

THE BRODIE CLUB



Established 1921

Website: <http://thebrodieclub.eeb.utoronto.ca>

THE 1136th MEETING OF THE BRODIE CLUB

The 1136th meeting of the Brodie Club was held on Tuesday, September 19, 2023 in Room 432 of the Ramsay Wright Laboratories of the University of Toronto.

Chair: Anne Bell

Secretaries: Ricky Dunn and N. Dengler

The meeting was called to order at 7:35 pm and was attended by 18 members and 4 guests.

Roll Call:

Present: Abraham, Bacher, Beadle, Bell, Bertin, Coady, DeMarco, Larsen, N. Dengler, R. Dengler, Dickinson, Dunn, Harris, Kortright, Kotanen, Rising, Seymour, Thomas.

Guests: Rachel Gottesman (Kortright), Mary-Lou Bacher (Bacher), and guests of club Chandrashri Pal and Jasmin Jeong

Regrets: E. Addison, R. Addison, Falls, Iron, Lindsay, Martyn, Miller, Moldowan, Obbard, Riley, Sutherland

Minutes: Minutes of the May 9, 2023 meeting were approved without changes. There was no business arising from the minutes

Committee Reports:

Membership:

- Trudy Rising noted that Brodie Club has a new member, Tim Dickinson, Curator Emeritus, ROM Green Plant Herbarium and Professor, EEB, U of T.
- Trudy reported that Brodie Club has lost three esteemed members since our last meeting: Jock McAndrews, Ron Pittaway, and David Tomlinson. A moment of silence was observed in honour of the three members. Links to memorial information will be sent with this newsletter.
- Ricky Dunn announced that Bruce Falls will have his 100th birthday on December 18.

Refreshments:

- Oliver Bertin reported that the contents of the Brodie Club cupboard (coffee maker, electric kettle, teapot, coffee and tea supplies, cash, etc.) disappeared over the summer and that Department of Cell & Systems Biology administrative staff do not know what happened. They have offered to reimburse Brodie for replacement of supplies and equipment.

Program:

- The next meeting, on October 17, 2023 will be Dale Leadbetter speaking on The City of Kawartha Lakes – Botanical CSI (A virtual hike through the Kawarthas, connecting landscapes, waterbodies and plant communities)

Announcements:

Dues for the Brodie club are payable each year in October. Dues are \$20 per year, (\$10 for those who want to stay in touch but are rarely able to attend a meeting). You can pay Treasurer Bob Kortright at the meeting by cash or cheque, made out to ‘The Brodie Club,’ by mail (37 Ashland Av, Toronto M4L1J9); or by Interac email transfer to Bob at bobwsk@sympatico.ca.

SPEAKERS:

Special guests for this Annual Member’s Meeting were **Aranya Iyer and Mariel Terebiznik**, co-founders of FREED (Field Research in Ecology and Evolution Diversified)

“Increasing access to field work and naturalist skills for BIPOC undergraduate students”



Our speakers introduced their talk by asking attendees to think about where and when their connection to nature had begun and how that had informed their subsequent career trajectories. For Mariel, it was a summer spent at the Algonquin Wildlife Research Centre working on the turtle and salamander projects with Brodie member Patrick Moldowan and for Aranya a summer of immersive bird banding in Oregon. They pointed to these early experiences as giving them a feeling of belonging and safety in nature, as well as a connection to a network of other naturalists. The aims of the FREED program are to provide such opportunities for university students with the interest and enthusiasm for natural history and field research but who missed out on such formative experiences.

The FREED program offers an intensive week-long ‘Naturalist Skills Crash Course’ held at the end of the summer at the Algonquin Wildlife Research Station for individuals who self-identify as Indigenous, Black and/or Racialized. Applications listed numerous hurdles to gaining field experience, including financial, societal/familial, racial, physical/ mental health, recent immigration factors. As a result, the mandates of the course and the FREED program generally are to: fairly compensate everyone involved (participants, organizers, instructors) for their time, to critically assess accessibility and equitability of FREED programs, and to prioritize the physical and emotional safety of all involved. Acceptance into the Algonquin crash course covers all room and board costs, provides an honorarium to cover missed wages, and offers subsidies for costs of transportation and child care. Of the 89 applicants in 2023, 15 were chosen.

The course consists of a series of workshops on a variety of fieldwork and naturalist skills. The 2023 course featured workshops on aquatic ecology, bird banding, insect identification, amphibian, reptile and mammal sampling, a moth night, Anishinaabe cultural history, canoeing and camping

skills, scientific illustration, career chats, and a scavenger hunt finale. Workshops were led by a variety of instructors, mostly young professionals with BIPOC backgrounds, including ON Parks naturalists, Friends of Algonquin Park and AWRS researchers.

Since assessment was part of the mandate, pre- and post-course surveys asked participants about changes in their knowledge and comfort doing field work, sense of community with other naturalists, and sense of confidence in their own abilities. All showed a substantial increase. Student comments were uniformly positive: “FREED helped me realize that there are people like me that are happy to explore, share, teach and listen to the land and each other.”, “I realized the importance of protecting the land and its creatures. I also realized that the land is a carrier of indigenous history...”, and “I never really felt the urge to catch insects before FREED”!

Questions:

- Do you track students after the program? It would be nice to see where they are in 10 years. Yes, we are in touch with most former participants, often to write letters of reference for them.

- How are the students chosen for the program?

Of the more than 80 applicants for this year’s program, 15 were chosen based on three criteria: 1) having little previous experience with field work, 2) having experienced barriers to being in nature, such as financial, concerns about safety, etc., 3) enthusiasm for the opportunity

- How are instructors recruited?

General outreach, aiming to get many people with different specialties rather than one or two generalists to teach everything. Candidates complete an application that helps us judge whether they’ll fit our objectives for personality and teaching style as well as expertise.

- Did you have any surprises?

Yes, in 2022 two of the vehicles used to transport students in the field broke down simultaneously. In 2023, the camping experience was accompanied by heavy rain.

- How did you connect with indigenous people ?

We recruited a consultant on indigenous culture and history to talk both with participants and instructors, and aspects were woven into each workshop. Next year we’ll have her back and will include indigenous uses of medicinal plants.

- Suggestion was offered that a shorter version of the upcoming manuscript for publication would be of interest for local naturalist groups.

Member’s Night presentations

John Bacher: “Mel Swart and The Escarpment Plan”

John provided an update on Thundering Waters Slough Forest, a 484 acre old growth forest near Niagara Falls. He stated that, under the current provincial government, associated wetlands that are already protected will stand, but new ones will be almost impossible to establish, as consultants are paid by the developers.

John described the role played by conservationist Mel Swart in the development of The Escarpment Plan and noted that this is the only provincial land use plan that remains, after others like the Greenbelt Plan have been torn to shreds. Mel was a role model for John’s own conservation efforts

and was in turn influenced by provincial forester Edmund Zavitz, the subject of *Two billion trees and counting: the legacy of Edmund Zavitz*, written by John.

Mel Swart was personally responsible for the protection of Short Hills Provincial Park near St Catharines. He purchased approximately 600 acres in the area, preventing quarry operators from destroying the forest and mining the limestone. The land was transferred to the Provincial government in 1985. Mel was elected to the Provincial legislature in 1975 and worked with fellow MPPs John Robarts and John White to promote protection of the Niagara escarpment through development of The Escarpment Plan. Mel's work is commemorated by the Mel Swart Lake Gibson Conservation Area in Thorold, Ontario.

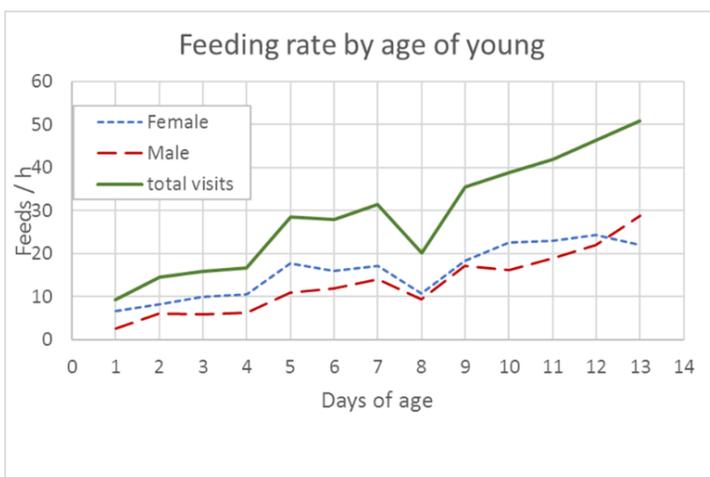
Ricky Dunn: “Spying on bird nests: photography in the service of science.”

Photos of birds at nests have been published since the advent of photography, with results documenting predators, food habits, and behaviour. A review of scientific journal articles over 50 years that used photography at birds' nests to collect data turned up over 200 examples. During that period, camera equipment became far more fieldwork-friendly as film gave way to digital photography and batteries became smaller and longer-lived. Costs are now low enough for researchers to monitor multiple nests continuously, greatly increasing the scientific value of the data that can be extracted. Hours spent in blinds watching nests are now spent viewing camera contents to extract the data of interest, an often tedious process that is mostly not amenable to automation but which yields valuable data that would be otherwise missed entirely or would take far too much time and funding to gather through direct observation.



As an example of what can be learned from continuous nest monitoring, Ricky referred to work on the Northern Wheatear in Iqaluit, NU done by the 3 Brodie members in the Hussell family (David, Jeremy and Ricky).

Wheatears nest underground, so funnels were placed in entrances, with a treadle inside causing birds to trigger a camera each time they entered (see photo). Although the sun dips just below the horizon in Iqaluit, it remains light enough to read the time and see colour bands around the clock. (Current cameras would time-stamp each frame.)



Many food types were documented (larvae, spiders, butterflies, bees, berries etc.), though most were not identifiable.

Feeding rate increased with age of young, reaching nearly one visit/minute close to fledging. Females usually fed more than males, but not at all nests.

Continuous photography revealed rare events that would otherwise have been missed, such as nestlings venturing from nest (triggering photo) only to rush back inside to be fed when adult arrived. At one nest, an unbanded third male fed young regularly, ignored by the parents. Cameras also documented the c. 4.5 hour period each night when parent wheatears rested, with start and end times that were related more to temperature than to level of darkness – a strategy that ensures foraging occurs when prey insects are most active.

Some questions to Ricky:

- Do helpers-at-the-nest represent extra-pair copulation?

Answer: A large study in Germany showed about a quarter of young were sired by a second male, but these were usually the adjacent territory holder who did not feed young. Visitors bringing food were likely to be prospecting future nesting locations, but it's possible they might have managed extra-pair matings during egg-laying.

- Katie Thomas noted that the BBC program SpringWatch shows [live footage of nests](#) 24/7 that as documented some new bird behaviours. (Google the title to find YouTube clips from previous seasons.)

Ken Abraham: “ Status of a few bird species in the Hudson’s Bay Lowland: Brant, Little Gull and Pelicans”

This summer, Ken returned to the Hudson Bay lowlands for the first time since his retirement in 2014 and provided an update on the movements of three avian species using telemetry and personal observations.



Brant use Hudson Bay lowlands as a staging area during their journeys north and south between overwintering areas on the mid-Atlantic coast and nesting areas in the high Arctic. Although brant have traditionally used the rocky east coast of Hudson Bay to feed on eel grass, they increasingly use the coastal marshes and intertidal areas of the more sedimentary west coast of Hudson Bay. Ken showed photos and data documenting the dramatic increase in weight, especially of females, on the way to nesting grounds.

Little Gulls have been observed (over 450 individuals) at the southern tip of James Bay. These are primarily post-breeding birds, seen from mid-July to their departure in mid-September. The specific breeding areas are not known, but fledged first year birds are among those observed. The phenology observed fits with observations of Little Gulls staging at Oshawa Second Marsh in April and May. Ken also showed photos of large numbers of Tree Swallows from southern James Bay, likely massing in mid-July because of nest failure.





White Pelicans are now nesting on islands in James Bay. From only a few in 2014, there are now hundreds. The eastward expansion is thought to be due to colony collapse farther west. Double-crested Cormorants also are nesting on an adjacent island

Questions for Ken:

- Why the White Pelican diaspora?

Answer: A major disease event occurred in colonies in North Dakota

- What patterns did you see for Snow Goose?

Answer: In the 1940s and 50s, small groups of snow geese were observed in Hudson and James Bay, similar to the situation with Brant now. The shift of more than 30% of the population was thought to be due to late springs in the high arctic. Snow Goose numbers peaked in the late 1990s, and declined thereafter due to habitat destruction by the population at its peak.

OBSERVATIONS

Dunn saw mink twice this week near the bird observatory on the Leslie Street Spit. Lovely to see, but predation of birds in nets has been an issue. Nets have been raised higher off the ground, and problem mink are trapped and moved (in hopes they won't return, but they probably do...)

Kortright observed European hornet in Toronto, Larsen has seen bears in the Carden Alvar region, and Bacher great egret near St. Catherines.

The meeting was ended at 9:40.