

Wisteria sinensis (Sims) Sweet



Common Name: Chinese wisteria

Synonymy: *Glycine sinensis* Sims

Origin: China

Botanical Description: Deciduous, twining, woody vine, with high-climbing stems to 30 m (98 ft); young twigs densely hairy, older stems glabrous, to 20 cm (8 in) in diameter; forming large clonal colonies from thick, below-ground rhizomes and adventitious roots. Leaves alternate, odd-pinnately compound, to 40 cm (16 in) long; leaflets 7-13 per leaf, ovate to elliptic, to 10 cm (4 in) long and 6 cm (2.3 in) wide, margins entire, bases rounded, tips pinched to a long point; very young leaflets with silky hairs, becoming nearly glabrous with age; petioles to 10 cm (4 in) long with a swollen base (pulvinus). Flowers showy, pea-like, slightly fragrant, to 2.5 cm (1 in) long, bluish violet, borne in long, drooping, many-flowered clusters to 40 cm (16 in) long, usually flowering before new leaves develop. Fruit a densely soft, hairy, brown pod, to 15 cm (6 in) long, containing 1-3 smooth, brown, flattened seeds; often bulging around the seeds.

NOTE: Differs from the Florida native *Wisteria frutescens*, that has a glabrous pod, shorter flower clusters, to 25 cm (10 in) long, shorter leaves to 30 cm (12 in) long, and which usually flowers later in the season after new leaf growth.

Ecological Significance: Introduced to the United States from China by 1816 (Remaley 1998b). Extensively cultivated as an ornamental in the southeastern United States and sold in Florida nurseries by 1887 (Austin 1999a). Spread throughout the northern part of Florida by early 1980s (Wunderlin 1982). Currently reported from over 25 conservation areas in north and central Florida (FLEPPC 2002) from a variety of habitats, including dry oak thickets, mesic woods (FTG), sandhills, pine flatwoods, hardwood hammocks, along freshwater rivers and springs, and in upland disturbed sites (FLAS, FLEPPC 2002). Dense monocultures reported from hardwood hammocks in Timucuan Ecological Preserve in Duval County and Joe Budd Wildlife Management Area in Gadsden County (FLEPPC 2002). A problematic weed in Southeastern forests (Miller 1998) where it may overtop mature forest trees (Miller 1997). Forms dense thickets that exclude other vegetation and “constricts stems of trees, often lowering their vigor or killing them” (Thomas 1993). Impairs or overtakes native shrubs and trees by strangling or shading; may kill large trees, thus opening forest canopies to

increased sunlight, which favors aggressive wisteria growth (Remaley 1998b). May form root nodules and fix nitrogen in the soil (Han and Zhou 1987). Plant hairs can cause skin irritation (Southcott and Haegi 1992), and all parts of the plant are toxic (Tubaro et al. 2001, Morton 1995, Austin 1999a). Seeds have caused poisoning in young gorillas (Wiesner and Maltzan 2002).

Distribution: Herbarium specimens documented from Alachua, Brevard, Citrus, Clay, Escambia, Franklin, Leon, Marion, Okaloosa, Santa Rosa, Suwannee, and Walton counties (Wunderlin and Hansen 2002). Also reported in Columbia, Duval, Gadsden, Hamilton, Levy, and Wakulla counties (FLEPPC 2002). Escaped throughout the eastern United States in 22 states from Wisconsin and Vermont, south to Florida and west to Texas (USDA NRCS 2002). Listed as an invasive weed in Virginia, Tennessee, Florida, and in the Chicago area (CBG 2002). Naturalized in New Zealand, Europe, India, Russia, Indian Ocean Islands, and Argentina (ILDIS 2002).

Life History: Fast-growing, aggressive vine that forms large, clonal colonies supported by stout rhizomes and coarse root systems (Stritch 1985, Gilman 1999g). Very strong climber; grows well even if stems are twisted or bent (Vogel 1995); long-lived, up to 50 years or more; stems may grow to 38 cm (15 in) thick (Remaley 1998b); aggressive roots may disturb nearby plants (Gilman 1999g). Thrives in full sun; shade tolerant but needs partial shade to flower (Gilman 1999g). Performs best in hot and humid climates (OSU 2000), but roots survive winter temperatures to -37.2°C (-35°F) (Floridata 2002). Tolerates most any soil, including clay, sand, loam, occasionally wet, low nutrient, and alkaline to acidic soils (Gilman 1999g). Prefers alkaline, loamy, deep, and well-drained soils (Remaley 1998b). Found on low, moist, fertile alluvial soil, in moist deciduous forests, and along riverbanks in home range (Isley 1990, Stritch 1985). High drought-tolerance and poor salt-tolerance (Gilman 1999g). Reproduction primarily vegetative, but can produce seed under favorable conditions; seeds water-dispersed (Remaley 1998b). May be slow to establish in the first one or two years, but grows very rapidly thereafter, as much as 10 feet per year under optimum conditions (OSU 2000). Vines quickly form roots when covered with a clump of earth (Floridata 2002). Cultivars available with white (“Alba” and “Jako”), purple (“Purpurea”), and double (“Plena”) flowers (Gilman 1999g).