

Flowering Pixiemoss



Scientific Name *Pyxidanthera barbulata*
Michx.

Family Name Diapensiaceae
Diapensia Family

Did you know?

The top of the anthers open like the lid of the box to release the pollen and this character gives the plant its genus name composed of the Greek pyxis, little box, and anthera, Latin for anther (Fernald 1950).

Summary

Protection Endangered in New York State, not listed federally.

This level of state protection means: listed species are those with: 1) 5 or fewer extant sites, or 2) fewer than 1,000 individuals, or 3) restricted to fewer than 4 U.S.G.S. 7 ½ minute topographical maps, or 4) species listed as endangered by U.S. Department of Interior.

Rarity G4, S1

A global rarity rank of G4 means: This species is apparently secure globally (typically with more than 100+ populations), though it may be quite rare in parts of its range, especially at the periphery.

A state rarity rank of S1 means: This plant is endangered/critically imperiled in New York because of extreme rarity (typically 5 or fewer populations or very few remaining individuals) or is extremely vulnerable to extirpation from New York due to biological factors.

Conservation Status in New York

There are two existing populations but one of them is very small. There are no other known historical populations.

Short-term Trends

The short-term trend is mixed because each of these populations fluctuates according to its different disturbance regime. One population has been reduced over time because of woody succession and the other has been increased because of favorable disturbance.

Long-term Trends

There have only ever been two populations known in New York. The long-term trend is uncertain due to the potential loss of one population to habitat succession.

Conservation and Management

Threats

Plants can be lost to succession and they may also be collected. One population was bulldozed and it was thought that it had been destroyed but it actually recovered and thrived because of the disturbance.

Conservation Strategies and Management Practices

One population needs more disturbance to remove shrubs that are encroaching upon and shading out the plants.

Research Needs

Research is needed to determine the best disturbance regime to maximize plant numbers.

Habitat

The plants occur in sandy/gravelly disturbed openings in pitch pine oak woods. Sandy pine barrens (Gleason and Cronquist 1991).

Associated Ecological Communities

Pitch Pine-oak Forest

A mixed forest that typically occurs on well-drained, sandy soils of glacial outwash plains or moraines; it also occurs on thin, rocky soils of ridgetops. The dominant trees are pitch pine mixed with one or more of the following oaks: scarlet oak, white oak, red oak, or black oak.

Associated Species

Bushy Bluestem (*Andropogon glomeratus*)
Yellow Wild-indigo (*Baptisia tinctoria*)
Spoon-leaved Sundew (*Drosera intermedia*)
Roundleaf Sundew (*Drosera rotundifolia*)
Trailing Arbutus (*Epigaea repens*)
Hyssop-leaved Thoroughwort (*Eupatorium hyssopifolium*)
Vervain Thoroughwort (*Eupatorium pilosum*)
Western Showy Aster (*Eurybia spectabilis*)

Slender Flattop Goldenrod (*Euthamia caroliniana*)
 Longbranch Frostweed (*Helianthemum canadense*)
 Canadian St. John's-wort (*Hypericum canadense*)
 Canada Rush (*Juncus canadensis*)
 Forked Rush (*Juncus dichotomus*)
 Wand Bush-clover (*Lespedeza intermedia*)
 Northern Bog Clubmoss (*Lycopodiella inundata*)
 Switchgrass (*Panicum virgatum*)
 Yellow Milkwort (*Polygala lutea*)
 Horned Beakrush (*Rhynchospora capillacea*)
 Little Bluestem (*Schizachyrium scoparium*)
 Cottongrass Bulrush (*Scirpus cyperinus*)
 Whip Nutrush (*Scleria triglomerata*)
Solidago elliotii
 Field Goldenrod (*Solidago nemoralis*)
 Downy Goldenrod (*Solidago puberula*)
 Virginia Tephrosia (*Tephrosia virginiana*)

Identification Comments

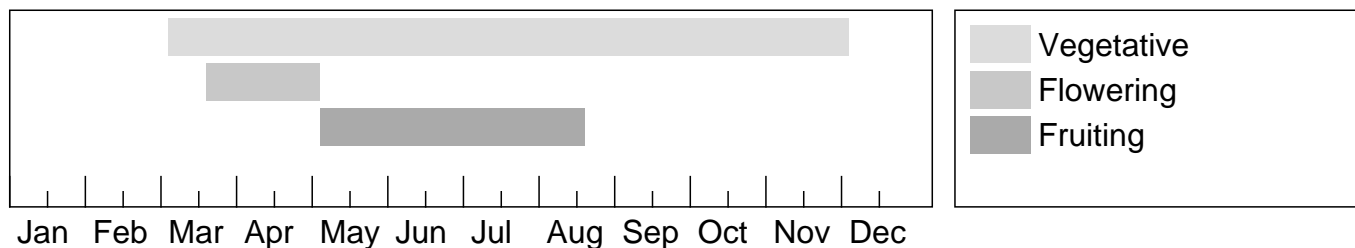
Flowering pixiemoss forms low, up to 1 meter wide, round mats of tiny leaves. The clustered leaves are stiff, oblanceolate, 3-8 mm long with a sharp tip and are light green to reddish turning completely red late in the season. They are usually white-hairy towards the base. The mats produce masses of tiny, 5-petaled, white flowers that are 5-8 mm wide. The flowers are so numerous that, from a distance, the mounds resemble small patches of snow on the ground. The flat stamens stick out from between the bases of the petals and are topped by 2 yellow anther sacs. The small reddish brown capsules break open to release many seeds (Gleason and Cronquist 1991).

Best Life Stage for Identifying This Species

The plants can be identified vegetatively but should be confirmed in flower or fruit.

The Best Time to See

The best time to identify this plant is in early to mid April when its mass of flowers is easily visible.



The time of year you would expect to find Flowering Pixiemoss in New York.

Similar Species

There is no other plant that forms mats like this with masses of white flowers. From a distance mounds of hair-cap moss may resemble the mounds of pixiemoss but the leaves are much more narrow and there are no flowers.

Taxonomy

Kingdom Plantae

└ **Phylum** Anthophyta

└ **Class** Dicots (Dicotyledoneae)

└ **Order** Diapensiales

└ **Family** Diapensiaceae (Diapensia Family)

Additional Common Names

Flowering Moss

Pixies

Additional Resources

Links

Nearctica - Eastern Wildflowers

<http://www.nearctica.com/flowers/dtoh/diapen/Pbarb.htm>

USDA Plants Database

<http://plants.usda.gov/java/nameSearch?mode=sciname&keywordquery=PYXIDANTHERA+BARBULATA>

NatureServe Explorer

<http://natureserve.org/explorer/servlet/NatureServe?searchName=PYXIDANTHERA+BARBULATA>

Google Images

<http://images.google.com/images?q=PYXIDANTHERA+BARBULATA>

Best Identification Reference

Gleason, Henry A. and A. Cronquist. 1991. Manual of Vascular Plants of Northeastern United States and Adjacent Canada. The New York Botanical Garden, Bronx, New York. 910 pp.

References

Clemants, Steven and Carol Gracie. 2006. Wildflowers in the Field and Forest. A Field Guide to the Northeastern United States. Oxford University Press, New York, NY. 445 pp.

Fernald, M. L. 1950. Gray's manual of botany. 8th edition. Corrected printing (1970). D. Van Nostrand Company, New York. 1632 pp.

Holmgren, Noel. 1998. The Illustrated Companion to Gleason and Cronquist's Manual. Illustrations

of the Vascular Plants of Northeastern United States and Adjacent Canada. The New York Botanical Garden, Bronx, New York.

- Keys, Jr., J.; Carpenter, C.; Hooks, S.; Koenig, F.; McNab, W.H.; Russell, W.; Smith, M.L. 1995. Ecological units of the eastern United States - first approximation (cd-rom), Atlanta, GA: U.S. Department of Agriculture, Forest Service. GIS coverage in ARC/INFO format, selected imagery, and map unit tables.
- Mitchell, Richard S. and Charles J. Sheviak. 1981. Rare Plants of New York State. Bull No. 445. New York State Museum. Univ. of New York. State Ed. Department Albany, NY.
- NatureServe. 2005. NatureServe Central Databases. Arlington, Virginia. USA
- New York Natural Heritage Program. 2010. Biotics database. New York Natural Heritage Program. New York State Department of Environmental Conservation. Albany, NY.
- Newcomb, Lawrence. 1977. Newcomb's Wildflower Guide: An Ingenious New Key System for Quick, Positive Field Identification of the Wildflowers, Flowering Shrubs, and Vines of Northeastern and North-Central North America. Little, Brown and Company. Boston.
- Weldy, T. and D. Werier. 2010. New York flora atlas. [S.M. Landry, K.N. Campbell, and L.D. Mabe (original application development), Florida Center for Community Design and Research <http://www.fccdr.usf.edu/>. University of South Florida <http://www.usf.edu/>]. New York Flora Association <http://www.nyflora.org/>, Albany, New York

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