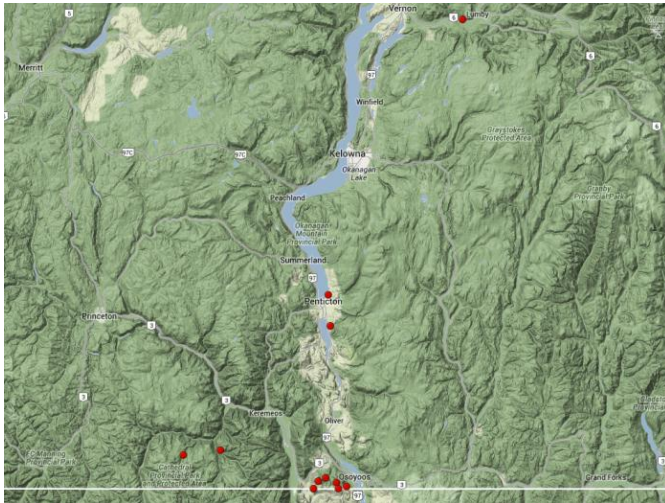


# Flat-topped Broomrape (*Orobanche corymbosa* ssp. *mutabilis*)

## Orobanchaceae (Broom-rape Family)

### RANGE

- Found in western North America, from California north to southern British Columbia; ssp. *mutabilis* is endemic to the Okanagan-Grand Coulee region
- In B.C., primarily found within the Okanagan Valley between Lumby and the USA border



**Figure 1** Thompson Okanagan Region distribution of *Orobanche corymbosa* ssp. *mutabilis* (BC CDC 2014)

### HABITAT

- In the Thompson Okanagan Region, occurs in the loamy soils of grasslands and sagebrush steppe in the Interior Douglas Fir, Ponderosa Pine and Bunchgrass Biogeoclimatic Zones
- Associates include bunchgrasses, dryland sedges (*Carex* spp.), yarrow (*Achillea millefolium*), sagebrush (*Artemisia* spp.) and Rocky Mountain douglas-fir (*Pseudotsuga menziesii* var. *glauca*)



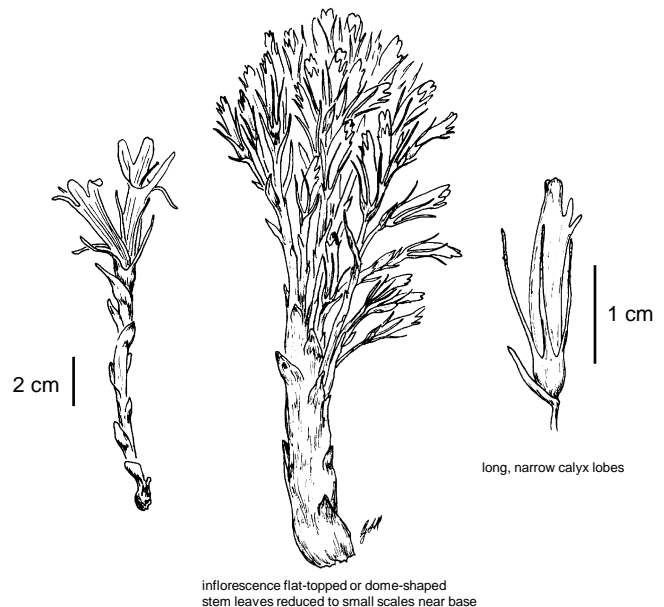
**Figure 2** Typical habitat at edge of trail (with prairie sagewort)



**Figure 3** Dry, grassland slopes of Flatiron Mountain, southwest of Keremeos, which supports the largest population of flat-topped broomrape known in B.C.

### LIFE HISTORY

- Annual parasitic herb flowering in the late summer and early fall
- Depends on the nutrients it diverts from the roots of its host plant to grow and develop
- Most commonly reported to parasitize the roots of prairie sagewort (*Artemisia frigida*) and sagebrush
- Produces abundant tiny seeds that may be dispersed short distances by insects and small rodents, although the majority enter the seed bank by falling to the base of existing plants



**Figure 4** Illustration of *Orobanche corymbosa* ssp. *mutabilis* by Gail F. Harcomb (Douglas et al. 1999)

# *Orobanche corymbosa* ssp. *mutabilis* (continued)

## DESCRIPTION

### General

- Perennial parasitic herbs arising from a fleshy, swollen stem base, glandular-hairy, 6 to 25 cm tall

### Leaves

- Leaves lack chlorophyll (green pigment), reduced to small scales alternating at base of stem

### Flowers

- Inflorescence short, more or less flat-topped, maturing from the bottom up
- Flowers pale pink to light purple, usually with darker penciling and yellow markings, stalked
- Corolla (fused petals) with upper and lower portions, 6 to 10 mm long
- Calyx (sepals) with narrow, long, pallid lobes, 10 to 22 mm long

### Fruits

- Short, fragile capsules with numerous, angled seeds that are less than 0.7 mm long



**Figure 5** (a) *Orobanche corymbosa* has considerably larger flowers and longer calyx lobes than (b) *O. ludoviciana*

## IDENTIFICATION TIPS

- Characterized by its large, stalked flowers with a long lower lip, and long, pale calyx lobes
- In the spring, dead plants of the previous year may still be visible, though they will be difficult to discern from Suksdorf's broomrape (*Orobanche ludoviciana*)
- Later in the summer when the flowers are open and well-developed, *Orobanche corymbosa* can be distinguished by its inflorescence, which is broader and bulkier than that of *Orobanche ludoviciana*
- Clustered broomrape (*Orobanche fasciculata*) also occurs within the range of the above species but is distinct with its few longer-stalked, yellow or dusky pink flowers



**Figure 6** The inflorescence of *Orobanche corymbosa* is usually branched, bulky and (in early flower) with a domed or flat apex

## GENERAL THREATS AND GUIDANCE

- Avoid development in areas with known occurrences of *Orobanche corymbosa* ssp. *mutabilis* through project relocation or redesign**
- Protect grassland and sagebrush habitats from disturbance and development, including maintaining grazing at sustainable levels
- Monitor the impact of invasive species on this habitat, especially in cases where herbicides are being used to control them
- 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 ([cddata@gov.bc.ca](mailto:cddata@gov.bc.ca)) and FLNR Ecosystems Section ([josie.symonds@gov.bc.ca](mailto:josie.symonds@gov.bc.ca))

## REFERENCES

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- Klinkenberg, Brian (editor). 2014 E-Flora BC <http://linnet.geog.ubc.ca/Atlas/Atlas.aspx?sciname=Orobanche%20corymbosa>

## ACKNOWLEDGEMENTS

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