

Nuttallanthus texanus – Texas Toadflax

English name Texas Toadflax

Other English name Large-flowered Blue Toadflax

Scientific name *Nuttallanthus texanus* (Scheele) D.A. Sutton

Other scientific name *Linaria texana* Scheele, *Linaria canadensis* (L.) Dum. Cours. var. *texana* (Scheele) Pennell

Family *Plantaginaceae* (Plantain Family)

Risk status

BC: vulnerable (S3); blue-listed

Canada: vulnerable (N3)

Global: secure (G4?)

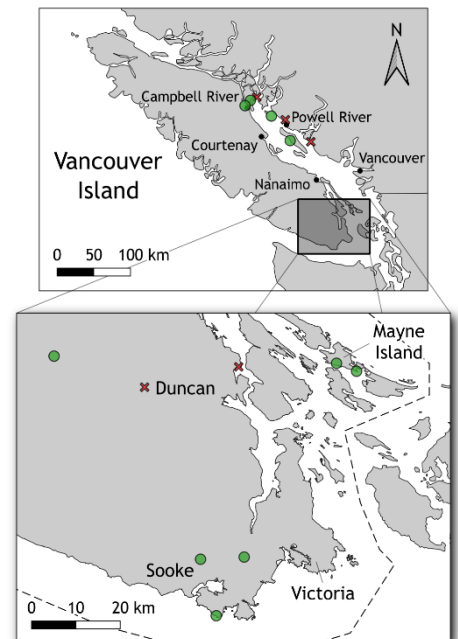
Elsewhere in Canada: Alberta imperilled (S2), Saskatchewan historical (SH)

Pacific States: Washington critically imperilled (S1), California, Oregon not ranked (SNR)

Elsewhere in the United States: Montana imperilled (S1S2); Wyoming imperilled (S2); Kansas, Nebraska vulnerable (S3); Alabama, Arizona, Arkansas, Colorado, Florida, Georgia, Louisiana, Minnesota, Mississippi, New Mexico, North Dakota, Oklahoma, South Carolina, South Dakota, Tennessee, Texas, Utah not ranked (SNR); Hawaii, Virginia not applicable, perhaps introduced (SNA)

Taxonomic and Biogeographic Note The British Columbia Conservation Data Centre, and Legler and Giblin (2018) do not recognize the presence of Canada Toadflax (*Nuttallanthus canadensis*) in British Columbia and the Pacific Northwest respectively. In contrast, Freeman (2020) maps both taxa as occurring in BC. Freeman also notes that the ranges of the two species overlap considerably and that they may occur in mixed populations, at least in Texas. The Washington Natural Heritage Program (2024) reports that both species occur in remnant prairies of western Washington and are considered native.

Range/Known distribution In Canada, Texas Toadflax is known from fifteen locations, ten extant, from Quadra Island and Campbell River south along both sides of the Salish Sea to Port Alberni, the southern Gulf Islands, the Victoria area, and the Sooke Hills. It is also known from the nearby San Juan Islands of Washington State. There is a gap in distribution between the San Juan Islands and the South Puget Sound of Washington State. From there, it ranges south California and the south and central United States.



Distribution of *Nuttallanthus texanus*
● Confirmed Sites
* Extirpated Sites

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Field description Texas Toadflax is an annual or a biennial. It has a short taproot and a basal rosette of flowers, from which rises one to four leafy stems that are 10-50 cm tall and unbranched, or occasionally branched near the top. The leaves of flowering stems opposite below and alternate above and are generally at least ten times as long (5-43 mm) as they are wide (0.5-2.2 mm). The leaves of non-flowering stems are less narrow. The foliage is essentially hairless.

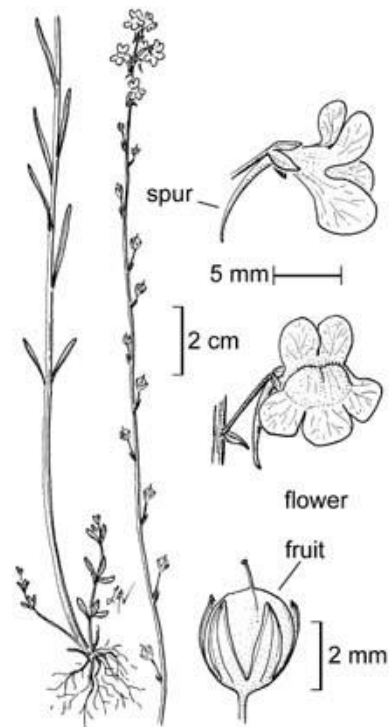
The flowers are borne in terminal racemes, which have few or no bracts. The flowers resemble those of snapdragons. The calyx consists of five narrow sepals which are separate almost to the base and are either hairless or sparsely glandular-hairy. The corolla is blue to pale violet, two-lipped, and has an evident (2-7 mm long) spur that points downward and usually arches outwards. The flowers are 10-12 mm long (13-22 mm long including the spur). The fruit is a dry, egg-shaped capsule that contains small grey seeds whose sides are covered in prominent pointed bumps (tubercles).

Identification tips Canada Toadflax is quite similar, and BC plants should be examined carefully to make sure of the species. Canada Toadflax has shorter corollas (8-10 mm long, or 8-14 mm long if including the spur). Its spurs tend to be shorter (2-7 mm) although there is some overlap. The seeds of Canada Toadflax lack evident tubercles. It appears that Canada Toadflax blooms and sets fruit earlier than Texas Toadflax, when the two are growing together.

Sharp-leaved Fluellen (*Kickxia elatine*) is a small invasive weed with flowers resembling those of Texas Toadflax, but it has crawling or creeping stems and purple and yellow flowers.



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Life history Very little is known about the life history of Nuttall's Toadflax, particularly in Canada. It is not even known whether it grows as an annual or a perennial in the northern part of its range. It has been seen in flower as early as mid-April and as late as mid July. In addition to their regular chasmogamous flowers (which open to admit pollinators), Nuttall's Toadflax produces cleistogamous flowers (which do not open, fertilization occurring within the flower). The cleistogamous flowers are mostly produced at the beginning and end of the flowering period.

Habitat Nuttall's Toadflax usually grow in open, well- to extremely well-drained areas, often with some seepage in the spring and early summer. It prefers sandy or gravelly soil in native plant communities that experience disturbances but also in disturbed habitats, including roadsides and former cropland. Associated native species may include Beach Red Fescue (*Festuca rubra* ssp. *pruinosa*), Clustered Tarweed (*Madia glomerata*), Broad-leaved Stonecrop (*Sedum spathulifolium*), Western Buttercup (*Ranunculus occidentalis*), Yarrow (*Achillea millefolium*), and Harvest Brodiaea (*Brodiaea coronaria*),

Why this species is at risk In Canada, threats to Texas Toadflax have not been addressed in detail, but it likely suffers from competition with many invasive species that grow within its populations, including non-native species of brome* (*Bromus spp.*), annual fescue* (*Vulpia sp.*), Small-flowered Catchfly* (*Silene gallica*), Horseweed* (*Conyza canadensis*), Ribwort Plantain* (*Plantago lanceolata*), Sticky Ragwort* (*Senecio viscosus*), Hairy Cat's-ear* (*Hypochaeris radicata*), and Silver Hairgrass* (*Aira caryophyllea*).

Development may have destroyed much of the suitable habitat for Texas Toadflax, especially since the well-drained, open habitats it prefers are favoured for agricultural, transportation, and urban use. Some of the remaining populations occur on private land and may be threatened by road building and construction. Recreational impacts in steep bluff areas may cause trampling, soil disturbance and erosion. Fire suppression may have altered habitat and increased fuel loading, increasing the potential harm caused by future fires.

What you can do to help this species Further surveys would help clarify the distribution and abundance of Texas Toadflax and assess the level of threats it faces, as well as actions that can be taken to address these threats. If the threats are significant, and if extensive surveys confirm that there are few viable populations in Canada, a COSEWIC status report should be prepared to provide a basis for its legal protection.

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References

- B.C. Conservation Data Centre. 2024. BC Species and Ecosystems Explorer. B.C. Minist. of Environ. Victoria, B.C. Available: <https://a100.gov.bc.ca/pub/eswp/> (accessed Mar 15, 2024).
- Crawford, P. T. 2003. Biosystematics of North American Species of *Nuttallanthus* (Lamiales). Ph.D. dissertation. University of Oklahoma.
- Crawford, P. T., and W. J. Elisens. 2006. Genetic variation and reproductive system among North American species of *Nuttallanthus* (Plantaginaceae). *Amer. J. Bot.* 93: 582–591.
- Freeman, C.C. 2020 *Nuttallanthus*. In: *Flora of North America* Editorial Committee, eds. 1993+. *Flora of North America North of Mexico* [Online]. 25+ vols. New York and Oxford. Vol. 17. <http://beta.floranorthamerica.org/Fumaria>. Accessed March 23, 2024.
- Preston, R.E. and M. Wetherwax. 2012. *Nuttallanthus texanus*, in *Jepson Flora Project* (eds.) *Jepson eFlora*, https://ucjeps.berkeley.edu/eflora/eflora_display.php?tid=34756, accessed on March 30, 2024.
- Washington Natural Heritage Program. 2024. *Nuttallanthus texanus*. In: *Online Field Guide to the Rare Plants of Washington*. <https://fieldguide.mt.gov/wa/?species=nuttallanthus%20texanus> Accessed March 28, 2024.

For further information, contact the Garry Oak Ecosystems Recovery Team, or see the web site at: www.goert.ca

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*Refers to non-native species