



INDIANA ACADEMY OF SCIENCE NEWSLETTER

Number 147

May 2011

The Trail Creek Open Space Bioblitz Michigan City, LaPorte County, Indiana July 15 and 16th

OBJECTIVE: Michigan City, Indiana Parks and Recreation is hosting a Bioblitz to identify plants and wildlife in riparian and dune corridors near Lake Michigan. The City has been actively acquiring several hundred acres for open space recreation and conservation. There are several hundred additional acres still available. Identifying natural assets in the context of a Bioblitz will help to determine the quality of the corridor.

DATE:

- o July 15 and 16th
- o Portions will begin on July 15th at a time specified by the Team Leader

RELATED EVENTS:

- o Hike: A public hike will be held on July 16th to present the Bioblitz concept and data collection techniques.
- o At 5:00 on July 16th a closing event will be held in conjunction with Barefoot Winery's beach clean up day.

CURRENT PARTICIPATING ORGANIZATIONS:

- o The Field Museum
- o Ball State University
- o Hanover College
- o And Others

EVENT COORDINATOR:

Eric Neagu
eneagu@weaverboos.com
773-403-5137

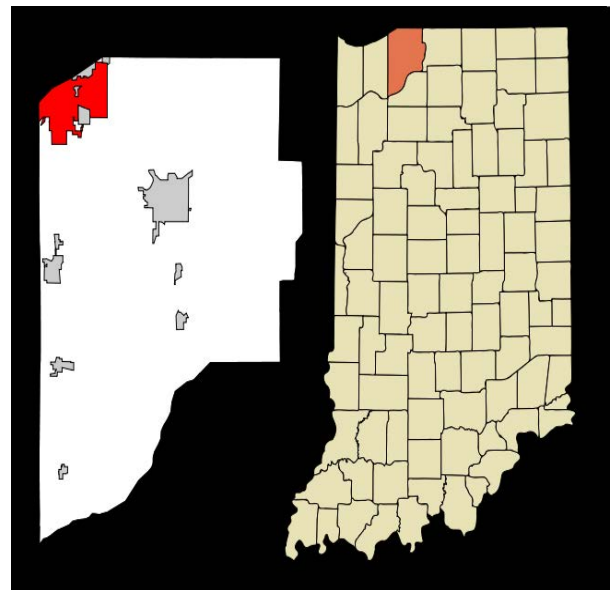
TAXONOMIC EXPERTS NEEDED!

We are seeking experts and knowledgeable individual in the natural sciences to assist with plant and wildlife identification.

To indicate your willingness to participate in this worthwhile event, contact **Eric Neagu, Don Ruch, or Daryl Karns**.

Donald Ruch, Ball State University
druch@bsu.edu
765-285-8829

Daryl Karns, Hanover College
karns@hanover.edu
812-866-7249



Map of Indiana showing LaPorte County and Michigan City. From http://www.ask.com/wiki/Michigan_City,_Indiana.

Note from the President's Corner

In the past, the IAS president would hand the gavel to the president-elect at the Annual Meeting held each fall. The president elect didn't actually become president at that moment, though; that didn't happen until January 1st. But we have now moved to a late February or early March Annual Meeting, and when Jim Curry handed the gavel to me at the Annual Meeting in Indianapolis on March 5th, he ended, at that moment, a 14-month presidency. I'll have a 12-month presidency and then at the Annual Meeting in late February or early March of 2012, I'll hand the gavel to Mike Finkler.

A lot happened during Jim's 14 months as president. He has written about these changes in the Newsletter and he spoke about them at the Annual Meeting. Nevertheless, I'd like to just briefly summarize them. We now have a full-time executive director, we are no longer in danger of losing our not-for-profit status with the IRS, we have a new office that looks out into the Governor Frank O'Bannon Great Hall of the State Museum, our bylaws and constitution have been combined and updated, our two governing bodies have been combined into a more functional 10-member Council, our committees have been somewhat revamped, our budget year now runs from June 1 until May 31, the traditional spring meeting has been replaced by the Fall Forum (the first one will be held November 12, 2011), the Annual Meeting at which papers are presented is now in late February or early March, and we are now in a position to cooperate with the State Museum in basic scientific research and in bringing science to the citizens of Indiana.

Jim will be the first to tell you that he had help in accomplishing all of this. Bill McKnight served as the Transition Officer. In that capacity, and in addition to a lot of hard work, Bill supplied information and insight that no one else could possibly have provided. Jim Berry chaired the Executive Director Search Committee consisting of Bob Waltz, Clare Chatot, and Alice Heikens. The Futures Committee that Jim appointed to help him in planning these changes included Ed Squires, Rebecca



Richard Kjonaas, 2011-2012 IAS President

Dolan, and Paul Rothrock. Although I too served on that committee, I couldn't come close to matching the insight and expertise that those three past presidents brought to the table. Treasurer Ed Frazier and Foundation Committee Chair Stan Burden thrashed out the complicated financial details of all these changes. Ron Richards, who is both an IAS member and the Chief Curator of Science and Technology at the State Museum, approached the Academy with the idea of a formal collaboration. Our new Executive Director Delores Brown arrived November 1 and didn't waste any time in putting together the new office and working out details of the Annual Meeting. During all of this, others were carrying out the usual business of the Academy; some names that come immediately to mind are Heather Bruns, Nelson Schafer, Anne Wilson, Marcia Gillette, Tina Gilliland, Patty Zeck, Don Ruch, and Mike Foos. There are, of course, many others.

Because of Jim's leadership and the help of those involved, the future of the Academy is brighter than ever.

From the Desk of the Executive Director

March 4-5, 2011 marked The 126th Annual Academy Meeting, held at the University Place Conference Center and Hotel, Indianapolis. Faces were placed with names; Section Business Meetings facilitated by section chairs and vice chairs over breakfast provided opportunity for members to share their thoughts about Academy questions under discussion; Jim Curry, the 125th Academy president, greeted the over 300 Academy members in attendance; Academy Awards were presented to John Whittaker, noted ecologist and professor emeritus at ISU—the Academy’s Distinguished Scholar Award, and Nelson Shaffer, noted geologist with the Indiana Geological Survey- the Academy’s Special Service Award; and 170 oral

research presentations and posters were given. The exchange was invaluable, and the feedback received from you was quite positive.

Dev Niyogi was the Annual Meeting speaker at the Academy Luncheon this year. The Luncheon proved to be a great opportunity for attendees to hear from our state’s climatologist and faculty scholar, as well as a wonderful venue for all to meet and talk with colleagues and others. We were also very pleased to have David Nance as guest speaker from the Department of Natural Resources who presented “Asian Carp Know No Boundaries,” and Mr. Nick Harby who gave us an overview of the Kriebel Herbarium at Purdue University. The passing of the gavel took place at the end of the day’s Academy Business Meeting, when Academy president Jim Curry ended his 14 month presidency and passed on presidential responsibilities to the then president-elect Richard Kjonaas, and the new Council took their place. New section chairs and vice chairs were also named and those section chairs and vice chairs ending their terms were thanked for a job well done. A networking reception followed.

WFYI was on hand to help document the 126th Annual Academy Meeting. Look for vignettes of the meeting on the Website at www.indianaacademyofscience.org.

The Academy wishes to again thank WFYI, the



Delores Brown, *IAS Executive Director*

Indiana State Museum, and the Courtyard by Marriott Hotel for partnering with the Academy for the 126th Annual Academy Meeting. We look forward to the 127th Annual Academy Meeting; spring 2012. Start planning now for your involvement next year.

Following the Annual Academy Meeting, on March 16th, the Board of Directors for the Indiana State Museum officially welcomed the Indiana Academy of Science to the Museum, our new permanent location, with a reception in our honor. Tom King, president of the Indiana State Museum, wrote ...”I would like to express my appreciation for the collaboration between the Museum and the Indiana Academy of Science. We look

forward to developing even more opportunities for the Indiana community to enjoy science at its best.”

The Museum was an excellent choice for the Academy’s home, and the welcome we’ve received since November 1, has been none other than amazing.

Membership in the Indiana Academy of Science is very special. “The Academy’s members share an interest in the progress of science and science education, and a desire that science and scientists play a major role in the growth of Indiana. With the rapid acceleration of knowledge in science and technology and expanding career opportuni-



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ties in these areas, this is a time of great challenge for science in Indiana and the rest of the world. We need your ideas and your talents in order that the Academy may achieve the goals outlined by its founders...” and leadership.

Encourage your colleagues as well as other scientists to register membership in the Academy. As you know on-line membership application is quite simple at www.indianaacademyofscience.org. Together we can continue to build the Academy to a place where everyone benefits.

“Indiana Science is Distinctive.”

-- *Delores Brown*
IAS Executive Director



Indiana Academy of Science Senior Grants Spring 2011

<p>Kemuel Badger, Ball State University \$1,169.00 Changes in the forest community structure and composition of the old-growth forests of Laughery Bluff and Dogwood Nature Preserves over the past 50 years.</p>	<p>Ryan Dibala, Ball State University \$766.00 Silviculture treatment effects on cerulean warbler nesting ecology.</p>
<p>Heather Bruns, Ball State University \$2,975.00 The effects of simvastatin pretreatment on immunologic memory and survival in responses to secondary bacterial infection.</p>	<p>Mark Pyron, Ball State University \$2,329.00 Morphological and niche variation of gastropod assemblages: does ecomorphology provide for evolutionary responses to the environment?</p>

Ranjith S. Wijesinghe , Ball State University \$2,900.00 Direct MRI detection of neuronal and dendritic currents in the brain.	David Ryan Samson , Indiana University \$2,001.00 Great ape sleep architecture: Using Infra-red videography to generate sleep quotas in <i>Pongo pygmaeus</i> .
Lily Arias , Indiana State University \$1,700.00 Assessing fractionation between hydrogen and oxygen in drinking water and bat tissues.	Jennifer Kowalski , Butler University \$2,843.00 Investigation of SUMO enzyme function in regulating synaptic transmission at the <i>C. elegans</i> neuromuscular junction.
Jenny Bodwell , Indiana State University \$1,655.00 Ecology and relationships of avian and floristic communities of the Wabashiki Fish and Wildlife Area.	Yuk Fai Leung , Purdue University \$3,000.00 The role of phenylthiourea in zebrafish eye development.
Kathryn De Rego , Indiana State University \$3,000.00 Holocene alluvial history of Rosewood Bottom and implications for Lower Ohio River fluvial changes.	Jacquelyn Randolet , Purdue University \$1,536.00 Behavioral variations between individuals: what roles do sensory systems play?
Edward Herrmann , Indiana University \$2,975.00 Paleoindian and early archaic settlement pattern and the paleoenvironments of Indiana's White River Valley.	Jordan M. Marshall , IUPU Fort Wayne \$1,187.00 Ash Regeneration in Hardwood and Pine Dominated Forest Stands.
Meghan Midgley , Indiana University \$2,363.00 Nitrogen deposition effects on soil carbon dynamics: the role of mycorrhizal association in mixed hardwood forests.	Welch Award Donald Ruch , Ball State University \$500.00 Examination of the flora and floral communities of Camp Munsee, Delaware County, IN.

Interlibrary Loaning from the IAS Collection

The John S. Wright memorial library (IAS's library) consists of titles from the 1890s to present and is located at the Indiana State Library. We have full runs of many journals, and are always getting in the latest issues. You can search all collections at ISL, including the IAS materials, at <http://www.in.gov/library/catalog.htm>. The library's hours and location are here <http://www.in.gov/library/2348.htm>. If you are unable to come to the library, you can interlibrary loan (ILL) materials from our collection to

your local library (academic or public). Contact your library for assistance and information on how they perform ILL. If you have any questions regarding the collection, you may contact the Academy Librarian, **Amanda Piegza**.

--**Amanda Piegza**
apiegza@library.in.gov
317-232-3686
317-232-3713 (FAX)

BOOK REVIEW

Paul E. Rothrock. 2009. **Sedges, of Indiana and the adjacent states: the non-Carex species**. (ISBN 978-1-88362-14-0). Indiana Academy of Science, Indianapolis, Indiana 46204. Available at <http://www.indianaacademyofscience.org/publications/special/>; \$45.00. Hard cover (laminated w/o dust jacket), 6.25 x 9.25 inches, 1.9 lbs, 271 pages, 200+ color photos, 6 plates of fruit illustrations, keys, glossary, shaded county maps for Indiana and color designation maps for adjacent states, 3 appendices.

Here is a book that has to be in every Michigan botanist's library. Not only is Indiana adjacent to Michigan, but most Michigan species that do not occur in

Indiana are also treated in the keys and discussed briefly. The Indiana Academy of Science website notes that they have 2620 copies available as of Nov. 4. This will be a best seller, so get yours now before they are all gone! While this is basically a modern treatment of the 88 species of *non-Carex* sedges in Indiana, it is orchestrated in such a way as to be much more useful than a straightforward floristic treatment with keys, descriptions, and notes on habitats, associates, maps and remarks. So what are the elements that make this book especially useful? First off, the author clearly speaks from experience-no blind compilations from specimens and literature here. This is original work, the product of years of scholarship and becoming intimately familiar with

the species by one of the premier sedge experts in the U. S. There are keys to all the species, but beyond the keys, there are helpful hints and ecological and life history discussions that are not only insightful and interesting, but often offer practical help with the most difficult plants. There are even frequently notes about interesting aspect of the species biology, ecology, and even history from elsewhere in the range of the plant as well. Also, every Indiana species (and a few additional species as well) is illustrated with excellent color photographs, some of which are habitat shots as well as plant portraits. Line drawings of achenes are illustrated for most Indiana species-including all for which achenes are diagnostic. A total of 232 figures are included, making this one of the most amply illustrated of modern sedge books. Every Indiana species is mapped by county within the state, and occurrence in adjacent states is also noted, so it is easy to get a clear idea of distribution. Finally, for some of the most difficult species complexes, such as the *Eleocharis palustris* complex, the *Scirpus atrovirens* complex, and the *Scirpus cyperinus* complex, there is a detailed table comparing species for a range of features. Throughout the book, there is also a careful focus on distinguishing difficult and easily confused species pairs or triplets such as *Eleocharis engelmannii*, *E. obtusa*, and *E. ovata*, *Schoenoplectus purshianus* and *S. smithii*, and *Scleria reticularis* and *S. muehlenbergii*, among others. For the *Eleocharis* trio, photographs of the achenes of the three side by side are worth pages of careful measurements and descriptions.

There are a lot of additional facts available in the book in tabular materials in Appendices. There is a checklist of all non-*Carex* Sedges of Indiana that includes their life cycle, whether annual, perennial, or both, and also the wetness ranking and coefficients of conservatism (a measure of the fidelity of the species to native communities, not political

affiliation). There is an appendix that lists old synonyms, so that you can easily annotate your older floras and notebooks with the modern names. An interesting appendix is a key to “Indiana’s dozen most frequently encountered Sedges (excluding the genus *Carex*)” which allows identification, with minimal dissection and measurements, of most species a beginner would encounter.

There is also a glossary of botanical terms that will help with definitions used in keys and descriptions (though some undefined modern phylogenetic terminology like clade and cladistic, homoplasy, monophyletic, etc. may still raise eyebrows among some).

Finally, I want to note that there are interesting tidbits of fact and observation scattered throughout. The writing has not been squeezed dry to make it as dull and uninteresting as possible, as so often seems the case with scientific literature. This makes the book not only useful to professional botanists, but interesting to naturalists and amateurs wanting to know more about one of the most important groups of plants ecologically in our flora. There are even English names listed for every species for people with a phobia of Latin-my favorites are hair sedge for *Bulbostylis capillaris*, wicket spike rush for *Eleocharis rostellata*, and whip grass for *Scleria triglomerata*. Whatever your interests and needs: field identification, work in the Herbarium, restoration and wetland mitigation, and even gardening, this book will be a helpful tool.

-- A.A. Reznicek

University of Michigan Herbarium
3600 Varsity Drive
Ann Arbor, Michigan 48108

Kay Yatskievych’s Spring Flower Finder

Kay recently revised her Flower Finder (examples top of next page). The Flower Finder is focused on Indiana Spring Wildflowers and is organized by flower color. The spring wildflowers that are included are those that start blooming Feb–Apr. The new Flower Finder for Indiana Spring Wildflowers has 102 species on it, plus 10 additional entries for species that have more than one flower color or different numbers of petals. There are 277 species recorded for Indiana that begin flowering Feb–Apr.

The species in the Flower Finder include native species and non-native species that have been found outside of cultivation. Native species are listed in italics and non-native ones are listed in italicized small caps.

Images are arranged by the following flower colors: yellow, orange, red, white, pink, lavender, violet, blue, brownish, green, and those with no colored petals or sepals. Within each flower color, the arrangement is from the largest to the smallest based on corolla length, petal length (including tube in rotate flowers), or for Asteraceae, the ray flowers.

To see the entire Spring Flower Finder, go to <http://www.mobot.org/MOBOT/Research/curators/kay.shtml>

You can contact Kay at **Kay.Yatskievych@mobot.org**.

Spring Flower Finder con't

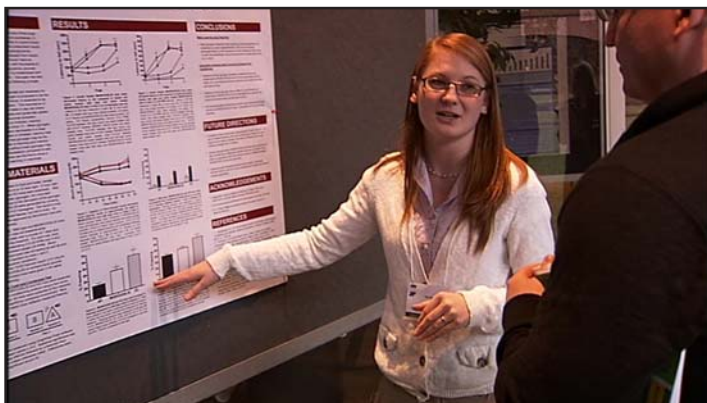
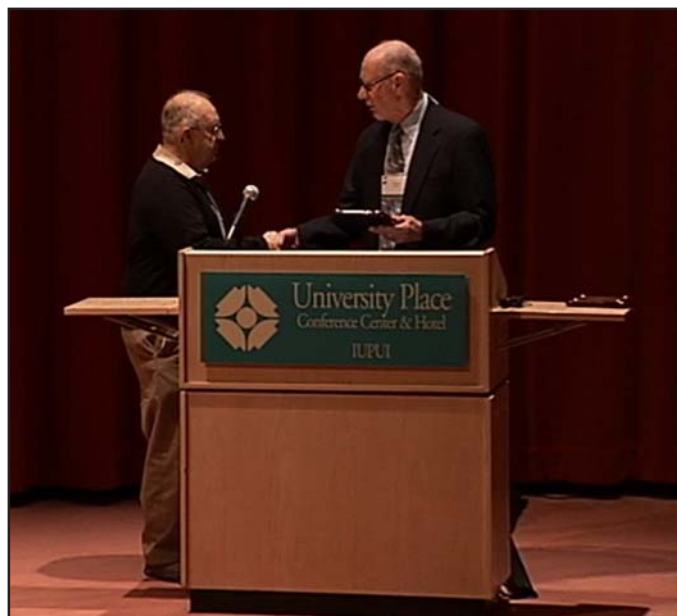


Uvularia grandiflora • Large-Flowered Bellwort • 25–50 mm



Anemone acutiloba
Sharp-Lobed Hepatica • 8–13 mm

Scenes from the Spring Academy Meeting Courtesy WFYI



**IMPORTANT NOTICE CONCERNING
THE PROCEEDINGS OF THE INDIANA ACADEMY OF SCIENCE**

Number 2 of Volume 119 of the 2010 issue of the Proceedings of the Indiana Academy of Science is finally in press. At this time we do not have enough manuscripts in the pipeline for a full 2 issues of the 2011, volume 120. While we do not want to compromise the quality of the Journal, we do invite you to submit significant results of your research. Please submit your manuscript by E-mail, as a word document, with separate files for figures and tables, to uwe.hansen@indstate.edu. You can also reach **Dr. Uwe Hansen** at **(812)234-0229**.

**Deadline for submission of material for the September issue of the IAS Newsletter is
August 26, 2011**

Send copy to Donald G. Ruch at druch@bsu.edu

For IAS information, go to: www.indianaacademyofscience.org