Written Findings of the Washington State Noxious Weed Control Board
(DRAFT Stage July 2007)

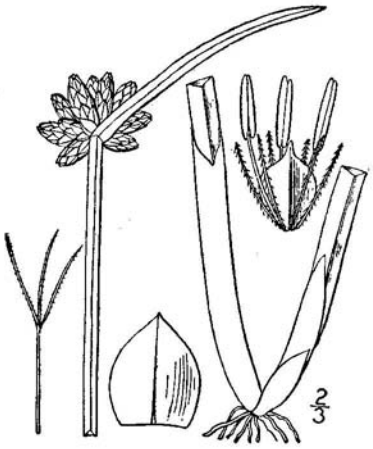
Scientific name: *Schoenoplectus mucronatus* (L.) Palla ex A. Kern.

Synonyms: *Scirpus mucronatus* L.

Common name: ricefield bulrush, bog bulrush, roughseed bulrush

Family: Cyperaceae

Legal Status: 2008 Class A Noxious Weed



Britton, N.L., and A. Brown. 1913. Illustrated flora of the northern states and Canada. Vol. 3: 329. Courtesy of Kentucky Native Plant Society. Scanned by Omnitek Inc.

Description and Variation:

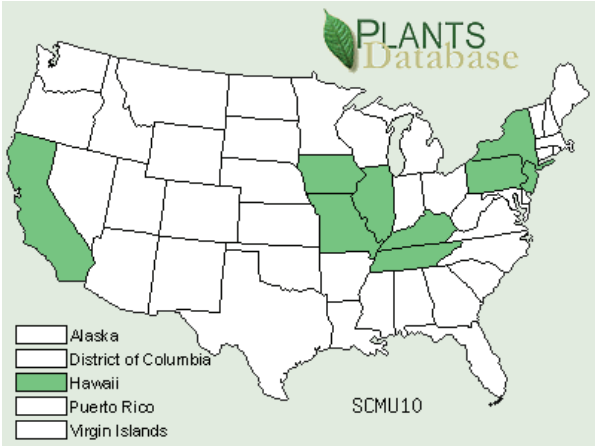
Overall habit: A wetland perennial sedge species with typical triangular stems (right) that reaches a height between 60-90 cm at maturity.
Roots/Rhizomes: Rhizomes present**.**
Stems: Culms are triangular in cross-section, between 0.4 - 1.0 meters tall and 2-3 mm wide.
Leaves: 1-2 leaves per culm. Leaves are reduced to a few bladeless sheaths. Ligules absent; sheath fronts described as not being pinnate-fibrillose.
Flowers: Inflorescence capitate and pseudolateral with 4-20 spikelets, each 7-12 mm long and 4 mm wide; scales 3-3.5 mm long and 2-2.5 mm wide and are broadly obovate, rust-colored to straw-colored with a greenish center area. Scales are entire and sword-shaped, with ciliolate margins, and the scale tip ranging from obtuse to broadly acute. Involucral bract is initially erect but is then relfexed or at least spread.
Fruit: Produces fruits summer through fall that are dorsolaterally compressed and black when ripe.

Habitat:

Ricefields and emergent zones of ponds and ditches

Geographic Distribution:

Native distribution: *Schoenoplectus mucronatus* is native to tropical regions of Africa, including Egypt, Tanzania, Uganda, Cameroon, Guinea, Nigeria, and Zambia. It is also native to Portugal, Madagascar, and Seychelles. It is native to temperate and tropical regions of Asia. In Europe it is native to much of middle, southeastern, and southwestern regions (USDA, ARS, NGRP, 2007).



Distribution in North America: *S mucronatus* was first documented in California in 1942 (E-flora) and occurs at low elevations in the Sacramento Valley, San Francisco Bay area, and along the Coastal Ranges (Munz, 1959). It has also been documented in Kentucky, Tennessee, Illinois, Missouri, Iowa, New York, Pennsylvania, New Jersey, and Hawaii (USDA NRCS, 2007).

History and Distribution in Washington: Presently there is only one known site of *Schenoplectus mucronatus* in Washington State, although there are conflicting reports as to how it originated there. According to the Flora of North America, *S. mucronatus* is "cultivated for wildlife food near the Columbia River in Clark County, Washington, but apparently is not established in that area".

Biology:

Growth and Development: *Scheonoplectus mucronatus* is a perennial.

Reproduction: According to Holm et al. (1997), *S. mucronatus* reproduces through seed, rhizomes, and stolons. The root produces several stolons that end with round, dark tubers. When constantly submerged, the tubers will sprout new plants; however, during a draw-down or drought, the tubers will become dormant until conditions are more favorable for growth.

Control:

Response to herbicides: Although resistance to ALS-inhibiting herbicides has been documented in at least 25,000 hectares in Italy (Tabacchi et al., 2004), *Schoenoplectus mucronatus* can be chemically controlled in ricefields using other foliar herbicides such as glyphosate in combination with drill-seeded rice, which allows the water level to be lowered without harming the rice (Goforth, 2004).

Response to cultural methods: In ricefields, weeds such as *S. mucronatus* can be better controlled using such cultural techniques as better land and water management (Fischer and Hill, 2006). For example, use of rice straw as a mulch keeps fields moist, thereby preventing rhizomes and tubers from desiccating and also creating a barrier from seed-eating birds and mammals. Crop rotation that allows the field to completely dry up can also help control this wetland species.

Response to mechanical methods: Hand-pulling can be labor intensive but a viable means to reduce *S. mucronatus* populations. In fact, the Ridgefield NWR employs this technique with the help of volunteers.

Biological control potential: None found.

Economic Importance:

Detrimental: *Schoenoplectus mucronatus* is a weed of rice fields worldwide and its documented resistance to herbicides can potentially increase the difficulty in controlling it.

Beneficial: Nothing found.

Rationale for listing: *Schoenoplectus mucronatus* is a weed species in at least 43 countries () and is particularly problematic in California. Because this species is limited to one wildlife refuge in Washington State, a Class A listing is appropriate and the goal of eradication is both feasible and necessary to prevent it from spreading elsewhere.

References:

Fischer, A.J. and J.E. Hill. 2006. Weed Control Programs. California Rice Production Workshop. http://ucce.ucdavis.edu/files/filelibrary/6318/36239.pdf [Accessed 29 June 2007]

Goforth, A, 2004. What goes around comes around: Old seed-drilling practice may help growers control new herbicide-resistant weeds. http://ricefarming.com/home/2004_AprilDrill.html. [Accessed 20 August 2007]

Holm, L, Doll, J, Holm, E, Pancho, J.V., and J.P. Herberger. 1997. World weeds: Natural histories and distribution. John Wiley & Sons, 605 3rd Ave., New York, NY.

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