

Cornus canadensis

Cornaceae family

Bunchberry dogwood, bunchberry, Canada bunchberry, creeping dogwood, dwarf cornel, dwarf dogwood, crackerberry

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Description: *Cornus canadensis* is an herbaceous, perennial, mostly deciduous but in some environments evergreen, subshrub with a woody base, from slender rhizomes. *Cornus canadensis* has a clonal habit, by rhizomes, and often forms large colonies. It is reported to be self-sterile (obligate out-crosser); insect pollinated. Reproduction is by seed and vegetative, although this species relies heavily on vegetative reproduction for spread and responds vigorously to disturbance. When the leaves are deciduous, the stem and red fruits can persist throughout the winter.

One source reports this plant as being monoecious (separate male and female flowers on the same plant, in this case, surrounded by the 4 showy white bracts).

Variation: *Cornus canadensis* has no reported varieties or forms. *Cornus canadensis* hybridizes with *Cornus suecica* in places where their distributions overlap.

Size: Stems erect, 2-10 in. (5-25 cm) tall.

Leaves: Leaves opposite/whorled; typically whorled on one tier, occasionally 2 or more; 4-7 leaves, typically 4 or 6, leaves per upper whorl; leaf blade/lamina simple, ovate to obovate, tapering to a point, 0.8-4 in. (2-10.2 cm) long, pinnately veined, margins entire, petiole 0.1 in. (0.3 cm) long; lower whorl opposite, sometimes scale-like, or reduced, oblanceolate, pinnately veined, margins entire. Upper surfaces shiny dark-green; lower surfaces paler.

Inflorescence: A terminal whorl appearing flower-like, 0.8-2 in. (2-5 cm) wide, of 4 large white to pinkish or purplish bracts; bracts petal-like, ovate, up to 1 in. (2.5 cm) long, surrounding a cluster of small white flowers; inflorescence having peduncle/stalk up to 1.5 in. (3.8 cm) long.

Flowers: Flowers clustered, sessile, surrounded by 4 petal-like bracts. Each flower with sepals 4; petals 4, oblong, greenish-white to purplish, up to 0.25 in. (0.6 cm) long; stamens 4; pistil 1, style 1. Each flower having one petal with an awn-like extension which triggers the explosive release of pollen.

Roots: Rhizomes, slender, 1-5 in. (2.5-13 cm) below the soil surface, depending on location; having annual increments of wood. One record identifies a rhizome of 172 in. (436 cm) long with an estimated age of 36 years or more.

Fruit: Terminally clustered drupes. Each a drupe, spherical to ellipsoid; up to 0.2-0.3 in. (0.6-0.8 cm) long; coral-red to red. Edible, but has a single hard seed at its center.

Habitat: *Cornus canadensis* is mesophytic, and considered a facultative wetland plant; yet, usually found in uplands, occasionally in wetlands, bogs. It grows in moist forest environments preferring moist, well-drained sites and acidic soils.

Species distribution in US states: AK, CO, CT, ID, IL, IN, MA, ME, MI, MN, MT, ND, NH, NJ, NM, NY, OH, PA, RI, SD, VA, VT, WA, WI, WV, WY

Species images:

Whole plant:

<http://www.cwnp.org/photopgs/cdoc/cocanadensis.html>

http://calphotos.berkeley.edu/cgi/img_query?query_src=photos_index&enlarge=0000+0000+0107+0557

Leaves:

http://msuplants.com/images/Cornus/Cornucana_LF04_Aug1.jpg

<http://ontariowildflowers.com/main/species.php?id=35>

Colored leaves:

http://www.wildflower.org/gallery/result.php?id_image=16947

http://www.wildflower.org/gallery/result.php?id_image=4072

Buds:

http://msuplants.com/images/Cornus/Cornucana_OF09_May25.jpg

Flowers:

http://calphotos.berkeley.edu/cgi/img_query?query_src=photos_index&enlarge=0000+0000+0506+1642

http://www.wildflower.org/gallery/result.php?id_image=4073

Fruit:

developing:

<http://ontariowildflowers.com/main/species.php?id=35>

mature:

http://plants.usda.gov/java/largeImage?imageID=coca13_014_ahp.tif

http://plants.usda.gov/java/largeImage?imageID=coca13_013_avp.tif

Seeds :

http://plants.usda.gov/java/largeImage?imageID=coca13_008_ahp.tif

Expected timing of growth stages:

Flowering: May to July, with a potential second flowering in some locations in mid-August to September; depending on location.

Bud break/Leaf out: Late spring.

Leaf/canopy development: *Need info.

Fruit ripening: mid-July to October, depending on location.

Seed dispersion: August-October, depending on location.

Phenophases to be monitored for NPN:

This species often reproduces clonally and may form large patches of individual plants. Where possible, choose one or more individuals to mark and monitor separately. However, if it is too difficult to distinguish and follow individuals, a group of individuals can be monitored as a single patch instead. Please indicate in the plant registration form whether you are monitoring an individual or a patch. (See [How to Sample](#) for guidelines on [marking plants](#) and [establishing patches](#).)

Leaf out

- *First leaf*
In at least one location on the plant, the very first green tip of a young leaf has visibly moved out of the leaf bud.

Flowering

- *First flower*
At least one flower on the plant has opened completely. Flowers are considered 'opened' when the reproductive parts are visible between unfolded or opened flower parts. For *Cornus canadensis*, ignore the four large, white bracts and watch for the opening of the small flowers in the center of the showy bracts.
- *Full flower [Intensive only]*
The plant has reached its peak floral display. This occurs when half (50%) of the flowers on the whole plant have opened completely.

- *Last flower*
The last visible flower has opened completely and is still fresh.

Leaf elongation^[ed1]

Note: These measures can be difficult to estimate without a few seasons of practice.

- *25% leaf elongation* **[Intensive only]**
The majority of young leaves have unfolded completely and have expanded to one-quarter (25%) of their mature size. Leaf elongation may also be estimated by viewing the canopy as a whole. At 25% leaf elongation, the canopy appears to be approximately one-quarter (25%) full.



- *50% leaf elongation* **[Intensive only]**
The majority of young leaves have unfolded completely and have expanded to half (50%) of their mature size. Leaf elongation may also be estimated by viewing the canopy as a whole. At 50% leaf elongation, the canopy appears to be approximately half (50%) full.
- *75% leaf elongation*
The majority of young leaves have unfolded completely and have expanded to three-quarters (75%) of their mature size. Leaf elongation may also be estimated by viewing the canopy as a whole. At 75% leaf elongation, the canopy appears to be approximately three-quarters (75%) full.
- *Full leaf elongation* **[Intensive only]**
The majority of young leaves have unfolded completely and have expanded to 95-100% of their mature size. At full leaf elongation, the canopy appears to have reached its full density.

Fruit ripening

- *First fruit ripe*
At least one fruit on the plant has become ripe. For *Cornus canadensis*, a berry is considered ripe when it is bright red in color or when it has been eaten by wildlife.
- *50% of fruit ripe* **[Intensive only]**
For the whole plant, half (50%) of the fruits are ripe.
- *All fruit ripe* **[Intensive only]**
For the whole plant, virtually all (95-100%) of the fruits are ripe.

Leaf color change

Note: If drought seems to be the cause of leaf color change for a plant, please make a comment about it for that plant.

- *First leaf colored* [**Intensive only**]
In at least 3 locations on the plant, the green leaves have begun to change to their late season colors.
- *25% of leaves colored* [**Intensive only**]
For the whole plant, one-quarter (25%) of the leaves (including any that have fallen to the ground) have changed to their late season colors.
- *50% of leaves colored*
For the whole plant, half (50%) of the leaves (including any that have fallen to the ground) have changed to their late season colors.
- *75% of leaves colored* [**Intensive only**]
For the whole plant, three-quarters (75%) of the leaves (including any that have fallen to the ground) have changed to their late season colors.
- *All leaves colored*
For the whole plant, virtually all (95-100%) of the leaves (including any that have fallen to the ground) have changed to their late season colors and there is virtually no green left in the leaves.

Leaf fall

Note: If drought seems to be the cause of leaf fall for a plant, please make a comment about it for that plant.

- *First leaf fallen* [**Intensive only**]
In at least 3 locations on the plant, a leaf easily falls off into your hand when touched or gently handled. First leaf fallen may also be indicated by the presence of at least 3 leaves on the ground below the plant (that are not apparently from another individual nearby).
- *25% of leaves fallen* [**Intensive only**]
For the whole plant, one-quarter (25%) of the leaves have fallen.
- *50% of leaves fallen*
For the whole plant, half (50%) of the leaves have fallen.

- *75% of leaves fallen [Intensive only]*
For the whole plant, three-quarters (75%) of the leaves have fallen.
- *All leaves fallen*
For the whole plant, virtually all (95-100%) of the leaves have fallen.

Did you know? *Cornus canadensis* is one of two primary forage plants throughout the growing season for mule deer and black-tailed deer in Alaska; other wildlife, like moose also use this plant for food. Its fruit and buds are also eaten, by birds and small mammals, sometimes year round. Its berries are used for jellies and pies, and also eaten fresh. And the plant is used medicinally. In a field study, it was found to have properties that neutralize acid rain; possibly due to the calcium present in it leave's trichomes.

Bibliography:

Borealforest.org; accessed 3/25/08

<http://www.borealforest.org/herbs/herb11.htm>

Central Washington Native Plants (CWNP) Plant Gallery; accessed 3/25/08

<http://www.cwnp.org/photopgs/cdoc/cocanadensis.html>

Crane, M. F. 1989. *Cornus canadensis*. In: Fire Effects Information System, [Online].

U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Available: <http://www.fs.fed.us/database/feis/>; accessed 3/25/08: <http://www.fs.fed.us/database/feis/plants/shrub/corcan/all.html>.

North Carolina State University, Cooperative Extension; accessed 3/25/08

http://www.ces.ncsu.edu/depts/hort/consumer/factsheets/wildflowers/cornus_canadensis.html

Ontario wildflowers; accessed 3/25/08

<http://ontariowildflowers.com/main/species.php?id=35>

USDA Plants Database; accessed 3/25/08

<http://plants.usda.gov/>

US Forest Service, Celebrating wildflowers; accessed 3/25/08

http://www.fs.fed.us/wildflowers/plant-of-the-week/cornus_canadensis.shtml

USGS Northern Prairie Wildlife Research Center; accessed 3/25/08

<http://www.npwrc.usgs.gov/resource/plants/florane/species/7/corncana.htm>

Virginia Tech, Department of Forestry, College of Natural Resources; accessed 3/25/08

USA-NPN Plant Phenology Protocol, *Cornus_canadensis_v1.0(beta).doc*

<http://www.cnr.vt.edu/DENDRO/dendrology/syllabus/factsheet.cfm?ID=432>

images:

CalFlora, Photo Database; accessed 3/25/08

http://calphotos.berkeley.edu/cgi/img_query?query_src=photos_index&enlarge=0000+0000+0506+1642

http://calphotos.berkeley.edu/cgi/img_query?query_src=photos_index&enlarge=0000+0000+0107+0557

Central Washington Native Plants (CWNP) Plant Gallery; accessed 3/25/08

<http://www.cwnp.org/photopgs/cdoc/cocanadensis.html>

Lady Bird Johnson Wildflower Center, University of Texas at Austin, Native Plant Database; accessed 3/25/08

http://www.wildflower.org/gallery/result.php?id_image=16947

http://www.wildflower.org/gallery/result.php?id_image=4073

http://www.wildflower.org/gallery/result.php?id_image=4072

Michigan State University, Department of Horticulture; accessed 3/25/08

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Ontario wildflowers; accessed 3/25/08

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http://plants.usda.gov/java/largeImage?imageID=coca13_008_ahp.tif

http://plants.usda.gov/java/largeImage?imageID=coca13_014_ahp.tif

http://plants.usda.gov/java/largeImage?imageID=coca13_013_avp.tif

Notes

The USDA PLANTS symbol for this plant is COCA13.

The ITIS Taxonomic Serial No. for this species is 27816.

BBCH codes for phenophases used for this plant are available from the USA-NPN office upon request.

Proposed modifications, updates or corrections to this protocol are welcome; please direct correspondence to the USA-NPN National Coordinating Office.

Prior versions of this species protocol will be made available in a documents library on USA-NPN webpage.

USA-NPN Plant Phenology Protocol, *Cornus_canadensis_v1.0(beta).doc*

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[ed1]Almost seems silly to leave this in because this plant is so small! However, I think it is better to keep this as a shrub/tree (i.e. woody plant phenophases) rather than make it into an herb. Later we might want to consider taking leaf elongation out, but thought I'd leave it in for now because I think it is doable. Same goes for 50% leaf color and leaf fall. With six leaves there is not much to look for, but they DO have nice fall color.