

# T.M. Sperry Herbarium (“KSP”)

Department of Biology  
Pittsburg State University

## 2015 Annual Report

From the Director, Dr. Neil Snow

### Brief overview of 2015

The past year at KSP probably is best summarized in two words: “Student Engagement”. Three variable-credit curatorial courses were created, including specimen preparation, data basing, and digitizing. Student enrollment in these courses helped significantly with curatorial progress.

Ten students enrolled for one or more courses, including Jared Lytle, Thomas Myers, Cheyanne Reynolds, Katie McMurry, Brandon Conway, Sterling May, Karen Stoehr, Yujeong Geong, Samantha Young, and Hannah Thomas. Their efforts contributed significantly to the large numbers of specimens curated in 2015.

To assure quality control, I review data entries before uploading into Symbiota (which then posts data on the Northern Great Plains Herbarium Portal). Overall, the students worked with high levels of accuracy and efficiency.

### Part I: Teaching and Education

Students in plant taxonomy used the herbarium to help confirm specimens for their required collections. Specimens also were used in teaching of Principles of Biology II, Invasive Species Management, and a guest lecture to Dr. Rider’s Pre Health seminar.

**Kansas and Regional Reference Collection (KRRC)** – In 2015 we completed the families Poaceae, Juncaceae, Cyperaceae, and Lamiaceae. A number of miscellaneous other specimens were added from various families.

**Formation of the Natural History Collections Curations Club (NHC3) at PSU** – The NHC3 had its inaugural meeting in September. Its mission is to encourage students to become actively involved with curation of natural history specimens at PSU, including those of the Sperry Herbarium. In addition to plant curation, Natalia Schneider Agostini began curating the PSU herpetological specimens as part of her MS degree studies.



NHC3 members at the inaugural meeting in September 2015 (L to R): Dr. James Triplett, Hannah Thomas, Gretchen Burns, Dr. Neil Snow, (faculty advisor), Josh Selbe, Samantha Young, Lyndsey O’Neill, Natalia Schneider Agostini.

### Part II: Student and Faculty Research

**Grand River Dam Authority (GRDA)** – A contract for \$18639 was signed for a plant inventory of properties held by GRDA along the Neosho River west of Miami, OK. A total of 413 specimens were collected by Karen Stoehr, Sam Young or Neil Snow. Yujeong helped with data basing. Collecting will continue through summer 2016. Karen was first author of a poster entitled:

Stoehr, K., N. Snow. 2015. Non-native plant species of Ottawa County, Oklahoma. Pittsburg State University Research Colloquium, April 2015

Below: *Solidago altissima* subsp. *altissima* on GRDA property west of Miami, OK.



**Sam Young's MS thesis project** – Sam collected 2389 additional specimens for her MS project, “Floristic survey of Crawford and Cherokee counties in southeastern Kansas: An evaluation of change over five decades”, for a total of ca. 6418 total collections. Preliminary data suggest some new state records.



Sam Young with *Asclepias tuberosa* (red flowers) and *Tripsacum dactyloides* (upper right).

**Papers published** – Three articles were published in 2015, the second and third of which cited specimens housed at KSP.

Byng, J.W., P.F. Wilson, N. Snow. 2015. Typifications and nomenclatural notes of Indian Myrtaceae. *Phytotaxa* 217: 101–116.

Byng, J.W., P.B. Phillipson, N. Snow. 2015. Notes on the flora of Madagascar XX: Nomenclatural notes of Malagasy *Syzygium* (Myrtaceae). *Candollea* 70: 151–155.

Snow, N., M.C. Callmender, P.B. Phillipson. 2015. Studies of Malagasy *Eugenia* – IV: Seventeen new endemic species, one new combination, and three lectotypifications; with comments on emerging distributional, ecological and evolutionary patterns. *PhytoKeys* 49: 59–121.

The previous paper was highlighted in a story on *Science Daily* online in May:

<http://www.sciencedaily.com/releases/2015/05/150513102804.htm>



*Eugenia calciscopulorum* N. Snow, a Critically Endangered new species recently described from Madagascar, Critically Endangered (published in Snow et al. 2015).

**DNA material for research** – Plant DNA sampled from herbarium specimens was sent on request to Dr. Michael Schiebout of Union University in TN (*Quercus margarattiae*) and to Claire Ellwanger at the Chicago Botanic Garden (*Plantanthera praeclara*).

**Visitors from Wichita State University** – Several

students visited KSP during the Kansas Academy of Sciences, including Jacob Hadel for his cytological research on *Bouteloua gracilis* (buffalograss), a dominant of shortgrass prairies.

**BIOTA of North America** – Snow sent several new Kansas county records of plants to Dr. John Kartesz for incorporation into BONAP's interactive data center (see: <http://bonap.net/tdc>).

**New Caledonian Myrtaceae** – Snow spent five weeks in Paris in May and June studying Myrtaceae from New Caledonia, with generous support from the Muséum national d'Histoire naturelle and Graduate and Continuing Education at PSU.

Over 1200 specimens were examined for the New Caledonian project, of which approximately 45 species were determined to be new to science and in need of publication.



Collaborators on New Caledonian Myrtaceae at the Muséum in Paris (May 2015). L to R: Martin Callmender, Jérôme Munzinger, and N. Snow.

**Book reviews** – Even in the current age of digital devices and online resources, printed books remain critical tools for taxonomists to identify specimens and for summarizing plant distributional data. The following reviews were written by the Director the past year.

Snow, N. 2015. *Field Guide to Wisconsin Grasses*. *Journal of the Botanical Research Institute of Texas* 9: 42.

Snow, N. 2015. Volume 26, Cunoniaceae, *Flore de la Nouvelle-Calédonie*. *Journal of the Botanical Research Institute of Texas* 9: 48.

Snow, N. 2015. Three recent volumes of general interest. (*Flora North America*, Volumes 9 and 28; *Catálogo de las Plantas Vasculares de Bolivia*). *Systematic Botany* 40: 627–628.

Snow, N. 2015. *Flowering Plants of the Western Ghats, India*. 2014. T.S. Nayar, A. Rasiya Beegam, M. Sibi. Jawaharlal Nehru Tropical Botanical Garden and Research Institute. St. Joseph's Press, Thiruvananthapuram, Kerala, India. *Systematic Botany* 40 (4): in press.

Snow, N. 2015. *The Flowering Plants Handbook, A Practical Guide to Families and Genera of the World* (eBook edition) by James Byng. *Systematic Botany* 40: 366.

### Part III: By the Numbers

Approximately 15260 specimens were curated in some capacity during 2015, for an approximate average of 42 per day. Some were curated in more than one way (identification, barcoding, nomenclatural updating, data basing, digitizing). Totals with a **red asterisk** include student work or assistance.

**Herbarium size:** ca. 70,000

Estimated backlog (specimens not yet mounted): 15,000

Specimens used in teaching: Principles of Biology II (15); Plant Taxonomy (ca. 250); several dozen from KRRC (unable to tabulate accurately).

Specimens added to KS and Regional Reference Collection\*: 453 (for a total of 705)

Specimens data based\*: 1298

Plant specimens mounted and added to the main collections or KRRC\*: 329



Herbarium specimen labels made\*: 97

Specimens barcoded\*: 3593

Specimen labels made: 151

Specimens collected\*: 2521

Specimens mounted\*: 327



Korean exchange student Yujeong Geong mounting plants in the herbarium, Spring 2015

Specimens digitally imaged\*: 1500



Thomas Myers, PSU graduate in Spring 2015, digitizing specimens for eventual uploading to *Symbiota* and the Northern Great Plains Herbarium Consortium data portals (<http://ngpherbaria.org/portal/index.php>).

Specimens received on loan for research: 278

Specimens received as a general gift: 124

Specimens shipped to KSP for research: 273

Specimens on loan to KSP returned: 42

Specimens annotated: 5145



*Platanthera praeclara*, the Great Plains White Fringed Orchid, federally listed as Endangered by the USFSW. (Photo: S. Young)

Specimens sampled for DNA: 2

Specimens returned from loans: 15

Specimens conserved: 7 (remounted on better paper or re-glued)

Specimens de-accessioned: 185

### 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, please contact the Director (nsnow [at] pittstat.edu). We will work to tailor a presentation to your group's interests.