

BUCKBRUSH

Ceanothus cuneatus (Hook.) Nutt.

Plant Symbol = CECU

Contributed by: USDA NRCS Lockeford Plant Materials Center, Lockeford, CA



Figure 1: *Ceanothus cuneatus* branches. Photo M. DeSiervo Lockeford Plant Material Center.

Alternate Names

Common Alternate Names:

buckbrush
buckbrush ceanothus
blue brush
cuneate ceanothus
wedgeleaf ceanothus

Native American traditional names include:

bä-käm' (Pomo tribe)

hit (Wailaki tribe) (Chestnut, 1902).

Uses

Wildlife: Deer will forage on the leaves, shoots and berries of buckbrush, preferring the tender young seedlings to the mature plants. Additionally, small rodents and birds including the quail and mourning dove feed on the seeds (League, 2005). Buckbrush is also an important cover species for wildlife, due to its size and abundance of branchlets.

Buckbrush is also an important species for pollinators such as bees, butterflies and hummingbirds.

Landscaping: Along with other native *Ceanothus* species, *Ceanothus cuneatus* is an aesthetically pleasing shrub commonly integrated in the outdoor landscape of homes,

and other recreational areas throughout its range. Due to its fast-growing nature and nitrogen-fixing capabilities, buckbrush is a great pioneer species for new landscapes (Las Pilitas Nursery, 2011). It is also a valuable shrub species for pollinator hedgerows, and attracts many bees with its fragrant flowers in the early spring. There are several cultivars of *Ceanothus cuneatus* available at local nurseries.

Status

Please consult the PLANTS Web site and your State Department of Natural Resources for this plant's current status (e.g., threatened or endangered species, state noxious status, and wetland indicator values).

Description

General: Buckthorn family (Rhamnaceae). California buckbrush is an erect, perennial, evergreen shrub within the California lilac (*Ceanothus*) genus. The species ranges in size from 3 to 12 feet tall. As with other California lilac species, buckbrush shrubs are distinct from other woody chaparral plants with their unique pattern of angular, rigid branchlets of unequal sizes. The twigs are round and gray colored and do not have hairs or spines. The evergreen leaves on this species are in an opposite arrangement, generally 0.25 - 0.5 in long. The leaves are generally smooth and entire, sometimes with a toothed margin near the apex. The inflorescence, generally less than 1 inch, is displayed as a raceme with several umbellate clusters, each containing many fragrant flowers. The flowering period of this species is between March and May and the flower colors range from white to several shades of blue and lavender. The fruits are 0.25 - 0.5 in long and have 3 distinct horns near the top without crests or ridges. Each fruit capsule contains two to three seeds (McMinn, 1939; Hickman, 1993).

Ethnobotany

As one of the dominant species in the chaparral ecosystem, this shrub has been utilized by California Native Americans for centuries.

Buckbrush shrubs contain a significant amount of woody material and several California tribes including the Kawaiisu and the Miwok used this species for firewood (Zigmond, 1981; Merriam, 1967). The twigs were also collected for a variety of hunting and fishing purposes. The Kawaiisu used the straight twigs of this shrub as the foreshafts for two-piece arrows. The arrows were created by stripping and sharpening the *Ceanothus* twigs and fitting them inside sections of hollow Carrizo grass of "cane" (Zigmond, 1981). Indians of Mendocino used buckbrush woody material to create fish dams (Chestnut, 1902).

Buckbrush was also used for traditional Native American tools. Seed beaters were constructed using the rigid woody material of the shrub. Consisting of a basket with a handle, the seed beaters were used to “thrust over the spike or inflorescence of a grass of wildflower to knock off the grains and seeds into a burden basket” (Anderson, 2005). The Paiute and Miwok tribes used the rigid buckbrush wood to create digging sticks (Steward, 1933). Barrett and Gifford (1933) describe this tool as a three to four foot long stick that was hacked off with a sharp stone, scraped with flint, and hardened by fire. The tool was held as a staff and thrust into the ground as a digging device. Sharpened buckbrush twigs were also utilized by the Pit River tribe to create slender needles used in the piercing of earlobes of young girls (Merriam, 1967). Similarly, the Tubatulabal used the sharpened twigs as a skewer for roasted pinyon nuts (Voegelin, 1938).

To this day, *Ceanothus cuneatus* is an extremely valuable species for basketry. Several characteristics of buckbrush including its color, length and strength make it an ideal species for this craft. The young shoots in particular are highly valued for basketry. The Miwok and Mono Indians historically manipulated stands of buckbrush by pruning and coppicing to induce rapid elongation of young growth and burning to encourage new seedlings (Anderson, 1991, 2005).

Buckbrush branches are often used in the construction of burden baskets. According to Barrett and Gifford (1933), the burden baskets used by the Miwok Indians were reinforced by using a hoop made of *Ceanothus cuneatus* wood, placed midway down inside the basket. Buckbrush branches were also used by the Mono for the hood of cradleboards and the rims of winnowers and seed beaters (Anderson, 2005). The Sierra Miwok made shallow openwork scoop baskets of buckbrush called *cham-ah*, used for drying green acorns, and in later times for drying domesticated fruits such as peaches and figs. the foundation of some Miwok coiled baskets used for acorn mush are made of young buckbrush shoots (Merriam, 1967).

Distribution:

Ceanothus cuneatus is widely distributed through California, Oregon and northern Baja California, Mexico, generally at elevations less than 6000 ft. For current distribution, please consult the Plant Profile page for this species on the PLANTS Web site.

Habitat:

Buckbrush is one of the primary shrub species in the chaparral ecosystem. It is commonly found on dry, rocky slopes and ridges along with associated shrub species including chamise (*Adenostoma fasciculatum*) and whiteleaf manzanita (*Arctostaphylos viscida*) (Baker, 1982). In some places, *Ceanothus cuneatus* outcompetes other shrub species to form dense, impenetrable thickets

(McMinn, 1939). These ecosystems are known as ceanothus chaparral vegetation type.

Ceanothus cuneatus is adapted to serpentine soils, and can therefore serve as a good indicator species for field identification of serpentine soils in California and Oregon (Kruckeberg, 1984). It should be noted however, that this species is more commonly found on non-serpentine soils of sandstone origins (Safford and Harrison, 2004).

Buckbrush is also an important shrub species in the montane ecosystem where it often grows as an understory species in pine forests and oak woodland habitats. In the coastal sage scrub habitat type, buckbrush is present in areas in or near low elevation coastal aspects, along with the dominant species, California sagebrush (*Artemisia californica*). Buckbrush is also found in inland dune habitats in small populations. (League, 2005).

Adaptation

Ceanothus cuneatus is adapted to the annual summer drought in the Mediterranean climate zone. In a two year study comparing the phenology of chaparral shrubs, it was found that buckbrush undergoes branch elongation, leaf initiation and flowering in late winter and early spring before the onset of annual drought (Baker, 1982).

Buckbrush is also well adapted to chaparral fires, and is widely considered to be a “fire recruiter” species. High temperatures are necessary to melt and crack the cuticle of buried seeds, facilitating high germination rates after fire (League, 2005). McMinn (1939) noted that dense colonies of this plant can be formed within a few years after a major fire disturbance.

Establishment

The germination and establishment of *Ceanothus cuneatus* in its natural habitat is highly correlated with fire regime. Germination rates in the spring following fire disturbance are generally quite high, but seedling survival varies according to soil moisture (Sweeney, 1956). Since establishment occurs after fire, buckbrush typically forms even-aged stands (Keeley, 1982).

Management

Buckbrush stand maintenance is most successful with fire intervals of 30-100 years (Minnich, 1999; Paysen et al., 2000). This fire regime allows for larger quantities of seeds to accumulate in the seed bank. In the mid-twentieth century, it was believed that Native American burning practices led to the increase of several chaparral species, including *Ceanothus cuneatus* in oak woodlands (Biswell, 1956).

Pests and Potential Problems

There are no known pests or problems associated with buckbrush.

Environmental Concerns

There are no known environmental concerns associated with buckbrush.

Seeds and Plant Production

Ceanothus cuneatus fruits are usually ripe in late spring. When the seeds are ripe, the mature capsule bursts open with considerable force and the seeds can fall up to 35 feet from the plant (Biswell and Gilman, 1961). This seed-ejecting mechanism, while beneficial for the plant, can make seed collecting quite challenging. One technique for seed collection is to tie cloth bags over clusters of green seed pods (Conard and Reed, 2003). Another method is to cut seedpod clusters before the capsules have split; however you must insure the seeds are mature, since prematurely collected seeds will not germinate successfully (Emery, 1988).

Seed propagation is most successful using a combination of scarification and stratification techniques. Seeds can be scarified with fire, or by using a hydrochloric acid mixture. Seeds should then be refrigerated and stored in sealed containers for about two to three weeks. In a greenhouse environment, germination of *Ceanothus cuneatus* was most successful when seeds were planted at depths of 0.5 to 1 inch (Adams, 1962; Belcher, 1985).

Plants can also be propagated from semi-hard cuttings in the summer, or from root cuttings in the late fall to early winter.

Cultivars, Improved, and Selected Materials (and area of origin)

Buckbrush container stock is readily available through most nurseries within its range. Contact your local Natural Resources Conservation Service (formerly Soil Conservation Service) office for more information.

'Sierra Snow' is a cultivar with showy, white flowers that grows 2-3 meters tall and 2.5 meters wide. It prefers full to partial sun and does well in plant hardiness zones 8, 9, 10 and 11. This cultivar thrives in dry, hot climates, is drought-tolerant and low maintenance, but is susceptible to aphids, root rot, and whiteflies (Sunny Gardens, 2011).

'Sierra Mt. Lilac' is another cultivar with fragrant blue flowers. It typically grows into a large evergreen bush (about 8 feet) with a showy inflorescence during the spring. Due to its fast-growing nature and nitrogen fixing capabilities, this cultivar is commonly planted as a companion to slow-growing species such as oaks, coffeeberry and toyon (Las Pilitas Nursery, 2011).

'Snow Ball' is a cultivar of *Ceanothus cuneatus* var. *rigidus*, otherwise known as Monterey ceanothus. It named for its showy white flowers which bloom in the early spring. This cultivar grows best in the coastal range climate, since it is endemic to this area and can be used as a scale ground cover species (Las Pilitas Nursery, 2011).

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