

Red-rooted Cyperus (*Cyperus erythrorhizos*)

Cyperaceae (Sedge Family)

RANGE

- Widespread in North America
- In British Columbia, known from Swan Lake, Ellison Lake and Osoyoos Lake
- Some of these populations have not been observed recently and may have been lost

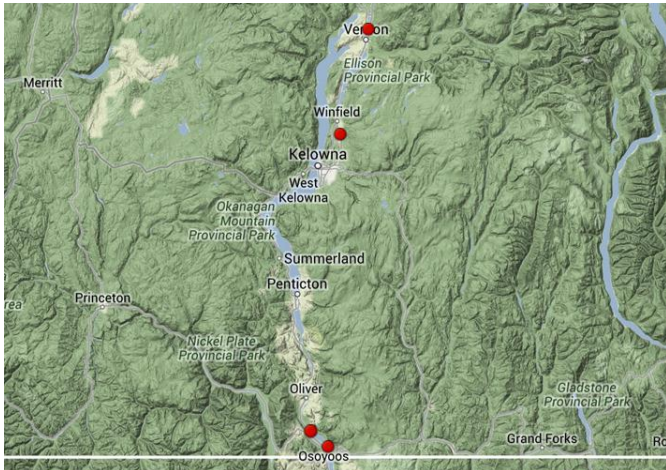


Figure 1 B.C. distribution of *Cyperus erythrorhizos* (BC CDC 2013)

HABITAT

- Open sandy or silty soil alongside lakeshores in the Ponderosa Pine and Bunchgrass Biogeoclimatic Zones
- Associates include hard-stemmed bulrush (*Schoenoplectus acutus*), red goosefoot (*Chenopodium rubrum* var. *rubrum*), awned cyperus (*Cyperus squarrosus*), slender rush (*Juncus tenuis*) and spike-rushes (*Eleocharis* spp.)



Figure 2 Sandy open habitat along Ellison Lake, Kelowna, B.C.



Figure 3 Close up of habitat along Okanagan River oxbow, B.C.

LIFE HISTORY

- Annual species that grows each year from seed, germinating in late spring following water drawdown or when temperatures warm
- Flowers in summer and achenes mature from late summer into October
- Seeds are released as achenes fall from plant
- Does not reproduce vegetatively, so population survival depends on seeds and seed bank
- Seed dispersal by water, waterfowl or small mammals

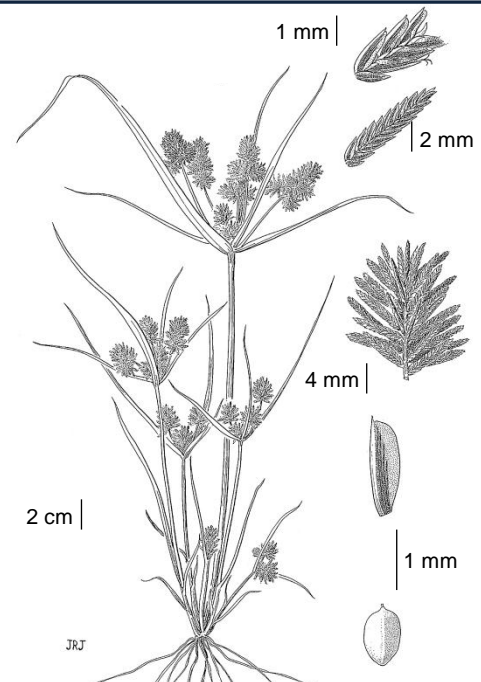


Figure 4 Illustration of *Cyperus erythrorhizos* by Jeanne R. Janish (Hitchcock et al. 1969)

Cyperus erythrorhizos (continued)

DESCRIPTION

General

- Tufted annual from fibrous roots, 3-40 cm tall

Leaves

- Leaves mostly basal, grass-like, mostly channeled, 1-2.5(-7.5) mm wide

Flowers

- Flowers found at tops of stems in dense, elongate, head-like clusters composed of one to numerous, 1 to 4 cm long spikes, each spike composed of numerous, spirally-arranged spikelets, spikelets 6 to many-flowered and 3 to 12 mm long
- Terminal flower clusters unstalked, others on stalks up to 7 cm long, extending away from top of stem
- Inflorescences subtended and greatly surpassed by long, unequal, leaf-like bracts.
- Scales brown with a central green stripe, with 3 central nerves, oblong or egg-shaped, apex obtuse, with a short terminal tooth

Fruits

- Fruits are achenes, unequally 3-angled, pale, shiny, and 0.7 to 1 mm long



Figure 5 Typical plant with flower clusters and grass-like leaves

IDENTIFICATION TIPS

- Easily distinguished from most other plants in habitat by clusters of spikes and spikelets at tops of stems
- Awned cyperus (*Cyperus squarrosus*) overlaps in distribution with *C. erythrorhizos* but rarely grows more than 10 cm in height, its flower scales are recurved with awn-tips not straight, and its inflorescences are much more clustered
- Yellow nut-grass (*C. esculentus* var. *leptostachyus*) is a perennial coastal species



Figure 6 Close up of terminal flower cluster

GENERAL THREATS AND GUIDANCE

- **Avoid development in areas with known occurrences of *Cyperus erythrorhizos* through project relocation or redesign**
- Protect open sandy and silty lakeshore habitats from disturbance and development, including exclusion of livestock and ATVs through fencing and/or signage, and consider restoration including invasive plant removal following professional advice
- Follow provincial methods for when and how to conduct plant species at risk surveys
- Follow provincial policy and guidance on how to avoid, minimize, restore and offset impacts to plant species at risk and their habitats
- Report any sightings to the B.C. Conservation Data Centre (cdccdata@gov.bc.ca) and FLNR Ecosystems Section (josie.symonds@gov.bc.ca)

REFERENCES

- B.C. Conservation Data Centre. 2013. <http://a100.gov.bc.ca/pub/eswp/>
- Douglas et al. (editors). 2001. *Illustrated Flora of British Columbia*. Vol. 6. B.C. Min. Environ., Lands and Parks, and Min. For., Victoria, B.C.
- Hitchcock et al.. 1969. *Vascular Plants of the Pacific Northwest*. Univ. Washington Press, Seattle, W.A
- Klinkenberg, Brian (editor). 2013. E-Flora BC. [http://linnet.geog.ubc.ca/Atlas/Atlas.aspx?sciname=Cyperus erythrorhizos&redblue=Both&lifeform=6](http://linnet.geog.ubc.ca/Atlas/Atlas.aspx?sciname=Cyperus%20erythrorhizos&redblue=Both&lifeform=6)
- NatureServe. 2012. <http://www.NatureServe.org/explorer>

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