

# Plant Diversity Website

## ***Rubus occidentalis* L.**

**Common Names:** Black Raspberry, Black-cap (8), Thimbleberry (4).

**Etymology:** *Rubus* is Latin for “bramble,” “blackberry,” or “raspberry.” *Occidentalis* is Latin for “western” or “of the west” (2, 13).

**Botanical synonyms:** None found

**FAMILY:** Rosaceae (the Rose family)

**Quick Notable Features:**

- Leaves palmately compound with 3-5 leaflets that are green above, white and pubescent underneath
- Terminal leaflet is larger than the lateral leaflets
- Petals are about half as long as the sepals.

**Plant Height:** The erect shrubby climber can be up to 2m tall with 1-2m long branches (9).

**Subspecies/varieties recognized:**

- Rubus occidentalis* L. var. *flavobaccus* Blanch.
- Rubus occidentalis* L. var. *grandiflora* Focke
- Rubus occidentalis* L. var. *incisus* Schltr.
- Rubus occidentalis* L. var. *incisus* Schltldl.
- Rubus occidentalis* L. var. *mexicanus* Focke
- Rubus occidentalis* L. var. *pallidus* L.H. Bailey
- Rubus occidentalis* L. f. *pallidus* B.L. Rob. (16).



**Most Likely Confused with:** A hybrid of itself and *Rubus strigosus*, sometimes called *Rubus neglectus*, as well as *Rubus strigosus* and other members of the genus *Rubus*, such as *R. alleghaniensis*. It also may be confused with *Rosa multiflora*.

**Habitat Preference:** Prefers open, undisturbed habitats such as fields, thickets, clearings, ravine flats, along hillsides, and in open woods. It lives in both dry and moist areas, along roadsides, rocky sites, and fence rows (5, 6, 7, 9, 10, 12).

**Geographic Distribution in Michigan:** This species lives in 19 counties of the lower peninsula, most of which are in the southern half, and only Delta county in the upper peninsula (9).

**Known Elevational Distribution:** It has been noted in the Great Smoky Mountains National Park to grow only below 610m (11).

**Complete Geographic Distribution:** Native to every state east of and including Colorado, except for Texas, Louisiana, and Florida. In Canada, it can be found in Quebec, Ontario, and New Brunswick (15).

**Vegetative Plant Description:** Leaves are palmately compound with 3-5 leaflets per leaf. The leaflets are green and glabrous above, and white tomentose beneath. They are 5-9cm long and 3-7cm wide (7). Leaflets are ovate with a rounded base and a tapered apex, with sharp, jagged serrations along the whole margin of the leaflet, except the base. The terminal leaflet is usually larger than the other leaflets, but has the same morphology (5). The stems can be erect or ascending, some arch and root at the tips. The stem is without glands and bears a few spines, some hooked and others straight always narrowing at the tip. The petioles and the pedicels bear spines as well. The flowerless, first-year shoot, has dense, white glaucous stems and usually contains 3, but sometimes 5, leaflets per leaf. The flowering and fruit-bearing, second-year shoot is glabrous and contains 3 leaflets per leaf (3, 4, 6, 7, 9, 12).

**Climbing Mechanism:** Uses its spiny stem to attach itself to other plants (Robyn J. Burnham, pers. obs.).

**Flower Description:** 3-7 perfect flowers are contained in a dense umbellate inflorescence. The calyx has 5 tomentose sepals that taper to a point and are 6-8mm in length. The petals are narrow, obovate and are 3-4.5mm in length. The flower has many erect stamens with small yellow anthers. The stigma has 2-3 lobes and the ovaries are green (3, 5, 7, 9, 12).



**Flowering Time:** The species generally flowers between April and July in North America (1), and flowers between May and June in Michigan (9).

**Pollinator:** Nothing found in the literature for *R. occidentalis*. Bumblebees pollinate plants of the genus *Rubus* (18) and many species can self-pollinate.

**Fruit Type and Description:** The fruit is an “aggregate of drupes” (9), purplish-black when ripe, which is usually between June and August in North America. The aggregate is 12-15mm in diameter with white tomentum between the drupelets. When ripe, the fruit separates easily from the receptacle as a whole (1, 4, 7, 8, 9).



**Seed Description:** Seeds are tan in color with an irregular shape and rough texture. They are ca. 2.4mm long (3). 740 seeds weigh one gram (1).

**Dispersal Syndrome:** Songbirds, game birds, and mammals all eat the fruit seeds, suggesting seed dispersal is by animals (3).

**Distinguished by:** The petioles and inflorescence of *Rubus neglectus* are mostly glandular, while the inflorescence of *Rubus occidentalis* is tomentose. The inflorescence is also “more compact” in *R. neglectus* than in *R. occidentalis* (6,9). *Rubus strigosus* has pedicels that are



glandular and bears a red mature fruit, while *R. occidentalis* has pedicels without glands and a purplish-black mature fruit (10). *Rubus alleghaniensis* has leaves that are green on both sides while *occidentalis* has white undersides to its leaves (9). *Rosa multiflora* bears stipules on the petiole and has an achene ripening in a rosehip that is red when ripe. *Rubus occidentalis* does not bear stipules and its fruit is a aggregate of drupes (10).

**Other members of the family in Michigan (number species):** *Rubus* (48), *Agrimony* (5), *Amelanchier* (6),

*Argentina* (1), *Aruncus* (1), *Chamaerhodos* (1), *Comarum* (1), *Crataegus* (42), *Dalibarda* (1), *Dasiphorda* (1), *Duchesnea* (1), *Filipendula* (1), *Fragaria* (2), *Geum* (9), *Gillenia* (2), *Malus* (4), *Photinia* (2), *Physocarpus* (2), *Potentilla* (11), *Prunus* (16), *Pyrus* (1), *Rosa* (18), *Sanguisorba* (3), *Sibbaldiopsis* (1), *Sorbaria* (1), *Sorbus* (3), *Spiraea* (6), *Waldsteinia* (1) (source 15).

**Ethnobotanical Uses:** The berries are used in jams and pies (3). The leaves can be used to make a tea and a second kind of tea can be made from the root's bark. Medicinal uses of the roots include treatment of cough and toothache (14).

**Phylogenetic Information:** The genus *Rubus* is a member of the subfamily Rosoideae in the family Rosaceae. Rosoideae is distinguished by having many carpels and an aggregate of achenes or drupes as fruit (19). Rosaceae fossils date to 76 million years. The Rosaceae is placed within the order Rosales, which has been dated to 89 million years. Rosales is in the subclass Rosidae, which is a member of the eudicots (17).

**Interesting Quotation or Other Interesting Factoid not inserted above:** *Rubus occidentalis* was thought in the 1960's to be a good plant for conservation of certain mammals and birds. It provides a food source and any dense patches help to conceal them (3).

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<http://departments.bloomu.edu/biology/Ricketts/index.html>
- 4) Image of the seeds is from the USDA website courtesy of Steve Hurst @ USRC-NRCS PLANTS database.

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