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EXTENSION

Institute of Food and Agricultural Sciences

Identification of Broadleaf Weeds in Citrus¹

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Identification of broadleaf weeds can be aided by looking for specific characteristics of the plant. These specific characteristics can include shape of leaves and stems and plant size, as well as the type and color of flowers.

When a broadleaf plant emerges from seed, the seedling will have two leaves. These leaves are generally broad with net-like veins. Additionally, as the broadleaf plant grows, it usually has a central taproot and a fairly coarse root system.

Broadleaf plants can be classified by their life cycle: annual, biennial, or perennial. Annual plants have a one-year life cycle, growing from seed, maturing and producing seed for the next generation of plants in one year or less. Annuals can be further divided into summer (sprout in spring, grow, mature and produce seed and die before winter) or winter (sprout in the fall, grow, mature, produce seed and die before summer) annuals. Biennials have a two-year life cycle, growing from seed and developing a heavy root system the first year followed by seed production in the second year and then plant death. Perennials live more than two years with seed production occurring as early as the first year.

Common Beggar's-Tick (Spanish Needle) *Bidens alba* (Fig. 1)

Leaves: Opposite, divided, 2 to 10 cm long and 1 to 3.5 cm wide. Leaf edges are toothed with the underside of leaves being hairy.

Stems: Erect or bending at the base, may root at lower nodes.

Flowers: Daisy-like, yellow center with white petal-like rays.

Seeds: Four-angled and spindle-shaped with 2 sharp-pointed projections at the top.

Life cycle: Annual or short-lived perennial.

Height: Up to 5 feet tall.

Lamb's-Quarters *Chenopodium album* (Fig. 2)

Leaves: Alternate, simple, variable in shape and size, blades are ovate to lanceolate and may appear 3-lobed, fleshy, whitish.

Stems: Branched, angular or ridged, white, green or purplish.

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Figure 1. Common Beggar's-Tick (Spanish Needle)

Flowers: Tiny, without petals, gray to green in color and arranged in spike-like clusters in the leaf axils at the ends of the branches and stems.

Seeds: 1.2 to 1.6 mm in diameter, disc shaped, glossy black, brown or brownish-green in color.

Life cycle: Winter annual

Height: Up to 6 feet or more tall.



Figure 2. Lamb's-Quarters Credits: Photo courtesy of Megh Singh.

Mexican-Tea (Jerusalem-Oak) *Chenopodium ambrosioides* (Fig. 3)

Leaves: Alternate, oblong to ovate or lanceolate in shape often lobed or toothed, numerous small orange glands are located on the underside of the leaves; blades are strong-scented with a pungent odor.

Stems: Branched, smooth to minutely hairy and grooved.

Flowers: Green and found in spike-like clusters in branched arrangements.

Seeds: Black, 0.6 to 0.8 mm in diameter.

Life cycle: Annual or short-lived perennial

Height: Up to 3 feet tall or more.

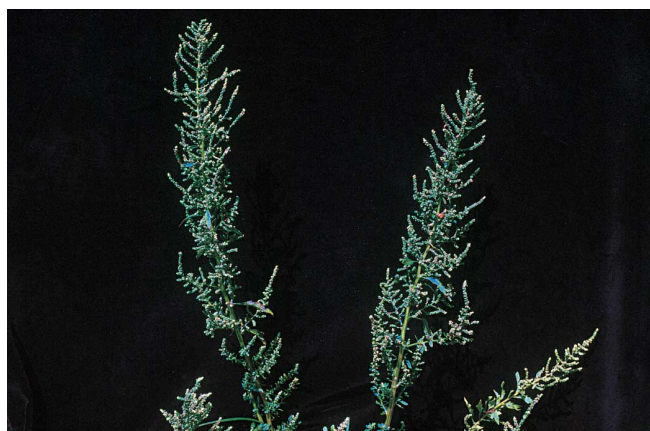


Figure 3. Mexican-Tea (Jerusalem-Oak)

Ragweed *Ambrosia artemisiifolia* (Fig. 4)

Leaves: Lower leaves are opposite, upper leaves alternate; stalked, smooth and deeply divided into several toothed or lobed portions. Plant has a unique odor.

Stems: Purplish, erect, branching, rough and hairy.

Flowers: Tiny, greenish, in tiny heads, borne at leaf base and along upper forked branches. Pollen is a major source for hayfever in sensitive people.

Seeds: Brown, 3-3.5 mm long.

Life cycle: Summer annual

Height: Up to 6 feet tall.



Figure 4. Ragweed

Wild Geranium (Carolina Geranium) *Geranium carolinianum* (Fig. 5)

Leaves: Deeply divided into 5 to 7 divisions, lobed and up to 7 cm wide; normally in a basal rosette and alternate, opposite at the top of the stem, on petioles of various lengths and hairy.

Stems: Multi-branched, semi-erect to ascending, greenish-pink to red and hairy.

Flowers: Flowers are in pairs in compact clusters and pale pink to purple in color.

Seeds: 2 mm long, oblong in shape and enclosed in a long, skinny (narrow) 5-lobed capsule.

Life cycle: Winter annual.

Height: Up to 1.5 feet tall forming a circular growth pattern from the center of the plant.

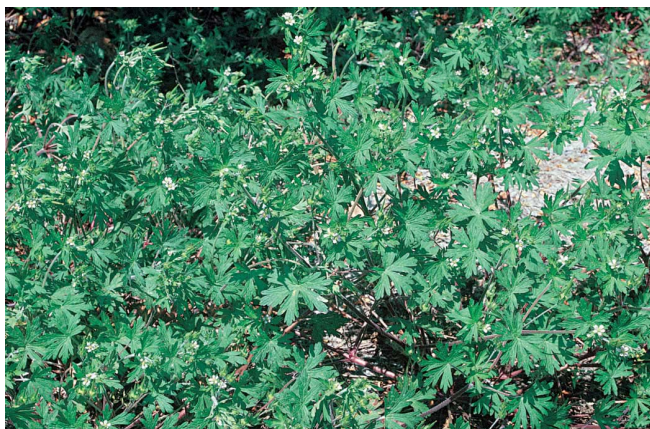


Figure 5. Wild Geranium (Carolina Geranium)

Florida Pusley *Richardia scabra* (Fig. 6)

Leaves: Opposite, ovate to elliptic-lanceolate-shaped, somewhat thickened and covered with fine hairs. Leaves are up to 6.5 cm long and 2.5 cm wide.

Stems: Multi-branched, hairy, from a taproot and usually erect.

Flowers: White tubular flowers are formed in clusters at the end of branches.

Seeds: Fruit separates into 4 ellipsoid (football-shaped) parts; part of the flowers remain attached to top; outer surface bumpy, inner surface grooved

Life cycle: Summer annual.

Height: Low growing to a height of less than 1 foot.

Comments: Distinguished from Brazil pusley by the lack of a thickened rootstock.

Brazil Pusley *Richardia brasiliensis* (Fig. 7)

Leaves: Opposite, elliptic to ovate in shape, have a pointed to rounded tip and are covered with fine hairs. Leaves are up to 6.5 cm long and 2.4 cm wide.

Stems: Multi-branched, hairy, arising from a thickened knotty rootstock and rarely roots along the prostrate stems.



Figure 6. Florida Pusley

Flowers: White tubular flowers are formed in clusters of up to 20 flowers at the end of branches.

Seeds: Fruit separates into 4 ellipsoid (football-shaped) parts; part of flower remains attached to top; outer surface covered with short stiff bristles; inner surface grooved

Life cycle: Perennial

Height: Usually prostrate, low growing, to a height of less than 1 foot.

Comments: Distinguished from Florida pusley most easily by the thickened rootstock.

Spreading Dayflower *Commelina diffusa* (Fig. 8)

Leaves: Pale to dark green, lance-shaped to slightly oval with parallel veins, sheathing stem at base.

Stems: Light green, usually spreading to prostrate with many branches, rooting at joints.

Flowers: Three light blue petals from a leafy boat-like structure.

Seeds: Capsule 3-parted, 5 seeded; seed 2-4 mm long, brown or somewhat reddish, pitted.

Life cycle: Annual or perennial from the persistent rooted joints.

Height: Spreading and less than 1 foot tall.



Figure 7. Brazil Pusley



Figure 8. Spreading Dayflower

Goatweed *Scoparia dulcis* (Fig. 9)

Leaves: Opposite with narrow toothed blades, from 1/3 to 1.5 inch long; dots on both sides.

Stems: Multiple branched erect stems may be smooth or with soft, fine hairs. Stems become woody rather quickly.

Flowers: Small, white, about 3 to 5 mm long and borne in the leaf axils.

Seeds: Yellowish-brown capsules contain numerous, extremely small, brown seeds.

Life cycle: Perennial

Height: From 1 to 2.5 feet.



Figure 9. Goatweed

**Green Pigweed (Slender Amaranth)
Amaranthus viridus (Fig. 10)**

Leaves: Alternate, long-stalked, dull green; somewhat oval.

Stems: Erect and frequently branched.

Flowers: Small and green on dense spikes.

Seeds: Very small, shiny black.

Life cycle: Summer annual

Height: Up to 2 feet tall.



Figure 10. Green Pigweed (Slender Amaranth)

**Spiny Amaranth (Pigweed)
Amaranthus spinosus (Fig. 11)**

Leaves: Alternate, ovate, broadest at base, long-stalked.

Stems: Smooth, multiple branched, with stiff spines located in branch axils.

Flowers: Lack petals, small, green in slender spikes.

Seeds: Very small, black.

Life cycle: Annual

Height: Up to 3 feet tall.



Figure 11. Spiny Amaranth (Pigweed)

Teaweed (Arrowleaf Sida) *Sida rhombifolia* (Fig. 12)

Leaves: Alternate, broadly lance-shaped, white hairy underneath, leaf margin toothed.

Stems: Erect, smooth, seldom to much branched.

Flowers: Solitary, yellow to yellow-orange, long-stalked in the leaf axil on upper branches.

Seeds: Capsule 5-8 mm wide, 8-12 parted, each part with 2 projections; seeds about 2-3 mm long, smooth, dark brown.

Life cycle: Annual or perennial

Height: Up to 4 feet tall, with a deep, long, taproot.

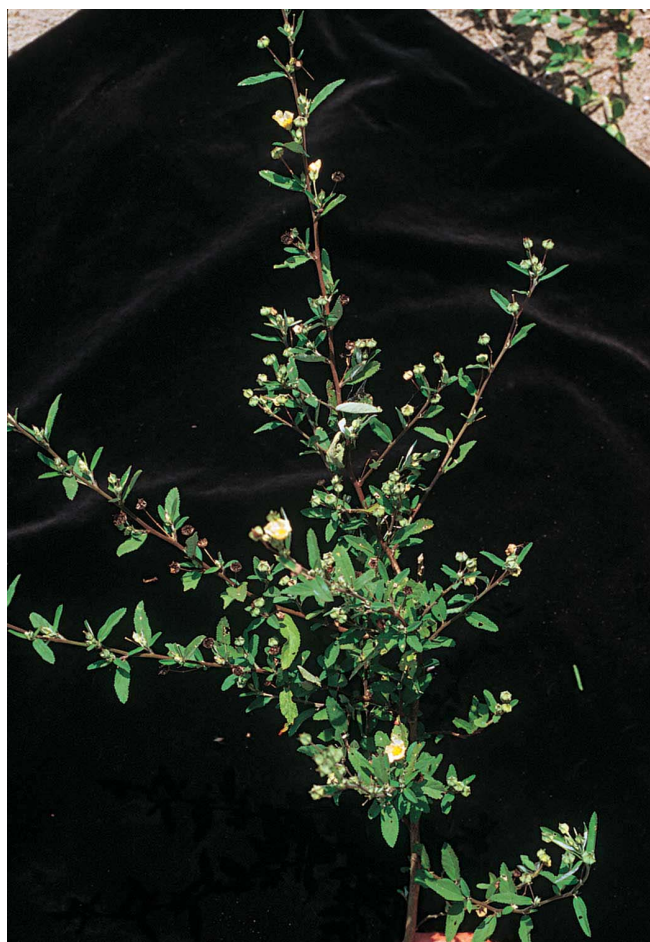


Figure 12. Teaweed (Arrowleaf Sida)

Hairy Indigo *Indigofera hirsuta* (Fig. 13)

Leaves: Hairy leaves are alternate, divided into 5 to 9 leaflets, the terminal leaf being the largest. Leaflets are rounded, entire leaf 3 to 6 inches long.

Stems: Stems are multi-branched and hairy.

Flowers: Numerous flowers are borne on short stalks, 4 to 8 inches in length with orange-red flowers.

Seeds: A hairy legume pod, approximately 3/4 inch long containing 6 to 8 four-sided seeds.

Life cycle: Annual

Height: Up to 4 feet, roots fibrous.



Figure 13. Hairy Indigo

**Long-Fruited Primrose-Willow
Ludwigia octovalvis (Fig. 14)**

Leaves: Alternate, narrowly to broadly lance-shaped, tapers to a sharp point, smooth to hairy, 1.5 to 4 inches long.

Stems: Branched, lower stems often woody, upper stems herbaceous.

Flowers: 4 yellow petals, 1 inch in diameter, in the upper leaf axils.

Seeds: Capsule up to 2 inches long, cylindrical, 4-sided, several ribbed, seeds rounded about 1/2 m long, brown, shiny.

Life cycle: Annual or perennial

Height: Up to 6 feet, in moist to wet areas of fields or ditches.



Figure 14. Long-Fruited Primrose-Willow

Cutleaf Evening Primrose *Oenothera laciniata* (Fig. 15)

Leaves: Alternate, elliptic to lance-shaped with irregularly notched or lobed margins.

Stems: Low-growing, often prostrate, branching near the base and hairy.

Flowers: Yellow tubular flowers which fade to red-pink, in leaf axils.

Seeds: Seed capsule is cylindrical, 4-ribbed and hairy; seeds just over 1 m long, angled, pitted.

Life cycle: Biennial.

Height: Low growing, usually spreading, less than 1 foot tall.

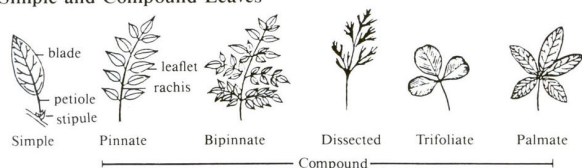


Figure 15. Cutleaf Evening Primrose

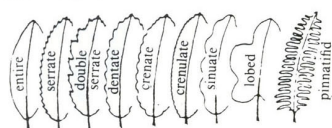
Broadleaf Plant Leaf Characteristics

Useful characteristics to identify broadleaf weeds include the leaf type, leaf margin, leaf shape, leaf attachment and leaf arrangement (Fig. 16).

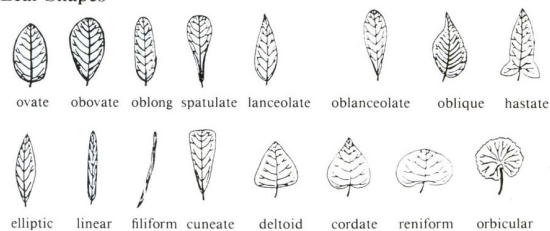
Simple and Compound Leaves



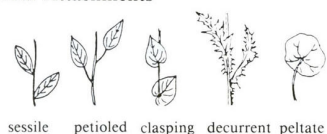
Leaf Margins



Leaf Shapes



Leaf Attachments



Leaf Arrangements

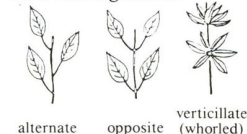


Figure 16. Broadleaf Plant Leaf Characteristics Credits: T.R. Murphy, D.L. Colvin, R. Dickens, J.W. Everest and D. Hall (eds.). 2002. Weeds of Southern Turfgrasses. Univ. of Fla. Coop. Ext. Svc. SP 79. Gainesville.