

# *Xanthosoma sagittifolium* (L.) Schott



**Common Name:** Elephant ear, arrowleaf elephant ear, cocoyam, malanga

**Synonymy:** *Arum sagittifolium* L., *Caladium sagittifolium* (L.) Vent., *Xanthosoma hoffmannii* Schott. (misapplied)

**Origin:** Northern South America

**Botanical Description:** Stout, perennial herb to 2 m (6.6 ft) tall with a thickened, tuberous, underground stem (corm) and numerous smaller tuberous offshoots (cormels); spreads by slender rhizomes; exudes milky, watery sap when cut. Leaves arising from tip of central corm, and having sheathing, overlapping bases; petioles to 1.5 m (5 ft) long, succulent, round near leaf blade, lower petiole channeled, attached to leaf blade between the 2 lobes at leaf margin; leaf blades to 1 m (3.2 ft) long and 1 m (3.2 ft) across, arrowhead shaped to broadly heart shaped, glabrous, light green with a waxy, powdery covering, widely angled to a broad point at tip, deeply 2-lobed (sagittate) at base; veins evident. Inflorescence on a fleshy stalk shorter than leaf petioles; upper part of stalk (spadix) bearing tiny, densely packed, cream-colored flowers, male above, female below; spadix surrounded by a large, greenish white, boat-shaped bract (spathe) with rolled margins. Fruit a small, yellow berry.

**NOTE:** Differs from the nonnative *Colocasia esculenta*, taro, which has smaller, peltate (stalked from the back of the leaf blade), glaucous leaves, and clear or reddish sap.

**Ecological Significance:** Cultivated commercially in Florida since 1963 for its edible tubers, but possibly introduced earlier for ornamental purposes (Morton 1972). Escaped in south Florida by 1972 (Morton 1972). Naturalized in at least 17 conservation areas throughout Florida, including Anastasia State Park, Hillsboro Pineland Natural Area, Homasassa Springs State Park, Jonathan Dickinson State Park, Kendall Indian Hammocks Park, Wekiva River, and Whispering Pines Hammock Preserve (Gann et al. 2001, FLEPPC 2002). Found in disturbed wetlands, mesic pinelands, wet ditches, and adjacent to freshwater swamps and springs (Gann et al. 2001, FLEPPC 2002). One of the oldest cultivated crops in the world and native to tropical rainforests of South America (Purseglove 1972). Now widely distributed throughout the tropics where the starchy corms (tubers) are an important food source (Purseglove 1972). Oxalate crystals in

uncooked leaves and roots are intestinal irritants, and saponins in raw corms may be toxic (Morton 1972).

**Distribution:** Herbarium specimens documented from Broward, Hernando, Lake, Leon, Marion, Miami-Dade, Pinellas, Polk, and Seminole counties (Wunderlin and Hansen 2002). Also recorded from Alachua, Citrus, Martin, Putnam, St. Johns, and Wakulla counties (FLEPPC 2002). Naturalized in Alabama, Texas, Puerto Rico, the Virgin Islands (USDA NRCS 2002), and New Zealand (LRNZ 2002). Spread throughout the Caribbean, Asia, Africa, and the Pacific Islands as a food crop (Bown 2000).

**Life History:** Fast growing from cormels (vegetative bulbils) that quickly sprout in moist conditions; can form mature plants within 14-20 weeks (Igbokwe 1984). Corms, pieces of corms, and cormels can develop into new plants (Saese et al. 1998, Carvalho and Cordeiro 1990). Plants produce large amounts of foliage in first 6-9 months and may produce up to 10 or more cormels within 10 months (Valenzuela et al. 1991, Purseglove 1972). Individual plants may yield up to 4.5 kg (10 lbs) of corms (Morton 1972). Many cultivars exist that vary in suckering and corms production rates, and most cultivars are sterile or rarely produce seed (Purseglove 1972). Prefers moist, well-drained organic soil but tolerates a wide variety of soils, including marl, oolitic limestone, sandy clay, red clay, low nutrient (Morton 1972), and nitrogen-poor soils (Valenzuela et al. 1990). Leaves may die back, but corms can continue to grow in water-stressed conditions (Caesar 1980). Intolerant of waterlogging and will not withstand freezing (Bown 2000). Highly adapted to shade; shade-grown plants have higher photosynthetic capacity, grow well in understory conditions (Schaffer and O'Hair 1987), produce more leaves, and have greater corm production than plants grown in full sun (Valenzuela et al. 1990). Large, shade-grown leaves allow for increased light interception (Valenzuela et al. 1991). Corms may remain dormant in very heavy shade and resprout when a light gap is formed (Purseglove 1972). Corms can be stored for up to 18 weeks or more in dry conditions, but unplanted corms can sprout within a few weeks in hot, humid conditions (Purseglove 1972).