

Fairy Wand



Chamaelirium luteum



Photo credits: Troy Weldy

Scientific Name *Chamaelirium luteum*
(L.) Gray

Family Name Liliaceae
Lily Family

Did you know?

This plant has seen a severe decline in numbers over the last 100 years. One factor in its decline may have been the overcollection of its highly valued root which was used to cure many ailments. The legend goes that the devil was so envious of its curative properties that he bit off most of its rhizome leaving only the short rhizomes seen today, hence the name Devil's-bit. Its Latin name means dwarf yellow lily but this description may have come from a shriveled herbarium specimen since the plant is neither dwarf nor yellow.

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 G5, S1S2

A global rarity rank of G5 means: This species is demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery.

A state rarity rank of S1S2 means: Critically Imperiled or Imperiled in New York - Especially or very vulnerable to disappearing from New York due to rarity or other factors; typically 20 or fewer populations or locations in New York, very few individuals, very restricted range, few remaining acres (or miles of stream), and/or steep declines. More information is needed to assign a single conservation status.

Conservation Status in New York

While there have been as many as fifty populations historically present in the state, today we only know of seven populations. This severe decline is due in part to natural succession.

Short-term Trends

There has been a continual decline in numbers of plants in known populations over the past 10-25 years. The factors for this decline are not completely understood, but succession/canopy closure is probably a major reason.

Long-term Trends

There were approximately fifty historical occurrences known of this plant but presently less than ten are known. In the early 1900s, the roots of this plant were collected and sold for medicinal purposes. Collectors received 30 to 45 cents per pound. The amount of root stock collected from New York is not known and the impact from this collection is not known. This may be one of the reasons for the decline of the plant over the last 100 years. Another reason for the decline is likely due to habitat loss through succession, degradation, or destruction.

Conservation and Management

Threats

Many plants are threatened by succession and lack of additional habitat in which to spread. These long-lived plants can survive for many years under canopy closure, but they fail to reproduce. Should the plants be lost to competition, deer browse, picking, trampling, etc., there are no means for recovery once the canopy has closed.

Conservation Strategies and Management Practices

Some populations have benefited from the creation of light gaps. At one site in the southern Hudson Valley where few to no plants were producing flowers, many trees were cut in order to create light gaps. The following season, many of the plants in this setting produced flowers and set seed. This resulted in the recruitment of juvenile plants. Using this site as an example, the other sites may also benefit from the controlled removal of select trees and shrubs.

Research Needs

More research is needed to determine factors affecting the amount and timing of flowering in New York populations. We would like to see a study that compares multiple light gap treatments to various control populations to determine the optimal canopy cover for flowering and recruitment.

Habitat

A long-lived plant that is often a calciphile of oak woodlands, mesic woodlands, oak barrens, mixed

young mesophytic woods, old pastures with red cedars, moist thickets, calcareous seeps in red maple-tamarack swamps; calcareous wet meadows within old successional woods, calcareous rocky summits, and rich sloping fens. In areas where the canopy is closed, the plants may remain vegetative; however, flowers typically appear as soon as the canopy is opened (New York Natural Heritage Program 2004). Moist meadows, thickets, rich wooded slopes, and covers (Flora of North America 2002). Moist woods and bogs (Gleason and Cronquist 1991). Moist meadows and woods (Newcomb 1977). Meadows, thickets and rich woods (Fernald 1970).

Associated Ecological Communities

Limestone Woodland

A woodland that occurs on shallow soils over limestone bedrock in non-alvar settings, and usually includes numerous rock outcrops. There are usually several codominant trees, although one species may become dominant in any one stand.

Red Cedar Rocky Summit

A community that occurs on warm, dry, rocky ridgetops and summits where the bedrock is calcareous (such as limestone or dolomite, but also marble, amphibolite, and calcsilicate rock), and the soils are more or less calcareous. The vegetation may be sparse or patchy, with numerous lichen covered rock outcrops.

Rich Mesophytic Forest

A hardwood or mixed forest that resembles the mixed mesophytic forests of the Allegheny Plateau south of New York but is less diverse. It occurs on rich, fine-textured, well-drained soils that are favorable for the dominance of a wide variety of tree species. A canopy with a relatively large number of codominant trees characterizes this forest. Canopy codominants include five or more of the following species: red oak, red maple, white ash, American beech, sugar maple, black cherry, cucumber tree, and black birch.

Successional Old Field

A meadow dominated by forbs and grasses that occurs on sites that have been cleared and plowed (for farming or development), and then abandoned or only occasionally mowed.

Other Probable Associated Communities

Allegheny oak forest
Calcareous talus slope woodland
Maple-basswood rich mesic forest
Red maple-tamarack peat swamp
Rich sloping fen
Successional northern hardwoods

Associated Species

Red Maple (*Acer rubrum* var. *rubrum*)
Bristleleaf Sedge (*Carex eburnea*)
American Hornbeam (*Carpinus caroliniana*)
American Chestnut (*Castanea dentata*)
Flowering Dogwood (*Cornus florida*)
American Beech (*Fagus grandifolia*)

White Ash (*Fraxinus americana*)
 Red Cedar (*Juniperus virginiana*)
 Cucumber Magnolia (*Magnolia acuminata*)
 Canada May-flower (*Maianthemum canadense*)
 Indian-pipe (*Monotropa uniflora*)
 Virginia Creeper (*Parthenocissus quinquefolia*)
 Wild Black Cherry (*Prunus serotina*)
 Choke Cherry (*Prunus virginiana*)
 Red Oak (*Quercus rubra*)
 Black Oak (*Quercus velutina*)
 American Basswood (*Tilia americana* var. *americana*)
 Mapleleaf Viburnum (*Viburnum acerifolium*)

Identification Comments

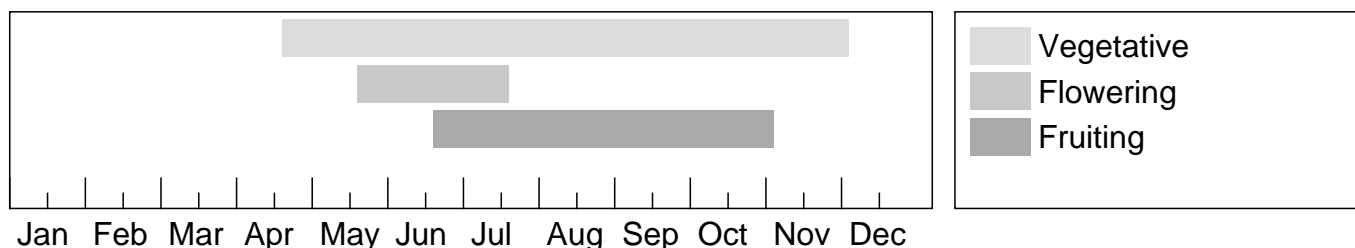
This attractive wildflower has a single flower stalk growing up to a meter tall from a rosette of 5-10 lance-shaped leaves 8-15 cm long. There are also a few narrow leaves along the flower stalk. Above these leaves is a long spike of tiny white flowers that are either male or female and turn yellow as they age. The female flowers mature into small, erect, oval, green fruits.

Best Life Stage for Identifying This Species

The best stage for identifying this plant is while it is in flower; however, it can be identified vegetatively.

The Best Time to See

Vegetative plants may be present from early spring to late fall. If the plant flowers, these flowers will begin to appear late-May and may persist to late July or even early August. The flowering stalks should persist into the winter. Surveys may take place anytime from early spring to late summer, but the plants stand out more in flower. Since the plants do not flower every though, surveys that target the flowers may be difficult. The recommended survey time is May and June.



The time of year you would expect to find Fairy Wand in New York.

Similar Species

When in flower, not likely to be confused with other species. Vegetatively, this may look like a number of other liliaceous plants to somebody not intimately familiar with this species.

Taxonomy

Kingdom Plantae

└ **Phylum** Anthophyta

└ **Class** Monocots (Monocotyledoneae)

└ **Order** Liliales

└ **Family** Liliaceae (Lily Family)

Additional Common Names

Blazing Star
Blazing-star
Devil's-bit
Drooping Starwort
Helonias
Rattlesnake-root
Starwort
Unicorn Root
Unicorn's-horn

Synonyms

Helonias dioica (Pursh)
Helonias lutea (Ait.)
Veratrum luteum (L.)

Additional Resources

Links

Flora of North America

http://efloras.org/florataxon.aspx?flora_id=1&taxon_id=242101521

New York Flora Atlas

<http://www.newyork.plantatlas.usf.edu/Plant.aspx?id=1835>

USDA Plants Database

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

NatureServe Explorer

<http://natureserve.org/explorer/servlet/NatureServe?searchName=CHAMAELIRIUM+LUTEUM>

Google Images

<http://images.google.com/images?q=CHAMAELIRIUM+LUTEUM>

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.

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