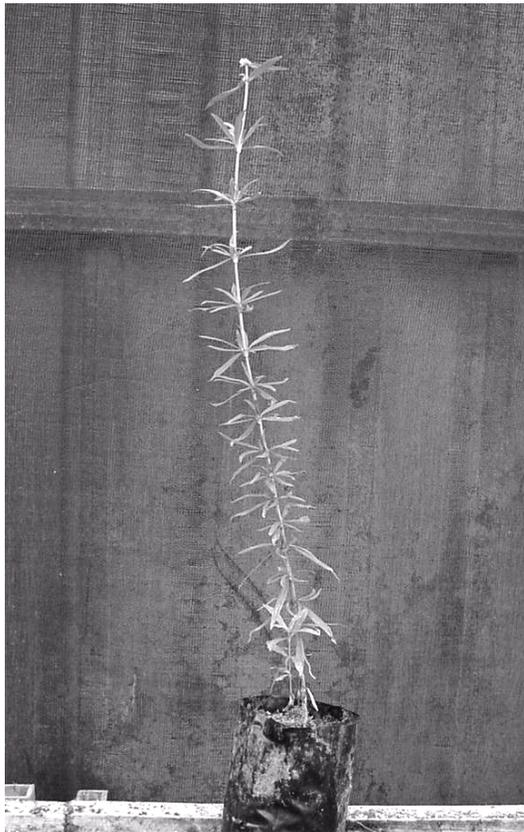


Spermacoce verticillata L.
RUBIACEAE

botón blanco

Synonyms: *Borreria verticillata* (L.) Meyer
Borreria podocephala DC.
Borreria stricta DC.



General Description.—Botón blanco, which means white button in Spanish (Puerto Rico), is also known as shrubby false buttonwood, vassourinha, cardio de frade, poaia, borrierie verticillée, éribun, and many other names (Burkill 2000, Instituto de Biociências 2002, Natural Resources Conservation Service 2002). It is a fine-stemmed scrambling shrub that may reach a few meters of lateral extension and 1.2 m in height as a free-standing plant. The square stems are herbaceous to semiwoody in their first year, becoming woody and more rounded in the following year. The brown stems reach a maximum diameter of about 8 mm, have a solid pith, and lack visible annual rings. Botón blanco produces a weak taproot, many important laterals that are pale yellow and flexible, and a moderate amount of fine roots. Branching is bifurcate or

ternate. The leaves are opposite but appearing with two or a cluster of smaller leaves in whorls at the nodes. The leaves are sessile or nearly so, linear or linear-lanceolate, 2 to 6 cm long, and pointed at both ends. The tiny white flowers grow in heads or glomerules in terminal or lateral positions. The terminals continue to grow through the center of the inflorescence so that the fruits develop at nodes in mid-stem. The capsules are oblong or subglobose with two carpels, each with one seed. The seeds are ellipsoidal, brown, and about 1 mm long (Correll and Johnston 1970, Howard 1989, Liogier 1997).

Range.—Botón blanco appears to be a native of the New World and possibly Africa, but the original range is uncertain. It grows as a native or naturalized species from Florida through the West Indies, and Texas through Central and South America to Argentina, and throughout the moist portions of Tropical Africa and Madagascar (Burkill 2000, Howard 1989, Instituto Botánico Darwin 2002, Liogier 1997, Natural Resources Conservation Service 2002). It has also been reported from India (Kudremukh Wildlife Foundation 2002).

Ecology.—Botón blanco grows on moist soils, both acid and alkaline, of all textures derived from nearly all types of rocks. The species grows in areas that receive from about 750 to 3000 mm of annual rainfall from near sea level to 600 m or more in elevation in Puerto Rico. It grows on sand and caliche in prairies and openings in Texas (Jones 1975). In Puerto Rico, it grows on roadsides, construction sites, old fields, and pastures. Botón blanco competes with cultivated crops and plantations in Brazil and Africa (Holm and others 1997). It is one of the major invaders of abandoned pastures and slash-and-burn fields (Ministério de Ciência e Tecnologia 2002). The species requires disturbance to establish itself and must have full or good partial sunlight to survive. It competes well with disbursed grass and weeds, but is overcome by dense, tall grass, brush, and trees. Because of grazing, mowing, and cultivation, most plants do not progress beyond the

herbaceous stage. If allowed to grow, they will form dense clumps and mats.

Reproduction.—In Brazil botón blanco blooms from February through August (Instituto de Biociências 2002). In Texas, it flowers from March through May (Correll and Johnston 1970). Flowering is almost continuous in moist portions of Puerto Rico. Plants begin blooming in the nursery at about 9 months. The flowers are pollinated by several species of bees (Instituto de Biociências 2002). Seeds collected in Puerto Rico averaged 0.00016 g each or 6,250,000 seeds/kg. Sown on peat without pretreatment, these seeds germinated at 49 percent beginning in 13 days and ending at 74 days. The seeds are disbursed by grazing animals and farm equipment. Established plants root readily at the nodes when covered by soil or rotting plant material.

Growth and Management.—Botón blanco seedlings grow slowly at first but begin rapid growth after about 6 months. Twenty-three 9-month-old nursery plants averaged 64 cm in height with a maximum of 109 cm. Botón blanco shrubs appears to live at least 4 years and probably much longer in Puerto Rico. Botón blanco is controlled in crops and pasture by cultivation, mowing, and spraying with broadleaf herbicides. The importance value of botón blanco in a Colombian pasture was reduced by 39 percent by simply fertilizing with potassium and sulfur to increase the vigor of the pasture grasses (Tejos 1981).

Benefits.—Botón blanco is a forage plant, but not one highly favored by livestock. African material was found to contain 0.2 percent alkaloid including borreine and borreverine (Burkill 2000). At least part of the alkaloids are beta-carbolines and would represent a poisoning hazard if they were present in higher concentrations (Animal Science at Cornell University 2002). Botón blanco has a number of uses in herbal medicine, most frequently for skin conditions. In Africa, leaf extracts are used to treat leprous conditions, furuncles, ulcers, and gonorrheal sores (Burkill 2000, Environnement et Développement du Tiers-monde 2002). A lotion is prepared to relieve skin itches (Liogier 1990). Other preparations are used internally to treat diarrhea, as a diuretic in the treatment of schistosomiasis, and as an abortive. An essential oil extracted from the leaves has been shown to inhibit *Escherichia coli* and *Staphylococcus aureus* (Burkill 2000).

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