T.M. Sperry Herbarium ("KSP")

Department of Biology
Pittsburg State University

2016 Annual Report

From the Director, Dr. Neil Snow

Brief overview of 2016

The Sperry Herbarium provided independent study opportunities for several students in 2016, including data basing by Ashlyn Parmley and Taylor Frazier. Katie McMurray assisted early in 2016 with finishing some digitization of specimens. Bryce Ragatz re-filed approximately 5000 moss specimens (see below).

Chance Curran (BS, 2016) and Sam Young (BS, 2013) collected several hundred specimens for the Grand River Dam Authority project (see below).

Two student collections were added to the herbarium, including our first specimen of *Carex engelmannii* collected by Jared Simon, and a nice specimen of *Gentiana puburlenta* by Leah Cuthill.

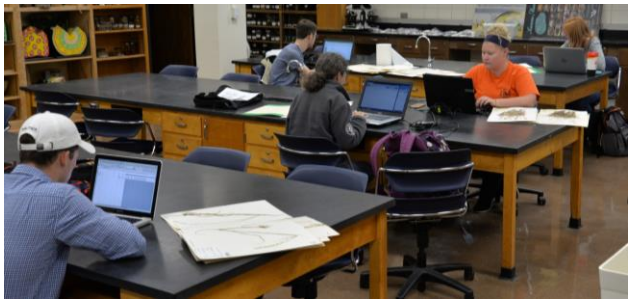
Part I: Teaching and Education

170 more specimens were added to the Kansas and Regional Reference Collection, for a total 875. Funds to purchase a new double-wide cabinet, courtesy of funding from K-INBRE, will enable us in early 2017 to double the capacity for the KRRC.

Gift to Sperry Herbarium

Dr. Phillip Eastep of Cherryvale, a long-time and generous supporter of the Sperry Herbarium, provided a gift to enable two students carry out plant collecting and tree monitoring. We thank Dr. Eastep for his support of the Sperry Herbarium and for local basic plant research.

WeDigBio – Five students in the *Plants & People* course participated in the National Science Foundation-sponsored "WeDigBio" initiative by data basing 31 specimens from the Sperry Herbarium. WeDigBio – an abbreviation of Worldwide Engagement for Digitizing Biocollections – ran for four days in October, with thousands participating across the world (see photo).



Students in the *Plants and People* course data basing specimens during WeDigBio week.

Visitors – A total of 26 non-PSU student visitors came to the Sperry Herbarium, including students and staff from Westside Elementary in Pittsburg. Three external users came to identify plants. Forty one PSU student visits were recorded to help identify specimens for the plant taxonomy class.

Part II: Student and Faculty Research

Neosho Bottoms Management Area (Grand River Dam Authority) – Chance Curran and Sam Young continued with collecting the GRDA parcels west of Miami, OK. A report is now nearly completed for GRDA that summarizes our findings. Tentatively, seven new plant species were recorded in Oklahoma for the first time, and 100 first records for Ottawa County. This latter figure is considerably higher than that anticipated. A fuller accounting will be summarized in 2017.

DNA material for research – Six grass specimens were sent to Drs. Paul Peterson and Konstantin

Romaschenko at the Smithsonian Institution for DNA extraction.

General curation – Oleaceae was curated fully, and Asteraceae (genera A through H) were curated.

BIOTA of North America (BONAP) – As in past years I send county records for KS, OK, and other areas to Dr. John Kartesz, who incorporates these into BONAP for worldwide access.

New Caledonian Myrtaceae – Two papers were published covering six new species of *Eugenia*, one of which is Critically Endangered and known only in the immediate vicinity of an active mine. A third paper was published for a new species of *Syzygium*.

Snow, N., S. Young, M.W. Callmander. 2016. *Syzygium dawsonianum* (Myrtaceae): A new species from New Caledonia. *Systematic Botany* 41: 197–201. http://dx.doi.org/10.1600/036364416X690615

Snow, N., J.W. Dawson, M.W. Callmander, K. Gandhi, J. Munzinger. 2016. New species, new combinations, and lectotypifications in New Caledonian *Eugenia* L (Myrtaceae). *Candollea* 71: 67–81. Online ISSN: 2235–3658

Snow, J. Munzinger, M. Callmander. 2016. Novitates neocaledonicae V: *Eugenia plurinervia* (Myrtaceae): a Critically Endangered new species with distinct leaves. *Candollea* 71: 201–205. http://dx.doi.org/10.15553/c2016v712a7

Malagasy and Comoros Myrtaceae – One interesting new species of *Eugenia* with four leaves per node – atypical for the genus – was described for Madagascar. A revision of *Eugenia* and *Syzygium* led by Dr. Byng was published for the Comoros Islands.

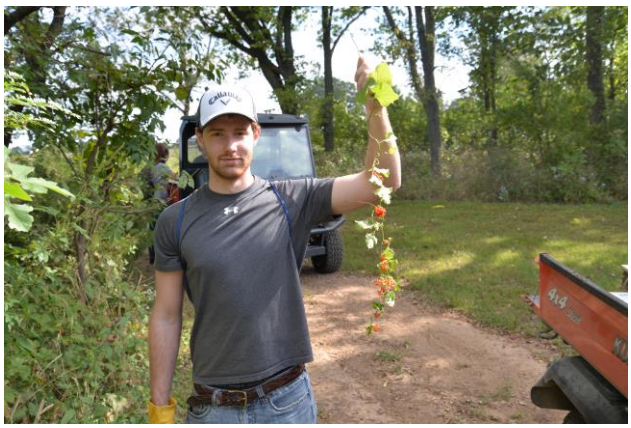
Snow, N., M.W. Callmander. 2016. Studies in Malagasy *Eugenia* (Myrtaceae) – V: *Eugenia quadriphylla*, a rare and unusual new species from the northeast. *Candollea* 71: 189–193. www.bioone.org/doi/pdf/10.15553/c2016v712a4

Byng, J.W., F. Barthelat, N. Snow, B. Bernardini. 2016. Revision of *Eugenia* and *Syzygium* (Myrtaceae) from the Comoros archipelago. *Phytotaxa*: 242: 163–184. DOI:http://dx.doi.org/10.11646/phytotaxa.252.3.1

Part III: By the Numbers

Approximately 9140 specimens were curated during 2016, for an approximate average of 25 daily. Some were curated in more than one way (identification or re-identification, barcoding, nomenclatural updating, data basing, digitizing). Totals with a red asterisk include student work or assistance.

As indicated previously, Bryce Ragatz (below, collecting for plant taxonomy class) re-filed about five thousand moss collections that were returned on loan after data basing from the Missouri Botanical Garden. His help was greatly appreciated.



Herbarium size: ca. 72,000

Estimated backlog (specimens not yet mounted): 17,000

Specimens used in teaching: Principles of Biology II (15); Plant Taxonomy (ca. 250); Medical Botany (40); Plants and People (15); several dozen from KRRC (not tabulated).

Specimens added to KS and Regional Reference Collection*: 180 (Total: 875)

Specimens data based*: 1239 (Total: 8210)

Specimen labels made*: 935 (which included ca. 350 duplicates for GRDA)

Specimens barcoded*: 2992 (Total: 17,039 for vascular and bryophyte collections)

Specimens newly collected from field studies (by Young, Curran, and Snow)*: 385

Specimens mounted*: 434, which included many to be given to GRDA for their own reference set.

Specimens digitally imaged*: ca. 100

Specimens received on loan for research: 3

Specimens on loan to KSP returned: 1

Specimens annotated: 2914 (updated or corrected identifications, updated nomenclature or barcodes added or any combination thereof)

Specimens sampled for DNA: 6

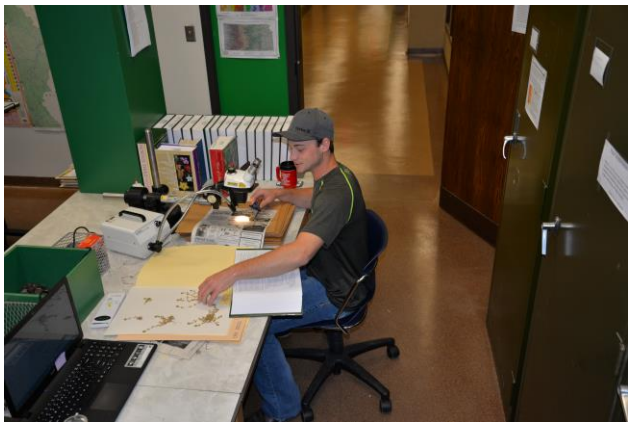
Specimens conserved: 8

Specimens de-accessioned: 231

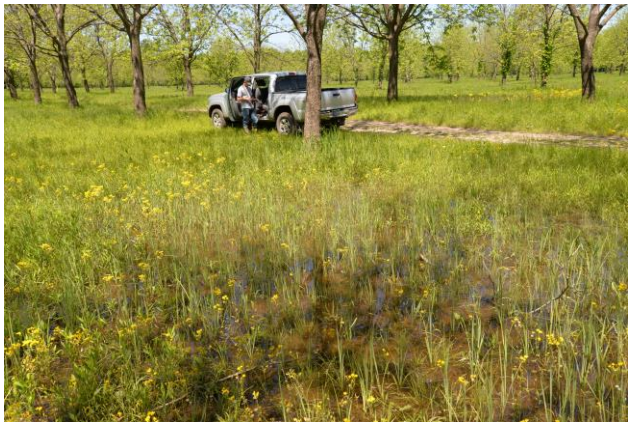
Missouri Botanical Garden – Approximately two dozen students from PSU, Arkansas State, and Missouri State University converged in the Montsanto Building at the Missouri Botanical Garden's Herbarium to help some a large number of specimens prior to re-filing, which had been returned on loan.

Other general information

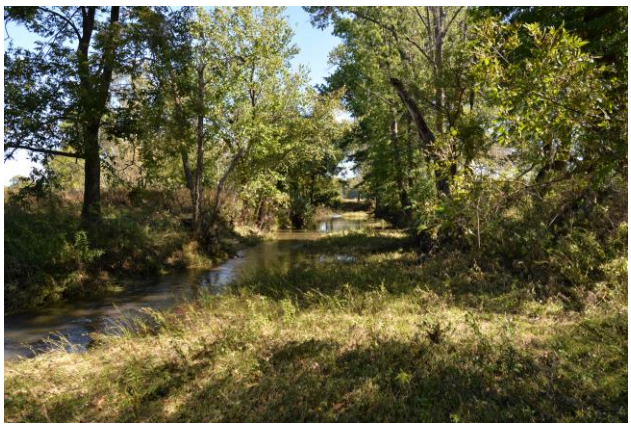
Herbarium tours: Do you know educational or civic groups (school children, scouts, 4-H, FFA, etc.) that would enjoy a herbarium tour? If so, the please contact the Director (nsnow [at] pittstat.edu). We will work to tailor a presentation to your group's interests.



Chance Curran identifying plant specimens form the Neosho Bottoms Management Area (NBMA), Grand River Dam Authority, west of Miami, OK.



Fieldwork in the NBMA in April on edges of saturated pecan grove.



Streamside habitat along Elm Creek in NBMA area.