

Bignoniaceae—Trumpet-creeper family

Spathodea campanulata* Beauv.*African tuliptree**

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Other common names. fountain tree, *tulipan Africano*

Growth habit, occurrence, and use. The African tuliptree—*Spathodea campanulata* Beauv.—is a medium-sized tree that commonly reaches a height of 21 m (Neal 1948) but may reach 30 m in some parts of West Africa (Unwin 1920). In Puerto Rico, the largest African tuliptree measures 35 m tall and 1.75 m in dbh (Francis 1990); heart and butt rots are common in trees older than 20 to 25 years that have suffered mechanical or fire damage.

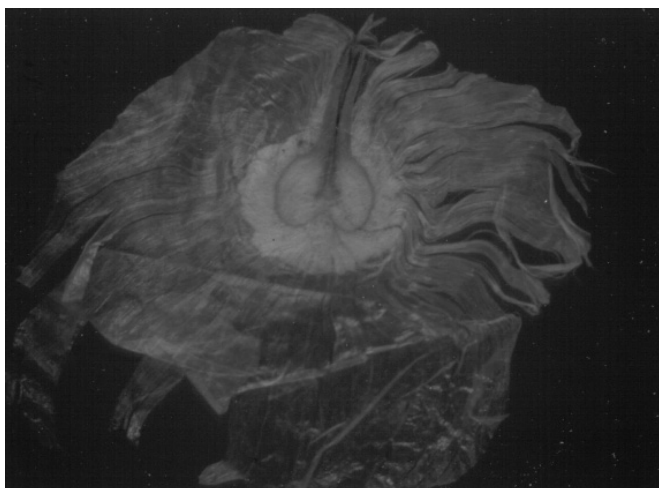
African tuliptree grows naturally in the secondary forests in the high forest zone and in the deciduous, transition, and savanna forests of equatorial Africa. Its native range extends along the western coast of Africa from Ghana to Angola and inland across the humid center of the continent to southern Sudan and Uganda (Irvine 1961). It develops best in fertile, deep, well-drained loams but will also colonize heavily eroded sites (Francis 1990). The African tuliptree has been successfully planted outside its natural range (Little and Wadsworth 1964; Mahecha Vega and Echeverri Restrepo 1983). Throughout the humid tropics, its large brilliant flame-orange flowers have made it one of the most popular flowering ornamentals. The species has naturalized in at least Colombia (Mahecha Vega and Echeverri Restrepo 1983), Costa Rica (Holdridge 1942), Puerto Rico (Liogier and Martorell 1982), Cuba (White 1951), Jamaica (Streets 1962), Sri Lanka (Worthington 1959), and Guam (McConnell and Muniappan 1991). The wood of this fast-growing species is light and little used.

Flowering and fruiting. The 10-cm-long, bright red-orange flowers occur in terminal racemes on trees as young as 3 to 4 years of age (Francis 1990). Yellow-flowering trees have also been reported (Francis 1990; Menninger and others 1976). Flowering time varies, depending on location. Nalawadi and others (1980) report flowering of African tuliptree in India from early January until early March, with

peak flowering in mid-February. However, in southern Africa, flowers occur in fall and winter and, in the Caribbean, trees bloom from late winter to early summer (Francis 1990). The 1 to 4 boat-shaped brown pods are 15 to 25 cm long and usually develop from each flower cluster (Eggeling 1947; Little and Wadsworth 1964); seeds mature 5 months after flowering (Francis 1990). The wind-dispersed seeds are lightweight and surrounded by a membranous wing (figure 1) (Vozzo 2002).

Collection, storage, and germination. The seeds should be collected from undehiscent, brown pods and air-dried until they split open (Francis 1990). Seeds of most species in this genus are orthodox and should store well. The reported number of seeds per weight varies from 125,000/kg (57,000/lb) (Holdridge 1942) to 290,000/kg (132,000/lb) (Francis and Rodriguez 1993). Francis and Rodriguez (1993) report germination of 38% of the African tuliptree seeds sown on the surface of wet potting soil in a covered tray and kept at ambient (24 to 30 °C) temperatures. Germination is epigeous and may begin in as little as 2 days.

Figure 1—*Spathodea campanulata*, African tuliptree: winged seeds.



Nursery practices. Germinating seeds are fragile and should not be covered by more than a dusting of peat or fine sand. Francis (1990) reports that, under 50% shade, African tuliptree seedlings took 2 months after germination to develop the first true leaves; when transplanted into nurserybeds

at 25% shade, the seedlings attained plantable size—that is, 35 cm (14 in) tall—in 5 months. He concluded that a regimen with more sunlight would probably have reduced the time needed to reach plantable size.

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