

***Holodiscus dumosus* (Nutt. ex Hook.) Heller**
ROSACEAE

rockspirea

Synonyms: *Spiraea dumosa* (Nutt.) T. & G.
Schizonotus dumosus Koehne.
H. microphyllus Rydb.
Sericotheca dumosa Rydb.



Illustration credits: Hitchcock and others 1961 and E.G. Hurd

General Description.—Rockspirea, also known as gland oceanspray, bush oceanspray, mountain-spray, and creambush, is a compact, rounded, intricately branched deciduous shrub 0.1 to 4 m tall with a crown diameter of 1.5 to 3 m (Hitchcock and others 1961, Welsh and others 1987). Leaf blades are oval and shallowly or coarsely lobed or toothed, but generally without secondary teeth. Petioles are decurrent along the stems. Panicles are showy and terminal, overtopping the shrub. Flowers are numerous, small, creamy-white, perfect, perigynous, and insect pollinated. Fruits are tiny hirsute achenes. Roots are densely fibrous and spreading. The species has $n = 18$ chromosomes (McArthur and Sanderson 1986).

Range.—Rockspirea grows east of the Cascade and Sierra Nevada Mountains from north central Oregon, east to Wyoming, and south to

Chihuahua, Mexico at elevations ranging from 760 to 3,660 m (Harrington 1964, Hopkins and Kovalchek 1983).

Ecology.—Rockspirea occurs in a wide array of plant communities including *Artemisia* spp., *Pinus* spp.--*Juniperus* spp. L., *Cercocarpus ledifolius* Nutt., chaparral, *Populus tremuloides* Michx.--*Pinus contorta* Dougl. ex Loud., *Picea* spp.--*Abies* spp., *Pseudotsuga menziesii* (Mirbel) Franco, *Abies concolor* (Gord. & Glend.) Lindl. ex Hildebr., and *Pinus ponderosa* Dougl. (Sutton and Johnson 1974, USDA 1937). It grows as a pioneer species in cracks and fissures on rock surfaces, as a seral species in brush fields of forested areas, and as a climax species in self-replacing, monospecific stands. Within its range it commonly occurs on well-drained, dry to moderately dry sandy or gravelly soils that may be somewhat alkaline, but it is also found on finer-textured soils. Rockspirea often grows on dry, rocky ridges, talus slopes, and basalt outcrops (Hitchcock and others 1961, Welsh and others 1987). It is a prolific root sprouter, capable of recovering from fire, grazing, or mechanical damage.

Reproduction.—Panicles and floral buds develop in early spring, but flowering is delayed until summer or early fall depending upon elevation. Fruits are wind and gravity dispersed through late fall (Hitchcock and others 1961). King (1947) determined that although there are about 12,000,000 seed/kg, only about 7 percent were sound. These required moist prechilling at 5 °C for 18 weeks to release dormancy. Heat generated by wildfires may also stimulate germination. Seed can be broadcast seeded on a rough seedbed. Planting stock can be grown by fall seeding in the bareroot nursery or planting moist prechilled seed in the greenhouse.

Growth and Management.—Excessive browsing rarely occurs as the species is present primarily in rocky, inaccessible areas and on

summer ranges where other species receive preferential use. Based on results of clipping studies in Oregon, Garrison (1953) recommended a maximum of 50 to 60 percent use for sustained production. On some western juniper/big sagebrush habitat types of eastern Oregon, the species tends to increase when other species receive excessive use (Ferguson 1983, Hopkins and Kovalchik 1983).

Benefits.—Rockspirea is a potentially valuable species for revegetation as it is drought tolerant and adapted to sites with dry, rocky, unstable surface conditions in a variety of forested and nonforested communities (Stark 1966). Its use has been limited by a lack of high quality seed supplies. Palatability and forage value of rockspirea are low (USDA 1937), but it does provide food and cover for small animals. Kufeld and others (1973) reported its use by mule deer (*Odocoileus hemionus*) was moderate in fall and light during the remainder of the year. Rockspirea is used in summer by bighorn sheep (*Ovis canadensis*) and rabbits (Sutton and Johnson 1974, Todd 1975). It is an attractive, low water use ornamental. Native Americans made digging sticks and arrow shafts from the hard, straight branches (Anderson and Holmgren 1969, Daubenmire 1970, Hopkins and Kovalchik 1983). Native Americans of the Great Basin ate the seeds, and pioneers made nails from its wood.

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