

Pistia stratiotes L.



Common Name: Water lettuce

Synonymy: None

Origin: Africa or South America

Botanical Description: Floating herb in rosettes of gray green leaves, rosettes occurring singly or connected to others by short stolons. Roots numerous, feathery. Leaves often spongy near base, densely soft pubescent with obvious parallel veins, slightly broader than long, widest at apex, to 15 cm (6 in) long. Flowers inconspicuous, clustered on small, fleshy stalk nearly hidden in leaf axils, with single female flower below and whorl of male flowers above. Fruit arising from female flower as a many-seeded green berry.

Ecological Significance: May have been introduced to North America by natural means or by humans (Stoddard 1989). Seen as early as 1774 by William Bartram, in "vast quantities ... several miles in length, and in some places a quarter of a mile in breadth" in the St. Johns River (Van Doren 1928). Has been suggested that trade via St. Augustine, founded in 1565, may have provided an early avenue for introduction into the St. Johns watershed (Stuckey and Les 1984). Capable of forming vast mats that disrupt submersed plant and animal communities and interfere with water movement and navigation (Brunner 1982, Attionu 1976, Sharma 1984, Holm et al. 1977); also serves as host for at least 2 genera of mosquitoes (Holm et al. 1977). Considered a serious weed in Ceylon, Ghana, Indonesia, and Thailand and at least present as a weed in 40 other countries (Holm et al. 1979). A target of management research and control in Florida for at least 2 decades.

Distribution: Now one of the most widely distributed hydrophytes in the tropics (Holm et al. 1977). In North America, occurs in peninsular Florida and locally westward to Texas (Godfrey and Wooten 1979). In Florida, documented as invading lakes, streams, strand swamps, basin marshes, depression marshes, and ruderal communities. Herbarium specimens recorded from 39 counties as far west as Bay County in the Panhandle through the peninsula south to Collier and Miami-Dade counties (Wunderlin and Hansen 2004). Populations have also been reported from natural areas in Okaloosa, Gadsden, Madison, Osceola, and Monroe counties, including the Keys (FLEPPC 2005). Also found persisting in coastal South Carolina (Nelson 1993). Occurred in 68 public water bodies in Florida by 1982 and in 128 water bodies by 1989, but total abundance reduced by half over same time period as a result of a statewide management program (Schardt and Schmitz 1990).

Life History: Reproduces rapidly by vegetative offshoots formed on short, brittle stolons. Varies seasonally in density of rosettes, from less than 100 to over 1,000 per m² in south Florida (Dewald and Lounibos 1990). Seed production, once thought not to occur in North America, now considered important to reproduction and dispersal (Dray and Center 1989). Not cold tolerant (Holm et al. 1977). Can survive for extended periods of time on moist muck, sandbars, and banks (Holm et al. 1977).