

THE HALIFAX FIELD NATURALIST



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September to November 2022

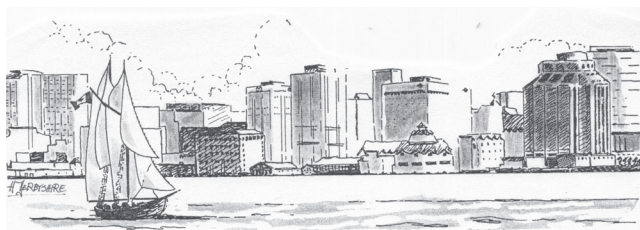


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Tide Table Oct., Nov., Sept.11

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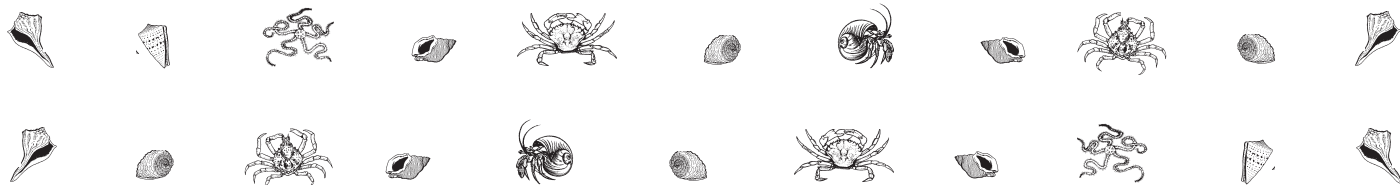
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FEES

Student	\$15.00 per year
Individual	\$20.00 per year
Family	\$25.00 per year

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HFN NEWS, REPORTS, AND ARTICLES

A TERRIBLE TRAGEDY

– *Stephanie Robertson*

On the afternoon of Saturday, September 10th, Nature threw our Melmerby Weekend participants a cruel and tragic reminder of its immense strength and capricious unpredictability. It was a beautiful, bright, sunny afternoon and the sea was beckoning with its large, exhilarating, and playful waves. There had been a very bright and full-moon harvest moon in the evenings, and both wind and waves were strong and loudly roaring. Ingrid and Burkhard Plache, Lesley Jane Butters, and a few others pushed forward to frolic in the strong combers. Some couldn't take their heavy power, and decided to turn back.

Suddenly, binoculars on shore revealed Burkhard to be in trouble; in an instant he had slipped or been knocked off the first sandbar into much deeper, roiling currents. An order was yelled to call 911, and the day turned instantly treacherous and full of fear and adrenalin, giving surprising strength and speed to elderly runners and swimmers. Burkhard had called out to Ingrid, she encouraged him forward without success, so grabbed his hand to help pull him in. It was just too difficult in the strong waves, and she couldn't keep his head up. By this time, onlookers rushed in to get them out. (Meanwhile, Lesley Jane, trying to help but not being able to reach them, and also in difficulty herself but with a swimming belt on, managed to get out despite having her signals and shouts obliterated by the incessant winds and powerful waves).

Paramedics administered Burkhard CPR, while Ingrid, exhausted from fighting the ocean's great strength and swirling currents, was helped by many bystanders with towels, sweaters, and anything to hand to get her warm. Both were taken to the Aberdeen Hospital, where it was found Burkhard had not survived. Ingrid, who had tried desperately to rescue him and had to be dragged away and in to shore, was ambulated to intensive care (she had water in her lungs and was in deep shock). There she stayed for five days 'til deemed recovered, and where she received the most superlative medical and compassionate care I have witnessed for a very long time – one shaft of silver light in such a very dark time.

We don't hear of these things too much at Melmerby, but exactly the same thing happened further west on the beach about two years ago. Under the same conditions a treacherous, powerful, and invisible 'rip tide' caught up two children. Their mother successfully struggled to save them – but she herself did not survive.

Ingrid and Burkhard were steadfast partners in all that they did with each other – for HFN and for other organisations – leading and organising field trips, recording meticulous species lists, volunteering on committees, teaching participants how to recognise and ID plant species, and many other activities. Both Ingrid and Burkhard joined HFN's Programme Committee in 2003. Ingrid has been our able Treasurer since Spring 2013, and Burkhard our excellent President since 2017. In the last few years he had also bolstered up our hard-working Programme Committee.

Burkhard will indeed be sorely missed – a good and gentle friend, a skilled naturalist, and able President. Our broken hearts and sincere condolences go out to Ingrid.

NOTES FROM ALBANY NEW

– *Lesley Jane Butters*

Years ago, 'my' section of the upper Medway River was teeming with wildlife. Frogs and bullfrogs trilled and 'glumped' through the nights, and springtime Peepers were abundant – music to the ears of naturalists. Migratory birds, so very numerous, sang beautiful early morning and evening songs, raising their offspring in nearby trees and shrubs; flying insects, bees, butterflies, salamanders, snakes, and mammals freely roamed. Sadly, this past spring and summer I observed very little there except for the occasional surprise which led me to hope that all is not gone forever.

Easter Weekend Significantly less Tree Swallows appeared over the river; I counted only 14 when they flew in on cue on April 14th. By weekend's end they were looking for nesting sights. Squirrels took up residence in my boxes, and needless to say, the Tree Swallows were not impressed, scolding them for doing so. The Swallows migrated off the river during mid-August, a little ahead of the New Moon.

Early June A Yellow-Bellied Sapsucker visited my special, self-seeded Mountain Ash. For days I heard continuous peckings. Finally, I spotted its producer, and taking a closer look saw that sweet sap streams had run down the Ash's trunk from rows of girdling puncture holes along with areas of wider and stripped bark around its circumference. I wrapped it with sterilised gauze to stop the flow hoping it will survive the winter. I also found a forest green coloured tick on my leg one day. Are there green coloured ticks in our province? Many different types of dragonflies and damselflies were spotted over the summer along with a pair of Twelve-spot Skimmers. After raking the river for an aggressively invasive Milfoil, I saw native aquatic plants making a comeback, especially water Lobelia, Cranberries, white water lilies, and Round Leaf Sundews. Even the Green Frogs and minnows seemed to like the clearer space.

Mid July I saw two blooming Button Bushes growing near the river's edge, and just after every sunset, a lone Beaver would swim down it. One evening it stopped for a snack; the Button bushes have been reduced to stumps!

On Sept. 2nd, the 40th anniversary of my property, I saw in the garden five Atlantis Fritillary Butterflies on Joe Pye weed flowers, one 'rambunctious' Monarch feeding on Hawkweed flowers, and a pair of Hummingbirds enjoying the garden Phlox. Snorting and grunting sounds were heard and suddenly five Deer sprang up in front of my eyes – three little spotted does and two much larger Deer had bedded down in the perennial garden. Next evening, they were seen enjoying my Lodi old-fashioned apples. There goes this year's crop!

Sept. 3rd A soggy, foggy evening. Just before dark, the sole Monarch butterfly returned to feed on the Joe Pye Weed, flying from flower to flower, then flying off high in the sky, then gliding its way back down to a flower head. It repeated this for a few minutes before finally flying off high up into the foliage of a nearby Red Oak. I was amazed the butterfly would show up on such a dreary and cool evening.



NEW ARRIVAL TO MORAR

– Gareth Harding, Renée Lyons,
Millie Harding-Lyons

We returned from hiking along the Pennine Way (N. England to Scotland) during May to resume planting our garden at Morar after an absence of a month. There were no Tree Swallows around the first few days of June but we took comfort in knowing their past habit of making infrequent appearances before finally settling in to raise a family. I took a peek in the bluebird house in my neighbour's meadow and found some woven grass which was a reassuring sign that a pair of swallows had made a first claim on this accommodation. Previously, I had attributed this behaviour of making infrequent appearances in May and early June to their taking advantage of better foraging over nearby lakes and marshes. However, last year we had lost both parents to hawk predation and their young had died of starvation. Now my interpretation for this early appearance of Tree Swallows followed by frequent absences has expanded to include first – the scarcity of nest hollows, and second – the reduction of their chances of being predated by a shorter presence at the nesting site. Once the young are airborne, which occurs over a couple of days, the whole family leaves the area. Needless to say, we were relieved to have seen the beginnings of a nest this year.

On Saturday morning, June 11th, we headed down the horse meadow to pick up our neighbour Marie's aging black lab Jacques Jr. for a short walkabout before tackling the garden. We were surprised to see a little brown bird around the bluebird house! It was hard to get a good view of him, but his size and staccato song was very wren-like – chi, chi, chi, cha, cha, cha. Further observations from our deck chairs confirmed that there was a pair of them and that they were definitely bringing coarse, stick-like objects into the bluebird house. The last Maritime breeding bird census had an isolated northern occurrence of a House Wren in the town of Antigonish so they are apparently moving north with the warming climate. The Peterson bird guide printed in the 1990s had them distributed as far north as northern Maine, just shy of the New Brunswick border.

After lunch, while having a cup of tea, a pair of Tree Swallows turned up and paid close attention to this bluebird house. Oh my! As a caring landlord, I now wished that I had put up another nest box in the meadow. I have four other nest boxes but I didn't want Tree Swallows in that ill-fated glen where a hawk had picked off the mother swallow last year. Furthermore, I hadn't had the heart to turf the Flying Squirrel from the power pole house earlier this spring. Finally, the fourth box at the other end of the meadow for some unknown reason had never attracted a tenant! Well,

that afternoon I decided to check out the power pole house to see whether the Flying Squirrel was still resident. Upon opening the front flap, a large black, White-bottomed Hornet flew out. My question of a resident squirrel was answered as I hastily descended the ladder and collected my thoughts from a distance. This species of hornet is so-called solitary and I have never been stung by one. They usually produce a two-inch diameter, inverted vase-like papery cone on the ceiling boards of the barns. Just to be cautious, I decided to let the hornet think over her new reality of an exposed nest. A couple of hours later I returned and safely removed all the nest straw that the flying squirrel had accumulated last winter, and with a rapid scrape of a sharp kitchen knife I separated the small wasp nest from the box's ceiling. This time I jumped off the ladder and actually hit the ground running before the little hornet nest had fluttered to the ground. All this was unnecessary because the hornet had gone. A little later I drummed up some courage and dry-scrubbed the nest box for a new (hopefully) swallow tenant. With this extra nest box vacated, I began thinking about asking our neighbour Bonnie whether I couldn't relocate our ill-fated nest box of last year from our garden glen into her meadow. Both wrens now were busily taking nesting material into their favoured bluebird nesting box.

There was no doubt that the Wrens had adopted Bonnie's meadow by June 13th which had been the Swallow's choice nest box as well. The box was now filled to the entrance hole with sticks. Not a very appealing nesting material from both a human and swallow point of view. However, the Wrens are so small that they were now using the ventilation gap beneath the roofline of the bird box as their entranceway, as the front entrance hole was effectively fortified shut with a jumble of twigs. The male Wren was now singing non-stop on a systematic rotation around the meadow. He prefers the highest perch to broadcast his presence along with a competing male Chestnut-sided Warbler. A high, dead limb is also a favourite surveillance point for our silent, contemplative male Hummingbird.

I got permission from Bonnie to put another bluebird box in her meadow on June 18th when she had returned for her Aunt Marie's 88th birthday celebration. I'd no sooner sat down on our deck chairs to admire my newly installed nest box when the male Wren landed on the roof with his perkily raised tail to investigate this new addition to his field!



HFN FIELD TRIPS

350 MILLION YEARS LATER: BLUE BEACH FIELD TRIP

— Brian Bartlett

Date: Saturday, March 22, 2022

Location: Avon River, Avonport, King's Co.

Weather: Overcast then sunny and warm

Leader: Howard Donohoe

Participants: 28

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In a recent issue of *New Scientist*, Scottish cartoonist Tom Gauld depicts a secretary addressing a visitor to a university office: "Take a seat. The professor will be with you ASAP." The second of the cartoon's two boxes has the caption, "Unfortunately, Bob is unaware than in the geology department, 'ASAP' is an acronym for 'astonishingly slowly, æons perhaps.'"

A Halifax Field Naturalists field trip last March was another reminder of hard-to-grasp durations of time, in particu-



lar that stretching back from now to 350 million years ago. That roughly approximate date—assigned to the origins of many fossils we encountered—was about 115 million years before part of the supercontinent Pangaea started to split off from what we today call western Africa; the separated landmass then moved far north of the equator and eventually became Mi'kma'ki/Nova Scotia.

For the first hour of our visit we were indoors, masked against COVID, in the Blue Beach Fossil Museum, a modestly funded treasure-chest of prehistory housed in a small converted barn, with many objects placed in cardboard boxes and on old tables, shelves and cabinets; many of the signs are hand-painted, helping give the room an air of homegrown reality rather than cool slickness. Chris Mansky, infectiously animated while sharing his knowledge with us, has curated the museum for over two decades with Sonja Wood, his wife. While the media have sometimes described Chris as “self-taught,” that misleading word, used to indicate he wasn’t university-educated in his field of expertise, doesn’t do justice to the range of his learning from many scientists’ explorations and published research.

Chris showed us a variety of track prints, fossilized plants and (less common) bones; many other 350-million-year-old finds are kept in outbuildings, and we gazed at only a tiny fraction of the collection’s 35 tons of material. Now-extinct creatures such as the giant rhizodontid fish (up to 9 metres long), as well as ray-finned fishes, horseshoe crabs, and primitive scorpions and sharks once lived in what would much later be the museum’s vicinity. Chris emphasized the gigantic significance of the transition from aquatic species to more complex terrestrial ones. His use of the word “co-occur” was helpful. It refers to the rare situation when animals’ fossilized bones exist in the same location as their preserved footprints, so observers can “match the track-makers with their tracks.”

Then Chris introduced the key topic of Romer’s Gap, a little-known period of prehistory about 20 million years long; those years are famous in part because—rather than despite—so much about them remains to be dug up. One crucial aspect of the so-called gap is that during it (beginning in the Upper Devonian era) early aquatic animals gave way to Mid-Carboniferous terrestrial animals, which eventually led to “every limbed vertebrate the earth has ever known, including ourselves” (quoted from the museum’s information sheet). A three-dimensional white model of an imagined tetrapod helped us visualize what one of the earliest four-footers might’ve looked like. One clarification I only learned later at home: quadrupeds differ from tetrapods in that they actively use their four limbs for locomotion; tetrapods include, along with many four-limbed animals, vertebrates such as snakes and whales that lost limbs but share a common tetrapodal ancestor. Most quadrupeds are tetrapods, but many tetrapods aren’t quadrupeds (some

birds are classified as bipedal tetrapods.)

After our hour in the museum, Dr. Howard Donohoe led us down onto the beach for a more expansive, tactile experience. Howard—DFGAC (Distinguished Fellow of the Geological Association of Canada), P. Geo. (Professional Geoscientist)—completed two academic degrees at Lehigh University in Bethlehem, Pennsylvania, then, in 1978, a PhD from the University of New Brunswick. He worked as a Province of Nova Scotia geologist for 32 years, and remains active as a part-time instructor in the Department of Geology at Saint Mary’s University. During our field trip his enthusiasm matched Chris’s.

Though our primary focus for the day was geological and paleontological, and most of our attention was directed to the ground rather than to the trees, sky, or clouds, birds didn’t know that. A few species—American Crow, Black-capped Chickadee, Bald Eagle, Canada Goose, some kind of tapping woodpecker—made themselves known by flight or call. A birding or botany excursion would’ve been very different; we were fossil-minded, not bird- or flower-minded. We quickly learned that studies gathering and examining signs of prehistory need narratives. The museum sheet sums up its information with the phrase “one of the greatest stories ever uncovered”; and Chris once told a CTV reporter, “The most important thing, I feel, is to get these stories told.” Though Howard would speak of “the stories rocks tell,” he also implied that the narratives involve not only physical evidence but also human inductions and imagination: “As we build the story, we see that things are very complicated.”; “This is how we piece together the story.”; and (“I’m not a palaeontologist,” he added. “This is about putting good geological science to work.”). In his expression “unlocking the secrets of the dawn of life on land,” Howard also suggested the active role of human brains.

Near the beginning of our five-hour-long visit to the beach, Howard used a classic sort of instructional method for helping us imagine vast stretches of time: he had us stand in a wide circle (there was some COVID-era joking about “social distancing”), numbered us from 1 to 28, then approximated what we could represent over millions of years. Person 6 stood for “first fossils”; person 14, increase of oxygen; 26, Pangea; 27, Blue Beach, 350,00 years ago; 27-28, dinosaurs; 28, Homo sapiens, 60,000 years ago. That simple demonstration was an effective reminder of how newfangled we are as a species, a newcomer on a planet that came into being about 4.6 billion years ago—human history like a grain of sand on a beach.

Howard reminded us that while the fossil-rich area of Joggins on the Bay of Fundy near Amherst is a UNESCO World Heritage site, its fossils are from a time about 40 million years later than those on Blue Beach. He asked us to imagine that as part of Pangaea, “African mountains”



would've once been visible in the distance about two miles from where we stood. Like Chris, Howard spoke passionately about Romer's Gap; he elaborated by contrasting the early varieties of animals having 6, 7, or 8 toes with later-emerging 5-toed creatures. He also added that recently, beginning in 2012, discoveries in Scotland have added further details for filling in the mystery of Romer's Gap.

Before long it was evident that two of Howard's favourite words are "complex" and "complexity," for good, grounded reasons. "Now there's the complexity," he'd say, then a few minutes later, "So, why is this complex?" or "This is the complexity that we reach at this point." "This is a complex fault," he later commented, "not a normal fault." He asked us to observe the widely varied textures, striations, and colours of the riverside bank, including crushed rocks' sedimentary layers, limestones' browns, mica's sparkling white. We learned about many other features of Blue Beach:

- fossiliferous limestone, composed largely of calcium carbonates and fossils or fossil bits, some microscopically small;
- shale found under limestone in former lake deposits;
- faults and intrusions, including "cross-cutting relationships," such as those between molten, liquefied rock and the rock types it solidified upon;
- primitive plants known as cooksonia, which had no leaves or flowers, and perhaps no roots;
- biofilms, blue-green algae covered by influxes of sand and mud;
- thrust faults, where ancient rocks have made breaks in the earth's crust when pushing through younger rocks.

Howard encouraged us to picture the forest and the lake that had once existed where we walked, stood or sat, took notes or photos, or ate our lunches on a Saturday morning in the 21st century. At one point he explained, "Welcome to the forest!"—the full-fledged prehistoric trees in our imaginations only, though fossilized remains of trunks were present. Howard identified objects we pointed out or picked up, such as petrified bark, fossil evidence of "paleo-wind-directions," and mudworm fossils crisscrossing rock surfaces. The tubular mudworm remains, he explained, were evidence of "abundant oxygen and nutrients...a lake full of life."

Though Howard's talk was built on his decades of education, study and field work, he observed more than once that geological and paleontological scenarios must mix speculation with evidence. "Don't you hate it," he said, "when geologists say, 'About' or 'Approximately' or 'I don't know for sure'?—but that's part of our profession." By the end of the afternoon, for many of us the Blue Beach field trip was a great incentive to learn more about the Pangean origins of Kings County (and the rest of Mi'kma'ki/Nova Scotia), and we felt grateful that scattered bits of prehistory had become a little more vivid to us.



The Cole Harbour Heritage Farm Museum (CHHFM) is located off Hwy 7 at 471 Poplar Drive, Dartmouth. A true jewel in the heart of Cole Harbour, and originally a 500 acre grant, its history goes back centuries. Apparently, the original grant holder never did live on the property but rather used it to grow various grains for the surrounding community. This farm sits on a slight hillside above a small pond which is primarily fed by Settle Lake Brook which flows from Settle Lake. It has 10 buildings of which eight have heritage lineage. For our purpose it was about as good a location as one could ask, with an abundance of various bees going about their chores.

Leading us was Michelle McPherson, who gave HFN a very informative talk on bees at the NSMNH back in May of 2019. Our walk today put much of that theory into practice as we saw several of the species she had covered back then. A bee keeper of several years herself, and through her work with the Canadian Wildlife Federation, she proved a most knowledgeable and gifted leader.

After an initial talk in the farm's yard, Michelle gave us a general layout of the walk as to what we were likely to see along the way. As well we got to meet Rosie (our walk mascot) and she also got to meet us, after which we set out. Commencing on the south side of Harris House we eventually made our way counter clockwise around it with several interesting stops along the way. With many plants and perennial flowers in bloom we found several different bees, flies, wasps, and one very colourful yellow spider, possibly a Crab Spider.

A general guide in identifying bees, wasps, and flies is likely in order here, please bear in mind it is general in scope and many exceptions will and do apply.

- A close look at the head is a big help; bees and wasps have clearly visible antennae while flies have little or none.
- Flies have one set of wings while bees and wasps have two. Flies' wings do not generally fold over their back and often project outward; bees normally do fold theirs over their back.
- Bees have rather hairy bodies, some very hairy, while flies have little or no hairs.
- Bees have five eyes – two main ones, one on each side of the head, plus three small ones on the top of their head or forehead.
- Flies have two large, prominent compound eyes which almost meet in the middle of their face.
- Wasps have two compound eyes and three simple eyes. The simple eyes provide increased sensitivity to light, and are arranged in an upside down triangle on the forehead or top of the head.
- Wasps are sleek and streamlined, often shiny or metallic looking. They also have very thin or pinched waist, whereas flies and bees do not.

(Note: we often see wasps chewing a fine layer of wood fiber off of our deck railings to use in nest construction. This chewed area has a different shade from the unchewed wood.)

Michelle said there are about 200 different species of bees in the province, and 15 of those are Bumblebee species. We saw Common Eastern Bumblebees, Leaf Cutter Bees, Wool Carder Bees, Tri-coloured Bumblebees, Sweat Bees, Honey Bees, Long-horned Bees, and several species of flies and wasps. We also saw a colourful Crab Spider which was likely waiting to ambush its next meal. Michelle



BACKYARD BEES



– **Bernie McKenna**



Date: Saturday, August 6th

Place: Cole Harbour Heritage Farm Museum

Weather: Warm, sunny to overcast, slight breeze

Leader: Michelle McPherson

Participants: 15 plus Rosie, Michelle's 2 year-old pup

spent a lot of time throughout the walk pointing out the identification features of individual species, the following covers some of this info.

- **The Common Eastern Bumblebee** is indeed very common – its body is fuzzy, hairy, and broad. It lives in colonies with about 400 or so bees each. It has a yellow thorax, black abdomen, and a single yellow body band. In this species, and in pretty much all bees, the workers' and drones' colours may vary and this can muddy the identification process.

- **The Tri-coloured Bee** is a quite common, fairly small bee with black, yellow, and orange bands of hair on its body. It's a ground nesting social bee whose colony only lasts one year.

- **Honey Bees** have a yellow striped black abdomen and a fuzzy head and thorax. We saw the two Honey Bee hives which Michelle has on the farm, situated in a fenced off area with a bit of shade from a pair of apple trees. Both hives were very busy with a lot of coming-and-going happening. Colonies typically have 40 to 60 thousand bees, of which 5% or so are drones. The remainder are worker bees plus one egg-laying queen. When newly hatched, the young bees perform various in-hive tasks, gradually progressing until they graduate to forager status and then commence pollen and nectar gathering outside the hive. This foraging stage lasts about 14 days after which their life span ends. Apparently this progression of tasks in the worker bees is governed by hormonal changes in their bodies. These Honey Bee colonies overwinter, and they manage to maintain some heat in the colony by vibrating their bodies.

- **Leaf Cutter Bees** get their name from their choice of nesting material. They cut small sections from a plant's leaves and then incorporate them into their nests. They're larger than a Honeybee and a bit flatter. They have a whitish belly and a black upper abdomen. Unlike Honeybees, Leaf Cutters carry collected pollen on their bellies.

- **Wood Carder Bees** are an introduced species which have also become very common. The female has a habit of scraping the fuzz off of the bottom of some plant leaves to use in her nest construction. Very colourful, their wide body has bright yellow spots on the head, back, and abdomen. Males can be somewhat territorial and may actually bump into you.

- **Sweat Bees** are quite tiny and come in many colours. They're attracted to human perspiration for its moisture and salt. This is the second largest group of bees and there are almost 4,500 species of them world wide!

- **Long Horned Bees** are named because of the extra long antennae of the drones. Preferring warm temperatures, the females don't usually show up in numbers before late July or August. The females are quite hairy and carry their pollen on their hind legs.

As we moved around to the main garden area the profusion of flowers ensured that the flies, bees, and wasps were present in good quantity. This was also the area where the yellow Crab Spider was hanging out. After considerable bee watching here, and with time ticking away, we headed over to the meadow pollinator area of the farm. Here was Knapweed, Common Milkweed, Joe-Pye Weed, goldenrod, thistle, and not far away Fireweed, all very welcome pollen producers. Also here we spotted a couple of Monarch eggs on the Milkweed. Our final stop

was on the farm's pond dock where, while no bees were found, the marsh and pond plants were doing well. The pond's surface was covered with waterlilies, while Cattails, Alders, Duckweed, and possibly Swamp Cinquefoil (ID not confirmed), were also present. From past visits I can say Flag Iris live here but they were long past their flowering. At the side of the dock's boardwalk, Burkhard pointed out a Boneset plant, which, depending on the reference, may or may not be of the same genus as Joe-Pye Weed.

This was our final stop, and here I'll pass on a few more points Michelle made:

- Honey bees and Bumblebees are colony nesters, most others are solitary nesters to one degree or another.
- Please leave your garden clean-up until about mid-May, as native bees are often still in winter mode until then.
- Bees eat nectar; the pollen is gathered for their young.
- Wild bees are superior to Honey Bees for most pollination – blueberries included.
- Meadows are extremely appealing to all bees for both the abundance and variety of all the associated wild plants found there.
- Bumblebees perform 'buzz' pollination – they grab onto a plant and 'buzz' or vibrate the flower to release its pollen. This is especially important for the nightshade species, as these plants do not normally release their pollen readily.

This pretty much wraps up this submission and more than a few pages of writing pad paper. Before closing there are several folks to whom I have to offer my appreciation. In no significance of order they are,

- to Michelle for her leading us, her kindness, and her willingness to share her knowledge. Michelle usually has a fee for these tours; however in this instance she took donations and collected \$180.00, 100% of which she gave to Doctors without Borders for their efforts in Ukraine;
- to the CHHFM for allowing us access to their property;
- to Ann-Noreen Norton who made up the Ukraine lapel tags for everyone;
- to experienced dog walkers Jane and Don Flemming for looking after our mascot Rosie;
- to Louise Grinstead who took wonderful pictures which she has since loaded onto our HFN Face Book page;
- and finally, a very large and grateful thank you from me personally to both Ingrid Plache and Marion Sensen; these ladies both sent me meticulous notes from which most of this write-up can be attributed.

In closing I'm sure everyone had an enjoyable and learning experience and which I think it's fair to say was capped off perfectly by the delicious farm kitchen offerings – best lemonade I have had in a long time!



SHUBENACADIE CANAL

– Bernie McKenna

Date: Saturday, August 13th

Place: Shubenacadie Canal, Dartmouth

Weather: Mix sunny/overcast, 24 C° at the start

Leader: Richard MacMichael

Participants: 18, leader included,

At 10:00 a.m. on this sunny Saturday morning we met in the appreciated shade of the trees in front of the Fairbanks Centre. In the previous days we'd been expecting rain of one amount or another but it never showed.

It's important to say that the Mi'kmaq had already been using this water route for something like 13,000 years or so, long before Europeans arrived. It took them all the way from Halifax Harbour by water and portage to the Bay of Fundy. Native artifacts dating back 4,000 years have been found in various locations along the route.

Fortunately, we could not have possibly have found a more knowledgeable and passionate leader for this excursion than Richard, the depth of his input throughout the walk was very impressive. Having canal connections going back to 2008, he has served in many positions on the Canal Commission, including both Commissioner and Executive Secretary. He now volunteers as walk leader for canal history hikes from May to October. Meeting in front of Fairbanks Centre to start the hike, he gave us a detailed briefing on the canal's origin and construction as well as a general layout of the walk to follow. Then we headed south from Lock #3 towards Lakes Micmac and Banook on trails of good width (4/5 ft) and solid, dry footing.

The entire trail is lined on both sides by a wide variety of softwoods and hardwoods as well as an understory of diverse shrubs, bushes, and ground plants – perfect habitat for birds and small animals. Richard said that occasionally, there is evidence of deer passing through. In this particular first stretch he pointed out sites of the original builders' presence there, possibly including lodging, a general store, and maybe a tavern of sorts. He also explained there would have been a distinction between the common labourers (the 'navvies') and those more skilled – such as blacksmiths, masons, engineers, etc. (A detailed listing of birds, and especially plants, which are found along the entire canal can be found in Burkhard Plache's entry on page 9 of the Fall Issue No. 176, 2019.

Here we crossed over a bridge and headed north on the west side, going upstream back towards Lock #3. There were nine locks in total (of various designs) as well as two water-holding ponds, one of those ponds being Sullivan's Pond in Dartmouth, and the other a pond just above Lock #3. The latter was built to ensure that adequate water would be available to assist when filling Lock #3 which apparently took 90 minutes to complete! Here also were two archaeological digs which had unearthed two lodging sites. These were three-sided affairs with one open side, or end, with an earthen floor and stone walls, covered by a wooden and thatched roof. In one of these sites there was evidence of a child being present. Pretty basic shelter!

Richard also explained how Lock #3 would have worked, how it was constructed, and of what materials. Some of the original granite stone brought in didn't prove suitable and had to be replaced, and the walls have had to be reinforced with timbers, and in some cases cross braces, to prevent them from falling or buckling inward. He outlined the more common wildlife in this section of the park – the birds, waterfowl, water waders, kingfishers and songbirds. Apparently, the dominant fish is now the Chain Pickerel (non-native) which is rapidly decimating/replacing our remaining native fishes. He explained how the building of Highway 118 has substantially negatively impacted the amount of wildlife in this section of the canal. Just above Lock #3 is the previously mentioned holding pond, a very active spot with many Black and Mallard ducks using it as well as humans canoe-

ing and kayaking.

Proceeding further north we came to the park's only commemorative bridge (Hart Bridge), so named in honour of Bernie Hart – a long and valued volunteer and alumni. Crossing over to the east side we continued north along the 'Deep Cut' which runs through a stretch of mostly conifers. This was undoubtedly the most labour-intensive part of the canal; it was dug through solid rock to a twelve foot depth with only manual labour and gunpowder. This provided an ample depth of water for the Avery, a steamship which eventually plied the canal from one end to the other. There were mostly softwoods from here to the foot of Lake Charles where we passed an area where, from April to July, on both sides of the canal, countless native Pink Lady Slipper Orchids can be seen. At one interpretive stop a quite busy Yellow jacket Wasp nest was seen in a ground location; it was wisely left undisturbed.

Lake Charles itself has two park distinctions – it's the highest elevation in the park, – and it flows both north to the Bay of Fundy and south to Halifax Harbour thus feeding the canal in both directions. Crossing again over to the west side, in theory we were heading downhill but in practice not so much. Lots of hills and hollows along the way made for warm walking. Here at site #14 we were shown a foundation of unknown usage. The best or most-likely bet is that it was a magazine or storeroom for the gunpowder/black powder used in digging the Deep Cut. Being situated well away from any site of habitation or work makes this a likely idea.

We turned back at Hart Bridge where for the last time we crossed to the east bank, headed south past the holding pond and Lock #3, to the Fairbanks Centre. During the entire walk Richard shared many interesting historical tidbits which follow.

The canal's total length is 114 kilometers! Both Charles William Fairbanks and his son Charles Rufus Fairbanks are names synonymous with the Shubenacadie Canal. Its construction began in 1826, and there were up to 300 people employed building it at any one time. The first work interruption occurred in 1831, when one of the locks was set on fire by workers.

Work resumed again in 1847, with the further backing of prominent wealthy investors. Lock #3 was completed 1858, and it was finally all completed in 1861. In November of that year, the steamship Avery made its first complete trip from Halifax Harbour to the Bay of Fundy.

Unfortunately, all this work and effort was rendered obsolete in 1871 with the construction of the railway system in the province.

This really was not a typical 'natural history' HFN outing, however it was very informative and well received by all present. I can attest that having canoed from Fall River to lake Banook this interpretive walk gave us an entirely different perspective and appreciation for the enormity of the project. I have to add that the wonderfully appreciated air-conditioned Avery Room at the museum was very welcome when it was time wrap up the walk and to heartily thank Richard for all his talents in covering the many details along the way. His breadth of knowledge showed itself countless times. The added opportunity of exploring the canal museum's displays and articles made for a most memorable morning learning all about this unique Nova Scotia location.



ALMANAC



AUTUMN 2022

"Season of mists and mellow fruitfulness, / Close bosom-friend of the maturing sun; / Conspiring with him how to load and bless / With fruit the vines that round the thatch-eaves run ..."

– *Ode to Autumn, by John Keats*

NATURAL EVENTS

(Note: September and October are the busiest months for bird migrants leaving Nova Scotia)

- 26 Sep.** Jupiter at Opposition (closest approach to Earth and face fully illuminated)
- 7 Oct.** Draconids Meteor Shower (meteors radiate from constellation Draco)
- 8 Oct.** Start of Mi'kmaw moon cycle Wikewiku's (Animal Fattening)
- 8 Oct.** Mercury at greatest western elongation (view low eastern sky just before sunrise)
- 9 Oct.** Full Moon
- 20 Oct.** Expect first frost in Halifax area
- 21-22 Oct.** Orionids Meteor Shower (meteors radiate from constellation Orion)
- 25 Oct.** New Moon
- 4-5 Nov.** Taurids Meteor Shower (meteors radiate from constellation Taurus)
- 7 Nov.** Start of Mi'kmaw moon cycle Keptekewiku's (Rivers Starting to Freeze)
- 8 Nov.** Full Moon
- 17-18 Nov.** Leonids Meteor Shower (meteors radiate from constellation Leo)
- 23 Nov.** New Moon
- 6 Dec.** Start of Mi'kmaw moon cycle Kesikewiku's (Chief Moon)
- 8 Dec.** Full Moon
- 8 Dec.** Mars at Opposition
- 13-14 Dec.** Geminids Meteor Shower (meteors radiate from constellation Gemini)
- 21 Dec.** Winter Solstice (first day of winter in the Northern Hemisphere) occurs at 17:40 AST
- 21 Dec.** Mercury at greatest eastern elongation (view low in western sky just after sunset)
- 21-22 Dec.** Ursids Meteor Shower (meteors radiate from constellation Ursa Minor)
- 23 Dec.** New Moon

– Sources: *Sea and Sky Astronomy Calendar, SkyNews, Mi'kmaw Moons Connects with Two-Eyed Seeing (Brunjes 2021)*

SUNRISE AND SUNSET ON AUTUMN SATURDAYS FOR HALIFAX: 44 39 N, 063 36 W (all times AST)



3 Sep.	06:39	19:47	1 Oct.	07:12	18:54
10 Sep.	06:47	19:34	8 Oct.	07:20	18:42
17 Sep.	06:55	19:21	15 Oct.	07:29	18:29
24 Sep.	07:03	19:07	22 Oct.	07:38	18:18
			29 Oct.	07:48	18:07
5 Nov.	07:57	17:57	3 Dec.	07:33	16:34
12 Nov.	07:06	16:49	10 Dec.	07:40	16:33
19 Nov.	07:16	16:42	17 Dec.	07:45	16:35
26 Nov.	07:25	16:37	24 Dec.	07:49	16:38
			31 Dec.	07:51	16:43

(NB: Daylight Saving Time ends on Sunday, 6 Nov. at 02:00, and this is accounted for above)

– Source: www.timeanddate.com

ORGANISATIONAL EVENTS

Atlantic Geoscience Society <https://atlanticgeosciencesociety.ca>

29 Oct. Atlantic Universities Geoscience Conference, Acadia University, Wolfville



Blomidon Naturalists Society <https://blomidonnaturalists.ca>

28 Sep. Webinar: Bank Swallows - Life History, Habitat, and Conservation. Zoom time 7:00 p.m.

15 Oct. Learn About Invasive Species, a walk near Aylesford from 10:00 a.m. to 2:00 p.m. (details upon registration).

TBA Oct. An all-day Course on Lichens, date and time forthcoming, Ross Creek Centre for the Arts.

Hike Nova Scotia Registration is required for all of the following hikes, see <https://hikenovascotia.ca> for more details.

- 1 Oct.** Mainland North Trail Parkland to Farnham Gate (moderate), starting at 11:00 a.m.
- 15 Oct.** Charles Lake BMBCL Wilderness Area (moderate), starting at 9:00 a.m.
- 16 Oct.** McNabs Island Fall Foliage Tours (moderate), starting at 9:30 a.m.
- 23 Oct.** Susies Lake BMBCL WA (moderate), starting at 9:00 a.m.
- 29 Oct.** Cabin Lake Trail, Royale Hemlocks/Halifax (moderate), starting at 11:00 a.m.
- 12 Nov.** Old Coach Road Trail, The Ravines/Bedford (easy), starting at 11:00 a.m.

Nova Scotia Bird Society <https://www.nsbirdsociety.ca>

- 23 Sep. to 25 Sep.** Brier Island Weekend with leader James Hirtle.
- 29 Sep.** “Anthropocene Vocal Learning/Neurobiology”, speaker MSc Brodie Parks via Zoom, 7:00-9:30 p.m. (details TBA).
- 27 Oct.** “Bank Swallows; Life History, Threats, & Conservation”, speaker Heather Polowy via Zoom, 7:00-9:30 p.m.
- 4 Dec. to 5 Jan.** Audubon Christmas Bird Count. For more info go to <http://www.nsbirdsociety.ca>.

Nova Scotia Institute of Science <https://nsis1862.ca>

- 3 Oct.** Black Soldier Flies and the Global Protein Crisis
- 7 Nov.** New Research on Nova Scotia Mastodons
- 5 Dec.** New Lessons From Old Mountains
- 9 Jan.** Getting Nova Scotia off Coal, Oil, and Gas
- 6 Feb.** The latest student research findings on climate change-related topics in Nova Scotia
- 6 Mar.** Proposed Ocean Alkalinity Enhancement as a climate change solution

Nova Scotia Wild Flora Society <http://nswildflora.ca>

- 24 Sept. Rain Date 25 Sept.** Polly’s Cove Trail hike near Peggy’s Cove. Check website for further details to follow.
- 26 Sept.** “Diverse Bees of Nova Scotia”, with speakers Alana Pinder and David McQorquodale via Zoom, 7:00 p.m.
- 12/13 Oct. Rain Date 14 Oct.** Weekend Trip to Baddeck area, C.B. Check website for more details/possible date change.

Royal Astronomical Society of Canada, Halifax Centre <http://halifax.rasc.ca>

- 1 Oct.** “NIRISS - Near InfraRed Imager & Slitless Spectrograph”, speaker M. Sawicki (SMU) via Zoom, 1:00 to 4:30 p.m.
- 5 Nov.** “2024 Solar Eclipse”, speaker Randy Attwood (Toronto Centre), via Zoom, 1:00 to 4:30 p.m.

Young Naturalists Club <https://yncns.ca>

- 24 Sep.** Nature Guardians: “Squirrel Behaviour and Butterfly Release”, Shubie Park, Fairbanks Centre, 2:00 to 5:00 p.m.
- 29 Oct.** Nature Guardians: “Bats!” Location TBD, 2:00 to 5:00 p.m.
- 26 Nov.** Nature Guardians: “Painted Rocks and Nature Factoids”, Shubie Park, Fairbanks Centre, 2:00 to 5:00 p.m.
- 17 Dec.** Nature Guardians: “8th Annual Christmas Bird Count,” Shubie Park, Fairbanks Centre, 9:00 a.m. to 12:00 p.m.

– compiled by Don Fleming



HALIFAX TIDE TABLE



October-octobre

November-novembre

December-décembre

Day	Time	Metres	Feet	jour	heure	mètres	pieds	Day	Time	Metres	Feet	jour	heure	mètres	pieds	Day	Time	Metres	Feet	jour	heure	mètres	pieds
1	0536	0.5	1.6	16	0637	0.8	2.6	1	0051	1.5	4.9	16	0109	1.5	4.9	1	0152	1.6	5.2	16	0119	1.6	5.2
	1117	1.8	5.9		1159	1.6	5.2		0758	0.6	2.0		0752	0.9	3.0		0851	0.5	1.6		0759	0.8	2.6
SA	1829	0.3	1.0	SU	1906	0.6	2.0	TU	1259	1.6	5.2	WE	1308	1.5	4.9	TH	1402	1.6	5.2	FR	1319	1.5	4.9
SA	2357	1.6	5.2	DI				MA	2027	0.3	1.0	ME	1957	0.6	2.0	JE	2106	0.3	1.0	VE	1956	0.5	1.6
2	0648	0.6	2.0	17	0046	1.5	4.9	2	0205	1.5	4.9	17	0212	1.5	4.9	2	0259	1.6	5.2	17	0211	1.6	5.2
	1207	1.7	5.6		0739	0.9	3.0		0903	0.6	2.0		0845	0.8	2.6		0950	0.4	1.3		0852	0.7	2.3
SU	1934	0.4	1.3	MO	1251	1.5	4.9	WE	1414	1.6	5.2	TH	1410	1.5	4.9	FR	1518	1.5	4.9	SA	1420	1.4	4.6
DI				LU	1958	0.6	2.0	ME	2127	0.3	1.0	JE	2047	0.6	2.0	VE	2202	0.4	1.3	SA	2046	0.5	1.6
3	0054	1.5	4.9	18	0147	1.5	4.9	3	0329	1.6	5.2	18	0317	1.6	5.2	3	0400	1.7	5.6	18	0303	1.6	5.2
	0759	0.7	2.3		0838	0.9	3.0		1005	0.5	1.6		0936	0.8	2.6		1047	0.4	1.3		0945	0.6	2.0
MO	1306	1.7	5.6	TU	1353	1.4	4.6	TH	1538	1.6	5.2	FR	1518	1.5	4.9	SA	1627	1.5	4.9	SU	1527	1.4	4.6
LU	2040	0.4	1.3	MA	2050	0.6	2.0	JE	2225	0.3	1.0	VE	2136	0.5	1.6	SA	2258	0.4	1.3	DI	2138	0.5	1.6
4	0205	1.5	4.9	19	0306	1.5	4.9	4	0434	1.7	5.6	19	0410	1.6	5.2	4	0451	1.7	5.6	19	0353	1.7	5.6
	0906	0.6	2.0		0932	0.8	2.6		1104	0.4	1.3		1026	0.6	2.0		1140	0.3	1.0		1038	0.4	1.3
TU	1419	1.6	5.2	WE	1508	1.4	4.6	FR	1649	1.6	5.2	SA	1620	1.5	4.9	SU	1724	1.6	5.2	MO	1632	1.5	4.9
MA	2143	0.3	1.0	ME	2142	0.6	2.0	VE	2321	0.3	1.0	SA	2225	0.5	1.6	DI	2352	0.4	1.3	LU	2232	0.5	1.6
5	0337	1.5	4.9	20	0417	1.5	4.9	5	0523	1.8	5.9	20	0452	1.7	5.6	5	0536	1.8	5.9	20	0442	1.8	5.9
	1011	0.6	2.0		1021	0.8	2.6		1159	0.3	1.0		1115	0.5	1.6		1229	0.3	1.0		1131	0.3	1.0
WE	1546	1.7	5.6	TH	1616	1.5	4.9	SA	1745	1.7	5.6	SU	1713	1.5	4.9	MO	1814	1.6	5.2	TU	1729	1.5	4.9
ME	2244	0.3	1.0	JE	2231	0.5	1.6	SA				DI	2313	0.5	1.6	LU				MA	2328	0.5	1.6
6	0454	1.6	5.2	21	0506	1.6	5.2	6	0013	0.3	1.0	21	0530	1.8	5.9	6	0042	0.5	1.6	21	0531	1.9	6.2
	1114	0.5	1.6		1107	0.7	2.3		0606	1.8	5.9		1203	0.3	1.0		0618	1.8	5.9		1224	0.2	0.7
TH	1702	1.7	5.6	FR	1707	1.5	4.9	SU	1250	0.2	0.7	MO	1802	1.6	5.2	TU	1314	0.2	0.7	WE	1821	1.6	5.2
JE	2342	0.2	0.7	VE	2318	0.4	1.3	DI	1833	1.7	5.6	LU				MA	1901	1.6	5.2	ME			
7	0548	1.7	5.6	22	0544	1.6	5.2	7	0102	0.3	1.0	22	0001	0.4	1.3	7	0129	0.5	1.6	22	0024	0.5	1.6
	1213	0.4	1.3		1151	0.5	1.6		0647	1.9	6.2		0609	1.8	5.9		0659	1.8	5.9		0622	1.9	6.2
FR	1800	1.8	5.9	SA	1752	1.6	5.2	MO	1335	0.2	0.7	TU	1250	0.2	0.7	WE	1355	0.2	0.7	TH	1318	0.1	0.3
VE				SA				LU	1919	1.7	5.6	MA	1848	1.6	5.2	ME	1946	1.7	5.6	JE	1913	1.7	5.6
8	0035	0.2	0.7	23	0001	0.4	1.3	8	0147	0.4	1.3	23	0049	0.4	1.3	8	0211	0.6	2.0	23	0120	0.4	1.3
	0634	1.8	5.9		0619	1.7	5.6		0726	1.9	6.2		0650	1.9	6.2		0740	1.8	5.9		0714	2.0	6.6
SA	1306	0.3	1.0	SU	1234	0.4	1.3	TU	1417	0.2	0.7	WE	1338	0.1	0.3	TH	1433	0.2	0.7	FR	1411	0.0	0.0
SA	1851	1.8	5.9	DI	1834	1.6	5.2	MA	2003	1.7	5.6	ME	1934	1.7	5.6	JE	2029	1.7	5.6	VE	2005	1.7	5.6
9	0124	0.2	0.7	24	0042	0.3	1.0	9	0229	0.4	1.3	24	0138	0.4	1.3	9	0249	0.6	2.0	24	0217	0.4	1.3
	0717	1.9	6.2		0652	1.8	5.9		0805	1.8	5.9		0735	1.9	6.2		0821	1.7	5.6		0808	2.0	6.6
SU	1355	0.2	0.7	MO	1317	0.3	1.0	WE	1457	0.2	0.7	TH	1426	0.0	0.0	FR	1510	0.3	1.0	SA	1504	0.0	0.0
DI	1938	1.8	5.9	LU	1915	1.7	5.6	ME	2046	1.7	5.6	JE	2021	1.7	5.6	VE	2111	1.7	5.6	SA	2058	1.8	5.9
10	0209	0.2	0.7	25	0122	0.3	1.0	10	0308	0.5	1.6	25	0229	0.4	1.3	10	0324	0.7	2.3	25	0317	0.4	1.3
	0757	1.9	6.2		0727	1.8	5.9		0845	1.8	5.9		0822	2.0	6.6		0902	1.7	5.6		0902	2.0	6.6
MO	1441	0.2	0.7	TU	1400	0.1	0.3	TH	1534	0.2	0.7	FR	1517	0.0	0.0	SA	1545	0.3	1.0	SU	1558	0.0	0.0
LU	2023	1.8	5.9	MA	1957	1.7	5.6	JE	2128	1.7	5.6	VE	2109	1.7	5.6	SA	2150	1.7	5.6	DI	2152	1.8	5.9
11	0251	0.3	1.0	26	0203	0.3	1.0	11	0344	0.6	2.0	26	0325	0.4	1.3	11	0357	0.7	2.3	26	0419	0.4	1.3
	0837	1.9	6.2		0804	1.9	6.2		0924	1.8	5.9		0912	1.9	6.2		0943	1.7	5.6		0955	1.9	6.2
TU	1523	0.2	0.7	WE	1444	0.1	0.3	FR	1611	0.3	1.0	SA	1611	0.0	0.0	SU	1620	0.4	1.3	MO	1653	0.0	0.0
MA	2106	1.8	5.9	ME	2040	1.7	5.6	VE	2209	1.7	5.6	SA	2200	1.7	5.6	DI	2229	1.6	5.2	LU	2244	1.8	5.9
12	0331	0.4	1.3	27	0245	0.3	1.0	12	0422	0.7	2.3	27	0427	0.5	1.6	12	0435	0.8	2.6	27	0524	0.4	1.3
	0916	1.9	6.2		0845	1.9	6.2		1005	1.7	5.6		1003	1.9	6.2		1024	1.7	5.6		1048	1.9	6.2
WE	1604	0.2	0.7	TH	1530	0.1	0.3	SA	1650	0.4	1.3	SU	1709	0.1	0.3	MO	1658	0.5	1.6	TU	1750	0.1	0.3
ME	2149	1.7	5.6	JE	2124	1.7	5.6	SA	2250	1.6	5.2	DI	2253	1.7	5.6	LU	2307	1.6	5.2	MA	2336	1.8	5.9
13	0409	0.5	1.6	28	0333	0.4	1.3	13	0505	0.8	2.6	28	0535	0.5	1.6	13	0519	0.8	2.6	28	0629	0.4	1.3
	0954	1.8	5.9		0928	1.9	6.2		1046	1.7	5.6		1056	1.8	5.9		1104	1.6	5.2		1142	1.7	5.6
TH	1646	0.3	1.0	FR	1621	0.1	0.3	SU	1731	0.5	1.6	MO	1809	0.2	0.7	TU	1738	0.5	1.6	WE	1847	0.2	0.7
JE	2231	1.7	5.6	VE	2210	1.7	5.6	DI	2332	1.6	5.2	LU	2348	1.7	5.6	MA	2348	1.6	5.2	ME			
14	0450	0.6	2.0	29	0430	0.5	1.6	14	0558	0.8	2.6	29	0643	0.6	2.0	14	0611	0.8	2.6	29	0028	1.8	5.9
	1034	1.8	5.9		1014	1.8	5.9		1130	1.6	5.2		1152	1.7	5.6		1144	1.6	5.2		0731	0.4	1.3
FR	1729	0.4	1.3	SA	1718	0.2	0.7	MO	1818	0.6	2.0	TU	1909	0.2	0.7	WE	1822	0.5	1.6	TH	1238	1.6	5.2
VE	2313	1																					



NEXT DEADLINE

21st of November for the December 2022 Issue
Send submissions to 'Newsletter', c/o NS Museum of Natural History,
or by email to hayderbyshire@gmail.com