

Bent Spike-rush (*Eleocharis geniculata*)

Cyperaceae (Sedge Family)

RANGE

- Sporadic distribution in the tropics, north to the southern United States, and scattered disjunctively north to Ontario and British Columbia
- In B.C., currently known only from a single site on private land in the south Okanagan Valley

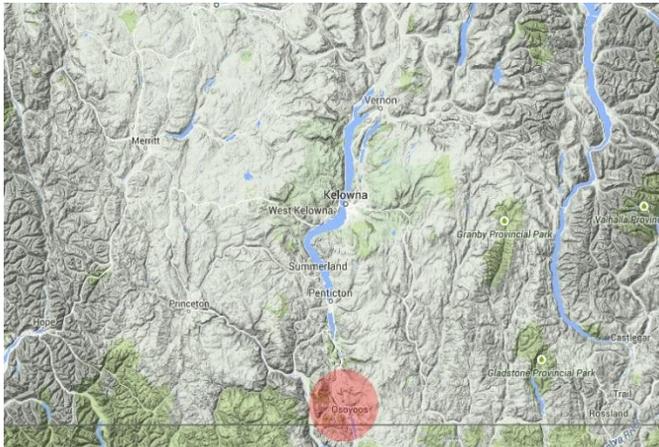


Figure 1 B.C. distribution of *Eleocharis geniculata*; specific location occurs on private land and is kept confidential

HABITAT

- Sandy mudflats along seasonally receding lakeshores and sloughs in the Bunchgrass Biogeoclimatic Zone
- Associates include other spike-rushes (*Eleocharis* spp.), sedges (*Carex* spp.), and numerous other “at risk” species, including thyme-leaved spurge (*Chamaesyce serpyllifolia*), toothcup meadow-foam (*Rotala ramosior*), scarlet ammannia (*Ammannia robusta*), hairy water-clover (*Marsilea vestita*), and cyperus (*Cyperus* spp.)



Figure 2 Typical mature *Eleocharis geniculata* individual



Figure 3 Single plant occurring with few competing species in habitat that was previously inundated by early-season high water

LIFE HISTORY

- Annual or short-lived perennial maturing in late summer
- Germination and development depend on the recession of spring high water levels, exposing the mudflats and sandy shorelines on which the species depends
- Mature achenes are produced in the early fall, and float to new sites during the winter inundation period or distributed by waterfowl
- May not appear in some years due to persistent high water levels



Figure 4 Herbarium specimen showing close-up of spikes, scale and achenes

Eleocharis geniculata (continued)

DESCRIPTION

General

- Tufted annual or short-lived perennial with arching culms (stems) up to 30 cm long

Leaves

- Leaves present as tight, persistent sheaths around base of fertile culms

Flowers

- Flowers in terminal, more or less oval spikelets less than 1 cm long, with 20 to 35 red brown scales, each 1.5 to 1.7 mm long
- Perianth (sepals and petals) reduced to brown bristles, varying in length from scarcely developed to surpassing the achenes

Fruits

- Mature achenes, shiny black, about 1 mm long and 0.4 to 0.6 mm wide
- Tubercles (projection at top of achene) broadly conical in shape, pale in colour, up to 0.2 mm long



Figure 5 Robust plant with many dense, arching stems

IDENTIFICATION TIPS

- Bent spike-rush is most similar to purple spike-rush (*Eleocharis atropurpurea*), a name that was for many years misapplied to these south Okanagan plants
- True purple spike-rush was recently found near Sicamous, B.C. and differs primarily in having smaller, more narrow tubercles, smaller achenes that are usually pinched just below the tubercle, and white perianth bristles
- Ovate spike-rush (*Eleocharis ovata*) and blunt spike-rush (*E. obtusa*) are similar in appearance and habitat, but their achenes are brown, not shiny black
- Mature achenes are essential to confirm species within this group of spike-rushes



Figure 6 Photo of a herbarium specimen that has preserved the characteristic geniculate (i.e., abruptly bent) appearance of this species

GENERAL THREATS AND GUIDANCE

- **Avoid development in areas with known occurrences of *Eleocharis geniculata* through project relocation or redesign**
- Protect lakeshore habitats from disturbance and development, including the exclusion of livestock and ATVs through fencing
- Ensure the maintenance of the natural hydrological cycles, as the species depends on a receding shoreline habitat
- Monitor the effect of invasive species and the impact that grazing geese and other waterfowl are having on the health of known populations
- 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. 2014. <http://a100.gov.bc.ca/pub/eswp/>
- Douglas et al. (editors). 1999. *Illustrated Flora of British Columbia*. Vol. 4. B.C. Min. Environ., Lands and Parks, and Min. For., Victoria, B.C.

ACKNOWLEDGEMENTS

Eleocharis geniculata Plant Species at Risk Fact Sheet developed by Josie Symonds, based on content produced under contract by Enlivened Consulting Ltd.