

Date and time: Wednesday August 19 2015 2:10 - 5:50 pm

Weather: Pr 3 mm; RH 77%; BP 101.1; sun/cloud; SW 5-15 kmh; T 31°C

Activity: Inspecting remediation areas and collecting from field and stream.

Before heading down to our usual collecting areas, my assistant Sama and I parked in the Upper Meadow to carry out some basic documentation of several large areas of the Upper Meadow that were treated for a species of invasive, non-native grass.



Sama searches burned areas for dead snakes, voles, etc.

The only “collateral damage” we found consisted of about a thousand recently dead snails (most non-native in any case) and about a dozen ant mounds that appeared to be deserted. Even if ants survived the heat of the fire by staying underground, the foraging area would have little to offer after the fire, causing the colonies to collapse. No big deal, perhaps, but the ants have their own opinion. There is more at the end of this *Bulletin* about the remediation project.

While Sama went to the river to set the minnow-trap, I was busy photographing a Hover Fly that would turn out to be a new species. (See below.) Wandering about, I found a Gasteruptionid wasp wandering over an umbel of Queen Anne’s Lace (See IMAGES below), then a Fruit Fly, *Euaresta bellula*, on a leaf, followed by an all-black Muscid Fly, *Morellia* sp., on my hand. The last two species both turned out to be new. On his way back from the river, Sama spotted an Eastern Garter snake not far from where Jonathan spotted one over a week ago. The mosquitos in the

forested areas are a lot less bothersome now, he reported. A Gray Tree Frog burbled somewhere in the Gallery Forest nearby.

As we swept along the trail through the one-hectare Regeneration Zone (RZ) in the Lower Meadow, I looked proudly around me at all the native trees we had planted years ago. Nearly all have taken and are now shooting skyward, helped by gentle rains. They face an implacable enemy, however, in severe winters that may not be over. As Sama swept, I photographed any of the catches that looked identifiable. Many of them seemed familiar: Here was the Bowl-and-doily spider Spider, *Frontinella* sp. and there was a very common Spittle Bug, *Lepryona quadrangularis*. Further along, the extremely common Striped Nursery Spider, *Pisaurina mira*, tried to climb out of the insect net. Oh my goodness! Here was the Spined Assassin Bug, *Sinea diadema* (See IMAGES below.) and there, near the end of the trail, a Silver-spotted Skipper.

Later on, a march through the Blind Creek Forest along the River Trail brought us to Mussel Beach. What was in the minnow trap? Nothing — for the fourth time in a row. This is getting a little weird. In past years, we rarely came up empty this often. Wandering over the clay I found the Plant Bug I call the ‘Dappled Mirid’, *Neurocolpus nubilis*, always a beautiful sight.

The Residuum: There are almost always species that we cannot identify, owing to a poor image or inherent difficulties. Here, as a sampler, we list today’s leftovers: two unidentified leaf hoppers, one with open wing covers and a protruding abdomen, a grasshopper nymph, four Stink Bug nymphs, a Horsefly and an unidentifiable Damsel Bug.

Phenology: Goldenrod 60% bloomed (slow)

New Species:

‘Green-legged Mecaphesa’	<i>Mecaphesa carletoni-celer</i>	LM KD Au18/15
White-banded Crab Spider	<i>Misumenoides formocipes</i>	LM KD Au18/15
‘Red-banded Carrot Wasp’	<i>Gasteruption assectator</i>	GF KD Au18/15
‘Trimarked Fruit Fly’	<i>Euaesta bellula</i>	LM KD Au18/15
‘Black Morellia’	<i>Morellia</i> sp.	LM KD Au18/15
‘Red-tailed Hoverfly’	<i>Sphaerophoria</i> [<i>contigua</i>]	LM KD Au18/15

Species Notes:

The two new Crab Spiders listed above bring to 13 the number of species of this family in our ATBI list. We had a previous record of *Gasteruption*, with no species

name to go with it. The count will not go up in this case. *Morellia* is an all-black muscid fly with a single broad stripe on the thorax.

Readers Write: Landscape remediation and hard-rock miner ants.

TTLT Property Manager Dr. Daria Koscinski, explains the remediation program: “[A] priority for Newport is the removal of non-native species, including areas of non-native grasses that *prevent* natural succession from happening. We mapped out the areas where there was extensive cover of [Red] fescue (a grass that releases a chemical that kills native trees) with few other species. We then killed the grass through herbicide and burning. The next steps will be to ensure the grass is dead and then plant native meadow species (Brown-eyed Susans, Wild Strawberry, some native grasses) to increase biodiversity. We will also be planting native tree nuts to help establish woody cover. This is the approach supported and recommended by two well-respected local ecologists [who] do not support the notion that leaving this type of habitat indefinitely will result in a native community. These grasses facilitate the growth of other non-native species - especially woody species with which they co-occur in Eurasia. Even the meadow areas in Newport that have native species are monocultures of Canada Goldenrod with a carpet of grass underneath. I do not propose that we can replace all non-native species at Newport with all native species, but enhancing biodiversity in the meadow will provide valuable habitat for species now and encourage succession towards a native treed community in the future.”

Dr. Hamid Mumin is a geologist at Brandon University: “Thank you for the ant story . . . I will never forget [what] took place on a geological expedition and mapping trip to Bigstone Lake in northern Manitoba in 1985. . . We came across one isolated island well into the Lake less than one hectare in size. A little bit of bare rock was exposed along the shoreline which consisted of corrugated rock comprised of alternating centimetre thick bands of marble (soft and recessively weathered) and silicate mineral bands (very hard and protruding), therefore the rock had a surface texture like corrugated cardboard. On top of the rock was a . . . high hill of pure white sand. Very peculiar, considering this was a small isolated island with a rock base barely above the water line. The sand looked far too uniform, large in size and white for normal sand. My suspicions led me to place a few drops of acid on the sand which immediately effervesced vigorously, confirming that the sand grains were essentially pure coarse-grained calcite, rather than the normal sand mix of quartz, feldspar and a variety of other minerals.

Where on earth did this mountain of pure calcite sand come from? Then I noticed ants wandering about on this sand heap. Yes indeed, a giant anthill comprised of

large calcite sand grains. What was the source of the calcite mineral sand grains?

Well, marble is nothing more than coarse calcite. The underlying rock appears to be the source of the sand mountain. It appears that these ants have been mining, yes mining, the underlying rock to loosen the calcite grains from the marble and constructing their sand hill out of that. . . . Ants produce formic acid, which I suspect they were using . . . to dissolve away the calcite around grain boundaries, loosening them one by one and . . . Apparently, hardrock mining in northern Canada has been going on for at least a few thousand years.”

IMAGES:



Looking like an alien critter on inflatable stilts, this Carrot Wasp, *Gasteruption assesctator*, browses on a head of Queen Anne’s Lace. Carrot Wasps (Gasteruptionidae) are characterized by a carrot-shaped abdomen and by a long ovipositor in females. They lay their eggs in the nests of other wasps and bees, where their hatching larvae consume stored food — or the young — of the host species. More than 1500 species are thought to exist, with only about 500 described. “Gasteruption” should be pronounced Gas-ter-up’-tee-on, not “Gas eruption.”



The spines of the Spiny Assassin Bug, *Sinea diadema*, point mostly upward (toward the camera) in this image. The mouthparts of most bugs consist mainly of a long beak that is folded under the head when not in use. Assassin bugs stab their prey with a specialized beak which they use like a soda straw to draw out the bodily fluids of their victims. Vegetarian bugs use their beaks to draw out plant fluids.