

Tonella tenella

English names small-flowered tonella, lesser baby-innocence

Scientific name *Tonella tenella*

Family Scrophulariaceae (Figwort)

Other scientific names *Collinsia tenella*, *Tonella collinsioides*

Risk status

BC: critically imperilled (S1); red-listed

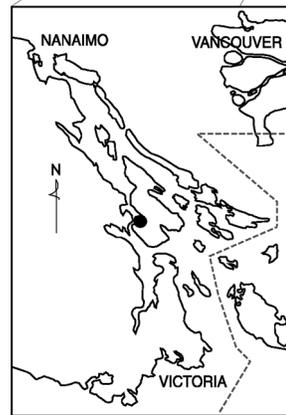
Canada: critically imperilled/vulnerable (N1N3); COSEWIC: endangered (2003)

Global: secure (G5)

Elsewhere: Washington, Oregon, California – reported (SNR)

Range/known distribution

Small-flowered tonella occurs in southwestern British Columbia, disjunct by 295 km from the main portion of its range in southern Washington to central California. In Canada, small-flowered tonella is known only from a single population on private property on Saltspring Island. There are no known unconfirmed or historic populations.



Distribution of *Tonella tenella*
● recently confirmed site



Tonella tenella

Field description

Small-flowered tonella is a **slender annual herb** (5-25 cm tall) with delicate, smooth, ascending to erect stems. The **opposite leaves** are smooth or softly hairy on the upper surfaces. **Leaf shape changes up the stem:** the bottom leaves are oval or rounded with long stalks, the middle leaves are deeply three lobed with stalks becoming shorter up the stem, and the uppermost leaves are small, stalkless, and usually lack lobes. The **flowers are blue and white** with two lips: the upper lip has 2 lobes and the lower lip has 3 lobes with the **middle lobe being the largest**. The fruits are egg- to globe-shaped capsules that contain 2-4 small seeds (1-1.5 mm long).

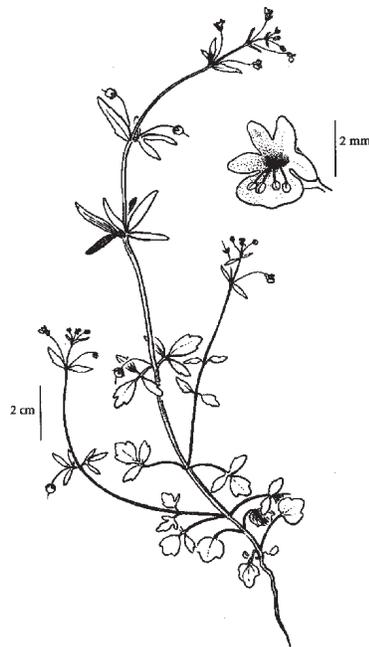
IDENTIFICATION TIPS

Although there are two species of *Tonella* in North America, only small-flowered tonella occurs in Canada. The closely related small-flowered blue-eyed Mary (*Collinsia parviflora*) has blue 2-lipped flowers and grows in the same habitat as small-flowered tonella. The upper lip of blue-eyed Mary flowers is bent backwards and the middle lobe of the lower lip is the smallest. None of blue-eyed Mary's leaves are three-parted. The upper lip of small-flowered tonella flowers is not bent backwards and the middle lobe of the lower lip is the largest.



Hans Roemer

Tonella tenella



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

Tonella tenella

Life history

Small-flowered tonella is a self-pollinating annual although it may also cross-pollinate. The anthers and the stigmas are close to each other to facilitate self-pollination, which can occur shortly after flowering starts. In the United States, plants flower in March or April and flowers are pollinated by a variety of native bees (*Bombus*, *Anthophora*, *Emphoropsis*, *Synhalonia* and *Osmia* spp.). Records in British Columbia show flowering in May. Each flower produces 2-4 seeds that appear to be gravity dispersed. In the United States, the best germination resulted from sowing seeds outside in March.

Beyond this, little is known of its life history or population dynamics, including the extent to which seed remains viable in the soil, the survival rates of seedlings, or the rate of establishment. As with many annuals, population sizes likely fluctuate dramatically from year to year in response to varying weather patterns. However, it is unknown how greatly populations can decline in size before they become unviable. Banked seeds may be important to the persistence of populations.

Habitat

Small-flowered tonella grows on rocky outcrops or on talus with thin soils. The only extant occurrence is on a west-facing slope in open woodland of bigleaf maple (*Acer macrophyllum*), arbutus (*Arbutus menziesii*) and Garry oak (*Quercus garryana*). The species is associated with cleavers (*Galium aparine*), little western bitter-cress (*Cardamine oligosperma*), miner's-lettuce (*Claytonia perfoliata*), barren brome* (*Bromus sterilis*), large-flowered blue-eyed Mary (*Collinsia grandiflora*), Harford's melic (*Melica harfordii*), and upright hedge-parsley* (*Torilis japonica*), as well as the mosses *Eurhynchium oreganum* and *Dicranum* species.

Why the species is at risk

The actual amount of land formerly occupied by the species is unknown, but may now be as little as 62 m². Habitat loss through development is the primary factor responsible for the decline of this species. The sole remaining location in Canada occurs on private land and is not protected from development. Due to the extremely low abundance, the long-term viability of the last known population remains precarious. Invasive grasses are abundant at the site and threaten the species through competition and by increasing fuel loads.



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What you can do to help this species

This plant is so rare that no action should be taken at the site without expert advice and inspection. 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 or on populations in the United States where the species is more abundant 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.

Public and private landowners should be made aware of new populations of this species if they are discovered, and appropriate management practices suggested. The sole existing population should be monitored on an ongoing basis to determine its viability, as well as for any negative impacts stemming from land development, fire suppression and weed encroachment.

References

- Armbruster, W.S., C.P.H. Mulder, B.G. Baldwin, S. Kalisz, B. Wessa and H. Nute. 2002. Comparative analysis of late floral development and mating-system evolution in Tribe Collinsieae (Scrophulariaceae S.L.). *American Journal of Botany* 89(1): 37-49.
- Douglas, G.W. and J.L. Penny. 2003. COSEWIC Status Report on the Small-flowered *Tonella* in Canada *in* COSEWIC Assessment and Status Report on the Small-flowered *Tonella* *Tonella tenella* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa.
- Parks Canada Agency. 2006. Recovery Strategy for Multi-species at Risk in Garry Oak Woodlands in Canada. In Species at Risk Act Recovery Strategy Series. Ottawa: Parks Canada Agency.

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.

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