

***Eleocharis tenuis* (Willd.) Schult.**
Slender Spike-rush



ODNR Natural
Heritage Program

Family: Cyperaceae

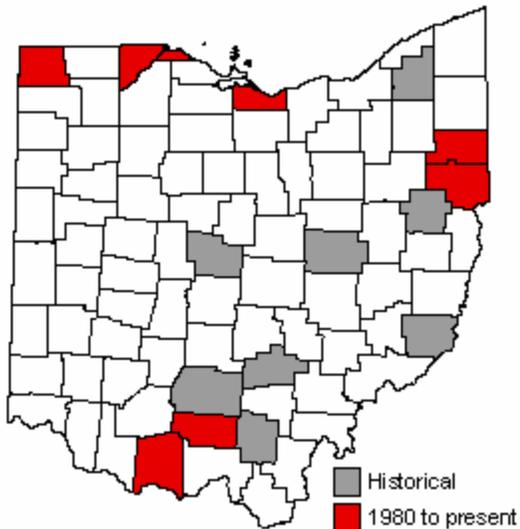
Synonyms: *Eleocharis verrucosa* (Svenson) Harms; *E. elliptica* Kunth
var. *pseudoptera* (Weatherby) L. J. Harms

Description: Rhizomatous, mat-forming perennial; culms terete or usually with 4-5 (sometimes 6) angles; 5-90 cm tall; leaves: distal leaf sheaths persistent, proximally red or sometimes yellow-brown; leaf apex often reddish. Spikelets ovoid, 3-6 x 1.5-2 mm, apex obtuse to acute. Achenes a lemon or dark yellow, medium brown, or green color falling with or before scales; trigonous; tubercles brown, pyramidal (Flora of North America Committee 2002). There are three varieties: *E. tenuis* var. *tenuis*, var. *pseudoptera*, & var. *verrucosa*. Differences between the three varieties are based on the structure of the culms, color and structure of the achene, and the shape of the tubercle.

Flowering: May to late-June

Fruiting: mid-June to late July.

Similar Species: *Eleocharis tenuis* is similar to other slender, rhizomatous spike-rushes and mature specimens are needed for proper identification. *Eleocharis tenuis* is often confused with *E. erythropoda* and *E. elliptica* and occasionally *E. compressa*. It differs from *E. erythropoda* by its trifold style, smooth achenes, and culms. *E. tenuis* differs from *E. elliptica* by culms being 4-5 angled compared to 6-10 angled of *E. elliptica* and the achenes of *E. tenuis* falling with or before the subtending scales compared to the achenes persisting after the scales fall off of *E. elliptica*. *Eleocharis elliptica* occurs in primarily alkaline wetlands such as fens and twig-rush wet meadows in the Oak Openings region. *Eleocharis compressa* differs from *E. tenuis* in having flattened, often twisted culms and occurring in alkaline wetlands.



Total Range: USA: AL, AR, CT, DC, DE, GA, IA, IN, KS, KY, LA, MA, MD, ME, MO, MS, MT, NC, NE, NH, NJ, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WV, WY; **CAN:** AB, NB, NF, NS, ON, PE, QC, SK.

Ohio Range: Adams, Carroll, Columbiana, Coshocton, Delaware, Erie, Geauga, Hocking, Jackson, Lucas, Mahoning, Monroe, Pike, & Ross counties.

Ohio Status: www.ohiodnr.com/dnap

Habitats: Moist soils in xeric limestone prairies; wet meadows, shores of ponds, ditches, & disturbed moist, habitats.

Threats: Shading by native and non-native shrubs and trees and taller herbaceous vegetation. Herbaceous invasive plants, *Phragmites australis*, *Phalaris arundinacea*, and *Typha angustifolia* are serious threats.

Conservation Potential: This species occurs in a variety of open, wet habitats scattered around the state. At some localities, it can form extensive colonies. As of 2006, 4 sites occur on private and public conservation lands. Two of these sites are being actively managed to improve habitat for this species. It can tolerate moderate disturbances.

Inventory Guidelines: Mature achenes are essential for conclusive identification especially between varieties. Complete specimens with rhizome are recommended for proper identification. Photographs are inconclusive.

Comments: All three varieties have been documented in Ohio and several specimens cannot be determined to variety. Ohio Natural Heritage Program monitors *E. tenuis* (all varieties) as a result of difficulty in determining some specimens to variety. *E. tenuis* is a complex group and intermediates are common, however extremes of the three varieties are distinctive. The most common variety in Ohio is variety *verrucosa*. This variety is western in range and is widely scattered in the state. It has been documented from 8 counties in Ohio.

A couple specimens collected by Floyd Bartley from “Higby Prairie” in Ross County were recently determined as possibly *Eleocharis tenuis* var. *pseudoptera* by S. Galen Smith for his Flora of North America treatment. The typical variety, variety *tenuis*, is mostly found along the Atlantic coast with scattered localities inland. In Ohio, it is known only from a single collection in Monroe County. Braun (1967) reports *E. tenuis* from Auglaize, Clermont, Cuyahoga, and Hamilton counties. These reports have not been verified.

Presumed hybrids between *E. tenuis* and *E. erythropoda* and *E. elliptica* have been reported and are discussed by S. Galen Smith in Flora of North America (2002). There are Ohio specimens intermediate between *E. tenuis* and *E. elliptica*.

The status of this species has been under review for six years. In that time, staff and fellow field botanists located only one new population. The species was added in 2006 with status undetermined.

The ecology of this species in Ohio is rather unknown. Current known localities are open, wet meadows and mudflats not dominated by taller, perennial species.

Eleocharis tenuis should be more frequent than current records indicate and it should be sought throughout the state.

Selected References:

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- Crow, G.E. & C.B. Hellquist. 2000. Aquatic and wetland plants of Northeastern North America. Vol. 2. Angiosperms: Monocotyledons. The University of Wisconsin Press, Madison, WI. 456 p.
- Flora of North America Editorial Committee, eds. 2002. Flora of North America north of Mexico. Vol. 23. New York and Oxford.
- Harms, L. 1972. Cytotaxonomy of the *Eleocharis tenuis* complex. Am. J. Bot. 59: 483-487.
- Svenson, H.K. 1957. Scirpeae (continuato). N. Am. Flora 18:505-556 [*Eleocharis*, pp. 509-540].
- Voss, E.G. 1972. Michigan flora, Part I, Gymnosperms and monocots. Cranbrook Inst. of Sci. Bull. 55, Bloomfield Hills, MI. 488 pp.



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