



Department of Biology
Pittsburg State University
2020 Annual Report

From the Curator, Dr. Neil Snow

Overview of 2020

Readers of previous annual reports will notice we now have an official logo. It was created by Krista Anadakuttan of IllustrateScience, who did some black and white illustrations for me previously. The log depicts *Helianthus salicifolius*, the Willow-leaf Sunflower. Given that the sunflower is the State Flower of Kansas, and that (in particular) the distribution of *H. salicifolius* is strongly centered in southeast Kansas, the choice was easy.

We have begun the transition from Heckert-Wells 301, where the herbarium has been since 1989 when the building was completed, to the newly renovated space in Hartman 214. By the end of Fall Semester most specimens had been moved. However, a large amount of equipment and books will be moved in Spring of 2021, when the bryophytes also are moved.

The biggest accomplishment of 2020, in some regards, was making a definitive decision concerning 35 boxes of backlogged bryophytes (large, apple-sized boxes). Most had been sent to KSP in 1996 to Dr. Timme by his colleague Dr. Frank Bower, for many years at the University of Wisconsin-Stevens Point. Bowers was a bryologist who had collected aggressively in the Ozarks as far back as the mid-1960s. Regrettably, most of the ca. 1500 Ozarkian bryophyte packets had 3-5 species of mosses

intermixed, with the associated labels paper-clipped to the front of the packet. Given more urgent curatorial (and personal research) priorities, and that time resources does not allow for separating the mosses, placing them in separate packets, and affixing the labels, they were discarded. Many of Bowers' duplicates are in other institutions, and presumably the first is housed in Stevens Point. (One packet had 8 different specimens.) Discarding them was done only after much deliberation over several years, but it must be stressed that the packets having a single specimen were retained.

The purging of duplicate mounted specimens (of the same number) also continued, resulting in 519 specimens removed. Dr. Sperry often mounted 2 (or even 3-4) duplicates of the same collection. In many cases these almost assuredly were specimens he transplanted into his garden, which are of little value scientifically. It is doubtful he intended to distribute these, but many of those with scientific value will be sent as gifts to other herbaria.

Curatorial activities largely ceased in early March due to the pandemic, although I took specimens to my house to mount, database, and geo-reference. Fall Semester focused mostly on databasing by Jiawei Xu, and mounting by Madeline Gay, Daniel Munguia and Kayano Vail. Andrew Ortolani and Jiawei helped move specimens in early March before the lockdown began. Despite the pandemic, we accomplished a lot of curation in 2020.

(* = much or most with student assistance)

Part I: Teaching and Education

My Spring semester was a sabbatical (in theory), so I had no teaching duties beyond two readings courses with Jiawei. Fall semester was more or less normal, as far as content. A large number of specimens were used in Taxonomy of Vascular Plants and Wetland Plants.

Part II: Research (student authors underlined).

Student research – Congratulations to Jiawei Xu on defending her MS thesis, entitled: A Survey of Leaf Venation in New Caledonian *Syzygium* (Myrtaceae).

Research-related travel – A planned sabbatical trip to Paris (mostly) and Geneva to work on New Caledonian Myrtaceae with support from Foundation Franklinia was cancelled less than a week before the US went into lockdown in early March. Maybe next year...

BIOTA of North America (BONAP) – We communicated 39 county records to the Biota of North America (BONAP) program, based on ongoing routine curation.

New Caledonian Myrtaceae – A significant accomplishment was the publication of a revision of *Gossia* (Myrtaceae) of New Caledonia (see under Publications), culminating a 22-year effort that had several significant delays. Many new species and subspecies were described.

Part III: Outreach

Visitors – Thirty-eight student visitors were recorded. We were happy to provide Mike Robinson, PSU alum, with a tour of the newer facilities in Hartman 214 late in the Fall semester.

Specimens online – At year's end, about 42,000 specimens are databased on our website or that of the North American Bryophyte website.

Part IV: General Curation and By the Numbers

Request for information: Kevin Keith from New Mexico requested information on a plant collected by Snow in 1994 in that state.

Glenn Rink of Flagstaff, AZ, working on a key of *Penstemon* for that state, sent information that led to a redetermination of a specimen collected many years ago by Dr. Sperry. Rink used the online data we have been uploading to become aware of the specimen, providing evidence that the data are being used by researchers external to PSU.

Snow assisted Nagaraju Siddabathula from the Botanical Survey of India, India, identifying a species of *Diplachne* growing in that region.

Herbarium size: ca. 42,000. This number reflects a significant decrease, given the assessment of many backlogged specimens (see Overview).

First county occurrence records reported by KSP: 39

Specimens collected: 292

Specimens annotated: Many!... it is no longer realistic to monitor and tabulate annotations

Specimen labels made*: 694

Specimens mounted*: 2300 – one of significant accomplishments this year

Specimens added to KS and Regional Reference Collection*: 66 (Current Total: 1787)

Specimens data based*: 10,984 – another exceptional accomplishment.

Specimens barcoded*: approximately 10,800

Specimens digitally imaged*: <100

Specimens conserved: 19

Specimens de-accessioned: 516

Specimens received on loan for research: 309 (for research of *Eugenia* in Madagascar, and *Leptochloa* worldwide)

Loans to KSP returned in 2020: none

KSP specimens returned on loan: 74 (Caryophyllaceae to COLO)

KSP specimens sent on loan: 7 (*Carex* to NY)

KSP specimens sent as gift-for-det: 18 (to NY, Dr. Robert Naczi)

KSP specimens sent as gift: 78 (to NY, Dr. Robert Naczi)

KSP specimens received as a gift for research: 32 from the Missouri Botanical Gardens of Malagasy Myrtaceae as gifts for determination.

DNA samples sent: 1 (*Paronychia agyrocoma*)

Specimens used in teaching (~650): Plant Taxonomy (~350); Wetland Plants (~300)

External requests for identifications or information: Not closely tabulated (<10)

Estimated backlog of vascular plants: Ca. 4000-5000, depending on the number of specimens of Timme's for which we eventually will make labels.

Curatorial Assistance in 2020

Thanks to Dr. Robert Naczi at the New York Botanical Garden for annotating 24 specimens, including many of *Dichantherium*, one of the more challenging genera of grasses. Many thanks again for curatorial assistance from Andrew Ortolani, Jiawei Xu, Maddeline Gay, Kayano Vail, and Daniel Munguía. And to NSF for its support of our curatorial activities

Other general information

Herbarium tours: Please contact the Director (nsnow [at] pittstate.edu), who will work to tailor a presentation to your group's interests.

Photo: Jiawei Xu (L) and Andrew Ortolani helping to move specimens to the herbarium in early March.



Part V: Publications (Student authors underlined):

Hammesfahr, A., P. Whitman, C. Campbell, N. Snow. 2020. Another confirmation of *Cyperus flavescens* (Cyperaceae) for Kansas, U.S.A. *Journal of the Botanical Research Institute of Texas* 14: 411–412.

Snow, N., M.W. Callmender, J.W. Byng. 2020. Studies in Malagasy *Eugenia* (Myrtaceae) – VI: A new species with large leaves and coarsely and irregularly verrucose fruits. *Systematic Botany* 45: 274–276. <https://doi.org/10.1600/036364420X15862837791267>

Stacy, E., T. Sakishma, H. Tharp, N. Snow. 2020. Isolation of *Metrosideros* ('Oh'ia) taxa on O'ahu increases with elevation and extreme environments. *Journal of Heredity* 2019 (electronically) doi:10.1093/jhered/esz069. Pp. 1–16.

Snow, N. 2020. Revision of New Caledonian *Gossia* (Myrtaceae). *Adansonia* 42: 131–177. <http://adansonia.com/42/7> (Corrigendum: 2020. *Adansonia*, sér. 3, 42 (7): 131)