

Giant Helleborine (*Epipactis gigantea*)

Orchidaceae (Orchid Family)

Status: Blue / Schedule 3

Best Survey Time: Jun to Jul

General Habitat: Wetland

RANGE

- In North America, from Mexico north through the western United States to southern British Columbia
- In B.C., known from numerous sites extending from the Lower Mainland to the Rocky Mountain Trench
- The majority of B.C. populations are concentrated in the Okanagan and Shuswap areas

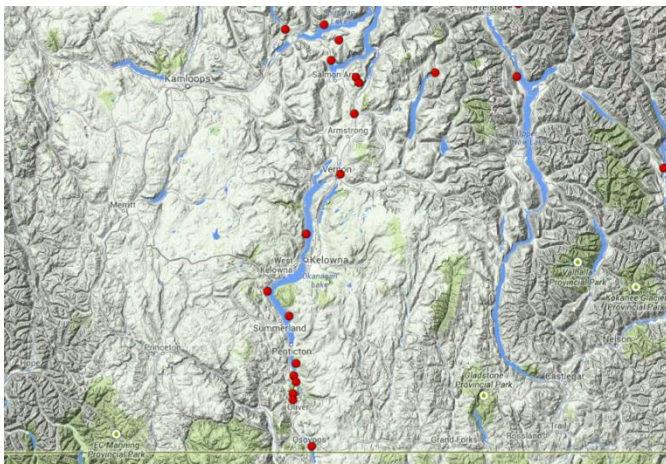


Figure 1 Thompson Okanagan Region distribution of *Epipactis gigantea* (BC CDC 2014)

HABITAT

- Moist, often seasonally flooded meadows, seeps and lakeshores; plant favours mineral-rich soils
- Known in the Thompson Okanagan Region from the Interior Douglas Fir, Ponderosa Pine, Interior Cedar Hemlock and Bunchgrass Biogeoclimatic Zones
- Associates include Philadelphia fleabane (*Erigeron philadelphicus*), scouring-rush (*Equisetum* spp.), water birch (*Betula occidentalis*) and black twinberry (*Lonicera involucrata*)



Figure 2 Foreshore riparian habitat on Skaha Lake, B.C.



Figure 3 Water birch / roses habitat near Okanagan Falls, B.C.

LIFE HISTORY

- Long-lived perennial that flowers in B.C. from late June to the end of August
- Pollinated by flying insects that feed on nectar while perched on the flower lip
- Reproduction occurs through many thousands of tiny, wind-dispersed seeds, and vegetatively through the expansion of rhizomes
- Like many orchid species, successful germination of seeds is dependent on mycorrhizae
- Above-ground portions of the plant die back in winter, leaving just the dormant rhizomes (underground stems) to resprout in the spring

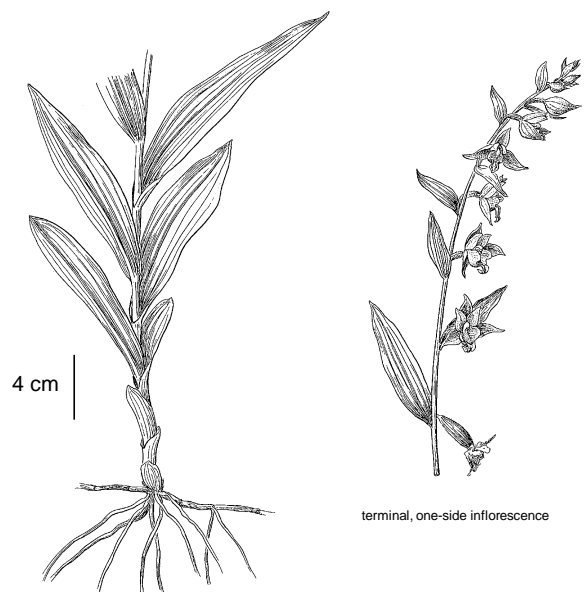


Figure 4 Illustration of *Epipactis gigantea* by Jeanne R. Janish (Hitchcock et al. 1969)

Epipactis gigantea (continued)

DESCRIPTION

General

- Showy, perennial orchid from long rhizomes, 30 to 120 cm tall, glabrous to sparsely hairy in the inflorescence, with one to several leafy stems

Leaves

- Lower leaves sessile and ovate, upper leaves more lanceolate, with largest leaves usually in the middle of the stem (up to 15 cm and sheathing)

Flowers

- Terminal, one-sided inflorescence of 3 to 9 (or up to 12) large flowers with leaf-like bracts
- Sepals lanceolate, 12 to 20 mm long
- Lateral petals curved forward, 13 to 14 mm long
- Lip petal 14 to 20 mm long, sac-like at the base and usually strongly marked with orange-purple veins

Fruits

- Elliptic capsules, nodding at maturity, 2 to 3 cm long



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Figure 5 Close-up of the large flowers that make this species easily identifiable from other members of the genus

IDENTIFICATION TIPS

- Before flowering, the leafy stems of *Epipactis gigantea* may somewhat resemble false Solomon's seal (*Maianthemum* spp.), which have arching rather than erect stems, and leaves that do not form sheaths around the stem
- Broadleaf helleborine (*Epipactis helleborine*), an introduced orchid from Europe, is the only other member of the genus present in B.C, predominately near human settlements; it favours drier habitats, has much smaller flowers, and consists of numerous garden varieties with different traits



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Figure 6 Plants in full bloom in mid-August at Fairmont Hot Springs, B.C.

GENERAL THREATS AND GUIDANCE

- **Avoid development in areas with known occurrences of *Epipactis gigantea* through project relocation or redesign**
- Protect wetland and riparian habitats from disturbance and development, including limiting alterations to hydrology
- 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 (cdccdata@gov.bc.ca) and FLNR Ecosystems Section (josie.symonds@gov.bc.ca)

REFERENCES

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