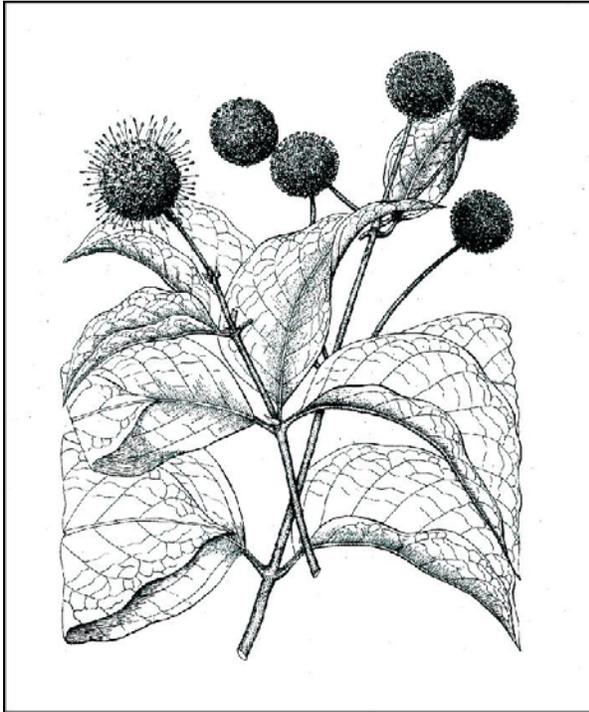


Cephalanthus occidentalis L.
RUBIACEAE

buttonbush

Synonyms: *Cephalanthus berlandieri* Wernh.



General Description.—Buttonbush, also known as buttonball, button willow, common buttonbush, honeybells, globe-flower, and riverbush, is a deciduous, wetland shrub or small tree that can reach 6 m in height but generally averages 1 to 3 m tall. The trunk base is often swollen (Snyder 1991). Branches are generally green when young but darken upon maturity and have conspicuous, raised lenticels (Brown and Kirkman 1990). The short-petioled glossy green leaves are elliptic or lanceolate-oblong; they are mostly opposite but, on the same plant, can occur in whorls of three or four. Leaves range in size from 7 to 18 cm in length and are 4 to 10 cm wide.

Range.—Buttonbush is common along stream and pond borders, in swamps, floodplains and other riparian areas throughout the eastern half of the United States. It occurs naturally in southern Nova Scotia, New Brunswick, Quebec, and Ontario as well as through the eastern half of the Great Plains States; scattered populations and varieties are found in Arizona, New Mexico, southern California, and Texas. It also grows in Mexico, Cuba, Central America, and in the West Indies (Little 1979). Recognized varieties are

C. occidentalis L. var. *californicus* Benth., *C. occidentalis* var. *pubescens* Raf., and *C. occidentalis* var. *angustifolius* Dippel.

Ecology.—Buttonbush is a wetland species that cannot tolerate drought. It commonly grows in thickets in areas that have intermittent flooding. The open, rangy plant is not particularly attractive and is seldom found in cultivation today, although Van Dersal (1938) and Vines (1960) reported that it was cultivated as early as 1735 as a honey plant. The creamy white summer flowers of buttonbush attract butterflies, honeybees, and hummingbirds. While it is common in natural environments, its habitat is threatened in California and it grows poorly along manmade waterways (Holstein 1984). Faber-Langendoen and Maycock (1989) state that buttonbush abundance increases with increasing depth of water and light levels, while Holstein (1984) suggests distribution may be limited by mean July temperatures of 20 °C. It is classified as a pioneer species and grows best in wet areas that receive full sun. It is able to tolerate some salinity that might result from hurricane storm surges but will not survive long-term exposure to salt water (McCarron and others 1998).

Reproduction.—The perfect, creamy white terminal and axillary flowers of buttonbush occur in dense spherical heads 2 to 3.5 cm in diameter. The flower balls stand on stalks that are 5 cm long. The fragrant individual flowers have corollas 6 to 10 mm long, with pubescent lobes, and four stamens that extend 5 to 8 mm beyond the corollas. Flowers are produced over a long period, from late spring, throughout the summer months, and into early autumn. Flowers are thought to be self-incompatible (Imbert and Richards 1993). The long-stemmed fruits are clusters of achenes. The hard nutlets are 4 to 7 mm long and turn reddish-brown when mature (August to November). Fruit balls may persist throughout the winter. Bonner (1974a) reported an average of 295,000 seeds/kg. Seeds are high in carbohydrates (Bonner 1974b). Longevity of seeds in storage is unknown but they are thought to be orthodox. Thus, if seeds are dried to a moisture content of 12 percent or less, they can be stored under refrigeration for long periods (Roberts 1973). Germination is epigeal, cotyledons forced above ground, and no pretreatment is required. DuBerry

(1963) and Bonner (1974a) reported germinations from 78 to 86 percent while Vines (1960) reported a low germination percentage. Seeds may be transported by animals, birds, or by water. Buttonbush may also be propagated from tip cuttings in the spring or mature-wood cuttings in the winter.

Growth and Management.—Buttonbush is a fast growing but short-lived shrub. It can be used as a landscape shrub border but if not planted in moist soil, it must be watered frequently. It must also be pruned to maintain a good form. In nature, buttonbush occurs in dense thickets. It will resprout after fire (Vogl 1973, Wade and others 1980). It has no reported pest problems but is moderately sensitive to herbicides. Thickets can be reduced by cutting.

Benefits.—Buttonbush seeds are an important food for water birds but can be toxic to other animals (Snyder 1991). Dense buttonbush thickets provide a safe nesting ground for many wetland birds. Buttonbush also serves as a source of honey for butterflies, bees, and hummingbirds. A decoction of the inner bark was used by Native Americans as an emetic. The bark was also used as a substitute for quinine. The wilted leaves, which contain bitter glycosides, cephalin and cephalanthin (ACES 2001), are reportedly toxic to some animals, especially cattle that eat them when other foliage is scarce. However, buttonbush leaves are eaten by deer (Bramble and Goddard 1943), apparently with no ill effects. Other plant parts are less toxic.

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