

Ribbens, Eric. 2012. The Wired Herbarium #12: Two herbarium websites: PNU and FSU. In *The Vasculum* (newsletter of the Society for Herbarium Curators) 7(1), January 2012.

Recently the Pacific Northwest Herbaria website (PNW) announced a major upgrade, and Florida State University (FSU) announced an image-based search engine for specimens in the two Robert K. Godfrey Herbaria. While both are NSF-funded portals to herbarium data, these sites are considerably different. Not only are they on opposite sides of North America, but the PNW site references 1.7 million specimens, whereas the FSU site has 70,000 specimens. While quite different, they present interesting approaches in web-based herbarium specimen information delivery.

The PNW news release reads: “The Consortium of Pacific Northwest Herbaria web site ... represents herbaria in the U.S. states of Alaska, Idaho, Montana, Oregon, and Washington, and the Canadian provinces of British Columbia and Yukon Territory. Our new web site provides access to over 1.7 million specimen records and 150,000 high resolution images from 13 herbaria ... and cover vascular plants, bryophytes, algae, lichens, and fungi. Our redesigned specimen search page (<http://www.pnwherbaria.org/data/search.php>) contains many features besides basic text searches, including map-based searches, images of specimen sheets, and numerous options for filtering, displaying, and downloading data. The 150,000 images are viewable online at full resolution and serve as a new digital reference for the region. You can also create checklists for counties or any arbitrary geographic region.”

The FSU news release reads: “...announce a new interface for the specimen databases of Florida State University's Robert K. Godfrey Herbarium and Tall Timbers Research Station's Robert K. Godfrey Herbarium (<http://herbarium.bio.fsu.edu/>) ... The website serves data and images for ca. 60,000 of FSU's ca. 205,000 specimens and nearly all (10,500) of Tall Timbers' specimens ...The new functionality allows new types of searches and results ... The popular display of results as a page of thumbnails is now one of four available result formats.”

The url given in the news release is actually not the homepage. The PNW search webpage is headed by a logo graphic, with a row of tabs representing the main options within the webpage. These tabs are repeated on the homepage and each subpage, although personally I would have left them in a row near the top, rather than along the left side. The homepage and the subpages also rather curiously have considerable areas of white space along the left and right sides of the screen. The search webpage, however, is not one of the tabs to the main subpages. From the homepage it is accessed by clicking on a map graphic in the lower right of the screen.

The tabs for the main subpages are clearly labeled and contain useful information, although some of the links in the “External Links” webpage connect to sites that no longer exist. I particularly appreciate a clear page with contact information. The terms of use, participating herbaria, documentation, and other resources are also easily accessible. There is a Log In button: accounts can be obtained by contacting the site. Possession of an account provides access to data about rare taxa that are restricted from access by non-logged-in users.

The Search webpage, probably the heart of this url for many users, consists of four sets of options for searching the data. Three of the options are arranged in columns (left, middle, and right); the fourth option, which is also the one least likely to be used in my opinion, is below the first option on the left, and lets the user choose which herbaria to search. By default all herbaria are selected.

The left column has dialog boxes for searching subsets of the label data. Taxon, region, elevation, collector, and date of collection can all be specified. The middle column is a map from which locations can be specified by drawing a polygon on the map. The map has a Google-style sidebar for expanding the view or zooming in. Users will quickly realize that when the mouse is scrolled over the map the map becomes “live”; to move to various regions, put the mouse over the screen, click and hold the left mouse button, and the map can be moved until the region of interest is visible. Perhaps most curious is that although the map contains the entire world, herbarium records are restricted to the Pacific Northwest. Thus, it is possible to draw a polygon over the midwestern United States, but the resulting search returns no records. I think it would be great if the map had some sort of different shading to indicate the regions where it really can be used.

The right search column is really useful: it lets the user specify the output format of search results. Searches can be restricted to type specimens or specimens with images, and the output can be in the form of a webpage, a text or .csv file, a pdf, or a Google Earth file. I particularly enjoyed the map graphic showing the locations of specimens.

In summary, this is a clean, easy-to-use webpage providing access to a great deal of information. My biggest complaint is also its major advantage: its geographic orientation. Being able to search within a region you specify, search by elevation, etc. will be useful to people interested in the Pacific Northwest; however, those of us interested in finding out about all herbarium specimens are left to wonder what the holdings are for other regions. Perhaps one solution would be to add an option specifying a txt-file based return of specimens from all over the world.

The Robert K. Godfrey herbarium webpage presents a much smaller dataset: about 70,000 specimens (more are being added, presumably: the total collection is over 200,000 specimens). The webpage is crisp, although it too has blank areas to the left and right, and my weak eyes would have appreciated having the list of main subpages on the left side of the screen to be easier to read. Perhaps a bigger font, and a more highly contrasting color than light gray on black. There is a LogIn option, although I couldn't find information about what logging in gives access to, or how to obtain an account. But the contact information is easy to access, and I presume an email to the director would solve this question.

There is a search box in the upper right that is for Florida State University. It is NOT the search box users will want. Instead, choose the Database tab, then search specimens. Search options are somewhat simpler than PNW, but searches can be done by taxon, collector, location, or date, and the output can be specified as a map, table, or report. Choosing the map option brings up a map much like the PNW map. Confusingly, if you click on a data point, the site returns information for a specimen, but it is not necessarily the same specimen. On the other hand, data from anywhere

in the world are presented on the map. So typing in *Opuntia* returns a hit from eastern Montana, although when I clicked on the pin I at first thought the site was telling me *Opuntia stricta* grows in Montana; the specimen is actually from Florida. Label information can also be saved as a report. When the report option is chosen, a dialog box pops up with check buttons to indicate what is to be saved. I found this dialog box annoying, because it has so many options. For example, one cannot simply choose GPS coordinates, but must choose longitude, latitude, method, precision, etc. separately. It would be nice to group some of these together as sub-choice options, or simply ask if one wants GPS and then return all of this information. (Why would anyone want to know longitude and not latitude?) When I saved a report file, I noticed that the GPS coordinates were all county centroids, with a very low level of precision. This makes little sense to me, especially when the location information specifies a more particular region (ca. two miles east of Oviedo off Fla Rte 416, for example).

Both of these sites can display images for many specimens. Images can be downloaded in several different formats. The images handle restricted information slightly differently; on PNW, users who are not logged in cannot view images for specimens with restricted information. FSU has erased restricted information from the images.

My conclusions? These are two fun herbarium websites, websites that present a great deal of very serious data. There are some minor quirks in webpage design, the PNW site is geographically restricted while the FSU site is not, the PNW site aggregates many more specimens than the FSU site does, and it would be nice if the search boxes at both sites “remembered” options from a previous search. The images are gorgeous. These sites also show the limitations of history (no GPS information, or low precision GPS coordinates), the sad reality of our troubled world (restricting information for some specimens), and the limitations of past collecting (there are *Opuntia* all over the United States, but the FSU site shows only one specimen outside Florida). Clearly, we need to be aggregating data even more than these sites, collecting additional specimens, scanning more images, and going back in time to tell collectors to record more accurate GPS coordinates. But these are sites you will enjoy.