



Fall 2019

MCCB NEWS

Letter from the President 50 at the 50th!

2019 marks the 50th anniversary of MCCB. Through these years, faculty have gathered from around the state to make new connections, learn from research and pedagogy presentations, and relax a little during stressful semesters. This newsletter highlights many of the activities at the Spring Meeting hosted by Kirtland CC. As I read this edition, I was reminded of the friendships and experiences I have shared with many from around the state. I hope your picture, after attending the Fall conference, will be included in the next edition.

Many thanks to outgoing President Lynnda Skidmore who has faithfully served in multiple leadership capacities through the years. She continues to be the heart and soul behind MCCB. Also a big thank you to Darrell Davies who, after teaching at KVCC for 47 years, has retired from the classroom and is stepping down as the MCCB treasurer after many years of dedicated service.

MCCB's focus is on YOU and the organization exists to assist full and part-time biology instructors from Michigan's 29 community colleges. Many of you passionately teach your area(s) of expertise at schools with limited opportunities for collaboration and professional development. No matter if you teach anatomy or zoology, attending an MCCB meeting is a relatively inexpensive way for you to meet and network with other faculty, learn about classroom and laboratory best practices, and catch up on current research. There is something for everyone! Plan now to attend the October 4-5 meeting at Lansing Community College as we aim to have at least 50 people gather in Lansing to celebrate our first 50 years. If you know of a retired faculty member, please reach out to them as we want to especially recognize faculty who have helped nurture this organization through the years. I also hope you will join us as we look to build on our past. We are currently looking for individuals who would enjoy hosting or helping organize a meeting in 2021 and 2022 plus we are accepting nominations for Treasurer. You can contact me or any board member for more information.

Remember 50 at the 50th.
See you in Lansing!

Shawn Macauley, Ph.D.
President MCCB



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Tour of New Kirtland Community College Campus in Gaylord

The spring conference was hosted by Kirtland Community College. Participants in the conference toured the new Kirtland Community College campus building in Roscommon, Michigan. The new facility includes some impressive, state-of-the-art health sciences classrooms.





Relaxing between sessions!:



Kirtland's Warbler

By Kim Piccolo, U.S. Fish and Wildlife Service

Summary by Ryan Dziedic, Mid-Michigan College



Kim Piccolo of the US Forest Service informed the MCCB group of the status of the Kirtland's Warbler in northern Michigan. The Kirtland's Warbler is a federally endangered that breeds in young jack pine barrens mostly in the north central and eastern Lower Peninsula and a few scattered locations in the Upper Peninsula, Wisconsin, and Ontario. The male is more richly colored (yellow breast with black streaks on the flank, black face mask between the eyes and bill, and a grayish-black back) than the female. While these birds summer in young jack pine plantations (either fire-created naturally or artificially planted), the birds winter in tropical scrub in the Bahamas mostly and a few other Caribbean Islands.

Spring migration in May takes the birds through the Florida peninsula north to Lake Erie for stopover and then to Michigan. In contrast, due to recent data collected from geolocators, fall migration takes the birds to Ontario to stage their migration (which is newly revealed information) before they head south along the Atlantic Coast. Conservation efforts since the advent of the Endangered Species Act in 1973 have proven very effective with the goal of 1,000 males having been eclipsed in 2001 with continued growth in the population which now exceeds 2,500 singing males. With goals met, the prospect that this species will be de-listed is high, but federal, State, and private entities have agreed to continue to manage the landscape to maintain this species.

Kirtland's Warbler Field Tour



After Kim's presentation, the group headed a few miles east of Kirtland CC's Grayling Campus to a State-owned jack pine plantation on Staley Lake Road with hopes of seeing Kirtland's Warbler.



Unfortunately due to cool conditions and prior rainfall, only one Kirtland's Warbler was heard in the distance. In spite of this, members did get to see some of the other species that share the jack pine barrens with Kirtland's Warbler including Brewer's Blackbirds, Eastern Towhee, Brown Thrasher, Eastern Kingbird, and Eastern Bluebird as well as hearing an Ovenbird and Field Sparrows.



MCCB Officers

Shawn Macauley
(President)

Lynnda Skidmore
(Past President)

Heather Wesp
(President Elect)

Susan Dentel
(Secretary)

Darrell Davies (Treasurer)

Isis Arsnoe
(Membership Chair)

Tim Periard
(Nominations Chair)

Erica Staton
(Newsletter Editor)

Call to Action:

Please consider joining the MCCB Board of Directors. We are in need of people to fill future vacancies. It can be a fun and rewarding experience!

Like us on Facebook:

Please Like us on

[Facebook](#)

Cheating 101: Strategies to Create a Safe and Fair Learning Environment

Shawn Macauley, Muskegon Community College

Summary by Trish Finnerty

Shawn's presentation focused on cheating in both traditional and online courses in the community college. We were also briefly introduced to an interactive polling software (Learning Catalytics) to engage the audience and get feedback on our ideas about cheating in our classrooms as part of the presentation. He began by engaging us with three central questions, who is doing the cheating, why are they cheating and what can we do to help minimize the cheating that occurs in our courses.

The first big "ah-ah" moment of the presentation was that as instructors we assume that our students know what is and isn't cheating and that students and instructors would see the same scenarios as academic dishonesty. However, there is a disconnect between the student and instructor in what defines cheating. Giving students examples of what is and is not cheating in your particular course or on a particular assignment is one thing that instructors can do to help clear up this issue. We then looked at what things research tells us tend to increase cheating (long assignments, feeling unconnected from the material or instructor in a course, grading on a curve, etc.) and what things reduce cheating (having a clear, well organized grading expectations, knowing your students, being a content expert, having fair assessments, etc.)



Impact of Climate Change in the Scottish Highlands

Keynote Speech by Dr. David Green M.D.

Summary by Mark Robertson, Delta College

David's talk centered around how changes in the carbon cycle created by increasing carbon release by man's activities have begun to alter the delicate balance between heather (*Calluna vulgaris*) and mat grass (*Nardus stricta*) in the Scottish highlands. Normally, heather has a high reproductive potential, tolerates very acidic soil, and produces seeds which can remain viable for over a 100 years. It exhibits evergreen-like



growth and limits herbivory by producing tannins and phenols. It goes through 4 main growth phases: a pioneer phase for up to 6 years (when the plant establishes itself and forms a bush), a growth phase up to year 15 (where the bush expands and chokes out competitors), a maturation phase up to 25 years (where it becomes woody and the center starts to die), and a degeneration phase around 30 years of age (where the plant dies back and competitors can replace the heather). The degeneration phase can either cause heather to cycle with moss, allow encroachment of other species, or even allow succession to a woodland habitat.

The main threat to this classic highlands plant is mat grass. Mat grass is a tussock grass that uses arbuscular mycorrhizal fungi to outcompete heather during both its pioneer and degenerative phases. Mycorrhizae in general allow greater resistance to drought and disease, and also increase the plant's ability to absorb phosphorus and nitrogen. In the case of heather, its ericoid mycorrhizae avoid the inorganic nitrogen bottleneck created by the highland acidic soils, but also place a high carbon drain on the plant, slowing growth. This allows heather to compete well when nitrogen levels are low and the soil is acidic. Mat grass, on the other hand, utilizes arbuscular mycorrhizae that function best when organic nitrogen levels are high, and since the plant does not have to compensate by using as much carbon to stimulate the fungal growth in its roots, it can grow much more rapidly than heather. This is especially important since the overall amount of atmospheric nitrogen deposition in Europe over the last 30 years has increased roughly ten-fold.



In order to study the combined effects of grazing and nitrogen deposition on the heather/mat grass balance in the highlands, David harvested heather/mat grass samples from a site in Perthshire, Scotland, and moved them to a controlled lab setting. The two plants were placed side-by-side in plastic planters and placed in a controlled environment created from plastic sheeting and framing members. A CO₂/O₂ mixing box and lighting rack were then installed to create unique microenvironments.

Six chambers were then created: 2 chambers with 650ppm CO₂ and no extra nitrogen (to stimulate only a carbon effect), 2 chambers with 325ppm CO₂ and extra nitrogen (to simulate only a nitrogen effect), and 2 chambers with 650ppm CO₂ and extra nitrogen (to simulate both increased nitrogen and carbon, a worst case scenario).

Six bins were placed in each chamber: 3 left alone as controls and 3 "grazed" with shears periodically. Growth measurements were then made over a 3-year period.

In the chambers with elevated levels of carbon dioxide alone, there was no significant change in the vegetation dynamics between heather and mat grass. In the chambers with elevated levels of inorganic nitrogen deposition, but normal carbon dioxide levels, mat grass grew faster and had increased biomass compared to heather. The extra growth did not result in mat grass extending above the heather however. When both carbon dioxide and inorganic nitrogen were elevated, there was a significant increase in growth of mat grass, and the height of the mat grass was sufficient to overshadow the heather canopy. In all cases, the "grazing" effect was not significant.



The conclusion drawn from this study is that even with changes in controlled heather burns and grazing patterns, rising carbon dioxide and nitrogen levels will enhance the competitive edge of mat grass and eventually shift the ecosystem away from heather.

Neighborhood Watch: Assessing Risk in the Environment

Dr. Amy Kuczynski, Kirtland Community College

Summary by Isis Arsnøe, Lansing Community College

Dr. Kuczynski discussed her dissertation research which focused on methods that animals use to assess predation risk in their environment. Many social species rely on communication from others in their group (i.e. conspecifics) to mitigate predation risk in their environment (“many eyes of the flock”). A particularly interesting aspect of communication is the idea that cross-species communication is also likely to occur. In this scenario, members of one species may “eavesdrop” on another species (heterospecifics), utilizing their alarm signals (auditory, visual, chemical) to assess potential danger.

Dr. Kuczynski’s research on the foraging behavior of gray duikers in South Africa indicates that the duikers do respond to alarm calls of heterospecifics in their environment. Gray duikers are a territorial, non-social species of small antelope which may form pairs but do not live in groups.

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Field studies conducted across varying habitats revealed that duikers respond to predator alarm calls by the bushbuck, a social antelope species in the area. Auditory signals from heterospecifics were important for duikers in assessing their predation risk. Visual cues of predation risk on heterospecifics was also reported in a two species avian system. Doves of one species were less likely to use birdfeeders when amputated wings of another dove species were present in the feeding area (indicating attack from hawk predator in the area). Timing of wing placement and removal in the experimental sequence did not have a significant effect on avoidance patterns indicating that the visual cue of the amputated wings of a heterospecific was responsible for variation in the foraging behavior at the birdfeeder.



Website Info

Please visit our website at:

<http://www.mccb1.org/>

You will find information concerning conferences, job positions, general information about our organization as well as useful web resources on our website.

If any Mccb member knows about biology positions, upcoming relevant conferences, seminars, or workshops being held in Michigan (as well as throughout the U.S.) please email information to:

Isis Arsnøe

mccbmembership@gmail.com

and/or Susan Dentel

sdentel@wccnet.edu

MCCB 2019 Summer Meeting Minutes

June 28th, 2019

1. **President's Report:** Recap of Spring Conference - enjoyed visiting Kirtland CC, good food, higher cost than anticipated due to RAM, large number of photo contest entrants, lower than normal attendance, many ecological sessions.
2. **Treasurer's Report:** Darrell, by email, reported funds totaling \$17,046.72, although this doesn't include all expenses incurred from using RAM for part of the spring conference. He is planning on handing over the responsibilities in the fall.
3. **Membership:** Isis reported we have 80 MCCB members (38 full time, 39 part time and 3 retired)
4. **Secretary Report:** Minutes were not available from the fall meetings, nothing else to report.
5. **Newsletter and Webmaster:** absent
6. **Nominations:** We discussed possible members to ask about accepting a position on the MCCB Board of Directors, specifically president-elect or treasurer.
7. **Old Business:** This fall will be the 50th Anniversary of MCCB (1969—2019). Ideas to promote the 50th anniversary were discussed. The Fall MCCB conference will be held at Lansing Community College October 4—5. Rooms will be available at University Quality Inn for \$89/night. Ideas for the conference were discussed.
8. **New Business:** Jeff Percha (Mid Michigan College) confirmed hosting the MCCB 2020 Spring Conference at their Mt. Pleasant campus. Ryan Dzeidzic will also help. We still need hosts for the Fall 2020 and Spring 2021 conferences. It was discussed to make more use of Facebook to notify members of upcoming events. There was also some discussion as to whether it would be a good idea to combine the HAPS regional meeting

Mission of MCCB:

MCCB (Michigan Community College Biologists) serves as a state-wide forum for sharing instructional techniques and new ideas for teaching college-level biology. The organization fosters communication, friendship, and unity among the biologists of the twenty-nine community colleges in the State of Michigan. Two state-wide meetings are held annually.

Founded in the early 1980's, MCCB began as an offshoot of COSIP (the College Science Improvement Program). Two COSIP groups were originally created in Michigan: a southern group of colleges (associated with the University of Michigan/Dearborn and directed by Dr. Hertler) and a northern group of colleges (associated with Central Michigan University and directed by Dr. Carl Scheel). The initial meeting to form a statewide organization of community colleges occurred at Delta College in 1981. The first slate of officers was elected at that time, with Eldon Enger as President and Janet Dettloff as Vice-President.

- To promote interest in biology.
- To improve the teaching of biology by providing opportunities to share and discuss instructional techniques and teaching methods.
- To provide opportunities for updates on current topics and trends in biology.
- To facilitate the exchange of ideas and foster communication, friendship and unity among the community college biologists in Michigan

Spring MCCB Photo Contest Winner

Sixth Photo Contest:

There was a good turnout of photos submitted, with a total of 21 items. The bidding and voting was exciting, with many members participating. From the silent auction, many conference attendees went home with some beautiful photographs. In the photo contest, first place went to Trish Finerty for her photo of a red-eyed tree frog. The next two highest vote-getters were tied for second place. They were Ryan Dziedzic's photo of a Great Gray Owl and Pam Nuttall for her photo of Spring Trillium.



Thanks for all the participation!

Grab your camera and get ready for the next contest...

Outgoing MCCB Officers Honored

Lynnda Skidmore and Darrell Davies were presented with plaques to honor their service to MCCB. Lynnda recently completed a term as MCCB President and Darrell recently completed his term as Treasurer. Please consider volunteering to serve on the MCCB Board of Directors. As both Lynnda and Darrell can attest, it is a very rewarding experience and a great way to stay connected and network with other community college educators.



Upcoming Events

Fall 2019 MCCB Conference— Mark your Calendars!

The fall conference will be held at Lansing Community College October 4 & 5, 2019. "50 for 50" Help us reach our goal of 50 conference attendees for the 50th anniversary of this awesome organization. We have a great line up of talks and activities at the conference and Anatomage will be there with their innovative anatomy software. See the tentative schedule on pages 12 and 13.

Register online at: <http://www.mccbio.org/rsvp/>

Spring 2020 MCCB Conference

The Spring 2020 MCCB conference will be held at Mid Michigan Community College in Mount Pleasant. Dates to be announced.

MCCB Fall Conference, Lansing Community College October 4 & 5, Tentative Schedule

Michigan Room, Gannon Building, Lansing Community College

Friday, October 4th

5:30-6:00pm	Check-in
6:00-7:00pm	Dinner
7:00-8:00pm	Chronic Wasting Disease in Michigan - Dr. Jennifer Sidge, Michigan Department of Agriculture and Rural Development (MDARD)

Saturday, October 5th

7:15am	Breakfast buffet
7:30-8:30am	Transforming STEM – Robin McGuire & Mindy Wilson
8:30am	Depart for Corey Marsh Ecological Research Center (Bird Banding & Tour), transportation provided courtesy of LCC*
9:00-10:30am	Corey Marsh Ecological Research Center (CMERC) – Dr. Jen Owen
10:30am	Depart for LCC
11:00-11:30am	Anatomage presentation (coffee/tea available)
11:30-12:30pm	Lunch & Membership Meeting
12:35-1:25pm	Session 1 (choose 1)
1:25-1:55pm	Coffee Break & Exhibitor time (Anatomage, bring questions from presentation)
2:00-2:50pm	Session 2 (choose 1)
3:00-3:50pm	Session 3 (choose 1)
4:00-4:15pm	Closing Remarks

***Please note the field trip will be early in the morning because it is a better time to see birds! The early birds get to see the birds!!**

Sessions:

Equity and Community Colleges – Transforming STEM - BREAKFAST

Robin McGuire & Mindy Wilson

Data presented at the Association of American Colleges and Universities (AACU) Transforming STEM meeting in Atlanta, GA. Conversation about success rates, metrics, embedded academic support, equity, high school completion rates and college readiness, outreach strategies, and TEACHING!

Session 1:

Physiology of muscle contraction: Teaching relationship between force and frequency of action potentials.

Kabeer I. Ahammad sahib, Adam Jaros and Steve Klimecky

Physiological mechanism for generating desired force of muscle contraction is demonstrated using iWorx equipment. For this purpose we use electrodes to record the extent of motor units activated and the number of action potential and their relationship to the degree of force generated by the muscle.

Integrating Undergraduate Research in Community College Courses

Joe Esquibel

In alignment with the AAAS Vision & Change report, science education needs to increase student exposure to legitimate scientific research. Irrespective of publishing, students should practice the scientific method, data collection, data analysis and data interpretation. A variety of community college projects and citizen science initiatives will be highlighted to provide ready-to-implement examples to the audience for possible implementation.

Session 2:

The BIOL 125 (Introductory Biology) Blog: Evolution of a Writing Project

Sarah Steinhour

Follow my path through the twists and turns in developing a capstone writing project for an introductory non-majors biology course. Learn what has worked (and not worked) in the elusive pursuit of an engaging project that reinforces and enhances course material while introducing students to basic digital publishing skills. Topics include finding a platform, developing prompts and rubrics, incorporating “scaffolding” activities to help students build the necessary skills for success, minimizing plagiarism, and evaluating project impact. Looking for ideas or have a project that you’re currently using? Bring materials and suggestions for discussion!

Utilizing Yeast as a Model organism in the Biology Lab

Kevin Worden

Usefulness and flexibility of genetically modified *Pichia* cultures as an instructional tool in biology.

Session 3:

3 Years of Course-wide Assessment in Physiology

Sunil Nityanand

BIOL 202, Human Physiology has been using course-wide assessments for 3 years at LCC. We will present preliminary data and impressions of this implementation.

Using Games to Teach Biology

Arthur Wohwill

We will play some games! Some of these games are intended to review subjects, some to introduce new ones and some to help with reading of articles. If you have a game you especially like, bring it!