***Rhus trilobata* Nutt.** oakleaf sumac
ANACARDIACEAE

Synonyms: *Rhus aromatica* Ait. var. *trilobata* (Nutt.) Gray
Toxicodendron trilobatum Kuntze
Schmaltzia oxyacanthoides Greene
Schmaltzia pubescens Osterh.

Illustration credit: E.G. Hurd

General Description.—Also known as skunkbush sumac or lemonade sumac, oakleaf sumac is a morphologically variable deciduous species with a spreading, mound-like, or erect growth form. It frequently forms clumps or thickets 0.6 to 2.1 m in height (Hitchcock and others 1961, Thornburg 1982, Welch and others 1987). Young branches are brownish and puberulent, turning gray with age. The alternate, trifoliate leaves are glossy, dark green, and 3 to 7 cm long. Leaflet lobes are shallowly to deeply incised and puberulent below. The terminal leaflet is fan-shaped; the lower two are about half as large and shallowly crenate-lobed (Hitchcock and others 1961). Plants are polygamo-dioecious (nearly dioecious, but with some male/female flowers). Inflorescences consist of clusters of spikes located near branch tips (Goodrich and Neese 1986). Flowers are inconspicuous, pale-yellow and mostly imperfect, developing before the leaves. Fruits are sticky, subglobose, orange-red drupes 6 to 8 mm in diameter with a lemony flavor when fresh. This species closely resembles *R. aromatica* Ait. and is often treated as a variety of that more eastern species.

Range.—Oakleaf sumac is a widespread and highly variable taxon, ranging from Alberta to Iowa and south to California, Mexico, and Texas (Harrington 1964). It grows at elevations from 1,050 to 2,400 m on sites that receive 250 to 500 mm of precipitation (Hitchcock and others 1961, USDA Forest Service 1937, Wasser 1982).

Ecology.—In the Intermountain Region, oakleaf sumac is common in mountain brush and pinyon-juniper communities (Hitchcock and others 1961, Welch and others 1987) and also grows in openings in communities of oakbrush, ponderosa pine, and other conifers (Vories 1981). At lower elevations it may be found in the blackbrush, basin big sagebrush, or Wyoming big sagebrush zones. In these areas it occurs on streambanks and terraces, floodplains, seep, and spring margins, mesic slopes, talus slopes, swales, drainageways, and on other sites receiving extra moisture (Welsh and others 1987). It is frequently associated with riparian communities, growing intermixed with other shrubs or as scattered thickets in communities dominated by herbaceous species. Adapted to a wide range of soil conditions, oakleaf sumac grows on basic to acidic soils with textures ranging from clayey to sandy.

Reproduction.—Flowers appear in early spring, usually March or April (Brinkman 1974). Fruits ripen from June to September (Plummer and others 1968, Shaw 1984, van Dersal 1938) but many remain on the shrub well into winter. Seeds are dispersed primarily by birds but also by rodents and other animals (Brinkman 1974). There are approximately 44,000 cleaned seeds/kg (Brinkman 1974, Plummer and others 1968). Germination is restricted by the presence of a hard seedcoat and embryo dormancy, with the degree of dormancy varying considerably among populations. Seedcoat permeability of most populations is improved by a 0.3 to 2 hour sulphuric acid scarification (Babb 1959, Brinkman 1974, Glazebrook 1941, Heit 1968), while 30 to 120 days of moist prechilling is required to release

embryo dormancy (Babb 1959, Swingle 1939). Mechanically rupturing the seedcoat improves germination (McKeever 1938), but techniques have not been developed for treating large seed lots. Following fire, oakleaf sumac generally sprouts vigorously from the root crown and rhizomes (Wasser 1982).

Growth and Management.—Local seed sources should be selected for range seedings or transplanting projects as the range of adaptability for most populations is not known (Swenson 1957). Scarified seed may be fall planted to provide overwinter moist prechilling. Seed should be planted approximately 1.3 cm deep or slightly deeper in dry, coarse textured soils. Seedlings are considered to be drought and cold hardy but may succumb to competition from herbaceous species when young (Clark and Depuit 1981, Monsen 1987). Range or wildland seedings normally require 2 to 5 years for establishment (Plummer and others 1968).

Benefits.—Oakleaf sumac can be used to stabilize disturbed riparian areas. It provides excellent ground cover, and the spreading root system reduces soil erosion. It is particularly useful for restoration of meadows and other riparian sites where extensive erosion and gully cutting has lowered water tables. Oakleaf sumac thickets provide excellent cover for many small birds and mammals, and winter browse where shrubs are limited. It is increasingly being used by homeowners seeking drought-tolerant native species since it is commercially available, easy to grow, long-lived, responds well to pruning, and has attractive red, orange to yellow fall color. Native Americans have used oakleaf sumac for food, tobacco substitute, basketry, and as a mordant in dyeing (LHBH 1976).

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