

***Cornus sericea* L.**
CORNACEAE

redosier dogwood

Synonyms: *Cornus stolonifera* Michx.



Illustration source: USDA—Forest Service Collection, Hunt Institute

General Description.—Redosier dogwood is a multi-stemmed, deciduous, stoloniferous shrub that grows 1 to 3 m tall and 3 m wide or more, often forming dense thickets. Leaves are opposite, simple, ovate to oblong-lanceolate, acuminate, rounded at the base, 5 to 12 cm long, 2.5 to 6.4 cm wide, with petioles 1.3 to 2.5 cm long (Dirr 1998, Gleason and Cronquist 1991). Leaves are medium to dark green in summer, purplish to reddish in the fall, distinctly glaucous beneath, with five to seven lateral vein pairs. Stems are slender, upright, bright red to dark blood red, appressed pubescence on younger stems, with prominent lenticels, and a white pith (Dirr 1998). Buds are valvate, appressed, and elongated. The inflorescence is a cyme (3.8 to 6.4 cm in diameter) with small (2 to 3 mm), white to cream-colored flowers (Gleason and Cronquist 1991). The fruit is a globose, white drupe (stone), 7 to 9 mm in diameter (Gleason and Cronquist 1991). The chromosome number of redosier dogwood is $2n = 22$ (Gleason and Cronquist 1991). Two forms of *C. sericea* are recognized: f. *baileyi* (J.M. Coult and W.H. Evans) Fosberg and f. *stolonifera* (Michx.) Fosberg (Missouri Botanical Garden 2002).

Range.—Redosier dogwood occurs from Alaska to Newfoundland, south to Virginia in the east, to Kansas in the Great Plains, to northern Mexico, in the Rocky Mountains, and through California on the West Coast (Crane 1989).

Ecology.—Redosier dogwood is extremely adaptable to a wide range of soil and climatic conditions. It prefers rich, moist, poorly drained soils with high levels of mineral nutrients, and moderate to full sunlight (Crane 1989). These sites include swamps, low meadows, riparian zones, wetlands, floodplains, forest openings and understories. Redosier dogwood is suppressed in shade, a dominant understory shrub in the early successional willow and balsam poplar communities, not a primary invader of wet prairies and meadows (enters the stand later in succession), and enters a stand after fire (Crane 1989). It is tolerant of fluctuating water tables and extremely cold temperatures. Redosier dogwood can spread and form dense thickets (by layering) when stems touch the ground and roots form at the nodes. The larvae (instars) of the dogwood sawfly [*Macremphytus tarsatus* (Say)] feed on redosier dogwood causing defoliation (Johnson and Lyon 1991). *Pandemis pyrusana* Kearfott (leafroller) attacks redosier dogwood in British Columbia and California (Johnson and Lyon 1991). Redosier dogwood is susceptible to attack by *Discula destructiva* Redlin. *sp. nov.* (dogwood anthracnose), *Botryosphaeria dothidea* (Moug.:Fr.) Ces. & De Not. (canker and dieback), *Septoria cornicola* Desmaz. (leaf spot), and *Phyllactinia guttata* (Wallr.:Fr.) Lev. (powdery mildew) (Brown and others 1996, Jones and Benson 2001, Sinclair and others 1987). Tobacco ringspot virus has been detected in naturally infected redosier dogwood (Sinclair and others 1987). Mycoplasma-like organisms have been detected in witches-brooms of redosier dogwood (Sinclair and others 1987).

Reproduction.—Redosier dogwood flowers are small, self-sterile with obligate outcrossing, and are insect-pollinated (Crane 1989). In the United States the shrub blossoms from late May to June (June to August in the Northern United States) with fruit maturation by fall. The fruit is a drupe containing a single two-celled and usually two-seeded stone, but only one seed is fully developed (Brinkman 1974). Redosier dogwood seeds have a hard seed coat and dormant embryos (Crane

1989). Seeds do not germinate readily (can remain viable in seedbanks) and require cold stratification and sometimes scarification in order for germination to occur (Crane 1989). Fresh seed can be fall sown or stratified for 60 to 90 days at 5 °C (Brinkman 1974). Acharya and others (1992) found that native (Alberta, Canada) redosier dogwood seed germination was strongly influenced by the population from which seeds were collected, and the yearly precipitation in those areas. Redosier dogwood propagates itself vegetatively via stolons (stems just on or under the ground) and by layering forming dense thickets. Plants are also produced from the roots, the bases of dying branches, and injured stems (Crane 1989). Cuttings (with leaves) root readily when treated with 1 g/l indole-3-butyric acid (Dirr 1998). Hardwood cuttings root (90 to 100 percent) when placed in the field in late winter without a rooting treatment (Dirr 1998). Redosier dogwood can be grown as bare-root, containerized, or balled-and-burlapped plants (Dirr 1998).

Growth and Management.—Redosier dogwood is a fast (vigorous) growing shrub that develops a loose, broad-spreading, rounded habit with horizontal branches at the base (Dirr 1998). It is hardy in zones 2 to 7 (USDA Plant Hardiness) and is sexually mature in 3 to 4 years (Crane 1989). Redosier dogwood generally increases following fire (Crane 1989). Coppicing stimulates new, vigorous stem growth. Pruning and burning redosier dogwood helps produce long straight stems. Redosier dogwood is used for soil stabilization, reclamation sites, residential landscape plantings, mass plantings along highway banks, parks, and golf courses (Crane 1989, Dirr 1998, Renault and others 2001). Redosier dogwood can be controlled by spraying with mixtures of 2, 4-D and dicamba (Crane 1989).

Benefits.—Redosier dogwood is planted as a landscape plant because of its bright red stems, which are especially beautiful contrasting against a snowy landscape. Because it is easy to establish and grows rapidly, redosier dogwood is useful for rehabilitation of disturbed sites. It is an excellent soil stabilizer along stream banks because of its thick, extensive root system (Crane 1989). Redosier dogwood is relatively tolerant to high salinity tailings waters produced as a result of oil and sand mining, making it useful for reclamation of sites (Renault and others 1999, 2001). The bark, stems, leaves, roots, and fruit of redosier dogwood were used by Native Americans for a variety of uses including basket weaving, dyes, and tonics (Stevens and Dozier 2002). Redosier dogwood thickets provide cover for birds and other small wildlife. It is an important food source and winter browse for deer, elk, moose, bear, cottontail rabbits, snowshoe hares, grouse,

quail, and other small birds and mammals (Crane 1989).

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