

THE HALIFAX FIELD NATURALIST



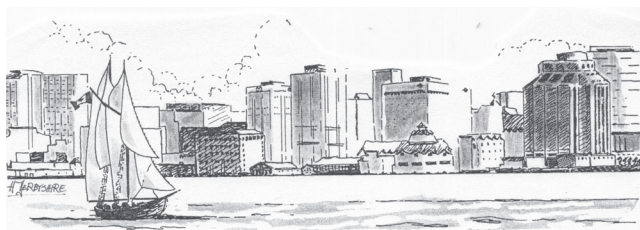
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December 2022 to March 2023



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Return address: HFN, c/o NS Museum of Natural History, 1747 Summer Street, Halifax, NS, B3H 3A6

HFN is incorporated under the Nova Scotia Societies Act and holds Registered Charity status with the Canada Revenue Agency. Tax-creditable receipts will be issued for individual and corporate gifts. **HFN** is an affiliate of Nature Canada and an organisational member of Nature Nova Scotia, the provincial umbrella association for naturalist groups. **Objectives** are to encourage a greater appreciation and understanding of Nova Scotia's natural history, both within the membership of HFN and in the public at large, and to represent the interests of naturalists by encouraging the conservation of Nova Scotia's natural resources. **Meetings** are held, except for July and August, on the first Thursday of every month at 7:30 p.m. in the auditorium of the NS Museum of Natural History. **HFN Field Trips** are held at least once a month; it is appreciated if those travelling with someone else share the cost of the gas. **Participants** in HFN activities are responsible for their own safety. **Memberships** are open to anyone interested in the natural history of Nova Scotia. Forms are available at any meeting of the society, or by writing to: Membership Secretary, Halifax Field Naturalists, c/o N.S. Museum of Natural History. Members receive **The Halifax Field Naturalist**, along with its included **Programme**, quarterly. Our membership year is from January 1st to December 31st, and new memberships received from September 1st to December 31st of any year are valid until the end of the following membership year.



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FEES

Student	\$15.00 per year
Individual	\$20.00 per year
Family	\$25.00 per year
Supporting	\$30.00 per year
NNS (opt.)	\$5.00 per year

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HFN NEWS, REPORTS, AND ARTICLES

BELCHER'S MARSH DEDICATION

– *Stephanie Robertson*

On a sunny November 6th a ceremony was held at a Belcher's Marsh Trail bench to celebrate its plaque remembering our late HFNER, avid birder, nature custodian, geocacher, photographer, and world traveller – Bob McDonald. Jessica Boyd, Chair of the Halifax Northwest Trails Association (of which Bob was a founding member in 2003), outlined all that Bob, along with wife Wendy (both strong and passionate voices for all things environmental), had contributed to preserve our natural green spaces in and around HRM. For a span of 19 years, Bob with Wendy planned and organised the construction for most of the well-loved and well-used trails in the Clayton Park and South Bedford areas, including the immensely popular Mainland North trail which runs for 5 km under the powerline in Clayton Park. Bob just loved the woods, and he planned the trails to maximise pleasure and joy for everyone being in their forests. His trails led us to the most beautiful trees, the loveliest ponds, and the most precious wildflowers. To this day, the completed but unfinished Trails Plan is 'on Google' patiently awaiting anyone who wants to take this project on. Thank you Bob – and Wendy!



NATURE NOTES

– *S. Robertson & J. Dalton*

OCTOBER 6 MEETING

On September 30th, Ron Arsenault saw a **Yellow-rumped Warbler** and lots of other warblers while walking in Shannon Park. There were also many **Autumn Olives**, ***Elaeagnus umbellata***, an invasive from Asia. Bernie McKenna reported one **White-tailed doe with fawn** seen in his Cole Harbour back garden twice; he had had a doe with fawn last year as well. The **Pheasants** Bernie and Heather get like their **Burning Bush**, **Solomon Seal**, **Columbine**, and **Scarlet Runners**. Carol Morrison reported **very many mushrooms** on her property in Oakfield.

At the latest HFN Mushroom trip, John Crabtree mentioned that a sharp-eyed three-year old had found the '**mushroom-of-the-day**' – ***Suillus sinu paulianus***. This is a first for Nova Scotia! It has been found in Quebec and also the NW Territories.

Wendy MacDonald reported her native yellow **Wych Hazel** to be in bloom. Clarence Stevens reminded us that **Snapping Turtles** have been hatching right into November this year because of the warmer weather. The Turtle Patrol found 77 nests this year, the most ever so far!

NOVEMBER 3 MEETING



An audience member saw a **Loon** which was **black on one side of its body and white on the other!** It was swimming around in circles. She thought perhaps it was injured and was missing a wing (with the white side being the body colour under that missing wing). She asked if Clarence had ever seen anything like it. Clarence said he had indeed, and that it has been conjectured that it may be caused by the ozone layer breaking down and the part of the egg facing upwards would become the white side of the Loon.

A few days ago, Max Raissi spotted a tiny little birdhouse and then heard a **woodpecker** pecking at it. He wondered why the bird hadn't preferred all the surrounding trees instead.

But he then noticed that the woodpecker had a little grub in his beak which he swallowed then flew away. He said "So, this bird knew that there was something in that wood; nature is very mysterious."

Ron Arsenault saw a **Meadowlark** in MacDonald Park; on Oct 30th he was at Dollar Lake Park and saw a **Red Bellied Snake**. He looked up sighting facts in John Gilhen's 1984 reptile publication, and it was a later sighting than the latest found there. In Oakfield Park there were still flowers blooming due to the warm weather and especially **Dandelions**. He also saw some **polypores** (those large fungi seen on tree trunks).

Bernie McKenna has a 'green belt' at the back of his house and there he and Heather saw a **Sharp-shinned Hawk**. It stayed for a while and then flew off.

DECEMBER 6 MEETING



Gareth Harding saw **six White-tailed Deer** in Point Pleasant Park today. Judy Keating had **two female and two male Cardinals** in her yard at Frost Fish Cove, Glen Haven, and her **Mallard** couple have joined all the **Black Ducks** there.

Ron Cosper reported seeing a **White-throated Sparrow** and also a **Hedgehog Mushroom**. On Sunday, Oct. 2nd, Carol Klar saw **17 seals** off Point Pleasant Park. Lesley Jane Butters said this year her usual **Canada Holly berries** were **very rare at Albany New**, but **very abundant at the Frog Pond**. She had gathered some for our Christmas social table arrangements, putting them outside to keep fresh until the event; many birds came for the berries so there weren't quite so many in the arrangements as she would have liked! Shirley McIntyre said she gathered some two weeks ago in Wolfville from a **very abundant Canada Holly bush**. Clarence Stevens reported **lots of Robins** but that the **Mountain Ashes** this year had not many berries for them.

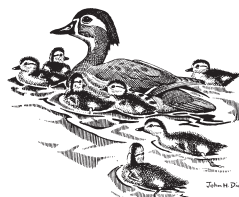
Max Raissi thought he would try eating **acorns**, because the Mi'kmaq had them in their diet. Unfortunately, they made him sick so he had to stop. He felt that they must have known how to remove the tannic acid from them before consumption.

eNOTES



Gareth Harding found a **dead Razorbill** (an offshore seasonal visitor to Nova Scotia waters) washed up on Point Pleasant Beach. As of this writing (Dec. 8th), it was still there, very close to the seaward end of the harbourside lawn, above the beach stones in the terrestrial beach weeds. He feels it probably got dazzled by the container port lights and came to an early demise.

NEW AND RETURNING



Kate Vitale
Antoinette (Tony) Payzant
Sandra Moores and Jen Okum

NOTES FROM MORAR

– Gareth Harding, Renée Lyons, Millie Harding/Lyons,
October 11th, 2022

ADDENDUM TO OUR HOUSE WREN STORY

I apologise for submitting the story of our first appearance of a House Wren at Morar and its nesting activity so hastily! As previously stated, we had saturated our neighbour Bonnie's meadow with four bluebird nesting boxes so that our Tree Swallows would also have accommodation. Much to our chagrin, on returning to Morar on a mid-June visit, we had found that twigs had been placed in all four of the nest boxes, with two of them filled to the ceiling! The male Wren was singing like clockwork non-stop from 6:30 a.m. to 3:00 p.m. each day from the highest trees all around the upper meadow. Occasionally, he would descend to the newest nest box I had installed before taking off to continue his repetitious treetop singing. I emptied the twigs from the power pole nest box in case the Tree Swallows returned; however, they never did. We were only seeing and hearing the male Wren while thinking the female was sitting tight in one of the stick-filled boxes. The male continued his punctual tree-top singing each day, but with no sign of his mate. This behaviour continued from mid-June to July 3rd. The next day he stopped singing around noon, which was odd, and that was the last we saw or heard from him. The following week I carefully examined each of the nest boxes and found that the remaining three were stuffed full of twigs but no nest. I guess we were fooled into thinking his mate existed by the continual presence of the male working non-stop to fill the nest boxes with twigs! He worked so hard that he appeared to be two Wrens!

A FLUTTER IN OUR MUDROOM

After Hurricane Fiona, which had removed fifteen feet of our shoreline thereby creating a ten-foot vertical drop to the beach, Renée, Millie, and I headed down to check out a possible new approach to our 40 year-old steep shore path via a neighbour's cart track. We decided that a close-by drainage slump was the only possibility for a new, gradual ascent down, but this would require some stonework and channeling of the freshets to one side of the mud slide.

We returned to the house to find a small bird fluttering high in our mud room (we leave the outer door open when we are staying at Morar). I got up on a stepladder and tried to wave the little vireo out the door. It flew from one end of the room to another but was fixated upon staying high, close to the roof (I had replaced the roof years ago and had never gotten around to putting back a ceiling). Well, this approach was going nowhere with the little bird continually flying high and roosting on the rafters farthest from me. I then pinned towels to the one large, multi-paned window to darken the room. It still refused to fly out the open door and actually sat on the top of the door frame on several occasions but failed to fly out to freedom!

The only approximation I had to a butterfly net was an old dip net Dick Brown had used to sample plankton for his seabird studies, which Tony Lock had passed on to me on his retirement. It turned out to be much too clumsy. The next tactic was to reduce the amount of space available for the bird to avoid me. Renée's light-weight vegetable-row covers came to mind. I thumbtacked the long strips to the ceiling which enabled me to greatly reduce the amount of air space available for the bird to avoid me. The bird and I got on better terms in close quarters. I talked softly to it and it canted its head to the side as if to say "What does this

enormous creature balanced on an aluminum ladder want?" Gradually, I got the confidence of the bird to allow me to put a finger near its breast. Some wild birds will actually jump on to your finger in such a situation, however, it was not going to work with this one. After a couple of tries the bird made an ineffectual attempt to bite my finger. Then, my opportunity arose when the bird turned its back on me to walk away along the 2x4 beam. I grabbed it loosely in my hand and with the bird squawking wildly, I quickly descended the ladder and tossed it gently out the door. It actually flew back past me into the mudroom but was stopped short by the curtain of row covers. This time it circled lower and the confined air space enabled me to wave it out and into the lilac bush near the door.

This little bird was a young Philadelphia Vireo, with a greyish cap and a light grey horizontal line dividing its face through its dark eye. The face and breast were an off-white buff and the undertail feathers were pale-yellow. Its back feather tips had the most beautiful iridescent greenish sheen whereas the rest of the feathers provided a deeper olive-brown background. It's difficult to separate the Red-eyed Vireo from the Philadelphia Vireo at the best of times, particularly when they are young, but obviously I had a very close view. Our vireos had left our woods by the middle of September so I rather suspect that this bird had been blown back north with Hurricane Fiona.



AN ICELAND TRIP

– Patricia Leader

SKRÚÐUR GARDEN

One of the many joys of traveling is that it is almost always possible to find something a little unexpected.

I recently returned from a trip to Scandinavia along with a cruise around Iceland. (I had first travelled to Iceland in the seventies with a European-rented Volkswagen complete with a roof rack and a suspended tent!) At that time Iceland's main road did not extend to its eastern side, so I thought it worthwhile on this recent visit to explore those places and areas I couldn't visit before. Cruise lines are notorious for selling expensive tours, so I chose some of the less expensive ones and did my own explorations of the towns. (At about the same time, HFNER Wendy MacDonald was exploring with a group there also— identifying Iceland's thermal sites, birds, and wildflowers.)

I had heard about the Iclander Sigtryggur Guðlaugsson (1862-1959), who had lived in the northern part of Iceland close to the Arctic Circle. He'd become so dismayed by the paucity of flowers and trees in Iceland he decided to experiment to see if he could expand the range of species naturally found there, at the site of a school he and his brother Kristinn had founded. Sigtryggur and his wife Hjaltína had a vision to grow herbs and vegetables, as well as various flowers and trees, which at that time was unheard of in Iceland so it was a real pioneering work. This garden was later called Skrúður (Skrudur), in the western fjord of Dýrafjörður.

We visited this particular fjord and John, our guide from North London, involved us in the surrounding countryside as we travelled. The morning began with clouds over the mountains, and all along the roads were blue Lupins, about

half the size of ours here. (Later on, Wendy said she had seen both pink and white ones as well.) During the tour, our bus had to enter a single-lane, seven km long tunnel which sported intermittent, small indentations for other vehicles to pull in so that buses could pass them safely. Another safety design enabled vehicles to travel after avalanches had occurred – berms (ridges of land) running both parallel and at right angles to the road, keeping it relatively clear.

Our first stop in this picturesque fjord valley was Skróður itself, now one of the oldest gardens in the country, it was surrounded by trees and divided into sections by hedges. Laid out on an incline facing south-west towards the Dýrafjörður inlet, it is backed by a grim chain of glacier-eroded mountains. The main gate led to a central feature and the back exit was decorated by whale bones. Initially, they had been bones of the Blue Whale but have since been replaced. A tiny shed showed a picture of the founder – a good candidate for Santa Claus with his long grey beard – and here Sigtryggur had kept records of what he and his wife had planted. A few volunteers were trimming the dead daffodils so that the summer flowers could grow. I was amazed to see many of the plants which I'd just left in our own province.

Skróður was opened on August 7th, 1909 after the walls around the plot and main gates were finished. Its official purpose was to be a memorial and also a school where horticulture and care of the environment were part of the curriculum. Skróður grew and flourished until 1980 when the school was closed and then everything fell into neglect. However, in 1992, a group of volunteers began renovating the garden and four years later it was turned over to its lawful owner, the Ministry of Education. They then, in turn, handed over its ownership and care to the local community of Ísfijord.

Someone once said that the only cold thing about Iceland was its name and this garden proves that even if soil is unfertile and the weather changeable, care and precision could work wonders. In many of the other towns I visited, flowers and trees flourished in parks and home gardens, including both Icelandic and Blue Poppies. I wondered how many of Sigtryggur's pupils and their families were inspired by their early education there. We can appreciate, that like our own Victorian garden in Halifax, both areas were started by people who believed that perseverance could produce a lasting treasure.

THE GIANT EGGS OF MERRY BAY, ICELAND

The second place I visited was Djúpivogur, a fishing town on Iceland's eastern edge. By road it is some 534 kms from Iceland's capital Reykjavic. As the ship had docked some distance away, its tender set off, plunging into a dense fog, a well known phenomenon in the eastern fjords. Upon landing, and during our visit, we could hear the ship's constant foghorn but could see nothing of it out at sea.

Most people set off along the main road which ran along the coast. There were plenty of low-growing flowers and rugged hills to climb to maintain my interest but the goal was to get to the end of the town where a local artist, Sigurd Gudmundsson, has sculpted the eggs of 34 local nesting birds – most of them migratory. They were mounted on the edge of the bay along an extended walk way of 200 metres, and all were cast in granite – a stone known both for its ranges of colour and its hardness. Gudmundsson had

imported these granites from his second home in China. Each egg was a giant-sized stone whose colour and texture resembled that of the actual egg he copied. The Red-throated Diver egg was a little larger as it was Djúpivogur's official bird. Each egg boasted both its Latin and local name and were focal points for both birders and photographers alike.



As I waited for the tender to emerge from the fog to take us back, I marvelled at how this busy, somewhat isolated fishing town had produced in 2009 something so unique to offer its tourists.

WINTER NIGHT WALKING

In winter, days get dark early, and getting outside in the evening may be less enticing and psychologically less comfortable. But when darkness does fall, and we tap into our other senses beyond just eyesight, the natural world can be fascinating to experience. Within the comfort of a group, night walks are safe, fun, and allow for curiosity.

So this year the Blomidon Naturalists Society are hosting family friendly 'Night Walks'. As part of a series, you can join one or all of these walks. The goals are to experience the night landscape with all our senses, to foster a love for the night, a sense of comfort in the dark outdoors, an awe for nocturnal nature, and the changing aspects of the natural world as day fades into darkness.

Join BNS for these semi-guided hikes; there will also be some facilitated activities to help better connect to the night landscape. See our Organisational Events column, page 10, for a list of locations and dates.



HFN TALKS

MUSHROOMS

6 OCTOBER
– Patti Leclerc

We were fortunate once again to have the very interesting John Crabtree, Regional Director and founding member of the Nova Scotia Mycological Society (formed in 2009). John developed an interest in Mushrooms over 35 years ago and has a particular interest in their relationship with higher plants. He's given talks on mushrooms and wildflowers at various provincial venues and has been invited by various groups to be their mushroom expert on 'bioblitz's' and mushroom forays. Included amongst these groups are:

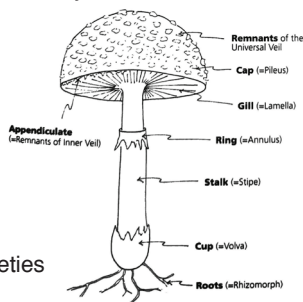
Nature Conservancy of Canada
Ecology Action Centre
Nova Scotia Nature Trust
Shubenacadie Wildlife Park
Harrison Lewis Coastal Discovery Centre
Young Naturalist's Club of Nova Scotia
Nova Scotia Community College
Slow Food Nova Scotia
Various gardening clubs/horticultural societies
CKDU radio, in Halifax Nova Scotia
Eastlink TV

John was a long-standing member of the Pictou County Naturalists until relocating to Bedford in 2017. Probably John's proudest moment came in 2007 when he 'discovered' there, at three different sites all within about 250 yards of each other, a fungus with the very unattractive name of *Postia pythogaster*. In various guises this fungi has also been known as *Tyromyces pythogaster* and *Oligoporus pythogaster* (these aliases did not help in discovering its currently accepted name). It caused some identity problems for him as it didn't look like anything he had ever seen before. He decided to put its ID on the back burner and determined to have a clearer understanding of what he had found by taking photographs of all of its developmental stages.

He again visited those three sites the following year. Scouring all of his many, many books on mushrooms with no success, he picked up a book he very rarely consulted. This one, purchased second-hand in Ontario, written by a native of the Czech Republic, and later translated into English and first sold in Britain, enabled its successful identity. He then had its identity doubly confirmed by Agriculture Canada in Ottawa, and the dried specimens he had sent to them are now stored in the National Herbarium there. This mushroom is typically a western species (west of the Rockies) although it is also known in Europe. There is only one record from Quebec, and no records from Ontario nor the Atlantic Provinces – until John discovered it in Pictou County.

Then, with a clear diagram, John began by taking us briefly through those characteristic parts of mushrooms which aid identification. (Reproduced here, a very similar diagram is featured on p.181 of John's most recommended book – George Barron's *Mushrooms of Ontario and Eastern Canada*). It can also be found in *Mushrooms of Northeast North America*.

He then used that same diagram to point out how the main groups of fungi differ based on just a few of those characteristics. Those fungi groups were Sac, Puff Balls, Jellies, Corals, Toothed, Polypores, Boletes, and Gill Fungi. It is the storage of the fungi's pores and its gill type which determine those major groupings. Then, for ID'ing, you can observe colour (he cautioned relying too heavily on colour as it can often change); size (be careful to try to find several phases as mushrooms can 'grow' very quickly); and gill arrangement – are they close or crowded, deep or shallow, attached or unattached? I began



to think of all of the nuances that one considers when tasting a fine wine.

Someone asked if a certain species were edible to which John replied by relaying a funny anecdote – when he attends a birding or animal presentations no one ever asks "What a beautiful bird, is it edible?" That brought a chuckle but also underscored the fact that caution needs to be exercised because identification is so difficult. We had a slide show game where John asked the audience to guess if the fungus shown was toxic or edible. He shared many other beautiful slides and we learned that many mushrooms have look-alikes, may look different at different stages of their fruiting bodies, or may go by different common names than we are used to. He discussed (in the case of the Lobster Mushroom which is actually a parasite attacking a host mushroom) the difficulty of IDing a host mushroom and if it was toxic or not. True identification is best when done with DNA testing. Best practice in the field is to gather several samples at different stages, take a spore print, and note the area and types of trees where it was growing.

The relationship which mushrooms have with trees is truly fascinating! John mentioned that UBC's Susan Simard was actually able to measure the sharing of excess stored carbon between trees via mushrooms' complex mycelium underground network. Remarkably, Susan discovered that when a tree has excess carbon, it will share it first with its own offspring tree then with trees of the same species before sharing with other tree types.

For more information and an interesting listen you can check out this site:

<https://www.npr.org/sections/health-shots/2021/05/04/993430007/trees-talk-to-each-other-mother-tree-ecologist-hears-lessons-for-people-too>

This talk definitely left people wanting to learn more and excited for the up and coming walk.



PAPUA NEW GUINEA

3 NOV.

– Stephanie Robertson

At approximately 462,850 km², Papua New Guinea the eastern half of New Guinea – the world's second largest island. North of Australia, between Indonesia to the west and the Solomon Islands to the east, its population is 8 to 10 million, but only 600,000 live in urban communities. The rest are rural, living in remote villages with only very steep mountain and hill trails to walk from from place to place, with many rushing rivers and brooks to negotiate. In one of earth's 'rings of fire', earthquakes, landslides, and volcanoes are regular occurrences. Except in the highest mountains, it is usually very warm – never below 20°C. It is one of the most linguistically diverse countries, with about 840 different languages. In the villages, none of these languages have a written form, and they all vary very considerably.

Halifax physician Dr. Norman Pinsky's adventure there began around 2004, when he vacationed in Australia and fell in love with it so much he decided to relocate there with his wife and two youngest children. He ended up staying for ten years and three more children were born there.

One day at his practice he spotted a notice seeking doctors for a medical mission to the cloistered mountains of Papua New Guinea. After only a moment's thought, he jumped at this chance of a lifetime – a trip to an extremely isolated village to bring needed medicine to help save lives.

So in October 2011, Norm flew to Kanabea (population 300) – a small mountain village centered around a Catholic Mission and School, with limited medical facilities and a very basic aircraft runway. (He experienced an earthquake first-hand on this visit). When he returned to Australia after two weeks, his 15-year-old son Will wanted to go back with him on another trip.

This trip was to be spent in an even more remote village than Kanabea – Painkoni – a three day trek from the Mission. A local priest had warned him not to take such a potentially perilous journey. Even though Norm was no stranger to risky adventure, having raced cars, skydived, and volunteered in hurricane-ravaged Honduras, he thought about that warning many, many times during their ensuing arduous and treacherous hike. With five local guides carrying their gear, they trudged up and down the steepest mountains he'd ever seen in his life. It was unbelievably difficult and dangerous, through what was essentially a very wet rainforest, with lots of roots and very steep inclines. Their state-of-the-art footwear didn't help in the dense high bush and jungle, nor on the muddy, narrow, slippery trackways, nor across the raging rivers with their flimsy, wet log bridges (mostly consisting of only two or three logs perilously placed); they'd get muddy and slippery, and they almost always had to have someone holding their hands on either side so that they wouldn't fall. Their guides had 15 kg backpacks and were barefoot, but were still able to help Norm and Will stay upright and safe while negotiating the bridges and pathways themselves.

Norman had sent medical supplies, and word that he was coming, ahead of time. Finally arriving in Painkoni, the villagers and many people from neighbouring communities were waiting, smiling, and welcoming (most all of Norman's pictures showed people always smiling and happy). Painkoni was a group of very small thatched huts, where people lived much like their ancestors thousands of years ago; where only two white men (a priest and a linguist in the 1990s) had ever been, where no medical doctors had ever visited, and where people lived off sweet taro, sweet potatoes, bananas, sugar cane, grains, pineapple, passion fruit, and insects, frogs, and small animals such as possum, which they hunted with rudimentary bows and arrows. They didn't know their own age, had never seen TVs or telephones, nor a doctor.; they had no electricity nor roads or stores. Or even enough experience to know that Pinsky couldn't make the paralysed walk or the blind see.

There were one or two larger huts for extended families and smaller huts for one or two men; women never had huts of their

own. Their roofs were often stained black from smoke from the central fire within. All huts had this, mostly for light and cooking.

Norm and Will had been warned by Mission personnel not to go to any other remote villages as it was deemed too dangerous to do so, as they would be seen as threatening intruders. They had a guide/interpreter, Rafael, whom they trusted; his pay was \$1.25 per day.

Men often had more than one wife, never the reverse, and the women were the farmers/gatherers, while the men and boys, very good marksmen from an early age, hunted. They did also have eels though, which they managed to catch in the always raging rivers.

A mild stimulant, adults often chewed Betel Nut, the fruit of a type of palm, staining their mouths and teeth red, ruining teeth over time. The villages had a market every five days (could be counted easily because of five fingers) based mostly on barter exchange; little money was ever used (only 10% of the Papua New Guinea population use money).

Because of their limited diet and difficulties in obtaining meat, most children showed the general effects of malnutrition and the extended stomachs of kwashiorkor (protein deficiency); this was not evident in adults. Will and Norm had taken 13 containers of peanut butter for protein for the children, but many didn't like it and spat it right out! They *did* like the comics, magazines, stickers, lollipops, and especially – the balloons. Many communicable diseases were common, as was tuberculosis. Broken bones and terrible burns (from the hearth fires) went untreated and had healed as best they could (we were shown these). Along with TB, different types of worms were the most common problems, and Norman had medicines to help that. Many problems were untreatable for lack of resources, and the average life expectancy was 50 years or so.

Barefoot travel had caused all the villagers' feet to be flattened, splayed, and deformed (at least from our perspective). However, those feet shapes were much more adaptive and safe for crossing their flimsy bridges and hiking slippery wet paths. People maintained their native culture, even in the larger villages, and the 'witch doctor' still held sway and was a prominent presence.

As primitive and dangerous as their lives were, with disease, ignorance, and warring among rival villages, Norman found himself a little wistful about the simplicity of their secluded lives. They led a peaceful, quiet, natural existence, never rushing, and they had lots of opportunity to spend time together to just talk.



HFN FIELD TRIPS

MUSHROOM HIKE

– Patti LeClerd

Date: Wednesday October 12, 2022

Place: Shubie Park, Dartmouth

Weather: 17° and sunny

Leader: John Crabtree

Participants: 10



We are so lucky to have had John Crabtree follow up his interesting presentation with leading a field trip. Those who attended last year's field trip which occurred on a particularly rainy day appreciated the perfectly warm and sunny 17°C weather we enjoyed this time. John felt that the total of 10 participants was the perfect size.

The field guide that Crabtree recommends most is George Barron's Mushrooms of Ontario and Eastern Canada. An interesting side note is that this guide can also be found with the title Mushrooms of Northeast North America (only the title



is different). I've included the page numbers for the specimens that we observed in case you would like further reading.

Two specimens were brought by participants from home for John to examine. The first was a lovely couple of Boletes – mushrooms which have pores rather than gills. John made easy work of identification going through the various identifiers that he had discussed at length in his October talk.

The first mushroom brought from home was found growing under an eastern shore pine and was identified by John as *Suillus luteus* (p.170), also known commonly as 'Slippery Jack'. John mentioned the reason he prefers to use the scientific names rather than the common names is that there is wide variety between regional common names which can lead to misidentification.

Another lesson John imparted was that it is important, when referencing a field guide, to pay closer attention to the written description rather than the photo because a mushroom's fruiting body can look very different throughout its life cycle. This is

also the reason why having more than one field guide is beneficial. He pointed out the various characteristics as he described the lovely bolete mushroom HFner Tamara had brought from her yard, *Leccinum holopus* (p.166), with its dry convex cap which became sticky when a moist fingertip was applied.

We made our way along Shubie Park's paths but it took some time before we spotted any mushrooms. Finally someone presented him with a round, brown one about which many in the group wondered aloud "Is it a puffball?" John gave us a bit of a primer on the difference between 'earthballs' and 'puffballs'. A puffball has an apical pore that at maturity will disperse pores into the air; an earthball on the other hand has a tougher skin which on maturity has to be torn open by forces such as rain or animals in order for its spores to be dispersed. This specimen ended up being one – the earthball *Scleroderma areolatum* (p.92). John noted that cutting a specimen open also reveals more clues. Earthballs are dark brown or purple inside and puffballs are usually white or greenish. John also cautioned to always cut a puffball in half and examine it carefully as the beginning stages of an *Amanita*'s fruiting body may look spherical and resemble a puffball. But, if you cut it open, you may see the beginnings of the stipe (its stem or stalk) inside. Another note of caution – *never* breathe in the spores of a puffball which has been crushed open.

Speaking of *Amanitas*, we were lucky to observe two specimens, one shortly after another, which was an excellent demonstration again of how imprecise the process of identification can be. The first one was an exquisite *Amanita* which at first blushed John thought might be *Amanita frostania* (p.238). However, after closer examination he determined it lacked an indicative striate margin so he was leaning more towards *A. flavaconia* (p.238). The second one John showed us was indeed an *Amanita frostania*, with its very subtle striation.

This really drove home the importance of spore prints and even DNA testing as more definite identification methods. In fact John often remarked when various smaller brown and orange mushrooms were brought forward, "I can't tell you for certain what it is just on sight ... but I *can* tell you what it is not." Several of these offerings were *Mycena* spp. (p. 282 – 288), and John told us about one interesting member of this group – the *Mycena hematomus* (p.286) which, when the stipe is broken, a red liquid can be squeezed out! Although we didn't see one on this hike, I'll be squishing the stipe of every *Mycena* I see for a while!

Shortly after that Tamara emerged from the brush carrying a perfect *Boletus Edulis* (p. 163), a King Bolete. Often prized for being good eating, jokes abounded to keep secret where it was found – a reintroduction to the topic of edibility and how cautious one must be. John is always careful not to discuss edibility as identification can be so tricky. Again, as he mentioned in his talk, there is value in appreciating mushrooms just as a species, not as a food source.

Other highlights included some interesting bracket mushrooms, such as *Formes fomentarius* (p.141), sometimes called Hoof polypore or Tinder Polypore; (here John brought up the subject of Otzi 'the ice man'. Fascinatingly, in 1991, a 5,000-year-old corpse was found preserved in a glacier in the Ötztal Alps of Italy carrying this same mushroom, as it makes a great fire starter – hence its nickname Tinder Polypore. Talk about news you can use!) also a beautiful one *Glaeophyllum sepiarium* (p.142) called the Maze Polypore as the pores form a beautiful, intricate pattern resembling a labyrinth! Although I'm sure that I have observed these bracket mushrooms before, I never observed the underside – how fortunate I was to get to do that with a mushroom expert and a keen group of fellow naturalists.

As we began to disperse we stopped for a break near a nice



clump of *Armillaria mellea* (p.246), commonly referred to as Honey Mushrooms. John spoke a bit more about the connection that trees have with fungi's mycelium. I wondered if I brought the spores of Honey Mushrooms to my property, would they reproduce? John explained that they would only spread if the mycelium for that mushroom is already there below the earth.

Many of us remarked how much having attended the talk beforehand had enriched the experience of the walk. How fortunate we are to live in beautiful Mi'kma'ki (Nova Scotia) and to have such knowledgeable folks as John Crabtree who give so generously of their time and knowledge. Personally, having attended this particular hike three years in a row, I am excited each year to retain a little something new each time. I'm sure I am not alone in looking forward to mushroom season again next year and hopefully another talk and walk led by John!

If you'd like to learn more about mushrooms, please visit the Nova Scotia Mycological Society's website, <https://www.nsmycologicalsociety.org/>.

SHANNON PARK TRAIL

– Bernie McKenna

Date: Saturday, Oct. 22nd

Place: Shannon Park Trail, Dartmouth

Weather: Sunny, calm, 15°C – couldn't be better!

Leader: Emma Bocking

Participants: 11, leader included



It was especially pleasing to see this turnout for a walk much too long in the making – two whole years! This little gem of a trail is part of the 'Canada 150' system and as such is closed Nov. 1st every fall and opened the following June. In 2021 we ran out of good weather before it was closed. This year we were scheduled for September and again a wet weather forecast delayed it. (As it turned out though, the actual day was just fine and would have been good.) But, the 22nd of October was also a beautiful Nova Scotia fall day and we were amply rewarded for our persistence.

The trail is short – 1.7 km end to end – and part of that is a loop. We met at the trailhead parking lot just past Shannon Park School at 75 Iroquois Drive, Dartmouth. After a brief chat and an introduction to our leader Emma Bocking, we were on our way. (Here I want to thank Sue Moxon for generously sharing her walk notes with me; the guy who takes my notes is sometimes a bit hard to decipher so extra input is always valuable and appreciated. Also, I'll mention that I redid the walk myself the following Monday, and some of my writing will reflect that. To the Saturday birders in the group, I must tell you that on the following Monday all the feathered critters missing on Saturday were there in force on Monday. I saw a good number of Robins, Goldfinches, Song Sparrows, Chickadees, a few Juncos and the prize – a pair of Grey Catbirds.)

Likely best I cover the plants pretty much in the sequence we saw them on the walk. It's worth remembering too that this used to be a military housing area and as such it boasts a high mix of both native and non-native vegetation. The first two noted were Sweetbriar and Multiflora Roses. Being October, none had their pinkish or white spring flowers, but both had their ever-present thorns. The Sweetbriar were covered in their small bright red berries. The multiflora had the red but larger elongated berries, but not nearly so many per bush, with some having no berries at all. The two Catbirds I saw on Monday were feeding on the Sweetbriar berries, pretty much ignoring me in their meal. Next, we'll back track 20 feet or so to a Hawthorn bush of about 12 to 15 feet high. Again, lots of long, sharp thorns, two inches or more in length – but no berries.

Along here Emma pointed out Bayberry bushes seemingly

everywhere in abundance, some still green some showing more fall colour. She handed around some leaves to smell as well as showing us the waxy, blue berries they bear. According to the net, Yellow Rumped Warblers are able to digest these berries; if true what a digestive system they must have. (Another location where Bayberry is plentiful is Rainbow Haven beach area.) Just past here was a wasp nest about 50 feet off the trail and maybe 12 feet high. October or not, none of us went closer. Scattered along here were many Mountain Ash, some loaded with fruit, some partially, some with hardly any. On Monday the Robins and Starlings were feasting on these and that may explain the difference in abundance of berries per tree. They're also a favourite of Cedar Waxwings, but unfortunately I saw none of these sleek, elegant guys. We passed countless Fleabane plants, all certainly well past their best. With over 150 of these daisy family pollinators in North America they must be invaluable to bees and others who need them.

Before leaving this more open area there were many varieties of trees to see and enjoy. Maybe the most impressive was a tall Trembling Aspen (poplar) in full fall cover, top to bottom it shimmered in the sun with its golden leaves positively glowing. Here too were two fairly large trees with a full load of rusty brown leaves, I too quickly took them to be oaks. A closer look on Monday showed them to be maples, easy mistake, at least for me. Shape alone should have clued me in. All in all, the trees seen varied in colour from almost summer green to full fall colours, or even mostly bare.

Leaving here we took the south (left) fork leading to the lookout/lookoff platform. From here on the trail it is actually a short loop so no back tracking was required. The first real notable tree was a barren, wild Apple that showed no sign of having borne apples this year and no sign of deer having eaten the falls. This on a year when most wild Apple trees have a bumper crop. Other than that, the tree looked healthy and firm. Between here and the lookout we came to a large clump/stand of Japanese Knotweed; is there no where in HRM that it isn't? 'Nuff of that. It's not a favourite of mine, nor are HRM's removal efforts.

We came to the fenced area around the hydro tower and the lookout platform. Emma took a few Sweet Fern leaves to pass around and to compare with Sweetbriar – hard to pick a preference if I had to. Turns out it's also from the Bayberry family and as such has a similar fragrance. Apparently though the Bayberry can be used as a bay leaf substitute and as a tea; I don't know if the Sweet Fern can be.

The viewing platform itself is impressive in its size and solid construction. A few points about it are: – it's all wood construction, including the benches, except for the substantial metal safety railing all around; it sports a number of high-quality

interpretive panels with a wealth of information they contain; it allows an excellent view of the harbour southward between the bridges as well as northward toward Bedford Basin, the BIO Coast Guard station complex, and the harbour narrows area. On the harbour side of the platform are many *Amalanchier canadensis* – Serviceberry, Indian Pear, or as in Pictou County in the 50's, Indian Plum. Under any name they are one of my very favourite berries to snack on. Also, from here I saw one lonely Cormorant working for his/her next meal, and a couple of gulls paddling in the distance. The tide was high and the water was really clear, the bottom covered in small, yellowish-white barnacles while above the high water mark the shore was deep with what I assume were broken mussel shells.

Heading eastward and back out, we passed a substantial grove of maple, birch, and a few oaks – lots of colour contrast there. Two other berry bushes growing here were wild Blueberries, most not yet in their full fall colours, and Huckleberries. Both knew it was fall and had taken on their flaming red coats. Along here too were two more wild Apple trees still holding a few apples in the higher branches which the deer couldn't reach; oh well, they'll have to wait for 'falls'.

The birds noted on the Saturday walk were not plentiful, however there were Goldfinches, Chickadees, Starlings, and a few Robins and sparrows. Of these the Chickadees were the more active and numerous as they chattered and flitted from tree to tree. The Goldfinches and sparrows stayed mostly higher up – however when they flew, the Goldfinches were easy to identify just by their flight pattern alone.

Turtle Grove/Cove was discussed but no one had a firm grasp of where it was nor how large – or is. Apparently though, the Mi'kmaw moved to the Albro Lake area in winter, no doubt to avoid the more exposed harbour site. On a somewhat similar vein Emma mentioned interestingly how the only salt water marsh in the whole of Halifax Harbour is Wright's Salt Water Marsh. It's located on your left just past the Akerley Drive intersection heading towards Sackville and before the Bedford Explosives fenced area. I myself took to mean that all of any others have been in-filled – we do that here.

That less than positive note wrapped up this session. Again, I have to thank Sue for generously sharing her notes with me. And obviously Emma, for once again coming through and being so kind and gracious in sharing her time and knowledge with us all. Back to the opening paragraph, this little trail is a true gem and so accessible except when Canada Trails closes it; I'd think another month of being open would be very do-able.

I do everyone enjoyed the walk and that we meet again on some other excursion.

ALMANAC



WINTER 2022

"... having prepared their buds / against a sure winter / the wise trees / stand sleeping in the cold."

– *Winter Trees*, by William Carlos Williams

NATURAL EVENTS

- 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

- 3-4 Jan. Quadrantids Meteor Shower (meteors radiate from constellation Bootes)
 5 Jan. Start of Mi'kmaw moon cycle Punamjuiku's (Tom Cod Spawning)
 6 Jan. Full Moon
 21 Jan. New Moon
 30 Jan. Mercury at greatest western elongation (view low in the eastern sky before sunrise)
 3 Feb. Start of Mi'kmaw moon cycle Apuknajit (Snow-binding)
 5 Feb. Full Moon
 20 Feb. New Moon
 5 Mar. Start of Mi'kmaw moon cycle Siwkewiku's (Maple Sugar)
 7 Mar. Full Moon
 20 Mar. March Equinox (first day of spring in the Northern Hemisphere) occurs at 17:17 AST
 21 Mar. New Moon

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

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



3 Dec.	07:33	16:34	7 Jan.	07:50	16:50
10 Dec.	07:40	16:33	14 Jan.	07:48	16:58
17 Dec.	07:45	16:35	21 Jan.	07:43	17:07
24 Dec.	07:49	16:38	28 Jan.	07:37	17:17
31 Dec.	07:51	16:43			
4 Feb.	07:29	17:57	3 Mar.	06:46	18:05
11 Feb.	07:20	16:49	10 Mar.	06:34	18:14
18 Feb.	07:10	16:42	17 Mar.	07:21	19:23
25 Feb.	06:58	16:37	24 Mar.	07:08	19:32

– 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>

- 17 Dec. Wolfville Christmas Bird Count. A Christmas Bird Count (CBC) has been performed in the Wolfville area for over 80 years. CBC participants record the species and their Wolfville Christmas Bird Count.
 22 Jan. 1st "Nature by Night Walking" series, 7:00 p.m. - 8:30 p.m., Wolfville Reservoir Park,
 5 Feb. 2nd "Nature by Night" series, 7:00 p.m. - 8:30 p.m., Gaspereau River & White Rock Canal (45.062285, -64.382982), King's County
 19 Feb. 3rd "Nature at Night series", 7:00 pm - 8:00 p.m., The Gorge, 53 Gladys Porter Drive, Kentville

Canoe/Kayak Nova Scotia <https://ckns.ca>

- 15 Jan. Annual General Meeting, 1:00-3:00 p.m., Sports NS Bldg, 3rd Floor, 5516 Spring Garden Road.

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

- Dec. 12 Deadline to register events with the 2023 Winter Guided Hike & Walk series.
 Jan. 11 NS Walks Walk Leader virtual training (register by Jan. 10)
 Feb. 16 NS Walks Walk Leader virtual training (register by Feb. 15)



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

- 15 Dec. to 3 Jan. Audubon Christmas Bird Count at various Nova Scotia dates and locations.
 26 Jan. "Conserving Birds One Cup at a Time", 7:00-8:30 p.m., a Zoom presentation by Kirstin Hill of the Smithsonian.

Nova Scotia Institute of Science <https://nsis1862.ca>. All events listed below are presented at Saint Mary's University in the Stephanie MacDonald Lecture Theatre (SMU Atrium 101), starting at 7:30 p.m.

- 9 Jan. Getting Nova Scotia off Coal, Oil, and Gas; What are our rocks trying to tell us?, Dr. Kathyline Nelson, NS Dept. Of Natural Resources and Renewables
 6 Feb. The latest student research findings on climate change-related topics in Nova Scotia
 6 Mar. Accelerating Natural Ocean CO2 Sequestration as a Climate Change Solution?: Testing the safety and viability of Ocean Alkalinity Enhancement", presented by Dr. William Burt, Planetary Technologies.

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 McQuorquodale 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>

- Jan. 7 "Halifax Centre Members' Meeting", 1:00 p.m. Room AT101, St. Mary's - In-person and also by Zoom. **Registration is necessary!**

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

- 31 Dec. "Prospect Christmas Bird Count 4 Kids"! Nichols Lake Trail, Prospect, 12:00-2:00 p.m.

– compiled by Don Flemming

HALIFAX TIDE TABLE



January-janvier

February-février

March-mars

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	0318	1.7	5.6	16	0202	1.7	5.6	1	0439	1.6	5.2	16	0328	1.7	5.6	1	0256	1.5	4.9	16	0151	1.7	5.6
	1023	0.4	1.3		0906	0.5	1.6		1139	0.4	1.3		1042	0.3	1.0		1013	0.5	1.6		0921	0.4	1.3
SU	1556	1.4	4.6	MO	1438	1.4	4.6	WE	1737	1.5	4.9	TH	1635	1.5	4.9	WE	1606	1.4	4.6	TH	1454	1.4	4.6
DI	2233	0.5	1.6	LU	2101	0.6	2.0	ME	2359	0.6	2.0	JE	2251	0.6	2.0	ME	2237	0.7	2.3	JE	2138	0.7	2.3
2	0414	1.6	5.2	17	0258	1.7	5.6	2	0535	1.6	5.2	17	0442	1.8	5.9	2	0412	1.5	4.9	17	0309	1.7	5.6
	1115	0.3	1.0		1004	0.4	1.3		1227	0.4	1.3		1144	0.2	0.7		1106	0.5	1.6		1025	0.3	1.0
MO	1659	1.5	4.9	TU	1549	1.5	4.9	TH	1829	1.5	4.9	FR	1745	1.6	5.2	TH	1717	1.5	4.9	FR	1624	1.5	4.9
LU	2329	0.5	1.6	MA	2202	0.6	2.0	JE				VE	2355	0.5	1.6	JE	2332	0.7	2.3	VE	2244	0.6	2.0
3	0506	1.7	5.6	18	0359	1.8	5.9	3	0047	0.6	2.0	18	0550	1.9	6.2	3	0515	1.5	4.9	18	0431	1.8	5.9
	1205	0.3	1.0		1103	0.3	1.0		0624	1.6	5.2		1242	0.1	0.3		1156	0.5	1.6		1126	0.2	0.7
TU	1755	1.5	4.9	WE	1658	1.5	4.9	FR	1311	0.3	1.0	SA	1843	1.7	5.6	FR	1807	1.5	4.9	SA	1733	1.6	5.2
MA				ME	2304	0.6	2.0	VE	1913	1.6	5.2	SA				VE			SA	2347	0.5	1.6	
4	0022	0.6	2.0	19	0502	1.8	5.9	4	0127	0.6	2.0	19	0057	0.4	1.3	4	0018	0.7	2.3	19	0539	1.8	5.9
	0554	1.7	5.6		1203	0.2	0.7		0707	1.7	5.6		0649	2.0	6.6		0604	1.6	5.2		1222	0.2	0.7
WE	1252	0.3	1.0	TH	1759	1.6	5.2	SA	1350	0.3	1.0	SU	1336	0.0	0.0	SA	1240	0.4	1.3	SU	1827	1.8	5.9
ME	1845	1.6	5.2	JE				SA	1953	1.6	5.2	DI	1936	1.8	5.9	SA	1848	1.6	5.2	DI			
5	0110	0.6	2.0	20	0007	0.5	1.6	5	0200	0.6	2.0	20	0156	0.3	1.0	5	0056	0.6	2.0	20	0047	0.3	1.0
	0639	1.7	5.6		0602	1.9	6.2		0747	1.7	5.6		0744	2.0	6.6		0645	1.7	5.6		0637	1.9	6.2
TH	1334	0.3	1.0	FR	1300	0.1	0.3	SU	1424	0.3	1.0	MO	1427	0.0	0.0	SU	1318	0.3	1.0	MO	1314	0.1	0.3
JE	1931	1.6	5.2	VE	1857	1.7	5.6	DI	2029	1.6	5.2	LU	2026	1.9	6.2	DI	1924	1.6	5.2	LU	1915	1.9	6.2
6	0152	0.6	2.0	21	0107	0.4	1.3	6	0230	0.6	2.0	21	0252	0.2	0.7	6	0128	0.6	2.0	21	0143	0.2	0.7
	0722	1.7	5.6		0700	2.0	6.6		0825	1.8	5.9		0836	2.0	6.6		0723	1.7	5.6		0729	1.9	6.2
FR	1413	0.3	1.0	SA	1355	0.0	0.0	MO	1455	0.3	1.0	TU	1515	0.0	0.0	MO	1351	0.3	1.0	TU	1403	0.0	0.0
VE	2013	1.6	5.2	SA	1952	1.8	5.9	LU	2103	1.7	5.6	MA	2114	2.0	6.6	LU	1958	1.7	5.6	MA	2000	2.0	6.6
7	0228	0.6	2.0	22	0207	0.4	1.3	7	0259	0.6	2.0	22	0347	0.2	0.7	7	0159	0.5	1.6	22	0235	0.2	0.7
	0804	1.7	5.6		0757	2.0	6.6		0901	1.8	5.9		0926	1.9	6.2		0759	1.8	5.9		0818	1.9	6.2
SA	1448	0.3	1.0	SU	1448	0.0	0.0	TU	1525	0.3	1.0	WE	1603	0.0	0.0	TU	1422	0.3	1.0	WE	1449	0.1	0.3
SA	2053	1.7	5.6	DI	2045	1.8	5.9	MA	2136	1.7	5.6	ME	2158	2.0	6.6	MA	2029	1.7	5.6	ME	2044	2.0	6.6
8	0259	0.7	2.3	23	0306	0.3	1.0	8	0334	0.6	2.0	23	0442	0.2	0.7	8	0232	0.4	1.3	23	0325	0.1	0.3
	0845	1.7	5.6		0851	2.0	6.6		0936	1.8	5.9		1014	1.8	5.9		0834	1.8	5.9		0906	1.9	6.2
SU	1522	0.3	1.0	MO	1539	-0.1	-0.3	WE	1555	0.3	1.0	TH	1652	0.1	0.3	WE	1451	0.3	1.0	TH	1535	0.2	0.7
DI	2130	1.7	5.6	LU	2137	1.9	6.2	ME	2208	1.7	5.6	JE	2242	1.9	6.2	ME	2100	1.7	5.6	JE	2126	2.0	6.6
9	0329	0.7	2.3	24	0406	0.3	1.0	9	0412	0.5	1.6	24	0536	0.3	1.0	9	0308	0.4	1.3	24	0414	0.2	0.7
	0924	1.8	5.9		0943	2.0	6.6		1011	1.7	5.6		1100	1.7	5.6		0910	1.7	5.6		0951	1.8	5.9
MO	1554	0.4	1.3	TU	1631	0.0	0.0	TH	1626	0.3	1.0	FR	1744	0.3	1.0	TH	1521	0.3	1.0	FR	1621	0.3	1.0
LU	2205	1.7	5.6	MA	2226	1.9	6.2	JE	2240	1.7	5.6	VE	2324	1.9	6.2	JE	2131	1.8	5.9	VE	2207	1.9	6.2
10	0403	0.7	2.3	25	0506	0.3	1.0	10	0455	0.5	1.6	25	0631	0.3	1.0	10	0346	0.4	1.3	25	0503	0.2	0.7
	1001	1.7	5.6		1034	1.9	6.2		1047	1.7	5.6		1147	1.6	5.2		0946	1.7	5.6		1036	1.7	5.6
TU	1627	0.4	1.3	WE	1723	0.1	0.3	FR	1701	0.4	1.3	SA	1838	0.4	1.3	FR	1553	0.3	1.0	SA	1709	0.4	1.3
MA	2240	1.7	5.6	ME	2313	1.9	6.2	VE	2313	1.7	5.6	SA				VE	2203	1.8	5.9	SA	2248	1.8	5.9
11	0443	0.7	2.3	26	0606	0.3	1.0	11	0543	0.5	1.6	26	0007	1.8	5.9	11	0427	0.4	1.3	26	0554	0.3	1.0
	1038	1.7	5.6		1124	1.8	5.9		1126	1.6	5.2		0727	0.4	1.3		1023	1.7	5.6		1121	1.6	5.2
WE	1702	0.4	1.3	TH	1817	0.2	0.7	SA	1743	0.5	1.6	SU	1236	1.5	4.9	SA	1629	0.4	1.3	SU	1803	0.6	2.0
ME	2316	1.7	5.6	JE	2359	1.8	5.9	SA	2349	1.7	5.6	DI	1936	0.5	1.6	SA	2237	1.8	5.9	DI	2331	1.7	5.6
12	0529	0.7	2.3	27	0704	0.4	1.3	12	0636	0.5	1.6	27	0054	1.7	5.6	12	0514	0.4	1.3	27	0647	0.4	1.3
	1114	1.6	5.2		1214	1.6	5.2		1209	1.6	5.2		0822	0.4	1.3		1103	1.6	5.2		1207	1.5	4.9
TH	1740	0.5	1.6	FR	1913	0.3	1.0	SU	1833	0.6	2.0	MO	1331	1.4	4.6	SU	1713	0.5	1.6	MO	1903	0.7	2.3
JE	2353	1.7	5.6	VE				DI				LU	2037	0.6	2.0	DI	2314	1.7	5.6	LU			
13	0621	0.7	2.3	28	0045	1.8	5.9	13	0029	1.7	5.6	28	0148	1.6	5.2	13	0608	0.4	1.3	28	0016	1.6	5.2
	1154	1.6	5.2		0802	0.4	1.3		0734	0.5	1.6		0918	0.5	1.6		1146	1.6	5.2		0741	0.5	1.6
FR	1823	0.5	1.6	SA	1308	1.5	4.9	MO	1259	1.5	4.9	TU	1440	1.4	4.6	MO	1811	0.6	2.0	TU	1259	1.5	4.9
VE				SA	2009	0.4	1.3	LU	1933	0.6	2.0	MA	2138	0.7	2.3	LU	2357	1.7	5.6	MA	2006	0.8	2.6
14	0031	1.7	5.6	29	0136	1.7	5.6	14	0118	1.7	5.6	14	0710	0.4	1.3	14	0710	0.4	1.3	29	0109	1.5	4.9
	0715	0.7	2.3		0858	0.4	1.3		0835	0.5	1.6		1235	1.5	4.9		1235	1.5	4.9		0836	0.6	2.0
SA	1239	1.5	4.9	SU	1408	1.4	4.6	TU	1359	1.5	4.9	TU	1920	0.7	2.3	TU	1920	0.7	2.3	WE	1403	1.4	4.6
SA	1911	0.5	1.6	DI	2107	0.5																	



NEXT DEADLINE

**21st of February for the March 2023 Issue
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