

Dioscorea bulbifera L.



Common Name: Air potato, potato yam, air yam

Synonymy: *D. anthropophagum* Chev., *D. hoffa* Cordemoy, *D. sativa* Thunb., *D. sylvestris* de Wild., *Helmia bulbifera* Kunth.

Origin: Tropical Asia

Botanical Description: Vigorously twining herbaceous vine, with small or absent underground tubers. Stems to 20 m (66 ft) or more in length, freely branching above; internodes round or slightly angled in cross section, not winged (as in *D. alata*). Aerial tubers (bulbils) freely formed in leaf axils, usually roundish, to 12 cm (5 in) x 10 cm (4 in), with mostly smooth surfaces. Leaves long petioled, alternate; blades to 20 cm (8 in) or more long, broadly heart shaped, with basal lobes usually rounded. Flowers rare (in Florida), small, fragrant, male and female arising from leaf axils on separate plants (i.e., a dioecious species), in panicles or spikes to 11 cm (4 in) long. Fruit a capsule; seeds partially winged.

NOTE: May be confused with *D. alata* L. or native wild yams (see note under *D. alata*).

Ecological Significance: Listed by Holm et al. (1979) as a serious weed in west Polynesia. Introduced to the Americas from Africa during the slave trade (Coursey 1967). Apparently introduced to Florida in 1905 as a USDA sample sent to an Orange County horticulturist, Henry Nehrling, who found that it “soon formed impenetrable masses,” adding that except for kudzu vine, he had “never seen a more aggressive and dangerous vine in Florida” (Morton 1976). Described in 1971 (Long and Lakela) as being grown ornamentally, but “an unwanted plant in central and south Florida.” Noted as “becoming extensively naturalized” in 1977 (Ward) and well established in Miami-Dade and Broward counties (Austin 1978).

By 1982 (Bell and Taylor), invading a variety of habitats including pinelands and hammocks. Considered “rampant on undeveloped land” in Hillsborough County (Martinez 1993). Can quickly engulf native vegetation, climbing high into mature tree canopies. Produces large numbers of aerial tubers, which accelerate its spread.

Distribution: Widely distributed in Asia and Africa in the wild state (Coursey 1967) and widely naturalized elsewhere in the tropics and subtropics, including Central and South America (Schultz 1993). In Florida, documented as invading a variety of habitats, such as mesic flatwoods, rockland hammocks, basin marshes, ravine hammocks, sinkholes, floodplain forests, and ruderal communities. Florida herbarium records now reported for naturalized populations in 33 counties, from Escambia County in the Panhandle throughout the peninsula, south to Miami-Dade and Monroe counties, including the Keys (Wunderlin and Hansen 2004). Has also been reported in natural areas from an additional 15 counties (FLEPPC 2005).

Life History: Has a dormant period (like *D. alata*), even in south Florida, with aerial stems dying back during winter months (Schultz 1993). Aerial tubers considered the main storage organ (Coursey 1967), but underground tubers found in Florida populations, to 25 cm in diameter (Schultz 1993). Tubers known to float, aiding in dispersal (Coursey 1967), but plants slowed in growth under flooded conditions (K. Burks, Florida Department of Environmental Protection, unpublished data). Once thought not to flower in Florida (e.g., Long and Lakela 1971), but flowers observed in north Florida, and flowers and fruits in south Florida (Schultz 1993). Cultivated in Oceania and West Indies, but wild-form tubers usually bitter and often poisonous (Martin 1974).