

WVA Herbarium Newsletter

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SE Flora Grant Enters Final Year: *Digitization Surpasses 73,000 Images*

In the 3rd year of the southeastern U.S. flora digitization grant, nearly 27,000 West Virginia specimens were imaged by undergraduate intern Emily McDougal. Work-study student Gabrielle Williams assisted with specimen refiles for the project in fall 2017. Following her graduation, a replacement has been hired to continue those tasks this fall.

More than 73,000 WVU Herbarium collections have now been photographed with funding from the 4-year NSF "Keys to the Cabinet" grant. About 2/3 are from West Virginia, with the remainder representing the other 11 states in the region.

The WVU Herbarium has over 90,000 West Virginia collections. More than

Art & Science Exhibit

Herbarium specimen images are finding novel uses and unexpected audiences. Many applications are in science fields, but a recent gallery show focused on the link between art and science.

The exhibit was at the Monongalia Arts Center in downtown Morgantown during March 2018. Entitled "It's an Art and a Science," the display featured items from faculty and students in the WVU biology, astronomy, neuroscience, and physics departments.

The works were visually appealing research data or products inspired by science. Two WVU Herbarium specimen photos (taken by former digitization technician Victor Shields) were displayed along with ca. 25 pieces from 18 biology personnel.

The pressed plant images were a local climbing fern county record (first collection) and a 1968 Jerusalem sage from Romania. Following the show, mounted artwork was permanently hung on the 3rd floor of the Life Science Building for continued viewing. The exhibition was a great way to connect with the community and inform the public about science!

half have been imaged, and nearly all have labels databased. Imaging is completed for other southeastern state specimens, but labels are not transcribed.

Progress this spring included imaging Rosaceae, which has challenging multi-sheet specimens in the genera *Rubus* and *Amelanchier*. The large family Fabaceae (Leguminosae) was also imaged. All the image files (in multiple formats) are identified by barcode and species name and uploaded to the CyVerse data cloud.

In April, WV Division of Natural Resources botanist PJ Harmon converted herbarium label database files for future merging with the images at the project portal. To see WVU Herbarium specimen label information and county distribution maps for West Virginia vascular plants, use the search tab at robert-pace.com/idarwincore (with Chrome browser).

Non-vascular specimens have also been imaged. Algae are completely digitized, while bryophyte and lichen labels are partly done. These files are located at their respective project portals. It is exciting to have such a wide scope of WVU Herbarium material globally accessible!

Bryophyte Project Donation

The WVU Herbarium received 137 non-vascular specimens from Canaan Valley, Canaan Mt., and Dolly Sods. The collections were made fall 2016 through spring 2017 by Abby Henke for her senior thesis with Dr. Robert Deal at Shawnee State University (OH).

The material included one liverwort and 44 moss species, from 30 genera. Nine species were found at all three locations, but 15 species occurred just in Canaan Valley. There were 23 species with only a single specimen.

Collections were done at nine sites between 3,200-4,200 feet elevation with

Curation & Service

With digital clicking of the imaging station camera as background, herbarium curatorial and service activities were ongoing. About a dozen sets of plant collections were donated in the past year, and long-serving volunteer Sue Arnold took on the work of mounting the specimens. She also helped process eight requests from scientific researchers for loans of herbarium materials.

The WVU Herbarium received 51 visitors for collections study and small group tours, as well as 26 participants in a summer girls STEM camp. There were over 40 label data and/or image requests. During 2017, the curator responded to an average of one plant identification and two biological queries weekly.

In fall 2017, Dr. Ford-Werntz taught her regular Biol 450 Plant Systematics course, and she presented herbarium programs for Monongalia County Master Naturalists and a WVU Weed Science class. This year, she has been seeking missing images to complete the West Virginia XID eFlora.

The curator attended the Botany 2017 national conference in Fort Worth, Texas (June) and the 2018 Smithsonian spring botanical symposium (May). She also participated in three regional and state native plant society meetings during the past year.

varied microhabitat (substrate and exposure). *Leucobryum glaucum* was the only species at all sites, collected 15 times.

Thuidium delicatulum was 2nd most prevalent, with 13 collections from six sites. All seven *Polytrichum commune* collections were in open sites, while the four *Ctenidium molluscum* specimens were all from shaded habitats.

Work-study student Nicholas Morelli completed label processing and filing for this donation in spring 2018. Other non-vascular projects involved repackaging oversize collections and geographic sorting of species to detect duplicates.