

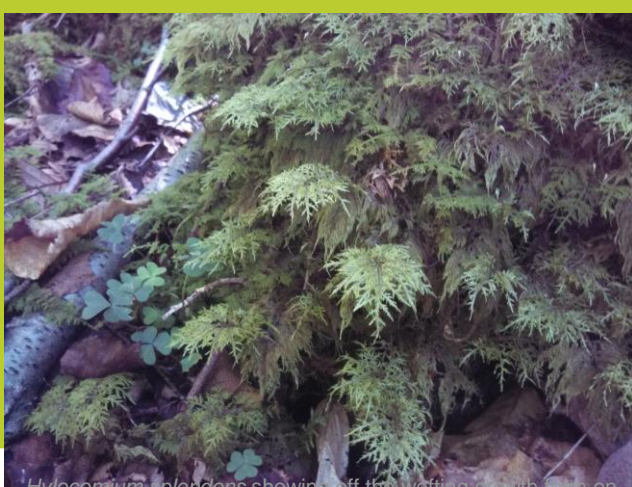
# Bryophyte and Lichen Technical Committee

December 30, 2013

Annual Report



*Polytrichum commune* growing in disturbed soil mounds along the forest edge in Tiadaghton State Forest looks like young pine tree seedlings.



*Hylocomium splendens* showing off the wetting growth form on boulders in a shaded moist ravine in Loyalsock State Forest

**Scott Schuette, PhD**  
**Chair, Bryophyte and Lichen**  
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## 2013 Year in Review

Bryophyte and lichen field activities this year were more frequent than in years past. The committee met in Pittsburgh to discuss activities, make determinations on developing tracking lists for mosses and liverworts, and proposed the formation of Pennsylvania Bryophyte and Lichen Association. Each committee member left the meeting energized and tasked with increasing awareness and appreciation of the overlooked segments of our biota. The following report highlights the activities that were undertaken across the state in 2013.

## BioBlitz Mania

Members of the BLTC participated in two BioBlitzes this year. Hank Webster and Scott Schuette traveled to Sinnemahoning State Park to participate in educational blitz at the park on May 20-21. Hank led groups of middle school and high school students through common habitats for bryophytes pointing out the different growth forms and showing them several easily recognized species. Hank was happy to report that the kids they were certainly amazed that there were so many little plants growing right under their feet. Scott spent the next day collecting specimens from areas of the park that were not covered the previous day. Due to the educational focus of this blitz, little time was spent scouring the habitats for species. However, there were still 25 species recorded from the park and several habitats scouted for future field work. As Bruce Allen, bryophyte curator at the Missouri Botanical Garden suggests, Cameron County is wild and wonderful just begging for extensive bryophyte explorations.

Another Bio Blitz occurred along the upper Delaware River in Wayne County. Dave Kravesky and Scott Schuette made the long trek to the northeastern most county in Pennsylvania to participate in this event. The Norcross Wildlife Foundation owns 63.5 acres of mixed use land with pasture, floodplain forest, and mixed hardwood/hemlock forest. During the blitz, 27 moss and 7 liverwort species were collected from the property. Among these collections was the first confirmed record of the moss *Pterigynandrum filiforme*, previously known only from the literature from two counties in Pennsylvania.

## Bryophytes and Lichens of the Dry-Oak Heath Forests in Tiadaghton State Forest

A Wild Resources Conservation Program funded research project to determine the diversity of bryophytes and lichens in the dry-oak heath forests in Tiadaghton State Forest began in earnest in April 2013. In addition to the diversity, species are being analyzed for their potential as indicators of forest integrity. There are four 400m<sup>2</sup> plots in each of three disturbance regimes, adjacent to gas well pad, a recent timber sale, and a mature natural area. From these plots, all species of bryophytes and lichens collected and identified from all substrates.

This effort yielded 66 species of bryophytes and 111 species of lichens from the 12 plots. The greatest diversity was found in the mature natural area plots from Miller Run Natural Area with 50 bryophytes and 82 lichens. These plots also harbor species considered rare in Pennsylvania, but formal designations of rarity are yet to be established for bryophytes and lichens. Regardless it is safe to say that the species diversity in the mature forest plots is qualitatively better than the other plots included in this study.

Several environmental variables were measured for this study, including temperature, relative humidity, light intensity, and soil pH and moisture. The preliminary data from these variables suggest there may be some environmental drivers to the observed differences in species diversity. Most notable are temperature, humidity, and light intensity, i.e. more species were found in mature plots with lower temps, higher humidity, and lower light intensity.

Attempts to determine a relationship between the environmental variables and species composition are underway. Indicator species analyses in conjunction with some multivariate statistical are being conducted to identify any species or suites of species indicative of mature forests with good integrity.

The final results of this project will be submitted in a report to WRCP available to the public in late 2014.



*Bazzania trilobata* showing off the wefting growth form on boulders in a shaded moist ravine in Loyalsock State Forest

## Current BLTC Members

- Bryan Dolney, Pittsburgh Parks Conservancy
- Dr. Larry Klotz, Shippensburg University
- Dr. David Kravesky, Slippery Rock University
- John Kunsman, PA Natural Heritage Program
- Dr. James Lendemer, New York Botanical Garden
- Christine Manville
- Dr. Susan Munch, Albright College
- Dr. Matthew Opdyke, Point Park University
- Dr. Ron Pursell, Penn State University
- Dr. Hank Webster, Penn State DuBois

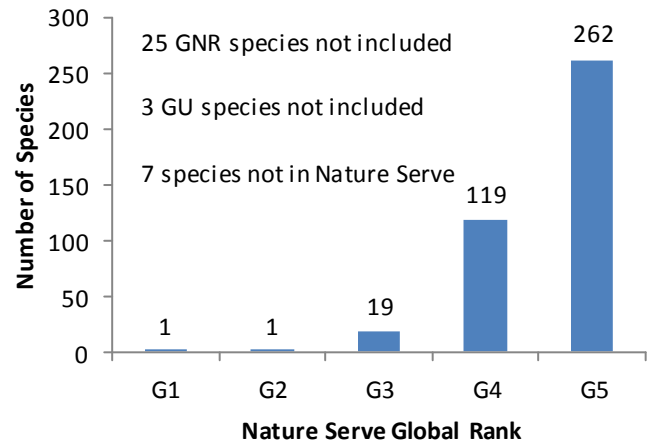
## Pennsylvania Bryophyte and Lichen Association

Members of the BLTC discussed the formation of an organization to serve as an information resource for amateurs and professionals passionate about documenting the diversity of bryophytes and lichens throughout the state. A similar organization exists in Ohio and is being used as a model for the one we seek to develop in Pennsylvania. That model consists of two forays and one business meeting with an associated workshop each year. Bryan Dolney has taken on the responsibility of organizing this new statewide group. He has developed preliminary goals, objectives, and compiled a list of legal requirements for forming such a non-profit organization. There are plans to have an initial brainstorming/planning meeting to flesh out the vision in late February or early March.

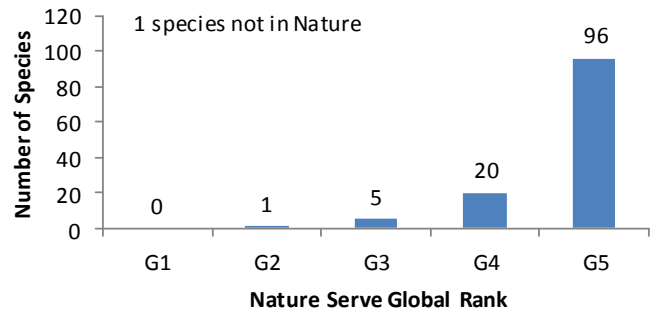


*Sphagnum girgensohnii* in moist shaded ravine in Loyalsock State Forest

### Mosses with Assigned Global Ranks



### Liverworts with Assigned Global Ranks



## BLTC Goals for 2014

- Update state lists for mosses, liverworts, and hornworts
- Assign state conservation ranks to all bryophyte species
- Determine bryophyte species rarity
- Identify regions in need of field work