

## Tree Planting and a Dip in the Rapids

Newport Forest Sunday October 24 2010 2:35 - 6:35 pm

weather: Prec. 10 mm; RH73%; BP 100.3; cld/sn; S 5-25 kmh; T 25° C

purpose: planting trees

participants: Kee, Ron Martin

I met up with Ron Martin in Wardsville and we proceeded to the site in convoy. Martin is a well-known environmental chemist who, though retired, cannot stay away from his lab at Western. Currently he's doing isotope analysis on some bone fragments (on loan from a colleague at Brookhaven) from the Franklin expedition, a tragically failed attempt by the British Admiralty to find a Northwest passage over Canada. Ron is also a keen naturalist. This is his second visit to Newport Forest. We immediately put him to work!

The weather on site could be described as supernaturally warm, with the meadow thermometer reading 25° C in its shade-housing. A gusty south wind blew all afternoon. Perhaps it was the wind that kept the birds out of view. Few were seen or heard. We visited the Lower Rapids of Fleming Creek, where I took a sample of algae-coated stream stones.

We set to work, planting six Shagbark Hickories in a randomly undulating pattern along the end of the Lower Meadow Regen Zone. After a wee break, we walked the Thames River Trail, noting nothing remarkable except that the crunch of leaves underfoot was sure to drive away any game. The river remains somewhat high, so we did not venture out onto Mussel Beach.

By the time we got back to camp, we found Steve Logan had arrived for a visit. We sat in the Nook until sunset, trading stories.

Phenology: All leaves off trees except Sycamores, Tulip Trees, and some Poplars

New species:

'Giant Loxodes' *Loxodes magnus* FC/LR KD Oc24/10

'Zoned Ulothrix' *Ulothrix [zonata]* sp. FC/LR KD Oc24/10

'Wide-banded Spirogyra' *Spirogyra [tenuissima]* FC/LR KD Oc24/10

Notes 1: Bruce's ID of the speckled shield lichen is now on file, with list of character matches complete. 2. The *Loxodes* is not only a new species for the Newport list, but a "lifer" for me! It's among the largest ciliates in the world. 3. *S. tenuissima* is almost certainly wrong, but this specimen had unusually wide chloroplasts, even wider than the named species. There are hundreds of species of *Spirogyra* and no complete keys seem to be available, including Prescott.

Report on riffle community: It is typical of late-season aquatic microbial communities in our area to be peaking in species richness. That said, it's been a long time since I've seen such a rich assemblage of species in one spot. The filamentous alga *Cladophora*, assisted by minor elements of *Diatoma*, *Mougeotia*, *Spirogyra* and *Melosira*, provides a structural framework that clings to rocks and harbours a host of forms, like a forest of the the micro-world.

Here, for microbial buffs (we have at least one on our list) are the genera found in the course of a two-hour microscope examination of a single slide made from divided and desegregated rock-scrappings:

Filamentous chlorophytes: *Cladophora* (99%), *Spirogyra*, *Mougeotia*

Filamentous diatoms: *Diatoma*, *Melosira*

Solitary diatoms: *Navicula*, *Gyrosigma*, *Encyonema*, *Asterionella*,

*Cymbella*, *Fragillaria*, and others

Amoebae *Mayorella*

Ciliates: *Oxytricha*, *Vorticella*, *Frontinella*, *Chilodonella*,

*Loxodes*, and others

Rotifers: *Tricocerca*, *Lepadella*, and others

Microfauna Nematodes, Chironomid larvae

Imagining life within the trailing branches of *Cladophora* in the riffle habitat takes little effort. The branches are close enough together to form lengthy tresses that wave in the aquatic breeze. The analogue of plants are the diatoms that, unlike their macro cousins, do not stay in one place, but trundle slowly about, jockeying for sunlight around the algal holdfasts on rock surfaces or up in the branches themselves. Although some of the rotifers and ciliates (analogous to animals) ingest diatoms and other unicells, most are bacterivores.

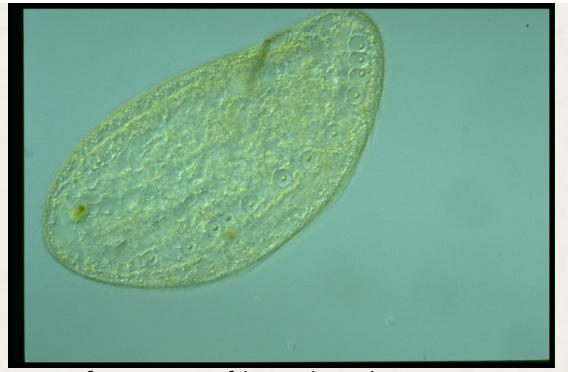
**IMAGES:**



*Ron Martin starts a new tree*



*A beautiful sunset marks the end of our stay*



*Loxodes magnus: this specimen is over 400  $\mu$ m long (half a mm). image courtesy of Protist Information Server*