



<https://www.pittstate.edu/biology/the-sperry-herbarium.html>



2023 Annual Report

From the Director, Dr. Neil Snow

Overview of 2023

First and foremost, heartiest thanks to the following for their volunteer services in 2023, without whom the herbarium would be far less productive: **Alaina Fulkerson, Tabitha Caruthers, Rylan Mason, Alesha Lawson, Renee Trout, Leann Trout, Mike Robinson, and Jessi Snow.**

The photo at top right is of *Oreochrysum parryi* (Parry's goldenrod) of the Sunflower family (Asteraceae), a species identified in Idaho for the first time in 2023, which was collected by Michael Daines.

The Sperry Herbarium (**KSP**) continued its numerous activities, including some at regional, national, and international levels.

At the end of 2023 the Global Biodiversity Information Facility ("GBIF") had tallied 410 specimen citations, up from 243 last year. This number reflects researchers from other institutions querying our database for various reasons, such as geographical distributions and phenology (flowering and fruiting times).

Congratulations to our two recent MS recipients: **Michael Daines's** defended his thesis in the summer, titled *Vascular Plants of the Caribou-Targhee National Forest and Curlew National Grassland in southeastern Idaho, western Wyoming, and northern Utah*. Its topic was perfectly suited to his new position as Botanist on the Caribou-Targhee National Forest, headquartered in Idaho Falls, and resulted in a much-needed updated summary of plants for this expansive Forest. His research documented four state records, including the Parry's goldenrod (shown above), and 137 county records.

Danielle Evilsizor defended her thesis in November, titled *Habitat and Demography of Ozark chinquapin (Castanea ozarkensis) at Roaring River State Park, Barry County, Missouri*. She studied its distribution in RRSP, including detailed analyses of chestnut blight infection over 1000 stems arising from root crowns, and carrying out a species distribution model. Danielle's fieldwork was assisted by **Tabitha Caruthers**, who graduated with her BS degree in the Fall. Danielle now is working for the Institute for Botanical Training in Springfield, MO.

Herbarium size (updated)

The current specimen count is 51,707. We continue (still!) to insert herbarium labels into **Sam Pryer's** MS thesis from nearly a decade ago. The lack of a collections manager position at KSP, which an active herbarium greatly benefits from, slows down routine activities. Ideally, inserting collection labels into the newspapers could be assisted by student workers. However, 15–20% of the specimens have duplicates that need to be sorted for distribution to other herbaria. In addition, troubleshooting occasional errors or oversights in the numbering of labels, or labeling of the newsprints in the field, requires a complete understanding of herbarium policy that typically only a curator, collections manager, or director can resolve. About 4425 of Sam's 6400 collections now have been mounted and filed.

Although we do not tabulate numbers, some 4000 specimens were filed into the cabinets after mounting and barcodes were added, representing one of the most significant accomplishments for 2023. We re-sort specimens back to family and genus prior to filing, which reduces the needed footwork during filing.

Current Taxonomic Summary

Numerical totals now include: Families: 356; Genera: 1916; Total taxa (species, subspecies, varieties): 7063.

Personnel, Visitors and Updates

Anna Hovois (below) from Emporia State University visited for most of a day in the Fall gathering phenological data for her study with Dr. David McKenzie. (Continued, next page)



Personnel, Visitors and Updates

KSP recorded 14 visitor groups representing 41 individuals, and had 80 separate student use days.

Media coverage

We had newspaper and television coverage on the special occasion of mounting the 50,000th specimen by **Alaina Fulkerson**. KSP has a well-earned and deserved reputation as a first-rate regional herbarium.

Volunteers

Michael Robinson (below) continued his volunteer work in 2023, logging 12 days totaling approximately 70 hours. Mike enjoys mounting specimens and interacting with student workers. We greatly appreciate his contributions.



Residents of Pittsburg and nearby areas are welcome to volunteer as well. It can be a great social outlet in retirement. For those willing to commit to 2 hours (many or most) weeks during the academic year, please contact Snow at: nsnow@pittstate.edu. If so, some day your contributions also will be noted in an annual herbarium newsletter.

Specimen identifications

Thanks to botanical colleagues nationally for help or confirmation of identifications: **Ihsan Al-Shehbaz**, **Mark Darrach**, **Walt Fertig**, **Peggy Fielder**, **Roy Geraeu**, **Lance Jones**, **Ben Legler**, **Don Mansfield**, **Rich Rabeler** and **Michael Windham**.

WeDigBio

Students in Plant Taxonomy participated in the NSF-sponsored WeDigBio event in October, in which we focused on mounting specimens. Eleven students assisted over two hours. Oneday we mounted 261, probably a record for KSP.

Databasing and collecting

KSP databased 2142 specimens, some based on herbarium gift exchanges. A total of 78 newly collected specimens were made. Of these, 19 were county records, including 11 from OK, 3 from KS, 4 from MO, and 1 from ID. Five were from undergrads **Khloey Stringer** and **Bella McMahon**.

Georeferencing

Michael Daines georeferenced approximately 1200 North American specimens. KSP is a partner in a new NSF grant to digitize African plant collections for greater visibility and researcher access. **Dr. Town Peterson** (University of Kansas) leads the initiative, which involves fifteen institutions. KSP holds 587 collections from the Democratic Republic of the Congo, made by Ted Sperry in the early 1950s as part of a program sponsored by the Marshall Plan.

Specimen loans and exchanges

We borrowed 294 collections to review a species boundary problem in *Erigeron* from Montana and Idaho, with thanks to the following herbaria for lending specimens: BRY, ID, IDS, MONT, NY, RM and UTC.

Snow received 13 specimens for his research in Myrtaceae from MO, NOU, and P. An additional four were sent as gifts for determination (*Eugenia* from Madagascar). KSP 302 sent gift specimens to: ID, IDS, KANU, MO, MONTU, NY RICKS, and RM. About 250 specimens were prepared for exchange to the University of Tennessee and Bucknell University.

Leaf samples for DNA analysis

Salvinia (1 specimen) was sent to **Dr. Brittany Sutherland** at George Mason University; *Eugenia* (47) from Madagascar to **Dr. Mariana Bunger**, Universidade de Fortaleza (Brazil); and *Eugenia* (55) from New Caledonia to **Dr. Thais Vasconcelos** (University of Michigan).

Research

Snow was supported in June by the Franklinia Foundation for research on New Caledonian Myrtaceae in the herbarium at the Museum national d'histoire naturelle (Paris), who then went to the Conservatoire et Jardin botaniques de la Ville de Geneve in Switzerland for a week of additional studies. Several dozen species descriptions were made, and several species new to science were identified during the research. New illustrations of 20 species were drawn by **Bobbi Angell** of Vermont and **Laurence Ramon** of France.

Professional Activity

(Student authors underlined; faculty in bold)

Evilsizor, D. Demography of Ozark Chinquapin in Roaring River State Park. PSU Research Colloquium and Missouri Botanical Symposium, Rolla, MO.

Snow, N., P.M. Peterson. 2023. A new and evidently rare species of *Dinebra* (Poaceae: Chloridoideae: Eleusininae) from Sonora, Mexico. *Systematic Botany* 48: 371–375.

Zuntini, Z., + 126 authors (including **N. Snow**). Phylogenomics and the rise of the Angiosperms. *Nature*: Accepted (in revision).

Snow, N., S. Jacobs (Co-organizers). A Working Group to Summarize Newly Described Vascular Plant Taxa in North America North of Mexico from 1995-2019. *BOTANY* 2023.

Personnel and Plant-Related Activities in 2023



Above: Herbarium volunteers in 2023 (L to R): Alesha Lawson, Alaina Fulkerson, Tabitha Caruthers, Leann Trout, Renee Trout, and Rylan Mason. Center left: Rylan collecting plants in Bates County, Missouri. Center right (L to R): Clarissa Wedman, Belle Pfeiffer and Khloey Stringer collecting in Washington County, Oklahoma. Bottom left (L to R): Jessi Snow, Alaina, and Tabitha working with staff at Missouri Botanical Garden sorting specimens. Bottom right: Herbarium tour for Upward Bounds students from Missouri.

