

Plagiobothrys tenellus

English names slender popcornflower, Pacific popcornflower

Scientific name *Plagiobothrys tenellus*

Family Boraginaceae (Borage)

Other scientific names *Plagiobothrys asper*

Risk status

BC: imperilled (S2); red-listed

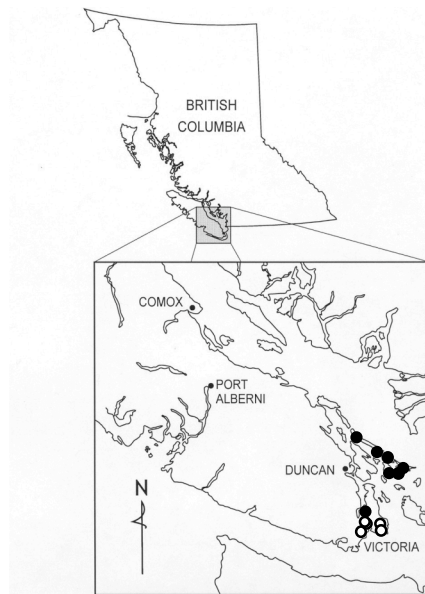
Canada: imperilled (N2); COSEWIC: not yet assessed

Global: apparently secure/secure (G4G5)

Elsewhere: Utah – critically imperilled (S1); Arizona, California, Idaho, Nevada, Oregon, Washington – reported (SNR)

Range/known distribution

Slender popcornflower is native to western North America, where it ranges from southwestern British Columbia southward through Washington and Oregon (mainly east of the Cascade Mountains) to southern California. In British Columbia, it is known only from southeastern Vancouver Island and the Gulf Islands. The Canadian populations are separated by distances of 10-15 km and, along with populations on the San Juan Islands (Washington), are at least 300 km distant from next closest populations in eastern Washington. Of the 13 occurrences on record for British Columbia, only 7 are still known to be extant. One of these is located in the Municipality of the Highlands north of Victoria, while the remainder are on nearby Gulf Islands (Galiano, Mayne, Pender and Saturna Islands).



Distribution of *Plagiobothrys tenellus*

● recently confirmed sites

○ unconfirmed or extirpated sites

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Field description

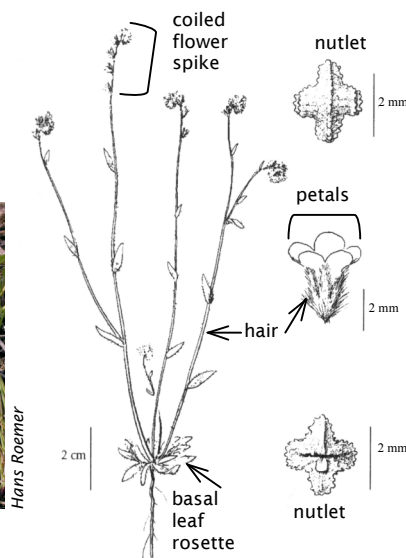
Slender popcornflower is a **small annual herb** growing from a taproot. Plants are 5-25 cm tall, with several branched or simple stems. The leaves, stems and hairs are all **conspicuously hairy**. The stems arise from a **rosette of basal leaves**. Each basal leaf is 1-4 cm long and 2-8 mm wide. The few alternate stem leaves are lance-shaped and generally smaller than the basal leaves. The **small white flowers** are **coiled** in narrow, **elongating racemes** (clusters) at the ends of the stems. The petals are fused at the base into a tube that flares above into 5 lobes, with 5 bulges at the throat. The fruit consists of **4 nutlets**, which are **cross-shaped** and have **warty rows across the surface**.

IDENTIFICATION TIPS

Slender popcornflower is one of three species in British Columbia belonging to the genus *Plagiobothrys*. It is distinguished from the other two species by the presence of a basal rosette of leaves and the cross-shaped, warty nutlets. It is also the only one of the three species to be found in dry hillside habitats.



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Life history

Slender popcornflower is an annual plant that flowers in April-May in British Columbia. Reproduction is by seed, with each flower producing up to 4 one-seeded nutlets. Beyond this, little is known of its life history. As with many annuals, population sizes appear to fluctuate dramatically from year to year in response to varying precipitation patterns. However, it is unknown how far populations can decline in size before they become unviable. There does not appear to be any innate seed dispersal mechanism, and the small size of patches suggests that short-range dispersal is an intrinsic limiting factor for the species. Consequently, banked seeds may be important to the persistence of populations. Caterpillars and aphids have been observed eating foliage and flowers of other species of popcornflower in Oregon, and herbivory by deer and small rodents has also been documented.

Habitat

Slender popcornflower occurs on dry grassy to mossy slopes, rock outcrops and coastal bluffs in, or near, Garry oak and associated ecosystems. Sites are generally steep, south facing, open and often with exposed gravelly soils or rocks. Associated native species include the rare California hedge-parsley (*Yabea microcarpa*, also treated in this manual), monkeyflower (*Mimulus* spp.), sea blush (*Plectritis congesta*), small-flowered deer vetch (*Lotus micranthus*), Sandberg's bluegrass (*Poa secunda*), Lemmon's needlegrass (*Achnatherum lemmonii*) and small-headed clover (*Trifolium microcephalum*). Associated introduced species include hairgrass* (*Aira* spp.), brome* (*Bromus* spp.) and hedgehog dogtail* (*Cynosurus echinatus*). Some of the slopes inhabited by slender popcornflower are grazed regularly by feral goats. This could benefit the microhabitat by keeping brush down and maintaining open areas, a function that fires would have served in the past.

Why the species is at risk

The range of slender popcornflower is declining in British Columbia, primarily due to habitat destruction. Six of the 7 historic Victoria populations are now considered extirpated, leaving only 1 remaining population on Vancouver Island. At last census, this population contained only 3 plants. Fire suppression and invasive species represent general threats in much of the suitable habitat remaining in British Columbia. Ongoing grazing by feral goats at the Saturna Island site has possibly resulted in soil erosion and increased competition from weedy introduced plants. Three of the populations



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occur within protected areas; ownership of the remaining 4 sites is presently unknown.

What you can do to help this species

Management practices should be tailored to the specific circumstances at the site. Potential management tools will depend on the specific circumstances and may require experimentation on artificially established populations prior to implementation. **Before taking any action, expert advice must be obtained and no action taken without it. Please refer to the introductory section of this manual.**

A substantial proportion of the national population of slender popcornflower is located within protected areas; therefore, individual park management plans need to specifically address the conservation needs of this species. This is especially important for the main Galiano Island population, which makes up approximately 90% of the Canadian population, yet covers only a few square metres.

Public and private landowners should be made aware of new populations of this species if they are discovered, and appropriate management practices suggested. Existing populations should be monitored on an ongoing basis to determine their viability, as well as for any negative impacts stemming from private land development, livestock grazing and encroachment of introduced species.

References

British Columbia Conservation Data Centre. Botany Program. 2007.
Database containing records of rare plant collections and observations in the province of British Columbia.

Douglas, G.W. and S. Smith. Draft COSEWIC Status Report on Slender Popcornflower *Plagiobothrys tenellus*. Draft report prepared for the Committee on the Status of Endangered Wildlife in Canada.

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.

Species at Risk in Garry Oak and Associated Ecosystems in British Columbia