Gleason and Cronquist's *Manual of Vascular Plants of the Northeastern U.S. and Adjacent Canada* was published in 1991, molecular analyses have led to dramatic revisions in many families, and the number of non-native species has risen steadily. Naczi said the spontaneous vascular flora of the region now has more than 5,000 species (G&C has 4,300) – about one-fourth of the total of North America. The number of families also has increased from 191 in G&C to more than 200. In addition to publishing a traditional paper volume, Naczi said he hopes to provide an online flora with species descriptions, information on habit and conservation status, plus photos and other information. He also wants to provide etymology of generic and specific names (which Fernald's *Manual of Botany* does but G&C did not) and to provide morphological synapomorphies for plant families. Producing the manual will be collaborative so it can be done in a reasonable number of years, building on work already done for the *Flora of North America* project. Naczi said he hopes to publish a hard copy in about 10 years.

During the last session Monday afternoon, Sweeney led a discussion of Consortium business, including discussion of next year's annual meeting. Sweeney said that Yale will host next year's annual meeting of the Society for the Preservation of Natural History Collections (SPNHC) in New Haven and that it might work well to hold a joint meeting with SPNHC, as was done in 2010 in Ottawa. The joint meeting suggestion was approved by a show of hands. Capers, Janet Sullivan and Karen Searcy agreed to serve as a committee to plan field trips, in conjunction with the SPNHC field trip planners. In other business, Sweeney said he would set up a listserv to facilitate exchange of information among consortium members and to provide help with IT questions that members may have.

He also reported that a data portal is being established on the CNH web site to serve data on behalf of member herbaria. The portal is nearly ready to serve a limited amount of data as a test. Questions were raised about the data that will be available online, and Sweeney said a limited amount of data will be available initially but that it can be expanded in the future. The data will be searchable by species name, collector or location. A number of questions were raised

about the need to suppress location information for rare plants, and it was agreed that the steering committee would discuss the matter further.

Sweeney said a Biological Research Collections grant application submitted last year was well-reviewed but not funded and that the NSF program now is changing its focus somewhat. No decision has been made on whether to submit a new grant application, pending release of additional guidance from NSF.

During the Tuesday session, Ed Gilbert of Arizona State University conducted a workshop on the Symbiota software package developed to help natural history collections integrate and publish their specimen data online. Gilbert said that Symbiota can serve as a database for smaller collections that do not have the resources to establish and maintain their own databases. For the consortium, Symbiota could be useful by allowing specimen records from many independent collections to be aggregated and searched. Users can search collections to prepare lists of species within a region, to list all specimens collected by particular botanists, to prepare checklists by habitat type or to list all the genera in a collection. For example, the Southwest Information Network (SEINet) provides information on specimens in southwest U.S. collections, using Symbiota, and a search might be done for all the grass specimens of Pima County or all the specimens in the Asteraceae collected within 30 km. of Tucson. All of the specimens produced by such a search then could be mapped with Symbiota. Sweeney said he plans to use Symbiota to serve the CNH's data online as it is sent to him from individual member herbaria. A memorandum of understanding has to be drawn up and agreed to by member herbaria before information can be made publicly available by the Consortium, he said, and that may not happen before the end of the summer.

Submitted by Bob Capers (UCONN) on July 20, 2011.

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