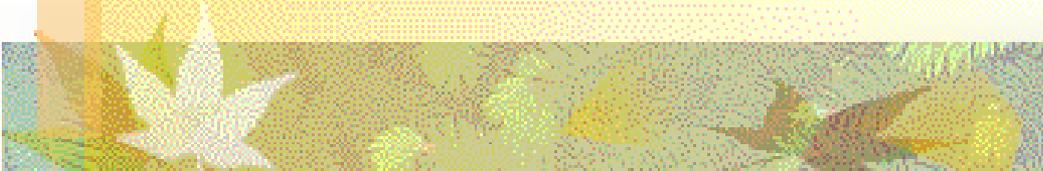


Perilous plants of Florida Citrus Groves



Presented to the Florida Dept. of Agriculture and Consumer Services

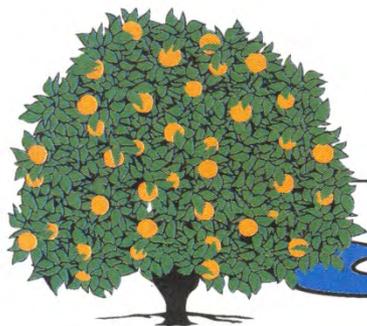
Dept. of Plant Industry

Vero Beach, Florida

April 11, 2012

By Janice Broda

The Florida Research Center for Agricultural Sustainability, Inc.



The Florida Research Center

for Agricultural Sustainability



7055 33rd Street
Vero Beach, FL 32966-1409



*Innovative, science-based
strategies and solutions
to provide profitable
sustainable agriculture*



From 9 Families

- Anacardiaceae (Sumac)
- Apocynaceae (Dogbane)
- Cucurbitaceae (Pumpkin)
- Euphorbiaceae (Spurge)
- Fabaceae (Pea)
- Phytolaccaceae (Pokeweed)
- Solanaceae (Nightshade)
- Apiaceae (Carrot)
- Verbecaceae (Verbena)





Poison ivy

Toxicodendron radicans

- *Toxicodendron* = poison tree
- *radicans* = plant roots from its stem



Anacardiaceae

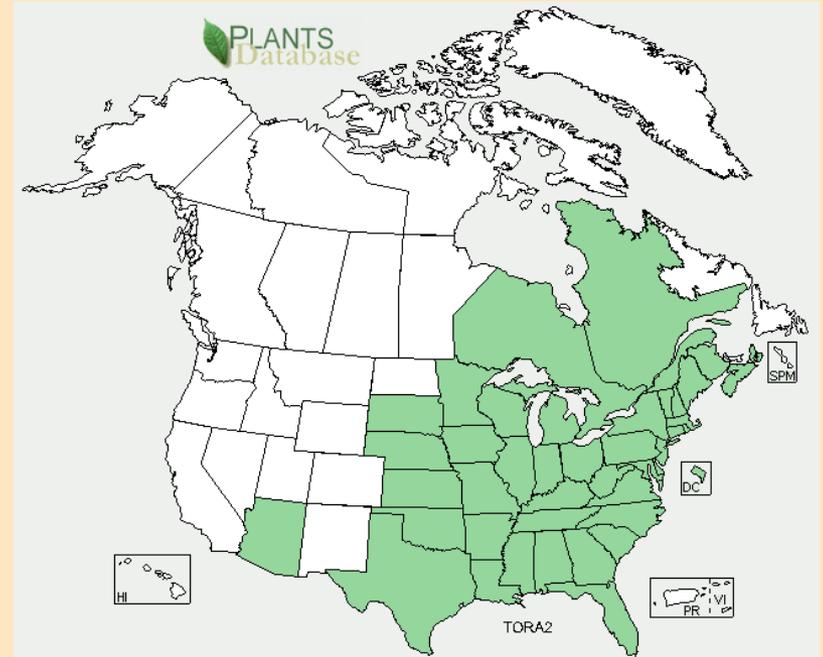
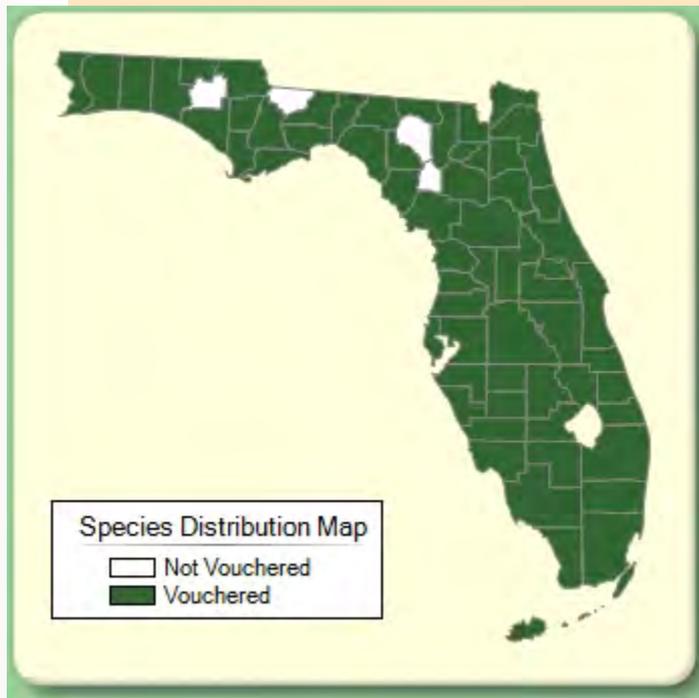
Sumac (or cashew) family

- 70 generic / 600 species worldwide
- 6 genera / 10 species in Florida
- Trees & shrubs with resinous parts
- Trifoliate or pinnately compound leaves
- Cashew, pistachio
- Mango, hog-plum, mombin
- Brazilian pepper, poisonwood

Poison ivy

Toxicodendron radicans

<http://florida.plantatlas.usf.edu/>



<http://plants.usda.gov/java/>

Poison ivy

Toxicodendron radicans

- Contains toxins (urushiols) that cause severe skin irritation in sensitive individuals
- Via direct or indirect contact
- 3 out of 4 people are sensitive



Poison ivy

Toxicodendron radicans

- Vine or shrub
- Climbs by aerial roots
- Trifoliate leaves
- 3 leaves – “let it be”
- Leaflets variable, 2-4”
- Irregularly toothed or lobed



Poison ivy

Toxicodendron radicans



- Leaflets sometimes have “acne” -- lumpy, blistered surface

Poison ivy

Toxicodendron radicans

- Greenish yellow flowers
- In slender clusters
- With 5 petals



Poison ivy

Toxicodendron radicans

- Stems often reddish
- White, waxy fruits
- Up to 1/2" wide
- Contain 1 striped seed
- Spread by birds



Poison ivy

Toxicodendron radicans



Poison ivy

Toxicodendron radicans





© Shirley Denton



Milkweed vine

Morrenia odorata

- Latex plant, strangler vine
- Brazilian milkweed
- *Morrenia* = For the American botanist, plant collector and clergyman Thomas Morong
- *odorata* = fragrant

Milkweed vine

Morrenia odorata





Apocynaceae

Dogbane family

- 355 genera / 3,700 species worldwide
- 16 genera / 48 species in Florida
- Opposite or whorled leaves
- Lactiferous (milky sap)
- Allamanda, oleander, frangipani, vinca

Milkweed vine

Morrenia odorata

From Argentina ?
In 1939 or 1957 ?

- Grows rapidly over anything that provides support
- Produces aerial tubers at leaf axils from which new plants develop
- Produces many wind-borne seeds



Milkweed vine

Morrenia odorata

- Stems contain milky latex
- Opposite leaves
- Grey-green
- Pubescent
- Cordate foliage to 5” on new growth
- Older leaves hastate



Milkweed vine

Morrenia odorata

- White flowers
- 5 petals
- Fragrant (like vanilla)



Milkweed vine

Morrenia odorata

- Mature pods 5–6” long, 3-4” wide
- Avocado-like
- Green when unripe
- Eaten in S. America
- Tan or brown when ripe



Milkweed vine

Morrenia odorata

- Each pods contains 100's of seeds
- With its own white “parachute” (coma)



Milkweed vine

Morrenia odorata



Morrenia odorata

Photo by Betty Wargo

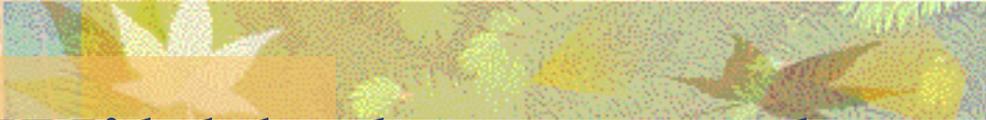


Wild balsam apple

Momordica charantia

- Balsam pear
- Bitter melon
- Bitter gourd
- Cerasse
- Pumpkin vine
- Lantern vine





Wild balsam apple

Momordica charantia

- *Momordica* = From the word to bite, reference to the seeds which look like they are bitten
- *charantia* = pre-Linnean name, used as the specific epithet of *Momordica charantia*



Cucurbitaceae

Pumpkin (or squash) family

- 110 genera / 640 species worldwide
- 10 genera / 14 species in Florida
- Palmate lobed or compound leaves
- Prostrate or climbing vines
- 50 angled stems
- Watermelon, gourds, cantaloupe, luffa

Wild balsam apple

Momordica charantia



Wild balsam apple

Momordica charantia



- Leaves, seeds & unripe fruits contain bitter, cathartic alkaloid momordicine
- & toxalbumin momordin, which inhibits protein synthesis in intestinal wall

Wild balsam apple

Momordica charantia

- Ripe fruit contains the steroid glucoside charantin, which has a hypoglycemic action



Wild balsam apple

Momordica charantia

- Vine that grows 20-30" long
- Climbs by tendrils
- Rank



Wild balsam apple

Momordica charantia

- Simple, alternate leaves 4-8
- With 3–7 deeply separated lobes



Wild balsam apple

Momordica charantia

- Yellow flowers
- Dioecious
- 1-2" wide
- 5 petals
- Attractive to bees
- Flowers throughout spring & summer



Wild balsam apple

Momordica charantia



- Fruits bright orange
- 1-2” long
- Warty

Wild balsam apple

Momordica charantia



- Splits into 3 divisions that curl back to expose sticky, red arils covering seeds
- Red arils edible

Wild balsam apple

Momordica charantia





Cnidoscolus stimulosus

Tread softly

- Finger rot
- 7 minute itch
- Spurge nettle
- Bull-nettle
- Stinging nettle





Cnidoscolus stimulosus

Tread softly

- *Cnidoscolus* = from Greek, “cnid(o)” meaning a nettle & “colus” meaning thorn
- *Stimulosus* = from Latin, “stimul(us)” meaning to goad or prod



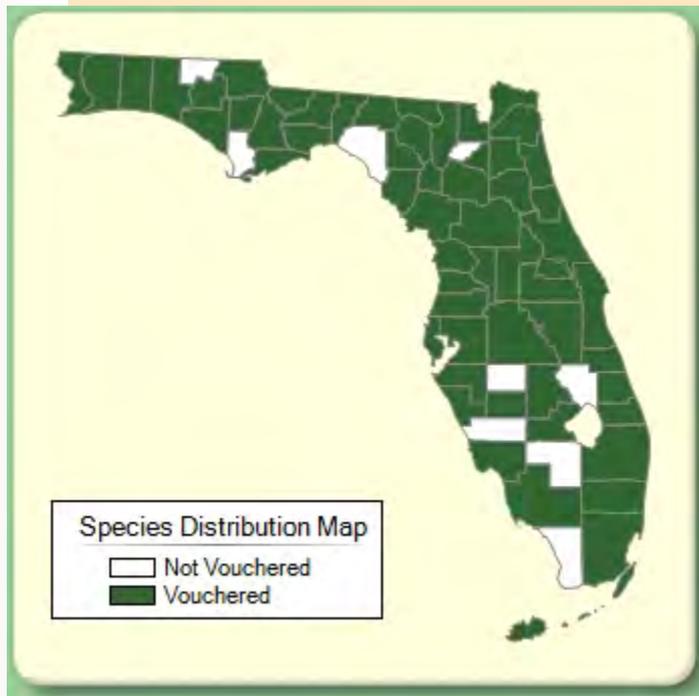
Spurge family

Euphorbiaceae

- 300 genera – 7,000 species worldwide
- 32 genera – 87+ species in Florida
- Fruit usually a 3-segmented schizocarp
- Alternate, stipulate leaves
- Milky or resinous sap
- Poinsettia, crown-of-thorns, croton

Cnidoscolus stimulosus

Tread softly



Cnidoscolus stimulosus

Tread softly

- Any contact with all above-ground parts cause intense stinging and itching
- Excruciating pain is instant & followed by a rash that can last for several days



Cnidoscolus stimulosus

Tread softly



Julia Morton, 1955
*Plants Poisonous to People
in Florida*

*“probably the most
painful of all the
plants of central
America ...*

*The long, stiff hairs that
cover almost all of
the plant sting the
flesh much more than
most nettles”*

Cnidoscolus stimulosus

Tread softly

- Alternate leaves
- Coarsely toothed
- With 3 to 5 lobes
- Long, stiff, hollow hairs festoon the stem, leaves, flowers & fruits



Cnidoscolus stimulosus

Tread softly



- Bright white flowers
- With 5 petals

Cnidoscolus stimulosus

Tread softly

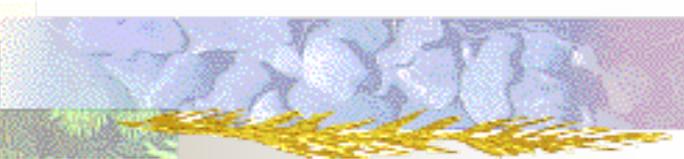
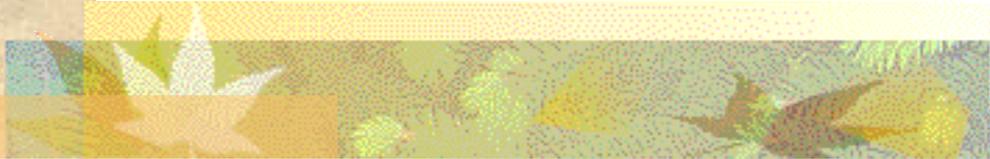


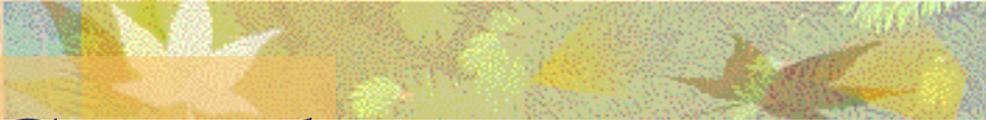
- Deep, tuberous root system
- Roots consumed by Indians and pioneers
- Leaves eaten by gopher tortoise

Cnidoscolus stimulosus

Tread softly







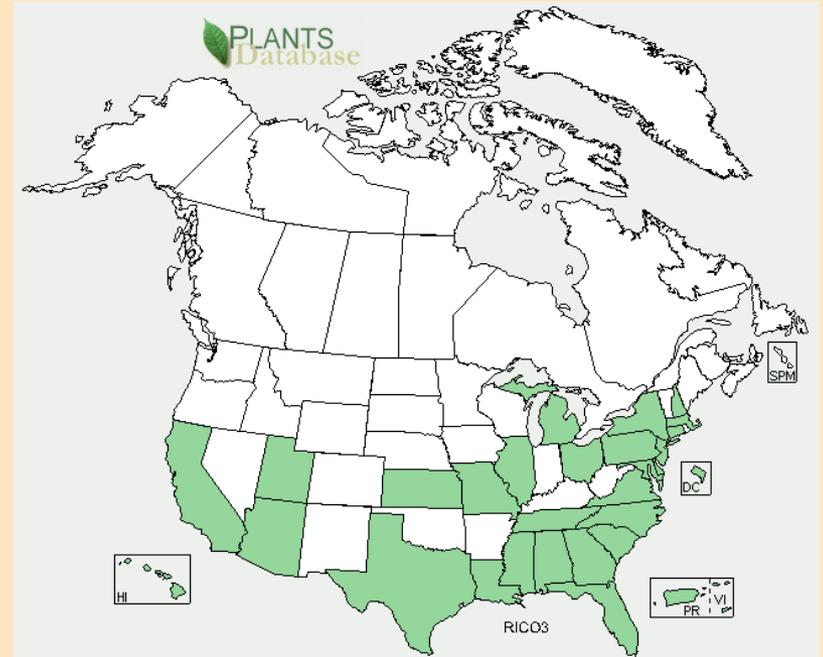
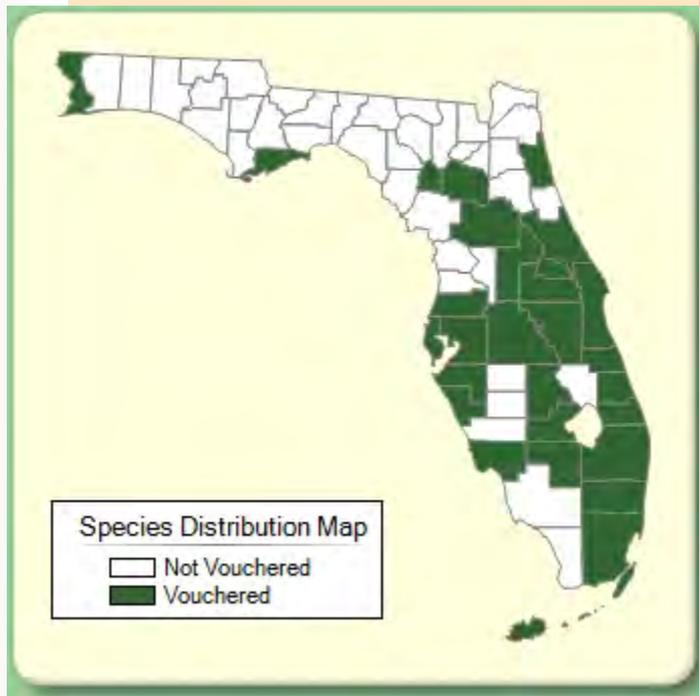
Castorbean

Ricinus communis

- *Ricinus* = so named because the seeds resemble a Mediterranean sheep tick of the same name
- *communis* = growing in groups (communes)

Castorbean

Ricinus communis



Castorbean

Ricinus communis

- Ricin, the primary toxic, is concentrated in seeds
- Binds to body cells & disrupts protein synthesis by prevention of elongation of peptide chains



Castorbean

Ricinus communis

- Oil, seeds & pollen contain castor bean allergen (CBA)
- Can cause contact dermatitis, respiratory inflammation, eye inflammation & sneezing



Castorbean

Ricinus communis

- Large, coarse shrub
- Often, tree-like, 15-40' tall
- Palmate leaves green or dark purplish red, 8-18"
- Hollow trunk



Castorbean

Ricinus communis

- Ivory flowers w/
yellow or red centers



Castorbean

Ricinus communis

- Spikes that split open to scatter pleasant tasting seeds
- 1/4 - 1/2" long, variously colored



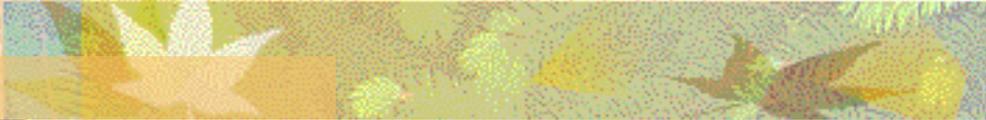
Castorbean

Ricinus communis



© Jeff McMillan





Rosary pea

Abrus precatorius

- Crab's eye, Jequirity bean
- *Abrus* = possibly from the Arabic vernacular name
- *precatorius* = from the Latin *precari*, to pray



Fabaceae

Pea (Legume) Family

- 630 genera / 18,000 species worldwide
- 65 genera / 257 species in Florida
- Herbs to trees
- Alternate, stipulate compound leaves
- Bacterial nodules in roots
- Peanuts, alfalfa, lentils, chick peas
- Powder-puff, mimosa, red-bud

Rosary pea

Abrus precatorius



Rosary pea

Abrus precatorious

- Grave poisoning from even single seed
- Contains toxalbumin abrin, one of most toxic materials known
- Lethal injected dose is .000018 ounce
- Inhibits protein synthesis



Rosary pea

Abrus precatorius

- Slender, twining vine
- Older stems are woody
- To 20' long
- Alternate pinnate leaves w/ 8-15 pairs of leaflets



Rosary pea

Abrus precatorius



- Florida Exotic Pest Plant Council Category 1 invasive plant

Rosary pea

Abrus precatorious

- Lavender flowers
- Born in clusters
- On short stalks



Rosary pea

Abrus precatorious

- Seed pod 1 – 1 1/2 “ long
- Each pod contains 4 - 8 seeds
- Long-lived, seeds from Atocha shipwreck germinated after 500 years under water



Rosary pea

Abrus precatorius







Pokeweed

Phytolacca americana

- Virginia poke, American nightshade, cancer jalap, coakum, garget, inkberry, pigeon berry, pocan, pokeroot,¹ pokeberry, redweed, scoke, red ink plant
- Chui xu shang lu (in Chinese medicine)



Pokeweed

Phytolacca americana

- *Phytolacca* = plant with red milk, sap
- *americana* = of the Americas



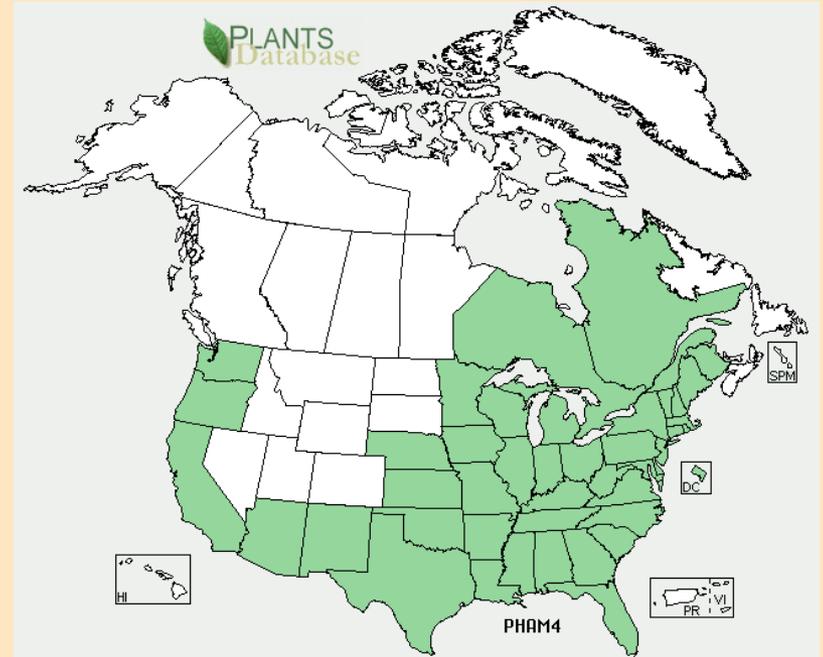
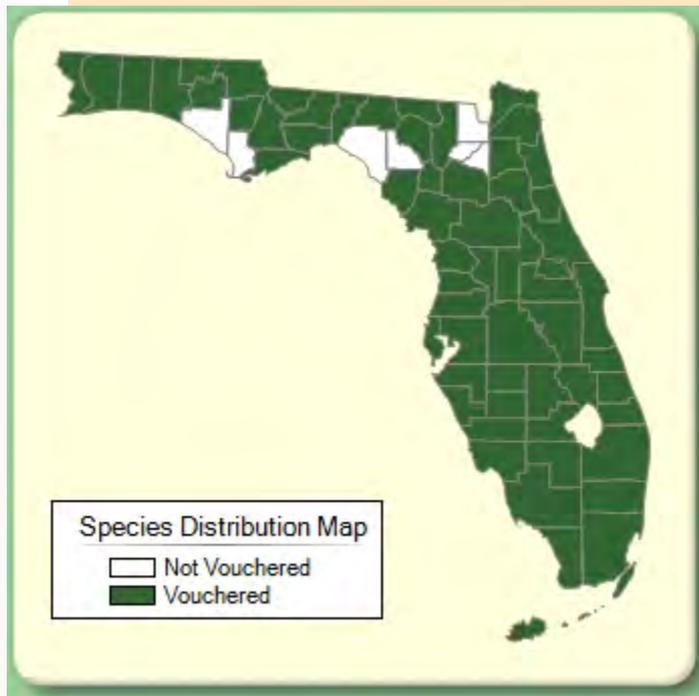
Phytolaccaceae

Pokeweed family

- 16 genera / 100 species worldwide
- 2 genera / 2 species in Florida
- Alternate leaves

Pokeweed

Phytolacca americana



Pokeweed

Phytolacca amer

- Herbaceous shrub to 10' tall
- Thick central taproot which grows deep and spreads horizontally
- Reddish, purple stems
- Alternate leaves to 8"



Pokeweed

Phytolacca americana



- White or pale green flowers
- No petals

Pokeweed

Phytolacca americana

- Dark purple berries
- Juicy
- Held in clusters (racemes) with pink stems (pedicels)
- About 10 seeds per fruit
- Seeds are long-lived



Pokeweed

Phytolacca americana

- Berries are round with a flat indented top & bottom
- Immature berries are green
- Ripening to white and then blackish purple.



Pokeweed

Phytolacca americana

- All parts -- except fruit pulp & juice -- contain saponin & toxic alkaloid phtolaccine



Pokeweed

Phytolacca americana





© Patrick J. Alexander



Carolina horsenettle

Solanum carolinense

- Radical weed, sand brier, bull nettle, tread softly, apple of Sodom
- *Solanum* = Solace, quietude; referring to the narcotic properties of some species
- *carolinense* = of the Carolinas



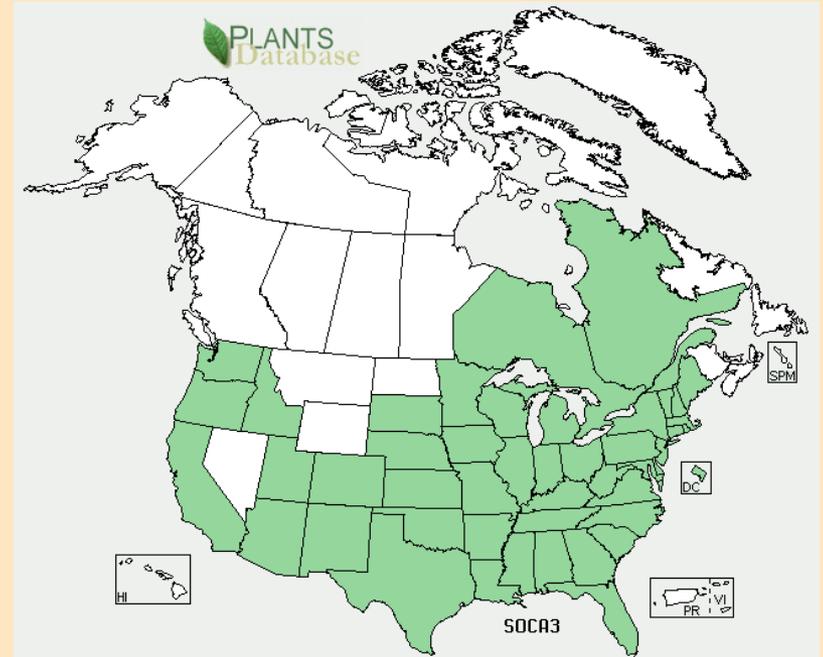
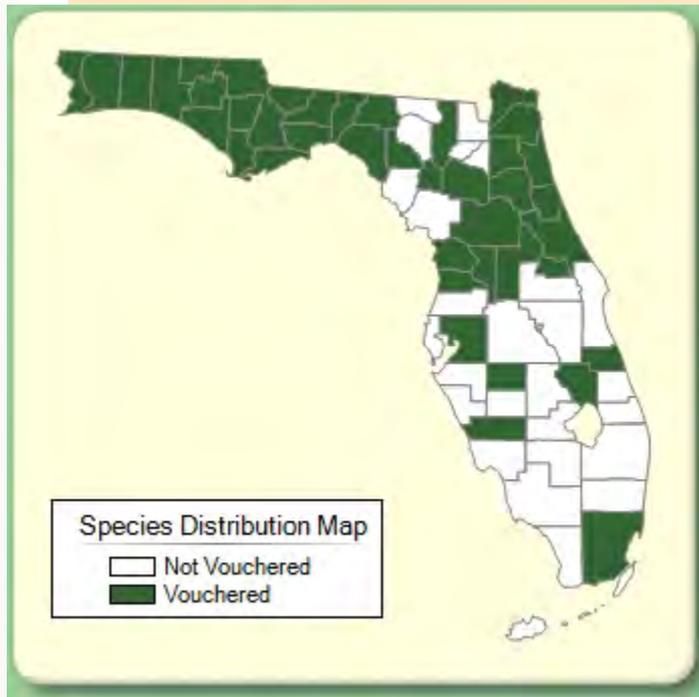
Solanaceae

Nightshade family

- 90 genera / 3,000 species worldwide
- 10 genera / 50 species in Florida
- Herbaceous to shrubby plants
- Alternate leaves
- Peppers, eggplant, tomato, tobacco
- Night-blooming jessamine, datura

Carolina horsenettle

Solanum carolinense



Carolina horsenettle

Solanum carolinense



- Most parts contain a toxic alkaloid, solanine
- Consumption of unripe fruit causes abdominal pain, as well as circulatory & respiratory depression

Carolina horsenettle

Solanum carolinense



- Hard spines along the stems that can penetrate the skin & break off, causing much pain

Carolina horsenettle

Solanum carolinense



- To 3', usually smaller
- Alternate leaves
- Elliptic-oblong to oval
- Irregularly lobed or coarsely toothed.
- Top & bottom are covered with fine hairs

Carolina horsenettle

Solanum carolinense

- White or purple with yellow centers
- 5 petals
- April to October



Carolina horsenettle

Solanum carolinense



© Patrick J. Alexander



- Immature fruit is dark green with light green stripes
- Becomes yellow and wrinkled when ripe
- About 60 seeds per fruit

Carolina horsenettle

Solanum carolinense







Water hemlock

Cicuta maculata

- *Cicuta* = Latin name for poison hemlock
- *maculata* = spotted

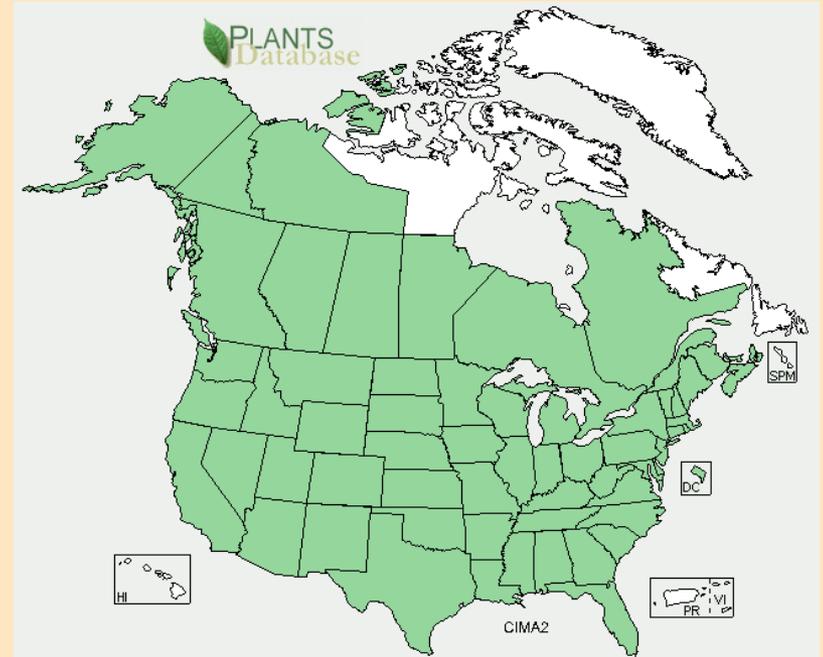
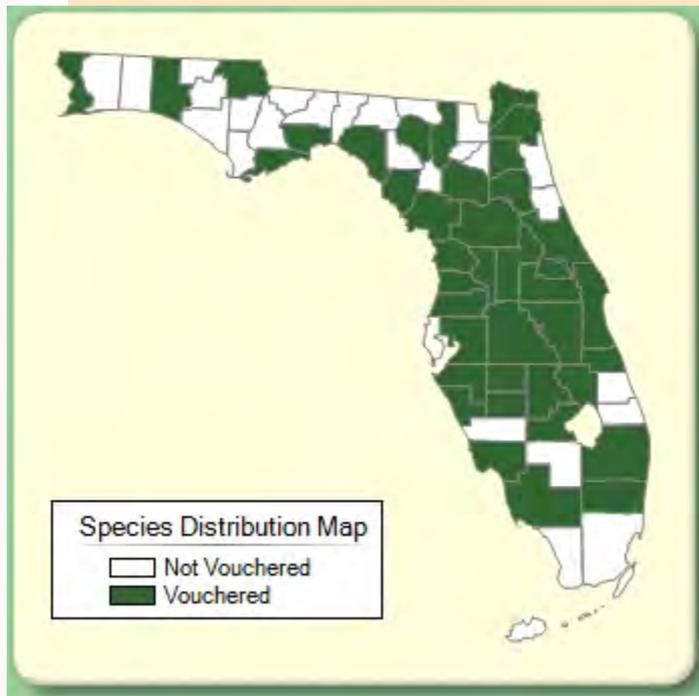


Apiaceae Family(Carrot)

- 340 genera / 3,600 species worldwide
- 24 genera / 46 species in Florida
- Flowers borne in umbels (flat-topped clusters)
- Parsley, fennel, caraway, celery, carrot & parsnip

Water hemlock

Cicuta maculata



Water hemlock

Cicuta maculata



- The most poisonous plant of all plants in the US
- Roots contain a brown, resin-like substance called cicutoxic
- Affects central nervous system

Water hemlock

Cicuta maculata



- Large, biennial herb
- Stout, hollow stem
- 2-7' tall
- In wet places
- Alternate, compound leaves divided into oblong, toothed leaflets

Water hemlock

Cicuta maculata



- Small white flowers
- With 5 petals
- In terminal umbels, 3½-8” wide

Water hemlock

Cicuta maculata



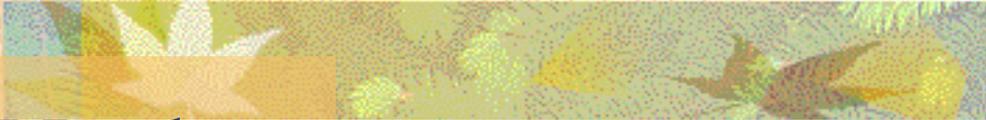




Lantana

Lantana camara

- *Lantana* = Ancient Latin name for a Viburnum species
- *camara* = South American vernacular name for a species of Lantana



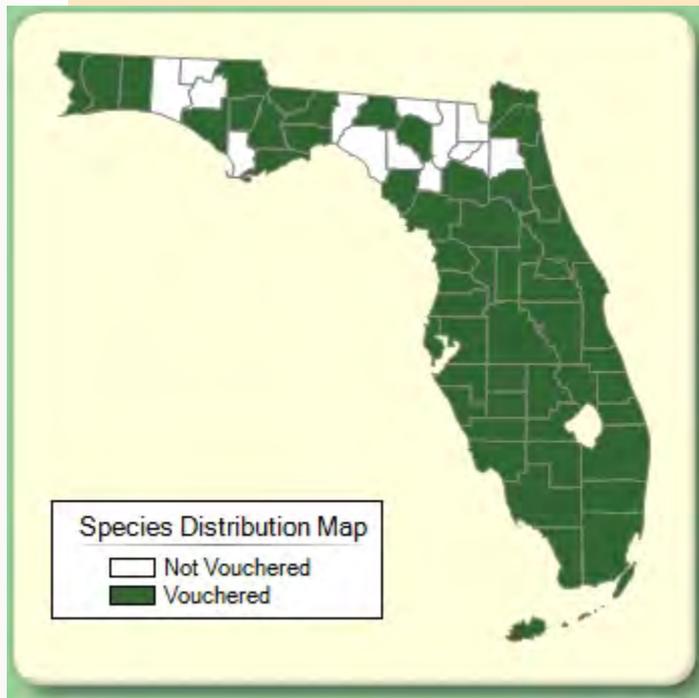
Verbecaceae

Verbena family

- 104 genera / 3,200 species worldwide
- 13-15 genera / 37 – 39 species in Florida
- Aromatic herbs, shrubs, or trees
- Opposite leaves
- Fiddlewood, beautyberry
- Bleeding heart, golden dewdrop

Lantana

Lantana camara



Lantana

Lantana camara



- Green berries cause severe poisonings in children
- Contains belladonna like alkaloids
- Leaves poison cattle, horses, sheep, water buffalo, goats & rabbits

Lantana

Lantana camara

- Herbaceous shrub, 4-10' tall
- Square stems, usually hairy
- Rough, toothed opposite leaves, 1-6" long
- Strongly aromatic



Lantana

Lantana camara



- Variously colored, flat clusters
- 1 – 1 ½” across
- White, buff, pink, lavender, orange

Lantana

Lantana camara



Lantana

Lantana camara



Lantana

Lantana camara

- Clusters of fleshy fruits
- Green when unripe, darkening to blue black
- Spread by birds



Lantana

Lantana camara



Not only plants 'bite'

Urticating Caterpillars



Flannel Moth



Buck Moth



Io Moth



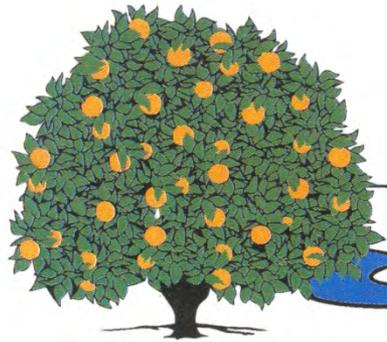
Hag caterpillar



Saddleback



Spiny Oak-slug



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