

Glaucous Sedge



Carex glaucoidea



Photo credits: Steve Young

Scientific Name *Carex glaucoidea*
Tuckerman ex Olney

Family Name Cyperaceae
Sedge Family

Did you know?

Glaucodea means gray-green (Fernald 1970), which is the color of the leaves and is created by a thin waxy coating on the surface of the leaf blades.

Summary

Protection Endangered Species 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, S2

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 S2 means: This plant is threatened/imperiled in New York because of rarity (typically 6-20 populations or few remaining individuals) or is vulnerable to extirpation from New York due to biological factors.

State Ranking Justification

There are six existing populations but more are expected to be found as more people become familiar with the identification of this species. There are 10 historical occurrences.

Conservation Issues

Threats

None known.

Management Considerations

No management needs known.

Short Term Trends

In the past five years at least five new populations have been found. Most likely these populations have been overlooked in the past. Ten populations are considered historic because they have not been seen in recent years but again this may simply be due to the fact that they have been overlooked recently. Overall short-term trends are not clear.

Long Term Trends

There is one extant population that has been known for over 120 years. This population is quite healthy and robust. At least two populations are believed to be extirpated. Other information regarding long term trends is not available.

Habitat

Carex glaucoidea occurs in wet to dry-mesic deciduous forests and old fields. It occurs on the edges of seasonal swamps and in seasonally wet depressions in more open environments. Plants can often be found in roads and deer or human paths through forests. These roads and paths probably are helping the seed bank germinate. Also, these roads and paths often have more compacted soils creating slightly wetter situations preferred by *C. glaucoidea* (New York Natural Heritage Program 2005). Mesic to wet-mesic deciduous forests or seasonally moist prairies, usually in clays or loams (Naczi and Bryson 2002). Dry to moist calcareous woods or fields (Rhoads and Block 2000). Wet woods, swamps, moist fields (Gleason & Cronquist 1991). Calcareous woods and meadows (Fernald 1970).

Associated Ecological Communities

Appalachian Oak-hickory Forest

A hardwood forest that occurs on well-drained sites, usually on ridgetops, upper slopes, or south- and west-facing slopes. The soils are usually loams or sandy loams. This is a broadly defined forest community with several regional and edaphic variants. The dominant trees include red oak, white oak, and/or black oak. Mixed with the oaks, usually at lower densities, are pignut, shagbark, and/or sweet pignut hickory.

Chestnut Oak Forest

A hardwood forest that occurs on well-drained sites in glaciated portions of the Appalachians, and on the coastal plain. This forest is similar to the Allegheny oak forest; it is distinguished by fewer canopy dominants and a less diverse shrublayer and groundlayer flora. Dominant trees are typically chestnut oak and red oak.

Perched Swamp White Oak Swamp

A swamp that occurs in a shallow depression on a forested hillside where the water table is locally perched above the surrounding groundwater level. The water level fluctuates seasonally; the swamp may be flooded in spring and nearly dry by late summer. The dominant tree is swamp white oak, which may form a nearly pure, open canopy stand in areas that are permanently saturated.

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.

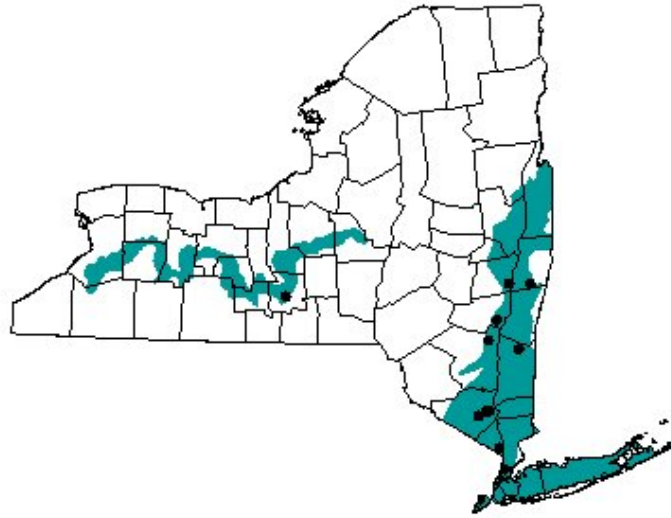
Successional Southern Hardwoods

A hardwood or mixed forest that occurs on sites that have been cleared or otherwise disturbed. Canopy trees are usually relatively young in age (25-50 years old) and signs of earlier forest disturbance are often evident. Characteristic trees and shrubs include any of the following: American elm, slippery elm, white ash, red maple, box elder, silver maple, sassafras, gray birch, hawthorn, eastern red cedar, and choke-cherry.

Associated Species

Red Maple (*Acer rubrum* var. *rubrum*)
Bush's Sedge (*Carex bushii*)
Black-edge Sedge (*Carex nigromarginata*)
Pignut Hickory (*Carya glabra*)
Poverty Oatgrass (*Danthonia spicata*)
White Ash (*Fraxinus americana*)
American Witch-hazel (*Hamamelis virginiana*)
Eastern Yellow Stargrass (*Hypoxis hirsuta*)
Path Rush (*Juncus tenuis*)
Indian-tobacco (*Lobelia inflata*)
Maleberry (*Lyonia ligustrina*)
Japanese Stiltgrass (*Microstegium vimineum*)
Hophornbeam (*Ostrya virginiana*)
Pitch Pine (*Pinus rigida*)
Eastern White Pine (*Pinus strobus*)
Polygonum spp.
Susquehanna Cherry (*Prunus pumila* var. *susquehanae*)
White Oak (*Quercus alba*)
Scarlet Oak (*Quercus coccinea*)
Pin Oak (*Quercus palustris*)
Red Oak (*Quercus rubra*)
Lizard's Tail (*Saururus cernuus*)

Range



The map shows the known locations for glaucous sedge (black dots) based on the New York Natural Heritage Program database . A general approximation of the potential range (blue shading) throughout the state is based on the U.S. Forest Service Ecological Units (Keys et al. 1995).

Data Sources

- New York Natural Heritage Program (Natural Heritage Element Occurrences)
- NYS GIS Data Sharing Cooperative, simplified by NYS Department of Environmental Conservation, Habitat Inventory Unit (County Boundary for New York State)
- U.S. Department of Agriculture, Forest Service (Subregions of the conterminous United States)

Best Places to See

Schunnemunk Mountain (Orange County)

New York State Distribution

Carex glaucoidea is known mostly from eastern New York (Albany and Rensselaer Counties south to Long Island) but is also known from a couple of sites in central New York.

Global Distribution

This sedge occurs from New Hampshire, Massachusetts, and Connecticut west to New York, Ontario, Ohio, and Missouri south to North Carolina, Tennessee, Alabama, Oklahoma, and Texas.

Identification Comments

This sedge is a densely tufted grass-like plant with leaves covered with a white waxy covering (glaucous) and up to (5.1-)5.7-10.8 mm wide. Flowering/fruiting stalks (culms) are 10-50 cm tall and contain 3-6 elongated clusters of flowers/fruits (spikes) that are arranged along the culm. Fruits (perigynia) have many fine impressed longitudinal nerves (Naczi and Bryson 2002).

Identifying Characteristics

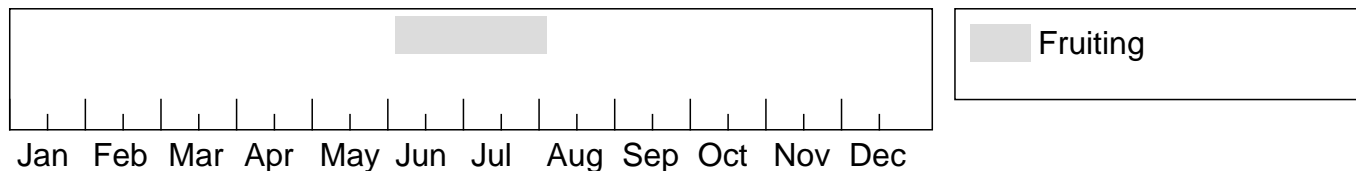
Carex glaucodea has glaucous leaves. The bases of the culms are yellow-brown. The inflorescence consists of one terminal staminate spike which is 7-35 mm long and 2-5 lateral pistillate spikes. The peduncles of the pistillate spikes are smooth. Perigynia are spirally arranged along the axis of the spike, 3.2-4(-4.1) mm long, gradually taper to the apex, have no or only a tiny (0-0.3 mm long) beak, and have 43-54 impressed longitudinal nerves. Pistillate scales are relatively short awned tipped with awns 0-1(-1.5) mm long. Achenes have beaks that are bent (0-)30-90 degrees (Naczi and Bryson 2002).

Best Life Stage for Identifying This Species

The glaucous leaves make this *Carex* a little easier to identify vegetatively although fruits are still necessary to make a positive identification. Mature ample specimens with notes on whether the leaves are glaucous or not are best for identification.

The Best Time to See

The species is in fruit from June to mid-July. Fruits can sometimes be found on plants later in the season. The best time to survey for this species is mid-June to mid-July.



The time of year you would expect to find Glaucous Sedge in New York.

Similar Species

In New York, this species is quite distinctive. There are two other *Carex* species (*C. granularis* and *C. laxiculmis* var. *laxiculmis*) which look similar vegetatively. *Carex granularis* has smaller perigynia (2.2-3.1(-3.7) mm long vs. to 3.2-4(-4.1) for *C. glaucodea*); "nerves" of the perigynia raised (vs. impressed); and beaks of the perigynia, when present, sometimes bent (vs. never bent). *Carex laxiculmis* has pistillate peduncles flexuous and drooping (vs. stiffer and erect to ascending); 4-9 perigynia per spike (vs. 10-45); and sharply triangular perigynia in cross section (vs. obtusely triangular) (Yatskievych 1999, Naczi and Bryson 2002).

Other members of section *Griseae* in New York, which *C. glaucodea* is part of, have green leaves (vs. glaucous) and pistillate scales with longer awns (vs. short or no awns). Awns can occasionally be variable in length. *Carex glaucodea* is the only member of section *Griseae* that will appear highly glaucous.

Conservation Comments

Carex glaucodea along with *C. flaccosperma* have been variously treated by many authors. Some authors treat *C. glaucodea* as a variety of *C. flaccosperma* (e.g. Fernald 1970), others lump the two together (e.g. Gleason and Cronquist 1991), and others treat the two at the species level. Naczi (1991) shows that the two should be considered distinct at the species level based on morphology, cytology, ecology, geography, and natural hybridization. In addition, Naczi (1997) described a new species *C. pigra* which is intermediate in perigynia length between *C. glaucodea* and *C. flaccosperma*. This may have been part of the reason why some botanists were confused regarding the status of *C. glaucodea* and *C. flaccosperma*. In New York, we only have one taxon, *C. glaucodea*. *Carex pigra* and *C. flaccosperma* occur further south and west of New York.

Taxonomy

Kingdom Plantae

└ **Phylum** Anthophyta

└ **Class** Monocots (Monocotyledoneae)

└ **Order** Cyperales

└ **Family** Cyperaceae (Sedge Family)

Additional Common Names

Sedge

Synonyms

Carex flaccosperma var. *glaucodea* ((Tuckerman ex Olney) Kukenth.)

Additional Resources

Links

USDA Plants Database

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

Google Images

<http://images.google.com/images?q=CAREX+GLAUCODEA>

NatureServe Explorer

<http://natureserve.org/explorer/servlet/NatureServe?searchName=CAREX+GLAUCODEA>

New York Flora Atlas

<http://www.newyork.plantatlas.usf.edu/Plant.aspx?id=990>

Flora of North America

http://efloras.org/florataxon.aspx?flora_id=1&taxon_id=242357212

Best Identification Reference

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