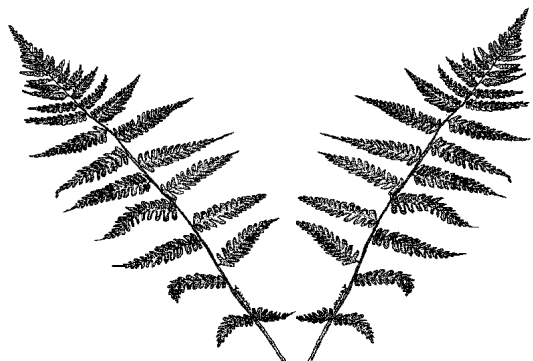


**COMMON WETLAND PLANTS
OF
NORTH CAROLINA**



North Carolina
Department of Environment, Health and Natural Resources
Division of Water Quality
Water Quality Section
4401 Reedy Creek Road
Raleigh, NC 27607
Report # 97-01 August 1997

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Introduction

Common Wetland Plants of North Carolina is a field guide to our most commonly encountered wetland flora. It is intended to be useful for novices and casual observers as well as wetland scientists. Because vegetation is one of the three criteria (hydrology, soils, vegetation) for an area to be considered a wetland, it is an important factor in wetland evaluations. Wetlands are intermediate areas between land and water, where aquatic and terrestrial communities meet. Throughout wetlands, the presence of plants and their subsequent adaptations to wetland conditions give evidence of long term wetland hydrology. *Common Wetland Plants of North Carolina* is intended to accompany the *Field Guide to North Carolina Wetlands* (NCDEHNR 1996). In the *Field Guide to North Carolina Wetlands*, fourteen major types of wetlands and their most common plants are described as well as characteristic features of these wetlands. Appendix 1 also lists dominant plants from these fourteen wetland types. These wetland types include: wet flats, pocosins, ephemeral wetlands, seeps, mountain bogs, bog forests, headwater forests, bottomland hardwood forests, swamp forests, freshwater marshes, estuarine fringe forests, brackish marshes, salt shrub wetlands and salt marshes.

Plants most commonly encountered in wetlands are described and pictured herein. This guide includes 128 of some of the most common wetland plants found in the state. In *Common Wetland Plants of North Carolina*, characteristics and descriptions of plant's habit (growth form), leaves, flowers, fruit, habitat and field characteristics are discussed for each wetland plant.

For ease in identification, plants are arranged by growth structure and type. The following categories are used: 1) trees; 2) shrubs; 3) herbs; 4) grasses, sedges and rushes; 5) vines; and 6) aquatic herbs. Preceding each category is a list of common names, scientific names and wetland indicator status. Because plants have different tolerances for hydric conditions, a wetland

indicator status is assigned to plants for each region of the United States.

Indicator status may vary within regions and the southeast region was used for this manual since North Carolina falls within this region. Table 1 explains these terms for variations in hydrology. The indicator status is obtained from the 1996 National List of Plant Species That Occur in Wetlands (Reed 1997). The facultative indicators are sometimes assigned a positive or negative sign. A positive (+) sign always indicates a strong tendency toward wetland conditions, while a negative (-) sign infers less of an association with wetlands. Some plants may have more than one indicator status depending on the geographic region in which they are found. The indicator status for each plant described is found at the beginning of each section of this manual.

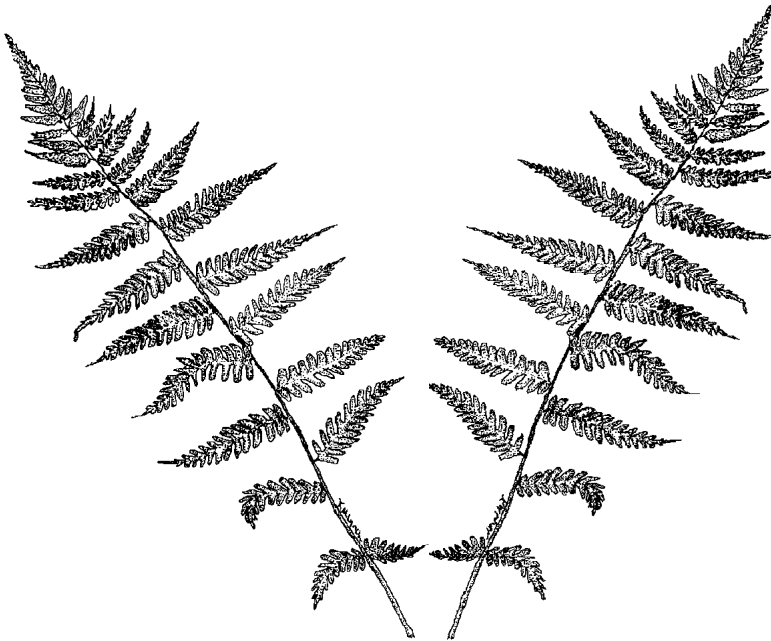
Table 1. Definitions for Wetland Indicator Status

Obligate Wetland (OBL)	contain plants that almost always occur in wetlands (99% of the time)
Facultative Wetland (FACW)	contain plants that usually occur in wetlands (67-99% of the time)
Facultative (FAC)	includes plants that are just as likely to occur in wetland or non-wetland areas (34-66% chance of occurring in wetlands or non-wetlands)
Facultative Upland (FACU)	contain plants that occasionally occur in wetlands (1-33% of the time)
Upland (UPL)	contain plants that almost always occur in uplands (99% of the time)

Diagrams of plant structure (leaf arrangement, shape, flower type, etc.) are found in Appendix 2. The bibliography contains wetland references that were useful in preparing this manual. Wetland plants are listed in the index in the back by both common and scientific name. Throughout the manual, scientific names

are listed according to Kartesz (1994). The original botanist or authority who named each plant follows the scientific name. For some plants, a second name follows the plant authority (which is in parenthesis), indicating that further taxonomic work was conducted that led to a name change. Illustrations throughout this manual were drawn and donated by Karen M. Lynch.

Wetlands are a valuable and vanishing resource and can provide useful functions such as water storage and purification, wildlife and aquatic habitat and outdoor recreation and education. It is hoped that visitors to wetlands will recognize and appreciate the values of these wonderlands, beginning with the observation of wetland flora and fauna.



TREES		Wetland status
Ash, Green	<i>Fraxinus pennsylvanica</i>	FACW
Birch, River	<i>Betula nigra</i>	FACW
Gums, tupelos		
Black gum	<i>Nyssa sylvatica</i>	FAC
Swamp black gum; Swamp tupelo	<i>Nyssa biflora</i>	FACW+
Water tupelo	<i>Nyssa aquatica</i>	OBL
Box elder	<i>Acer negundo</i>	FACW
Cedar, Atlantic White	<i>Chamaecyparis thyoides</i>	OBL
Cypress, Bald	<i>Taxodium distichum</i>	OBL
Elm, American	<i>Ulmus americana</i>	FACW
Hemlock, Eastern	<i>Tsuga canadensis</i>	FACU
Hop hornbeam	<i>Ostrya virginiana</i>	FACU-
Ironwood	<i>Carpinus caroliniana</i>	FAC
Loblolly bay	<i>Gordonia lasianthus</i>	FACW
Maple, Red	<i>Acer rubrum</i> (coastal plain)	FAC FACW-
Oaks		
Oak, Cherrybark	<i>Quercus pagoda</i>	FAC+
Oak, Laurel	<i>Quercus laurifolia</i>	FACW
Oak, Overcup	<i>Quercus lyrata</i>	OBL
Oak, Swamp	<i>Quercus michauxii</i>	FACW-
Chestnut		
Oak, Water	<i>Quercus nigra</i>	FAC
Oak, Willow	<i>Quercus phellos</i>	FACW-
Pines		
Pine, Loblolly	<i>Pinus taeda</i>	FAC
Pine, Longleaf	<i>Pinus palustris</i>	FACU+
Pine, Pond	<i>Pinus serotina</i>	FACW+
Pine, White	<i>Pinus strobus</i>	FACU
Persimmon	<i>Diospyros virginiana</i>	FAC
Redbay	<i>Persea borbonia</i>	FACW
Sourwood	<i>Oxydendrum arboreum</i> (mountains)	FACU UPL
Sweet bay	<i>Magnolia virginiana</i>	FACW+
Sweetgum	<i>Liquidambar styraciflua</i>	FAC+
Sycamore	<i>Platanus occidentalis</i>	FACW-
Tulip poplar; Tulip tree	<i>Liriodendron tulipifera</i> (coastal plain)	FACU FACW
Willow, Black	<i>Salix nigra</i>	OBL

Green ash
Fraxinus pennsylvanica Marsh.

Family: Oleaceae

Olive Family

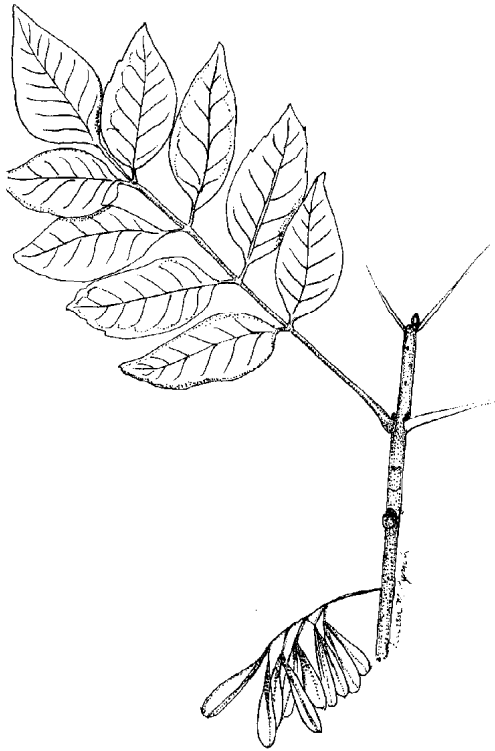
Habit: Medium tree up to 24 meters (m).

Leaves: Opposite, pinnately compound leaves, 15 to 23 centimeters (cm) long. Contain 5-9 oval or lanceolate toothed leaflets.

Flowers/fruit: Flowers inconspicuous with male and female flowers on separate trees. Fruit is a samara.

Habitat: Low areas, natural levees, bottomlands and swamps in the piedmont and coastal plain, mainly in brownwater streams.

Field characteristics: This is the most widely distributed of the ashes. Note opposite branches, twigs more slender than hickories which have similar compound leaves, but have alternate branches. Vegetative specimens (without samaras) of *F. pennsylvanica* and *F. americana* are difficult to distinguish.



TREES

Common Wetland Plants of NC

River birch
Betula nigra L.

Family: Betulaceae

Birch Family

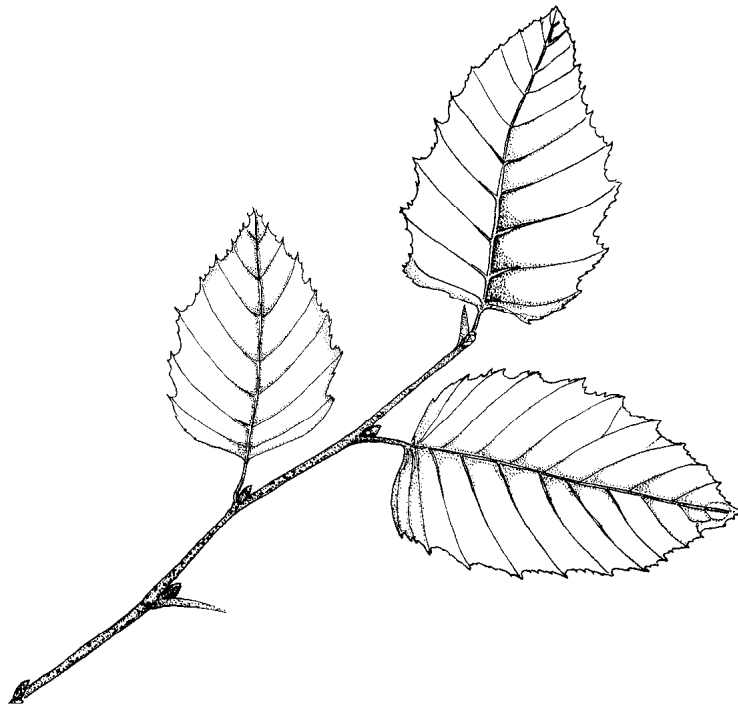
Habit: Deciduous, medium sized tree up to 30 m, with curly papery bark, peeling horizontally.

Leaves: Alternate, doubly serrated, triangular or ovate leaves, 4-8 cm long. Leaves contain 7-9 straight veins on each side of leaf.

Flowers/fruit: Male flowers are drooping catkins and female flowers are in a cone-like catkin.

Habitat: Flood plains, river and stream banks in deep soil. Found statewide, but most common in the piedmont and coastal plain.

Field characteristics: Peeling bark and triangular leaves distinctive. Younger trees have rusty colored bark, while older bark is darker. River birch often has several main trunks and thin twigs



Black gum
Nyssa sylvatica Marsh.
Nyssa biflora Walt.

Family: Nyssaceae

Sourgum Family

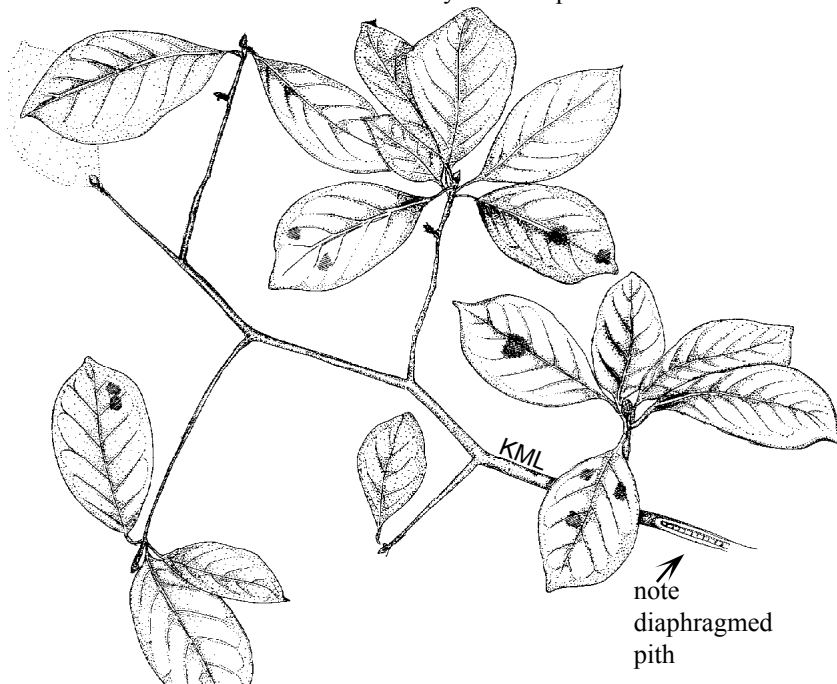
Habit: Medium to large tree, to 30 m.

Leaves: Alternate, elliptic, glabrous leaves up to 15 cm long. Leaves are entire or with scattered teeth. Leaves appear clustered at the tips of branches. *N. biflora* has thicker, more narrow obovate leaves with rounded tips.

Flowers/fruit: Male and female flowers occur on separate trees. Fruit is a dark blue-black drupe, 1-1.5 cm wide.

Habitat: *N. sylvatica* is found in dry uplands and wetlands statewide from the coastal plain to the mountains. *N. biflora* (swamp black gum or swamp tupelo) is usually found in standing waters in the coastal plain, mainly in poorly drained areas.

Field characteristics: Three bundle scars are revealed when the leaf is pulled away from the stem. Pith of blackgum is diaphragmed. Leaves turn a brilliant crimson in autumn. Berries were formerly used for preserves.



Water tupelo
Nyssa aquatica L.

Family: Nyssaceae

Sourgum Family

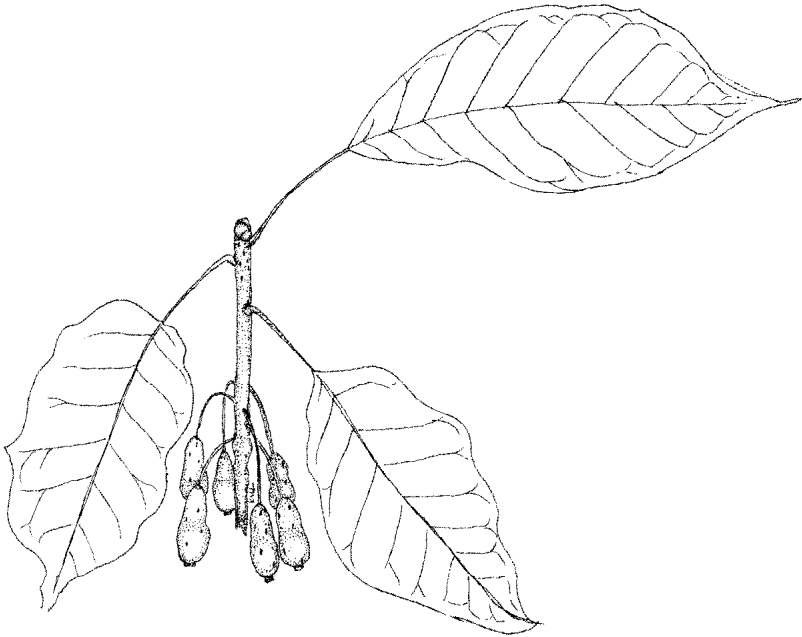
Habit: Medium to large tree, to 30 m. Trunk is typically buttressed, when found in regularly flooded areas.

Leaves: Large, ovate or elliptic, alternate and entire or occasionally coarsely toothed. Leaves are pubescent and are 25 cm long and 15 cm wide.

Flowers/fruit: Elongated blue-black fruits occur on slender, drooping stalks which are 8 cm long. Fruits are 2.5 cm long.

Habitat: Swamps and bottomlands in standing water in the coastal plain, more often in flowing waters than *Nyssa biflora*.

Field characteristics: Large leaves for a swamp tree, usually with a few 'teeth'. Thick twigs and branches with a diaphragmed pith.



Box elder
Acer negundo L.

Family: Aceraceae

Maple Family

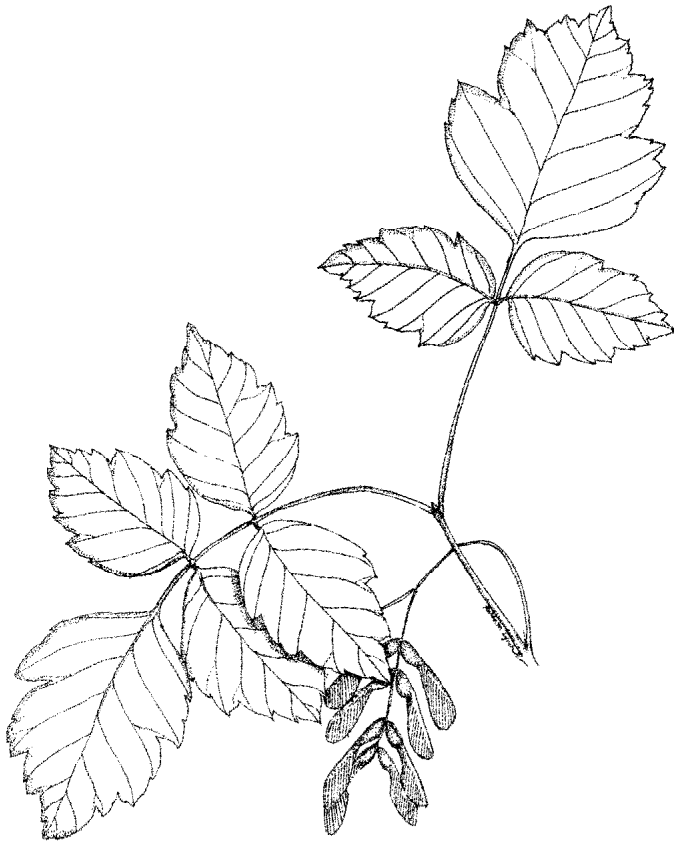
Habit: Small to medium tree, reaching 25 m. Twigs are shiny green with white lenticels.

Leaves: Opposite, pinnately compound with an odd number (3-9) of leaflets, although 3 and 5 leaflets are most common. Leaflets are mostly ovate and toothed, and are 5-10 cm long and 6 cm wide.

Flowers/fruit: Fruits consist of paired light yellow samaras, 3 cm long.

Habitat: Floodplains, stream banks, low woods of brownwater streams, throughout NC.

Field characteristics: Sometimes confused with poison ivy. Look for more than 3 leaflets, distinctive green twigs and opposite branching.



Atlantic white cedar
Chamaecyparis thyoides (L.) B.S.P.

Family: Cupressaceae

Juniper Family

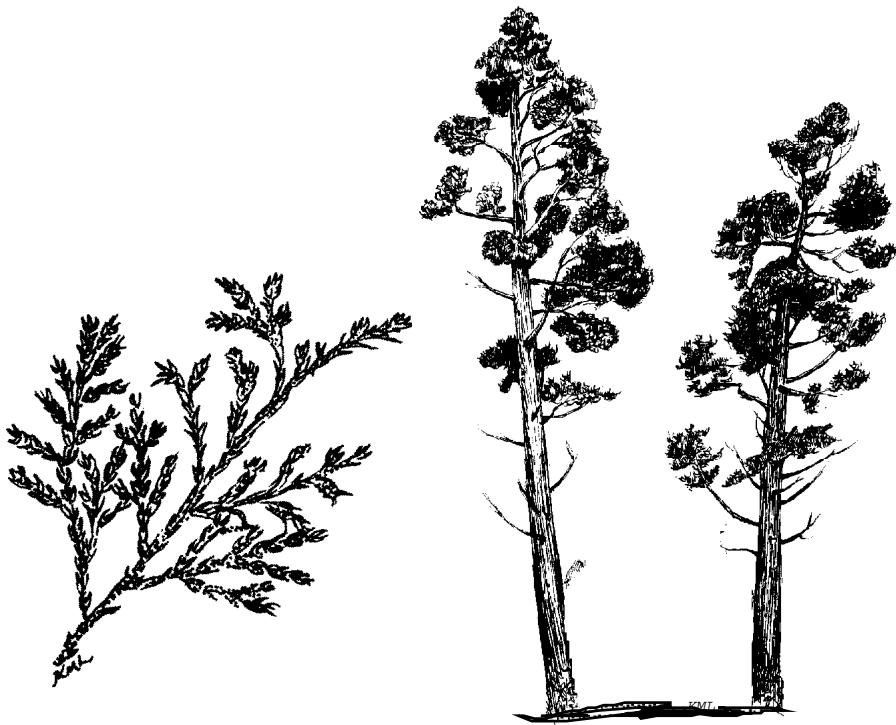
Habit: Medium sized evergreen tree to 28 m in height.

Leaves: Flattened, scale-like leaves, 1-3 millimeters (mm) long and green on both sides.

Flowers/fruit: Small inconspicuous cones; male cone is 2 mm long and female cone is spherical, 6 mm diameter, with a crumpled appearance.

Habitat: Acidic swamps of the coastal plain, generally in peaty soils or other poorly drained areas. Often grows in dense stands (or glades) to the exclusion of other trees.

Field characteristics: Evergreen needles are 'flat'. Unfortunately wood is highly desirable, so this species was extensively logged in the past. Old-growth and extensive stands are now uncommon.



TREES

Common Wetland Plants of NC

Bald cypress
Taxodium distichum (L.) L.C. Rich.

Family: Taxodiaceae

Redwood Family

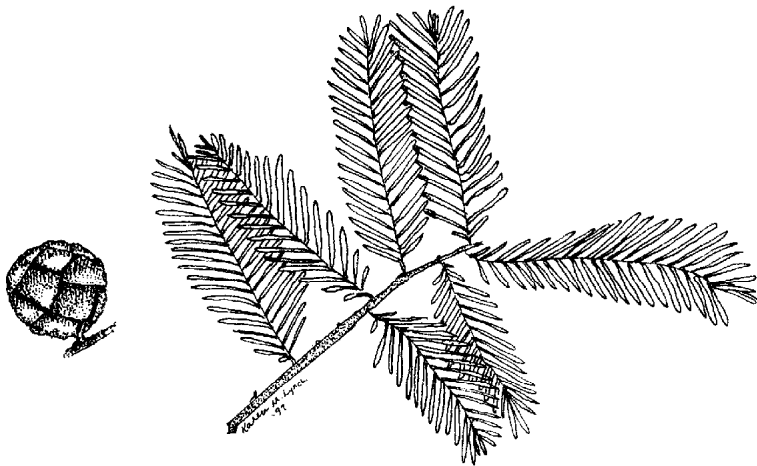
Habit: Medium to large deciduous tree with a straight trunk and horizontal branches. When young, the crown of cypress is conical, but becomes 'flat-topped' with old age.

Leaves: Needles-like leaves up to 2 cm long occur in 1 plane and appear feather-like on small alternate branches.

Flowers/fruit: Female cones are green spheres with markings. Male cones are less conspicuous in drooping panicles.

Habitat: Swamps, forested wetlands, edges of ponds and rivers, mainly in the coastal plain. Although it cannot germinate in water, cypress will thrive in open water once established.

Field characteristics: Knees and buttressed trunks are characteristic. Note flat-topped shape of older trees. A closely related species, *T. ascendens* or Pond cypress, is smaller, has appressed needles and exhibits a downward branching pattern. Pond cypress grows in poorly drained areas such as Carolina bays and non-riverine swamps.



American elm
Ulmus americana L.

Family: Ulmaceae

Elm Family

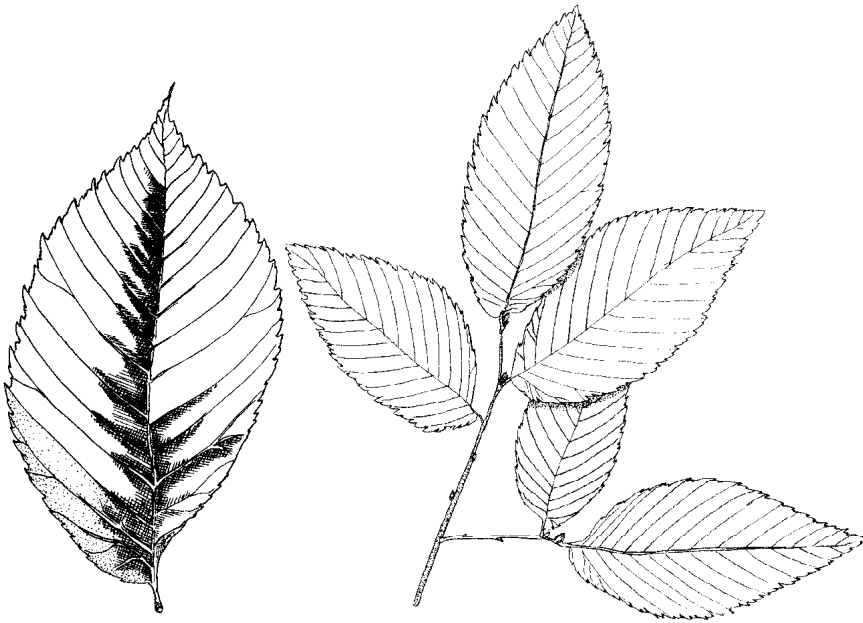
Habit: Medium to large deciduous tree, to 35 m. The crown is broad and spreading, with a characteristic vase-like pattern of branching. However, when found in dense forest stands, this tree exhibits a narrow crown. Bark is ridged and scaly.

Leaves: Alternate, doubly serrated oval leaves with a distinctly asymmetrical leaf base. Leaf size varies greatly but average is about 8 cm long and 5 cm wide.

Flowers/fruit: Fruit is small, flattened clusters of oval samaras, about 1 cm long.

Habitat: Most common in floodplains adjacent to brownwater streams, rich wet or upland woodlands throughout NC.

Field characteristics: Upper leaf surface smoother than other similar elms. Looks very similar to Slippery elm which has leaves with very rough surfaces. Scaly bark of American elm is distinctive.



Eastern hemlock
Tsuga canadensis L. (Carr.)

Family: Pinaceae

Pine Family

Habit: Slow growing, long lived tall evergreen tree with alternate branches, to 30 m.

Leaves: Round tipped distinctly flattened needles, less than 1.5 cm long. Needles are arranged in 1 plane parallel to the ground.

Flowers/fruit: Small pendant fruiting cones, growing from the tips of branches, 1.5 cm long.

Habitat: Cool, moist ravines, usually on northern or eastern slopes in the mountain region.

Field characteristics: Flat needles, in a single plane, distinctive, with 2 white lines on underside of needles.



Hop hornbeam
Ostrya virginiana (Mill.) K. Koch

Family: Betulaceae

Birch Family

Habit: Small, deciduous understory tree with scaly flaky bark, up to 9 m.

Leaves: Alternate, elliptical or ovate with doubly toothed margins. Leaves are 5-13 cm long with acute or acuminate tips. The undersides are finely pubescent.

Flowers/fruit: Both male and female flowers occur on the same tree. Inflated male flowers are catkins, up to 6 cm long which may persist through summer. Female catkins are upright on newly formed twigs. Fruit is a flattened papery nutlet and is valued for wildlife.

Habitat: Uplands or moist woods, rocky ravines, well drained flood plains, mainly in the piedmont and mountains. Occasionally found in the coastal plain.

Field characteristics: Similar to Ironwood, but bark is flaky rather than 'muscular' as in Ironwood. Leaves of Hop hornbeam are 'hairy' while Ironwood has smooth leaves. The tree gets its name from its hop-like fruit.



Ironwood, American hornbeam, Blue-beech
Carpinus caroliniana Walt.

Family: Betulaceae

Birch Family

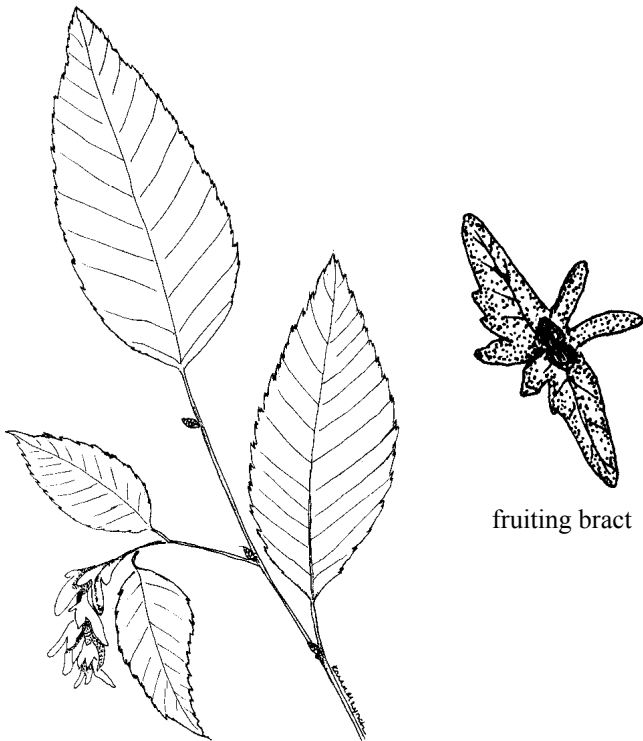
Habit: Small, deciduous understory tree with smooth, gray bark, up to 12 m.

Leaves: Alternate, ovate leaves, 3-15 cm long. Margins are doubly serrated and are paler green on undersides. Undersides of leaves are glabrous. Leaf veins are distinctive (particularly on leaf undersides) and strongly pinnate with veins running straight to the leaf edges.

Flowers/fruit: Flowers are in catkins, the male catkin is 3-4 cm long and the female catkin is about 2 cm long. Fruits consist of small nuts, subtended by a leafy 3-lobed bract in drooping clusters, about 10 cm long.

Habitat: Floodplain forests and bottomlands throughout NC.

Field characteristics: Distinctive 'muscular' branches and trunk. Leaves of Ironwood are smooth, in contrast to the pubescent leaves of hop hornbeam.



Loblolly bay
Gordonia lasianthus (L.) Ellis

Family: Theaceae

Tea Family

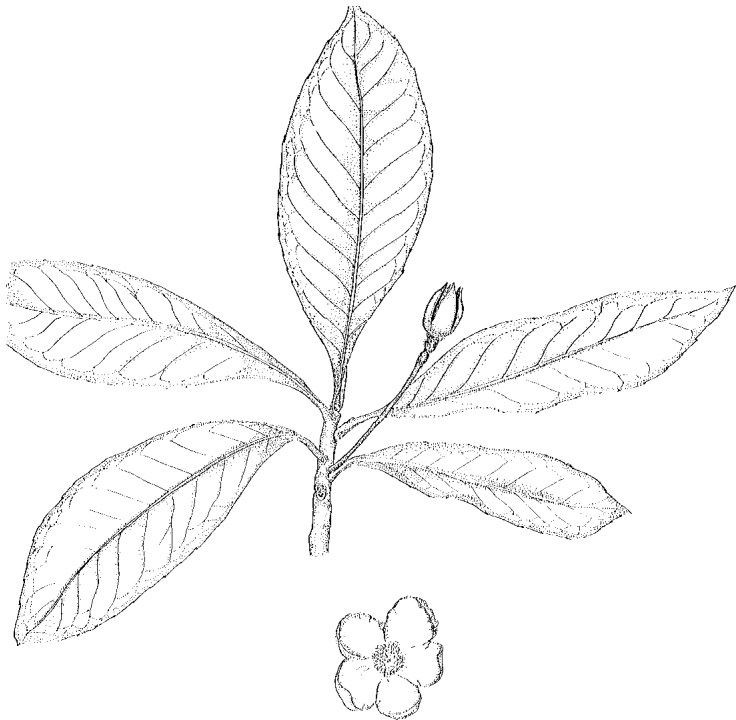
Habit: Medium evergreen tree up to 20 m. Crown of young tree is narrow and conical, becoming rounded when mature.

Leaves: Alternate, elliptical, dark green shiny leathery leaves, 16 cm long and 5 cm wide. Leaves are widest near leaf tips. Leaf margins are wavy with small blunt serrations.

Flowers/fruit: Beautiful 5-petaled white flower with silky fringed stamens in the center. Fruit is a capsule which splits into 5 parts as it releases seeds.

Habitat: Swamps, bay forests and pocosins in the coastal plain.

Field characteristics: Similar to other evergreen trees and shrubs in bay forests and pocosins, but leathery leaves of loblolly bay are wavy edged and have reddish petioles.



Red maple
Acer rubrum L.

Family: Aceraceae

Maple Family

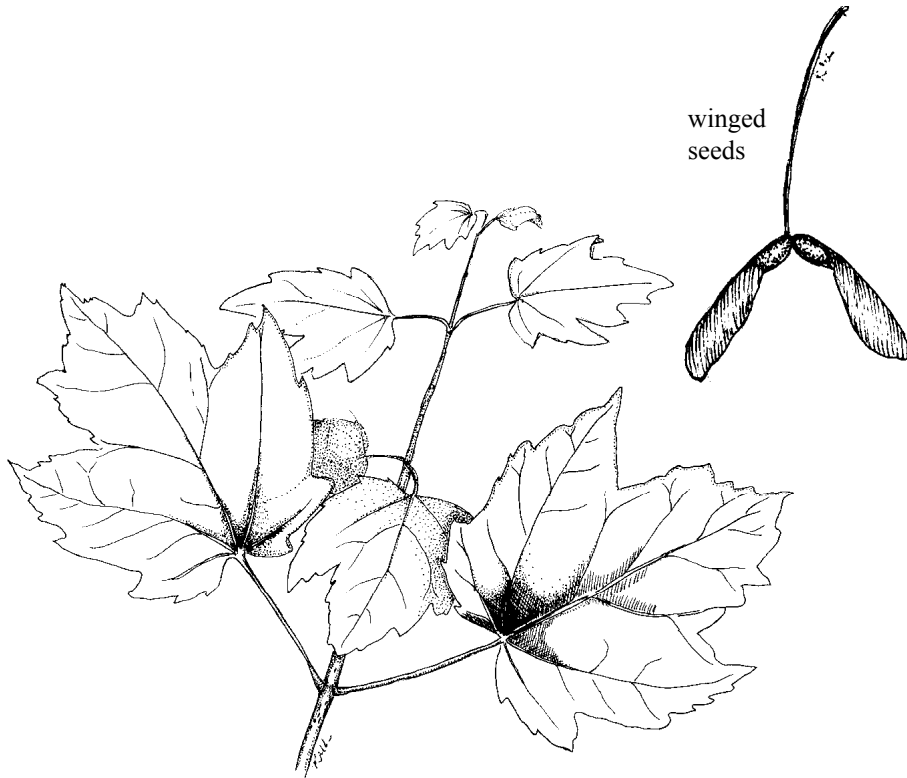
Habit: Medium tree, sometimes reaching large stature.

Leaves: Opposite, lobed with 3-5 main points. Leaves 6-14 cm long, can be as wide as long. Green above, lighter below.

Flowers/fruit: Red flowers, evident in early spring before leafing out. Fruit is a double samara, with each half about 3 cm long.

Habitat: Low woods, uplands, floodplains, swamps, stream banks, across NC. Very widespread in habitat.

Field characteristics: Opposite branching pattern, Showy clusters of reddish flowers in early spring.



Cherrybark oak
Quercus pagoda Raf.

Family: Fagaceae

Beech Family

Habit: Large deciduous tree, to 40 m.

Leaves: Alternate, obovate to ovate in general outline, 10-20 cm long and 8-14 cm wide, typically with 5 lobes, sometimes more. The end lobe is usually toothed and spaces between lobes are generally sharp angled (not rounded).

Flowers/fruit: Flowers appear in spring, when leaves first emerge. Small, rounded acorns are short-stalked and are 1 cm long in cup-like saucers.

Habitat: Low grounds including floodplains and bottomland woods occasionally on slopes and bluffs, coastal plain and lower piedmont.

Field characteristics: Leaves with 5 lobes with sharp angled sinuses (or spaces between the lobes).



Laurel oak
Quercus laurifolia Michx.

Family: Fagaceae

Beech Family

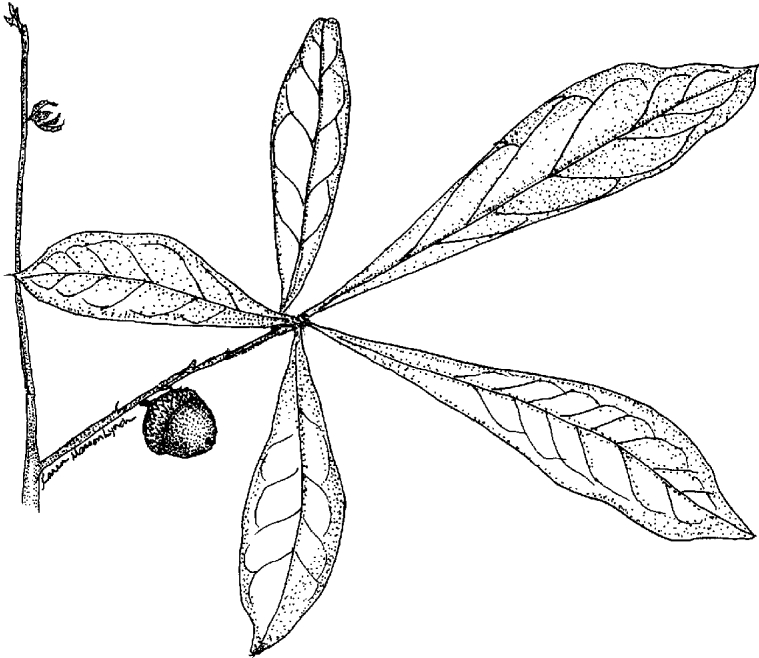
Habit: Medium to large tardily deciduous or semi-evergreen tree in which the leaves gradually drop in late autumn and winter.

Leaves: Alternate, narrowly ovate or oblanceolate leaves that often persist through winter. Leaves are thick with a lustrous surface, 3-9 cm long and 2-3 cm wide, usually with entire margins and blunt apices with a short bristle tip.

Flowers/fruit: Acorns are faintly striped with shallow bowl-like cups enclosing one third of the acorn.

Habitat: Floodplain forests, stream banks, swamps, bay forests in sandy soils of the coastal plain.

Field characteristics: Leaves are narrower and less leathery than live oak and wider than willow oak. Leaves of seedlings may be 3-lobed and differ greatly from typical tree leaves.



Overcup oak
Quercus lyrata Walt.

Family: Fagaceae

Beech Family

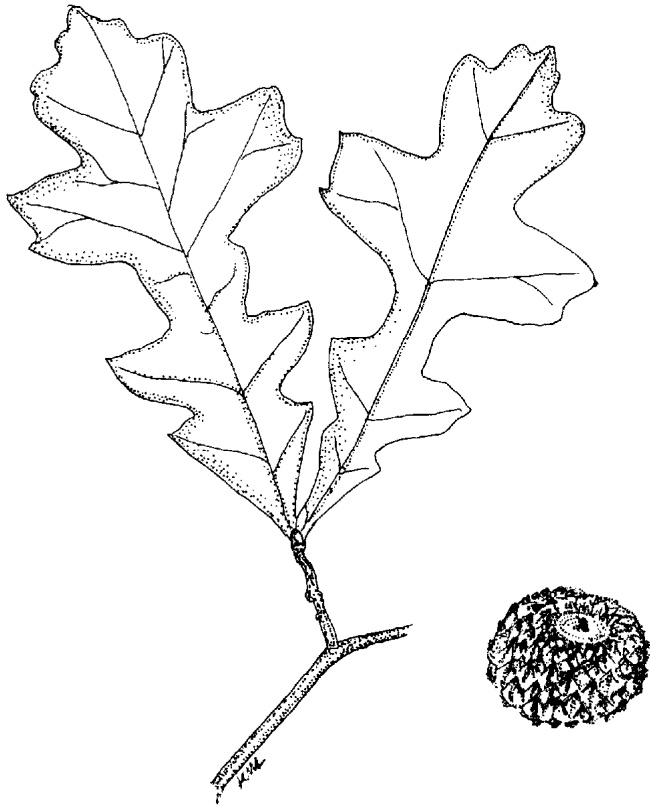
Habit: Medium to large deciduous tree up to 30 m tall.

Leaves: Alternate, usually 7-lobed and are obovate in general outline, although variable. Leaves are pale on the undersides and are 12-23 cm long and up to 12 cm wide.

Flowers/fruit: Acorns are globose or slightly flattened with the nut almost completely covered by a ragged scaly cup, earning the name, 'overcup.'

Habitat: Bottomlands, swamps, flood plains and ephemeral wetlands in the coastal plain and piedmont.

Field characteristics: Note lighter undersides of 7-lobed leaves and distinctive acorns when present. Leaves are quite narrow in the middle.



TREES

Common Wetland Plants of NC

Swamp chestnut oak
Quercus michauxii Nutt.

Family: Fagaceae

Beech Family

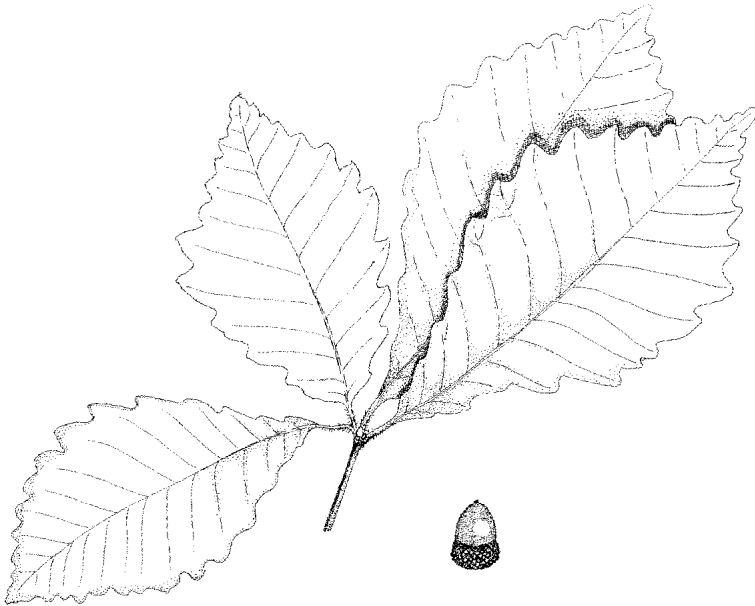
Habit: Medium to large deciduous tree, to 25 m, with thick branches projecting at sharp angles to form a round-topped crown.

Leaves: Alternate, obovate (in general outline) with crenate edges. Top of leaves dark green and undersides gray to rust-colored and may be pubescent. Leaf size variable, but commonly 18 cm long and 10 cm wide.

Flowers/fruit: Acorn is relatively large (about 3 cm long) with the cup enclosing one third of the nut.

Habitat: Floodplain forests, ephemeral wetlands, wet woods and lower slopes in the coastal plain and scattered localities in the piedmont.

Field characteristics: Distinctive crenate leaves. Similar to upland species of Chestnut oak, however, Swamp chestnut oak is found in wetlands. Swamp chestnut oak has light, grey, scaly bark.



Water oak
Quercus nigra L.

Family: Fagaceae

Beech Family

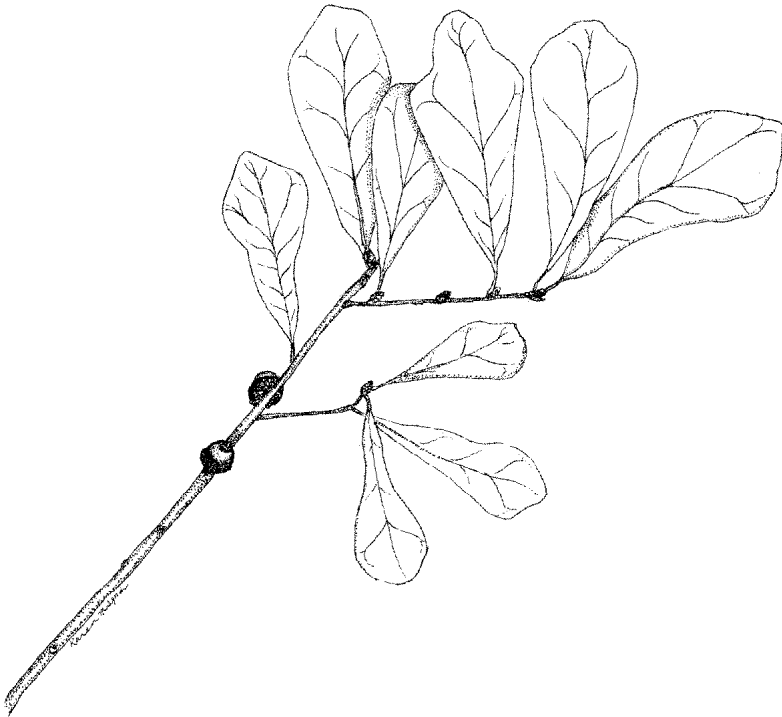
Habit: Medium sized tree, up to 25 m. Although deciduous, the leaves are slow to fall, extending into winter.

Leaves: Alternate, simple, club-shaped or 3-lobed and variable. Leaves are widest toward the tip, obovate in general outline and about 10 cm long.

Flowers/fruit: Dark, oval acorns are about 1 cm wide and only one third covered by the saucer-like cup. Inside, the cup is shiny-pubescent.

Habitat: Uplands, moist soils, wet flats, along side streams and bottomlands in the coastal plain and piedmont. Occasionally found in the easternmost mountains.

Field characteristics: Leaves pear shaped and may be tardily deciduous. Water oaks are similar to two other species (laurel and willow oaks) though the leaves are quite different.



Willow oak
Quercus phellos L.

Family: Fagaceae

Beech Family

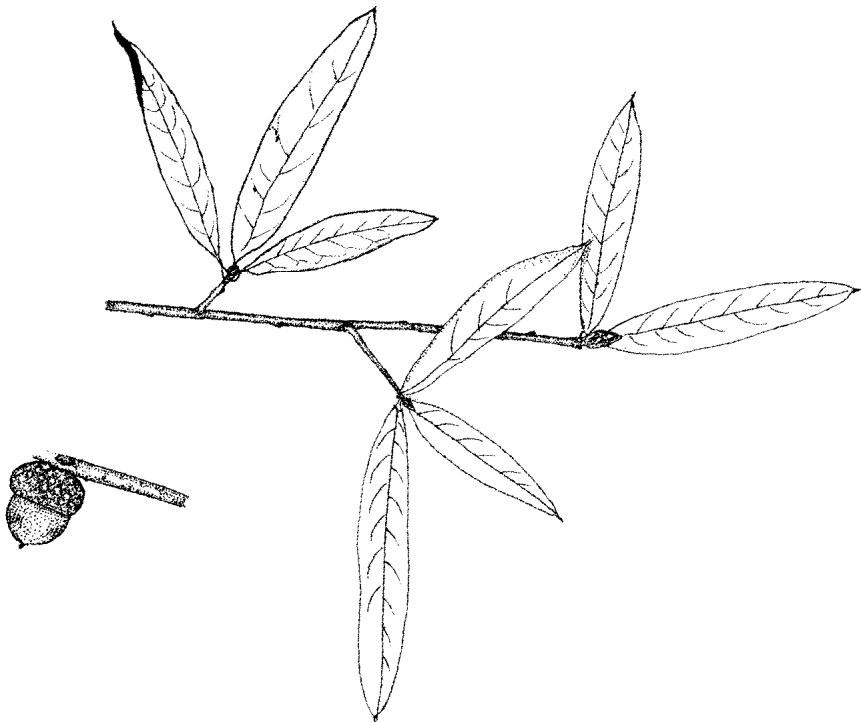
Habit: Medium to large deciduous tree, up to 30 m. May be semi-evergreen in southernmost localities.

Leaves: Alternate, entire, linear or linear-lanceolate with bristle tips. Leaves are up to 12 cm long and 3 cm wide, though typically leaves measure 9 cm long and less than 2 cm wide. Underside of leaf may have hairs on midrib.

Flowers/fruit: Acorn is yellowish or greenish brown, about 1 cm long with only the base of the nut enclosed by the cup.

Habitat: Floodplains, forested wetlands and ephemeral wetlands in the coastal plain and piedmont.

Field characteristics: "Willow-like" leaves tapering at both ends.



TREES

Common Wetland Plants of NC

Loblolly pine
Pinus taeda L.

Family: Pinaceae

Pine Family

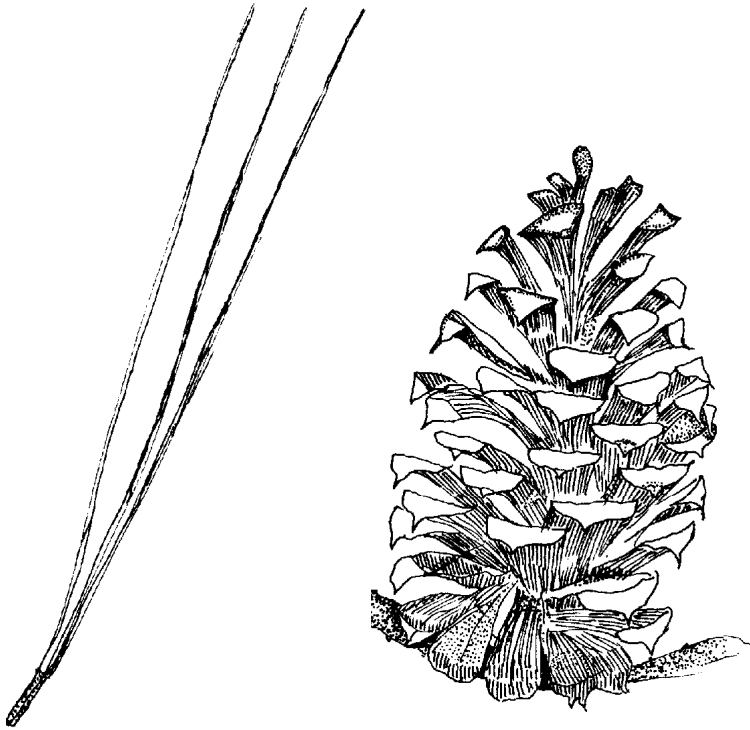
Habit: Medium to large evergreen tree.

Leaves: Needles occur in fascicles of 3 and are 15-20 cm long.

Flowers/fruit: Female cones remain on the tree for 3 years and are brown and prickly. Less conspicuous male cones found at the end of branches bear pollen.

Habitat: Wet flats, old fields, in the coastal plain and piedmont of NC; very tolerant of moisture range, though scarce in deep sands.

Field characteristics: Often called 'old field pine' because of its tendency to invade abandoned fields. Cones are approximately twice as long as wide.



Longleaf pine
Pinus palustris Mill.

Family: Pinaceae

Pine Family

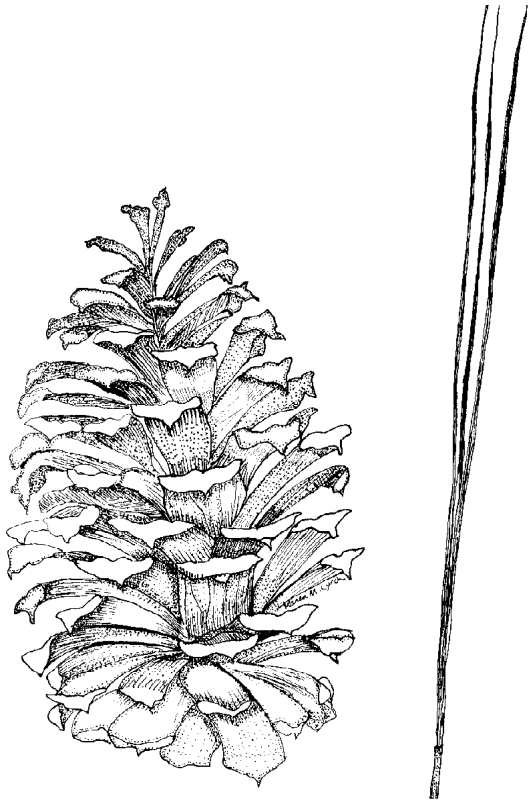
Habit: Elegant tall evergreen tree. Seedlings resemble clumps of grass.

Leaves: Long needles, 25-40 cm in fascicles of 3. Needles arranged in dense tufts near the ends of thick branches.

Flowers/fruit: Cones are large, 20-45 cm long and brown and prickly.

Habitat: Sandy soil in the coastal plain and adjacent piedmont; most numerous in dry sands, but ranges to wet soils (savannas).

Field characteristics: Long, graceful needles and large cones help to distinguish this from other pines. This is a long-lived tree that formerly covered extensive areas of the southeastern U.S. Longleaf pine thrives when periodic fires burn over its habitat.



Pond pine
Pinus serotina Michx.

Family: Pinaceae

Pine Family

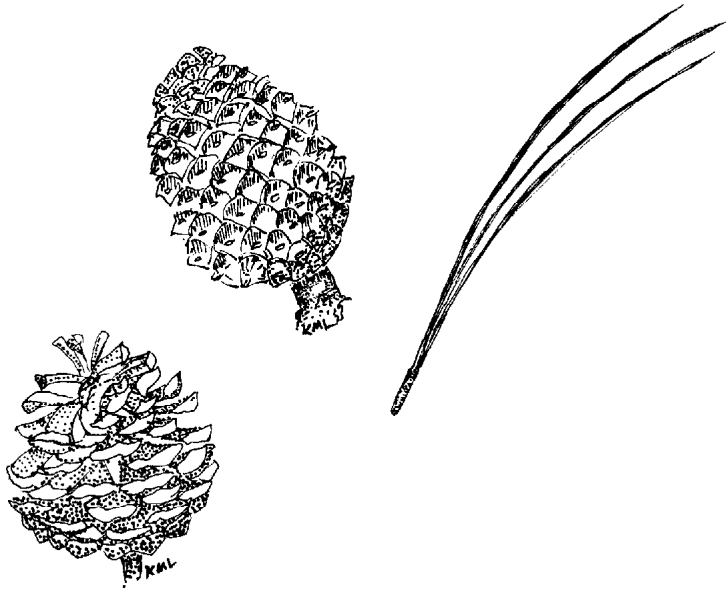
Habit: Medium sized evergreen tree, with a gnarled appearance.

Leaves: Needles are 10-20 cm long in clusters of 3 (mostly) or 4.

Flowers/fruit: Top-shaped closed cones remain on the tree for several years.

Habitat: Abundant in pocosins and found in wet flats along lake edges, mainly in the coastal plain.

Field characteristics: Tufts of twigs and needles are often found growing from the trunks, especially after fires. Of the pines, Pond pine is the most tolerant of wet conditions. Easily confused with Loblolly pine, but best distinguished by rounded cones that are almost as wide as long.



White pine
Pinus strobus L.

Family: Pinaceae

Pine Family

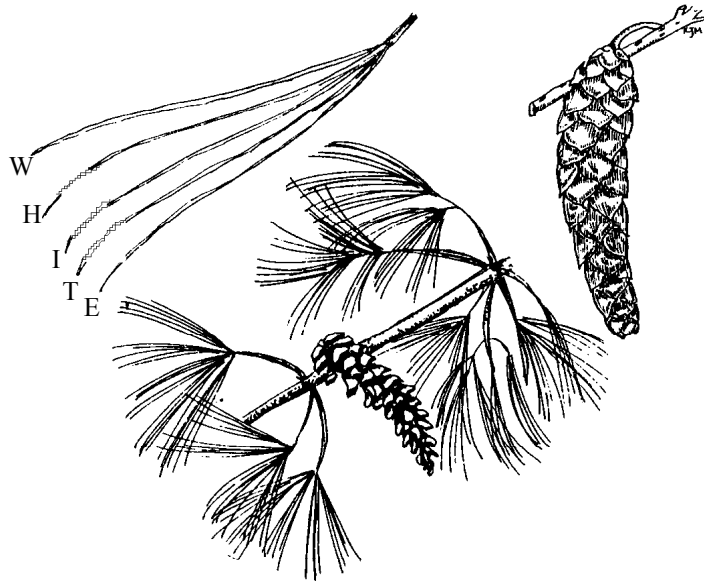
Habit: Attractive, medium to tall evergreen tree with whorled horizontal branches.

Leaves: Five bluish-green needles per bunch, measuring 8-12 cm long.

Flowers/fruit: Long, slender cones are without spines and are 10-15 cm long. Cones are connected by a long stalk.

Habitat: Mostly found in the mountains and at scattered localities in the piedmont, mainly on mesic to moist, cool slopes.

Field characteristics: Whorled branching pattern, long slender cones. This pine's needles spell the name, 'white' with 5 needles per bunch.



Persimmon
Diospyros virginiana L.

Family: Ebenaceae

Ebony Family

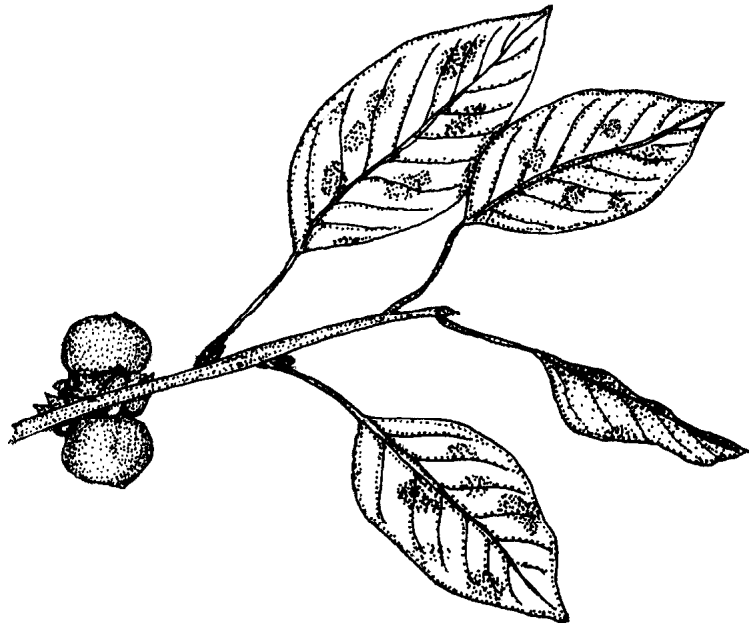
Habit: Small to medium tree up to 16 m.

Leaves: Alternate, ovate to elliptic leaves to 15 cm long, often with black splotches.

Flowers/fruit: Male (yellow) and female (green) flowers occur on separate trees. Male flowers grow in clusters of 2-3 and female flowers occur singly. Persimmon fruit is orange and 2-4 cm wide.

Habitat: Forested wetlands, wet fields, dry woodlands, most common in the piedmont, also present in the mountains and coastal plain.

Field characteristics: Distinctive, blocky 'alligator skin' bark. Contains 1 bundle scar when the leaf is pulled away from the stem, whereas similar blackgum has 3 bundle scars. Pith of twigs is solid or sometimes chambered. Before fruits are mature, they are very sour-bitter. Usually after the first frost, persimmon fruits are edible.



Redbay
Persea borbonia (L.) Spreng.

Family: Lauraceae

Laurel Family

Habit: Medium sized evergreen tree or shrub to 22 m tall.

Leaves: Alternate, entire leaves contain red hairs on undersides. Leaves typically contain prominent galls as pictured below on leaf edges. Leaves as big as 12 cm long, 6 cm wide.

Flowers/fruit: Small inconspicuous white flowers, later form spherical green berries which turn blue-black upon maturity.

Habitat: Low woods, swamps, bay forests and moist sandy areas mainly in the coastal plain and lower piedmont.

Field characteristics: Leaves are aromatic when crushed and can be used in cooking (bay leaves).



Sourwood
Oxydendrum arboreum (L.) D.C.

Family: Ericaceae

Heath Family

Habit: Small tree, usually leaning, wood is fairly weak. Stems are often brown on upper surface and green underneath.

Leaves: Alternate, simple, long elliptic and finely toothed. Undersides of leaves have small hairs along the midrib. Leaves 8-20 cm long and 3-7 cm wide. Leaves are shiny-green and turn showy crimson-red in the fall.

Flowers/fruit: White, attractive, 'urn' shaped flowers in downward panicles on one side of the stem. The fruit capsules, which contain many small seeds are upright on the stem.

Habitat: Dry woods, slopes and streambanks throughout the state, although absent from the southernmost portion of the outer coastal plain.

Field characteristics: Trunk is usually oblong in cross section, rather than round. Leaves and twigs are bitter-sour as the common name implies, however, the honey produced by bees using the sourwood flower is highly regarded.



Sweetbay (magnolia)
Magnolia virginiana L.

Family: Magnoliaceae

Magnolia Family

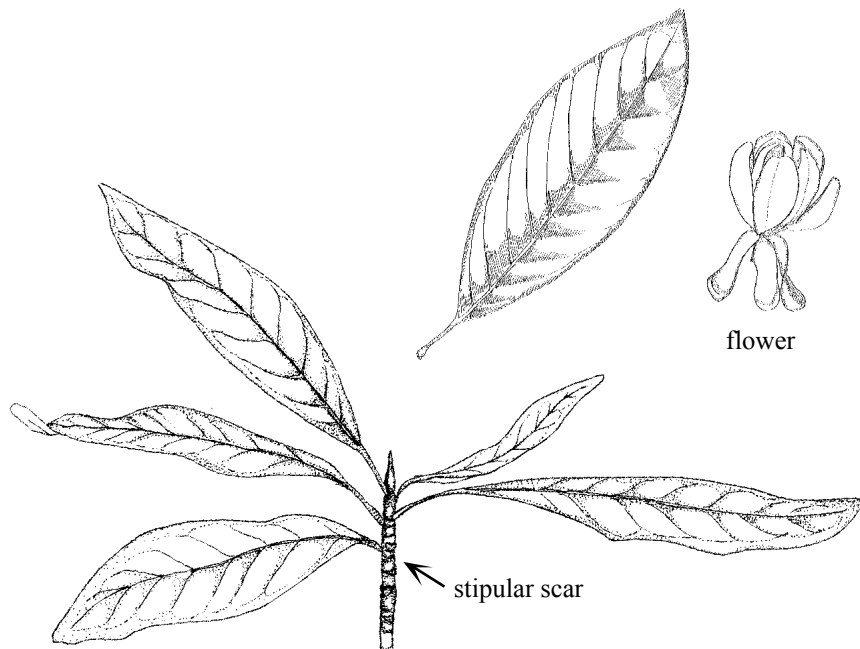
Habit: Evergreen or semi-evergreen tree or shrub to 20 m. In the northern portion of its range, sweetbay is deciduous.

Leaves: Alternate, entire, long and elliptical or oblong, tapering at the base of the leaf. Leathery leaves are 6-15 cm long and 2-6 cm wide with white undersides.

Flowers/fruit: Typical 'magnolia' flowers with 9-12 white petals; fragrant. Fruit is a dark red cone, 5 cm long.

Habitat: Wet flatwoods, swamps, bay forests and savannas in the coastal plain. Occasionally found in the piedmont in moist sandy areas.

Field characteristics: Sweetbay is similar to redbay, however, sweetbay leaves are not aromatic and have white undersides. Note stipular scar which encircles twig and is characteristic of members of this family. Long terminal bud is distinctive.



Sweetgum
Liquidambar styraciflua L.

Family: Hamamelidaceae

Witch Hazel Family

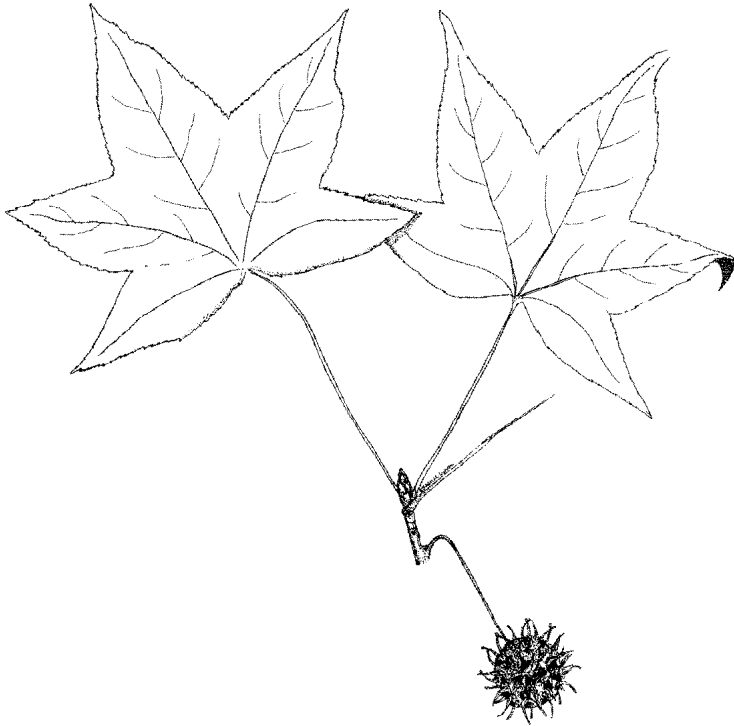
Habit: Medium to large deciduous tree, to 40 m. Corky growth frequently appears on branches.

Leaves: Alternate, palmately lobed (star-shaped) serrated leaves, measuring about 15 cm long by 11 cm wide. Leaves turn wine-burgundy in the fall.

Flowers/fruit: Fruiting clusters are spherical, woody, spiny, 'gum balls,' 2-3 cm wide. The gum balls hang like ornaments and persist during winter.

Habitat: Swampy woodlands, moist uplands and old fields. Common throughout NC in a wide range of soil conditions although absent at higher elevations.

Field characteristics: Distinctive, ridged corky growth often appears on twigs. Star-shaped leaves and prickly gum balls are key features of this nearly unmistakable tree.



Sycamore
Platanus occidentalis L.

Family: Platanaceae

Sycamore Family

Habit: Large deciduous tree to 50 m. Bark on older trees is white and plate-like, often very flaky.

Leaves: Alternate, toothed leaves up to 25 cm long and wide. Leaf petiole has a swollen base and crown-like stipules are present at the point of attachment.

Flowers/fruit: The brown spherical fruiting 'head' is 2-3 cm in diameter, contains many seeds and persists through winter. Seeds are released in spring.

Habitat: Flood plains, low moist woods, edges of lakes and streams throughout NC.

Field characteristics: Bark on older trees forms a beautiful mottled patchwork of white, gray, green and yellow. Upper bark of older trees is strikingly white.



Tulip poplar, yellow poplar, tulip tree
Liriodendron tulipifera L.

Family: Magnoliaceae

Magnolia Family

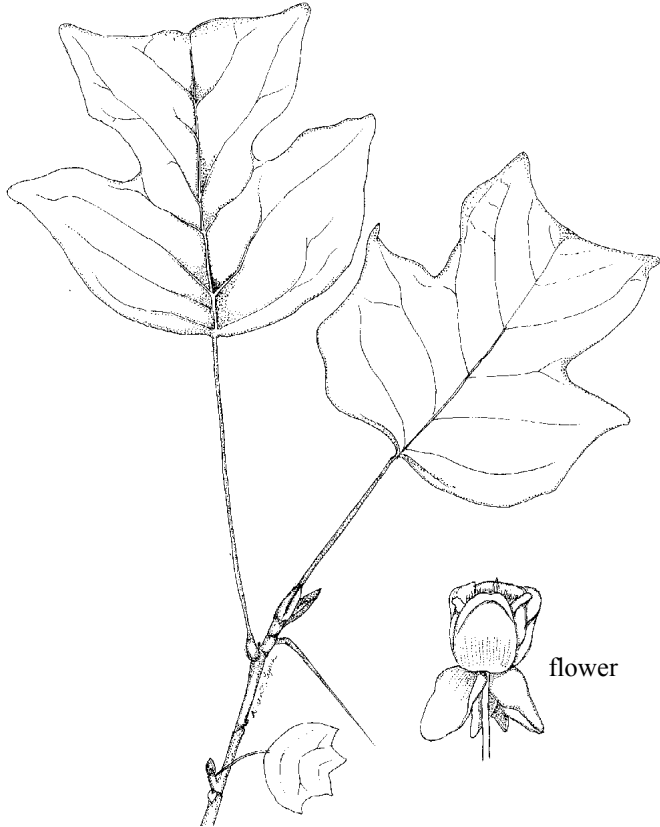
Habit: Large deciduous tree to 55 m, with a towering straight trunk and a pointed crown.

Leaves: Alternate, simple, 4-lobed (or 6-lobed) leaves on long petioles.

Flowers/fruit: Flower has 9 petals and is tulip-shaped. Flowers are yellowish-green with a splash of orange. Fruiting cones (aggregate of samaras) persist through winter.

Habitat: Low woods, stream sides, rich moist uplands throughout NC.

Field characteristics: As is characteristic of the magnolia family, the stipular scars (former attachment area of the stipule) completely encircle twigs. Tall straight trunk is a key feature to identifying this species.



TREES

Common Wetland Plants of NC

Black willow
Salix nigra Marsh.

Family: Salicaceae

Willow Family

Habit: Deciduous, small tree, up to 15 m high.

Leaves: Alternate, finely toothed, narrowly lanceolate or sickle-shaped leaves, 12 cm long and 1-2 cm wide. Leaves are dark green and shiny with stipules sometimes present at base of leaves.

Flowers/fruit: Male and female flowers on separate catkins. Fruit is a pod-bearing-seed which is attached to a cottony mass for easy seed dispersal.

Habitat: Along streams, wet woodlands, fresh marshes, swamps and floodplains throughout the state although absent in high mountain elevations.

Field characteristics: Twigs in winter are conspicuously red, yellowish or green. Willow is popular for use in stream restoration projects as this tree roots easily.



SHRUBS		WETLAND STATUS
Alder, Tag	<i>Alnus serrulata</i>	FACW
Blueberry	<i>Vaccinium corymbosum</i>	FACW
Buckeye	<i>Aesculus sylvatica</i>	FAC
Buttonbush	<i>Cephalanthus occidentalis</i>	OBL
Chokeberry, Red	<i>Aronia arbutifolia</i>	FACW
Dog-Hobble, Coastal	<i>Leucothoe axillaris</i>	FACW
Dog-Hobble, Swamp	<i>Leucothoe racemosa</i>	FACW
Dogwood, Silky	<i>Cornus amomum</i>	FACW+
Elderberry	<i>Sambucus canadensis</i>	FACW-
Fetterbush	<i>Lyonia lucida</i>	FACW
Hearts-a-burstin'	<i>Evonymus americana</i>	FAC-
Horse sugar	<i>Symplocos tinctoria</i>	FAC
Hollies		
Deciduous holly	<i>Ilex decidua</i>	FACW-
Inkberry; Bitter gallberry	<i>Ilex glabra</i>	FACW
Sweet gallberry; Inkberry	<i>Ilex coriacea</i>	FACW
Winterberry	<i>Ilex verticillata</i>	FACW
Marsh elder	<i>Iva frutescens</i>	FACW+
Pawpaw, Common	<i>Asimina triloba</i>	FAC
Privet, Chinese	<i>Ligustrum sinense</i>	FAC
Rhododendron; Great laurel	<i>Rhododendron maximum</i>	FAC-
Sea ox-eye	<i>Borrchia frutescens</i>	OBL
Silverling; Groundsel tree	<i>Baccharis halimifolia</i>	FAC
Spicebush	<i>Lindera benzoin</i>	FACW
Swamp rose	<i>Rosa palustris</i>	OBL
Sweet pepperbush	<i>Clethra alnifolia</i>	FACW
Ti-ti	<i>Cyrilla racemiflora</i>	FACW
Viburnums		
Black haw	<i>Viburnum prunifolium</i>	FACU
Poosum haw	<i>Viburnum nudum</i>	FACW+
Southern arrowwood	<i>Viburnum dentatum</i>	FAC
Virginia-willow	<i>Itea virginica</i>	FACW+
Wax-myrtle	<i>Myrica cerifera</i>	FAC+
Bayberry	<i>Myrica heterophylla</i>	FACW



Tag alder
Alnus serrulata (Ait.) Willd.

Family: Betulaceae

Birch Family

Habit: Multiple stemmed deciduous shrub up to 5 m in height. Twigs rusty and pubescent, later becoming smooth.

Leaves: Alternate, ovate or obovate shaped with toothed margins. Leaves are 6-10 cm long and 2.5-5 cm wide.

Flowers/fruit: Both male and female flowers occur on shrub and are on stalks. Female 'flowers' or catkins appear as miniature 'pine cones'. The male catkins are initially short and eventually become dangling.

Habitat: Streambanks, freshwater marshes, and swamps throughout NC.

Field characteristics: Both female 'cones' and male catkins (fruits) persist through winter.



Highbush blueberry
Vaccinium corymbosum L.

Family: Ericaceae

Heath Family

Habit: Deciduous shrub up to 4 m tall with trailing stems.

Leaves: Alternate, elliptical with entire or finely toothed edges.

Flowers/fruit: Clusters of small white or pink urn shaped flowers (usually less than 1 cm long). Blueberries are produced in late spring.

Habitat: Swamps, forested wetlands, sometimes upland woods. Found in the lower piedmont and coastal plain.

Field characteristics: Look for 'urn' shaped flowers or blueberries, characteristic of this family. *Gaylussacia* spp. are very similar, but contain yellow dots of resin on the undersides of the leaves.



Buckeye, Painted buckeye
Aesculus sylvatica Bartr.

Family: Hippocastanaceae

Buckeye Family

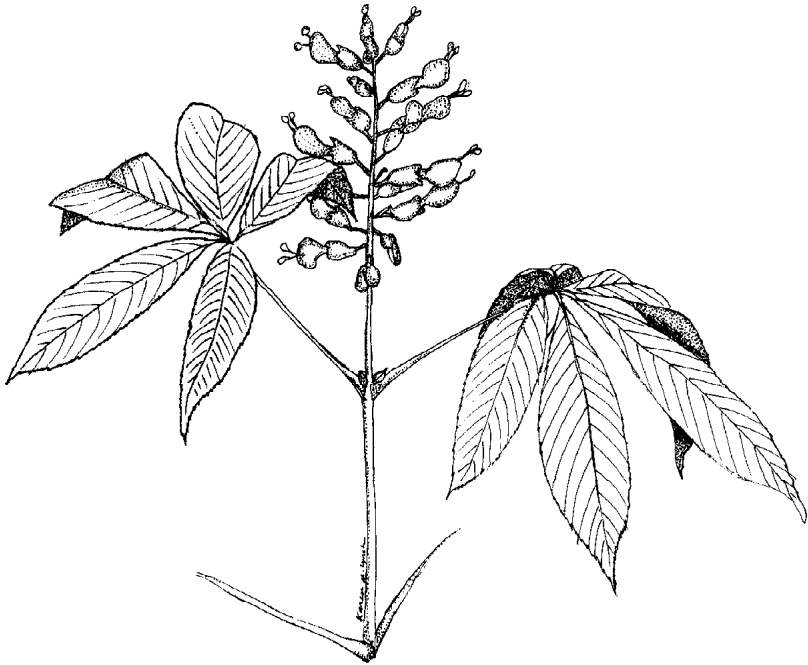
Habit: Deciduous understory shrub up to 3 m tall, rarely to 10 m.

Leaves: Oppositely arranged, palmately compound leaves with 5-7 leaflets. Leaflets are 8-20 cm long and 3-7 cm wide. Leaflet shape is lanceolate or obovate.

Flowers/fruit: Tubular flowers are cream, yellow or pink on a stalk. Buckeye seeds are produced inside thick capsule.

Habitat: Rich woods, river banks and floodplains, mainly in the piedmont.

Field characteristics: This shrub is usually the first to leaf out in early spring and also the first to drop leaves in the fall. The 'buckeye' seed produced is reputed to be a good luck charm, however, it is poisonous to humans if ingested.



Buttonbush
Cephalanthus occidentalis (L.)

Family: Rubiaceae

Madder Family

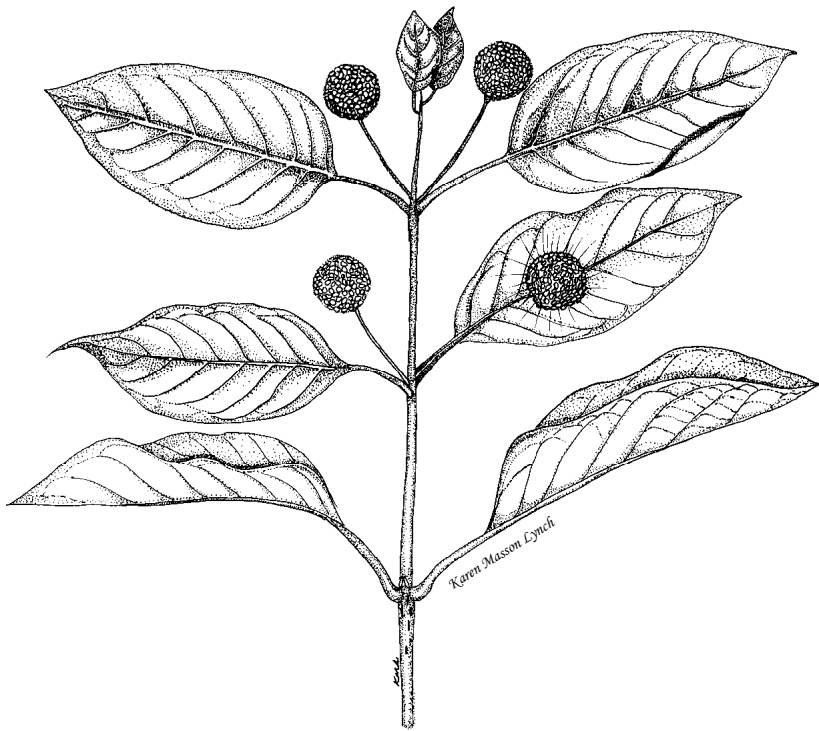
Habit: Deciduous shrub, 1-3 m tall.

Leaves: Opposite or whorled and entire. Broad leaves are ovoid to elliptic, with pointed ends. Leaves 7-15 cm long, 3-10 cm broad.

Flowers/fruit: Flowers are small white tubes, formed on globose heads about 3 cm in diameter. Clusters appear as balls or 'buttons' following summer flowering period.

Habitat: Perimeter of lakes, ponds, freshwater marshes, forested wetlands, along streams throughout NC, but less frequent in the mountains.

Field characteristics: Twigs have raised elongated lenticels. A brown triangular membrane is present between petioles. Spherical 'buttons' persist through winter. Early settlers were said to have used the buttons in clothing. When flowering, butterflies are strongly attracted.



SHRUBS

Common Wetland Plants of NC

Red chokeberry
Aronia arbutifolia (L.) Pers.

Family: Rosaceae

Rose Family

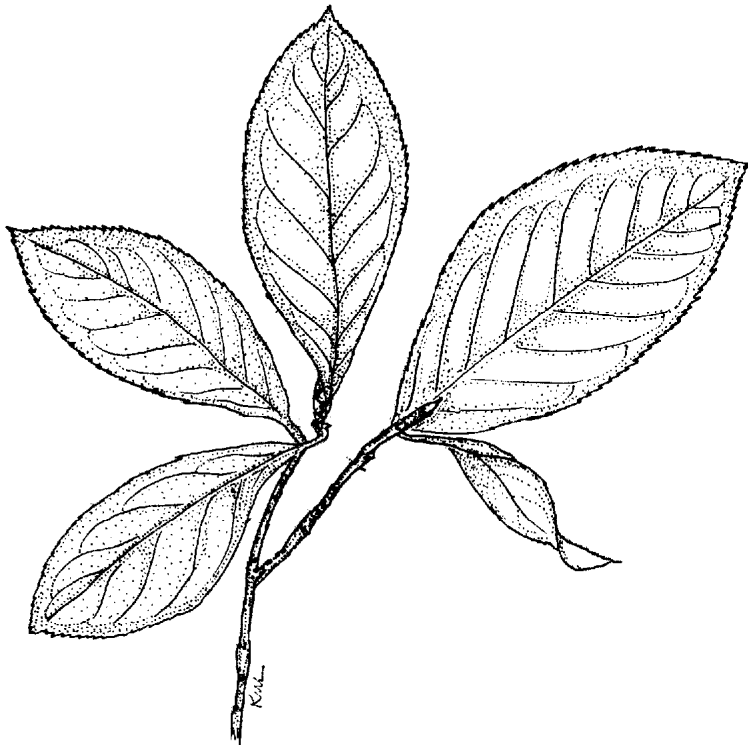
Habit: Deciduous shrub, 2-3 m in height. This shrub spreads by rhizomes and often forms dense colonies.

Leaves: Alternate, simple, elliptical leaves with finely toothed margins. Leaves are 4-10 cm long and 2-4 cm wide. Leaves contain minute reddish brown trichomes along midrib vein.

Flowers/fruit: A cluster of small pinkish-white 5-petaled flowers are produced on the ends of branches. Fruit is a red berry-like pome.

Habitat: Low woodlands, pine savannas, creek banks, seepage slopes and swamps.

Field characteristics: Red fruits persist in the winter and leaves are burgundy in fall.



Coastal dog-hobble
Leucothoe axillaris (Lam.) D. Don

Family: Ericaceae

Heath Family

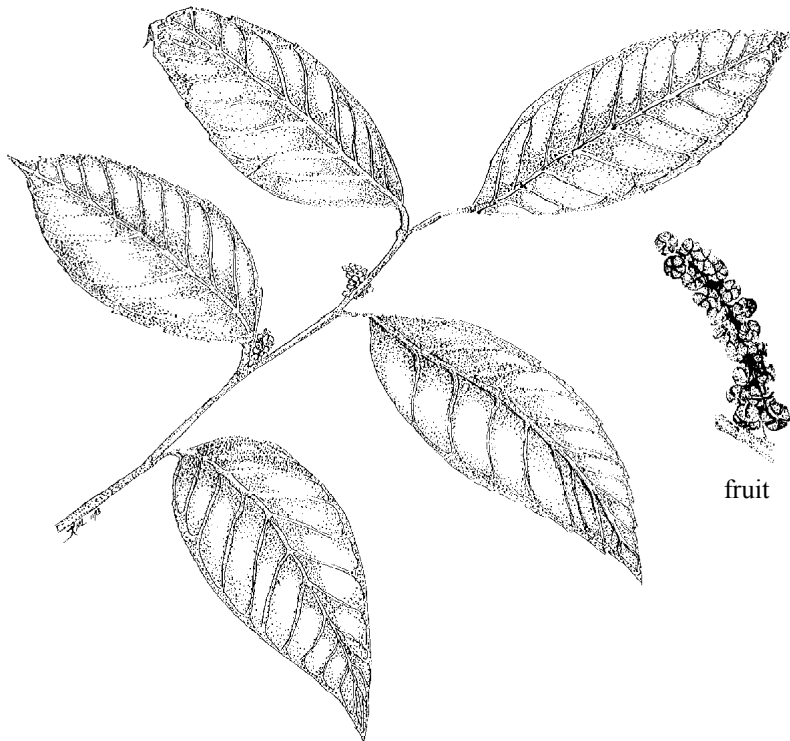
Habit: Low evergreen shrub with loose arching branches, up to 1.5 m tall.

Leaves: Alternate lanceolate to elliptic shaped leaves with toothed margins.
Leaves 5-13 cm long, 2-5 cm broad.

Flowers/fruit: Whitish 'urn' shaped flowers in racemes, originating from the axis.
Racemes typically consist of more than 15 flowers. Fruit is illustrated below.

Habitat: Wet woodlands and depressions, flood plains and streambanks, mainly in the coastal plain.

Field characteristics: Trailing branches with alternate evergreen leaves, usually in knee-high colonies in floodplain forests. Capsule (fruit) a distinctive dark brown sphere with 5-lobed sutures. Thick evergreen stands of this plant were said to make hunting dogs hobble, hence the common name.



Swamp dog-hobble
Leucothoe racemosa (L.) Gray

Family: Ericaceae

Heath Family

Habit: Deciduous shrub reaching up to 4 m, but typically smaller.

Leaves: Alternate, elliptical, finely toothed leaves. Size varies greatly on branches. Leaves 3-9 cm long, 1-4 cm wide.

Flowers/fruit: White 'urn' shaped flowers on straight or slightly arching racemes which may be as long as 9 cm. Fruit is a dark brown capsule with 5 sutures.

Habitat: Swamps, cypress-gum depressions, along shorelines, mainly in the coastal plain and lower piedmont.

Field characteristics: Distinctive fruit capsules arranged in racemes (as species name implies). Difficult to identify if flowers or fruits are absent.



SHRUBS

Common Wetland Plants of NC

Silky dogwood
Cornus amomum P. Mill

Family: Cornaceae

Dogwood Family

Habit: Deciduous shrub reaching up to 5 m.

Leaves: Opposite, entire, ovate or elliptical shaped leaves with typical dogwood venation. Leaves are up to 10 cm long and 7 cm wide.

Flowers/fruit: Flat-topped cyme, which produce blue drupes (berry-like fruits).

Habitat: Marshes, swamp forests, along rivers and streams mainly in the piedmont and mountains. Occasionally found in the coastal plain.

Field characteristics: Pith of second year growth is brown, whereas the pith of *Cornus stricta* (swamp dogwood - more coastal) is white.



SHRUBS

Common Wetland Plants of NC

Elderberry
Sambucus canadensis L.

Family: Caprifoliaceae

Honeysuckle Family

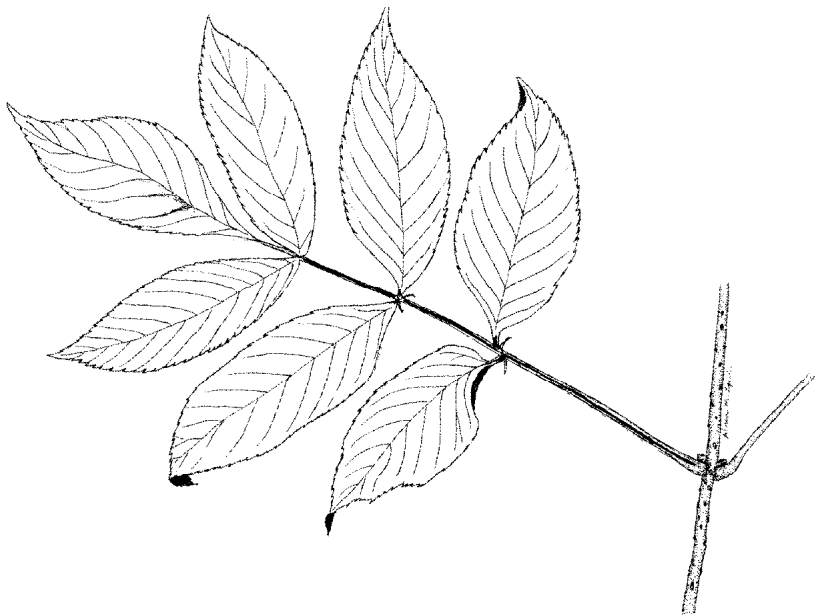
Habit: Deciduous shrub up to 4 m tall. Contains multiple stems with white, spongy or hollow pith.

Leaves: Opposite and pinnately compound with 5-11 leaflets (usually 7). Leaflet edges contain toothed margins. Sometimes the lower leaflets are divided into 3 parts. Width of leaflets is variable from 5-15 cm long by 2-6 cm wide. Leaflets may contain small stipule-like tissue at point of attachment. Stipule is present at leaf base.

Flowers/fruit: Inflorescence consists of a dense flat topped or gently rounded cyme clustered with small white 5-petaled flowers. Fruit is a purple berry.

Habitat: Common in open areas including freshwater marshes, swamps, alluvial forests, wet pastures and is opportunistic in disturbed sites. Found statewide.

Field characteristics: Distinctive raised lenticels on bark, opposite compound leaves. Fruit is edible and is used in preserves, wine and in other food, however the rest of the plant is poisonous if consumed.



Fetterbush
Lyonia lucida (Lam.) K. Koch

Family: Ericaceae

Heath Family

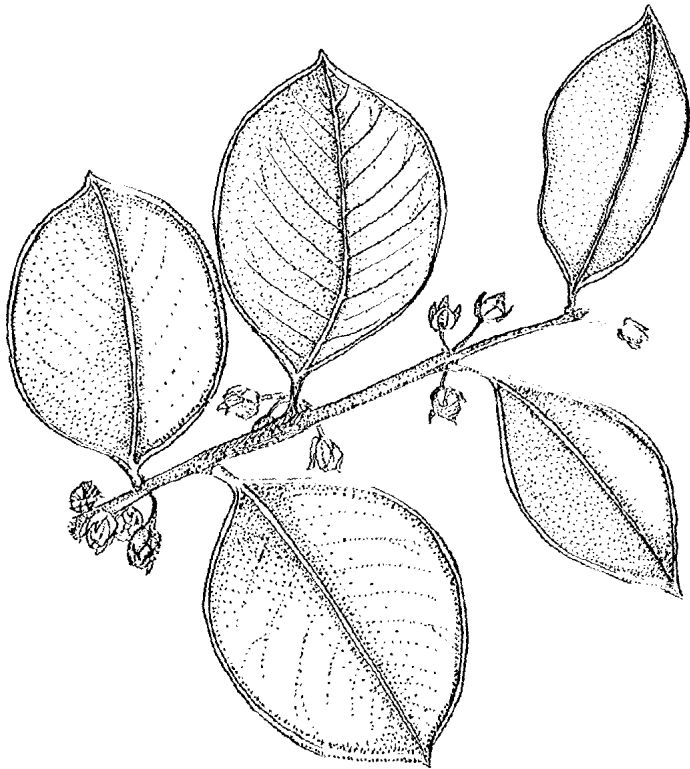
Habit: Small evergreen shrub, although may reach as high as 3 m. Usually colonial in nature.

Leaves: Leathery, dark green leaves with smooth, entire margins. Leaves generally elliptical and are 3-9 cm long by 1-4 cm wide on flattened branches.

Flowers/fruit: Beautiful when flowering. Clusters of pinkish (sometimes white) 'urn' shaped flowers arising from axis. Fruit is an oval capsule, about 5 mm long.

Habitat: Usually found where surface water is present most of the year in pocosins, pine flats, savannas and bay forests mainly in the coastal plain.

Field characteristics: Note shiny evergreen leaves with prominent mid-vein. Veins also encircling leaf margins is very characteristic. Branches are distinctly flattened below nodes.



Hearts-a-burstin', Strawberry bush
Evonymus americana L.

Family: Celastraceae

Bittersweet Family

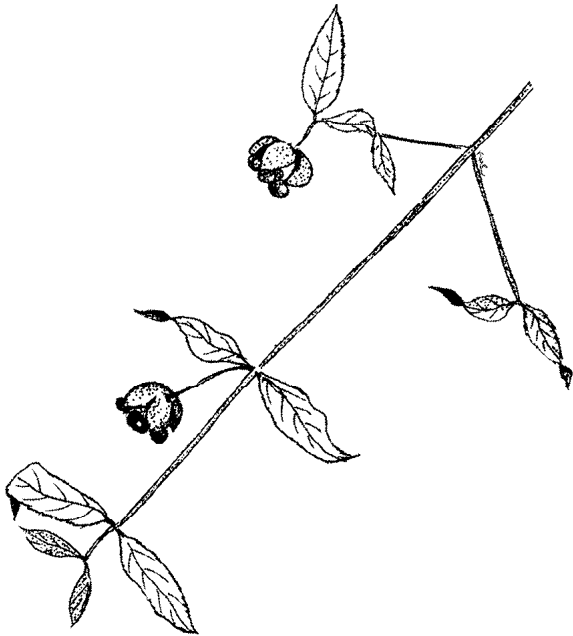
Habit: Small deciduous shrub to 2 or 3 m, but most commonly 1 m.

Leaves: Opposite, serrated, lanceolate leaves. Deciduous leaves are slow to drop, sometimes lasting until early winter.

Flowers/fruit: Small light green, 5-petaled flowers. Fruit is a bumpy lobed reddish sphere which splits into 3-5 sections, exposing red seeds.

Habitat: Stream banks, slopes, rich woodlands throughout NC.

Field characteristics: Green, 4-sided branches, attractive fruits distinctive and appearing like strawberries or bursting hearts as the common names imply. Although this genus has long been referred to as *Euonymus*, it was recently renamed to its original name, *Evonymus*, which was miscopied as *Euonymus*.



Horse-sugar, Sweetleaf
Symplocos tinctoria (L.) L'Her.

Family: Symplocaceae

Sweetleaf Family

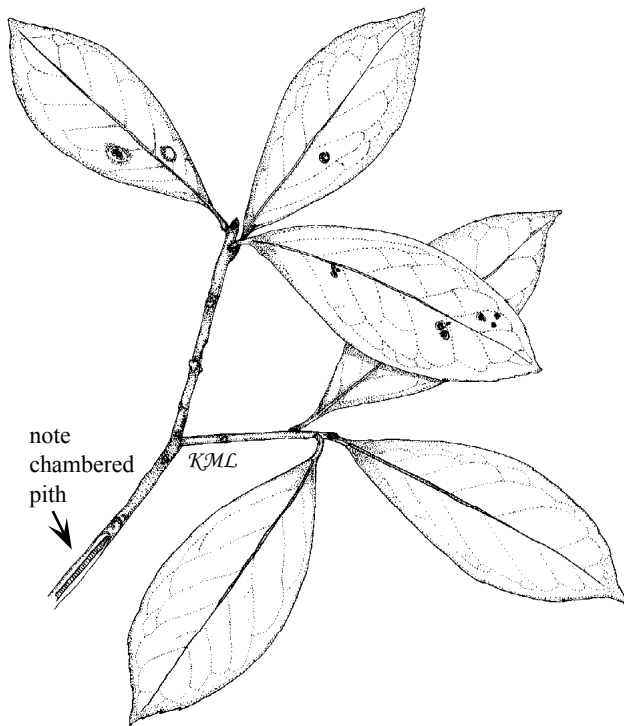
Habit: Shrub or small tree reaching 8 m in height. Horse-sugar is tardily deciduous with leaves persisting into winter and a few still into spring.

Leaves: Alternate, elliptical or oblanceolate, often with red or purplish blotches. Edges of leaves have minute serrations. Undersides of leaves have peach-like fuzz.

Flowers/fruit: Yellow, fragrant petal-less flowers with many stamens in spherical clusters close to stem. Fruit is an oblong green drupe.

Habitat: Rich woods, ravines, floodplain and bottomland forests, pine flats, sandy thickets, mainly in the coastal plain.

Field characteristics: As the common name implies, the leaves taste sweet when chewed and are therefore a favorite of ungulates. This is a monotypic genus - the only genus and species in the sweetleaf family. Often wrongly identified as mountain laurel in some areas.



Deciduous holly, Possum haw
Ilex decidua Walt.

Family: Aquifoliaceae

Holly Family

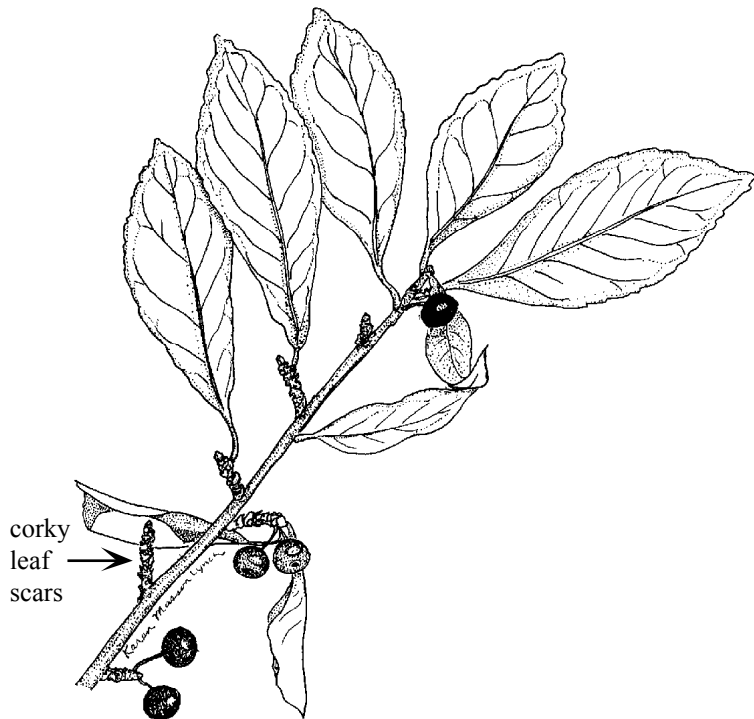
Habit: Large deciduous shrub or small understory tree, reaching 10 m.

Leaves: Elliptic to obovate, with create margins, 3-5 cm long and 1-3 cm wide.

Flowers/fruit: Fruit is a red spherical drupe that persists after leaves fall.

Habitat: Floodplain forests and along creeks and uplands, chiefly in the piedmont.

Field characteristics: Corky leaf scars on twigs are distinctive as illustrated below.



Bitter gallberry, Inkberry
Ilex glabra (L.) Gray

Family: Aquifoliaceae

Holly Family

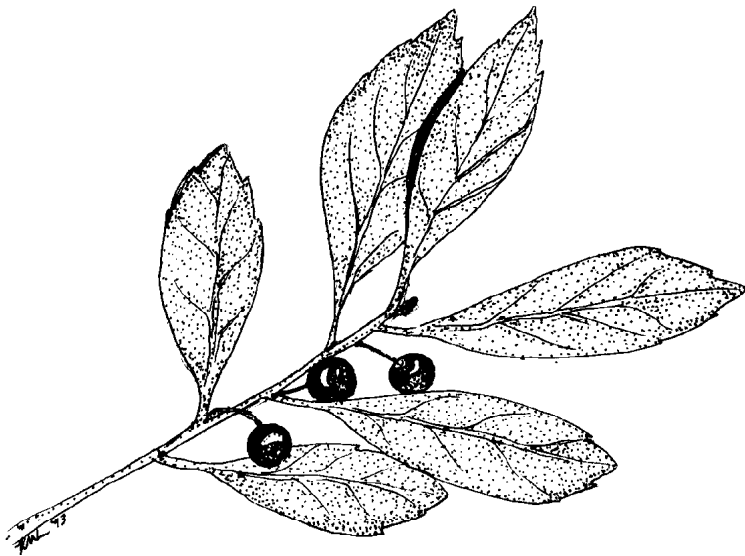
Habit: Evergreen colonial shrub to 2 or 3 m tall.

Leaves: Elliptic to obovate or oblanceolate leathery green leaves. Leaves are 2-5 cm long and 1-2 cm wide. Leaves are pointed at the tips and have a pair of teeth pointing toward the apex. The undersides of leaves contain scattered punctate reddish glands.

Flowers/fruit: Fruit is a black spherical 'berry-like' drupe when mature.

Habitat: Pine savannas, flatwoods, pocosins, bay forests. Mainly a coastal plain species.

Field characteristics: Fruits (drupes) persistent throughout winter. Fruits from 'inkberry' have been used for producing ink. Leathery, evergreen leaves are narrower than those of *I. coriacea*. Stipules at the base of the leaves are dark-brown and obvious.



Sweet gallberry, Inkberry
Ilex coriacea (Pursh) Chapm.

Family: Aquifoliaceae

Holly Family

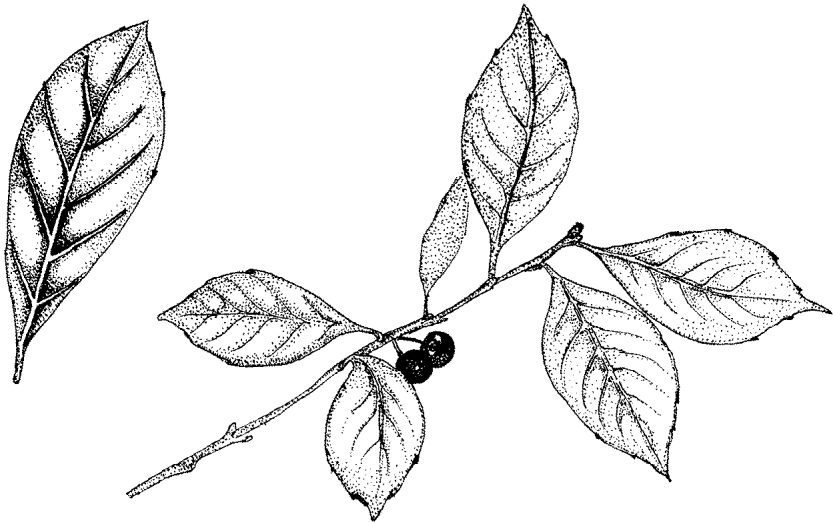
Habit: Evergreen shrub up to 5 m tall.

Leaves: Alternate, leathery elliptical or obovate leaves, with bristle-like teeth usually covering the upper half of the leaf margin. Leaves are 4-9 cm long and 1.5-4 cm wide.

Flowers/fruit: Fruit is a shiny black, globose drupe which drops off when mature.

Habitat: Pocosins, bay forests, pine savannas and flatwoods in the coastal plain.

Field characteristics: Similar to *I. glabra*, but generally a taller plant and with wider leaves. The last pair of bristles are not paired as in *I. glabra*.



Winterberry
Ilex verticillata (L.) Gray

Family: Aquifoliaceae

Holly Family

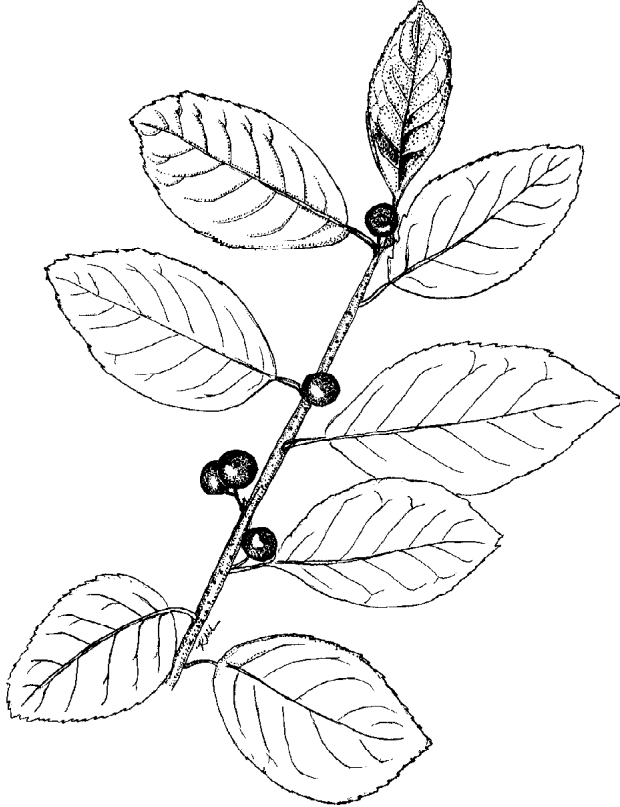
Habit: Large deciduous shrub ranging from 1-4 m.

Leaves: Elliptical to obovate 4-10 cm long and 2-5 cm wide. Margins are serrated and leaf surfaces are rough (pubescent) with depressed veins. A pair of small black stipules occur at the leaf base.

Flowers/fruit: The fruit is a drupe which appears as a bright red spherical berry; it may persist into the winter.

Habitat: Swamps, alongside streams and wet woodlands, scattered across the state.

Field characteristics: Lenticels (dots) on branches and striking, red, berry-like drupes are distinctive. All hollies have small black stipules at the leaf bases.



Marsh elder
Iva frutescens (L.)

Family: Asteraceae

Composite or Aster Family

Habit: Dense shrub with many branches, 1-2 m tall.

Leaves: Opposite, (except in flowering branchlets), elliptic to lanceolate fleshy leaves which measure 3-8 cm long and 0.5 to 2 cm wide.

Flowers/fruit: Greenish flowers occur in terminal spikes 3-10 cm long.

Habitat: Brackish marshes, estuarine shores, mud flats and vacant lots in the outer coastal plain.

Field characteristics: Terminal spikes of fruits with dark brown nutlets persist through winter.



SHRUBS

Common Wetland Plants of NC

Common pawpaw
Asimina triloba (L.) Dunal

Family: Annonaceae

Custard Apple Family

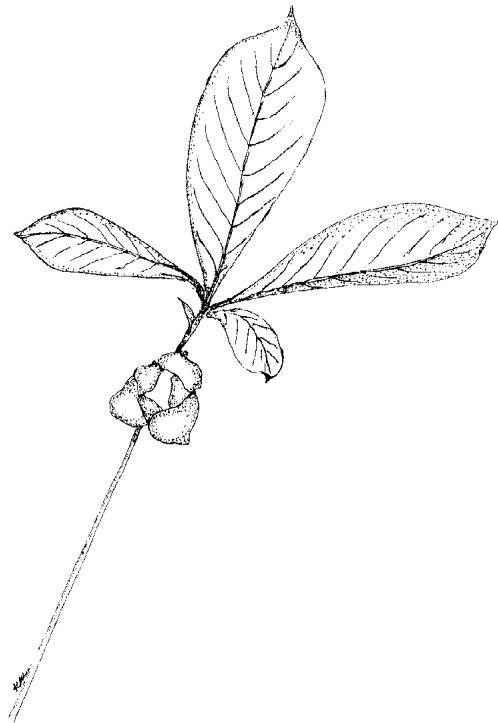
Habit: Understory shrub or small tree up to 10 m, often forming colonies.

Leaves: Alternate, entire, oblanceolate leaves, with acuminate tips, about 23 cm long and 8 cm wide. Leaves malodorous when crushed.

Flowers/fruit: Large (3-4 cm) burgundy flowers with 6 petals. Three burgundy sepals are also present. Fruits are fleshy edible, yellow and banana-like, up to 12 cm long.

Habitat: Rich slopes, low woods, bottomlands.

Field characteristics: Usually an understory shrub. Distinctive flowers and fruits help in recognition when present.



Chinese privet
Ligustrum sinense Lour.

Family: Oleaceae

Olive Family

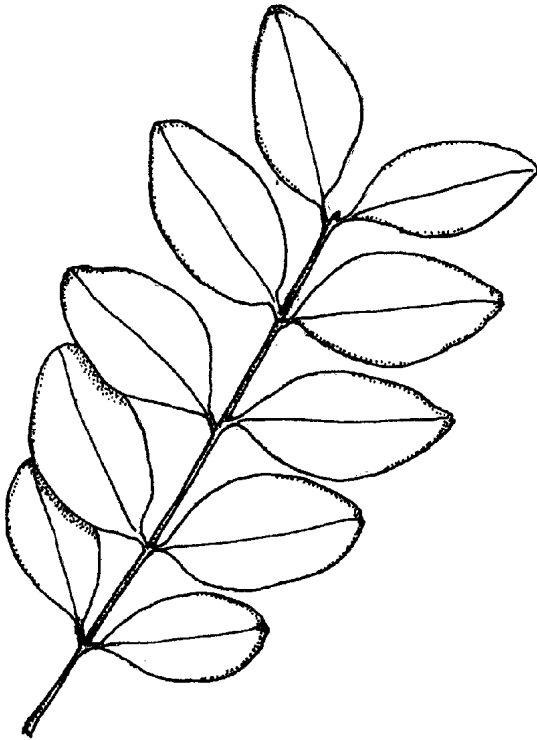
Habit: Evergreen shrub or small tree, often forming dense colonies, to 10 m in height. Twigs and branchlets are densely pubescent.

Leaves: Opposite, entire, elliptical or ovate leaves, 4 cm long and 1-2 cm wide.

Flowers/fruit: Small white (unpleasantly) fragrant flowers forming panicles. Fruits are bluish-black drupes.

Habitat: Low woods, disturbed wetlands and waste areas throughout the state.

Field characteristics: Opposite branches. Once established, this native from China rapidly colonizes waste areas and wetlands.



Rhododendron, Rosebay, Great laurel
Rhododendron maximum L.

Family: Ericaceae

Heath Family

Habit: Evergreen shrub, forming dense thickets.

Leaves: Alternate, shiny, dark leathery oblanceolate to elliptic leaves. Leaves are 10-30 cm long and 2-8 cm wide. Leaves droop when there's a frost and as temperatures decrease, the leaves curl lengthwise. The colder the temperature, the tighter the leaf curl.

Flowers/fruit: Showy, five petaled flower, light pink to white.

Habitat: Abundant in NC mountains in moist coves, ravines and in mountain bogs. Also along stream banks and in mesic woods in the mountains and upper piedmont.

Field characteristics: Showy evergreen leaves. Green parts of rhododendron are toxic to animals as is honey made from Rhododendron flowers.



Sea Ox-eye
Borrchia frutescens (L.) DC.

Family: Asteraceae

Composite or Aster Family

Habit: Low growing succulent, rhizomonous shrub forming extensive colonies almost to 1 m tall.

Leaves: Opposite, thick, narrow to broadly oblanceolate, 2-8 cm long and 1-3 cm wide. Leaves mostly entire, although, sometimes slightly dentate. Petiole bases attached in a 'U' shape against stem.

Flowers/fruit: Flowers are attractive and yellow and look like typical daisy flowers.

Habitat: Common in brackish and salt marshes, mud flats and vacant lots in the outer coastal plain.

Field characteristics: Three prominent veins in leaves are distinctive as well as the 'daisy' flower, which persist from summer through fall.



Silverling, Groundsel tree
Baccharis halimifolia L.

Family: Asteraceae

Composite or Aster Family

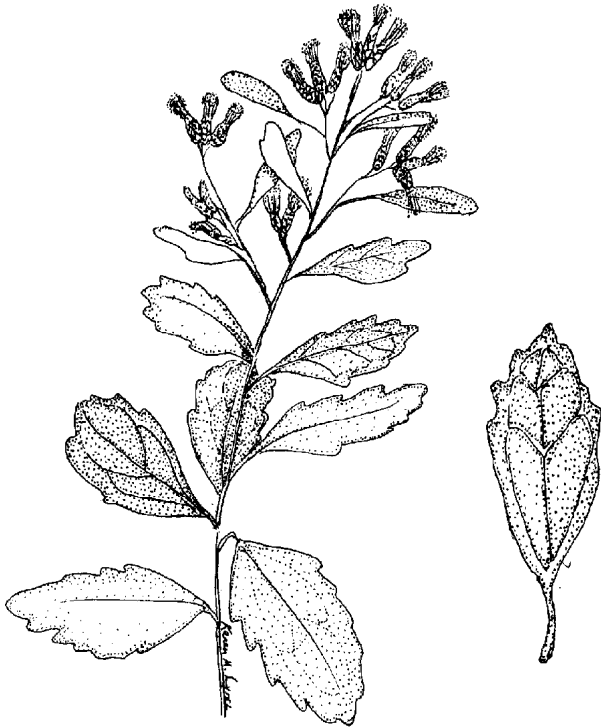
Habit: Broad-leaved deciduous to semi-evergreen shrub or small tree with ascending branches 1-4 m tall.

Leaves: Alternate and toothed or entire with serrations mostly towards leaf apex. Leaves are elliptic to obovate, 3-7 cm long and 1-4 cm wide, conspicuously pale blue-green. Leaves subtending flowers are not serrated.

Flowers/fruit: White feathery flowers in small heads arranged in stalked clusters.

Habitat: Salt and brackish marshes, banks, old fields throughout the coastal plain and piedmont, most common in maritime wetlands.

Field characteristics: This is the only member of the aster family reaching 'tree' stature. When in flower and in fruit, the shrub appears white due to the cotton-like flowers.



SHRUBS

Common Wetland Plants of NC

Spicebush
Lindera benzoin (L.) Blume

Family: Lauraceae

Laurel Family

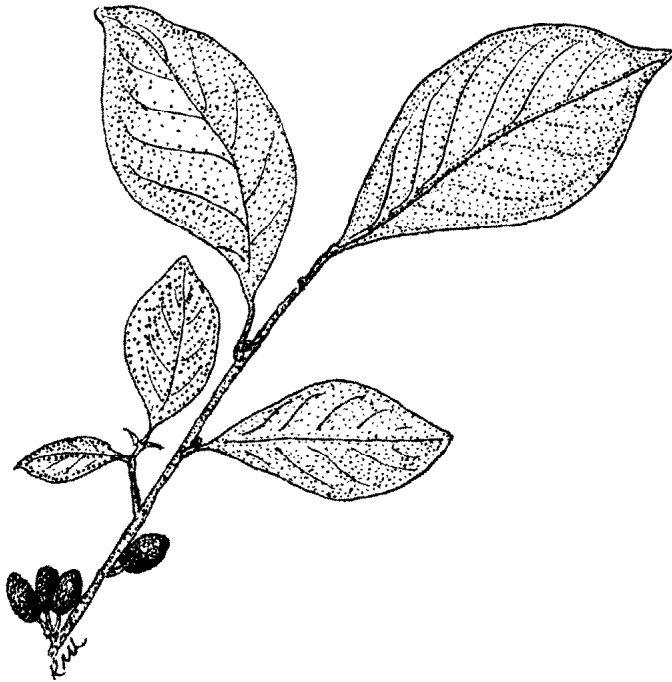
Habit: Deciduous understory shrub to 3 m tall, often forming colonies alongside streams and in bottomlands.

Leaves: Alternate, obovate, thin, 6-14 cm long and 2-6 cm wide with acuminate tips and entire margins. Leaf undersides are distinctly light green.

Flowers/fruit: Small yellow flowers which produce red elliptical drupes up to 1 cm wide.

Habitat: Stream margins and rich moist woods, floodplain forests, mainly in the piedmont and mountains.

Field characteristics: Leaves and twigs are lemon-fragrant when crushed. Stems have distinctive lenticels.



Swamp rose
Rosa palustris Marsh.

Family: Rosaceae

Rose Family

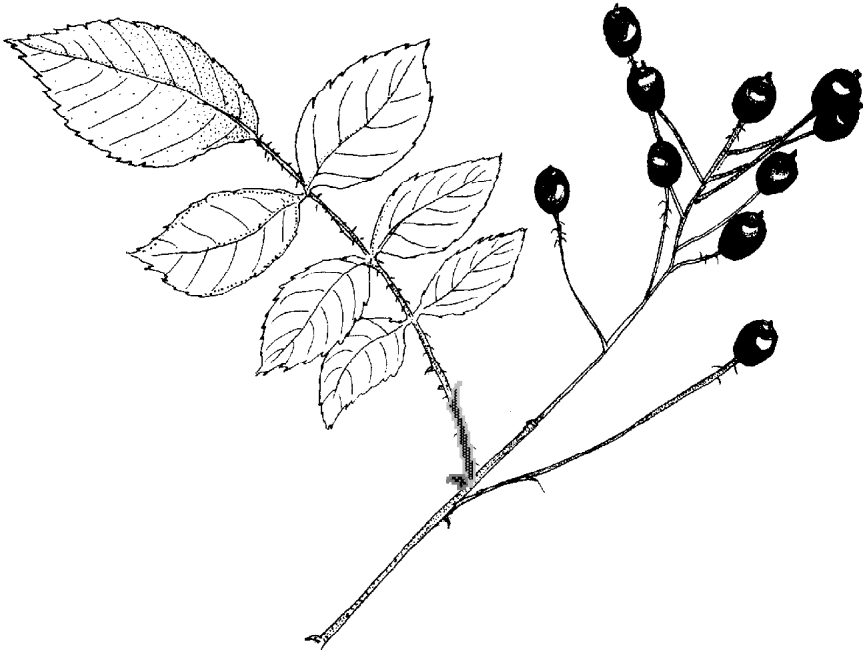
Habit: Broad-leaved deciduous shrub with decurved thorn-like prickles. Grows to 2 m tall and reproduces by runners, sometimes forming thick stands.

Leaves: Alternate, pinnately compound. Leaflets are elliptical and finely toothed. Number varies from 5-9 leaflets, with usually 7. Leaflets are 1-5 cm long and 0.5 to 2 cm wide with the largest leaflets towards the tip of the leaf.

Flowers/fruit: Large, pink 5-petaled flowers are formed at the tips of branches, later forming red 'rose hips'.

Habitat: Marshes or wet shores of streams, lakes, and swamps throughout NC.

Field characteristics: Plant is easily recognized because of its typical rose features (prickles, rose hips). Note the long stipule wrapped at the base of the petiole. A similar species, Multiflora rose has small white fragrant flowers.



Sweet pepperbush
Clethra alnifolia L.

Family: Clethraceae

White Alder Family

Habit: Broad-leaved deciduous shrub to 3 m tall.

Leaves: Alternate, elliptical, obovate or oblanceolate leaves. Leaves are toothed and approximately 8 cm long by 4 cm wide. The widest part of the leaf is typically towards the tip.

Flowers/fruit: Fragrant small white 5-petaled flowers produced in racemes.

Habitat: Wet pine savannas, flatwoods, bays, pocosins in the coastal plain and lower piedmont.

Field characteristics: Similar to Virginia willow, but note leaf shape of sweet pepperbush which is widest past the middle, toward the leaf tip. The racemes with empty seed capsules persist through the winter. Thick, light brown scales cover the current year's stems.



SHRUBS

Common Wetland Plants of NC

Ti-ti
Cyrilla racemiflora L.

Family: Cyrillaceae

Cyrilla Family

Habit: Deciduous to semi-evergreen shrub or small tree to 8 m. tall, often forming dense thickets.

Leaves: Alternate, usually narrow and obovate or elliptic. Variable in size, up to 10 cm long and 2-3 cm wide.

Flowers/fruit: Racemes of white flowers from 5 to 15 cm long originate from the previous season's growth. Flowers have 5 petals.

Habitat: Pocosins, swamps, pine flatwoods and streambanks in acidic, sandy or peaty soils, chiefly in the coastal plain and sometimes found in the piedmont.

Field characteristics: Distinctive raised ridge under leaf scar. Racemes of dry fruits persist through the winter. In fall, the leaves are often red or yellow.



SHRUBS

Common Wetland Plants of NC

Black haw
Viburnum prunifolium L.

Family: Caprifoliaceae

Honeysuckle Family

Habit: Medium to large shrub.

Leaves: Opposite leaves may be elliptical, ovate or obovate in shape. Leaves are minutely serrated.

Flowers/fruit: Flowers appear in the typical 'flat-topped' inflorescence (cyme) and fruits are black drupes.

Habitat: Low woods throughout the piedmont, occasionally in the coastal plain.

Field characteristics: As is characteristic of Viburnums, leaves are opposite and buds are appressed or upright. Plant may have small leaves that are produced from side shoots (as pictured below).



Possum haw, Southern wild raisin
Viburnum nudum L.

Family: Caprifoliaceae

Honeysuckle Family

Habit: Medium sized deciduous shrub up to 5 m tall.

Leaves: Opposite leaves are broad, elliptical or obovate in shape with entire or slightly wavy margins. Leaves are shiny green, leathery and widest at the middle, measuring 5-10 cm long and 2-6 cm wide.

Flowers/fruit: Flowers appear in the typical 'flat-topped' inflorescence (cyme) and fruits are compressed black drupes, about 1 cm long.

Habitat: Fresh water marshes and swamps, pocosins, wet flats, low woods throughout NC.

Field characteristics: Opposite branching with distinctive appressed or upright buds. Similar to swamp dogwood which also has opposite leaves.



Southern arrowwood
Viburnum dentatum L.

Family: Caprifoliaceae

Honeysuckle Family

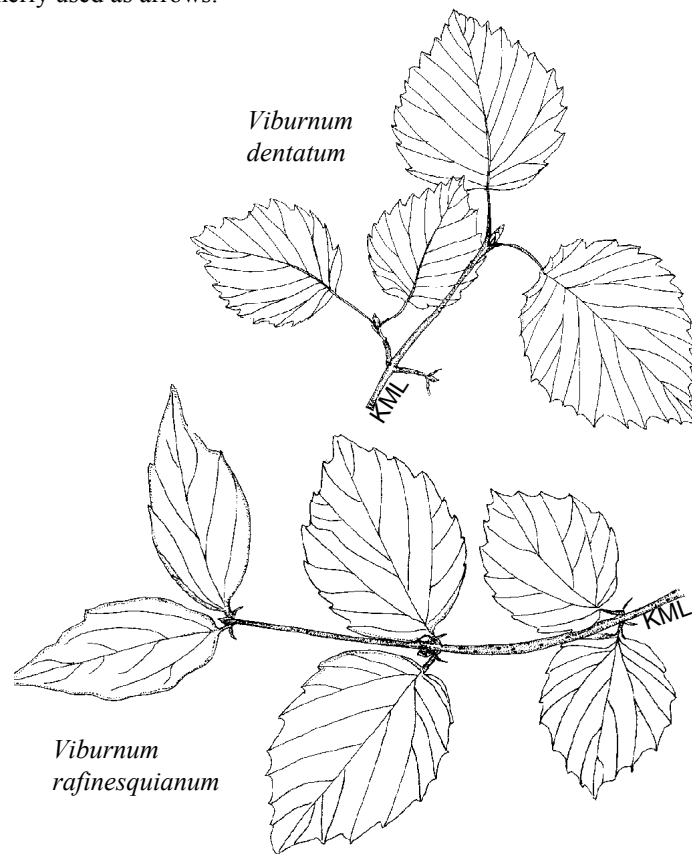
Habit: Broad-leaved deciduous shrub to 3 m. Lower stems are characteristically straight.

Leaves: Opposite, widely ovate leaves with acute ends. Leaves are 5-12 cm long and 4-10 cm wide with serrated edges.

Flowers/fruit: White flowers form flat-topped clusters at the end of branches. Fruit is a blue-gray drupe.

Habitat: Swamps, forested wetlands.

Field characteristics: Similar to *V. rafinesquianum* (Downy arrowwood) but Southern arrowwood has leaves that are less densely pubescent and has longer petioles. Stipules at the leaf bases are absent in *V. dentatum* but present in *V. rafinesquianum*. As the name (arrowwood) implies, the straight wood was formerly used as arrows.



Virginia-willow
Itea virginica L.

Family: Saxifragaceae

Saxifrage Family

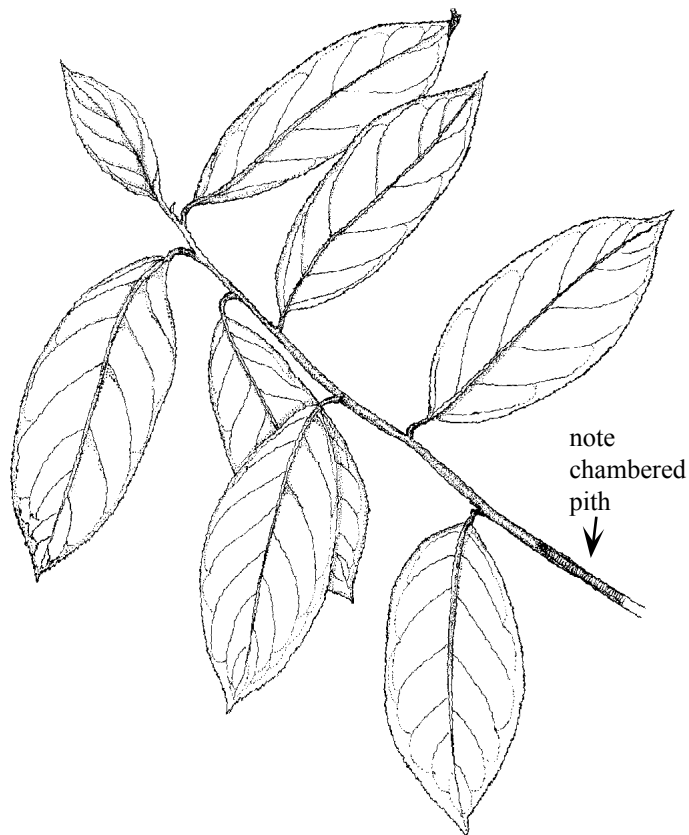
Habit: Deciduous, sprawling shrub to 2 m.

Leaves: Alternate, finely toothed, glabrous, elliptical leaves. Leaves oblong with parallel sides and are 2-9 cm long and 1-4 cm wide.

Flowers/fruit: Clusters of white 5-petaled flowers form a narrow raceme at the end of branches. The 2 lobed beaked capsules persist.

Habitat: Low woods, swamps, alongside streams, throughout NC.

Field characteristics: Branches are often green above and burgundy on the undersides. Stems have a white chambered pith.



SHRUBS

Common Wetland Plants of NC

Wax-myrtle
Myrica cerifera L.

Family: Myricaceae

Bayberry Family

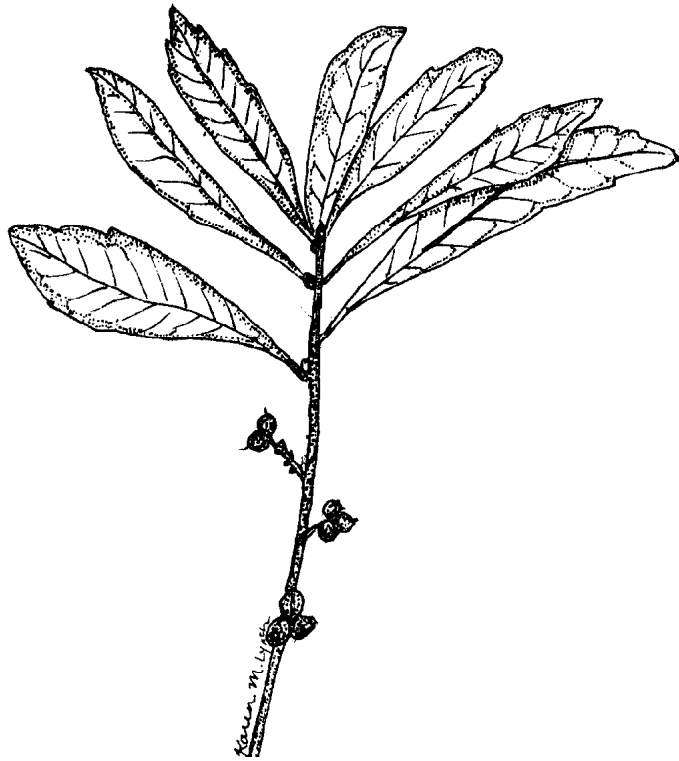
Habit: Evergreen shrub or small tree to 7 m.

Leaves: Alternate, narrowly elliptic, oblanceolate leaves with a few serrations from the middle of leaves toward leaf tips. Leaves are thick and have yellow resinous glands on both undersides and top surface of leaves.

Flowers/fruit: Male and female flowers are on separate shrubs. The male shrubs produce catkins in the spring and the female shrubs have oval, white waxy fruits.

Habitat: Low ground, salt or brackish marshes, pine savannas, flatwoods, swamps, uplands chiefly in the coastal plain and also in the piedmont.

Field characteristics: A similar species *M. heterophylla* has resinous dots on leaf surface only. Leaves are aromatic when crushed. Berries are used for scents and candles.



SHRUBS

Common Wetland Plants of NC

Bayberry
Myrica heterophylla Raf.

Family: Myricaceae

Bayberry Family

Habit: Evergreen shrub to 2 m.

Leaves: Alternate, elliptical, oblanceolate or obovate leaves with a few shallow serrations toward leaf tips. Yellow resinous glands are on the leaf surface only.

Flowers/fruit: Bayberry has dark brown globose fruits which may appear white from waxy covering.

Habitat: Pocosins, bay forests, wet pine savannas and flatwoods in the coastal plain, rarely in the piedmont.

Field characteristics: Very similar to wax myrtle, which has yellow resinous dots on top and undersides of leaves.



HERBS		WETLAND STATUS
Arrow arum	<i>Peltandra virginica</i>	OBL
Arrowhead; Duck-potato	<i>Sagittaria</i> spp.	OBL
Asiatic Dayflower	<i>Murdannia keisak</i>	OBL
Blue flag, Southern	<i>Iris virginica</i>	OBL
Cardinal Flower	<i>Lobelia cardinalis</i>	FACW+
Cattail, Common	<i>Typha latifolia</i>	OBL
Cattail, Narrow-leaved	<i>Typha angustifolia</i>	OBL
Clearweed	<i>Pilea pumila</i>	FACW
Ferns		
Cinnamon fern	<i>Osmunda cinnamomea</i>	FACW+
Grape fern; Rattlesnake fern	<i>Botrychium</i> spp.	FAC-FACU
Netted chainfern	<i>Woodwardia areolata</i>	OBL
Royal fern	<i>Osmunda regalis</i>	OBL
Sensitive fern	<i>Onoclea sensibilis</i>	FACW
Southern lady fern	<i>Athyrium filix femina</i> ssp. <i>asplenoides</i>	FAC
Virginia chainfern	<i>Woodwardia virginica</i>	OBL
Glasswort, Perennial	<i>Salicornia virginica</i>	OBL
False nettle	<i>Boehmeria cylindrica</i>	FACW+
Jewelweed	<i>Impatiens capensis</i>	FACW
Lizard's tail	<i>Saururus cernuus</i>	OBL
Pickeralweed	<i>Pontederia cordata</i>	OBL
Pokeberry; Pokeweed	<i>Phytolacca americana</i>	FACU+
Rose mallow; Marsh mallow	<i>Hibiscus moscheutos</i>	OBL
Seashore mallow	<i>Kosteletzkya virginica</i>	OBL
Smartweeds		
Smartweed	<i>Polygonum</i> spp.	FAC-OBL
Tear-thumb	<i>Polygonum sagittatum</i>	OBL
Water-horehound	<i>Lycopus virginicus</i>	OBL



Arrow arum
Peltandra virginica (L.) Schott

Family: Araceae

Arum Family

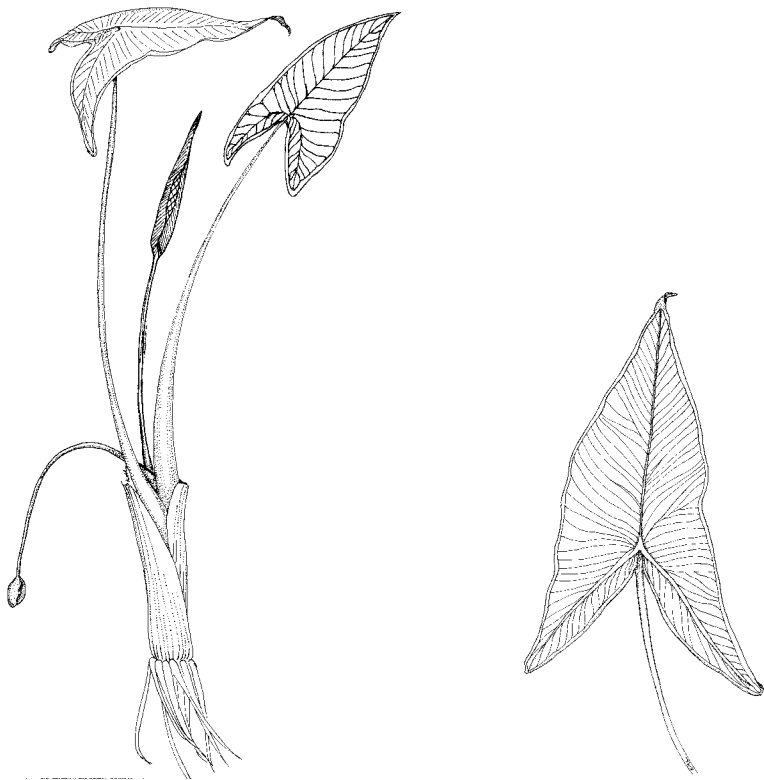
Habit: Emergent perennial herb with thick root stock. Plants about 0.5 m tall, usually found in shallow water.

Leaves: Triangular, 3-nerved (or 3 main veins) on long stems. Leaves 10-40 cm long.

Flowers: Inconspicuous yellow flowers on a fleshy spadix (spike), surrounded by a fleshy leaf-like structure, a spathe.

Habitat: Bogs, freshwater marshes and perimeters of lakes and ponds. Found throughout NC, except in the northwest mountains.

Field characteristics: Triangular leaves with parallel side veins (radiating from the sides of the main veins, rather than from one point as in *Sagittaria*).



Arrowhead, Duck potato
Sagittaria spp.

Family: Alismataceae

Water Plantain Family

Habit: Emergent or submersed perennial herb usually found in clumps, reaching about 1 m in height.

Leaves: Triangular in some species, elliptical in others, up to 25 cm long.

Flowers: White flowers in whorls of three, occurring at 2-12 nodes on the flowering stalk.

Habitat: Wet soil, marshes, stream sides and pond margins throughout NC.

Field characteristics: Triangular leaves (in many common species) with sharply pointed tips. Veins radiating from the point of attachment to the petiole. The petiole of a common species, *Sagittaria latifolia* (pictured below), is 5-sided in cross-section. Compare with similar plants, Arrow arum and Pickerelweed.



HERBS

Common Wetland Plants of NC

Asiatic Dayflower
Murdannia keisak (Hassk.) Hand.-Maz.

Family: Commelinaceae

Dayflower or Spiderwort Family

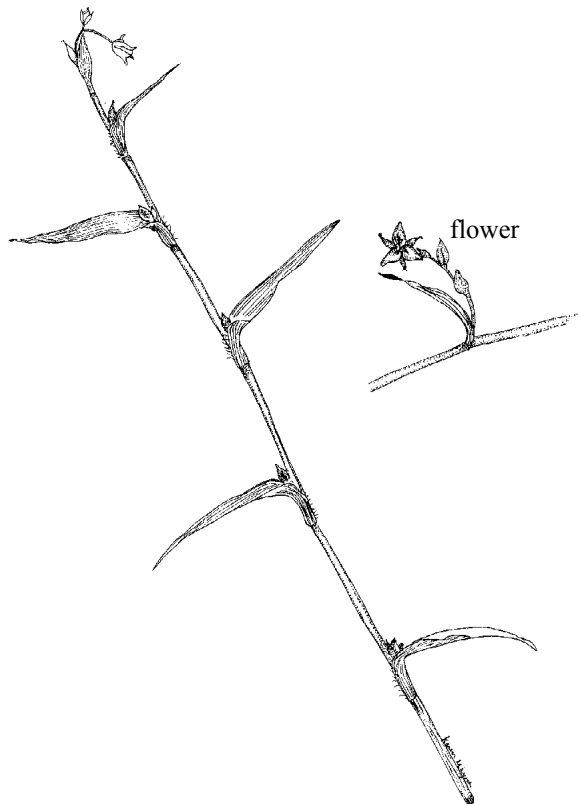
Habit: Trailing herb forming dense mats. Stems often root at the nodes.

Leaves: Alternate, linear or lance shaped leaves, about 6 cm long and 1 cm wide. The base of the leaves have closed tubular, hairy sheaths.

Flowers: Three-merous (contains 3 petals and 3 sepals) with lavender flowers.

Habitat: Margins of streams, ponds and marshes in the coastal plain and piedmont of NC.

Field characteristics: Grass-like appearance with trailing stems. The clasping hairy sheath formed at the leaf base helps to distinguish it from grasses which look similar to Asiatic dayflower.



Southern blue flag
Iris virginica L.

Family: Iridaceae

Iris Family

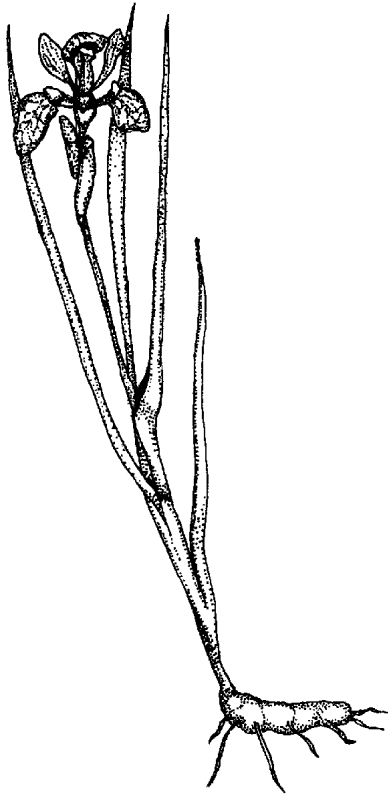
Habit: Perennial herb reaching 1 m. This plant is colonial since it reproduces by rhizomes.

Leaves: Simple and entire with acute tips. Leaves are pale blue-green, up to 1 m tall and 3 cm wide and are clasping at the base.

Flowers: Typical showy, iris flower; bluish-purple with 3 petals and 3 upwardly curved sepals. Yellow markings are present on the petals.

Habitat: Margins of streams and ponds, freshwater marshes, swamps, wet pine flats, ditches. This plant is most common in the coastal plain and mountains and less frequent in the piedmont.

Field characteristics: Typical iris appearance with showy blue flowers.



Cardinal flower
Lobelia cardinalis L.

Family: Campanulaceae

Bluebell Family

Habit: Medium to tall perennial herb, 0.5 m to rarely 2 m tall.

Leaves: Alternate, elliptical leaves which can be entire or serrated, 4-20 cm long and 2-3 cm wide. When serrated, small and large teeth are alternated along the edges.

Flowers: Spikes of 2-lipped intense red tubular flowers. Spikes are usually about 20 cm long, but can reach 50 cm in length.

Habitat: Fresh water marshes and swamps, river banks, ditches and stream sides throughout NC.

Field characteristics: Showy red flowers blooming in mid-late summer. Basal rosette persists through the winter.



Common or broad-leaved cattail
Typha latifolia L.

Family: Typhaceae

Cattail Family

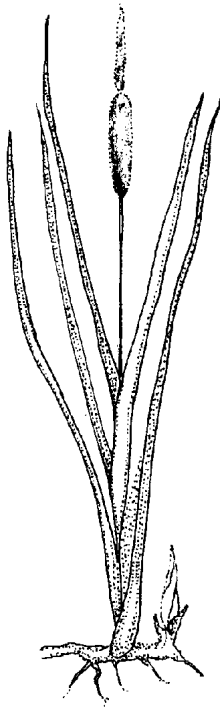
Habit: Tall perennial herb, 2-3 m high.

Leaves: Light green leaves arising from the base and are sheathed at the base. Strap shaped leaves are up to 2.4 cm wide.

Flowers: Brown, cylindrical terminal spike (female flower), familiar to most people. When present, the male flower spike is positioned, just above the female flower spike on the stem.

Habitat: Common in freshwater marshes, ditches and ponds. Found statewide, although it is most common in the piedmont.

Field characteristics: Leaves are flat or slightly convex near the base. Common cattail has wider leaves and a larger spike than narrow-leaved cattail. The male flower spike is directly above female flower spike on common cattail, whereas there is a space between the male and female spikes in the narrow leaved cattail.



Narrow-leaved cattail
Typha angustifolia L.

Family: Typhaceae

Cattail Family

Habit: Perennial herb 1-3 m tall.

Leaves: Dark green leaves which are strongly convex, up to 1 cm wide.

Flowers: Typical cattail spike with a space between the female and male flower spikes. The leaves stand taller than the flowering stem.

Habitat: Fresh (lakes, ponds, rivers) to brackish waters in the outer coastal plain.

Field characteristics: A coastal plain species with darker, narrower leaves than common cattail. The leaves tower above the flowering stem in narrow-leaved cattail.



HERBS

Common Wetland Plants of NC

Clearweed
Pilea pumila (L.) Gray

Family: Urticaceae

Nettle Family

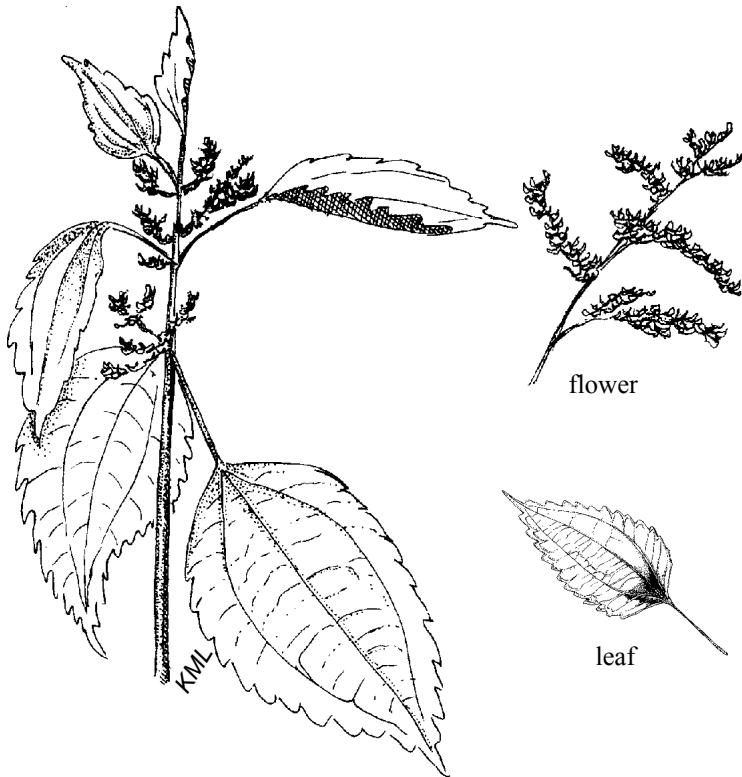
Habit: Annual herb with translucent stems, up to 0.5 m.

Leaves: Opposite, ovate, toothed leaves with 3 prominent veins. Leaves are shiny and are 4-10 cm long, produced on long stalks.

Flowers: Greenish-white flowers in a branched panicle arising from the leaf axil.

Habitat: Common in wet soil or shallow freshwater margins, low shady pastures or moist, shady uplands across the state.

Field characteristics: Translucent stems and flowers in panicles differ from false nettle which has flowers in cylindrical spikes.



Cinnamon fern
Osmunda cinnamomea L.

Family: Osmundaceae

Royal Fern Family

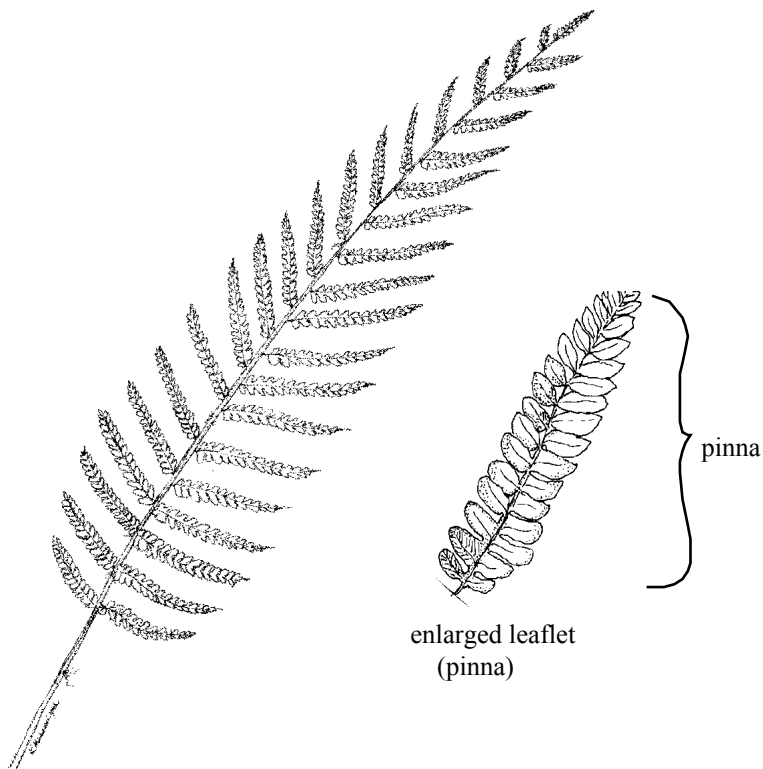
Habit: Medium to tall fern up to 1.5 m.

Leaves: Leaves arise from a clump at the base. Leaf blades are 35-70 cm long and 13-25 cm wide. Leaflets are alternately arranged with brown fuzzy 'hairs' at the base of leaflets.

Flowers: No flowers, but fertile fronds are narrower and contain furry cinnamon colored stalks. These reproductive stalks appear in spring and soon wither.

Habitat: Swamps, marshes, ditches, streambanks. Common in the coastal plain and mountains, but less frequent in the piedmont.

Field characteristics: Large fern. When fertile frond is present, it has a distinctive cinnamon color.



Grape fern, Rattlesnake fern
Botrychium spp.

Family: Ophioglossaceae

Adder's-tongue Family

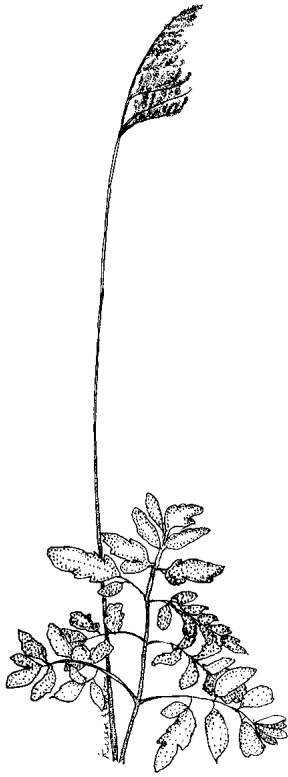
Habit: Small fern, triangular in shape.

Leaves: The sterile leaf blade is dissected so that it appears lacy. The triangular leaf measures about 10-20 cm long and 13-25 cm wide. The fertile portion of this fern is presented on a long stalk.

Flowers: No flowers, but fertile structure (spores) are in a compound cluster, and look like grapes.

Habitat: Rich woods and woodlands throughout the state.

Field characteristics: Small distinctive ferns with compact fronds. The arrangement of sporangia are similar in appearance to a 'bunch of grapes' or 'rattles' on a rattlesnake, as the common names imply.



Netted chainfern
Woodwardia areolata (L.) T. Moore

Family: Blechnaceae

Fern Family

Habit: Medium fern up to 0.5 m in height, usually smaller. Reproduces by underground rhizomes.

Leaves: Lobed leaflets arranged alternately along stalk. The edges of leaflets contain minute serrations noticeable when viewed closely.

Flowers: No flowers, but fertile fronds are on separate stalks which are narrower than the sterile fronds. Spores (sori) are located in parallel rows on the undersides of fertile fronds as pictured in illustration on left.

Habitat: Acidic swamps and wet pine woods throughout NC.

Field characteristics: Similar in appearance to Sensitive fern, but Sensitive fern has opposite leaflets and leaflet edges are without serrations. Netted chain fern gets its name because of the chain-like appearance of sori on the fertile stalks.



HERBS

Common Wetland Plants of NC

Royal fern
Osmunda regalis L.

Family: Osmundaceae

Royal Fern Family

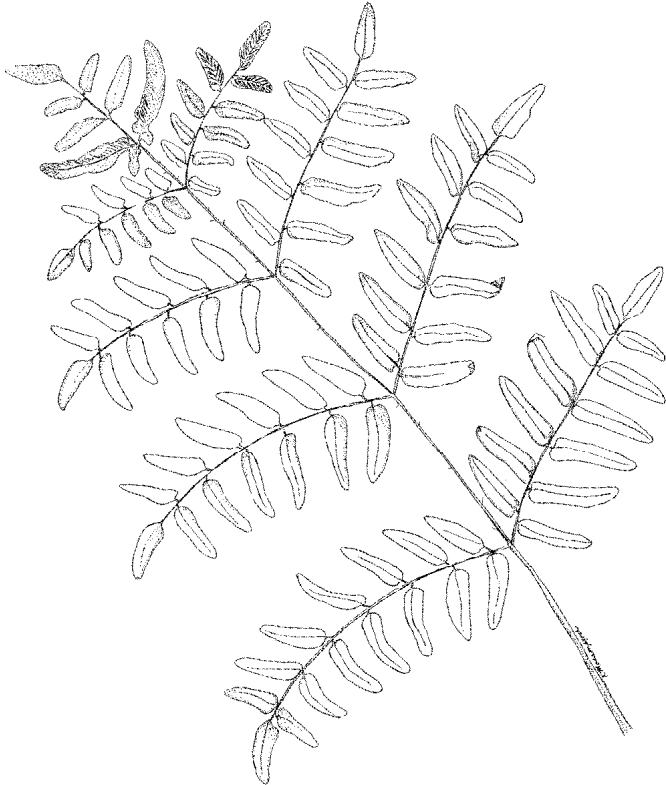
Habit: Medium to large fern forming clumps. Royal ferns are usually about a meter tall but may be as tall as 2 m.

Leaves: Leaf blade is large, measuring approximately 38-75 cm long and 25-50 cm wide. Leaf is twice pinnately divided with alternate leaflets, however the leaflets are often positioned oppositely on the rachis. Leaflets usually number 5 to 11, and are light green, about 12 cm long and 5 cm wide.

Flowers: No flowers, but fertile pinnae with a terminal branch-like panicle. The light brown leaflets are spore-bearing.

Habitat: Moist woods, swamps and marshes throughout NC.

Field characteristics: Large fern with leaves which are twice divided.



HERBS

Common Wetland Plants of NC

Sensitive fern
Onoclea sensibilis L.

Family: Dryopteridaceae

Dryopteris Fern Family

Habit: Low to medium fern almost reaching a meter in height, usually smaller. Reproduces by underground rhizomes.

Leaves: Pinnately divided deciduous leaf blade. The leaf lobes are positioned oppositely. Leaf margins are entire or lobed. Larger plants may have more deeply lobed leaflets. (Note lower right illustration.)

Flowers: No flowers, but fertile fronds appear in the fall on separate stalks. The fertile fronds change from green to brown and have a beaded appearance.

Habitat: Marshes, swamps, seeps, moist woodlands, and muddy ditches throughout the state.

Field characteristics: Similar to Netted chainfern, but the leaf lobes of Netted chain fern are alternately arranged. The fertile fronds are distinctive and resemble rattles, when present. This is the only species within this genus, and is called 'sensitive' because this fern is sensitive to early frosts and heat.



HERBS

Common Wetland Plants of NC

Southern lady fern
Athyrium filix femina ssp. *asplenioides* (Michx.) Hulten

Family: Dryopteridaceae

Dryopteris Fern Family

Habit: Medium light green fern to approximately 1 m in height. Grows from rhizomes.

Leaves: Leaves are 40-100 cm long and 10-35 cm wide. Because of its finely toothed leaflets, this fern is delicate and lacy in appearance. Leaflets are arranged alternately on the leaf blade. Surfaces of fertile and sterile leaves are similar in appearance.

Flowers: No flowers, but fertile fronds contain crescent-shaped sori on the undersides of the leaves.

Habitat: Wet woods and swamps throughout NC.

Field characteristics: Attractive, lacy, light green fern. Leaflets and subleaflets are positioned alternately on the rachis and petiole, respectively.



Virginia chainfern
Woodwardia virginica (L.) Sm.

Family: Blechnaceae

Fern Family

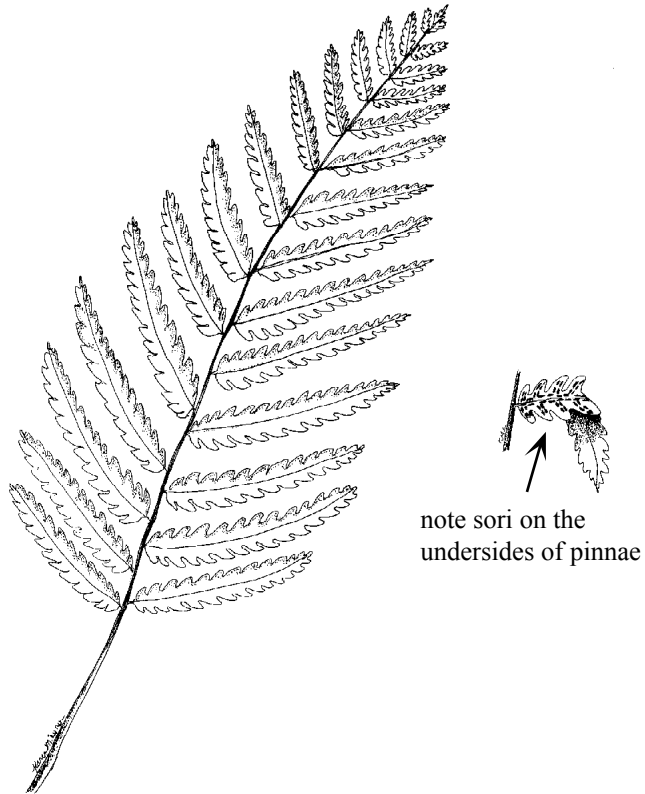
Habit: Medium fern reaching 0.5 m in height. Reproduces by underground rhizomes.

Leaves: Compound leaves with alternate pinnae. Leaves are 30-70 cm long and 15-30 cm wide. Leaf base (stipe) is dark, black-brown.

Flowers: No flowers, but sori are located on the undersides of pinnae. The double row of sori on pinnae resemble a 'row of bricks.'

Habitat: Acidic soils and wet pine flats, mostly in the coastal plain. Grows well in sunny locations and responds quickly after fire.

Field characteristics: Distinctive sori or 'row of bricks' along midrib on underside of pinnae help to distinguish this fern from others. Fronds rise singly from the ground; whereas most ferns have fronds in clumps.



note sori on the
undersides of pinnae

Perennial Glasswort
Salicornia virginica L.

Family: Chenopodiaceae

Goosefoot Family

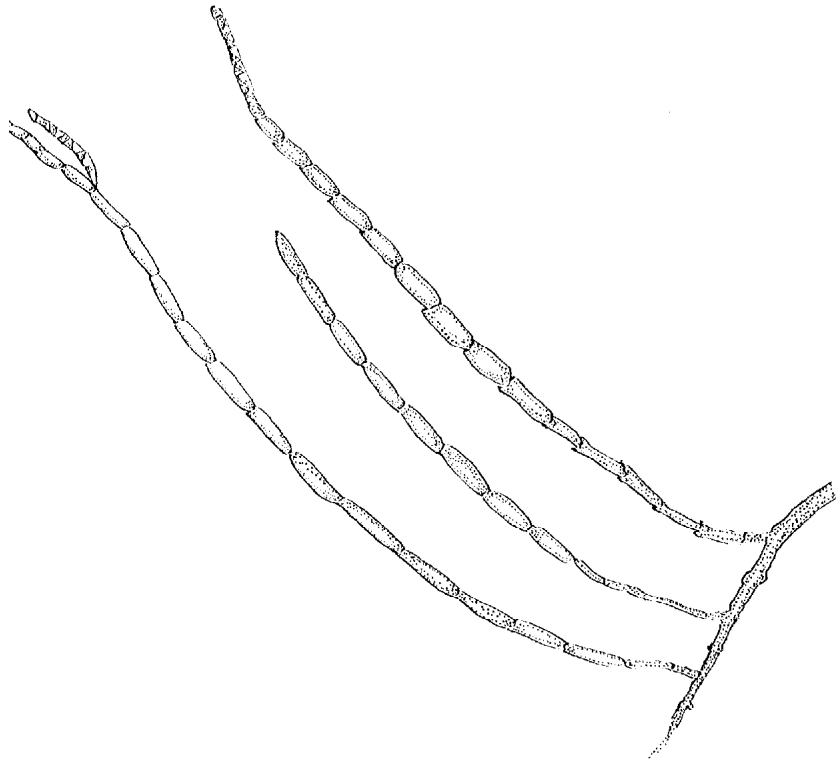
Habit: Upright, low-growing fleshy perennial herb reaching 0.3 m high, often smaller. Glasswort forms colonial mats, since this species grows from a horizontal rhizome.

Leaves: Inconspicuous leaves are reduced to small scales. Stems consist of green, succulent, jointed tubes.

Flowers: Inconspicuous flower is contained in the upper portion of the tube.

Habitat: Brackish and salt flats and marshes in the outer coastal plain.

Field characteristics: Fleshy succulent plant found in salt flats. The plant tastes salty.



False nettle
Boehmeria cylindrica (L.) Sw.

Family: Urticaceae

Nettle Family

Habit: Perennial herb to 1.3 m.

Leaves: Opposite, sometimes sub-opposite, broad, lance shaped leaves with toothed edges.

Flowers: Spikes of small spherical clusters borne in leaf axils.

Habitat: Common in low ground, swamps and wet woods throughout NC.

Field characteristics: Not irritating compared to the similar Stinging nettle. Appears similar to clearweed, although flowers of false nettle are in clusters of spikes compared to clearweed's branched panicles.



HERBS

Common Wetland Plants of NC

Jewelweed, Touch-me-not
Impatiens capensis Meerb.

Family: Balsaminaceae

Touch-me-not Family

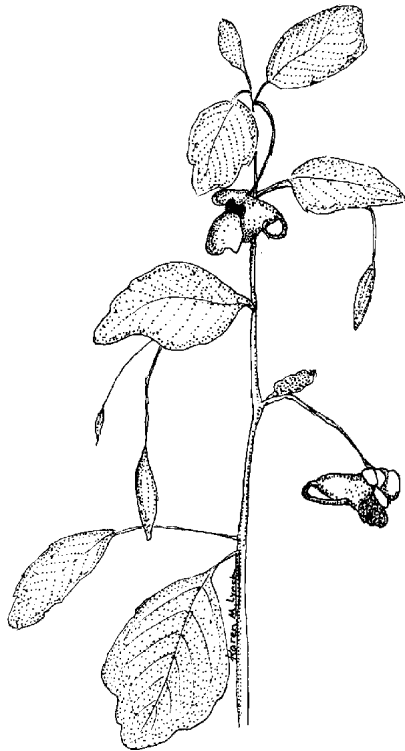
Habit: Medium to tall, bright green, succulent herb, reaching 1.5 m.

Leaves: Smooth, succulent stems contain alternately arranged ovate to elliptical leaves produced on long petioles. Leaves are 3-10 cm long and 3-8 cm wide with crenate edges.

Flowers: Orange, tubular 'bugle-like' flowers with brownish spots. The end of the flowers have a curved spur.

Habitat: Stream and lake edges and moist woods throughout NC.

Field characteristics: Football-shaped seed capsules explode when ripe, scattering seeds, hence the plant's common name, 'touch-me-not.' The watery fluids of Jewelweed are thought to dilute the sap of poison ivy, making the rash less severe. A similar species, *I. pallida*, with yellow flowers occurs in wet woods in the mountains.



HERBS

Common Wetland Plants of NC

Lizard's Tail
Saururus cernuus L.

Family: Sauraceae

Lizard's Tail Family

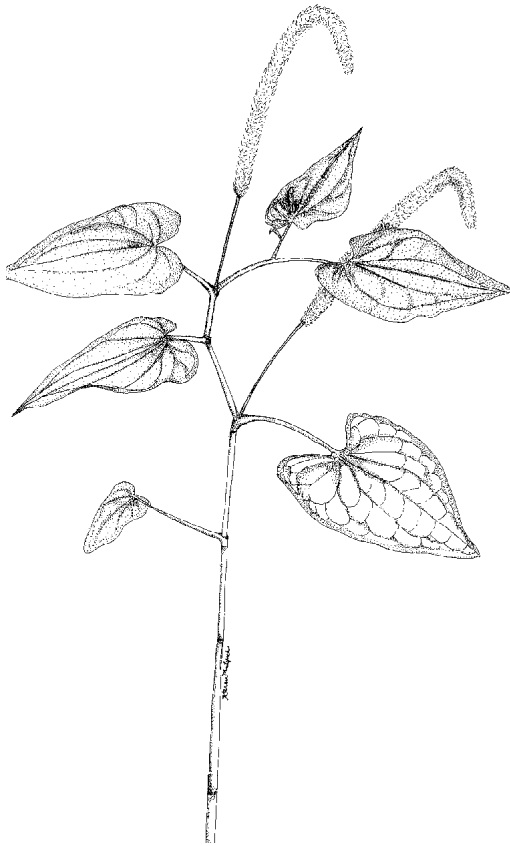
Habit: Perennial herb to about 0.5 m in height. Lizard's tail reproduces by underground rhizomes and therefore often forms dense stands.

Leaves: Alternate heart shaped leaves growing on zig-zagged stems. Leaf venation is palmate and leaf edges are entire.

Flowers: White, graceful spikes which resemble lizard's tails.

Habitat: Swamps, wet woods and ditches throughout the coastal plain and piedmont.

Field characteristics: Cordate leaves, distinctive white flowers produced during early summer.



HERBS

Common Wetland Plants of NC

Pickerelweed
Pontederia cordata (L.)

Family: Pontederiaceae

Pickerelweed Family

Habit: Emergent perennial herb, up to 1 m tall.

Leaves: Simple, entire, elongate, cordate leaves, 7-18 cm long.

Flowers: Spikes of showy, blue, tubular flowers.

Habitat: Muddy shores and shallow waters of ponds, lakes and ditches throughout NC, except in the northern mountains.

Field characteristics: Elongated, heart shaped leaves; when in flower, each leaf surrounds (subtends) the flowering stalk. The leaves have no midrib as in *Peltandra*. Compare also to *Sagittaria*.



HERBS

Common Wetland Plants of NC

Pokeberry, Pokeweed
Phytolacca americana L.

Family: Phytolaccaceae

Pokeweed Family

Habit: Large, spreading perennial herb with purple stems, 1-3 m in height.

Leaves: Simple, alternate, elliptical or oval leaves, 10-30 cm long and 3-10 cm wide.

Flowers: White flowers in racemes, originating opposite from the leaves. Fruit is a purple berry up to 1 cm wide.

Habitat: Common in disturbed habitats and sandbars along rivers, throughout NC.

Field characteristics: Purple branches are distinctive. Poisonous berries have been used for rich purple dyes. Young leaves are edible as cooked greens, however, older leaves are toxic.



HERBS

Common Wetland Plants of NC

Rose or Marsh mallow
Hibiscus moscheutos L.

Family: Malvaceae

Mallow Family

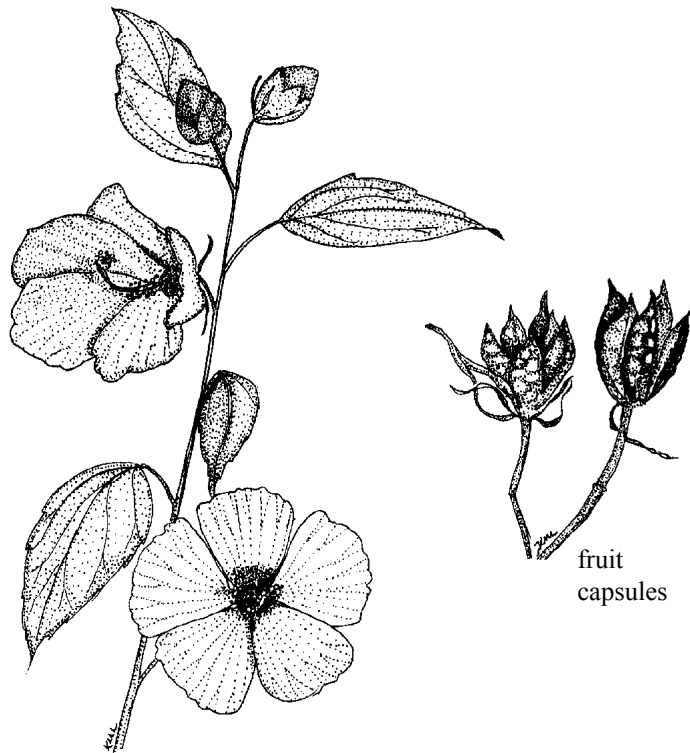
Habit: Tall perennial herb (or shrub) to 2 m. Upper stems are hairy.

Leaves: Alternate leaves are oval or 3-lobed and toothed. Leaves are also pubescent.

Flowers/fruit: Large, showy creamy-white (sometimes pink) 5-petaled flowers with a crimson center. Flowers about 20 cm wide.

Habitat: Fresh to slightly brackish marshes throughout the state, most abundant in the piedmont and coastal plain.

Field characteristics: Fruit capsule persists and is distinctive. See illustration below.



HERBS

Common Wetland Plants of NC

Seashore mallow
Kosteletzkya virginica (L.) Presl ex Gray

Family: Malvaceae

Mallow Family

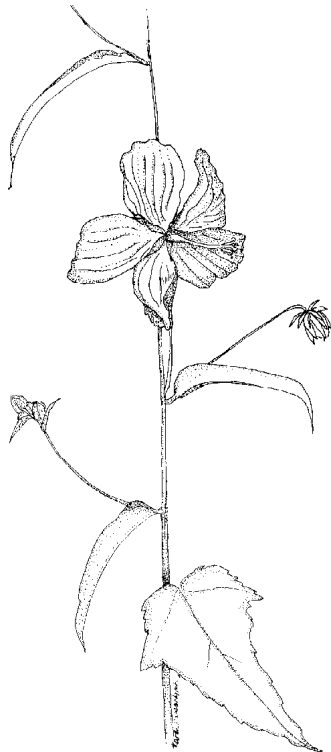
Habit: Medium height, 1-2 m with few to numerous branches.

Leaves: Alternate, coarsely toothed and roughly pubescent. Leaves are sagittate or triangular in shape, with the bottom leaves the largest and upper leaves are reduced.

Flowers/fruit: Pink, 5-petaled flower stemming from the axis of leaves. Flower is 5-8 cm wide.

Habitat: Brackish to rarely fresh marshes, shores and ditches, swamps, wet woodlands in the outer coastal plain.

Field characteristics: Similar to marsh mallow, although the flower of the seashore mallow is smaller, pink and with a more pronounced pistil.



HERBS

Common Wetland Plants of NC

Smartweed
Polygonum spp.

Family: Polygonaceae

Smartweed Family

Habit: Erect or somewhat trailing herb, rooting at the lower nodes.

Leaves: Alternate, and typically narrowly elliptical.

Flowers: Racemes in loose panicles, white to pink.

Habitat: Marshes, lakes and pond shores throughout NC.

Field characteristics: Members of this genus contain an ocrea or leaf sheath, formed by stipules encircling the stem as illustrated below. The ocrea may be densely hairy. The bitter taste of these leaves are said to 'smart,' hence the common name, smartweed.



HERBS

Common Wetland Plants of NC

Tearthumb
Polygonum sagittatum L.

Family: Polygonaceae

Smartweed Family

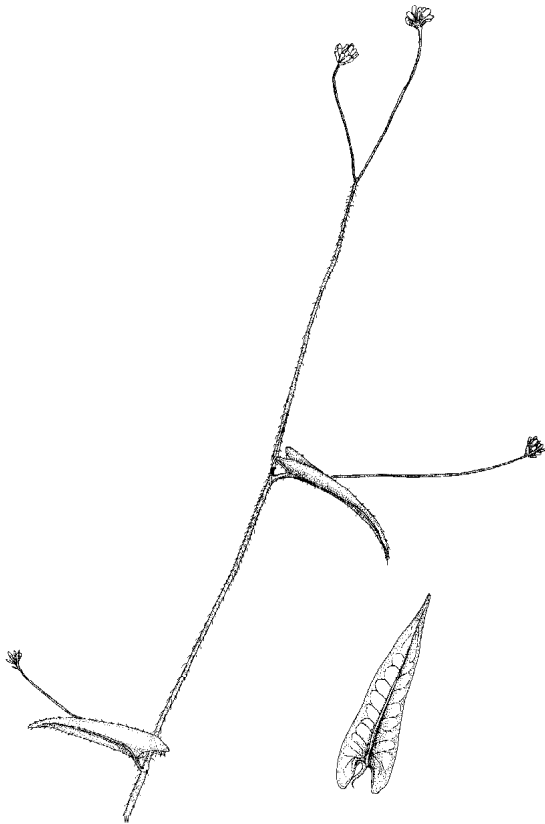
Habit: Trailing perennial herb up to 2 m long with weak intertwining branches.

Leaves: Simple, entire, alternate, arrow-shaped leaves with acute tips. Leaf midribs contain spines.

Flowers: White to pink, clustered on ends of stalks.

Habitat: Freshwater marshes, wet fields across NC.

Field characteristics: Square stem is heavily armed with unmistakable briars that can tear flesh, hence the common name.



HERBS

Common Wetland Plants of NC

Water-horehound, Bugleweed
Lycopus virginicus L.

Family: Lamiaceae

Mint Family

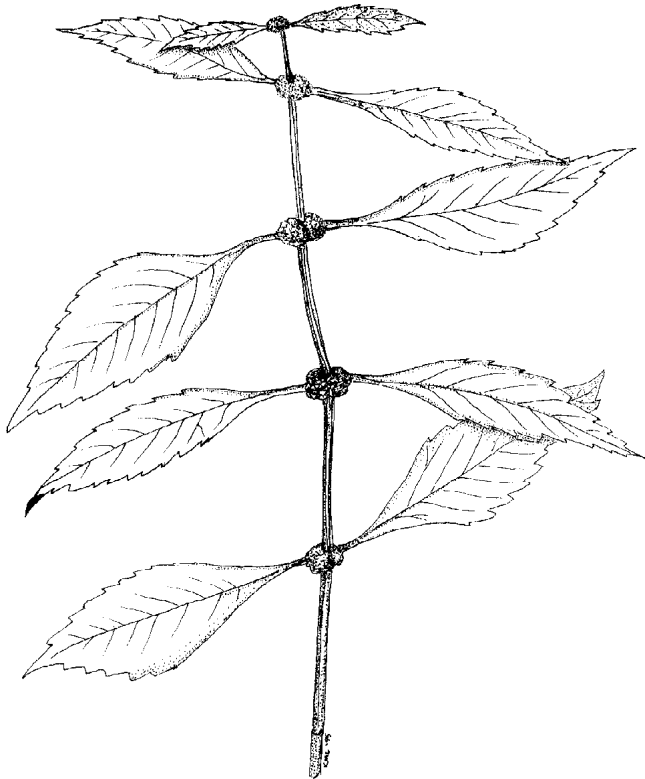
Habit: Small to medium perennial herb, less than 1 m in height.

Leaves: Opposite, toothed, dark green, lanceolate leaves, sometimes with purple coloration.

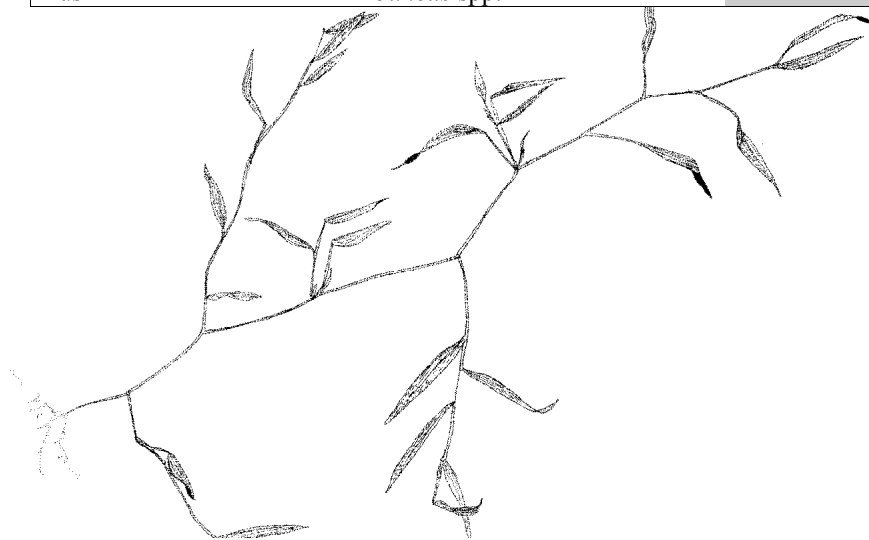
Flowers: Small, white tubular flowers form distinctive spherical clusters or whorls at the base of the leaves.

Habitat: Wet meadows, swamps, streambanks, perimeter of ponds throughout NC.

Field characteristics: Stems are four-sided, clusters of axillary flowers are distinctive.



GRASSES, SEDGES, RUSHES		WETLAND STATUS
Grasses		
American Cupscale	<i>Sacciolepis striata</i>	OBL
Arthraxon, Joint head	<i>Arthraxon hispidus</i>	FACU+
Barnyard Grass	<i>Echinochloa crusgalli</i>	FACW-
Cane, Giant	<i>Arundinaria gigantea</i>	FACW
Cordgrass, Giant	<i>Spartina cynosuroides</i>	OBL
Cordgrass, Salt Meadow	<i>Spartina patens</i>	FACW
Cordgrass, Smooth	<i>Spartina alterniflora</i>	OBL
Cutgrass, Rice	<i>Leersia oryzoides</i>	OBL
Grass (<i>creeping</i>)	<i>Microstegium vimineum</i>	FAC+
Reed, Common	<i>Phragmites australis</i>	FACW
River Oats	<i>Chasmanthium latifolium</i>	FAC-
Saltgrass; Spikegrass	<i>Distichlis spicata</i>	FACW+
Wiregrass	<i>Aristida stricta</i>	FAC-
Sedges		
Beakrush	<i>Rhynchospora</i> spp.	FACW-OBL
Bulrush	<i>Scirpus</i> spp.	OBL
Sawgrass	<i>Cladium mariscus jamaicense</i>	OBL
Sedge; Carex	<i>Carex</i> spp.	FAC - OBL
Spikerush	<i>Eleocharis</i> spp.	FACW-OBL
Rushes		
Black needlerush	<i>Juncus roemerianus</i>	OBL
Rush	<i>Juncus</i> spp.	FACW-OBL



American cupscale
Sacciolepis striata (L.) Nash

Family: Poaceae

Grass Family

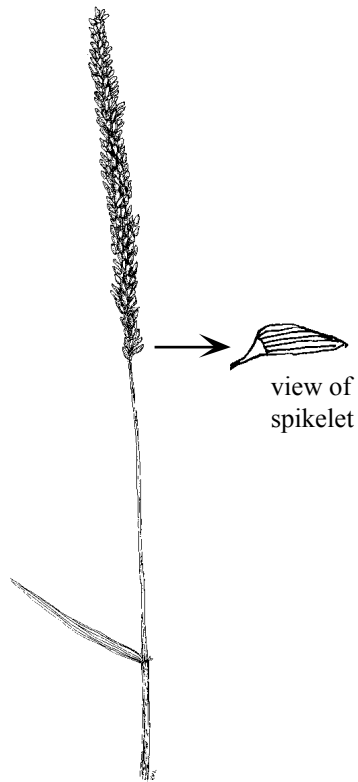
Habit: Medium height perennial aquatic or semi-aquatic grass with trailing stems that root at the nodes. Often forms dense stands, 0.5 to 1 m tall.

Leaves: Leaf blades are flat and are marked with fine parallel lines. Leaf bases are cordate and clasping. Upper leaves are often pointing downward.

Inflorescence: Inflorescence is elongate-cylindrical with spikelets on uneven length pedicels. Spikelets (pictured below) are distinctive with an inflated sac-like base.

Habitat: Freshwater marshes, edges of streams, lakes and ponds, swamps, and ditches in the coastal plain.

Field characteristics: Fine stripes on the leaves and on the inflated 'sacs' of the inflorescence are distinctive.



Joint head, Arthraxon
Arthraxon hispidus (Thunb.) Makino

Family: Poaceae

Grass Family

Habit: Low annual with thin, creeping, branching stems, 20-100 cm long. Stems root at the nodes.

Leaves: Leaf blades are ovate or lanceolate, 2-5 cm long and 0.5-1.5 cm wide.

Inflorescence: Inflorescence formed by thin spikelets arranged linearly. Spikelets are 4-5 mm long.

Habitat: This introduced species inhabits waste areas, rapidly spreading throughout ditches and wet areas.

Field characteristics: The creeping nature of this plant along with the ovate leaves are distinctive features. Similar to *Microstegium vimineum*.



GRASSES

Common Wetland Plants of NC

Barnyard grass
Echinochloa crusgalli (L.) Beauv.

Family: Poaceae

Grass Family

Habit: Medium upright annual grass, with stout stems, up to over 1 m tall. Frequently branching at the base.

Leaves: Long, tapering leaves, up to 0.5 m long and 1-2 cm wide.

Inflorescence: Compact terminal panicle, 10 to 25 cm long. Inflorescence appears purplish with bristles and is erect or nodding. The spikelets are densely concentrated on one side of the branches.

Habitat: Fresh marshes, slightly brackish marshes, swamps, moist open areas and waste places.

Field characteristics: Distinctive, long bristles make the inflorescence appear 'hairy.' Barnyard grass is commonly planted on wildlife refuges as the seeds are utilized by waterfowl and other birds.



GRASSES

Common Wetland Plants of NC

Giant cane
Arundinaria gigantea (Walt.) Muhl.

Family: Poaceae

Grass Family

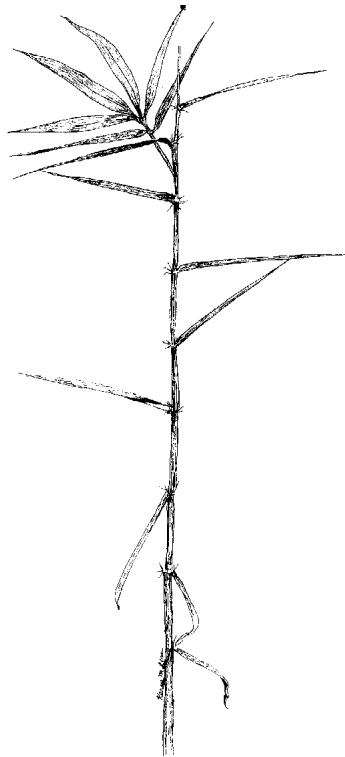
Habit: Tall, thick, woody herb, usually 1-3 m but may reach 8 m in height. This grass forms extensive colonies since it reproduces by rhizomes.

Leaves: Alternate leaves with flat acuminate blades. Leaf blades are 15-25 cm long and 2-4 cm wide with rounded bases.

Inflorescence: Solitary grass-like spikelets with brown grains. Flowers are seldom seen; flowers produced primarily in response to fire.

Habitat: Low woods, savannas and pine flats throughout NC.

Field characteristics: Resembles the non-native Chinese bamboo. Culms were previously used for fishing poles, pipe stems, baskets and mats.



GRASSES

Common Wetland Plants of NC

Giant cordgrass
Spartina cynosuroides (L.) Roth

Family: Poaceae

Grass Family

Habit: Tall, stout, upright perennial grass growing in extensive stands reaching 2-3 m; spreading by elongated rhizomes.

Leaves: Elongated, linear tapering leaf blades, up to 70 cm long and 1 to 2.5 cm wide with scabrous margins. Stems are thick, round and hollow.

Inflorescence: An open, terminal panicle with many spikes ascending and spreading. Spikelets are usually 10-12 cm long.

Habitat: Brackish marshes along the outer coastal plain or intermixed in marshes dominated by black needlerush.

Field characteristics: Giant cordgrass resembles *Phragmites* and occupies much of the same habitat. *Phragmites* has a denser inflorescence and stiff, straight leaf blades.



GRASSES

Common Wetland Plants of NC

Salt meadow cordgrass, Salt meadow hay
Spartina patens (Ait.) Muhl.

Family: Poaceae

Grass Family

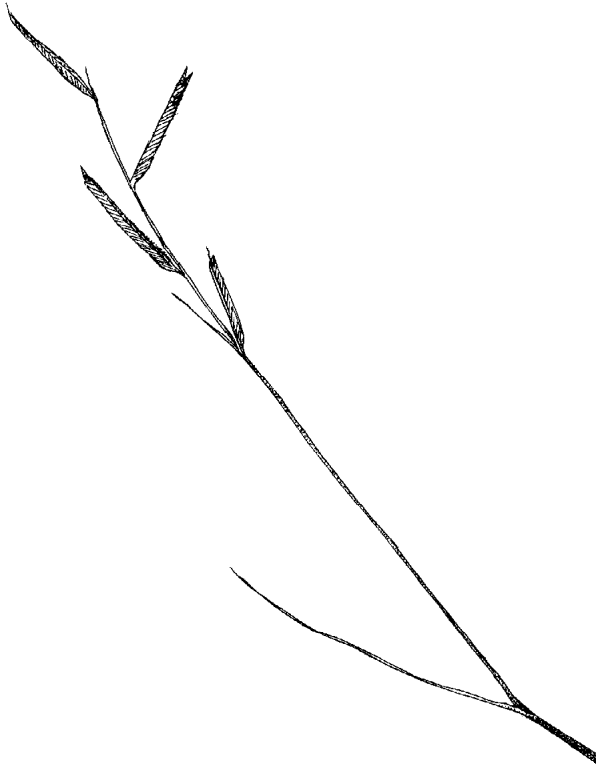
Habit: Fairly low to medium height graceful, meadow-like grass, up to a meter tall. Spreading by elongated rhizomes.

Leaves: Narrow, linear leaf blades are rolled inward and are less than 3 mm wide and 35 cm long. Stems are wiry and hollow.

Inflorescence: Open, terminal panicle with 3 to 6 alternately arranged spikes which contain densely packed spikelets, 7-12 mm long.

Habitat: Brackish marshes, low sand dunes and sand flats along the outer coastal plain. Salt meadow hay grows in vast expanses above the high tide line.

Field characteristics: This grass may spread by runners in straight lines or may form tufted growths. Salt meadow hay has wiry stems whereas other species of *Spartina* have thick stems.



GRASSES

Common Wetland Plants of NC

Smooth cordgrass
Spartina alterniflora Loisel.

Family: Poaceae

Grass Family

Habit: Medium to tall (0.5 to 2.5 m) upright perennial grass. Contains soft spongy culms which may be a centimeter thick at the base. Plants may be shorter and stunted on higher ground.

Leaves: Long grass-like blades are flat and tapering to a sharp point. Leaves are about 1 cm wide and up to 40 cm long and are typically smooth or nearly so.

Inflorescence: Terminal inflorescence is compact so it appears cylindrical. Inflorescence is about 10-30 cm long with 5-30 alternately arranged spikelets.

Habitat: Salt or brackish marshes along the outer coast, frequently growing in water and forming dense stands to the exclusion of nearly all other species.

Field characteristics: Smooth cordgrass is the most abundant and ecologically significant large plant in brackish or salt marshes as it supplies detritus to the estuaries. Salt marshes are comprised almost solely of this species.



GRASSES

Common Wetland Plants of NC

Rice cutgrass
Leersia oryzoides (L.) Sw.

Family: Poaceae

Grass Family

Habit: Medium to tall (1 to 1.5 m) perennial grass with weak, slender culms.

Leaves: Yellowish-green leaves, up to 1 cm wide and 20 cm long with toothed leaf margins.

Inflorescence: Terminal inflorescence is loosely branching and spreading, 10 to 20 cm long. Elliptical spikelets occur on wavy or undulating branches of the panicle.

Habitat: Widespread in wet areas, fresh water marshes, wet pastures and ditches. Tolerates slightly brackish waters.

Field characteristics: Sheaths and leaf blades are finely marked with parallel lines and contain small saw-like teeth on the edges.



Microstegium, Creeping grass
Microstegium vimineum (Trin.) A. Camus

Family: Poaceae

Grass Family

Habit: Low annual with freely branching, slender trailing culms, rooting at the nodes. Stems are 0.5 to 1 m long.

Leaves: Leaf blades are lanceolate, 3-8 cm long and 0.5 to 1 cm wide.

Inflorescence: Spikelets are 0.5 cm long and are in racemes of 2-6.

Habitat: This introduced species inhabits floodplains, shaded banks, roadsides and waste areas.

Field characteristics: Multiple spikelets are distinctive. May be confused with *Arthraxon hispidus*, although leaves are different. Many bottomlands are now dominated by this aggressive grass.



GRASSES

Common Wetland Plants of NC

Common reed
Phragmites australis (Cav.) Trin. ex Steud.

Family: Poaceae

Grass Family

Habit: Tall, perennial grass with upright culms, 2-4 m tall, forming dense and exclusive stands from creeping rhizomes.

Leaves: Broad, flat, linear blades, 1-5 cm wide and 15-40 cm long. Leaves are 2-ranked or arranged in 2 planes on the stems. Stems are round, thick and hollow.

Inflorescence: Terminal inflorescence is a densely branched panicle, 15-45 cm long with tan to purplish (when young) long silky hairs. Spikelets contain several flowers with long silky hairs below each flower.

Habitat: Fresh, brackish and salt marshes, banks of lakes and streams. *Phragmites* is worldwide in distribution and tolerates varying salinities from freshwater to saltwater.

Field characteristics: Large reed with silky, dense inflorescence. Stems were formerly used by southwest Indians for arrow shafts, mats and nets. *Phragmites* is derived from the Greek word, 'phragma' which refers to its fence-like growth. This noxious weed has spread into many coastal marshes along the Atlantic coast.



GRASSES

Common Wetland Plants of NC

River oats, Spikegrass
Chasmanthium latifolium (Michx.) Yates

Family: Poaceae

Grass Family

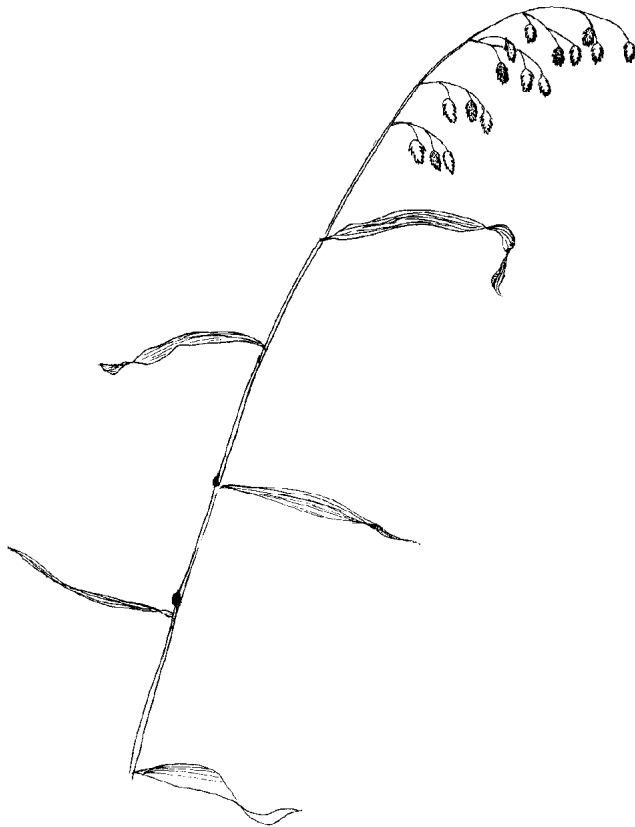
Habit: Tall, colonial grass, spreading by rhizomes. Plant is unbranched with stems 0.6 to 1.5 m tall.

Leaves: Grass-like leaf blades, 2 cm wide.

Inflorescence: Flowering portion with drooping branches contains spikelets, which resemble sea oats.

Habitat: Stream and river banks, low woods and shaded slopes throughout the state.

Field characteristics: Very similar in appearance to the common coastal sea oats.



GRASSES

Common Wetland Plants of NC

Saltgrass, Spikegrass
Distichlis spicata (L.) Greene

Family: Poaceae

Grass Family

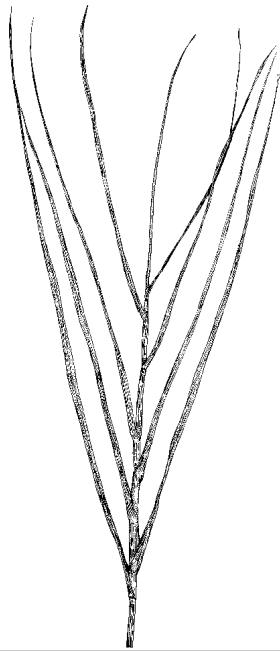
Habit: Short wiry grass 10-40 cm tall. Forms dense colonies spreading by stout rhizomes. Runners on the ground level are sometimes evident.

Leaves: Numerous thin, linear leaves occur at 45 degree angles to the stem. Leaves are distinctly 2-ranked or arranged in one plane on opposite sides of the stiff, hollow stem. Leaves contain overlapping sheaths and the edges of leaves are rolled inward.

Inflorescence: Terminal inflorescence is a light green panicle, 1 to 6 cm long. Male and female flowers occur on separate plants with small spikelets of 5-9 flowers.

Habitat: Salt marshes or brackish marshes, along seashores, forming dense colonies. Can tolerate salinities exceeding full strength seawater.

Field characteristics: Angles of leaves are distinctive forming a 'v' against the stem. Saltgrass is named from the Greek word, 'distichos' meaning leaves are 2-ranked. Saltgrass is commonly found with *Spartina patens*, but it is usually "hidden" among the taller grasses with which it grows.



GRASSES

Common Wetland Plants of NC

Wiregrass, Pinelawn three awn
Aristida stricta Michx.

Family: Poaceae

Grass Family

Habit: Medium height perennial grass forming graceful tufts or clumps, 0.5 to 1 m tall.

Leaves: Long, narrow leaf blades rolled inward and mostly originating from the base. Dense leaf hairs are evident without unrolling the blade.

Inflorescence: Loosely arranged spikelets in a slender panicle, up to 30 cm long. Flowers have 3 distinctive awns or bristles about 1 cm long.

Habitat: Wiregrass tolerates a wide range of moisture including well drained hills, wet pine savannas and flatwoods, especially where periodically burned. Mainly found in the coastal plain.

Field characteristics: Easy to distinguish when in flower since it's restricted to wet pine flats and related habitat. This species only flowers after its habitat has been burned.



GRASSES

Common Wetland Plants of NC

Beakrush
Rhynchospora spp.

Family: Cyperaceae

Sedge Family

Habit: Perennial grass-like sedge with or without rhizomes. Most species of *Rhynchospora* form clumps.

Leaves: Linear leaves are usually shorter than stems. Stems are glabrous and may be triangular or round.

Inflorescence: Inflorescence is usually in a cyme. Spikelets vary depending on the species but are often lanceolate or beak-like.

Habitat: Occur in wetland areas statewide. A large variety of beakrushes are found in the coastal plain.

Field characteristics: Beak-like spikelets on the inflorescence.



SEDGES

Common Wetland Plants of NC

Bulrush
Scirpus spp.

Family: Cyperaceae

Sedge Family

Habit: Medium to tall annual or perennial herbaceous sedge, often forming dense colonies.

Leaves: Thin, linear leaves on a cylindrical or triangular stem

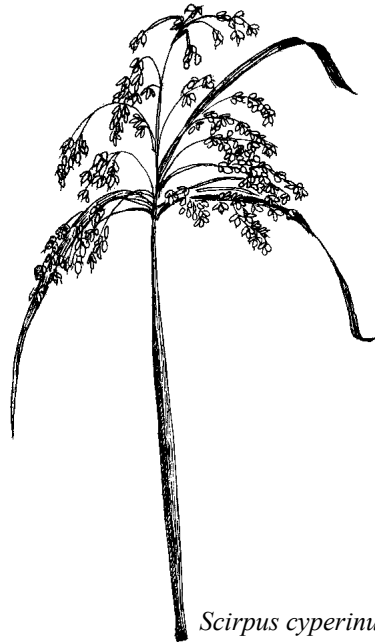
Inflorescence: Inflorescence is highly variable.

Habitat: Swamps, marshes, wet meadows and banks of ditches.

Field characteristics: One of the most common species of this genus, *S. cyperinus* (Wool grass), has many drooping branches with brownish flowering spikelets. Another common species, *S. validus* (Soft stem bulrush), has cylindrical spongy stems.



Scirpus validus
(Soft stem bulrush)



Scirpus cyperinus
(Wool grass)

Sawgrass
Cladium mariscus jamaicense (Crantz) Kukenth.

Family: Cyperaceae

Sedge Family

Habit: Tall, coarse perennial sedge up to 3 m growing in extensive stands from stout rhizomes. Stem is slightly triangular.

Leaves: Linear tapering leaves, about a meter long and one centimeter wide with spiny, saw-toothed margins. Leaves are stiff, folded at the midrib and becoming triangular at the tip.

Inflorescence: Long (0.5 m) inflorescence is formed by clusters of spikelets occurring at the end of drooping branches.

Habitat: Brackish marshes, ditches and shores in the outer coastal plain. May form dense monotypic stands in slightly brackish waters. May occur either in standing water or on drier ground in the coastal plain.

Field characteristics: Leaf margins feel unmistakably like a saw; walking through a sawgrass marsh can be a painful experience.



SEDGES

Common Wetland Plants of NC

Carex or sedge
Carex spp.

Family: Cyperaceae

Sedge Family

Habit: Medium to tall grass-like sedge, ranging in height from 15 to 120 cm. Sedges may spread by rhizomes but most commonly reproduce by seed and form clumps. Stems are solid and triangular.

Leaves: Thin, linear leaf blades have a keel at the midrib. Leaves are typically 3-ranked and often overtop the inflorescence.

Inflorescence: Inflorescence contains male and female flowers crowded in separate cylindrical clusters on the same plant.

Habitat: The genus, *Carex*, contains the most members of the sedge family and is the largest single genus in North Carolina. *Carex* spp. are found in standing water or in wet soils.

Field characteristics: Leaf blades are 'v' shaped with distinctive keels.



SEDGES

Common Wetland Plants of NC

Spikerush
Eleocharis spp.

Family: Cyperaceae

Sedge Family

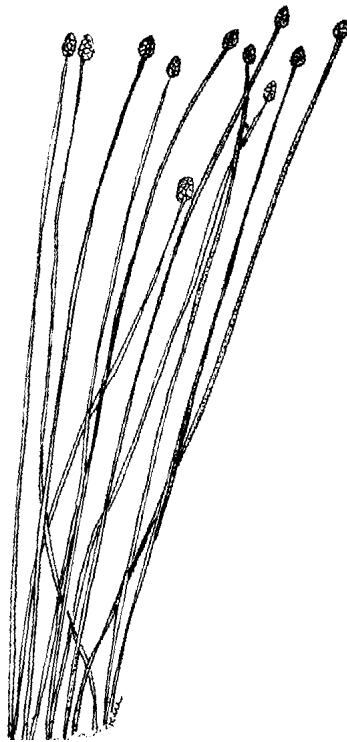
Habit: Annual or perennial glabrous sedge with a single spikelet or head formed on the end of a stem. Perennial forms reproduce by runners or stolons and annuals form dense clumps, reproducing by seed. Culms are square, triangular or rounded.

Leaves: Leaves are reduced to bladeless sheaths originating at the base of the stem.

Inflorescence: Inflorescence is a solitary spikelet appearing at the end of a stem. Scales of the spikelet are usually spirally arranged.

Habitat: All spikerushes grow in wet areas around the edges of ponds, lakes or wet meadows.

Field characteristics: The terminal cone-like head helps in recognition of members of this genus. However, this characteristic is not readily evident in *E. baldwinii*, a shoreline or submersed plant.



Black needlerush
Juncus roemerianus Scheele.

Family: Juncaceae

Rush Family

Habit: Perennial rush with hollow, needle-like stems usually to 1 m tall. Black needle rush spreads by rhizomes and appears as dense and extensive stands of grayish or reddish-brown stiff needles.

Leaves: Leaf blades are absent but leaf sheaths arise from near the apex of the stem. The stem tip is very sharp and can pierce flesh.

Inflorescence: Compound panicle up to 12 cm long.

Habitat: Brackish marshes and tidal flats in the lower coastal plain. Black needlerush is found in the upper intertidal zone where it is inundated by saltwater during storm tides.

Field characteristics: Rigid, reddish, gray or brown needles forming extensive stands, particularly in the northern outer coastal plain of NC. Black needlerush tolerates a wide range of salinity. This is the most common species in brackish waters. Marshes dominated by this rush may cover hundreds of acres.



SEDGES

Common Wetland Plants of NC

Rush
Juncus spp.

Family: Juncaceae

Rush Family

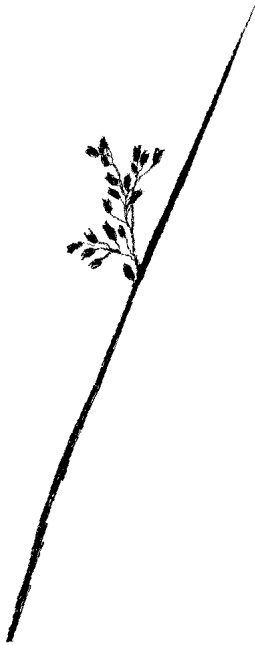
Habit: Annual or perennial (mostly perennial and reproduce by rhizomes) grass-like rushes of wet areas, forming dense clumps. Upright, cylindrical, hollow, glabrous stems are usually pale or bright green and needle-like.

Leaves: In some species, leaf blades are absent but brownish-red leaf sheaths that open vertically are found near the base of the stems. Needle-like stems are cylindrical or flattened.

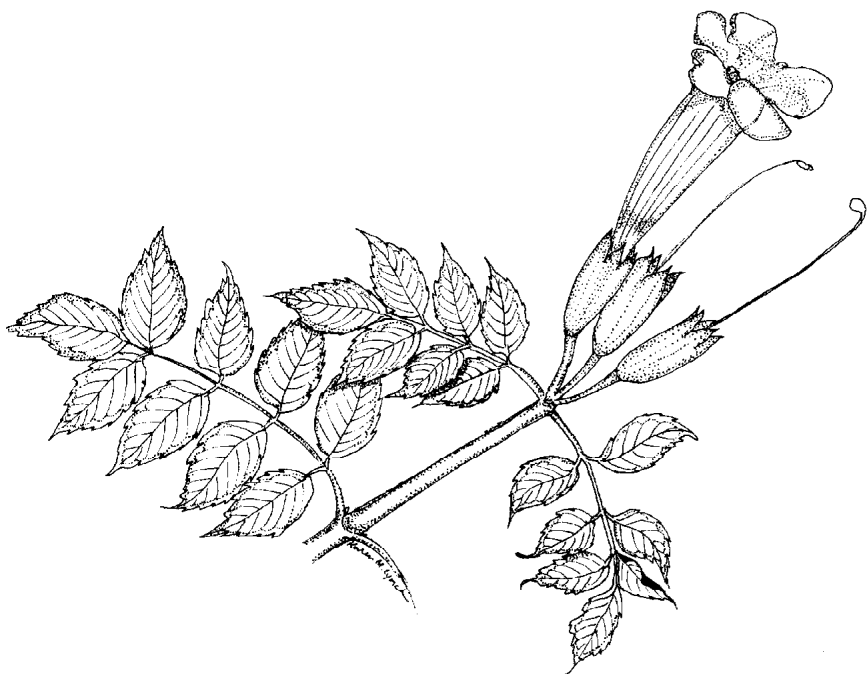
Inflorescence: The inflorescence contains a panicle of numerous small flowers on pedicels of varying lengths. A bract which is indistinguishable from other stem tips, occurs above the flowering stems.

Habitat: Forms large clumps along the edges of ponds, lakes, marshes and wet fields.

Field characteristics: Clumps of needle-like stems with the inflorescence emerging from near the top of the needle-like stem. Two common species of rush that are fairly widespread throughout NC include *J. effusus* and *J. coriaceus*. *J. effusus* is the most characteristic rush inland and may form marshes many acres in size.



VINES		WETLAND STATUS
Climbing hempweed	<i>Mikania scandens</i>	FACW+
Crossvine	<i>Bignonia capreolata</i>	FAC
Grape	<i>Vitis</i> spp.	FACW- - UPL
Ground-nut	<i>Apios americana</i>	FACW
Greenbriers		
Greenbrier	<i>Smilax</i> spp.	OBL - FACU
Greenbrier, Laurel-leaved	<i>Smilax laurifolia</i>	FACW+
Greenbrier; Saw greenbrier	<i>Smilax bona-nox</i>	FAC
Poison ivy	<i>Toxicodendron radicans</i>	FAC
Rattan vine	<i>Berchemia scandens</i>	FACW
Trumpet creeper	<i>Campsis radicans</i>	FAC
Virginia creeper	<i>Parthenocissus quinquefolia</i>	FAC



Climbing hempweed
Mikania scandens (L.) Willd.

Family: Asteraceae

Composite or Aster Family

Habit: Deciduous, climbing, herbaceous vine, often blanketing nearby vegetation.

Leaves: Opposite, cordate or triangular leaves with long petioles. Leaves 3-13 cm long with 3 main distinctive veins.

Flowers/fruit: White flowers in heads originating in axil of leaves.

Habitat: Perimeter of lakes, swamps, wet woodlands, freshwater marshes, stream banks in the coastal plain and piedmont of NC.

Field characteristics: Attractive, aggressive herbaceous vine which climbs clockwise and upward. Stems are 4-sided.



VINES

Common Wetland Plants of NC

Crossvine
Bignonia capreolata L.

Family: Bignoniaceae

Trumpet Creeper Family

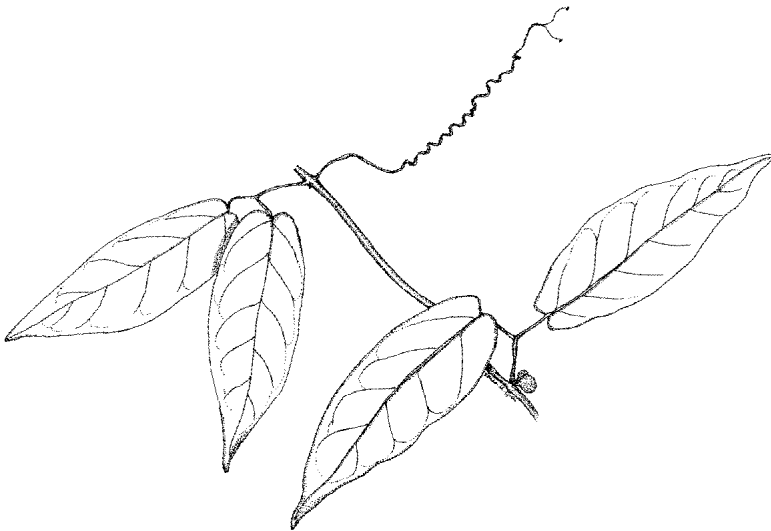
Habit: Climbing woody semi-evergreen vine, which can reach great heights, climbing by branched tendrils.

Leaves: Pairs of opposite leaflets, oblong or elongate-cordate up to 15 cm long and 2-7 cm wide.

Flowers/fruit: Showy, yellow and orange/red tubular flowers in early spring, forming fruit which is a long flattened bean-like capsule up to 15 cm long.

Habitat: Swamps, moist woods, bottomlands and bay forests; chiefly in the coastal plain and piedmont, infrequent in the mountains.

Field characteristics: Distinctive paired leaves. When severed, the large vines of this species exhibit a large cross as the name implies.



VINES

Common Wetland Plants of NC

Grape
Vitis spp.

Family: Vitaceae

Grape Family

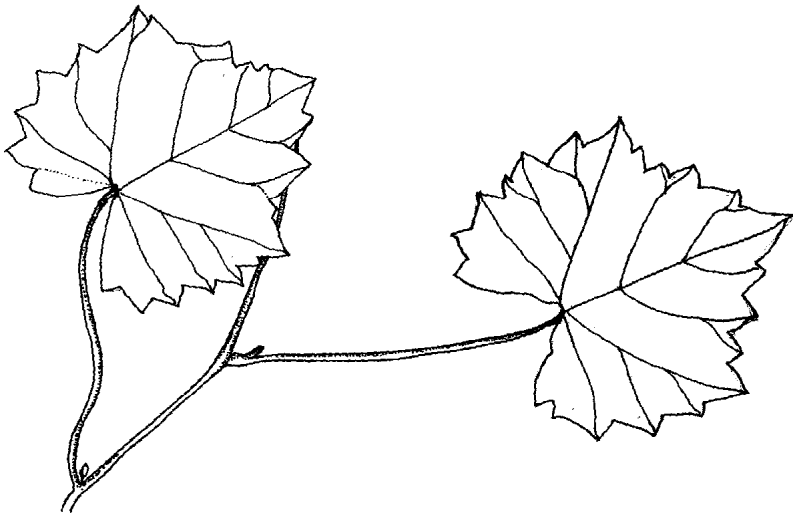
Habit: Deciduous, climbing woody vine with tendrils opposite the leaves, often climbing into the canopies of trees.

Leaves: Alternate, cordate or 3 to 7 lobed and toothed.

Flowers/fruit: Small flowers in panicles, the fruit an edible grape (although acidic in some species).

Habitat: Low woods, floodplains, stream banks, bottomlands throughout NC.

Field characteristics: Climbing vine with cordate or lobed leaves. Older vines have shredded bark.



VINES

Common Wetland Plants of NC

Ground-nut
Apios americana Medic.

Family: Fabaceae

Legume or Bean Family

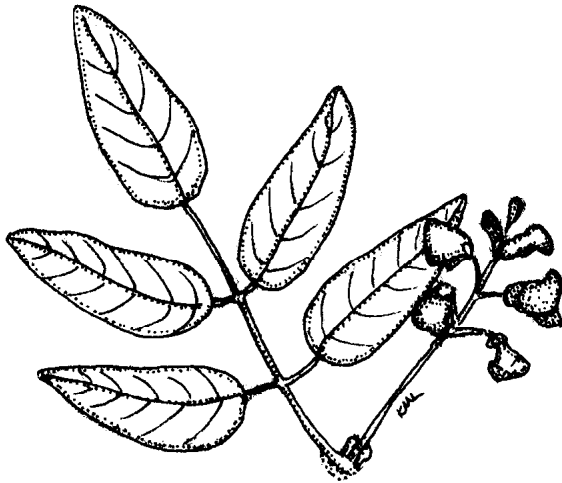
Habit: Twining, herbaceous vine, spreading by rhizomes.

Leaves: Compound leaves with 5-7 leaflets, 3-6 cm long with acuminate tips. Leaves are 10-20 cm long.

Flowers/fruit: Typical 'bean' flower, purplish to brown. Flower is roughly 2-lipped with 5 petals bearing a long, bean-like pod, up to 10 cm.

Habitat: Freshwater marshes, edges of streams or ponds, bottomlands throughout NC.

Field characteristics: Succulent, herbaceous vine with typical 'bean family' characteristics (flower, pea-pod).



VINES

Common Wetland Plants of NC

Greenbrier, catbrier
Smilax spp.

Family: Liliaceae

Lily Family

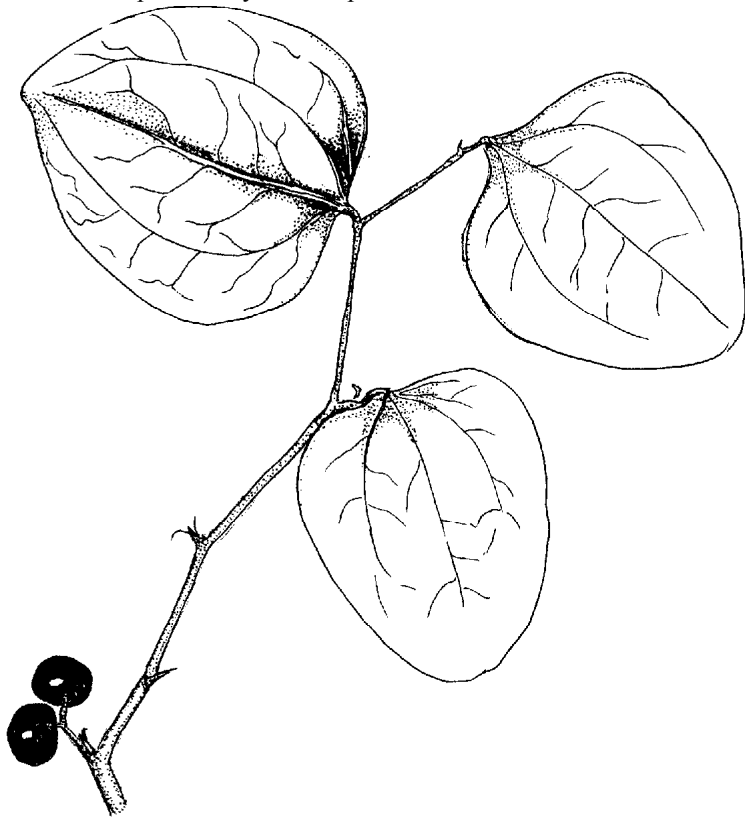
Habit: Climbing evergreen or deciduous, woody vine with green stems and tendrils. Also contains unmistakable thorns.

Leaves: Alternate, simple, often cordate or oval leaves with 3-5 main parallel veins.

Flowers/fruit: Flowers in umbels. Fruits dark blue-black or red depending on the species.

Habitat: Wet woods, uplands, throughout NC.

Field characteristics: Often mistaken for 'green barbed wire' when encountered in the field. Some species may form impenetrable thickets.



VINES

Common Wetland Plants of NC

Laurel-leaved greenbrier, bamboo vine
Smilax laurifolia L.

Family: Liliaceae

Lily Family

Habit: Vigorous evergreen, woody vine with thorns, forming dense thickets.

Leaves: Alternate, simple, narrowly oblong, leathery leaves up to 10-15 cm long and 5 cm wide.

Flowers/fruit: Flowers in umbels, producing black spherical berries, about 1 cm wide.

Habitat: Swamps, bay forests, pine flats, pocosins in the coastal plain and in the inner southern piedmont of NC.

Field characteristics: Leaves oblong and pointing upward. Leaves may appear mottled. This species makes traversing pocosins nearly impossible.



VINES

Common Wetland Plants of NC

Saw greenbrier, bullbrier
Smilax bona-nox L.

Family: Liliaceae

Lily Family

Habit: Semi-evergreen, climbing, woody vine with paired tendrils. Stem is slightly square.

Leaves: Alternate, leathery cordate leaves with small spines around leaf edges. Leaves 10 cm long and 8 cm wide.

Flowers/fruit: Small flowers in umbels, producing black spherical berries in umbels.

Habitat: Upland woods, floodplains, bay forests, pine flats and in cutover areas. Found throughout the state, but most commonly in the coastal plain.

Field characteristics: Attractive cordate or hastate leaves, often mottled and rimmed with bristles.



VINES

Common Wetland Plants of NC

Poison ivy
Toxicodendron radicans (L.) Kuntze

Family: Anacardiaceae

Cashew or Sumac Family

Habit: Deciduous high climbing woody vine with distinctive, hairy, aerial roots. May take on a shrubby growth form of slender unbranched stems up to 1 m tall.

Leaves: Alternate, shiny, thin leaves with 3 ovate (sometimes toothed) leaflets with pointed ends. Leaves are variable but end leaflet is on a long stalk.

Flowers/fruit: Panicles of white, nondescript, flowers later produce white berry-like drupe.

Habitat: Swamps, wetlands, dry uplands, throughout NC.

Field characteristics: 'Leaves of three, let them be,' is a good way to remember this plant, which may cause a severe rash in people allergic to poison ivy. Hairy vines and upright branch tips are helpful in identifying this species when it has lost its leaves.



VINES

Common Wetland Plants of NC

Rattan vine, Supple-jack
Berchemia scandens (Hill) K. Koch

Family: Rhamnaceae

Buckthorn Family

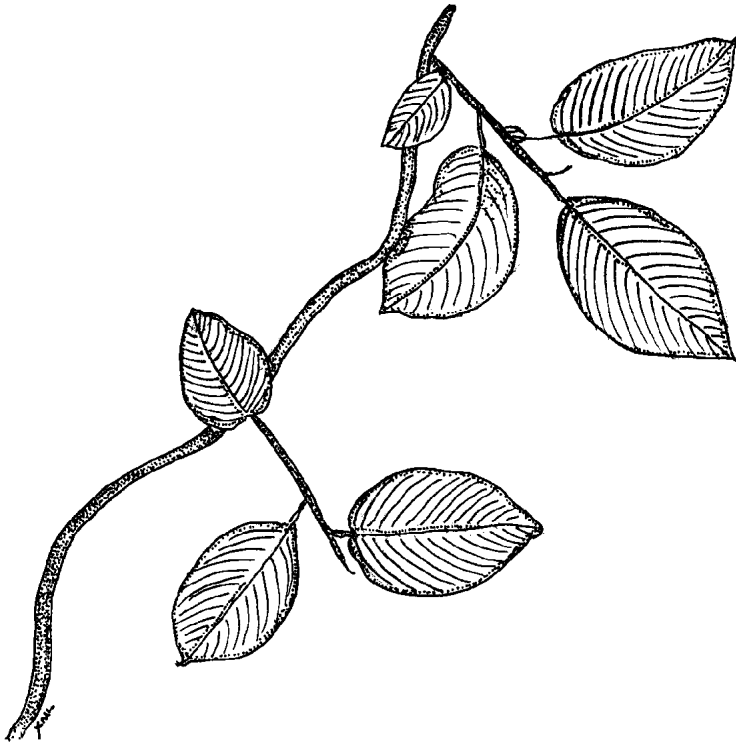
Habit: Deciduous, climbing, flexible woody vine.

Leaves: Alternate, ovate or elliptical, shiny entire leaves, 4-8 cm long and 3 cm wide. Leaf venation is strikingly parallel with 10 or more veins on each leaf side.

Flowers/fruit: Small inconspicuous flowers in panicles. Fruit is an elliptical black drupe, 5-7 mm long.

Habitat: Flood plain forests, moist sandy woods, stream banks, flat woods, bottomlands, rich woodlands, mainly in the coastal plain.

Field characteristics: Smooth, reddish-brown stems, useful in basketry.



VINES

Common Wetland Plants of NC

Trumpet creeper, Cow-itch vine
Campsis radicans (L.) Seem. ex Bureau

Family: Bignoniaceae

Trumpet Creeper Family

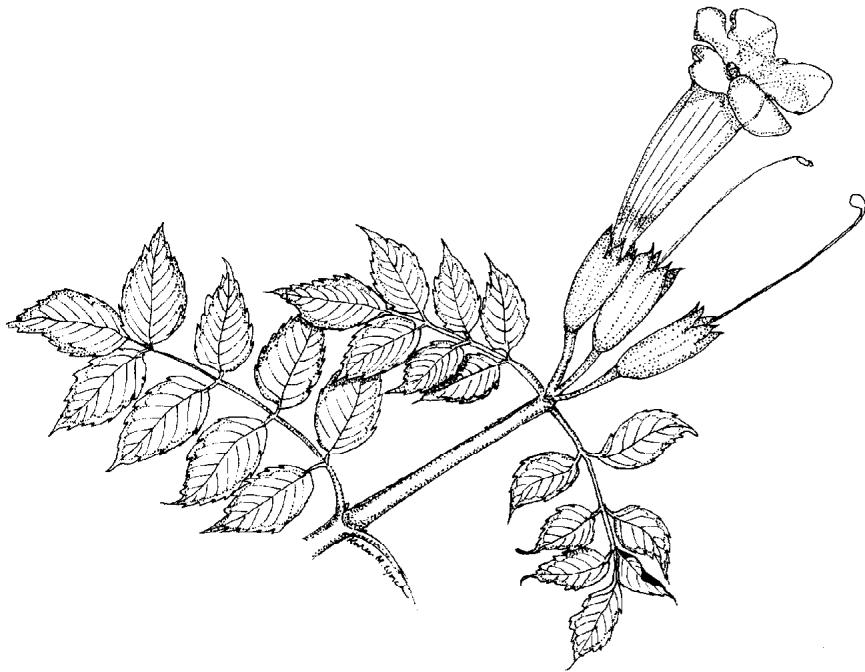
Habit: Deciduous, climbing or sprawling trailing woody vine. Trumpet creeper climbs via aerial roots in double rows on stems and does not have tendrils.

Leaves: Opposite, pinnately compound leaves with 7-11 toothed leaflets, usually up to 4-8 cm long. Leaf is up to 30 cm long.

Flowers/fruit: Terminal cluster of 2-9 showy red 'trumpet' flowers with 5 lobes at the end of the tube later forming large seed pods.

Habitat: Forested wetlands, moist uplands, old fields, fence rows, waste places, throughout NC.

Field characteristics: Often called the 'fence post vine' as it can be spotted along roadsides, sprawling over fence posts. Elongated seed pods and aerial roots are distinctive.



VINES

Common Wetland Plants of NC

Virginia creeper
Parthenocissus quinquefolia (L.) Planch.

Family: Vitaceae

Grape Family

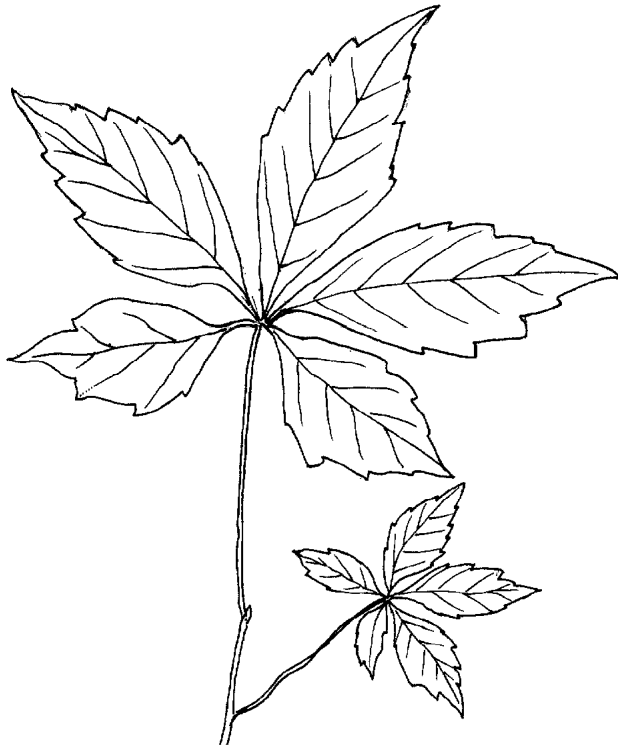
Habit: Deciduous, climbing or trailing supple woody vine with small cupped 'feet' which adhere to surfaces.

Leaves: Alternate, palmately compound with 5 oval toothed leaflets. Leaflets are 5-15 cm long and 2-3 cm wide. Leaves are strikingly reddish-purple in autumn.

Flowers/fruit: Small flowers in cymes, later producing blue berries.

Habitat: Swamps, bottomlands, rich upland woods, throughout NC.

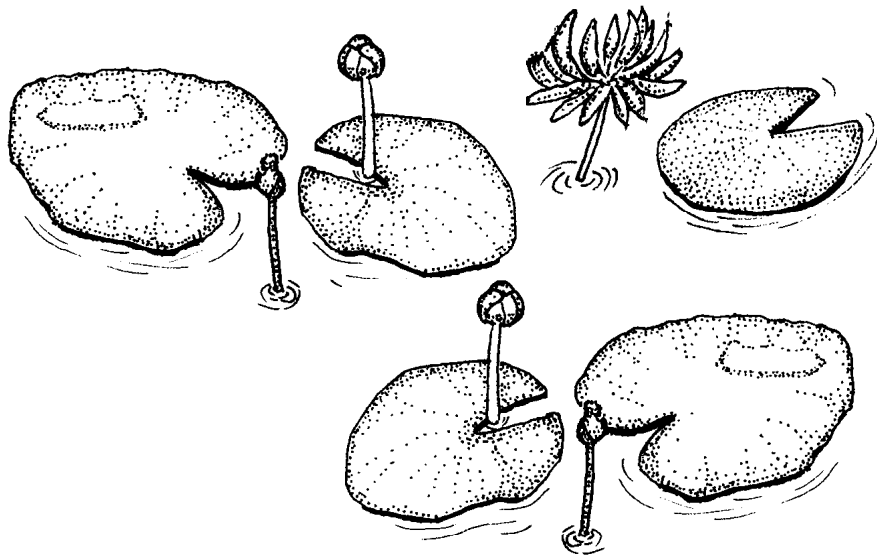
Field characteristics: Tendrils with suction cups, 5 compound leaves. Young growth of Virginia creeper may have only 3 leaflets and resemble poison ivy.



VINES

Common Wetland Plants of NC

AQUATIC HERBS		WETLAND STATUS
Bladderwort	<i>Utricularia</i> spp.	OBL
Common duckweed	<i>Lemna</i> spp.	OBL
Giant duckweed	<i>Spirodela</i> spp.	OBL
Spatterdock; Cow lily	<i>Nuphar lutea</i>	OBL
Water lily, Fragrant	<i>Nymphaea odorata</i>	OBL
Water lotus	<i>Nelumbo lutea</i>	OBL
Water meal	<i>Wolffia</i> spp.	OBL



Bladderwort
Utricularia spp.

Family: Lentibulariaceae

Bladderwort Family

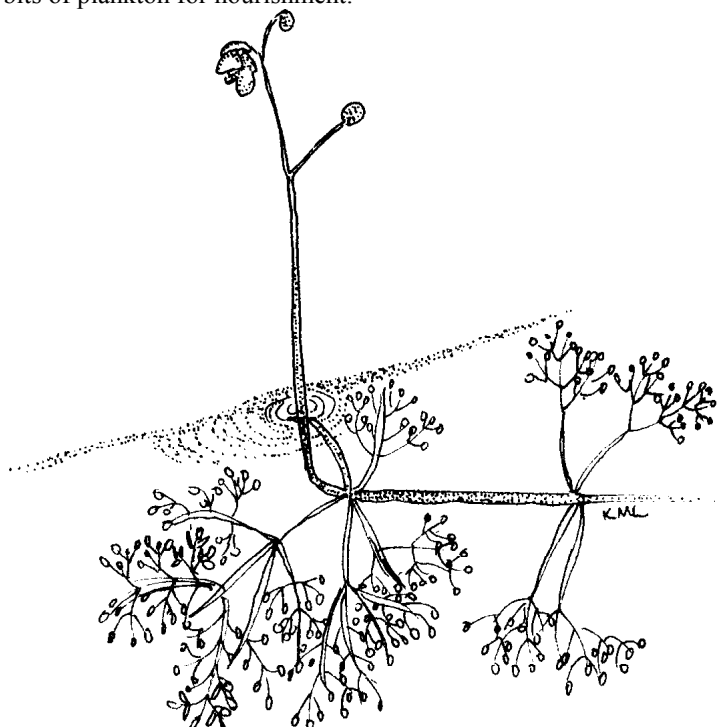
Habit: Rootless, herbaceous aquatic plant (though a few are terrestrial) containing floating bladders, sometimes forming mats. Stems are thin and dendritically branched.

Leaves: Inconspicuous linear leaves, usually alternate, but may be whorled or opposite.

Flowers: Long flowering stem with 1-20 yellow, white or purple flowers which grow above the water's surface. Flower is two lipped with the upper lip 2-lobed and the lower lip 3-lobed.

Habitat: Aquatic plants floating in water of ponds, lakes, shallow pools. Some species are found statewide but the majority of the species are restricted to the coastal plain.

Field characteristics: Distinctive bladders and thinly dissected leaves help this plant to float upright for photosynthesis. The bladders also trap and consume small bits of plankton for nourishment.



AQUATIC HERBS

Common Wetland Plants of NC

Common duckweed
Lemna spp.

Family: Lemnaceae

Duckweed Family

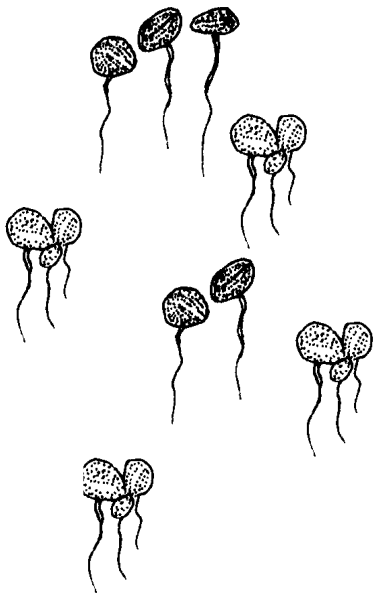
Habit: Small, flattened, floating aquatic plant occurring on the water's surface.

Leaves: Leaves and stems are reduced and are referred to as 'fronds' which look like small leaves, 2-6 mm long. Fronds of *Lemna* are light green with a middle ridge and contain 1 root per frond.

Flowers: Inconspicuous flowers are produced in a pouch or spathe.

Habitat: Swamps, ponds, lakes and sluggish creeks in the coastal plain and piedmont. Occasionally occur in the mountains.

Field characteristics: The single root per frond helps to distinguish *Lemna* from similar types of duckweed.



Giant duckweed
Spirodela spp.

Family: Lemnaceae

Duckweed Family

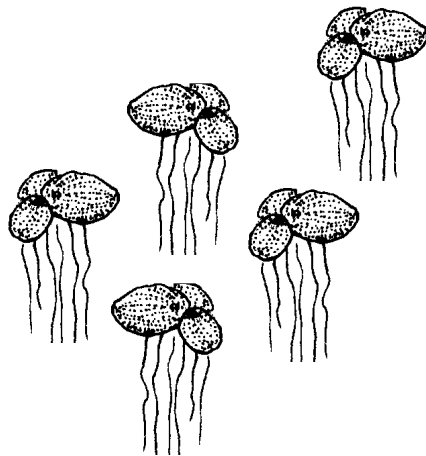
Habit: Small, flattened floating aquatic plant occurring on the water's surface. *Spirodela* is the largest of the duckweeds.

Leaves: Leaves and stems are reduced to leaf-like structures or fronds which are 2-8 mm long or wide. Fronds are green on the top surface and purplish below with 2 or more roots per frond.

Flowers: Inconspicuous flowers are allegedly produced in pouches, but flowers are not seen in NC. During the winter, reproduction occurs by turions which sink to bottom waters. During spring, turions germinate, producing more plants.

Habitat: Lakes, ponds and sluggish streams in the coastal plain or piedmont. As with other duckweeds, this plant is wind driven.

Field characteristics: Usually found with other members of the duckweed family, *Spirodela* is recognized by having several roots per frond. An easy way to remember this is that the 'S' in *Spirodela* stands for 'several' roots while the 'L' in *Lemna* refers to 'lone' root.



Spatterdock, Cow lily
Nuphar lutea (L.) Sm.

Family: Nymphaeaceae

Water lily Family

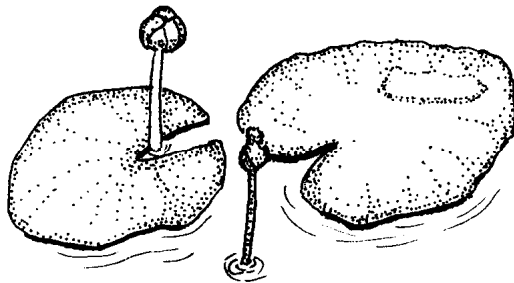
Habit: Emerged, floating or submersed aquatic plant growing from a spongy rhizome.

Leaves: Leaves are ovate or cordate with split leaf bases. Leaf veins originate from main central vein and extend to the outer edge of leaf. Leaves are about 30 cm long and 25 cm wide.

Flowers: Spherical yellow flower with 6 light green sepals and numerous petals.

Habitat: Lakes, ponds, swamps and streams throughout the state, but predominantly in the southern coastal plain.

Field characteristics: Cordate leaves with prominent midvein and distinctive spherical yellow flower. In flowing coastal waters, leaves are 3 times as long as wide and margins are undulate or rippled. Intermediates with varying length to width ratios also occur.



Fragrant water lily
Nymphaea odorata (Ait.)

Family: Nymphaeaceae

Water lily Family

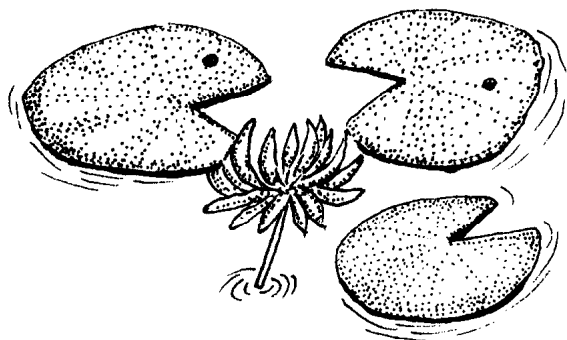
Habit: Floating leaved aquatic plant with long leaf stalks arising from the rhizome.

Leaves: Circular leaves are split and have pointed lobes. Leaves are green on the surface and purplish on the undersides. Leaves to about 25 cm wide and long.

Flowers: White or pinkish fragrant flower with 25 or more ovate petals. Flower has 4 green sepals.

Habitat: Lakes, ponds and slow streams throughout the state.

Field characteristics: Split leaf with reddish undersides and fragrant flower when in bloom. A similar plant, Spatterdock or Cow lily, has rounded or cordate leaf bases and green undersides.



Water lotus
Nelumbo lutea Willd.

Family: Nelumbonaceae

Water lotus Family

Habit: Emerged aquatic plant with large rounded leaves which extend above the surface of the water. Plant has spongy rhizomes from which the leaves and flowers arise.

Leaves: Large round, bluish-green leaves, 20-70 cm wide with concave centers. Early leaves float on the surface later becoming suspended above the water as the petiole continues to grow.

Flowers: Attractive, pale yellow flower can be as large as the leaves. Seed pods are woody and persist and are often used ornamentally.

Habitat: Ponds, lakes, marshes and slow streams.

Field characteristics: Large leaves are not split as with other water lilies. Seed pods persist and are distinctive. A milky substance is found in all parts of water lotus.



AQUATIC HERBS

Common Wetland Plants of NC

Water meal
Wolffia spp.

Family: Lemnaceae

Duckweed Family

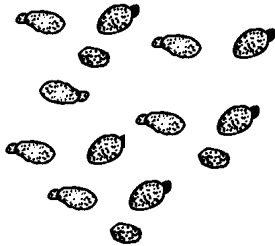
Habit: Miniscule, rootless aquatic plant floating on the water's surface or slightly below the surface.

Leaves: Globular, elliptical (or footprint shaped) green frond 0.5 to 1.5 mm long or wide.

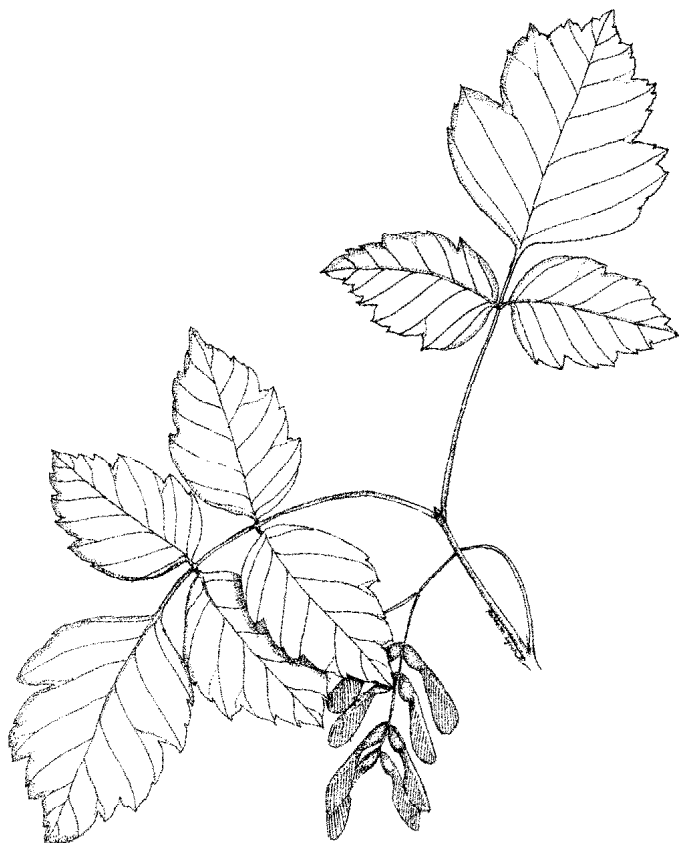
Flowers: Inconspicuous flowers are produced in a pouch or spathe on the underside of the plant. Most reproduction occurs vegetatively and flowering in *Wolffia* is rare.

Habitat: Similar to duckweeds, *Wolffia* occurs in ditches, marshes, lakes, ponds and sluggish streams, primarily in the coastal plain, sometimes found in the piedmont.

Field characteristics: Rootless wind driven plant looks like green 'grits.' Water meal is the smallest vascular plant known. It thrives in the presence of large amounts of nitrogenous matter.



Appendices



Appendix I Dominant Plants from Major Wetland Types

wet flats (subtypes are listed below)

loblolly pine subtypes

Loblolly pine	<i>Pinus taeda</i>
Red maple	<i>Acer rubrum</i>
Sweetgum	<i>Liquidambar styraciflua</i>
Swamp black gum	<i>Nyssa biflora</i>
Horse sugar	<i>Symplocos tinctoria</i>
Hollies	<i>Ilex</i> spp.
Giant cane	<i>Arundinaria gigantea</i>

longleaf pine subtypes

Longleaf pine	<i>Pinus palustris</i>
Pond pine	<i>Pinus serotina</i>
Hollies	<i>Ilex</i> spp.
Wiregrass	<i>Aristida stricta</i>
Beakrush	<i>Rhynchospora</i> spp.
Giant cane	<i>Arundinaria gigantea</i>

non-pine subtypes

Bald cypress	<i>Taxodium distichum</i>
Swamp black gum	<i>Nyssa biflora</i>
Cherrybark oak	<i>Quercus pagoda</i>
Laurel oak	<i>Quercus laurifolia</i>
Swamp chestnut oak	<i>Quercus michauxii</i>
Red maple	<i>Acer rubrum</i>
Sweetgum	<i>Liquidambar styraciflua</i>
Loblolly pine	<i>Pinus taeda</i>
Sweet pepperbush	<i>Clethra alnifolia</i>
Giant cane	<i>Arundinaria gigantea</i>
Netted chainfern	<i>Woodwardia areolata</i>
Virginia chainfern	<i>Woodwardia virginica</i>
Sedge; Carex	<i>Carex</i> spp.
Laurel-leafed greenbriar	<i>Smilax laurifolia</i>
Sphagnum moss	<i>Sphagnum</i> spp.

pocosins

Pond pine	<i>Pinus serotina</i>
Sweet bay	<i>Magnolia virginiana</i>
Loblolly bay	<i>Gordonia lasianthus</i>
Red bay	<i>Persea borbonia</i>
Fetterbush	<i>Lyonia lucida</i>
Ti-ti	<i>Cyrilla racemiflora</i>
Hollies	<i>Ilex</i> spp.
Laurel-leafed greenbriar	<i>Smilax laurifolia</i>

ephemeral wetlands

Plants vary depending on location and the length of inundation. Herbaceous plants will be absent during prolonged inundation. Trees or shrubs may be scattered throughout the wetland or only present on the fringes of the wetland.

seeps

Red maple	<i>Acer rubrum</i>
Sweetgum	<i>Liquidambar styraciflua</i> (piedmont)
Green ash	<i>Fraxinus pennsylvanica</i> (piedmont)
Willow oak	<i>Quercus phellos</i> (piedmont)
Pond pine	<i>Pinus serotina</i> (sandhills, inner coastal plain)
Sweet bay	<i>Magnolia virginiana</i> (sandhills, inner coastal plain)
Sweet pepperbush	<i>Clethra alnifolia</i> (sandhills, inner coastal plain)
Fetterbush	<i>Lyonia lucida</i> (sandhills, inner coastal plain)
Cinnamon fern	<i>Osmunda cinnamomea</i>
Royal fern	<i>Osmunda regalis</i> (piedmont)
Jewelweed	<i>Impatiens capensis</i> (piedmont)

mountain bogs

Red maple	<i>Acer rubrum</i>
Tag alder	<i>Alnus serrulata</i>
Swamp rose	<i>Rosa palustris</i>
Rhododendrons	<i>Rhododendron</i> spp.
Sphagnum moss	<i>Sphagnum</i> spp.
Sedge; Carex	<i>Carex</i> spp.
Cinnamon fern	<i>Osmunda cinnamomea</i>
Royal fern	<i>Osmunda regalis</i>
Sensitive fern	<i>Onoclea sensibilis</i>

bog forests

Eastern hemlock	<i>Tsuga canadensis</i>
Red maple	<i>Acer rubrum</i>
White pine	<i>Pinus strobus</i>
Black willow	<i>Salix nigra</i>
Rhododendrons	<i>Rhododendron</i> spp.
Tag alder	<i>Alnus serrulata</i>
Silky dogwood	<i>Cornus amomum</i>
Sphagnum moss	<i>Sphagnum</i> spp.
Cinnamon fern	<i>Osmunda cinnamomea</i>
Royal fern	<i>Osmunda regalis</i>
Sensitive fern	<i>Onoclea sensibilis</i>

headwater forests

Red maple	<i>Acer rubrum</i>
Sweetgum	<i>Liquidambar styraciflua</i>
Green ash	<i>Fraxinus pennsylvanica</i>
Willow oak	<i>Quercus phellos</i>
Loblolly Pine	<i>Pinus taeda</i>
American elm	<i>Ulmus americana</i>
Sycamore	<i>Platanus occidentalis</i>
Tulip poplar	<i>Liriodendron tulipifera</i> (piedmont)
Black gum	<i>Nyssa sylvatica</i> (piedmont and coastal plain)

bottomland hardwood forests

mountains

Red maple	<i>Acer rubrum</i>
Sycamore	<i>Platanus occidentalis</i>
River birch	<i>Betula nigra</i>
Eastern hemlock	<i>Tsuga canadensis</i>
Rhododendrons	<i>Rhododendron</i> spp.
Tag alder	<i>Alnus serrulata</i>
Royal fern	<i>Osmunda regalis</i>
Jewelweed	<i>Impatiens capensis</i>
<i>piedmont, sandhills and coastal plain</i>	
Red maple	<i>Acer rubrum</i>
Green ash	<i>Fraxinus pennsylvanica</i>
American elm	<i>Ulmus americana</i>
Sweetgum	<i>Liquidambar styraciflua</i>
River birch	<i>Betula nigra</i>
Ironwood	<i>Carpinus caroliniana</i>
Swamp chestnut oak	<i>Quercus michauxii</i>
Water oak	<i>Quercus nigra</i>
Willow oak	<i>Quercus phellos</i>
Sycamore	<i>Platanus occidentalis</i>
Poison ivy	<i>Toxicodendron radicans</i>
Greenbriar	<i>Smilax</i> spp.
Buckeye	<i>Aesculus sylvatica</i> (piedmont)
Coastal dog hobble	<i>Leucothoe axillaris</i> (coastal plain)
Swamp dog hobble	<i>Leucothoe racemosa</i>
Virginia willow	<i>Itea virginica</i> (coastal plain, eastern
piedmont)	
Sweet pepperbush	<i>Clethra alnifolia</i> (coastal plain, eastern piedmont)
Ti-ti	<i>Cyrilla racemiflora</i> (coastal plain)
Lizard's tail	<i>Saururus cernuus</i>
Jewelweed	<i>Impatiens capensis</i>
Giant Cane	<i>Arundinaria gigantea</i>
Cinnamon fern	<i>Osmunda cinnamomea</i>
Royal fern	<i>Osmunda regalis</i>
Sensitive fern	<i>Onoclea sensibilis</i>
Virginia chainfern	<i>Woodwardia virginica</i> (coastal plain)
Netted chainfern	<i>Woodwardia areolata</i>
swamp forests	
Bald Cypress	<i>Taxodium distichum</i>
Water Tupelo	<i>Nyssa aquatica</i>
Swamp Black gum	<i>Nyssa biflora</i>
Willow Oak	<i>Quercus phellos</i>
Red Maple	<i>Acer rubrum</i>
freshwater marshes	
Black willow	<i>Salix nigra</i>
Buttonbush	<i>Cephalanthus occidentalis</i>
Tag alder	<i>Alnus serrulata</i>
Swamp rose	<i>Rosa palustris</i>
Wax-myrtle	<i>Myrica cerifera</i> (coastal plain, piedmont)
Rose mallow; Marsh mallow	<i>Hibiscus moscheutos</i>

Cattail	<i>Typha</i> spp.
Rush	<i>Juncus</i> spp.
Bulrush	<i>Scirpus</i> spp.
Spikerush	<i>Eleocharis</i> spp.
Sedges	<i>Carex</i> spp, etc.
Arrow-arum	<i>Peltandra virginica</i>
Blue flag	<i>Iris virginica</i>
Bladderwort	<i>Utricularia</i> spp.
Common duckweed	<i>Lemna</i> spp.
Giant duckweed	<i>Spirodela</i> spp.
Spatterdock; Cow lily	<i>Nuphar lutea</i>
Fragrant water lily	<i>Nymphaea odorata</i>
Water lotus	<i>Nelumbo lutea</i>
Water meal	<i>Wolffia</i> spp.
estuarine fringe forests	
Red maple	<i>Acer rubrum</i>
Sweetgum	<i>Liquidambar styraciflua</i>
Loblolly Pine	<i>Pinus taeda</i>
Swamp Black gum	<i>Nyssa biflora</i>
Wax-myrtle	<i>Myrica cerifera</i>
Gallberry	<i>Ilex glabra</i>
Laurel-leafed Greenbriar	<i>Smilax laurifolia</i>
Netted chainfern	<i>Woodwardia areolata</i>
Cinnamon fern	<i>Osmunda cinnamomea</i>
brackish marshes	
Black needlerush	<i>Juncus roemerianus</i>
Salt meadow cordgrass	<i>Spartina patens</i>
Giant cordgrass	<i>Spartina cynosuroides</i>
Sawgrass	<i>Cladium mariscus jamaicense</i>
Saltgrass	<i>Distichlis spicata</i>
Glasswort	<i>Salicornia virginica</i>
salt shrub wetlands	
Marsh elder	<i>Iva frutescens</i>
Silverling	<i>Baccharis halimifolia</i>
Wax myrtle	<i>Myrica cerifera</i>
Sea ox-eye	<i>Borrchia frutescens</i>
salt marshes	
Smooth cordgrass	<i>Spartina alterniflora</i>
Glasswort	<i>Salicornia virginica</i>
Salt meadow cordgrass	<i>Spartina patens</i>
Saltgrass	<i>Distichlis spicata</i>

Leaf Margins

entire



lobed



toothed



crenate



serrated



doubly serrated



Leaf Tips

acuminate



acute



truncate



bristle tipped



Leaf Arrangement - Forms and Patterns

simple



opposite



palmately compound



alternate



pinnately compound (pinnate)



whorled



bi-pinnately compound (bi-pinnate)



basal rosette



Leaf Shapes

Appendix 2

elliptic



lanceolate



ovate



cordate



linear



oblanceolate



obovate



sagittate



Flower types

solitary



cyme



(flowers stalked)

panicle



umbel



disk and ray



urn



globular head



raceme



spike



corymb



catkin



Glossary

acute- sharply pointed

acuminate - long tapering point

adventitious - buds or roots that develop in unusual areas. Many wetland plants exhibit adventitious roots.

annual - a plant whose life cycle is completed in one year or one season

apex - the pointed end or tip (of leaf); **apices** is the plural form

arenchyma - air filled tissue found in wetland and aquatic plants

axil - the angle between branches and leaves or between branches and branches

axillary - originating from axils

basal rosette - leaves forming circular patterns close to the ground, generally present year-round

berry - a fleshy fruit containing 1 to many seeds

bipinnate - twice pinnate

blackwater streams - streams which do not carry sediment; are tannic in nature and flow through peat based areas

bract - a modified leaf that is part of a flower

brownwater streams - streams which carry sediment and generally originate from the piedmont or mountains

bundle scar - mark from vascular bundles left on leaf scar when leaf falls

buttressed trunks - swollen tree trunks. Trees in inundated areas often have swollen tree trunks which aid in stabilization.

catkin - a scaly, generally drooping, spike-like inflorescence

chambered pith - when the pith or inner spongy portion of branches is divided into sections or rooms, it is said to be 'chambered'; useful in identification

clasping - closely surrounding the base, as in clasping leaves

Glossary

cm - centimeter; one inch equals 2.5 cm

colonial - a group of plants of the same species, spreading by rhizome or rootstock

cordate - heart shaped

culm - the stem of a grass or grass-like plant

cyme - a broad, flat inflorescence, in which the innermost flowers bloom first

deciduous - plants that lose their leaves once a year, usually in winter.

dentate - toothed or jagged

diaphragmed pith - when the pith or inner spongy portion of branches contains lines (stripes) or divisions and the pith is continuous it is said to be diaphragmed; useful in identification

drupe - a fleshy, berry-like fruit containing one seed

elliptic - football-shaped, with the widest point at the middle

emersed- above the water's surface or emergent

emergent plants - rooted aquatic or wetland herbs with stems and leaves extending above the surface of the water

entire - smooth leaf margins, without teeth or divisions

evergreen - plants which retain their leaves throughout the year.

facultative plant (FAC) - plants which are equally likely to occur in wetlands or non-wetlands (estimated probability 34 to 66 percent)

facultative upland plant (FACU) - plants which usually occur in non-wetlands but are occasionally found in wetlands (estimated probability 1 to 33 percent)

facultative wetland plant (FACW) - plants which usually occur in wetlands (estimated probability 67 to 99 percent)

fascicle - bunch or bundle

fertile fronds - the stalks of ferns which contain the reproductive spores

Glossary

frond- consists of entire leaf of fern including the stipe (petiole) and leaf blade (green leaf)

glabrous - smooth, without hairs

globose - spherical

grass - sedge-like plant, usually with round (rarely flat) stems

hastate - elongate, heart shaped with pointed basal lobes, occurring at right angles

herbs - succulent, non-woody plants that die down at the end of the growing season

inflorescence - the flowering portion of a plant

lanceolate - much longer than wide, with the broader end near the base

leaf scar - a scar left on a twig after a leaf falls

lenticels - enlarged pores that function for gas exchange - these appear as dots on stems

ligule - a membrane, found at the base of leaf blades in some grasses

m - meter; there are approximately 39 inches in a meter

monoecious - having separate male and female reproductive structures contained on a single plant

nerve - the most prominent vein of a leaf

node - the area on a plant where leaves usually originate

oblanceolate - much longer than wide, with the broader end near the apex

obligate upland plant (UPL) - plants which almost always occur in uplands (estimated probability greater than 99 percent)

obligate wetland plant (OBL) - plants which almost always occur in wetlands (estimated probability greater than 99 percent)

obovate - oval in shape with the broader end above the middle

Glossary

ocrea - stipules that form sheaths, characteristic of smartweeds

ovate - oval in shape, with the broader end below the middle

panicle- a branched inflorescence

perennial - a plant which grows year after year

petiole - the stalk supporting a leaf

pinnate- divided into leaflets that are arranged on either side of a rachis, as in a feather

pinna - leaflet or a division of the leaf blade in ferns. (pinnae - plural form)

pome - type of fleshy fruit

prickle - a slender thorn-like projection which breaks off entirely

pubescent - hairy or fuzzy

raceme - a spike-like inflorescence with the flowers stalked

rachis - the portion of the petiole or stem to which the green leafy part of the plant (fern) is attached

rhizome - an elongated, underground root, which usually grows horizontally

rhizomatous - reproduction by sprouting horizontal roots, often resulting in a colony of plants

rush - grass-like plant that forms dense clumps, mostly in wet areas. Needle-like stems are cylindrical or flattened, hollow and green

sagittate - shaped like an arrowhead, triangular

samara - winged fruit which are dispersed by wind, found on trees such as maples

scabrous - having rough or finely toothed edges

sedge - grass-like plant, usually with solid triangular stems

sepals - modified leaves located at the base of the flower

Glossary

serrated - containing sharply pointed teeth

shrubs - woody plants generally less than 7 meters in height. Shrubs usually have multiple 'trunks' or stems.

sori - clusters of spore cases in ferns

spike - an elongated inflorescence with the flowers not stalked

spikelet - a unit of the inflorescence in the grass and sedge families, containing one or more flowers

spore - reproductive 'dust-like' cells in ferns

sporangia - cases of spores

stalked - containing a stalk or occurring on a pedestal

stamen - the pollen bearing (male) part of a flower

sterile fronds - fern stems and leaves not containing the spores.

stipe - petiole or 'stem' in ferns. Can also be a small spur-like growth in other plants

stipule - a small leafy projection on both sides of the base of a leaf or petiole

stipular scar - the scar that is left on a twig when a leaf or petiole drops

stolon- a shoot or root which may be above ground or underground

submersed - growing below the water's surface

succulent - containing fleshy tissue, not woody

tendrils - a curling structure, common in vines, which enables them to climb

terminal - occurring at the tip

trees - woody plants greater than 7 meters tall, and usually with one main trunk

trichomes - stiff fibrous hairs

turion - modified stem bud. Some perennial plants survive winter conditions by forming these specialized organs (turions)

wetland - intermediate areas between land and water, where aquatic and terrestrial communities interface.

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