THE BRODIE CLUB

Established 1921

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

THE 1,112th MEETING OF THE BRODIE CLUB

The meeting was held on Tuesday, 18 September, 2018 in Room 432 of the Ramsay Wright Laboratories of the University of Toronto.

Chair: Rose Addison

Secretary: George Bryant

The meeting was called to order at 7:30 pm and was attended by33; 26 members and 7 guests.

Roll Call:

Present: Abraham, E. Addison, R. Addison, Beadle, Bendell, Bertin, Bryant, Currie, Daniels, DeMarco, Dengler, Dunn, A. Falls, B. Falls, Hussell, H. Juhola, King, Kortright, Kotanen, Machin, McAndrews, Reading, Riley, Rising, Seymour, Thomas.

Guests: Peggy Haist (guest of Bertin), Sharon Hick (McAndrews) Dominic Stone and Martin Weiner (Bryant), Ron Dengler (Dengler), Rob Falls (B. and A. Falls), Rachel Gottesman (Kortright)

Regrets: Bell, Carley, Crins, Curry, Dunlop, Eadie, Iron, Johnson, LaForest, Larsen, Lindsay, Martin, Martyn, Moldowan, Obbard, Peter, Pittaway, Slessor, Sutherland.

Minutes: Minutes were approved, but see 'Correspondence' at end of minutes for post-field trip discussion.

Committee Reports:

Membership: Trudy Rising discussed the role of this committee composed of Ann Falls, Bill Crins and Trudy. Two members are retiring. Brodie members were asked to step in to fill the vacancies at the October elections. (More info will be distributed before then.)

Program: Ed Addison reported an excellent line-up for the next several meetings. In October we'll hear from member Dan Strickland, on Canada and Oregon Jays.
By a show of hands, the date of the December meeting was confirmed for December 18.

Treasurer: George Bryant will be closing off books for the end of term. Bob Kortright has agreed to step in as Treasurer as of the October business meeting. Bob will collect annual dues ($20 for regular members and $10 for corresponding).

SPEAKERS: We were treated to six, very diverse, short presentations by Club members.

Jim Bendell

The main reason for standing here is to thank the members for the lovely flowers and signed card sent to recognize Yvonne's death on March 5. It is most helpful in what I find most difficult. She is cremated and will be buried with me and family in St. John's Norway, Cemetery on Kingston Road.

I thought I'd give an overview of some 30 years of life in the Ottawa Valley in Lanark County, about an hour by road from the centre of Ottawa. A much larger account is given by Paul Keddy in his book) "Earth, Water, Fire: An Ecological Profile of Lanark County" (1999; Motion Creative Printing, Carleton Place Ontario). We live in a two-storey brick home with a metal roof and lots of windows on 100 acres that are from the original land grant. Across the road are the log buildings of the original settlers of about 1820, the Munros. The County has the highest density of Scottish then Irish in Canada. The first people are Algonquin and claim much of the valley.

We are close to the towns of Almonte and Carleton Place, both on the Mississippi River. Almonte, said as AL-MON-THE, is named after a Mexican general and statesman who fought the expansionist Americans in their border wars. He considered himself as David fighting the American Goliath who wanted all of North America. Almonte is the only town of such name in Canada. By 1850 there were 7 large knitting mills and the town was called the Manchester of Canada. Much of the cloth for uniforms in the Hitler war was made here.

Famous sons are R.T. Mckenzie (1867-1938) artist and sculptor of the Olympics and memorials, physician and inventor of physiotherapy; and J. Naismith (1861-1939), inventor of basketball. Carleton Place was a major railway centre, now a wool depot for all of Canada. Much is sold to the south for the strength and warmth of Canadian wool!

We are in the Great Lakes St. Lawrence Forest Region and our forest is like Algonquin Park--now about 30 years after logging, grazing, and some ploughing. The land in thirds is pond, marsh and wetland; meadow; and forest. Other than walking trails all is left to nature, study, and enjoyment.

The land is Precambrian Shield of hard rock and many minerals but nearby is much sedimentary limestone with many fossils, including the amazing stromatolites that first produced oxygen; fundamental to higher life. Our Shield forms part of the Frontenac Axis that connects Algonquin Park to the Adirondack Mountains; an important corridor for the movement of plants and animals. Past or present mining produced marble, calcite, graphite, mica, uranium (which emits radon) and others. Results of glaciations are everywhere and most spectacular is the Champlain Sea that flooded the Ottawa Valley into America and produced the tricky Leda Clay. When wet it turns into jelly! Most soils are a productive sandy loam and contain much calcium to make them alkaline. Dominant trees in our forests are: white pine, sugar maple, white cedar, red oak, hemlock, white and black ash, beech and ironwood. Deer, red squirrels and chipmunks currently control forest growth. Our meadows have changed little over about 30 years while forests have grown and many large pines have broken the canopy. Apparently recovery has slowed where ploughing has damaged roots.

We observe and study nature as much as we can considering age and health. Most time is spent in analysis and writing. Deer, grouse and mice are projects. I trap mice yea- round in and out of the house and get results on species, life history, abundance, demography, and bots. At present I

have no sound deterrents that work inside, but as yet no mice. Outside I catch about 3 per week. We operate a seed and suet feeder that attract many welcome birds but also unwanted raccoons and fewer red and black squirrels and chipmunks. I have made our seed feeder closed to the squirrels by a metal roof they cannot pass. They show persistence and great acrobatic abilities. We observed a male Rose-breasted Grosbeak with a yellow bib, not noted in our guides. *[Editor's note: this was a first-year male – see the photo collage here that Jim circulated.]*

How have numbers of some plants and animals changed over the years? Most animals have changed little. Decliners: Deer, beaver, marmot, painted turtle, Ruffed Grouse; Gone: Little brown bat, Tree Swallow, whip-poor-will, snipe, chorus frogs; Increased: Turkeys. Most plants have also changed little, including Milkweed and Purple Loosestrife. Declined: White Ash; Gone: White Elm. In June, 2018 we had an extreme outbreak of forest tent caterpillar, a first for this area.

What do we miss of our 20 year life in Mississauga? Old friends, the Lake, and the evening song of insects that do not occur in the northern forest.

George Bryant took us on a photo tour around the world - ten favourite countries in ten minutes, beginning with Thomas Gray's gravestone at Stoke Poges, England. Someone who spent five years circumnavigating the globe - Charles Darwin - claimed England was the most beautiful country in the world. George agrees. Across the channel to the most touristed country in the world, France, visiting World War I and II sites. The Vimy memorial was most moving. Then Spain, having overtaken the U.S. as the second-most popular tourist destination. By train to various cities for architecture, food, living statues and beauty. To an almost European country, Morocco, for the Atlas Mountains, Wheatears, and sand dunes. More sand dunes in Namibia with lion kills at Etosha Pan and a mystery Wallcreeper-like bird, a Rockrunner. Sri Lanka by train provided excellent tourist infrastructure and the world's best viewings of leopard and blue whale (with affixed whalesuckers). Malaysia: peninsular for Rail-babbler, and Borneo for Danum Valley and an outstanding rain forest. New Caledonia for the quintessential exotic bird, Kagu. Fiji: happiest people in the world and colourful fruit doves. South Korea for amazing birds - three stork species, Steller's Sea-Eagle, Scaly-sided Merganser - and no other birdwatchers. Over the pole home to Canada and another graveyard, with a stone bearing the name of (a different) George Bryant.

Ricky Dunn brought and summarized a poster that she prepared for the International Ornithological Conference in Vancouver last month. The Canadian Migration Monitoring Network (CMMN) collects standardized daily counts at over 20 bird observatories across Canada. These data are the basis for estimating population trends, and comparisons with trends from the Breeding Bird Survey (BBS) show good agreement between the two for regions covered by both surveys. However, for many boreal forest species, BBS samples only the southern fringe of the forest and less than 50% of the Canadian range overall. CMMN trends are especially valuable for these species, as studies of deuterium isotope ratios in the feathers of boreal migrants captured at CMMN sites have shown that they sample all parts of the boreal. When CMMN and BBS disagree on trends of these species, those from CMMN are likely to be more reliable. Dunn highlighted two examples. BBS has raised alarms about precipitous decline in Blackpoll Warbler, but CMMN indicates stability. And while BBS shows no change in Yellow-rumped Warbler, CMMN is seeing some important declines across the country. CMMN is working with Environment Canada to increase the consideration given to migration trends when assessing the status of Canada's birds.

Jeremy Hussell introduced iNaturalist, an on-line resource which covers all aspects of nature. Observers post photos of any organism, identified as closely as possible. The website maps locations and makes records visible to others, who can agree with the ID, improve it, or suggest an alternative. Jeremy demonstrated some of the features of the website and showed us how to enter an observation. The more specific your identification, the more likely an expert in the taxa will look at it. Certain other databases, such as eBird, have greater value to researchers than does iNaturalist, but the latter has three specific strengths: 1) It is great for getting feedback on identification. Feedback on postings can be very fast. For birds, responses may come back within minutes—or even seconds—although plant and fungi IDs may wait as long as six months unless more botanists and mycologists start using the site. 2) There is a large pool of observations which need identification, which is great for practicing your identification skills. 3) You can follow what others are doing, and vice versa, which facilitates networking. *[Editor's note: see link below in DeMarco's observation.]* Jeremy has made 1448 observations, has greatly accelerated his learning and has had great fun doing it.

John Riley discussed the Town of Mono Natural Heritage Atlas. He has a farm in Dufferin County which until five years ago had resisted an official plan. What was then needed was an amendment of the Mono official plan to include provincial natural heritage policies and mapping, and present the local history of conservation and the new policies, in the form of an on-line Atlas. At the time of first settlement, Mono was 95% old growth forest, but by 1910 had less than 10% of tree cover. Landscape destruction was finished off by sheep. After a hundred years of natural regeneration and landowner planting, Mono is now 40% forest. For 23 months, starting in 2016, John chaired a volunteer committee to undertake feature mapping and policy development. The mapping focused on Mono's most common natural features: waterways, wetlands, woodlands. The digital imagery now available for such mapping is at high resolutions, and the committee was able to overlay maps of waterways, significant wetlands and woodlands, Areas of Natural and Scientific Interest, wildlife habitat, valleylands, and existing protected areas, to constitute a linked 'natural heritage system.' The process included innumerable mapping sessions with excellent feedback from four conservation authorities, the province and public meetings. Remarkably, the committee provided a conclusion and sign-off only 24 months after being established, which was formally adopted by the Town Council as an amended Official Plan and an on-line Atlas (http://www.townofmono.com/content/natural-heritage-system) . The process will have a lasting impact on the Town of Mono, establishing Natural Heritage Policies that have legal status, conferring protection from uninformed development or site alteration on 41% of the township.

Peter Kotanen visited Churchill, Manitoba this summer for several weeks to study invasive plants. Churchill is a town in flux. The grain elevators are closed, the train no longer runs, and the population has declined. During Peter's visit he had 13 Polar bear encounters. One involved a male pursuing a female and cub around Cape Churchill and the mouth of the Churchill River. While not hazardous to the tourists watching from the walls of Fort Churchill or (like Peter) from a boat, it was dangerous to the youngster because adult males are known to kill cubs. Peter's close up series of photos showed the male catching the scent and starting towards the now retreating female and cub. As the male got closer the two took to the water. The male lost the scent, and that gave the mother and cub a chance to move away from the area undetected.

OBSERVATIONS

Ricky Dunn recommended the spider exhibit at the ROM (open until January 6th).

Jock McAndrews commented on a fossil collected from the Don Jail site by William Brodie and contributed to the ROM – an historic connection between the ROM and Brodie Club.

Katie Thomas has an office and window on the 44th floor of Commerce Court. As of July, she has been observing many spiders. Tom Mason identified them as Bridge Spiders (*Larinioides sclopetarius*), formerly known only as high as a 22nd floor in Toronto, so this was a new record! Katie noted that on windy, rainy days the spiders do a disappearing act. Tom told her they camouflage themselves with silk and squeeze into tiny crevices until better weather arrives. However, spiderlings will disappear for real on sunny warm days, sending out a strand of silk to catch the wind and balloon them to new locations.

Ed Addison remarked on a lovely large Imperial Moth which he observed on a camping trip. He hadn't seen one of these since childhood.

Ken Abraham reported that the eastern Arctic experienced a very late spring thaw, such that breeding waterfowl and shorebirds had very poor nesting success. *[See Correspondence below for more detail.]*

Jerry DeMarco's daughter Kestrel used iNaturalist to post a photo of a curious Chameleon seen in Rwanda [see https://www.inaturalist.org/observations/16084065]. It turns out the species was first described (in Burundi) a full year *after* she took her picture, and she is now in touch with the person who named it.

Jim Bendell noted that the federal government had recently provided a $5M settlement with the Ungava Inuit forcibly relocated in the 1950's as described in Farley Mowat's People of the Deer.

NEXT MEETING

The next meeting will be on 16 October. Corresponding Member Dan Strickland will speak on differences between the Canada Jay and the Oregon Jay.

The meeting was adjourned at 9:03 pm.

CORRESPONDENCE

Ken Abraham sent the following details on the 2018 reproductive season of Arctic birds, compiled from correspondence with his colleagues.

Snow geese had very poor reproduction (virtually no goslings fledged) in the central arctic (Queen Maud Gulf), the eastern arctic (Southampton Island and Baffin Island) and Manitoba (Cape Churchill). They had average reproduction in southern Nunavut (Akimiski Island) but somewhat below average in Ontario (Cape Henrietta Maria). They had average reproduction on Bylot Island (greaters).

Canada geese had virtually no production in the Ungava Peninsula. These are birds that go to the Atlantic coast. From the Atlantic Flyway banding report: "a total of 3839 geese were banded, and the preliminary Immature:Adult ratio (30 juveniles/3809 adults) in our catches was below 0.01, an all-time record low. The long-term average is 1.33 (1997-2017). In conclusion, productivity of AP Canada Geese from the Ungava Peninsula in 2018 was extremely poor and close to nil." Canada geese in the Hudson Bay Lowlands (Akimiski, northern Ontario, Manitoba) had poor production as well.

Shorebirds on Southampton Island had virtually no production according to Environment and Climate Change Canada scientist Paul Smith. However, some parts of the arctic must have had production, as the James Bay shorebird project recorded juveniles in August and September.

From John Carley and others

The Brodie Club minutes for the 10 June outing to Carden Alvar listed two species that drew further comment from members: Canadian Tiger Swallowtail (*Papilio canadensis*) and Eastern Tiger Swallowtail *(Papilio glaucus*). Email back and forth over the summer on the likelihood of both

being seen at Carden led to checking of references. The website of the Canadian Biodiversity Information Facility (http://www.cbif.gc.ca/eng/species-bank/butterflies-of-canada/canadian-tiger-swallowtail/?id=1370403265567) notes that *P. canadensis* was considered a subspecies of *P. glaucus* until 1991, and indicates that the latter occurs "in southern Ontario north to the Bruce Peninsula, the Rideau Lakes and Grenville County in eastern Ontario," with a thin zone of hybridization.

John Carley wrote: "Following up on our email correspondence regarding the taxonomy of the Tiger Swallowtails observed during the Carden Field Day, I note that the article by Xi Wang in Ontario Lepidoptera 2017 titled *An Update on Tiger Swallowtails in Ontario* is very informative and definitive. According to the author, "Thus, north of the GTA, we find *P. canadensis* or their hybrids." On the field trip day I observed a Canadian Tiger Swallowtail laying eggs, and observed a couple of fly-by tiger swallowtails that fit the article's description and photos of the hybrids. (By the way, that issue of OL also has a good article, by Chris Schmidt, updating the status of Azures in Ontario.)"

Final verdict? Based on the current literature, it appears that *P. canadensis* and hybrids were observed at Carden, but not *P. glaucus*.

[The figure on the next page is from the article John cites above and which has been distributed by email.]

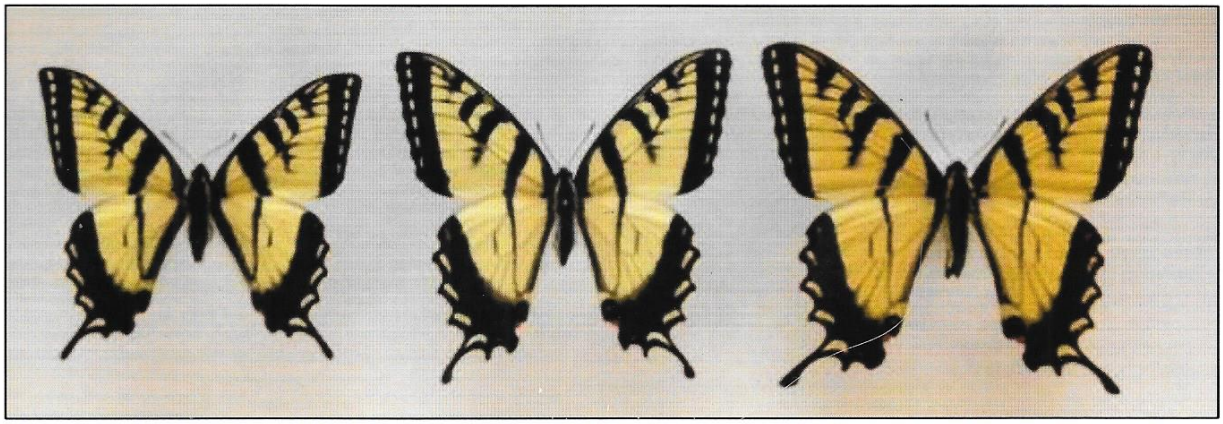

Figure 1. Dorsal views of *P. canadensis* (left), hybrid (middle), *and P. glaucus* (right).

Figure 2. From left to right, ventral views of *P. canadensis*, early flight *P. canadensis* from within the hybrid zone, late flight *P. canadensis* from within the hybrid zone, and *P. glaucus*.

Figure 3. First instar larva of *P. canadensis* (left), hybrid (middle), and *P. glaucus* (right).