AN ILLUSTRATED KEY TO THE
ORCHIDACEAE OF ALBERTA

Compiled and written by
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This key was compiled using information primarily from Moss (1983), Packer & Gould (2018), Douglas et al. (2001) and the Flora of North America (2008-2010). Taxonomy follows VASCAN (Brouillet, 2015). Please let us know if there are ways in which the keys can be improved.

The 2017 S-ranks of rare species (S1; S1S2; S2; S2S3; SU, according to ACIMS, 2017) are noted in superscript (\(^{S1;S2;SU}\)) after the species names. For more details go to the ACIMS web site. If naturalized, exotic orchids are discovered in Alberta, their names would be followed by a superscript X (\(^{X}\)).

**Corallorhiza**

**Neottia**

**Cypripedium**

**Platanthera**
ORCHIDACEAE
Orchid Family

Key to Genera

01a Plants variously colored but not green, without chlorophyll; leaves scale-like; rhizomes resembling coral ................. Corallorhiza

01b Plants green, with chlorophyll (at least in part); leaves with well-developed blades; coral-like rhizomes absent .................. 02

02a Lip petal a large, inflated slipper or pouch .03

02b Lip petal flat (sometimes with a hollow spur projecting back/down from the base) ........ 05

03a Lip petals broadly rounded at the tip, inflated slippers; flower-opening partly covered by a large sterile stamen (staminode); leaves mostly ≥3, alternate on the stem (2 basal in Cypripedium acaule) ............... Cypripedium

03b Lip petals inflated at the base but tipped with a flattened lobe; flowers without staminodes; leaves mainly basal .................. 04

04a Leaves >2, in rosettes; flowers 7-47 in spikes, white or greenish; lip petal blunt or pointed (not horned), 2-8 mm long .......... Goodyera

04b Leaves single; flowers single, purple, pink and yellow; lip petal tipped with 2 horns, 13-23 mm long .................. Calypso bulbosa

05a Flowers solitary, rose-purple; lip petal 20-35 mm long, with 3 fringed ridges on the upper surface, variously spotted and streaked with purple and yellow; leaf 1, basal, narrowly lance-shaped, 10-20(55) cm long, absent at flowering time (usually); Athabasca Plains, neAB .................. Arethusa bulbosa

05b Flowers in clusters of ≥2, variously colored; lip petal not as above; leaf 1-several, present at flowering time .................. 06

06a Leaves 2, paired (± opposite) at ± mid-stem .................. Neottia [Listera]

06b Leaves 1-several, basal or alternate on the stem .................. 07

07a Flowers with a hollow extension (spur) (→) projecting back/down from the base (sometimes inconspicuous) ............... 08

07b Flowers without a spur .................. 10

08a Lip petal white with pink to purple spots, 2-lobed at the tip and with 2 side lobes near the base; leaf 1, basal Galearias rotundifolia [Amerorchis rotundifolia; Orchis rotundifolia]

08b Lip petal white, yellowish or green, without spots, smooth-edges or variously lobed; leaves >1 (except Platanthera obtusata) .. 09
09a Lip petal tipped with (2)3 teeth/lobes, oblong; spur pouch-like (→), 2-3 mm long, usually hidden by the petals; bracts much longer than their flowers. **Coeloglossum viride** [.Habenaria viridis; Dactylorhiza viridis]

09b Lip petal not toothed at the tip, variously shaped; spur small and pouch-like to long and slender, hidden or conspicuous; bracts usually shorter than the flowers. **Platanthera**

10a Stems smooth (naked) between the leaves and flowers. **S2**

10b Stems with scale-like leaves between the leaves and flowers. **S1**

11a Flowers and capsules ±10 mm long; leaves 2, basal, ± pleated lengthwise; boreal forest. **Liparis loeselii**

11b Flowers and capsules <5 mm long; leaves not as above. **Malaxis**

12a Leaves alternate on the stem, not blotched with white, not in a rosette; flowers spirally arranged in a twisted, spike-like cluster; lip petal broad at the tip and abruptly narrowed to the base. **Spiranthes**

12b Leaves forming a basal rosette, often veined or blotched with white; flowers all turned to one side or loosely spiralled; lip petal pouch at the base and tapered to a down-curved tip. **Goodyera**

**CORALLORHIZA** Coralroot

01a Sepals and petals yellowish or purplish, each with 3 purple stripes; lip petal wavy or smooth-edged, not lobed. **Corallorhiza striata**

01b Sepals and petals white, yellowish or greenish, often purple/red marked but not as above; lip petal lobed/toothed near the base. **Corallorhiza mertensiana**

02a Sepals and petals 1-nerved; lip petal 3-4 mm long; stems yellowish, usually <3 mm wide. **Corallorhiza trifida**

02b Sepals and petals 3-nerved; lip petal 5-10 mm long; stems usually purplish, often >3 mm wide. **Corallorhiza maculata**

03a Lip petal white with 4-8 purple/red spots and 2 well-developed side lobes; upper sepal 5-15 mm long; ♂♀ organs (column) 3.3-7.8 mm long. **Corallorhiza maculata**

03b Lip petal deep pink to red, usually with 3 dark-red veins and 2 short side teeth; upper sepal 6-12 mm long; column 5-8 mm long. **Corallorhiza mertensiana**
CYPRIPEDIUM  Ladyslipper

01a Leaves 2, basal; lip petal pink, red-veined, with a long, narrow opening, cleft down the front; boreal forest, neAB... *Cypripedium acaule*
01b Leaves 3-6, alternating on the stem; lip petal yellow or white, with a rounded opening, not cleft..................02

02a Sepals egg-shaped to oval, shorter than the lip; lip petal 1.5-2 cm long, white, with faint purple spots inside; large, sterile stamen (staminode) oval-heart-shaped..................*Cypripedium passerinum*
02b Sepals lance-shaped, tapered to a slender point, mostly longer than the lip; lip petal 2-5 cm long..................03

03a Flowers 1(2); lip petal yellow, 2-5 cm long; staminode triangular; widespread in AB.......*Cypripedium parviflorum* ............................................................[*Cypripedium calceolus*]
03b Flowers (1)2(3); lip petal white, 2-3 cm long; staminode egg-shaped; mountains s of Banff, Cypress Hills...*Cypripedium montanum* S2

GOODYERA  Rattlesnake-plantain

01a Leaves 3-7 cm long, usually whitened on the midvein only; flower clusters 6-10 cm long; sepals 6-7.5 mm long; lip petal 5-8 mm........*Goodyera oblongifolia*  
01b Leaves 1-3 cm long, whitened on side-veins; flower clusters 3-6 cm long; sepals 3-6 mm long; lip petal 2-5.5 mm...*Goodyera repens*

MALAXIS  Addermouth

01a Leaf 1(2), 3-6 cm long, with several prominent veins; lip petal broadly triangular, pointed upward, 2 mm long...*Malaxis monophyllos*
01b Leaves 2-5, 1-3 cm long, with few, indistinct veins; lip petal egg-shaped, pointed downward, <2 mm long...*Malaxis paludosa* S2S3
**NEOTTIA** Twayblade
[Listera]

01a Lip petal oblong to strap-like, split ± half-way to the base into slender lobes; leaves heart-shaped to broadly triangular, abruptly sharp-pointed ... *Neottia cordata* [Listera cordata]

01b Lip petal broader, notched at the tip with short, rounded lobes; leaves rarely heart-shaped 02

02a Lip petal rectangular/oblong, with ± parallel sides; widespread in AB ... *Neottia borealis* ........................... [Listera borealis]

02b Lip petal egg-shaped, broadest at the tip and tapered to the base; subalpine sites in the cordillera ................... 03

03a Lip petal 8-10 mm long, abruptly narrowed at the base into a short stalk (claw), edged with tiny, bristly hairs *Neottia convallarioides* 82 ........................... [Listera convallarioides]

03b Lip petal ±5 mm long, stalkless, with a slender tooth on each side at the base, smooth edged ... *Neottia banksiana* 82 [Listera caurina]

**PLATANTHERA** Bog-orchid
[Habenaria, in part]

01a Sepals 1-veined; lip petal 2-5 mm long, with a thickened midrib, joined to the side sepals at its base; fleshy, thickened roots (tuberoids) ± egg-shaped; leaves usually wilted at flowering time; cordillera near Jasper and from the Crowsnest south. *Platanthera unalascensis* ........................... [Habenaria unalascensis], [Piperia unalascensis] 82

01b Sepals 3-veined; lip petal mostly >5 mm long, uniformly flat, free of the sepals; tuberoids elongated; leaves usually green at flowering time; generally widespread in AB .......................... 02

02a Leaves 1-2, basal; upper stems leafless or with bladeless bracts .......................... 03

02b Leaves 3-several, spread along the stem or clustered near the base .......................... 04

03a Leaves 1(2), lance- to egg-shaped, 3.5-15 x 0.8-5 cm, angled upwards; plants 10-30 cm tall ........................... *Platanthera obtusata* ........................... [Habenaria obtusata]

03b Leaves 2(3), broadly oval to ± round, 5-21 x 3-22 cm, spreading on the ground; plants (20)30-60 cm tall ........................... *Platanthera orbiculata* ........................... [Habenaria orbiculata]
**Platanthera dilatata**... [Habenaria dilatata]

**Platanthera stricta**... [Habenaria saccata]

**Platanthera aquilonis**... [Habenaria hyperborea, in part; Platanthera hyperborea, in part]

**Platanthera huronensis**... [Habenaria hyperborea, in part; Platanthera hyperborea, in part]

**Spiranthes lacera**

**Spiranthes romanzoffiana**
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### Key to Illustration Sources

- **B&B** = Britton, N. L. and A. Brown (1913)
- **BC** = Douglas et. al. (2001), courtesy of the Province of British Columbia
- **H&C** = Hitchcock, C. L., A. Cronquist, M. Ownbey, and J. W. Thompson (1955-69)
- **JM** = John Maywood
- **LK** = Linda Kershaw
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