



# Newsletter of the Michigan Entomological Society

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MES Website: <http://michentsoc.org>

Facebook: <https://www.facebook.com/michentsoc/>

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## Breaking Diapause 2021

The 2021 Breaking Diapause meeting will be held on Saturday, March 20, 10 am to 2 pm, as a live Zoom teleconference. As usual, it will be a very casual event, with all welcome to attend at any time by simply joining the Zoom session.

I encourage you to prepare short presentations on any topics you may wish to present (like collecting trips, insect rearing projects, taxonomic challenges, etc.) that we can show to all participants. If you do create a presentation, send me (Duke Elsner at [duke.elsner1@gmail.com](mailto:duke.elsner1@gmail.com)) information on the topic and length of time needed by March 13 so I can organize the day and announce a presentation schedule before the meeting.

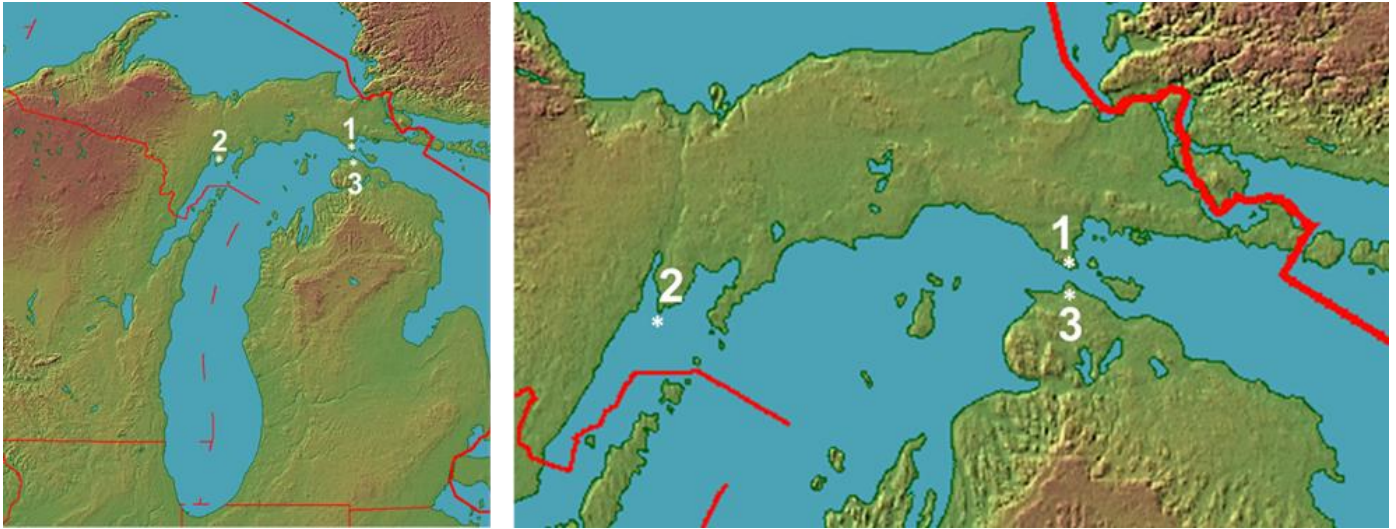
Information on the Zoom session will be announced at a later date.

## 67<sup>th</sup> Annual MES Meeting – Hessel, Upper Peninsula, MI

Taking Benjamin Franklin's pithy advice, "If you fail to plan, you are planning to fail" we've decided to forge ahead with plans for an in person annual meeting again this year. However, with so many quotes erroneously attributed to larger-than-life public figures on the internet, I don't actually know if Benjamin Franklin said anything of the sort. It may have been Winston Churchill, Yogi Berra, or perhaps E.O. Wilson! In this case I think I can improve the sentiment with a slight tweak, "If we fail to plan, we are planning to Zoom." I don't know about you, but I have come down with a serious case of Zoom fatigue, post 2020.

With that said, please save the weekend of June 25-27<sup>th</sup>. I have reserved meeting space at the Hessel Schoolhouse in the UP (<https://www.hesselschoolhouse.net/>) and a block of 20 cabins down the road at the Cedarville Lodge (<http://cedarvillegelodge.net/>). The quoted rate is \$119 per night, but it looks like rooms can be booked for \$109 on their website, so I may be able to negotiate a slightly better rate. If the Midwest is still experiencing high transmission rates of the novel coronavirus as June nears, we can always fall back on our backup plan, and plan to Zoom. I can be reached at [mvande@rosepest.com](mailto:mvande@rosepest.com) if there are any questions or suggestions for fun outings in the area.

Mark Vanderwerp, MES President Elect



## Monitoring Monarch Migration at the Mackinac Straits

**Robert A. Haack**

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[haack@msu.edu](mailto:haack@msu.edu)

An active group of expert birders have been monitoring spring and fall raptor migration across the Mackinac Straits for the past several years. These birders are members of *Mackinac Straits Raptor Watch* (MSRW; <https://www.mackinacraptorwatch.org/>), a nonprofit group dedicated to the research and conservation of raptors in the Straits of Mackinac. Nearly daily spring counts started in 2012 near the tip of Michigan's Lower Peninsula in Mackinaw City, and nearly daily fall counts started in 2018 in the Upper Peninsula (UP) at Point LaBarbe, which is less than 2 miles west of where the Mackinac Bridge links to the UP near St. Ignace (see map; N 45.8397, W -84.7550).

Point LaBarbe is a relatively flat and open site with mostly small trees. About 3.5 miles of open water separates Point LaBarbe from the nearest land at the northern tip of Michigan's Lower Peninsula. Spring counts usually start in late February and end in early June. Fall counts typically start in late August and end in November.

In addition to raptors, the birders who first evaluated the UP site at Point LaBarbe in 2017

Maps of Michigan showing approximate location of (1) Point LaBarbe near St. Ignace where fall raptor and monarch counts are made, (2) Peninsula Point at the tip of the Stonington Peninsula where fall monarch counts are made, and (3) Mackinaw City where spring raptor counts are made near the tip of Michigan's Lower Peninsula. Base map by Ray Sterner, John Hopkins University.

also noticed large numbers of monarch butterflies (*Danaus plexippus* L). Therefore, when the official fall raptor counts started in 2018, daily counts of monarchs were also recorded. Monarchs were counted as they flew overhead or to the side of the observers. Given that the primary focus was on counting raptors, undoubtedly some monarchs were missed. Therefore, the count data discussed below should be considered a good but slightly conservative estimate.

In addition, basic weather data were recorded on an hourly basis on each observation day, including wind speed, wind direction, percent cloud cover, air temperature, precipitation, etc. Much of the count and weather data have been posted online for the Mackinac Straits Raptor Watch site at one or both of these hosting websites:

[https://www.hawkcount.org/month\\_summary.php?rsite=799](https://www.hawkcount.org/month_summary.php?rsite=799) and  
<https://dunkadoo.org/explore/mackinac-straits-raptor-watch/msrw-raptor-watch-fall-2020>.



Thousands of monarchs were roosting on trees at Point LaBarbe the morning of August 30, 2018. They took off quickly as conditions warmed in the morning and flew out over the Straits. Photos by Steve Baker

Several people are involved in the official observing, identifying, and counting of the raptors and monarchs as they fly overhead. During the years 2018-20, Steve Baker and Ed Pike were some of the key participants in all three years; Jason Bojczyk mostly in 2018-19; and Calvin Brennan and Russ Edmonds in 2020. The summaries below are based on their observations as well as assistance by many other volunteers who participated on any given day. Included for each year are the starting and ending dates for the entire fall survey period, the first and last days when monarchs were observed, the total number of monarchs counted during the entire fall season (August-November), and the highest daily monarch count of the season and the date on which it occurred. Daily observations typically started between 7-9 am and ended between 3-4 pm.

The 2018 fall survey started on August 25 and ended on November 14. The first monarchs were observed on August 25 and the last were seen on October 9. Overall, about 5448 monarchs were counted in 2018. The highest daily count of monarchs was on August 30 when 1786 were counted.

The 2019 fall survey started on August 20 and ended on November 10. The first monarchs were observed on August 20 and the last were seen on October 30. Overall, over 9,950

monarchs were counted in 2019 (one day's count was listed as "several hundred" and therefore was not included in the season total). The highest daily count occurred on September 2 when 3,488 were counted.

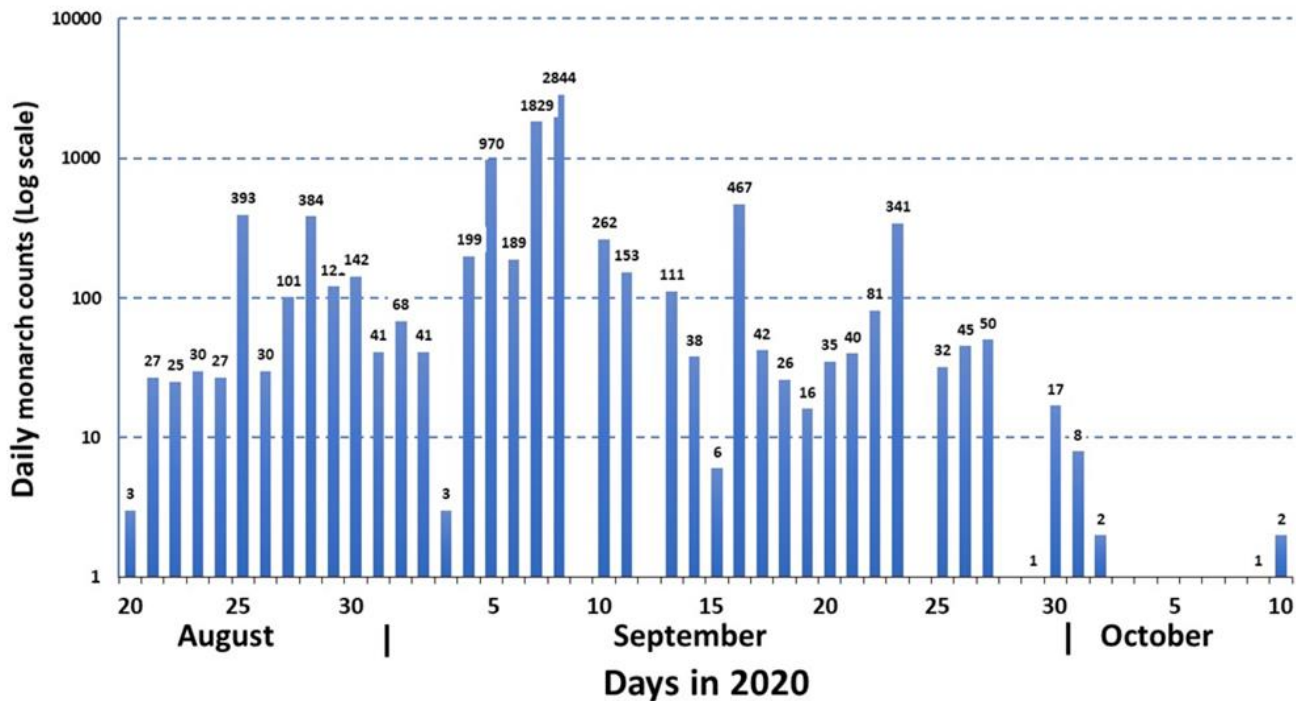
The 2020 fall survey started on August 20 and ended on November 9. The first monarchs were observed on August 20 and the last were seen on October 10. Overall, about 9,147 monarchs were counted in 2020. The highest daily count of monarchs was on September 8 when 2,844 were counted. Hourly monarch counts were listed only for 2020, and for those days where several hundred monarchs were counted, the highest counts generally occurred between 10 am and 1 pm (see data at the [dunkadoo.org](http://dunkadoo.org) link listed above).

The high variability of daily monarch counts during August 20 to October 10, 2020 is shown in the accompanying bar chart. For this 52-day period, there were 20 days with daily monarch counts of 0-10, 13 days of 11-100 monarchs, 12 days of 101-1000 monarchs, 2 days of over 1000 monarchs, and 5 days when no data were recorded, usually as a result of rainy weather throughout the day.

In 2020, monarchs were one of 23 species recorded at Point LaBarbe (data at the [dunkadoo.org](http://dunkadoo.org) link listed above). Of the 22 bird species recorded, there were 17 raptor species, and 5 other species of interest, such as sandhill cranes. The total 2020 count was just over 35,000 individual monarchs and birds. The 9,147 monarchs counted represented 26% of this total, sandhill cranes (N = 6,205) about 18%, and the raptors (N = 19,077) about 54%.

The days when thousands of monarchs were counted at Point LaBarbe during 2018-2020 typically experienced no rain with gentle winds (1-7 mph) from the northwest or north and sometimes northeast (data at links listed above). By contrast, weather patterns during the preceding one or two days often included or were characterized by strong winds (8-24 mph) mostly from the southwest, and sometimes rain as well. Such data suggest that monarchs will accumulate at points along the northern shores of Lake Michigan when facing strong southerly winds or





Bar chart showing daily total monarch counts at Point LaBarbe from August 20 through October 10, 2020. Note a base-10 log scale is used on the Y-axis.

rain but will quickly take flight when conditions are dry and day-time winds shift to the north.

It is interesting to note that migrating monarchs were observed at Point LaBarbe on the first survey days in August (20-25) in each of the years 2018-2020. Therefore, monarch migration across the Mackinac Straits likely starts earlier than August 20 in most years. As support, consider the story by Carol Meitner (1996) on the fall monarch survey she helped organize at Peninsula Point, which is also along the northern shoreline of Lake Michigan about 100 miles west of Point LaBarbe in Michigan's UP. Peninsula Point is located at the southern tip of the Stonington Peninsula in Delta County, MI, which is part of the Hiawatha National Forest (Meitner 1995, 1996). Surveys at Peninsula Point were initially conducted from August 15 to September 15 in 1996 and included an early morning (starting at 7 am) count of monarchs roosting on vegetation along a set route as well as an afternoon timed survey along a set route that counted monarchs both in flight and roosting. Again, a few (under 10) monarchs were seen

flying on their very first survey day (August 15), with peak numbers recorded on August 23, when about 25% of all the monarchs recorded during this month-long survey period were counted (Meitner 1996).

The above observations at Point LaBarbe (45.8397° N Lat) and Peninsula Point (45.667° N Lat), generally agree with the fall migration data accumulated over many years by Monarch Watch for locations of similar latitude. For example, peak monarch abundance usually falls between 24 August and 5 September at 47°N Latitude, and 29 August and 10 September at 45°N Lat (<https://www.monarchwatch.org/tagmig/peak.html>).

Tagging monarchs has also occurred at both Peninsula Point and Point LaBarbe. The monarch tagging program at Peninsula Point began in 1994 and has continued for many years (Meitner 1995, Warner 2017). One of the first monarchs recovered in Mexico with a tag from Peninsula Point occurred in 1999 (Monarch News 2000). This individual was a male monarch that was tagged on 4 September 1998 by Ruth Gifford of Delta County, and recovered on 23 March 1999 in El Rosario (a monarch butterfly reserve near

Anganguero, Michoacán, Mexico) by Dr. Lincoln Brower (who made some of the initial discoveries of the monarch overwintering sites in Mexico in 1976). As of 2017, 21 of the monarchs tagged at Peninsula Point had been recovered in Mexico (Warner 2017). In addition, the count data gathered at Peninsula Point has been used by many researchers to assess monarch declines in recent years, which indicates the value of long-term datasets. For example, Badgett and Davis (2015), using 19 years of data from Peninsula Point, did not detect declining numbers of monarchs at Peninsula Point, while populations in Mexico were showing a decline. These authors concluded that the lower numbers of monarchs in Mexico reflected greater mortality during migration rather than lower numbers of monarchs initiating migration at northern locations like Peninsula Point.

Tagging monarchs at Point LaBarbe began in 2019, with 376 monarchs tagged in 2019 (Ebbers 2019 ) and 500 in 2020 (Dykehouse 2020). Perhaps some of the tagged monarchs from Point LaBarbe will be recovered in years ahead as they migrate to and from Mexico. There is a YouTube video online that shows large numbers of monarchs gathering at Peninsula Point and some of the tagging efforts that have occurred there (<https://www.youtube.com/watch?t=100&v=oXmhayhaWew&feature=youtu.be>).

In future years, hopefully the MSRW staff and volunteers will continue to count monarchs as these butterflies journey across the Mackinac Straits towards Mexico. If you are interested in helping in these survey efforts or want to learn more about the programs offered by the Mackinac Straits Raptor Watch, please visit their website at [www.mackinacraptorwatch.org](http://www.mackinacraptorwatch.org).

**Acknowledgments:** The author thanks the Mackinac Straits Raptor Watch Research Committee for granting permission to summarize the Point LaBarbe monarch data, and to the many staff and volunteers who helped collect the data.

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## **MES 2020 Annual Meeting Minutes**

### **66<sup>th</sup> Annual Meeting, June 6, 2020**

#### **Via a Zoom Teleconference**

Present: Duke Elsner, Dave Houghton, Elly Maxwell, Adrienne O'Brien, Angie Pytel, Bob Haack, Crystal Dailey, Rufus Isaacs, Julie Craves, Mark VanderWerp, Alicia Bray, Bill Ravlin, Ralph Gorton, Logan Rowe and Oliver Keller, with a brief cameo by Mark O'Brien as technical assistant.

#### Reports:

Treasurer: Angie Pytel – the balance is very similar to last year - \$27,764. Journal production and fees charged are balancing out. Our tax exempt status is still good, but reporting requirements are a little confusing and haphazard on the part of IRS.

Secretary: Adrienne O'Brien – Membership is at 207. We have lost some members because the journal is online only, several are retiring or passed away. We gained a few because of the journal being online and reduced page charges for the journal.

Newsletter: Duke Elsner and Crystal Dailey – 2 issues are out this year, including the abstracts from the 2019 Annual Meeting; Historic reprints and new ideas are in the works; Martinoptera is coming!; there will be no Duke-optera...; As discussed in 2019, Mo Nielsen's collection of color slides have gone to Martin Andree. Duke has more to send to Martin; As always, a request for newsletter stories; Abstracts for the 2020 Annual Meeting talks should be sent to Duke ASAP.

Social Media: Crystal Dailey – Crystal is looking for any current news from the entomology world to post on Facebook, especially MI relevant news; number of followers is increasing and we have global followers. Of course, cartoon posts get good feedback – 70+ on one.

Journal: Alicia Bray – Production Editor – there has long been the question about publishing articles as they are accepted to the Great Lakes Entomologist. This would be quite expensive and complicated to do, as the cover and table of contents would need to be updated and typeset each time. Typically, research articles are first in the journal issue and scientific notes

are at the end. Editing can be very painstaking – cross-referencing sources and verifying scientific names are very time-consuming. Dave Houghton and Julie Craves offered to do more to help Alicia. Rufus Isaacs appreciates the process and hard work by the editors.

Webmaster: Mark O'Brien – no report.

Old Business: none

New Business:

#### Elections

Congratulations to our new Members-at-Large, Crystal Dailey and Brian Scholtens (2020-2022) and President Elect, Mark VanderWerp. Thank you to the other candidates, Randall Cooper, Steven Bransky and Martin Andree for agreeing to be on the ballot.

There was interest in scheduling another informal meeting via Zoom later this year.

Mark VanderWerp would like to have the 2021 Annual Meeting in the UP or northwestern lower Michigan. Hopefully that will be possible.

Thanks to Duke Elsner for planning and executing the 66th Annual Meeting. And huge thanks to Angie

Pytel for setting up and coordinating the Zoom meeting. It was a different meeting, but it worked.

Submitted by Elly Maxwell and Adrienne O'Brien

## **Winter 2020 Governing Board Meeting Minutes**

### **Monday, Dec. 21, 2020 Zoom Meeting**

Present: Duke Elsner, Angie Pytel, Bob Haack, Mark O'Brien, Mark VanderWerp, Ralph Gorton, Adrienne O'Brien, Dave Houghton, Alicia Bray, Kristi Bugajski (I am unsure if this is correct – I may have added some who weren't there)

#### Reports:

Secretary: Adrienne O'Brien – no changes since June

Treasurer: Angie Pytel – Current balance is about \$30,000 – payments for page charges and having no

expenses for an annual in-person meeting in 2020 contributed to the \$3000 increase.

President Elect – Mark VanderWerp is hoping to have the Annual Meeting at the Cedarville Lodge and Hessel Schoolhouse in the eastern part of the UP. Tentative date is June 26. This all is dependent on pandemic restrictions and vaccination rates.

Newsletter: Duke Elsner and Crystal Dailey – no report.

Journal: Kristi Bugajski - the average decision time for acceptance of manuscripts is about 6 weeks; the Great Lakes Entomologist site at Valparaiso University has had over 44,000 downloads from around the world. Kristi will send a survey to Adrienne to forward to the membership about subject areas where they could serve as peer reviewers

Alicia Bray – caught up on submissions; 16 manuscripts in the queue – 10 are ready for Fall/Winter issue, 4 accepted with revisions and 2 in review. At some point, Alicia would like to do the typesetting herself – it would be more efficient for her. The topic of Associate Editors came up regarding the high number of journal associate editors that MES has and the fact that they are not being used as much as they could be. Kristi will send an email to them, asking if they wish to continue.

Alicia asked Adrienne to send the latest spreadsheet of current MES members.

Webmaster: Mark O'Brien – no report

Meeting adjourned by Duke Elsner

## MES Historical Notes for 2020

**Robert A. Haack**  
**PO Box 702, Eastport, MI 49627**  
**Email: robert.haack@usda.gov or**  
**haack@msu.edu**

**1995 – 25 years ago.** In 1995, Richard Roeper was President; Cathy Bristow was President-Elect; Dave Gosling was immediate Past-President; Mo Nielsen was Treasurer, Ned Walker was Secretary; Bill Westrate, Karen

Grimmes, and George Balogh were the three Members-at-Large; Mark O'Brien was Journal Editor; and Bob Haack and George Heaton were the Newsletter Editors. The 41<sup>st</sup> MES Annual Meeting was held at Alma College on June 2, 1995. There were 17 contributed talks and 1 invited talk by Dr. John Spence, University of Alberta, Edmonton, Canada. John discussed several ongoing forest biodiversity studies in Canada that focused on (a) non-target impacts of aerial spray programs for forest pests, (b) the role of insects in riparian ecosystems and in log decomposition, and (c) quantifying how different logging practices alter soil insect diversity. The contributed talks covered topics such as beetle reproductive systems, fruit flies, ant mutualism and predation, Russian wheat aphid, bluebird parasites, bumblebee parasites, impact of elephants on soil insects in Botswana, using *Entomophaga maimaiga* to control gypsy moth, Eastern Equine Encephalitis in Michigan, pine shoot beetle, avoiding non-target impacts during gypsy moth spray programs, insect nutritional physiology, ambrosia beetles, and using butterflies as educational tools. Some of the stories contributed by members that appeared in the 1995 MES Newsletters dealt with commonly intercepted insects at the Detroit airport; monarch tagging at Stonington Peninsula in the Michigan Upper Peninsula; mosquito-borne filariasis; the best "bug" books for children; moth collecting in the UP; and parasitic parasites of bluebirds. MES first appeared on the WWW in 1995, being hosted through the University of Michigan. At the end of 1995, MES had 440 members and 177 journal subscriptions. MES annual dues in 1995 were \$10 per year for active members, \$5 for students, and \$35 for libraries, and journal page charges were \$35 per published page.

**1970 – 50 years ago.** In 1970, Julian Donahue was President; Richard Snider was President-Elect; Louie Wilson was immediate Past-President; Mo Nielsen was Executive-Secretary as well as Editor of the *MES Newsletter*; and Ron Wilkinson was the journal editor for *The Michigan Entomologist*. The 16th annual MES

meeting was held at the MSU Kellogg Biological Station on Gull Lake on May 22<sup>nd</sup> with 32 members attending. The program was not published in the MES Newsletter, but in the published minutes of the MES Governing Board meeting there was discussion about changing the name of the journal to broaden its appeal. A name change to the journal was voted on in 1971, and in 1972 the journal was renamed to *The Great Lakes Entomologist* beginning with volume 5. George C. Steyskal and Wilber S. McAlpine were nominated for Honorary Membership in MES at the annual meeting. After the annual meeting, 13 members went on a collecting trip during May 22-24 to Allegan State Forest. Some items discussed in the 1970 MES Newsletters included how to make artificial diets for caterpillars, spreading techniques for Lepidoptera, proper labelling of insects, compatibility of conservation and collecting, outbreaks of the European skipper (*Thymelicus lineola*) in Michigan, and tips on collecting underwing moths. In 1970, Julian Donahue left MSU to become the Lepidoptera curator at the Los Angeles County Museum of Natural History. Julian was the MES Executive Secretary from 1964 to 1968 and was the founding editor of *The Michigan Entomologist* in 1966. Dues in 1970 were \$4 per year for active members \$2 for students, and \$6 for library subscriptions. As of early 1970, MES had 614 active members and an additional 220 library subscriptions for the journal. There were no author page charges to publish in *The Michigan Entomologist* in 1970 (this changed to \$18/page starting in 1972).

## Announcements

### A new list of Michigan beetles is in the works

A comprehensive list of Michigan beetles is being compiled by Bill Ruesink, Bob Haack and Gary Parsons. In addition to published records, the list will include all identified species in the A.J. Cook Collection at MSU, records from other collections as reported in SCAN (Symbiota Collections of Arthropods Network), and records based on photographs posted to BugGuide. All

reported species will be included, but questionable reports will be flagged as "uncertain" and clearly erroneous reports will be flagged as "rejected." So far we have found a total of 4461 species reported, of which we judge 3664 as accepted, 545 as uncertain, and 252 as rejected. Many of the rejected records are more than 100 years old and represent cases where the author(s) used the name of a European or western North American species for what was later described as a new eastern North American species. The uncertain records mostly represent species for which no other records are known from within about 200 miles of Michigan. Anyone who knows of an unreported state beetle record is encouraged to contact Bill Ruesink at [wruesink@att.net](mailto:wruesink@att.net).



## Obituary

### Gary Alan Dunn

July 28, 1954 – February 25, 2019

### Written by Donald A. Wilson

Gary was a graduate of Lyman Hall High School of Wallingford, Connecticut, class of 1972. He went on to receive a Bachelor of Science degree in Forestry from the University of New Hampshire, in 1976, followed by a Master of Science in Entomology from U.N.H. in 1978.



Following his education he pursued his entomological interests at Michigan State University in East Lansing, Michigan, where he became Extension 4-H Entomology Specialist from 1979 to 1991.

Gary was a life member of the Michigan Entomological Society and its President in 1983. That year was the 100th anniversary of the death of John Lawrence LeConte, one of the more famous pioneer entomologists. As one interested in the backgrounds of major entomologists, I was invited to give the keynote address recognizing LeConte to the annual meeting that year, which was held at a teaching facility in Tustin, Michigan. I remember the event fondly, as after the meeting Gary and I toured parts of Michigan for collecting purposes, spending time in the Upper Peninsula, my only visit to that part of the country.

Among Gary's accomplishments and pursuits were as Executive Director and Editor of the Young Entomologists' Society, Inc., International Headquarters, Lansing, Michigan. The Young Entomologists' Society, founded as the Teen International Entomology Group in 1965, was the largest youth entomology organization in North America. Its purposes was to assist young minibeast enthusiasts with their quest for knowledge and resources, assist teachers in improving their knowledge and skills for teaching about minibeasts (macro-invertebrates), and promoting an awareness about the importance of invertebrate animals as pollinators, decomposers, wildlife food, and soil tillers. He did this through traveling outreach programs, periodical publications, internet websites, workshops and seminars, and cooperative projects. Y.E.S. operated the Minibeast Zooseum and Education Center (located near Lansing MI) -- the largest insect and spider museum in the state. Unfortunately, this organization is no longer active. I'm sure there are more than a few of us who had belonged to Y.E.S.

I first met Gary Dunn when he was attending the University of New Hampshire in the entomology program. His Master's program dealt with the Cicindelidae of New Hampshire, which had not been previously explored or catalogued. Not only did I have a person to collect with, but an incentive to visit places I had not been to, and pursue in earnest a number of species that had eluded most collectors. Among the tiger beetles were *Cicindela marginipennis* on the Connecticut River, *C. ancocisconensis* in the White Mountains, and *C. rufiventris hentzi* found in the Blue Hills outside of Boston.



One other notable collecting trip was to New Mexico, where we pursued a variety of tiger beetles in a number of habitats, including some locations where a particular species, or subspecies, was first discovered. The trip yielded a number of collectibles, including a scorpion and a tarantula, both of which were captured live for display at Gary's museum back in Lansing.

One of Gary's passions was the Confederate Air Force, with a great admiration for Col. Gregory "Pappy" Boyington, who commanded the Black Sheep Squadron of Chance Vought F4U Corsairs in the Pacific Theater during World War II. Gary eventually met Col. Boyington and, thanks to another contact he made, eventually got to ride in a Corsair. I recall being in Gary's office and seeing his collection of memorabilia consisting of photographs and model airplanes. Having an appreciation for such things myself, I remember it as being quite impressive.

Gary suffered a stroke in December of 2017. He passed away on February 25, 2019. Gary will

be fondly remembered as a leader in youth education, a rare talent, and one which is sadly lacking in many disciplines in today's society.

### Publications

Gary was a prolific writer, with many papers published in *The Great Lakes Entomologist* and *The Y.E.S Quarterly*. Unfortunately, I have only been able to find a few of those issues from the 1980's at <https://archive.org/search.php?query=Y.E.S%20Quarterly>

He is also the author of *Insects of the Great Lakes Region*. University of Michigan Press, 1996 - 324 pages.

### United Nations Food and Agriculture Organization Releases a Comprehensive Guide to Sustainable Cricket Farming

See: <http://www.fao.org/asiapacific/news/detail-events/en/c/1365143/>

Download the 71-page booklet here:  
<http://www.fao.org/3/cb2446en/cb2446en.pdf>

### Call for New State Species Records

It has been quite a while since new state species records have been published in the MES newsletter. The last reports were in the March 2018 issue. Please consider preparing reports on the Michigan species records from 2018-2020 and submitting them for the next issue. Please send your reports to Ron Priest at [priest@msu.edu](mailto:priest@msu.edu) or 243 Natural Science Bldg., Michigan State University, East Lansing, MI 48824-1115.

### Wildlife Survey Internships Available

The Baldwin/White Cloud Ranger District will be hiring two wildlife interns this summer to assist with various wildlife and vegetative surveys. Interns will work as a member of a survey

team to: 1) inventory endangered, threatened, and sensitive wildlife species; 2) assess habitat suitability for various wildlife species; 3) conduct counts to estimate abundance of Karner blue butterflies, a federally listed endangered species, within designated management areas; 4) conduct vegetative surveys to estimate acreage of suitable Karner blue butterfly habitat within designated management areas; 5) conduct vegetative surveys to assess the effectiveness of different management treatments for restoring savannas; 6) provide management recommendations; and 7) layout and implement habitat improvement projects such as hand cutting and installation of gates and barriers.

The data collected will be used by professional staff to develop management plans and conservation

measures. Interns also will assist with timber and recreation management activities, complete detailed field reports, enter data into various databases, and participate in outreach activities to educate the public about wildlife conservation issues. Start and end dates are flexible but usually run between mid-May to mid-August. Interns work 40 hours a week (Monday-Friday; 8:30 am-5:00 pm EST) and are provided a daily reimbursement of \$25 and free housing. To apply, please e-mail me a copy of your resume and three references by March 31st. The contact person is:

Heather Keough, Ph.D.

District Wildlife Biologist, Forest Service  
Huron-Manistee National Forest, Baldwin/  
White Cloud Ranger District

p: 231-745-5831 c: 231-233-8783

f: 231-745-1234 [heather.keough@usda.gov](mailto:heather.keough@usda.gov)

650 N. Michigan Avenue, Baldwin, MI 49304



## **Michigan State University Department of Entomology Spring 2021 Seminar Series**

- Feb. 22 Edible insects and human evolution  
Julie Lesnik, Wayne State University  
Hosted by Amanda Lorenz
- Mar. 1 Graduate student presentations in preparation for Entomological Society of America  
Branch Meeting.
- Mar. 8 Glen Hood, topic to be announced  
Hosted by Jim Smith
- Mar. 15 Ecological risk assessment of insect-protected crops  
Dr. Harit Bal, Bayer Crop Service  
Hosted by Matt Grieshop
- Mar. 22 Aaron Gassman, Iowa State University, topic to be announced  
Hosted by David Mota-Sanchez
- Mar. 29 Genetics of adaptation to host plant toxins in the monarch butterfly  
and other specialist insects  
Marianthi Karageorgi, University of California at Berkeley  
Hosted by Marianna Szucs

Seminars are at 12 p.m. on Mondays via Zoom. Registration is required and will allow you access to all Entomology spring seminars. After registering, you will receive a confirmation email containing information about joining the webinar series. See this web site for registration:

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