

Blomidon Naturalists Society

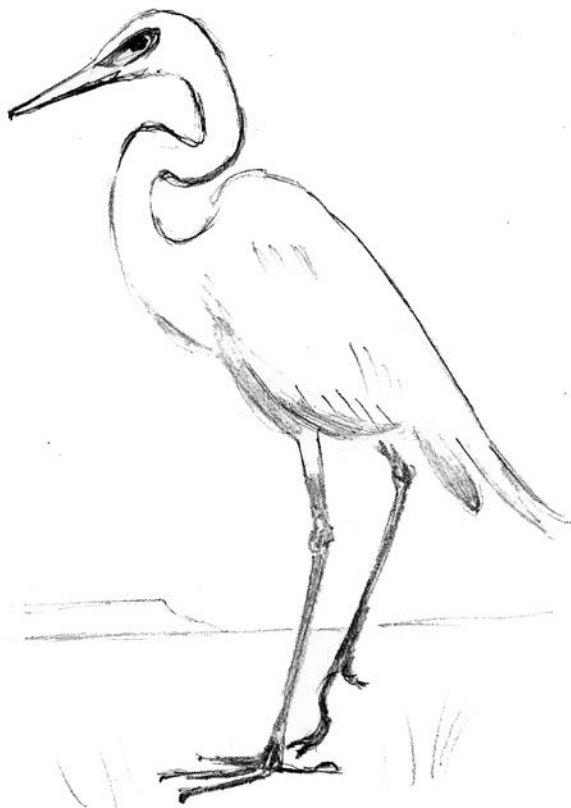


FALL 2009 NEWSLETTER

Volume 36 · Number 3

The primary objective of the Society shall be to encourage and develop in its members an understanding and appreciation of nature. For the purpose of the Society, the word “nature” will be interpreted broadly and shall include the rocks, plants, animals, water, air, and stars.

FROM THE BNS CONSTITUTION



AMERICAN (GREAT) EGRET

The Blomidon Naturalists Society

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Rick Whitman 542-2917

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Barry Yoell 542-9240

The Blomidon Naturalists Society is a member of the Sable Island Preservation Trust and the Federation of Nova Scotia Naturalists (Nature Nova Scotia) and is an affiliate member of the Canadian Nature Federation (Nature Canada). The Blomidon Naturalists Society is a registered charity. Receipts (for income-tax purposes) will be issued for all donations.

THE BLOMIDON NATURALISTS SOCIETY
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WOLFVILLE, NS B4P 2N5

www.blomidonnaturalists.ca

BNS Newsletter

The Blomidon Naturalists Society Newsletter is published quarterly (March, June, October, & December) by The Blomidon Naturalists Society.

Contributions to the BNS newsletter are always welcome. Articles may be reprinted with permission of the author or the editor. Credit the Blomidon Naturalists Society Newsletter. Unless otherwise stated, opinions are those of authors, not necessarily the Blomidon Naturalists Society. For subscription information, see the membership fees form at the back of this newsletter. If you change your address, please notify us at the address in the facing column.

Editorial Board

Chair: Jean Timpa (542-5678)

Committee: Merritt Gibson, Sherman Williams, George Alliston

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Gary Dunfield, Andrew Steeves

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BNS members are encouraged to share unusual or pleasurable nature stories through the pages of the *BNS Newsletter*. If you have a particular area of interest, relevant articles and stories are always welcome. Send them to Jean Timpa:

1 – 25 GASPEREAU AVENUE
WOLFVILLE, NS B4P 2C5
jtimpa@ns.sympatico.ca

Digital photographs should be submitted to
doug@fundymud.com

**Submission deadline for Winter:
December 5, 2009**

Out and About

Jean Timpa, editor

I don't think it is just me – it seems that weather and environmental issues are becoming more unpredictable and extreme. News items are more dire and disheartening.

As I write this on October 2, Canada's stand on climate change and environmental degradation is still very ho hum and noncommittal. With the international climate change conference occurring in December in Copenhagen, now is the time to write letters of passion and urgency to our MPs and others in the federal government who will be there representing Canada, specifically the Prime Minister. You can send copies to relevant provincial representatives, too. Postage is free. So is e-mail.

A few useful addresses:

Prime Minister Stephen Harper: *pm@pm.gc.ca*

Scott Brison, MP, King-Hants: *brison.s@parl.gc.ca*

Premier Darrell Dexter: *premier@gov.ns.ca*

Leo Glavinie, MLA, Kings West: *glavinla@gov.ns.ca*

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Kudos to all of you who have done the various tasks that have kept BNS running happily these past three or four months. We always need help to keep the wheels turning smoothly.

Right now we are still in serious need of an archivist, a simple and not very time-consuming job. It's important that we leave for

future generations a historical trace of how we did things and what we accomplished. Please give this some thought – to say “yes,” simply contact BNS president Rick Whitman at 542-2917.

NOTICES

*Wanted: Artists to help
illustrate BNS Newsletter*

No, Mary Pratt is not retiring from her duties, but she has suggested that since a number of people write for the newsletter there is no reason why there should not be multiple illustrators. She would very much welcome others to join in the fun. I do know that there are a few skilled artisans among us, so if any of you would like to contribute to the brightening of our printed pages, please contact either Jean Timpa or Doug Linzey.

*Wanted: A few good
photographs of plants*

An innovative new project involving the plants of Nova Scotia, Acadia University staff, and Nova Scotia Museum staff requires full-colour digital images of Nova Scotia plants in situ. We would like to see all plants illustrated in this project. Many of the grasses and sedges have been completed. If you are interested, have a good eye, and can identify most Nova Scotia plants, please contact Jean Timpa (jtimpa@ns.sympatico.ca) or Marian Munro (zinckmc@gov.ns.ca). We have lists of needs and wants prepared, and some specifics; otherwise the submissions will be wiki-like. Rewards: fame and glory!

Board of Directors Report – Fall 2009

by Rick Whitman, BNS president

Your board met on September 10 to get started on the 2009–10 year. The meeting included several issues that will carry forward to our December meeting.

The report from the Green Dragon youth program, led by Harold Forsyth and committee, was very exciting. The full report is in this issue, but I want to recognize that from a long-term perspective this program is possibly the most important BNS activity. Six hundred child-days of natural history learning is significant! Also, additional late funding made the program very easy on our finances.

Regarding BNS finances, Ed Sulis informed us that the final 2009 membership total was 180, or four more than 2008, and that the bank balance and net worth are solid. Everyone is encouraged to recruit new members.

We had good discussion as to how successful we are at making new members feel welcome at monthly meetings (e.g., natural history reports) and activities such as the Christmas Bird Count. Long-term members can easily overlook how closed some of these activities can appear to be, despite our best intentions. We will return to having a Wolfville meeting time for almost all field trips to allow car pooling and to help non-drivers. We also agreed that we must have a working microphone system at every monthly meeting. We will likely buy our own to ensure this.

Our annual business meeting will be in October. John Belbin and Jean Gibson Collins have agreed to be the nominating committee and to bring forward executive and board nominations. The meeting will be open to nominations from the floor.

Enjoy the coming “year” and be active.

Upcoming Events

MEETINGS

Unless otherwise noted, all meetings are held at 7:30 p.m., usually on the third Monday of each month, in the auditorium of The K.C. Irving Environmental Science Centre on University Avenue, Wolfville. Parking is available at Wheelock Dining Hall, along Crowell Drive immediately east of the Irving Centre, at the Acadia Arena, Festival Theatre, the Student Union Building, or on Westwood Avenue. Everyone is welcome. [Note that the October meeting will be in BAC 241.]

Monday, October 19, 2009 *Cultural and Natural History of Brier Island*, by June Swift. June is a resident of Brier Island, which is known for its beauty as well as being one of the birding hotspots in the province. Whether it is whale watching, wildflowers, birds, beaches, marshes, or rocky shoreline, all can be found on this relatively tiny island. June is an author, photographer, and naturalist. She is the author of *Brier Island's Wildflower Field Guide* (Westport, NS, 2002). [Meeting location: Beveridge Arts Centre, Room 241]

Monday, November 16, 2009 *Sharing Our Environment with Bears*, by Tony Nette. Depending on the circumstances, an encounter with a bear can be instructive, fascinating, spiritual, or terrifying. Tony Nette is manager of wildlife resources for the Department of Natural Resources in Kentville.

Monday, December 14, 2009 *Galileo, the IYA, and Our Place in the Universe*, by Roy Bishop. To commemorate the 400th anniversary of the first use of a telescope in astronomy, the International Astronomical Union and the United Nations have designated 2009 as the Inter-

national Year of Astronomy (IYA). The central figure in this story is Galileo Galilei, renaissance physicist and the founder of modern experimental physical science. Galileo initiated telescopic astronomy, a quest that from his time to ours has revealed the universe to be far more strange and awe-inspiring than anyone ever imagined. Yet, paradoxically, most people today are probably less familiar with the night sky than were our remote ancestors.

Roy Bishop is a retired physics professor from Acadia University and, over 35 years ago, was one of the founding members of BNS. He has been both president and honorary president of the Royal Astronomical Society of Canada, and the honorary president of the Halifax Centre of that society. He was the editor of the RASC *Observer's Handbook* from 1982 to 2000. Asteroid 6901 was named "roybishop" in his honour.

Monday, January 18, 2010 TBA.

Monday, February 15, 2010 *Annual Show and Tell Night*. Open to all. Come to view or bring along slides, pictures, specimens, collections, fossils, videos, computer stuff, favourite books and magazines, or anything that might be of interest to fellow naturalists.

FIELD TRIPS

Unless otherwise indicated, all field trips will begin at the Wolfville waterfront. Everyone is welcome.

Saturday, October 3, 2009 *Cloud Lake Wilderness Area Canoe Trip*. Patrick Kelly (patrick.kelly@dal.ca, 472-2322) will lead a canoe trip in the Cloud Lake Wilderness Area. This should be a great time of year to see the autumn colours reflected in the water. The trip will be at about five hours long. Bring a hearty lunch, water, drinks, and, of course, life jackets, canoe, and paddles. If you have access to a life jacket but not a canoe there will likely be extra room in one of the canoes. Check with the leader to be sure. The trip will cover Frog

Lake *or* Cloud Lake. For those who may want to stay after, if the water levels are high enough we can try going in to see East Allen Lake. You can also now see high-resolution pictures of the Cloud Lake – Frog Lake area on Google Maps or Google Earth, although there is hazy cloud over the area.

Please call to register, so that if the date is changed you can be notified. Meet at the Wolfville waterfront at 8:30 a.m., or at 9 a.m. at the parking lot of Avery's Market on Highway 1 in South Berwick. Rain date will be Sunday, October 4, same starting time and location.

Sunday, October 11, 2009 *Kingsport Mudflat Critters* (shells, snails, clams, worms, crabs, mud shrimps, sand shrimps, etc.) Jim Wolford (542-9204) will lead us on a hike to the bottom of the Minas Basin at low tide to see the incredible diversity of life on the mudflats. Rubber boots or old washable shoes are a must. Meet at the Wolfville waterfront at 10:45 a.m. or the Kingsport wharf at 11:15 a.m.

Saturday, October 17, 2008 *Beginning Birders Trip, Windsor*. Last fall, a conference was held in Halifax called For Our Birds. One of the projects that developed from the conference was a commitment by the Nova Scotia Bird Society to host a series of field trips around the province designed to introduce new people to birding. This trip is geared for those who have always had an interest but were not sure how it was actually done. Bring binoculars and field guides, if you have them. Leader: Patrick Kelly (494-3294 (w) 472-2322 (H)); patrick.kelly@dal.ca. Pre-registration is required – space is limited. Meet at 10 a.m. at the Windsor Tourist Bureau parking lot, just north of Exit 6 (Water Street) on Highway 101. Those who wish to carpool should meet at the Wolfville waterfront at 9:30 a.m., although the trip leader will not be driving from Windsor to Wolfville and then back again. We should be 1–2 hours and will visit a few different types of habitat in the town of Windsor.

Saturday, October 17, 2009 *Astronomy Observing Session*. Join Roy Bishop (542-3992), Patrick Kelly (472-2322), and members of the

Minas Astronomy Group to observe the night sky. Constellations will be identified and telescopes will be on hand to view Jupiter, Uranus, Neptune (now the official outermost planet), galaxies, star clusters, and nebulae. Meet at 7:30 p.m. at the old parking lot at Grand Pre National Park. Bring binoculars (or telescopes) and be sure to dress warmly.

Sunday, November 1, 2009 *Neary Pines*. George Forsyth (542-7116) will lead this walk to see a mature pine and hemlock forest, original Acadian cellar remains, Poor Farm graveyard, and beech hardwoods along the Cornwallis River. Meet at the Wolfville waterfront at 1 p.m. or Noggins Corner Farm in Greenwich at 1:15 p.m. for this easy hike.

Saturday, December 19, 2009 *Wolfville Christmas Bird Count*. An annual tradition since 1900, the Christmas bird count has over 50,000 participants across North America. A vast pool of data has been created on the status and distribution of early winter bird populations. Volunteers count all the birds they see in a 24-km-diameter circle throughout the day. All levels of birders are invited to participate in the Wolfville count. You may be assigned your own area within the circle or join with more experienced birders. To participate, contact the compiler, Alison Bogan, at 678-0446 or alison@bogan.ca, or see Alison at a BNS meeting before the count. As always, there is a \$5 fee for all participants over 19 to help cover the cost of generating materials for compilers, producing the annual CBC summary issue, and maintaining the CBC website and database.

If you have bird feeders in the count area (12 km from Hennigar's Farm Market) and prefer to count from home, you are invited to keep track of the birds at your feeders for all or any part of the count day and get that information to Jim Wolford at 542-9204 or jimwolford@eastlink.ca.

Following the count, around 5 p.m., all participants are invited to Richard and Liz Stern's for a tally count and chowder/chili supper. The address is 317 Middle Dyke Road, north from the lights at the

intersection of Belcher Street and the dyke road from New Minas, just before Chipmans Corner. Richard and Liz can be reached at 678-1975 or rbstern@ns.sympatico.ca. There is lots of room for parking and everyone is welcome.

Sunday, December 20, 2009 *Winter Solstice Family Frolic*. We invite everyone to welcome the winter season and continue the 5,000-year tradition of celebrating the return of the Sun after the longest night of the year (although this year we will be a day early). We will meet around a roaring bonfire at Noggin's Corner Farm and set off for a hike through the centuries-old pine and hemlock forest. We will pass an 18th century Acadian cellar, Poor House graveyard and a huge Bald Eagle nest. We will look for tracks and signs of wildlife, call for owls in the deep woods, and, weather permitting, view the stars from the dikes. We will make our way back to the bonfire for hot apple cider and share a toast to a winter season full of light and good cheer to all. Charlane Bishop (542-2217) and Harold Forsyth (542-5983) will be the leaders. Meet at Noggin's Corner Farm in Greenwich at 6:30 p.m.

Sunday, December 27, 2009 *West Hants Christmas Bird Count*. Patrick Kelly (472-2322, patrick.kelly@dal.ca) will be compiling the count again this year. All are welcome to participate, but please contact the compiler as soon as possible so that you can be included in the planning. Following the count, around 5 p.m., all participants are invited to Frank and Beth Wollaver's house near Brooklyn for a tally count and potluck supper. There is a \$5 fee for all participants over 19 to help cover the cost of generating materials for compilers, producing the annual CBC summary issue, and maintaining the CBC website and database.

The 2009 Nesting Season

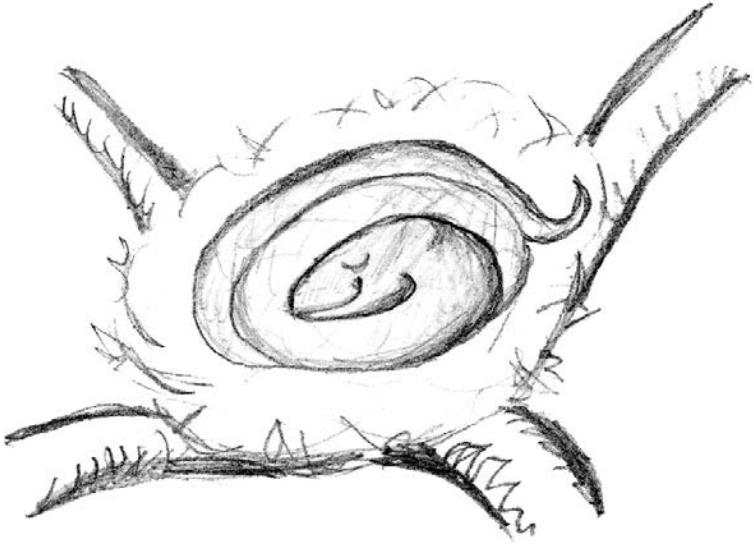
by Bernard Forsythe

Early nesting ravens became my first find for 2009 when I spotted an adult incubating eggs on March 12. By early May the young were already out of the nest. My backyard Barred Owls came to their feeder all winter and inspected the nestbox in March. However, for the second year in a row no eggs were laid. During March, with hard packed snow in the woods, Barred Owls visited 13 of my nestboxes. Small mammals were hard to prey on below the snow cover, and only five pairs of owls produced eggs. When the snow melted in April hunting improved, and the five nests fledged young.

For several years a pair of Red-tailed Hawks have nested high in a White Pine along the road from White Rock to the Wolfville Ridge. This year the Bald Eagles that had been nesting near Hells Gate moved across White Rock Pond and took over the Red-tails' nest, raising two young eagles. The Goshawks nesting in Newtonville have become so aggressive I was not able to count the young this year. Even with my helmet on, it was not safe to approach the nest.

Black-capped Chickadees now nest in several of my nestboxes. Raccoons and cats can be a problem. One pair of chickadees began lining a nestbox, but in early June I found the box top removed, the remains of the female chickadee on the ground below, while its mate sang nearby. By late June the male had a new partner that laid seven eggs in the same box, and seven young fledged July 26. Four pairs of Hooded Mergansers used our nestboxes





at Black River Lake. Bald Eagles again raised a family of two eaglets on the manmade platform in Gaspereau. A bit of effort maintaining nestboxes can be very rewarding.

The nests of several other species recorded included Ring-necked Pheasant, Hairy Woodpecker, Pileated Woodpecker (found by Sheila McCurdy), Tree Swallow, Ovenbird, Yellow Warbler, Red-eyed Vireo, Red-winged Blackbird, Cardinal (two nests – a first for me plus one found by Harold Forsyth), Song Sparrow, and Dark-eyed Junco. Before the mid 1900s many observed songbird nests contained Brown-headed Cowbird eggs or young. In recent years cowbirds are seldom seen during the nesting season in our area. This year I found a Blue-headed Vireo nest with 4 eggs plus 1 cowbird egg. Our songbirds probably do not miss these nest parasites; however, cowbirds do make an interesting study.

Birds do not consult the literature as to where or when they should raise their families. This year two nests I found in the thick low willows and alders along the wide, deep ditches along Highway 101 were both late and in the wrong habitat. The first was a Yellow-rumped Warbler nest four feet up in the crotch of a willow that fledged three

young the end of July. The second was a Black-throated Green Warbler nest five feet up in a small birch that fledged three young in mid-August.

As of September 12 a Cedar Waxwing nest holds three well-feathered-out young about ready to fledge. Again this year a great many American Goldfinches are nesting near Wolfville. Of the more than 40 goldfinch nests that I am recording, the latest clutch of eggs are due to hatch in mid-September, and it will be the end of the month before the young fledge. The six eggs from one goldfinch nest seven feet up in a willow were missing on a July 19 visit. Passing by the site on August 22, I reached up and felt something cold filling the nest cup. Pulling the branch down revealed an Eastern Smooth Green Snake neatly curled up resting in the nest. Fun in the field from early March to the end of September is almost over, so now come the evenings of reliving the finds while filling out about 140 nest cards.

FIELD TRIP REPORT

Nova East 2009

by Larry Bogan

AUGUST 22–23 – On the weekend that Hurricane Bill was heading for the waters off Nova Scotia, amateur astronomers gathered at Smileys Provincial Park for their annual outdoor conference and observing sessions. The days were nice enough, with sunshine and cloud, but Friday evening, after the keynote talk by St. Mary's astronomer Dave Turner on Polaris as a variable star, clouds covered the sky, so no observing took place.

Saturday was a marvellous day, with group breakfast, many informative talks, group picture, and a tidal-bore outing. The highlight of the day and weekend was a direct radio question-and-answer



JEFF DALTON

Larry Bogan in his binocular chair

session with Canadian astronaut Robert Thirsk, passing overhead in the International Space Station. This was arranged by ARISS (Amateur Radio on the International Space Station), of which RAC (Radio Amateurs of Canada) is one of the participating international organizations. The Halifax Amateur Radio Club set up a sophisticated directional radio link with the Space Station, and a small group asked 20 questions of Robert. We had about a 10-minute window for banter before the station disappeared below the horizon and we lost the radio signal. There is information and a video of the event at the website <http://public.bellaliant.net/spacestation/>.

The weekend event was suddenly cut short when authorities declared that all Nova Scotia provincial parks would be closed by 5 p.m. that day to be sure campers were not caught by Hurricane Bill, due the next day. As a result, the evening program and Sunday's events were cancelled, and all tents and camping gear were quickly removed, and everyone left by the deadline.

Better Know a Backyard 1: The Stern Place

by Richard Stern

JULY 26, 2009 – We had the second annual BNS backyard field trip a little later in the season than last year. Again, we were lucky with the weather, with warm temperatures and sunshine. About a dozen people came, including some new visitors from afar. There weren't many birds about at that time of year – just the resident goldfinches and Cedar Waxwings, with a few Barn and Tree Swallows flying around. Our pond was un-productive for amphibians and dragonflies. The hoped-for appearance of the Brown Thrasher that had been singing every morning for about a month, up to mid-July, also did not materialize.



RICHARD STERN

A bright green sweat bee found burrowing on the Stern place

However, the plant enthusiasts seemed very happy with the variety of wild and not-so-wild plants on the property. The highlight was the discovery by Martin Thomas and Murray Colbo of a quite large colony of bright green sweat bees, subsequently identified as *Agapostemon virescens*, nesting in mounds of earth in the field, with the entrance holes looking like mini-volcanoes. Afterwards, we carried on the tradition of having coffee and squares under the gazebo, and another highlight was the reunion of old friends, including some grandchildren and our dog.

FIELD TRIP REPORT

Better Know a Backyard 2: The Kelly Place

by Patrick Kelly

AUGUST 2, 2009, 159 TOWN ROAD, FALMOUTH – This trip, originally scheduled for Saturday, August 1, was postponed by a day due to the weather. One couple did show up on the originally scheduled day, and fortunately I had just finished clearing out the path to the lower part of the back yard, where the path winds through patches of blackberries and a small stand of trees, passes a small wetland area, and ends in a seasonal pond. From past experience I know there is no point in crossing the pond when it is dry, unless you want to get covered with beggar's ticks! While I was making the trail more passable I noticed four large Purple Loosestrife plants in the wet area. They are now drying out in two peat moss bags in my shed; the roots come up next week now that the bugs are gone. Speaking of bugs, there were a lot of mosquitoes there on Saturday, so we did not spend a lot of time in the back.



PATRICK KELLY

The Kelly place

A small group turned out on Sunday, including, I discovered, the mother of one of my former TUNS students. It is a small world. The walk was much better on this day as it was sunny with a bit of a breeze, and no flies, so the stroll down to the back was much more leisurely. I talked a bit about how some parts of the property had changed either by human intervention (the natural plant garden, formerly lawn, along one side of the property) or naturally. The touch-me-not (*Impatiens capensis*) has spread from the lower area until it now has taken over the part of the wild area next to the back lawn, where it will hopefully battle with the horsetail rush. I'm not sure of the exact species of horsetail rush, merely thankful that it is not the 30-m-high variety from the Carboniferous period!

We also took a walk along the edge of the cemetery, which allows both a nice view of Lake Pesaquid and, due to the steep slope, a chance to look at the tops of trees from above, rather than from below. We then returned to the kitchen and spent time talking about nature over lemonade and cookies. Hopefully next year the weather will cooperate a bit better.

Monarch Butterflies 2009

by Larry Bogan

As of this writing in mid-September we still see our lone Monarch butterfly. One has been seen off and on all summer, but we have not had a breeding pair. Our first sighting was a single one in early June, then next in late July. Usually our breeding Monarchs arrive in mid-July, and by this time of the year half the brood would have emerged and gone south. This year there was no evidence of breeding.

The Common Milkweed in our field grew well because of the abundant rainfall this summer, so we had plenty of food available. I was curious about what is different this year, so I inquired at both the Monarch Watch website (www.monarchwatch.org) and the Facebook group (www.facebook.com/monarchwatch).

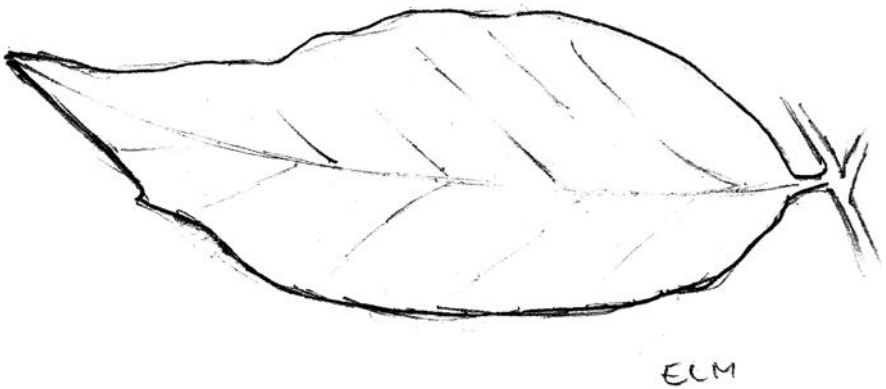
The usual number of Monarchs left Mexico in the spring heading north, but as Chip Taylor, of Monarch Watch, explains in a late-July blog, “This year, the temperatures were a bit higher than normal during the March–April period, but perhaps more important were the conditions during the period from late April through mid-June. Temperatures in May and June were below normal in many areas, and Minnesota (one of the big production areas for Monarchs) experienced below-normal rainfall and moderate drought conditions. Overall, the production of Monarchs in the south appears to have been moderate, followed by conditions that limited the numbers and reproductive success of the Monarchs reaching the northern breeding areas.”

The blogs and comments on Facebook showed that in Virginia and Maryland the number of Monarchs laying eggs was down, and in New Hampshire some places saw no Monarchs at all. In Minneso-

ta arrival was late and breeding was down in numbers (e.g., 100–150 compared to 300 produced in 2008). Some places also noted more unsuccessful chrysalises this year. There was one highpoint: a fellow in Chicago raised 700 this year compared with only 150 last year.

Mr. Taylor explains the consequences in a more recent blog: “The overwintering population [in Mexico] this winter will probably be less than four hectares and could be much less if the long-term drought that has persisted in much of Texas and northeastern Mexico doesn’t abate. Monarchs are highly dependent on nectar and sources of water to fuel the migration through this region in October and November, and, if the drought persists and nectar resources are scarce during this period, the number of Monarchs reaching the overwintering sites will be reduced. There have been some recent rains in Texas, but it is not yet clear whether these rains have been sufficient or widespread enough to provide the fall flowers needed by the Monarchs.”

I look forward to a better Monarch season in 2010, hoping they will recover from this year’s downturn.



Shipwrecked: The Life of a Parasite

by Dave Shutler

PART 5 – EXTRA PROPELLANTS, MIND-
CONTROL-STOWAWAYS, AND TROJAN HORSES

(I thank the astute among you who were polite enough not to tell me that peas aren't subterranean legumes.)

The story so far: First, parasites have tough lives. They often live in conditions we wouldn't tolerate, like living in ick or eww, and a gargantuan majority don't produce a legacy despite prodigious propagule production. In some cases, the waste of dead propagules spewed like shot from a shotgun has selected for more efficient strategies for getting propagules to hosts, including focusing the shots in a more rifle-like fashion spatially, temporally, or both. But what if you can't get your propagules to the next host island because the range of your bullets is limited? Remember that some propagules have to swim or crawl distances that are thousands of times their body length, and they can only store so much energy. There's no such thing as flying to the moon for lunch for free.

One way to save on travel costs is to trick your host into providing extra propellant so that you can fly farther. Sound far-fetched? Well, far is one intention, and fetched is another. One hypothesis for sneezing is that it propels pathogens away from us. However, if you happened to be a virus particle or a bacterium living in the nose, could this help your cause? Imagine the pickings, so to speak, if someone sneezes in a crowded room! A less comfortable example is diarrhoea, which in many circumstances similarly facilitates spreading of viruses, bacteria, and protozoans like *Giardia*.

If your host won't propel you, how about being a stowaway until

your host gets within shooting range? Or even better, be a mind-control stowaway that tells your host where to go (not in the ill-bred sense). For decades, the mind-control-stowaway strategy has captured the imagination of science fiction writers. The real world is just as compelling. In Thailand, *Ophiocordyceps unilateralis* fungi can infect *Camponotus leonardi* ants. If an ant stays on the forest floor and dies, perhaps from this fungal infection, the fungus might not develop because the microclimate is wrong. However, what often happens is that infected zombie ants climb vegetation and die on elevated perches with ideal temperatures and humidity. From fungal fruiting bodies on these lofty perches, the wind sends spores into the path of a multitude of new ant hosts.

Perhaps the most famous tale of mind-control stowaways is that of the lancet fluke *Dicrocoelium dendriticum*. (Long after the life cycle of this critter was finally understood in the 1950s, there are still disbelievers, who should be suspended.) The adult flukes live in the livers of sheep. Eggs are passed with feces that contain useful nutrients that foster growth of fungi and algae. The latter organisms are probably what attract *Cionella lubrica* snails that ingest fluke eggs as they graze on the living films on the feces. The eggs hatch in a snail's guts, and tiny fluke propagules migrate to the snail's mantle cavities. The snail's immune systems surround the parasites with mucous spheres. The snail gets rid of these spheres in grape-like clusters that are deposited on the ground (imagine a snail sneezing!). Bizarre enough? It gets bizarrer. How is the life cycle supposed to get completed? Prepare for more bizarritude. Mucous grapes are apparently very appealing to *Formica fusca* ants, and they ingest a few of the grapes and also feed some to their larvae back in the nest. Another convoy of tiny fluke propagules emerges in ant guts (and all propagules are likely clones). Most of these migrate to their favourite body part, but one noble clone goes to a very specific cluster of nerve cells that controls the ant's jaws. Ants are very opportunistic foragers that travel up and down stems looking for anything they can use to sustain their world domination, and sometimes the necessary fuels are found high in the vegetation. An uninfected ant may be just as

likely as an infected one to be wandering around at the top of a blade of grass looking for a morsel to show off to its nest-mates. But, as evening approaches and it gets cool, infected ants that might have grabbed a blade of grass, for whatever reason, find that they can't open their jaws. As their healthy nest mates retreat to the security of the nest for the evening, the hapless ant patient must resign itself to spending the night suspended by its jaws from the face of herbaceous Everest. If sheep are lucky enough to be out grazing before the sun warms things up, they may be unlucky enough to accidentally ingest an infected ant. And they might get themselves a lancet fluke as a consequence.

I could spin multiple additional tales of mind-control stowaways, and I do want to leave you with one more. But before I do, I also want to mention that it's easy to make up mind-control-stowaway stories to match every host-parasite interaction. Beware that many such stories don't stand up to scrutiny (e.g., host behaviour can get manipulated, but in a way that is bad for a parasite).

Now, my last example of mind-control-stowing-away is that of an adult female *Hymenopimecis* wasp that lays an egg on a *Nephalis* spider. A larva hatches and pierces the spider's body to suck blood and to inject mind-control-stowaway drugs. The spider is oblivious and builds webs normally for about four days. Then, suddenly, the spider switches engineering skills and builds a cocoon that will eventually house the pupa of the developing wasp. What's really cool is that if you take the larva away before the spider builds the cocoon, it's too late; the drugs continue to control the spider's mind and it still builds the cocoon.

Let me close with an example of what I call the Trojan Horse Strategy. There are flukes that live in the guts of European flycatchers. They pass their eggs out with feces, where once again an ever-discerning garden snail comes along to graze, becoming infected. But this infection behaves very oddly; a life stage of these flukes moves into an antenna of the snail host. It causes the antenna to bloat and pulsate in a conspicuous multi-coloured hypnotic act. Presumably this is irresistible to a flycatcher, which pecks at the antenna, bringing

the hypnotic Trojan horse into its gut. The mucous grapes described above also would fall into the Trojan horse category. It's no fluke that these life cycles are completed.

YOUTH

Green Dragon Naturalist Camp 2009

by Lucy Hughes*

Not surprisingly, this summer's outdoor excursions were slightly hampered by the incredible drenching of rain that permeated much of July. This wet did not, however, dampen the spirits of New Minas Recreation, who spent the first week with us. Though the group was large and a test of our planning, we were pleasantly surprised to find a core of interested children, many who were delighted with the amount of snails and slugs hanging onto plants.

We took this group as well as Hantsport Recreation, Kentville Recreation, Apple Tree Landing Daycare, and New Minas Children's Centre to four different locations over the course of a week during July and August.

The first site for exploration was Blomidon Provincial Park, where children screeched about outdoor bathrooms, jauntily ran circles around us, commented on the amount of vegetation, and accompanied us on a steep walk down Jodrey Trail. Here, bright orange and yellow hawkweed was exclaimed over, Balsam Fir trees were prodded for sap, the interesting fusion of two ash trees via a thick branch was noticed and subsequently pondered over, thick moss was brushed, hemlock needles were trodden upon, and the meadow below was swept with butterfly nets, whereupon a plethora of plant hoppers leapt into the faces of the children, and a few brightly green unidentified oblong beetles were carried to the picnic area for further scruti-

ny. Most of the children were favourably impressed by the incredible view from the top of the trail and were interested to find themselves at the bottom and look up to where they had previously been. There was only one episode of fog that blotted out the entire landscape during the second week of August, but it had cleared by the time lunch was consumed and everyone was getting muddy on the beach. Children delighted in crab remnants, slippery seaweed, and the brook that runs over a shelf of rock into the sea.

We spent day two at Blue Beach, where it was often a race against the tides. Chris Mansky, the owner of a very-well-stocked museum at Blue Beach, gave the kids an informative history of the area, what was going on there 300 million years ago and what fossil evidence could be found. Children were very keen to find as many fossils as possible, an ambition that often surpassed their expectations (something that often proved a great difficulty in the end, as the weight of the fossils they wished to keep often outweighed themselves). I don't believe than any child who participated on the beach went home empty-handed, and interest in form, shape, and identification was high. Worm tubes, wave ripples, and raindrops were among the most commonly found, along with some tree bark and fish scales.

The third location was Smileys Provincial Park, tucked away in the middle of the Rawdon Hills. Many, including myself, hadn't known of its existence. This verdant place was alive with birds, insects, and fluttering trees, though the main attraction was the river that bisects the lower portion of the park. On a river walk, the children entered at the bridge and finished at a pool some 30 splashing minutes later. The edges of the brook were peppered with water striders and damselflies, their shockingly blue bodies and black wings bold against grass stems and leaves. We had the good fortune of finding a massive fishing spider on one excursion. The water dwindled during the month of August when the hot and sunny weather finally made an appearance, and the trip was much easier and very refreshing to everyone. The water was shallow enough for even the smallest children to navigate on their own, which was excellent. Much skipping of stones and water fights went on at the end pool before the kids



trooped back to the changing areas and then the bus. Often, we visited the massive lightning-struck pine tree with its porcupine inhabitants, a fascinating sight that prompted the immediate searching for quills.

We spent Thursdays at the Harriet Irving Botanical Gardens. The groups were often split in half for this location, as the environmental educators at the centre offered a tour. Half would learn about the various landscapes and species grown in the gardens, while Kevin and I took the remaining children into the woods along the Woodland Trails. We trekked up to the Norway Spruce forest, where we engaged them with nature-themed games and activities that included animal recognition, listening, and observation. We meandered further along the trail in a large loop, stopping to do activities along the way, and ending up back in the gardens for lunch, after which the groups swapped places.

Visiting these four places exposed the children to a variety of landscapes and ecosystems and different species, and engaged their senses. I very much enjoyed being outside each day with them, enticing them as best I could by spelling off intriguing information and getting them to observe. By and large, the groups were organized and pleasant to work with, and John, the Perry Rand bus driver, was patient and wonderful with everyone.

It was a great learning experience for the two of us, one that I would definitely repeat again. It is my hope that these children came away with a slightly wider view of the world, have gained new interests, and hold their surroundings in higher appreciation. I would like to thank the Blomidon Naturalists Society for supporting this endeavour – it is, in my opinion, an important thing for everyone.

* NOTE: Lucy Hughes and Kevin Forney ran the Young Naturalist Program during the summer of 2009.

Lucy has had an avid interest in and love of the natural world from a young age. Born in New Brunswick, she was raised in a family for whom the outdoors and nature were an important part of life. She spent a fascinating year in Australia observing the diversity of life there, and she earned a Bachelor of Music degree from Acadia in 2007.

Kevin is from Port Williams. He has a great interest in working with children. While studying education at Memorial University and recreation at Acadia, Kevin has spent many summers as a counselor at community summer camps, where he learned to work hard with the children but have fun in the process.

Currently, Lucy is working toward a digital mapping diploma at the Centre of Geographic Sciences in Lawrencetown. Kevin is back at Acadia studying recreation management. We wish them great success in all their endeavours.

*Thank You for
Your Financial Support*

Harold Forsyth

As you can see from Lucy Hughes's report (page 29), the Blomidon Naturalists had another very successful summer, sharing an exciting outdoor learning experience with children, in cooperation with several local community groups. This would not be possible without the generous financial contributions of a number of supporters. Kings County Council contributed \$4,750, with special thanks to councilors Chris Parker and Janet Newton. TD Friends of the Environment donated \$3,500 for the third year in a row. The Canada Summer Jobs Program helped with employment to the sum of \$3,552. A special friend of the Blomidon Naturalists Society donated \$3,000, and all the members contributed through assistance from the Society itself with an additional \$2,000.

About 150 children and 27 councilors participated in the program. We all benefit from a program like this, which brings young people into direct contact with the natural world and expands their personal growth through imagination, creativity, and self-confidence. These factors, in turn, lead to the support for nature and the environment that forms a critical foundation for action and stewardship in the future.

Nature Counts at the Harriet Irving Botanical Gardens

by Melanie Priesnitz,
conservation horticulturist

Did you know that the Harriet Irving Botanical Gardens and Acadia Woodland Trails are home to Aspen Oysters, Coral Slimes, Bitter Boletes, Eyelash Cups, and Dead Man's Fingers? I didn't know either until I read this year's Nature Counts database.

Over 100 BNS members, tourists, community members, garden staff, and volunteers made 612 observations at the Botanical Gardens and Woodland Trails this summer during another successful season of Nature Counts walks. Walks took place every Tuesday evening from May through August. Participants made observations of the flora, fauna, and fungi they saw along the way.

The Blomidon Naturalists and Botanical Gardens have been partnering on the Nature Counts program for the last four years. The program introduces tourists and community members to the observation of the natural world.

One interesting plant seen this year and not recorded on the Woodland Trails in previous years was *Chelone glabra*, or Turtlehead. A single plant was found blooming in mid-August along the stream in the upper area of the trails just below the Acadia well. It was exciting to see this new plant on the trails. Turtlehead is present in the Botanical Gardens and may have seeded itself on the Woodland Trails with the help of a bird or animal.

Spreading of native plants into disturbed forests from adjacent gardens is one of the conservation benefits of botanical gardens, and one of the goals of Nature Counts is to observe, over time, if the biodiversity of the local area increases because of the presence of the



REG NEWELL

Turtlehead

Harriet Irving Botanical Gardens. It looks as if, slowly but surely, this is starting to happen.

Thank you to all of the BNS members who came out for Nature Counts this summer. We look forward to continuing this program for many years to come.

NATURAL HISTORY

*The Shrinking Feral Apple
Groves of the Annapolis Valley*

by Laura Thompson & Derek Allerton

In our walks and travels around the Annapolis Valley since our arrival in late summer 2008, we have come across many feral apple orchards. These remnants of a previous generation of apple farming are untended and often visited only by wildlife. Now interspersed

with poplars, spruce, and maple trees, these groves make up a patchwork of habitat islands for wildlife in and around our communities.

This hybrid second-generation forest provides shelter for a wide variety of bird species: we have seen sparrows (Song, Tree, White-throated) along with cardinals, Blue Jays, chickadees, juncos, White-breasted Nuthatches, goldfinches, grackles, starlings, woodpeckers, pheasants, crows, and ravens all throughout the groves in the east end of Wolfville. As well, this brush provides productive areas for wild bees, a wide variety of small mammals, and grazing for deer (which we would not have suspected until one pranced through our backyard).

However, these feral apple groves are shrinking in number and size as the land is redeveloped into vineyards, productive orchards, or housing. While such progress might be perceived as natural, it would be unfortunate if these groves were to slip out of existence unnoticed and unacknowledged for their value as wildlife habitat. We strongly believe that a certain amount of these apple trees should be left standing when such development takes place, not only for birds and pollinating insects, but for the aesthetic value of having mature trees within an otherwise stripped housing development or single-level monoculture.

From an agricultural standpoint, we hope someone can take stock of these groves for their heritage apple variety potential. It would be shameful if certain local apple varieties were cut down and bulldozed without an assessment and grafting rescue. Perhaps some of these orchards could even be revived. There may be many hobby pomologists out there willing to take on making some of these orchards productive again without using the regular phalanx of chemicals to make picture-perfect commercial apples.

Like many people in the area, we feel lucky to have such old apple trees in our neighbourhood and in our backyard. When these apple trees eventually come crashing down, replacing them with native species of trees will be our first choice. However, we will replace a few with new fruit trees to keep the agricultural heritage and wildlife shelter alive in our community.

Sick and Dying Birds in Your Yard

Andrew Hebda

[*In mid-August, Andrew Hebda, curator of zoology at the Nova Scotia Museum of Natural History, posted a message to the NatureNS e-mail forum. It originated from the Atlantic Veterinary College. The following is adapted from Andrew's post.*]

Over the past two summers, the Canadian Cooperative Wildlife Health Centre (CCWHC), Atlantic Region, has received numerous reports of sick and dying birds around bird feeders and water baths in yards throughout the Maritimes. The primary species affected are Purple Finch and American Goldfinch. A microscopic parasite, *Trichomonas gallinae*, causes their illness, which is known as trichomoniasis (trichomonosis). This summer has been no different, with widespread mortality of finches occurring throughout the region around people's homes.

CCWHC is interested in tracking this emerging disease problem to better understand its impact on wild bird populations and would like to examine as many of the dead birds as possible. CCWHC cannot advise or encourage members of the general public to handle dead birds. However, if you are inclined to collect a specimen, you should follow this procedure:

1. Place a plastic bag over your hand and pick up the dead bird with the hand covered by the plastic bag.
2. Invert the plastic bag over the bird and tie the top of the bag.
3. Wash hands well with warm water and soap.
4. Deliver the dead bird in the bag to a local Department of

Natural Resources, Fish and Wildlife, or Canadian Wildlife Service office, where it will be frozen and held for pick-up at a later date.

Biologists, conservation officers, and wildlife technicians have busy schedules and limited freezer space, and they have discretion to facilitate a request to hold a dead bird for submission. In Nova Scotia and Prince Edward Island, it is advisable to call the office before handling a dead bird to obtain their consent to cooperate.

The following information should accompany any submitted sample:

1. Submitter's name, address, telephone number, and e-mail address.
2. Location where dead bird was found.
3. Date dead bird was found.
4. Number of dead or sick birds observed.

Unfortunately, at this time the New Brunswick Department of Natural Resources is unable to participate in this targeted surveillance program. As a result, we would appreciate your recording any mortality that might occur in New Brunswick by completing a Garden Bird Health Survey, found on the CCWHC, Atlantic Region, website: atlantic.ccwhc.ca/.

At a date later in the fall 2009, CCWHC will pick up the birds that have been submitted and examine them. Subsequently, a full diagnostic report will be sent to the person who submitted the bird(s) as well as the agency that held the specimen(s). This work would not be possible without public participation and the involvement of provincial and federal wildlife agencies, so CCWHC greatly appreciates your assistance. If you need any further information about this project or have any questions, please do not hesitate to contact us directly at 902 628-4314, or e-mail Drs Scott McBurney (smcburney@upei.ca) or Maria Forzan (mforzan@upei.ca).

Summer 2009 – Eastern Annapolis Valley

by Larry Bogan

How do you remember this summer? It certainly changed from June to August.

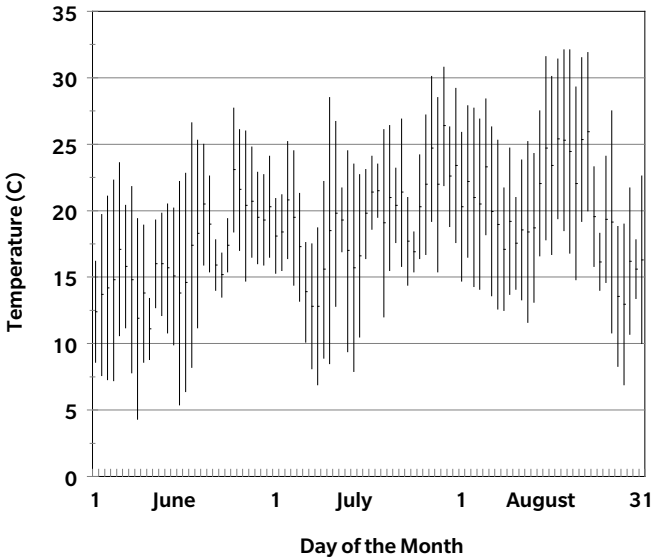
TEMPERATURES

I remember early summer as wet and cool, but the data show that the June mean temperature was actually half a degree above average. Perhaps it felt cooler because the maximum temperatures for June were a bit lower than average. The mean temperature for July was only below average by 0.3 °C. Perhaps the perceived coolness was

	Temperature			Rainfall (mm)	Bright Sunshine (h)
	Max (°C)	Min (°C)	Mean (°C)		
June	21.6	11.6	16.6	62	169
(48 yr. average)	(21.9)	(10.3)	(16.1)	(69)	(205)
July	24.1	14.4	19.2	112	188
(48 yr. average)	(25.1)	(13.7)	(19.5)	(70)	(232)
August	25.8	14.4	20.1	178	246
(48 yr. average)	(24.3)	(13.3)	(18.8)	(90)	(215)
Season	23.9	13.5	18.7	352	603
(48 yr. average)	(23.8)	(12.5)	(18.2)	(229)	(652)

Source: Atlantic Food & Horticultural Research Centre, Kentville, NS

Daily Temperatures – Jun, Jul, Aug 2009
Kentville, Nova Scotia

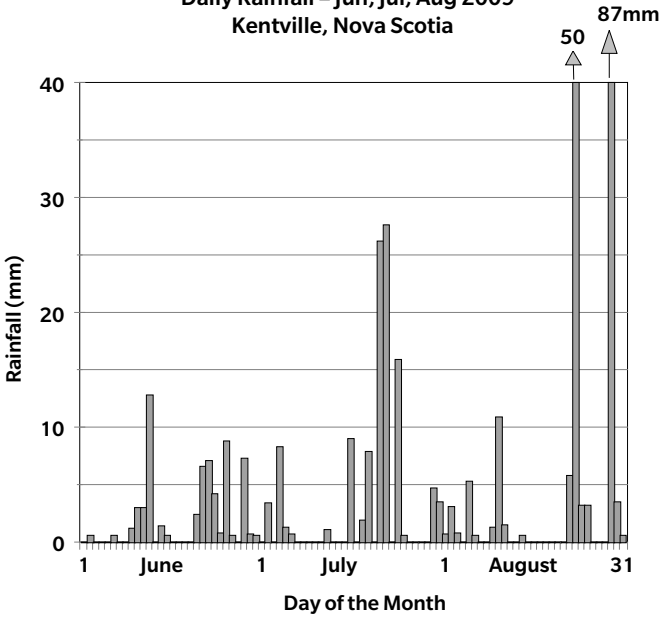


due to the lack of sunshine. Both June and July had only 80 percent of their usually bright sunshine hours.

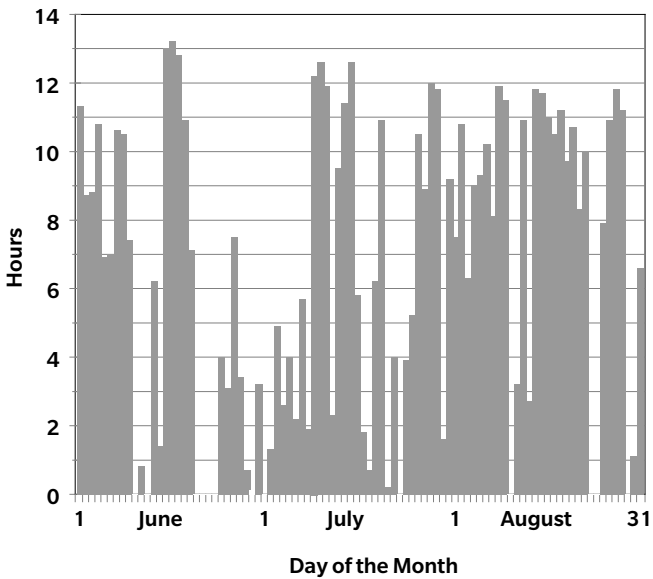
It wasn't until August that the sunshine really helped to heat up the Valley. That month we had 115 percent of the average bright sunshine, and as a result the maximum, minimum, and mean temperatures were all above average by 1.3 °C. It was the warmth of August that increased the whole season's temperature to half a degree above the average.

The cloudiest period for the summer was three-weeks starting in the middle of June. The hottest period of the summer was in the middle of August, when we had eight days in a row with a high above 30 °C. At the end of July there were two days over 30 °C. See the chart of temperatures for the details.

Daily Rainfall – Jun, Jul, Aug 2009
Kentville, Nova Scotia



Bright Sunshine – Jun, Jul, Aug 2009
Kentville, Nova Scotia



PRECIPITATION

My lawn stayed green the whole summer this year because we had adequate rainfall throughout the summer (see the distribution on the rainfall chart). Only one week in mid-August this summer did not have some precipitation. Total rainfall was well above average (154 percent of average). June, the coolest month, had the least rain but most days (18) with recorded precipitation. July and August had 14 and 16 days of rain, respectively. August received half of all the rainfall for the summer, but most was from the heavy rains associated with Hurricane Bill and tropical depression Danny on the last two weekends of that month. The two storms contributed 150 mm of the 178 mm of rain for August.

In summary, the summer of 2009 was average in temperature, cloudy in general, but sunny at the end. Precipitation was abundant throughout the summer, with most coming in August.

ASTRONOMY

What's In The Sky?

by Roy Bishop

It Was in the Sky – Did You See It? The last installment of this column and your BNS Natural History Calendar mention the Perseid meteor shower of August 11–13. I saw a few Perseid meteors near midnight on the night of August 12–13. That was after the predicted peak of the shower, so I did not stay up any later and went to bed. Bad choice! An unpredicted burst of meteors occurred around 3 a.m. that night, the strongest display of Perseids for 2009, and I missed it. As so often is the case, nature favours the prepared observer.

Do you Prefer the Vernal Equinox to the Autumnal Equinox? The autumnal equinox in our Northern Hemisphere occurred at 6:20 p.m. ADT on September 22 when Earth's equatorial plane passed north of the Sun. In the Southern Hemisphere it was the vernal equinox, with summer only three months away. As the days become shorter and temperatures drop in Nova Scotia this autumn, you can watch the onset of spring in the Southern Hemisphere on the website www.sgisland.gs/index.php/%28h%29South_Georgia_Webcam2?useskin=

The camera is at remote Grytviken, Cumberland Bay East, South Georgia, at latitude 54° south in the South Atlantic Ocean, not far from Antarctica. Presently at the end of the southern winter, Grytviken is snowbound, but within a few weeks Fur Seals, Elephant Seals, and Gentoo Penguins will be on the shore, basking in the sunlight and enjoying the southern summer, which begins on December 21 at 1:48 p.m. AST, when Earth's equatorial plane is farthest north of the Sun. There are two cameras accessible on the website, aimed in different directions, and the view is updated every three minutes.

There is no permanent settlement on South Georgia, but a scientific base is maintained near Grytviken by the British government. Grytviken was the centre of the whaling "industry," or slaughter, in the South Atlantic from about 1905 to 1965. Later, for a few weeks in 1982, South Georgia was occupied by Argentina during the Falklands War, until the arrival of the British Navy under Margaret Thatcher. Britain's claim to South Georgia goes back to January 1775, when the island was discovered, charted, and claimed for England by James Cook during his second world voyage. Cook named the island in honour of King George III.

Jupiter and a Historic View Jupiter was at opposition (opposite the Sun in the sky) on August 14 and is well positioned in the evening sky this autumn. Jupiter is the brightest star-like object in the southern part of the evening sky. Binoculars will show one or more of its four large moons, resembling faint stars near Jupiter. Their positions rela-

tive to Jupiter change from night to night. The brightest of the four is Ganymede, at 5,260 km diameter the largest satellite in the Solar System. It was 400 years ago this coming winter that Galileo, using a small telescope he made, discovered the four “Galilean” satellites. That had major implications because it showed that 1) contrary to the view promoted at that time, not all heavenly bodies revolve around Earth, and 2) those satellites are able to stay with Jupiter as Jupiter moves in its orbit. An argument for a stationary Earth at the centre of creation was that the Moon could not remain around Earth if Earth were moving around the Sun. Galileo’s discovery demolished that argument! With binoculars you can view the scene that, four centuries ago, had a major impact upon philosophy, science, and religion.

A Waltz in the Dawn During the first half of October, three planets – Venus (the brightest), Mercury, and Saturn – move past one another in the eastern dawn sky. From the 1st of October to the 7th, below and slightly to the left of Venus are first Mercury, then Saturn. On the 8th, Saturn passes very close to Mercury, and from the 9th to the 12th, Saturn lies between Venus and Mercury. On October 13, Saturn moves still higher and passes Venus, positioning Venus between Saturn and Mercury for the next few mornings. On the 16th, the waning crescent Moon is nearby. From the 8th to the 12th, all three planets will fit within the field of 7- or 8-power binoculars. Look about 6:30 a.m. early in the month, and near 6:50 a.m. in mid-month. You will need a low eastern horizon, with no trees, hills, or buildings in the way.

The Vanishing Morning “Star” Venus is the third brightest object in the sky, after the Sun and Moon, and is unmistakable. Venus entered the morning sky last March and continues to be the “morning star” this autumn. However, as leaves fall and frosts close the autumn flowers, Venus sinks lower in the dawn twilight, racing ahead of Earth and disappearing into the bright dawn sky by the end of

November. Venus passes behind the Sun on January 11, a planetary configuration called “superior conjunction.” Venus reappears as the “evening star” next February.

SOME SPECIAL EVENTS IN SEQUENCE

September 22, 6:20 p.m. ADT: Autumnal equinox

October 1 through 15: A Waltz in the Dawn (see above).

October 3 and 4: Full Moon, the “Harvest Moon” (the Moon is full at 3:10 a.m. on the 4th).

November 1: Standard time begins (in the Maritimes, ADT changes to AST)

November 2: Full Moon, the “Hunter’s Moon” (the Moon will be full at 3:14 p.m.)

December 10: Earliest sunset of the year

December 13–14: Geminid meteor shower (a good one, with no moonlight!)

December 21, 1:48 p.m.: Winter solstice (shortest daylight of the year).

SOURCES OF LOCAL NATURAL HISTORY

Compiled by the Blomidon Naturalists Society

TOPIC	SOURCE	OFFICE OR HOME TELEPHONE
Amphibians & Reptiles	Sherman Bleakney	H: 542-3604
	Jim Wolford	H: 542-9204
Astronomy	Roy Bishop	H: 542-3992
	Sherman Williams	H: 542-5104
	Larry Bogan	H: 678-0446
Birds – General	Bernard Forsythe	H: 542-2427
	Richard Stern	O: 678-4742 H: 678-1975
	Gordon & Judy Tufts	H: 542-7800
	Jim Wolford	H: 542-9204
	Jean Timpa	H: 542-5678
Butterflies & Moths	Jean Timpa	H: 542-5678
Fish & Wildlife	NS Department of Natural Resources	O: 679-6091
Flora:	Ruth Newell	O: 585-1355 H: 542-2095
Fungi:	Nancy Nickerson	H: 542-9332
Hawks & Owls	Bernard Forsythe	H: 542-2427
Indian Prehistory & Archeology	James Legge	H: 542-3530
Mosses & Ferns	Ruth Newell	O: 585-1355 H: 542-2095
Mammals	Tom Herman	O: 585-1358 H: 678-0383
Rocks & Fossils	Geology Dept., Acadia University	O: 585-2201
Seashore & Marine Life	Sherman Bleakney	H: 542-3604
	Jim Wolford	H: 542-9204
	Michael Brylinsky	O: 585-1509 H: 582-7954

BLOMIDON NATURALISTS SOCIETY

2009 Membership Fees & Order Form

Members of the Blomidon Naturalists Society receive four issues of the BNS newsletter annually. As a registered charity, BNS issues receipts for all donations. Members may also join Nature Nova Scotia through BNS and will receive FNSN News, the federation newsletter. (Neither BNS nor NNS membership is tax deductible.)

No.	Membership classification	Price	Total
_____	Individual adult	\$20.00	\$ _____
_____	Family (number of family members _____)	\$20.00	\$ _____
_____	Junior (under 16 years)	\$1.00	\$ _____
_____	Nature Nova Scotia membership	\$5.00	\$ _____

Items for Purchase

_____	2009 BNS Calendar	\$15.00	\$ _____
_____	Natural History of Kings County	\$14.00	\$ _____
_____	Nature Walks: Within the View of Blomidon	\$20.00	\$ _____
_____	Annotated checklist of Kings County birds	\$5.00	\$ _____
_____	Blomidon Naturalist crest	\$5.00	\$ _____
_____	Blomidon Naturalist hat	\$15.00	\$ _____
_____	Screensaver: 10 years of BNS calendar photos	\$10.00	\$ _____

Postage & handling \$ _____

(Orders \$15 or less = \$3 \$16 to \$50 = \$6 over \$50 free)

Tax-deductible donation \$ _____

TOTAL \$ _____

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Membership fees are due January 1 of the current year. Please send cheques or money orders made out to Blomidon Naturalists Society in payment of membership fees and other purchases to:

Ed Sulis, 107 Canaan Avenue, Kentville, NS B4N 2A7





DAN PEACOCK

This short stream flows through a stand of hemlocks between South Horseshoe and Engineering lakes, Yarmouth County.