

A Note from the President

I am passing the GLC President position to Liana May—thankful for Liana's role in keeping the appreciation of Michigan's flora alive. I am thankful for past GLC president, Irene Eiseman, for she is why this chapter exists and serves so many of us, for Gin Cawood and her passion for the intrinsic value of wild plants, and for Phyllis, Carolyn, and Emily for being such rockstars on the GLC leadership team. In this newsletter, you'll read about GLC member Dr. Susan Fawcett's inspiration for her botany research. Think back to when you first got that itch for botany, did it involve an experience of being around someone else passionate about identifying a plant? Thank you to all of you who point out a plant and its name to someone and help cure plant blindness. In doing so you are also inspiring others to join in the efforts of caring and conserving nature.

As a professional conservationist, I am often thinking about how to best care for nature. Science is an accumulation of studies disproving or failing to disprove a null hypothesis and, in so doing, building consensus that we can, eventually, with some confidence say something is or isn't "right." Looking to the scientific method is our best objective way of knowing, but as the eminent conservationist, Stuart Pimm, states, "there is a moral imperative to conservation." Yikes, so conservation not only deals with the complexity of nature, but human values and motivations are mixed in, too? Of course, conservationists should be informed by the best available scientific consensus, but I recognize the tension that still exists between preservation and management, between restoration goals and novel habitat creations, between showing people the rare orchid that inspires awe and keeping it protected from trampling, even from you. We can't test and falsify values, or if we can, those results are unlikely to decrease the tension.

Tony Reznicek once wrote that we should examine our conceptions from a dispassionate point of view. This is sage advice since conservationists tend to be passionate about their values (I know I am) but are confronted all the time with contradictory views and values. I value big old trees and mature forests, but young forests are sequestering more carbon (I didn't say storing) and providing critical habitat to some species. Or you want to convert an old field with non-native grasses to a native grass planting, but there is a five-year study of bird diversity and abundance showing an old field hitting higher marks. Or you debate the effectiveness of working with a corporation as a positive force aligning with human self-interests to accomplish conservation goals vs. the consideration that relying on nature's instrumental values won't save some species from extinction.

The tension can become wearisome and too divisive if we don't accept it. I've learned that aiming for the right answer can sometimes lead you astray from a wise answer. A work by Daniel Cryer* has really helped me; his suggestion is that we embrace deep ambivalence. Cryer explains that we must withdraw (from an ability to control nature, from having complete knowledge, the right perspective, etc.) but not retreat (from our responsibility and ability to care for nature, from our values, etc.). Indeed, it is contradictory that conservation is backward looking to find our path forward and that humans are destroying nature but are part of nature and the only species that can save nature. I'll see you out on the peaceful, natural, and quiet trail with a phone in my hand:-)

*Cryer, Daniel A. Withdrawal without Retreat: Responsible Conservation in a Doomed Age. *Rhetoric Society Quarterly*, 2018

Derek

-Submitted by Derek Shiels, President

From all of us, Derek, thank you for your service; see you on the trail...

The Great Lakes Chapter – Did You Know?



Derek Shiels and **Susan Fawcett** were the 1st Sponsored Students of GLC (formerly Special Members Chapter)? Yep in 2012 they attended the MBC Foray at Pellston. Derek in back row middle and Susan in back row far right.

-Submitted by Irene Eiseman, Director at Large

Great Lake Chapter - Test Your Knowledge!

(Answers on Page 4)

1. How many names has the Great Lakes Chapter had?
 - a) Five
 - b) Four
 - c) Two
 - d) None
2. Based on GPS coordinates of GLC member's zip codes, where is the epicenter of our membership located?
 - a. Center of lower peninsula, Lansing, MI
 - b. Mackinaw Bridge, Mackinac City, MI
 - c. Eastern shore of Wisconsin, Milwaukee, WI
 - d. Eastern shore of Lake Michigan
 - e. Middle of Lake Michigan
3. What percentage of GLC members reside outside of Michigan?
 - a. 15%
 - b. 27%
 - c) 30%
 - d) 35%



Platanthera psycodes (purple-fringed orchid. -Robert Kahl

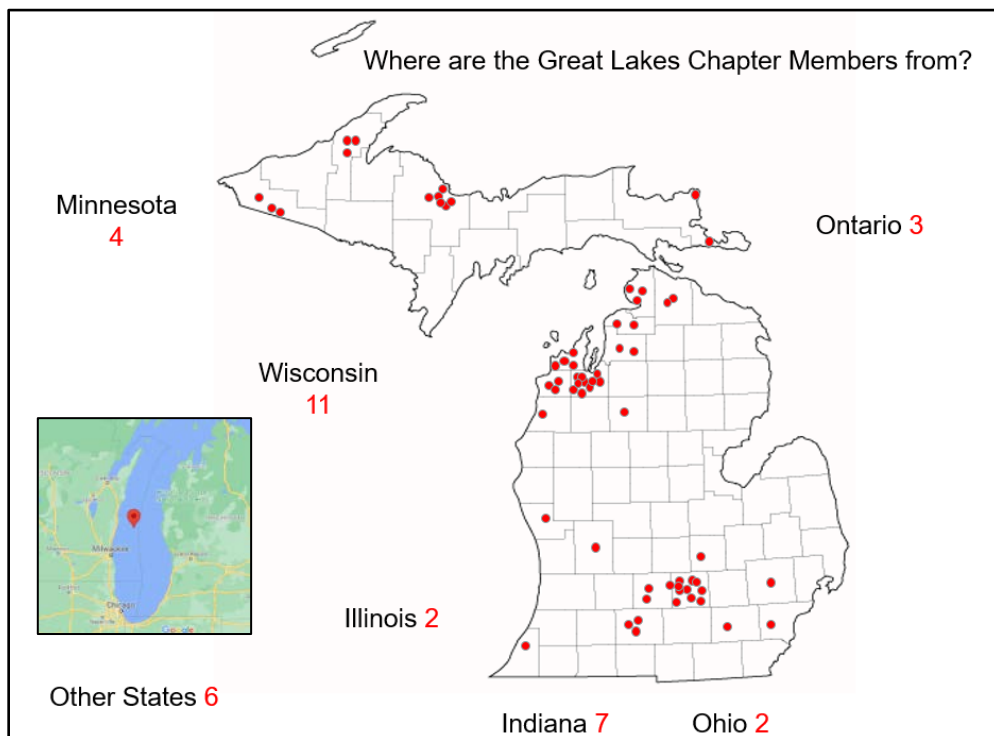
4. Since COVID Our membership has _____?
- a. Stayed the same
 - b. Risen slightly
 - c. Risen a lot
 - d. Declined
5. What plant is the official logo of the Michigan Botanical Club?
- a. Houghton’s Goldenrod (*Solidago houghtonii*)
 - b. Jack-in-the-pulpit (*Arisaema triphyllum*)
 - c. White Oak (*Quercus alba*)
 - d. Dwarf Lake Iris (*Iris lacustris*)
6. What was the most observed plant species in the “Michigan Botanist’s Big Year 2021” project on iNaturalist?
- a. Large White Trillium (*Trillium grandiflorum*)
 - b. Ghost pipes (*Monotropa uniflora*)
 - c. Common Milkweed (*Asclepias syriaca*)
 - d. Jack-in-the-pulpit (*Arisaema triphyllum*)

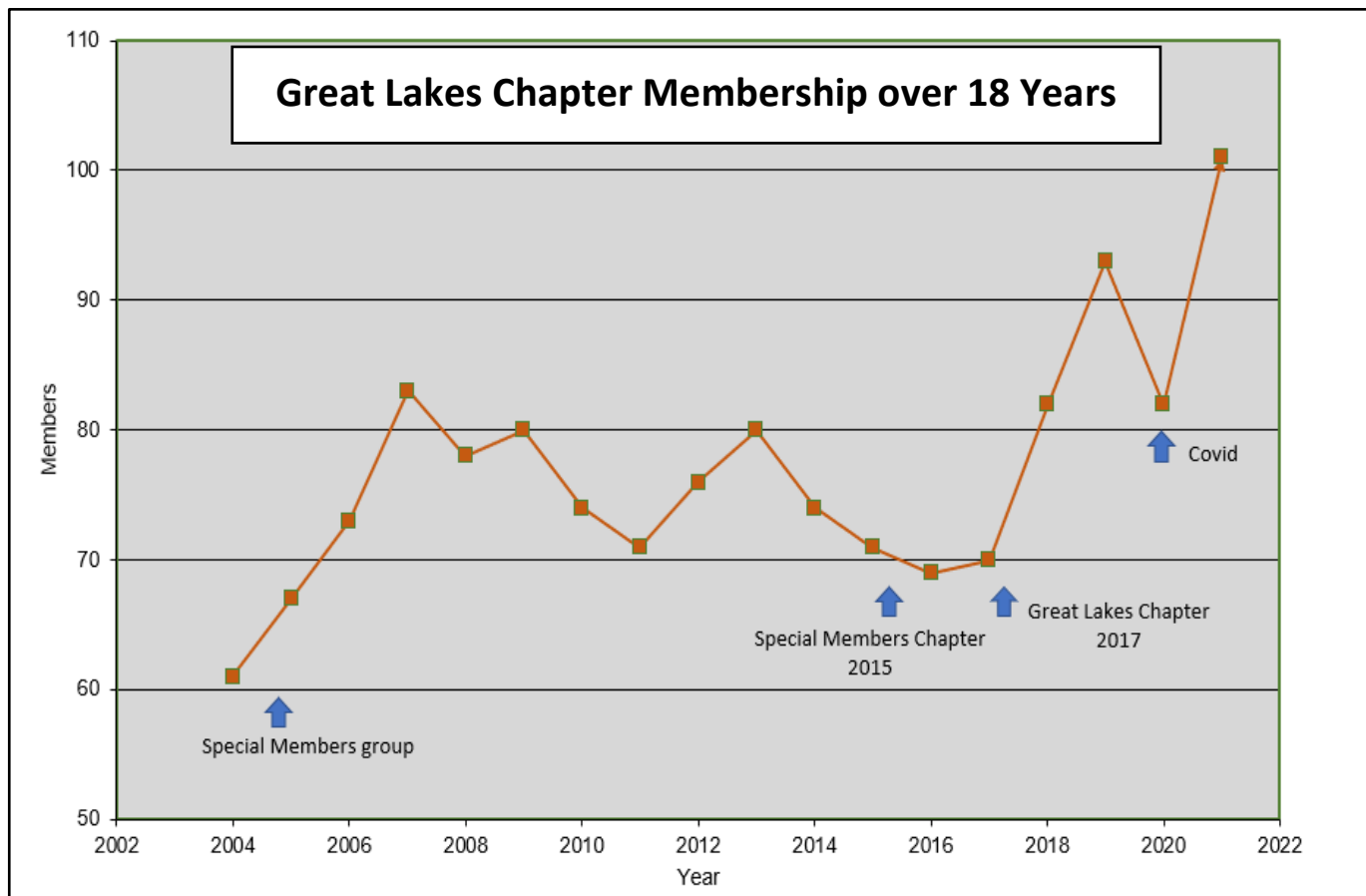


Platanthera psycodes forma *albiflora* - Robert Kahl

Where is the Great Lake Chapter Located?

Our Chapter is essentially an online chapter. So, in a geographical sense, where is home? To get an idea, the mailing zip codes for all members were converted to GPS coordinates. The Latitudes and Longitudes were tallied to yield a mean value, and that location was converted to a point on Google Maps. The result is that you better get yourself a boat if you want to visit. Lat. 43.621181, Long. -87.2759 is in the center of Lake Michigan!





Quiz Answers: 1) B, Four names: State members, Special Members group, and Special Members Chapter, and the Great Lakes Chapter. 2) C, Middle of lake Michigan. 3) D, A whopping 35%. 4) C, GLC Memberships has risen a lot since Covid. 5) B, The Arisaema logo was copyrighted for the Club and designed by noted artist Gwen Frostic. 6. C, Common milkweed was the highest observed species, 719 pictures.



Michigan Flora Photo Opportunity Still Open

The GLC botanical photo project on iNaturalist is into its 2nd year. This project was created to give members an opportunity to contribute their photos to the University of Michigan herbarium collection. Of the 473 plant species on the project list, 182 photos have been taken of 92 species! We encourage all members to participate in this unique project. Visit the project webpage at <https://www.inaturalist.org/projects/updating-photos-for-mich-herbarium>. A list of genus and species of plants needing photos are listed on the iNaturalist project page under the Project List folder and on the GLC webpage:







<http://www.michbotclub.org/great-lakes-chapter>. The best photos will be selected by Herbarium staff for inclusion in future Michigan Flora updates. A big “Thank You” goes to the two top photo contributors: Robert Rutledge who already submitted 73 photos of 37 species and Nathan Martineau who sent 48 photos of 39 species. There are still over 300 more species that need pictures. So, crack open your photo archives and upload your pics to this great botanical project. Need help uploading? Contact: Project Managers: Irene Eiseman eisemani@gmail.com and Derek Shiels d.r.shiels@gmail.com







Michigan's 2021 Botanist's Big Year Winner

Congratulations to Michigan's 2021 Botanist's Big Year winner, Dr. Julia Miller! Julia documented 472 plant species confirmed by the iNaturalist community over the last 11 months. Ryne Rutherford came in second, documenting 432 species! Cheers to them both for winning \$100 and \$50, respectively. Any MBC member is eligible for an award, which is sponsored by the Great Lakes Chapter. Thanks to everyone who documented a plant in Michigan this year using iNaturalist—there were 6,412 of us making over 56,000 observations! GLC member Bob Kahl had

the most observations at 3,323. Engaging, enjoyable and a form of comradery among nature lovers—cyber style, the iNaturalist observations are also starting to provide a valuable repository of biodiversity information. Upon last check, 12,196 different species of life forms have been observed in Michigan, 345,209 worldwide

The top six observers by total number of species observed in Michigan in 2021 are shown below with the top 6 most observed species in Michigan in 2021. *Hear, hear* to the common milkweed!

Most Species	
 juliakmil	472
 ryruther	432
 bobcatbrad	403
 ken-potter	375
 bob_kahl	374
 natemartineau	343

Most Observed Species	
 Common Milkweed	719
 Jack-in-the-Pulpit	610
 Large White Trillium	570
 Ghost Pipes	539
 Mayapple	522
 American Pokeweed	507

Questions and Answers with Dr. Susan Fawcett

Dr. Susan Fawcett is a friend, Great Lakes Chapter member, and an enthusiastic explorer of the botanical realm who hails from my town of Petoskey, MI. We first met as student scholarship awardees at our first MBC Spring Foray in 2012. Since that time, she has achieved exemplary professional marks and is now a Research Botanist and Curator of Ferns, at the University and Jepson Herbaria, UC Berkeley. Susan recently completed major taxonomic revisions in the fern family Thelypteridaceae, which has been made into a book (and is available for free, open access through BRIT Press: <https://shop.brit.org/books!>). To celebrate this achievement, I wanted to hear

more from Susan and share our email correspondence with you:

Derek: How did you become interested in botany? Is there a beginning story?

Susan: As an undergraduate at the University of Michigan, I took *Woody Plants* from Burt Barnes and Melanie Gunn. That was my gateway drug! I was hooked.

Derek: Why study ferns? Did you consider other taxa to devote your studies towards?

Susan: I've always appreciated the beauty of ferns but think I could have happily ended up studying gulls or dragonflies... but two things happened

that shifted the balance. First, I took the *Tropical Plant Systematics* course offered by the Organization for Tropical Studies in Costa Rica, taught by Robbin Moran, who was then the curator of ferns for the New York Botanical Garden. I got a nice foundation in family and genus level diversity. Second, I started volunteering to mount specimens at the University and Jepson Herbaria at UC Berkeley, where I met Alan Smith. I started following him around, trying to make myself useful, and got a serious education. After a while, I developed a sense for what sorts of questions about ferns needed answers, and which questions might make for a fruitful and satisfying five-year PhD project...

Derek: Do you have a favorite place to botanize? In the Great Lakes region? Outside of the Great Lakes region?

Susan: I love limestone. I'm drawn to the rocky microclimates of the Niagara Escarpment that support rare rock ferns, the marly coastal wetlands loaded with orchids, gentians and carnivores, and the calcium-rich soils of Sugar Maple hardwood understories that host extraordinary blooms of spring ephemerals. I also have an ongoing project studying the evolutionary radiation of ferns in the genus *Goniopteris* on the karst regions of the Greater Antilles, which are just stunning and loaded with endemics.

Derek: You have spent summers at the UM Biostation, what is that experience like for you?

Susan: Transformative. Taking *Field Botany of Northern Michigan* with Chuck Davis and Melanie Gunn as an undergraduate equipped me with the skills, experience, and discipline I needed to become a professional botanist. Learning to recognize plant families and to navigate keys prepared me for my work in Venezuela, Honduras, and California in ways I never would have anticipated. The setting, the history and the community of people there really empowers

students, faculty, and researchers to exchange ideas and do great work. I've been lucky to return as a teaching assistant and faculty member and hope to help keep these traditions alive.

Derek: What is one taxonomic change that you authored and why did you change the name?

Susan: We published a new combination in *Amauropelta* or the New York Fern, *Thelypteris noveboracensis* (= *Parathelypteris noveboracensis*). It is distantly related to the type species of *Thelypteris* (*Thelypteris palustris*), which is now recognized as having only two species worldwide. The genus *Parathelypteris* is non-monophyletic (its members are more closely related to members of other genera than to each other) and *Amauropelta* was the oldest name available for the clade, which includes more than 200 species, most of which are neotropical. We expanded the concept of the genus to include the two North American species, and a handful of Asian species, treated in four subgenera. *Amauropelta noveboracensis* and its western sister species *A. nevadensis* are treated together in the subgenus *Nibaa*, which is an anishinaabemowin word meaning "s/he sleeps" in reference to the deciduous habit and winter dormancy, which distinguishes it from its tropical evergreen sister lineage.

Derek: What's next?

Susan: I currently have a project studying the Beavertail Cactus (*Opuntia basilaris*) as part of the California Conservation Genomics Project www.ccgproject.org/ in collaboration with Dr. Lucas Majure at the University of Florida. Within California there are three varieties: one is widespread and the other two are narrow endemics. With genomes sequenced for 150 individuals throughout their range in California, we hope to identify areas of genetic diversity across the landscape, test taxonomic hypotheses, and explore mechanisms of speciation.

-Submitted by Derek Shiels, President



Opening our Eyes and Ears in 2021!

We gratefully acknowledge our GLC members who shared their botanical knowledge Online and in the Field in 2021. Here's a summary of our lineup:

February 5th, 2021: *Susan Fawcett* presented the Webinar, **"The Fern Family - Thelypteridaceae"**. Dr. Fawcett is a Research Botanist at the University of California, Berkeley, and Jepson Herbaria. The focus of her presentation was on the taxonomic revision of Thelypteridaceae based on morphological study and a 600-taxon phylogenomic dataset. *Note:* Michigan Natural Features Inventory was lucky enough to have Susan as part of a team that conducted rare plant surveys on the Huron Manistee National Forest this past field season. Also, see questions and answers with Susan on the previous page.

March 26th, 2021: *Mary Ann Feist* presented **"Plant Collecting is More Important Than Ever! Botanical Forays and Other Ways to Combat Collecting Bias and Decline"**. Dr. Feist is Herbarium

Curator at the Wisconsin State Herbarium, University of Wisconsin-Madison. Mary Ann is also President of the Botanical Club of Wisconsin. She spoke on the Club's approach to plant specimen collecting and identification in the field with cataloging and contributions to the Herbarium. Make it a habit to voucher your collected specimens for the historical record!

June 5th, 2021: *Liana May*, GLC Vice President, led a field trip to **Cedar Run Creek Natural Area** at Lake Ann, MI. Liana is a botanist with the Great Lakes Environmental Center and owner of Borealis Botanical Consulting.

July 17th, 2021: *Angie Boumas* led a field trip to **Maple Bay Natural Area** in Grand Traverse County. Angie is a graduate of Northern Michigan University in Marquette, MI, and a Senior Land Steward for the Grand Traverse Regional Land Conservancy.

Thank you all!



Reflecting at Cedar Run Creek Natural Area



Checking out a fern at Maple Bay Natural Area

We welcome you to SHARE YOUR PHOTOS to the Great Lakes Chapter Instagram account (with credits and captions of course). Just send the photos with the scientific name, date, location (you can be vague), any additional caption, and how you would like to be credited, to me (liananmay@gmail.com), with "GLC Photos" in the subject line.

Follow us @greatlakesbotany <https://www.instagram.com/greatlakesbotanyclub/>

Michigan Botanical Foundation Fund Raising Campaign

November 22, 2021

Hello, Michigan Botanical Club Members!!

The Michigan Botanical Foundation (MBF) is excited to announce their first ever MBF Fund Raising Campaign to secure the future financing of botanical research grants and educational activities. The \$100,000 goal will be invested in the MBF portfolio and provide an income stream to meet the increasing needs of grant requests.

MBF grants support original research which leads to a better understanding of how plants contribute to the world around us. With climate change, basic research is critical as a baseline to measure the changes occurring in our environment. Additionally, MBF underwrites botanical education grants to projects such as wildflower garden development, Michigan Big Tree ReLeaf Project, and Robb Scholarships which enables students to attend MBC Botanical Forays.

Donations can be in the form of cash, stock, or a bequest in your estate planning. As a 501-C3 organization the donated funds are tax exempt. However, please review your situation with a financial professional.

As a kick starter for the campaign a generous donor will match up to \$5,000 in cash or stock contributions made before December 31, 2021. So don't wait or hesitate, make your contribution today to double its impact!

Thank you for considering a donation to the MBF campaign to make the world a better place by understanding the role plants play in our environment.

Contact Robert Kelly, Treasurer of the MBF, for details on how to contribute: Email: rgk@umich.edu; Phone: 734-635-0562; Mail: 18863 Lakewood Circle, Lake Ann, MI. 49650.

2021 MBC State Spring Foray Update

Greetings Great Lake Chapter members! If all goes as planned, the MBC – Southeastern Chapter will hold the 2022 Spring Foray at the UAW Black Lake Center in Onaway, MI over Memorial Day (May 28-30). I don't know about you, but I'm looking forward to hiking and botanizing all over the area. The facility is situated between Presque Isle County and Cheboygan County. With so many interesting habitats in these two counties, I know that we'll have a botanizing good time! *Submitted by Carolyn Miller, Director-at-Large*



Mitella nuda (naked miterwort)



Trillium cernuum (nodding trillium)



Anemone quinquefolia (wood anemone)

Photos by Robert Liebermann

Michigan Botanical Club – Great Lakes Chapter End of Year Newsletter – 2021

Update in Great Lakes Chapter Board Members

Three of our Board Members are stepping down at the end of December 2021: Derek Shiels, President; Gin Cawood, Secretary; and Irene Eiseman, Director-at-Large. Liana May, currently Vice President, has agreed to step up for President. Carolyn Miller has agreed to step up for Vice President. We are looking for a new Secretary and Director-at-Large to serve starting in January. Please contact Liana if you would like to be considered or if you have someone else to suggest. Election details will be forthcoming.

President	Derek Shiels	Stepping down Dec. 2021	d.r.shiels@gmail.com
Vice President	Liana May	Stepping up Jan. 2022	liana.n.may@gmail.com
Secretary	Gin Cawood	Stepping down Dec. 2021	gingercawood@icloud.com
Treasurer	Emily Douglas	2021-2022	emsuedouglas@gmail.com
Director-at-Large	Irene Eiseman	Stepping down Dec. 2021	eisemani@gmail.com
Director-at-Large	Phyllis Higman	2020-2022	higmanp@michigan.gov
Director-at-Large	Carolyn Miller	2021-2023	miller94@msu.edu

Sustaining Members Recognition

The Great Lakes Chapter of the Michigan Botanical Club gratefully acknowledges the generous support of the following members who have provided additional funding through their memberships. THANK YOU!

John P. Case	Robert and Judy Kelly	James Stoddard
Irene and Tim Eiseman	Linda Rehorst	Susan Trull
Robert and Sheridan Haack	Dana L Richter, PhD	Alexander Wilson
Phyllis Higman	Anita Scussel	
Robert A. Kahl	Betty and Art Seagull	

MBC-Great Lakes Chapter Treasurer's Report, November 30, 2021

Balance carried forward from 2020:	\$4,883.67
Income:	
Membership Dues and Donations:	\$3,879.77
Total Income:	\$3,879.77
Expenses:	
State Membership Dues:	\$1,020.00
Great Lakes Botanist:	\$486.00
Newsletter Postage and Photocopying:	\$36.60
Zoom Speaker Stipends (\$100 each).....	\$200.00
Total Expenses:	\$1,743.60
Current Balance:	\$6,969.84

-Submitted by Emily Douglas, GLC Treasurer, November 30, 2021.

2022 MBC – Great Lakes Chapter Dues

A New Year is here, and **it is time to pay your Chapter dues!** Dues remain at \$30, which includes MBC state membership, the Arisaema, The Great Lakes Botanist, and supporting Botanical research and Botany students in the Great Lakes. Here's hoping that we can adventure outside together once again in 2022!

Online Option for Membership Dues

As a reminder, we have an account through *Cheddar Up* which allows members to pay by credit card online. If one chooses this route, there's an easy membership form to fill out along with the membership/payment option. Just to note, *Cheddar Up* also charges a small convenience fee of 3.5% plus \$0.45 which comes

out to \$1.50 if one is paying for the \$30.00 Individual Membership option. We'll send out a reminder email with the *Cheddar Up* link in January for 2022 dues. Of course, any member can still submit their yearly dues by filling out the form on the last page and mailing a check to Emily Douglas at the address below.

Please fill out the next page and mail to:

Emily Douglas, Treasurer
MBC-Great Lakes Chapter
13420 S. Cedar Road
Cedar, MI 49621

US members make checks payable to: **Michigan Botanical Club - Great Lakes Chapter**

Or

try the 'Cheddar Up' online payment option:

<https://my.cheddarup.com/c/michigan-botanical-club-great-lakes-chapter>

Canadian members please send a check or money order in **U.S. funds** or try out 'Cheddar UP'.

Thank you for your continued support!



Iris versicolor (wild blue flag) - Robert Kahl

**Michigan Botanical Club – Great Lakes Chapter
2022 Membership Dues**

Name: _____

Address: _____

City: _____ State/Province _____

Zip code + 4-digit code _____ + _____

Telephone: _____ Email: _____

Do you prefer to receive the *Arisaema* newsletter in paper format? _____

Sustaining membership _____ \$50.00 (or more)

Individual membership _____ \$30.00

Family membership _____ \$40.00

Student membership _____ \$15.00 Name of University _____