Dune Sandspur

Cenchrus tribuloides

Photo credits: *Stephen M. Young*

Scientific Name	*Cenchrus tribuloides* L.
Family Name	Poaceae Grass Family

Did you know?
The species name of this spiny-fruited grass derives from the Latin "tribulus", the name for the antipersonnel weapon called a caltrop. This weapon usually consists of four spikes, one of which always points upward when supported on the ground by the other three (Wikipedia contributors). While the Civil War raged on in 1862 William H. Leggett collected New York's first specimen of this species on Staten Island. The specimen is now in the collection of the New York Botanical Garden.

Summary

Protection Threatened in New York State, not listed federally.

This level of state protection means: listed species are those with: 1) 6 to fewer than 20 extant sites, or 2) 1,000 to fewer than 3,000 individuals, or 3) restricted to not less than 4 or more than 7 U.S.G.S. 7 ? minute topographical maps, or 4) listed as threatened by U.S. Department of the 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.

Conservation Status in New York

There are 8 known populations, but almost all of them have 100 plants or less. They need disturbed sands to thrive, but they are also subject to direct destruction by beachgoers, especially since they occur on popular tourist beaches. There are about 20 historical occurrences.

Short-term Trends

The short-term trend seems stable with little fluctuation over the years. Populations would have been expected to grow with more protection of the beach for rare shorebirds, but this does not seem to have happened.

Long-term Trends

The number of populations has declined over the years and the number of beaches available to the species is not expected to increase.

Conservation and Management

Threats

The beaches are heavily used and the plants are subject to beach grooming, ATV use, trampling, and succession.

Conservation Strategies and Management Practices

Protect the beach habitat from direct destruction by human means, but disturb areas enough so open sands prevail.

Research Needs

Research on habitat preference is needed to determine why this plant prefers one part of the beach over another.

Habitat

In New York, dune sandspur is known from maritime sand dunes and beaches (New York Natural Heritage Program 2010). Coastal sands, especially on dunes (Gleason and Cronquist 1991). Moist, sandy dunes (Utah State University 2005).

Associated Ecological Communities

Maritime Beach
A community with extremely sparse vegetation that occurs on unstable sand, gravel, or cobble ocean shores above mean high tide, where the shore is modified by storm waves and wind erosion.

Maritime Dunes
A community dominated by grasses and low shrubs that occurs on active and stabilized dunes along the Atlantic coast. The composition and structure of the vegetation is variable

depending on stability of the dunes, amounts of sand deposition and erosion, and distance from the ocean.

Other Probable Associated Communities

Maritime grassland

Associated Species

Lake Champlain Beachgrass (*Ammophila breviligulata*)

Identification Comments

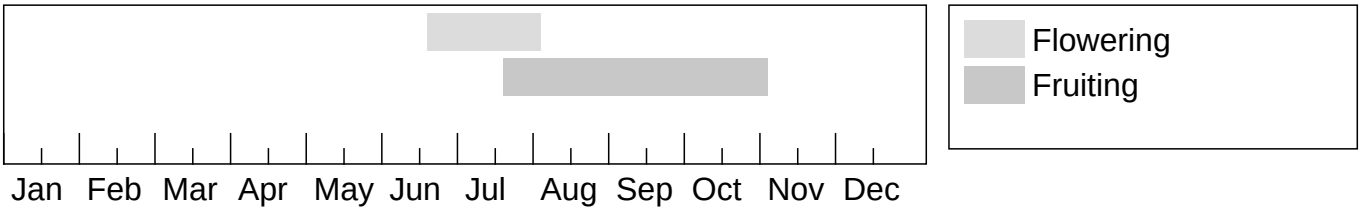
Dune Sandspur is a stout, annual grass species. The stems are trailing or decumbent, and up to 1 meter long, with short (up to 14 cm), wide (to 14 mm) leaves and soft-hairy leaf sheaths. There is a single spikelet (occasionally 2) enclosed in a densely hairy bur with from 15 to 40 barbed spines (treacherous to the barefoot), each from 4 to 8 mm long (Gleason and Cronquist 1991).

Best Life Stage for Identifying This Species

Dune sandspur may be identified vegetatively, though fruits are best for quick identification. Barefoot dune explorations may result in an unintended, painful discovery of this species.

The Best Time to See

Dune sandspur may be seen from June through October.



The time of year you would expect to find Dune Sandspur in New York.

Similar Species

Cenchrus is our only genus of grass with spiny burs. C. longispinus, our other native sandspur in New York, is much more widespread than C. tribuloides. It has less hairy spikelets with more (45 to 75) spines per bur, and has 2 to 3 spikelets per bur.

Taxonomy

Kingdom Plantae
└─ **Phylum** Anthophyta
  └─ **Class** Monocots (Monocotyledoneae)
    └─

Order Cyperales

└─ **Family** Poaceae (Grass Family)

Additional Common Names

Sandspur

Additional Resources

Links

Florida Grasses
http://floridagrasses.org/Cenchrus%20tribuloides.htm

USDA Plants Database
http://plants.usda.gov/java/nameSearch?mode=sciname&keywordquery=CENCHRUS+TRIBULOIDES

Google Images
http://images.google.com/images?q=CENCHRUS+TRIBULOIDES

NatureServe Explorer
http://natureserve.org/explorer/servlet/NatureServe?searchName=CENCHRUS+TRIBULOIDES

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

Fernald, M.L. 1950. Gray's manual of botany. 8th edition. D. Van Nostrand, New York. 1632 pp.

Flora of North America Editorial Committee. 2003. Flora of North America, North of Mexico. Volume 25. Magnoliophyta: Commelinidae (in part): Poaceae, part 2. Oxford University Press, New York. 783 pp.

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.

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 ARCINFO format, selected imagery, and map unit tables.

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.

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/

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