

Moss from Space

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Abstract. *Ptychomitrium drummondii*, *P. serratum* and *Trematodon longicollis* are newly reported from New York State. An easy way to find the latitude and longitude of sites and view habitats from satellite photos is with the program GoogleEarth, which is free and available on the internet.

In the winter of 2004 – 2005, I found *Ptychomitrium drummondii* (Wils.) Sull. (Ptychomitriaceae) at two urbanized sites in New York State. Small, dense tufts grew at the base of a roadside Norway maple (*Acer platanoides* L.), with *Platygyrium repens* (Brid.) BSG, *Ceratodon purpureus* Hedw. (Brid.), *Leskea polycarpa* (Hedw.), *Entodon* sp. and *Orthotrichum* spp., in North Merrick, Nassau County (Trigoboff c04184, BH & NYS). Large pure expanses, small tufts and scattered plants mixed with *C. purpureus* grew on a roadside American elm (*Ulmus americana* L.), 2 – 4 m high on the trunk and on a large horizontal branch, with *Bryum argenteum* (Hedw.), *Leskea* sp., *Orthotrichum obtusifolium* Brid. and *O.* sp., in Crown Heights, Brooklyn (Trigoboff c0517, BH). Capsules from this season and last were abundant at both sites. To the naked eye, *Ptychomitrium drummondii* looks like an *Orthotrichum* with a seta that is too long (2-2.5 mm) and a capsule that is too short (0.9-1 mm). With a hand lens, the leaves look narrower than those of *Orthotrichum* and curved, but not curled or crisped when dry (Crum and Anderson, 1981). *P. drummondii* is not listed in Ketchledge's (1980) checklist of New York State mosses, or in Grout's (1916) list of mosses in the New York City vicinity. It is known to range from Delaware to Florida, west to Texas, Oklahoma, Missouri and Illinois. It often grows on roadside tree trunks in urbanized areas (Crum and Anderson, 1981 and Reese, 1999).

In January 2006, I found a small tuft of *Ptychomitrium serratum* Bruch & Schimp. (Ptychomitriaceae) on sloping concrete, well above the water level, by a footbridge over a creek, in a half open area of a wooded preserve, surrounded by an extensive suburban area, in Massapequa, Nassau County (Trigoboff c05287, NY & NYS). The plants were not large, but stood out as looking unfamiliar.

Also present were *Orthotrichum* sp., *Ceratodon purpureus*, *Barbula unguiculata* Hedw., *Bryum argenteum* and *Bryum* sp. *P. serratum* has never been reported from New York, or nearby states. According to Reese (1999), *P. serratum* grows on "calcareous rock and concrete in forests; 0–2200 m; La., S.C., Tex.; Mexico; West Indies (Dominican Republic)."

In June 2000, an extremely dense, heavily fruiting growth of *Trematodon longicollis* Michx. (Dicranaceae) covered at least 1 square meter of moist, bare waste ground in a 1-m-wide alley between two buildings of the Kenneth W. Post greenhouse complex on the Cornell University campus, in Ithaca, Tompkins County (Trigoboff c005, BH; c0029, NYS). Other mosses at the site included: *Bryum caespiticum* (Hedw.), *Ceratodon purpureus* (Hedw.) Brid., *Amblystegium varium* (Hedw.) Lindb., *Brachythecium* sp., and *Plagiomnium cuspidatum* (Hedw.) T. Kop. In May 2004, the plants were fewer, far less dense and scantily fruiting (Trigoboff c0410, BH). In April 2005, the plants had increased and were fruiting more heavily, but not to the extent seen originally (Trigoboff c0553, BH). The genus *Trematodon* has capsules with distinctive long, slender necks. The neck of *T. longicollis* is about twice as long as the urn. *T. ambiguous* (Hedw.) Hornsch., which also occurs in New York, has a neck about as long as the urn, as well as other differences (Crum and Anderson, 1981). *T. longicollis* is not listed in Ketchledge's (1980) checklist of New York State mosses. In eastern North America, its range extends at least from New Jersey and southern Ontario to Florida and Texas (Crum and Anderson, 1981). Grout (1916) listed it as occurring in the New York City vicinity because it was known from Closter, New Jersey, which is just northwest of New York City. The location of the plants by a greenhouse, as well as the many bryologists who have

passed through Ithaca over the years without collecting it, make it safe to say that the plant is introduced.

Google Earth provides high-resolution aerial and satellite imagery with coordinates, elevation, street names and other information. You can download GoogleEarth at: <http://earth.google.com/download-earth.html>. If you type the coordinates: 40°40'48.42"N 73°27'41.97"W (exactly as given), it should take you to within 2 meters of the *Ptychomitrium serratum*. If you are prone to vertigo, strap yourself into your chair before you hit the return key. You can vary the altitude of the view to suit your purpose. At 300 feet, you can inspect the small bridge and the surrounding area. One thousand feet is a good altitude to "fly" over the land and look for similar bridges, or rock outcrops, creeks, bogs, woods, or the habitat of your choice in any part of the world. GoogleEarth also can help you find your way to the site if you are driving (or parachuting) there. The photo quality varies from place to place, but is sure to improve in the future. The *Trematodon longicollis* site in Ithaca is just a blur, but at 40°40'11.03"N 73°57'3.74"W you can see the tree where the *P. drummondii* occurs in Brooklyn. With luck and a little time spent noting land features and

comparing them with GoogleEarth, you can determine the precise latitude and longitude of your plant collections. A similar program is available at: <http://dev.live.com/virtualearth/sdk/>

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