

Date and time: Monday July 18 2016 2:20 - 5:15 pm

Weather: Pr 9 mm; RH 59%; BP 101.4 kPa; overcast; NW 00-10 kmh; T 30°C

Activity: Exploring and sampling the Upper Meadow.

The Upper Meadow has too often been the part you drive through just to get down to the trailer, the hub of all activity. But the Upper Meadow has a story to tell to anyone who will stop and listen. Today we spent an hour in the Lower Meadow before driving back up to stare forlornly at dry earth, now cracking into signs of a mounting drought. The image below was taken at the TTLT experimental remediation area, now recovering from last year's burn-over.



But first the Lower Meadow: the drive down was greatly improved, thanks to the recent mowing of the old farm track. After taking the weather, I swept along the track to the “Hole” in the forest. My net consistently came up nearly empty. This has been going on since mid-spring when I first began to expect more than I was getting. The apparent decline has me taking far more pictures and doubling up to 15 hours on arthropod ID for each visit!

The most abundant insects in my net were grasshoppers, mostly nymphal, but still nimble! Small (3 mm) black beetles with red or yellow spots (one of them new) were the next most abundant finds. I continued sweeping into the Blind Creek Forest, finding a surprising number of what I call “watermelon spiders”, mainly *Araniella displicata* and *Enoplognatha ovata*, with abdomens that frequently resemble miniature watermelons. Back at the trailer, Pat found an Ichneumon wasp caught in an orb web and still struggling. Much to the annoyance of the resident arachnid, I freed the wasp and took it to the deck for some close-up

photography. Then I freed its wing from its leg and it flew off. Was this a good deed or a bad one? I saved a life but I stole a dinner.

We stopped on the Rise of the Upper Meadow to record a large patch of Milkweed growing on or near the larger of two remediation areas that were burned out last summer. Pat spotted some Monarchs fluttering about among them. There were soil cracks everywhere. Further along we found a gigantic patch of new Teasel plants. These were not part of the remediation plan, as we understood it. The soil bared by the fire was fertile ground for the seed fluff blowing over from the gate — at a guess. Closer to the gate we spotted a patch of planted Black-eyed Susans which nicely complement the hundreds growing in the Lower Meadow. As for other plantings, we saw no sign of sprouted acorns or young oak sprouts. As pointed out in the IMAGES section below, the standard practice for tree regeneration is to plant young saplings and to keep them watered throughout dry spells.

Pat spent most of her time inside the fence along the road, cutting dozens of dead teasels. then struggling with the Newport Forest plaque by the roadside fence. She drove wedges into one side of the steel pole to correct the lean. Meanwhile, I sampled along the edge of the track leading past the water tank. Spotting a litter moth (generic term) fluttering among the plants, I stalked it directly with the camera, taking distant shots, then ever closer. It would fly into upside down positions on stems and leaves, never giving me a clear view. In the end, I had to lie down in the vegetation and cock the camera under its current hiding spot, finally getting a clear shot of its spread wings. It turned out to be a new species and worth the trouble. (See the last item on the list below.)

Phenology: First cicadas can be heard singing.

New Species: (20% new)

Silver Longjawed Orbweaver	<i>Tetragnatha [laboriosa]</i>	UM KD J118/16
Elm Finger Gall	<i>Eriophyes ulmi</i>	BCF KD J11816
Perillus Stink Bug	<i>Perillus</i> sp.	UM KD J11816
Orange-spotted Lady Beetle	<i>Brachiacantha ursina</i>	LM KD J118/16
Greenish-yellow Sitochroa Moth	<i>Sitochroa palealis</i>	UM KD J118/16

(For Old Species see the end of this *Bulletin*.)

Species Notes:

The Ichneumon wasp turned out be a very difficult specimen. With some seven field marks to check, the number of combinations turns out to be more than 128, as

not all the characters are binary. And there are hundreds of species of Ichneumons to check! I will continue to work on the Ichneumon, as well as the *Perillus* in nymphal form. I have imagery for only three or so *Perillus* nymphs, so I must dig into more specialized sources to finally nail this one. The Elm-based gall-making mite is our third species of *Eriophyes*.

Readers Write: Insect species on decline globally?

Entomologist Dan Bickel quotes from an article on worldwide insect decline that appears on a Yale University website: “A significant drop in insect populations could have far-reaching consequences for the natural world and for humans, who depend on bees and other invertebrates to pollinate crops. A [study](#) by Canadian biologists, published in 2010, suggests that North American bird species that depend on aerial insects for feeding themselves and their offspring have suffered much more pronounced declines in recent years than other perching birds that largely feed on seeds. The analysis is based on data from the North American Breeding Bird Survey. The decline in birds that feed on flying insects appears to be significantly stronger than in perching birds in general, according to co-author Silke Nebel, now with the Upper Thames River Conservation Authority in Ontario.” Main article will be found at:

[<http://e360.yale.edu/feature/insect_numbers_declining_why_it_matters/3012/>](http://e360.yale.edu/feature/insect_numbers_declining_why_it_matters/3012/)

Dan’s colleague, Adrian Plant in Cardiff, Wales, has added. “Crashes in insect numbers seem to be very general. Two years back, a group of Dipterists [fly experts] were in North Wales for a week on our annual field trip. At the end of a week, we all concluded that species diversity was at least 20% less than would have been expected in the past. This sort of anecdotal observation is commonplace amongst people studying most groups of invertebrates in the UK. The crash continues still. This year seems to be poorer still; I am finding very little at all; last week the Dipterists Forum in Kent found well below expectations; local moth trappers are recording a poor year in Wales etc. etc. It’s not a happy story I’m afraid. Yesterday I walked along a path through abundant flowering thistles and other nectar-bearing flowers that ‘ought’ to have been smothered in butterflies... they weren’t of course. Personally I think we are seeing a highly accelerated mass extinction even over the last 10 years or so in the UK. No idea if this is happening elsewhere though.”

Tom Powers, a Biologist at the University of Nebraska, writes, “Greetings from the Nematode group. Kris and I will be in Toronto for a few days (August 4-7) following a

meeting of the Society of Nematologists. I do not recall the location of your ATBI site relative to Toronto, however I would like to inquire about the possibility of sampling nematodes. It's pretty mundane business, taking soil cores within a 40x40 grid, but once processed the species count is usually impressive. Will there be anyone around during that time period?" [We wrote back to encourage a visit.]

Stan Caveney wrote to correct our caption on the Northern Pearly Eye butterfly that labelled it an Eyed Brown. Pat said it was a Pearly Eye from the start. My bad hearing during the editorial process turned it into an Eyed Brown. A silly mistake.

IMAGES:



This *Photinus* firefly has been lighting up dusk at Newport Forest, along with at least one other species of *Photinus*, one of *Photuris* and one of *Lucidota* — all just for starters. The light organ on these beetles is located on the underside the abdomen where it can be spotted by females on the ground — who slyly wink back.



Trail cameras are an essential tool for more detailed monitoring of animals on natural lands. Here we see a Groundhog mounting a log highway down the Fleming Creek Bluffs, where it has its “digs.” Trail cams may be set up to produce not only multiple images of a passage, but short videos as well.



The water tank in the Upper Meadow is slated to be hauled away, but we hesitate in view of the current drought. We found that during a three-year drought in 2003-2006, direct plantings of tree seeds or nuts rarely succeeded. Instead, one must not only plant young saplings (2'-3' is about right) but one must water them regularly during extended dry periods. Ergo, the water tank. It holds about 2500 gallons and fills at \$50 per 1000 gallons. It is the only reason our 200 planted trees in the Regeneration Zone have survived, now thriving. Should we keep it?

Old Species:

Black-barred Mangora (*Mangora gibberosa*); Dimorphic Jumper (*Maevia inclomens*); Cobweb Spider (*Enoplognatha ovata*); Six-spotted Orb Weaver (*Araniella displicata*); Silver Hopper (*Athysanus argentarius*); Two-striped Grasshopper (*Melanoplus bivittatus*); Red-legged Grasshopper (*Melanoplus femurrubrum*); Tarnished Plant Bug (*Lygus lineolaris*); Large Milkweed Bug (*Oncopeltus fasciatus*); Alfalfa Bug (nymph) (*Adelphocoris lineolatus*); Twice-stabbed Stink Bug (*Cosnopepla lintneriana*); Red-collared Oil Beetle (*Nemognatha nemorensis*); Black Snout Weevil (*Conotrachelus* sp.); Seven-spotted Lady Beetle (*Coccinella septempunctata*); Firefly (*Photinus* sp.); Dun Skipper (*Euphyes vestris*).

Un-ID: green grasshopper nymph; green bug nymph; green bug nymph with black markings; small all-black beetle.