

Cyperus involucratus Rottb.



Common Name: Umbrella plant, flat sedge, umbrella sedge

Synonymy: *C. alternifolius* misapplied, *C. alternifolius* subsp. *flabelliformis* Kük., *C. flabelliformis* Rottb., nom. illeg.

Origin: Africa

Botanical Description: Clump-forming perennial herb to 2 m (6.6 ft) tall with bare, triangular stems (culms), fibrous roots and hardened rhizomes. Leaves reduced to sheaths at base of stem. Inflorescences large, with 12-25 distinct, leaf-like bracts to 25 cm (9.8 in) long and approximately equal in length, arranged in a flat, umbrella-like pattern beneath 15- to 27-stalked spikelet clusters (rays). Rays 5-12 cm (2-5 in) long, each ray bearing 8-20 shiny brown clusters of tiny flowers (spikelets). Fruit a tiny, dark brown, 3-angled achene.

NOTE: Numerous (12 -25), long, equal-length, leaf-like inflorescence bracts distinguish *C. involucratus* from all other *Cyperus* species.

Ecological Significance: Introduced as an ornamental (especially for water gardens and outdoor ponds) and also used to prevent erosion and absorb nutrients (Stamps 1996). Now found along lakes and rivers and in disturbed wetlands of at least 13 conservation areas in south Florida, including Bahia Honda State Park, Biscayne National Park, Dry Tortugas National Park, Everglades National Park, Juno Dunes Natural Area, Matheson Hammock, Estero River, and Rainbow Springs State Park (Gann et al. 2001, FLEPPC 2002). Able to colonize dry slopes, riverbanks, marshes and lake shores (Tucker 1983, Tucker 1994). Used in phytoremediation and is capable of very efficient uptake of nitrogen, phosphorous, potassium, and other heavy metals (Tanner 1996, Greenway et al. 1999, Cheng et al. 2002). Alters pH levels in the soil (acidifying the soil rhizosphere) and may affect availability, mineralization, and mobilization of soil nutrients (Sorrell and Orr 1993). Produces large amounts

of dry-matter and tolerates hyper-eutrophic conditions and salinity (Hocking 1985a, 1985b). Considered a weed worldwide (USDA NRCS 2002). Pollen causes allergic reactions in humans (Bessot et al. 1992).

Distribution: Herbarium specimens documented from Broward, Citrus, Highlands, Hillsborough, Lake, Lee, Miami-Dade, Monroe, Orange, Pinellas, Polk, and Sarasota counties (Wunderlin and Hansen 2002), and also recorded from Alachua and Marion counties (FLEPPC 2002). Naturalized throughout Mexico, Central America, tropical South America, the West Indies, and the southeastern United States from Florida through Louisiana and in central and southern California (Tucker 1983, Tucker 1994). Also escaped in New York, Texas, and Puerto Rico (USDA NRCS 2002). Naturalized in India (Siwakoti and Varma 1995) and throughout the Pacific Islands (Yuncker 1959, Stone 1970, Smith 1979). Escaped in Norfolk Islands (Green 1994), Australia (Batianoff and Butler 2002, Keighery 1995), and New Zealand (LRNZ 2001). Common along streamsides on Rarotonga, very prevalent in Tonga (PIER 2002), and widely naturalized in Hawaii (Strong and Wagner 1997).

Life History: Easily propagated, tolerates a wide range of soil moisture conditions, including dry and moderately wet soils; grows on wetland margins and embankments and in gravel-bed wetlands (Tanner 1996). Capable of flowering and fruiting throughout the year (Tucker 1983, Tucker 1994), and grows year round in warm regions (Hocking 1985b). Hardy in cooler climates, dies back from frost but rapidly recovers from rhizomes (Neralla et al. 1999). Reproduces by seed and rhizomes, persisting “almost indefinitely once planted, and establishes vegetatively from garden refuse” (Sainty and Jacobs 1994).