

Sanicula bipinnatifida – Purple Sanicle

English name: Purple Sanicle

Other English name: Purple Black-snakeroot, Shoe Buttons

Scientific name: *Sanicula bipinnatifida* Dougl. ex Hook.

Other scientific name: none

Family: *Apiaceae* (Carrot Family)

Risk status

BC: imperilled (S2); red-listed

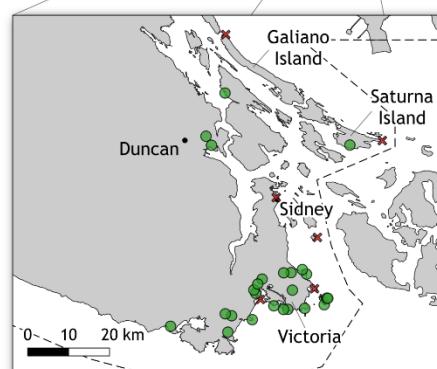
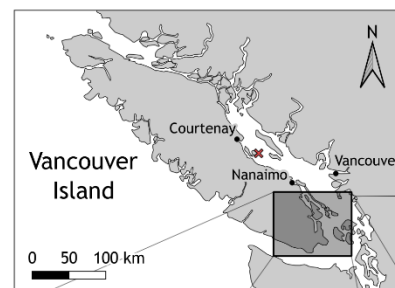
Canada: Threatened

Global: not ranked (NNR)

Elsewhere: Washington, Oregon, California not ranked (SNR)

Range/Known distribution: In Canada, Purple Sanicle has been reported from 26 locations (20 extant) ranging from the Cowichan Valley south through the southern Gulf Islands and Victoria, west to Albert Head.

In the United States, Purple Sanicle is known from the San Juan Islands and the Olympic Peninsula south through the Puget Trough, the Coast Mountains, and the Sierra Nevada into Baja California.



Distribution of *Sanicula bipinnatifida*
● Confirmed Sites
* Extirpated Sites

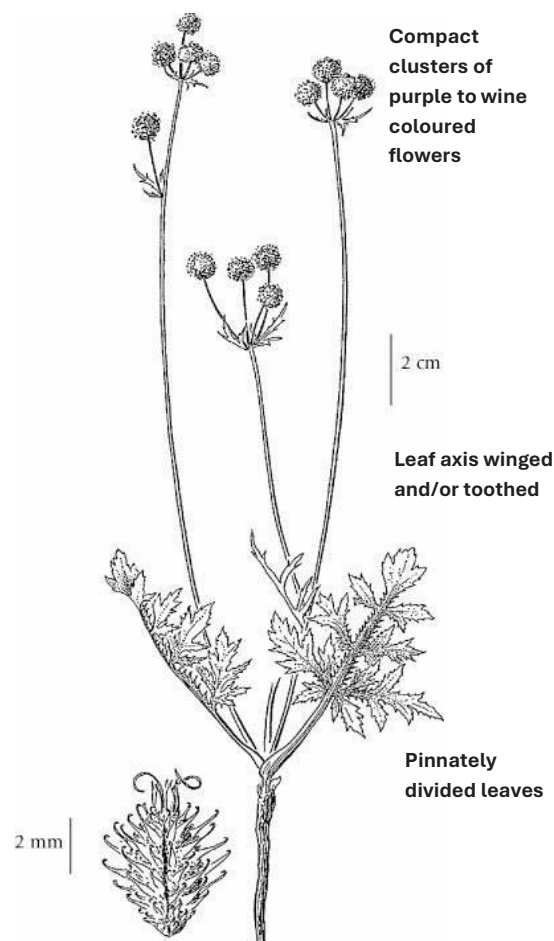
Sanicula bipinnatifida – Purple Sanicle

Field description: Purple Sanicle is a tap-rooted perennial with one or a few shoots up to 60 cm tall. It produces a cluster of leaves near the base of the stem, which are once- to three-times divided with a winged petiole and a toothed central leaf axis. It produces few cauline leaves and these are progressively reduced up the stem. The leaves are smooth and somewhat shiny. The inflorescence is a compound umbel. The main umbel branches are subtended by an involucre composed of deeply lobed, toothed bracts. The terminal umbellets are subtended by an inconspicuous involucl. The umbellets bear about 20 dark purple flowers on very short pedicels, looking like small round balls. When the fruits (schizocarps) ripen they remain in a compact ball. Each schizocarp is covered by hooked bristles.

Identification tips: Purple Sanicle's purple flowers easily distinguished from the other three sanicle species occurring within its Canadian range: Pacific Sanicle (*Sanicula crassicaulis*), Sierra Sanicle (*S. graveolens*), and Bear's-foot Sanicle (*S. arctopoides*). Tripartite Sanicle (*Sanicula tripartita*) appears to be a stable octoploid with two complete sets of chromosomes from Purple Sanicle and six from Pacific Sanicle. It is morphologically intermediate between the two and has often been (incorrectly) treated as a variety of Pacific Sanicle (*Sanicula crassicaulis* var. *tripartita*).



Sanicula bipinnatifida



Sanicula bipinnatifida – Purple Sanicle

Life history: Purple Sanicle seed germination starts in February or March and ends in April. The most vigorous first-year seedlings have already developed stout roots over 2 cm long by early May and vigorous root development appears to have protected the plants from early desiccation. Shoot dormancy began to break in January and peaks in February and March. Most plants reached their peak size in May and senescence begins on hot, dry sites in late April or May. The longest-lasting plants have withered by late July or early August. Purple Sanicle is a polycarpic perennial – it may flower for several years once it is mature. Floral buds first became evident in the second half of March or early April. Flowers tended to develop rapidly, and flowering peaks in late April and May. Green fruits are well-developed by late May and the fruits ripen in June and July. Fruit dispersal is gradual and may continue into September.

Habitat: In Canada, Purple Sanicle is restricted to well-drained meadows and open woodlands. Shrubs are rarely present although a sparse cover of stunted Nootka Rose (*Rosa nutkana*) may be present. The native herbaceous layer is dominated by perennial forbs such as Pacific Sanicle (*Sanicula crassicaulis*), Barestem Desert-parsley (*Lomatium nudicaule*), Spring Gold (*L. utriculatum*), Great and Common Camas (*Camassia leichtlinii* and *C. quamash*), Yarrow (*Achillea millefolium*), and Field Chickweed (*Cerastium arvense*). Native bunchgrasses such as California Oatgrass (*Danthonia californica*), Blue Wildrye (*Elymus glaucus*), and Beach Red Fescue (*Festuca rubra* ssp. *pruinosa*) are often present and occasionally abundant.

Why this species is at risk: The greatest threats come from habitat loss and invasive species, while altered fire and hydrological regimes and trampling are significant secondary threats. Several populations may have been destroyed as properties were developed, without ever being reported. Most of the remaining populations are protected from habitat loss at present.

A number of invasive species have become abundant in meadows supporting Purple Sanicle and compete with it for space, water, and nutrients. These include shrubs such as Scotch Broom* (*Cytisus scoparius*); English Ivy* (*Hedera helix*) which forms creeping mats; a diverse assemblage of forbs including Hairy Cat's-ear* (*Hypochaeris radicata*), Ribwort Plantain* (*Plantago lanceolata*), Sheep Sorrel* (*Rumex acetosella*), Small Hop-clover* (*Trifolium dubium*), and Common Vetch* (*Vicia sativa*); and several grasses including Orchard Grass* (*Dactylis glomerata*), Common Velvet Grass* (*Holcus lanatus*), Kentucky Bluegrass* (*Poa pratensis*), Sweet Vernal Grass* (*Anthoxanthum odoratum*), Barren Fescue* (*Vulpia bromoides*), Soft Brome* (*Bromus hordeaceus*), Ripgut Brome* (*Bromus diandrus* ssp. *rigidus*), Barren Brome* (*Bromus sterilis*), Hedgehog Dogtail* (*Cynosurus echinatus*), and hairgrasses* (*Aira praecox* and *A. caryophyllea*).

Altered fire regimes allow forest ingrowth, shading out Purple Sanicle. Several populations have decreased, and some are nearing extirpation, because of trampling, which has caused direct damage as well as habitat degradation due to erosion.

What you can do to help this species: Populations should be fenced where there is a threat of trampling. Invasive shrubs should be removed. Controlling herbaceous weeds is an expensive

Sanicula bipinnatifida – Purple Sanicle

ongoing endeavour but should be considered where populations of Purple Sanicle are at risk of extirpation.

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)
- Fairbarns, M. 2005. Demographic and Phenological Patterns of *Sanicula bipinnatifida* (Purple Sanicle). Prepared for: Interdepartmental Recovery Fund, Environment Canada. 17 pp.
- Parks Canada Agency. 2006. Recovery Strategy for Multi-species at Risk in Maritime Meadows Associated with Garry Oak Ecosystems in Canada. In Species at Risk Act Recovery Strategy Series. Ottawa: Parks Canada Agency. 93 pps.
- Penny, J.L., and G.W. Douglas. 2000. Status Report on Purple Sanicle, *Sanicula bipinnatifida*, in Canada. Unpubl. rep. submitted to the Comm. on the Status of Endangered Wildl. in Can. Ottawa. 21pp.

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

Line art Copyright © Province of British Columbia. All rights reserved. Reprinted with permission of the Province of British Columbia. www.ipp.gov.bc.ca. Photograph reprinted with permission of Matt Fairbarns

© 2024

*Refers to non-native species