

BUTLER

UNIVERSITY

FRIESNER HERBARIUM



Annual Report **Academic Calendar Year** **2022/2023**

Department of Biological Sciences
College of Liberal Arts and Sciences
Butler University
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Indianapolis, Indiana 46208

Marcia E. Moore, Director, Friesner Herbarium
Layout and Photographs (unless otherwise noted)

Front Cover Photo: Scott Namestnik speaks about Indiana's rich botanical past, present research efforts, and what the future holds during the Annual Herbarium Open House.

Herbarium Highlight



March 30, 2023
The Annual Herbarium Open
House Returns!

FRIESNER HERBARIUM

September 1, 2022 - August 31, 2023

Accomplishments

Annual Herbarium Open House - our annual open house was resumed in March, after a 5-year hiatus, to showcase the new herbarium facility as well as the Gallahue Hall Renovation. Scott Namestnik, Botanist for the Indiana Natural Heritage Data Center, Indiana Department of Natural Resources, Division of Nature Preserves, gave an engaging presentation “Carrying the Torch: The State of Indiana Botany in 2023”.

Visiting research botanists Dr. Mark Widrlechner and Scott Namestnik made several visits to continue their work on the genus *Rubus*. Read more in the Visitors section.

Herbarium resources for student use - increased involvement with faculty to incorporate Herbarium resources in classroom, lab, and field exercises for students.

Butler’s Lifelong Learning Program - participation in the pilot program for this initiative to provide interesting lectures and workshops for the community.

Continued support for the Indiana Plant Atlas (begun with funding from a Butler University Innovation Fund Grant) from the Indiana Academy of Science, in the amount of \$2,500 was granted to support maintenance costs of the site.

Herbarium imaging and digitization - specimen imaging continued for new Indiana specimens deposited in the herbarium, as well as imaging of our out-of-state and foreign holdings. All data and images are now uploaded directly to the **Consortium of Midwest Herbaria (CMH)** which provides easier and faster access to collections located throughout the Midwest.

Loans and Gifts continued

Gifts of specimens continued:

Ada Hayden Herbarium of Iowa State University made a gift of 135 specimens collected in Indiana by Dr. Rolla M. Tryon in the mid-1930's. They also gifted us with 12 duplicate specimens of *Rubus* collected by Michael J. Oldham (Ontario Ministry of Northern Development, Mines, Natural Resources & Forestry) in Canada in 1999. The duplicate set is maintained at Iowa State.

Cardno Environmental Engineering (now Stantec) submitted 6 specimens collected during 2022.

Various other collectors, from around the state, deposited specimens of species that had not been documented in certain counties previously.

Endowment and Gift Funds

The Friesner Herbarium Endowment, established by Ray's widow, Gladys, continues to pay the wages for student assistants working in the Herbarium.

We accept donations through the **Herbarium Gift Fund** to further our mission of preserving and enhancing the collection, plus providing educational opportunities for students. Please contact Marcia Moore at mmoore@butler.edu, or (317) 940-8302 for information on how to donate; or contact Butler University Advancement at (317) 940-9469 or gifts@butler.edu. Online giving is also an option: <https://www.butler.edu/advancement/make-a-gift>, designate that your gift is to benefit the Herbarium Gift Fund.

Funded Research Grants and Contracts

Indiana Academy of Science Community Grants Recipient – June 2022 through June 2024, \$5,000.00 in continuing support of the Indiana Plant Atlas.

Visitors to the Herbarium

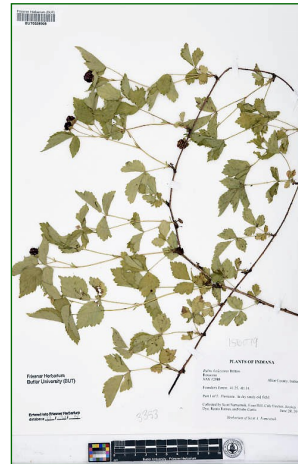
Indiana *Rubus* work

Visiting botanists Dr. Mark Widrechner and Scott Namestnik (pictured below) made several visits to continue their studies with the genus *Rubus* (blackberries and raspberries) in Indiana. This work continues to be supported by the Indiana Native Plant Society and is the first comprehensive study of *Rubus* focused exclusively on Indiana since before World War II.



To continue this work, Marcia Moore is pleased to continue to provide the facility and resources, and to manage loans from other herbaria across North America. The ultimate goal of this project is to produce up-to-date descriptions, keys, and maps for documentation and guidance for other field botanists.

Visitors continued



Above, two *Rubus* specimens collected by Scott Namestnik. At left, *Rubus phoenicolasius*, June 8, 2013, from Hamilton County, and at right, *Rubus baileyanus*, June 28, 2016, from Allen County.

Student Visitors: Biology students in Dr. Phil Villani's Botany BI302 class toured the Herbarium, as did non-majors in Dr. Hilary Madinger's NW207, Ecology and the Natural Environment class, and Marva Meadow's NW202, The World of Plants class.

Jaime Frye, Assistant Curator of Living Collections, Newfields, visited to discuss how we can partner together and promote one another's work, and the possibility of having her summer fellowship students learn about the Herbarium.

Carol Day, Orchid Curator, Ball State University, and I met to tour the herbarium and discuss possible volunteer work.

Visitors continued

Sean Callahan, Curator of Natural Science, The Childrens's Musuem of Indianapolis, visited and we discussed how the Herbarium and Butler Biology can help furnish specimens for Sean to build a small herbarium for the museum for educational purposes. Currently, students are in the process of collecting and mounting specimens for this purpose.

Barbara Simpson, volunteer with Friends of Goose Pond, visited to discuss beginning a herbarium collection for the Goose Pond Federal Wildlife Area and the surrounding properties. We discussed how to do the survey and collection of plants. I loaned her a plant press and will instruct her in mounting techniques when her collecting is complete.

Inquiries, surveys, & requests for database Information

Several observations of species in areas not vouchered on our Indiana Plant Atlas were made by various individuals. These observations will be collected so that they may be recorded online when that feature becomes available to us. Some people have submitted specimens for vouchering and others have submitted photographs.

Several requests were received to use photographs that are posted on the Indiana Plant Atlas.

Presentations

Presentation for Dr. Shelley Etnier's and Dr. Phil Villani's BI 111 Contemporary Issues in Biology class about the Herbarium – what it is, resources we can provide, and how students can become involved.

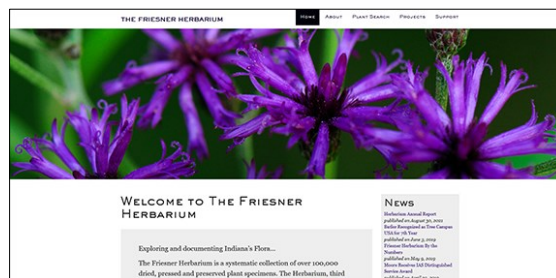
Professional Development

Marcia virtually attended several professional development courses:

- Getting the Timing Right: Plant Phenology and Mismatch in our Changing Forests by Dr. Mason Heberling, Carnegie Museum of Natural History, offered by the Natural Areas Association.
- Personal Observation Management profiles in Symbiota portals. Offered by the Symbiota Support Hub and iDigBio.
- 2022 Biodigicon -the iDigBio annual summit focusing on digitization and mobilization with an emphasis on workforce training.

Friesner Herbarium Website

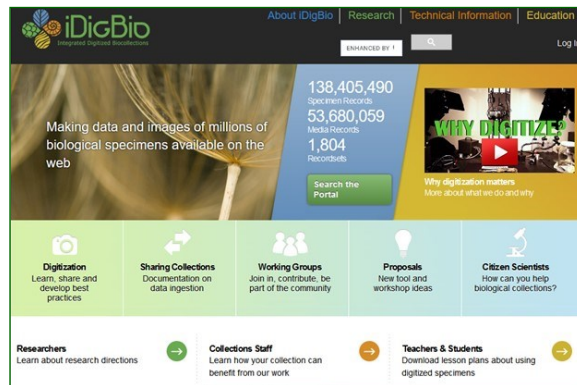
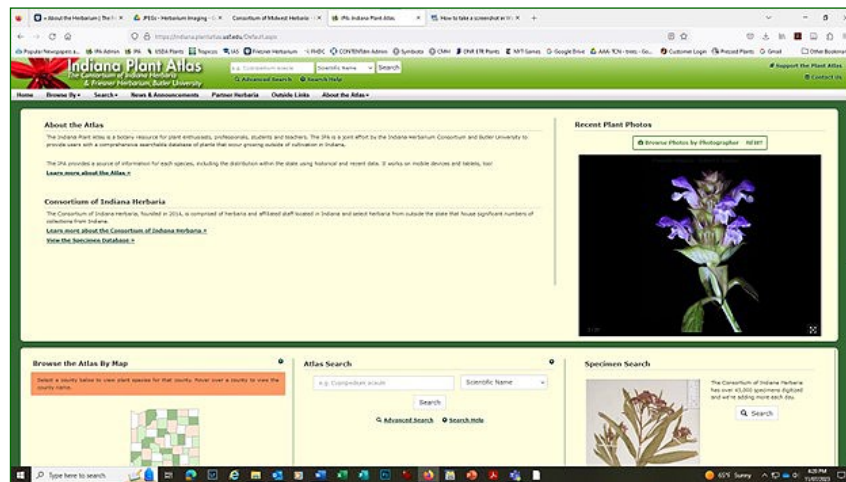
The Friesner Herbarium website continues to be an important resource for those looking for information about what we do, Indiana plants, and links to other botanical resources. We are in the process of updating many of the photographs, and are planning with Information Technology to develop an online interactive “Tree Walk.”



www.butler.edu/herbarium

Indiana Plant Atlas (IPA)

The Indiana Plant Atlas (IPA, <https://indiana.plantatlas.usf.edu/>) continues to be a widely used botanical resource of Indiana plants. Many people from consulting firms, educational facilities, and the public use the site and make comments about how useful it is. Marcia More is digital curator for the site. All newly accessioned and imaged specimens are continually being added to the Atlas. Over 44,000 digitized specimens are now available for viewing.



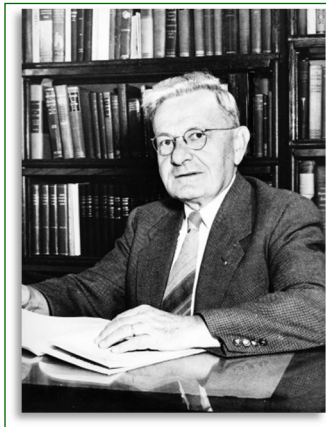
Data posted to the IPA are also published to the iDigBio website, an initiative of the National Science Foundation, that contains digitalized biodiversity data on organisms of all types and from there to the

Global Biodiversity Information Facility (GBIF), an international site that compiles and serves specimen data from across the globe.

Friesner Herbarium Digital Collection (FHDC)

Specimen sheets are imaged, and metadata sent to Janice Gustaferro, Butler metadata librarian. Images are posted online at <http://palni.contentdm.oclc.org/cdm/landingpage/collection/herbarium4>. Nearly 46,000 images and their associated data are now in the digital collection.

Approximately 670 new specimens of Indiana origin were imaged and uploaded to the Friesner Herbarium Digital Collection. Once uploaded, this confirms that they have been properly accessioned into our collection. An additional 1500 specimens collected outside of Indiana, both in the United States and from foreign countries were also added to the digital collection. We have hired several additional students who will be continuing to image our vast non-Indiana holdings.



Featured in the collection: at left, **Dr. John E. Potzger**, began teaching at Butler in 1932. He had also graduated from Butler in 1927, and was a noted forest ecologist and palynologist (pollen and spores studies). He became Chair of the Botany Department and Curator of the Herbarium in 1952, after Friesner's death.

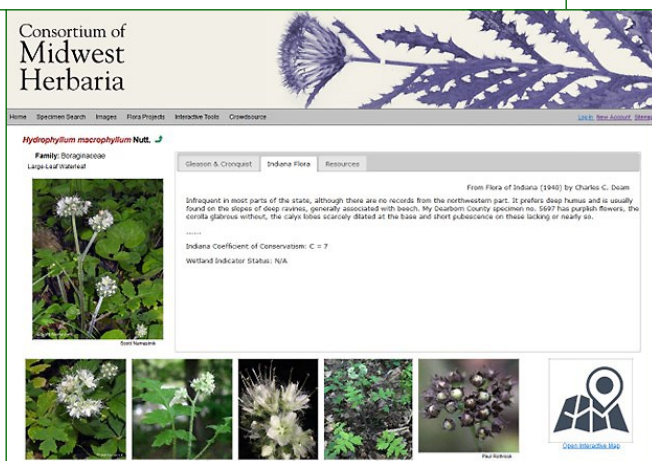
Our Indiana holdings contain 4,563 of Potzger's specimens, many of which are grasses, another of his many specialties. At right, *Eragrostis spectabilis* (Purple lovegrass), collected by Potzger in Harrison County, September 1, 1937.



Consortium of Midwest Herbaria (CMH)

The Consortium of Midwest Herbaria (CMH),
<https://midwestherbaria.org/portal/>) From our out-of-state and foreign previously accessioned specimens, over 2,000 were imaged and the data added to the Consortium of Midwest Herbaria online database. The CMH site currently contains 54,622 of our specimens, representing 180 families and 837 genera.

132 herbaria from the Midwest region, primarily states that border the western Great Lakes, are now featured, and has quickly become the primary source of information for professional botanists.



Herbarium Sponsored Activities and Community Service

Marcia is developing workshops and tours for the **Lifelong Learning Collaborative**, a new initiative at Butler, which aims to improve and enrich the lives of adults by providing access and lowering barriers to educational opportunities for all, from recent graduates to senior citizens. She worked with Dr. Catherine Pangan in the pilot program for this project. Beginning Spring 2024, regular offerings involving the science of plant life will be offered. These include, but not limited to, spring wildflower walks, summer prairie tours, Herbarium tours, native plant education, just to name a few.

Marcia continues service to the **Indiana Plant Conservation Alliance (INPCA)** by being a member of their organizational steering committee. INPCA is a partnership of organizations and individuals working to protect native plants, especially at-risk species. We held our second Annual Partners Meeting January 27, 2023, which was attended by close to 70 people. Our next meeting will be held January 5, 2024.



Marcia participated in the **annual ecological restoration workday in the Butler Woods**, where students removed invasive garlic mustard, small bush honeysuckle, and lesser celandine (students at left pulling lesser celandine). Organized by Biology Senior Lecturer Marva Meadows, students from her non-major introductory biology classes, Phil Villani's botany class, and Hilary Madinger's Ecology and the Natural Environment class participated.

Phone and e-mail questions from Butler staff, students, and the public were answered, and plants were identified on request.

Other News continued

Dr. Hilary Madinger, Lecturer with the Department of Biological Sciences, was named a research collaborator with the Friesner Herbarium. Dr. Madinger specializes in Ecology and Conservation Biology, and will serve as a liaison with the herbarium and students to develop independent research projects utilizing herbarium and related resources. Hilary and Marcia are working on a plan that will first give students opportunity to work for pay in the herbarium where they will learn about specimen preservation and digitization procedures. After a student has worked at least 30 hours in the herbarium, they may begin developing a research or internship project. This project will be in collaboration with Marcia and Hilary and will include collecting and analyzing data, and presenting their findings at venues such as the Indiana Academy of Science Annual Meeting and the Butler Undergraduate Research Conference. Projects may also include botanical field work and there may also be opportunities to work with community partners.

Herbarium Volunteer Amanda Wanlass began working with us in September of 2022. Amanda holds a masters degree in environmental science from Indiana University and currently runs a small nonprofit that engages citizen scientists in documenting the timing of seasonal changes in Indiana plants (<https://www.indianaphenology.org/>). Amanda has been instrumental in helping with anything that is asked of her! She has tirelessly mounted hundreds of new specimens, assisted with filing of specimens, and undertook a botanical inventory of the Butler Woods this spring and summer that was much in need of updating. She will be assisting Marcia with updates of genus and species names for our specimen folders and general clean-up and reorganization of the cabinets. Her skills and talents are a welcome addition to the herbarium!

Other News

New microscope: with assistance from the Biological Sciences Department Equipment Fund, we were able to purchase and update our microscope which was over 25 years old! A beautiful Leica Stereozoom S9D, with Flexacam C3 Camera and auxiliary Dell Monitor can now provide us with state-of-the art images of microscopic plant components which can aid in identification and other precision work. Having the interface with the monitor makes it easy to use as a teaching tool, and images can be saved via a memory stick or sent via email if desired.

The image below right is *Viola lanceolata* where individual seeds can be seen; and the image at left is *Helianthus hirsutus* which shows individual hairs.



New and Continuing Activities for the remainder of 2023 and 2024

- Continue work to incorporate Herbarium resources in classrooms, labs, and field exercises for students. With Dr. Hilary Madinger, plans to sponsor our first independent student research projects are underway for Spring semester of 2024.
- Plans for the the Annual Herbarium Open House are underway. Mark your calendar for March 19, 2024, featuring Dr. Caita Catriona, Plant and Fungi Conservation Coordinator in the Global Center for Species Survival of the Indianapolis Zoo, as our speaker.
- Continue efforts to foster community supporters for the Herbarium.
- Develop a 5-year strategic plan.
- Encourage collection efforts by area botanists by providing a welcoming and efficient facility in which to deposit their specimens.

***Butler University's Friesner Herbarium —
exploring and documenting
Indiana's flora and beyond***



<https://herbarium.butler.edu/>