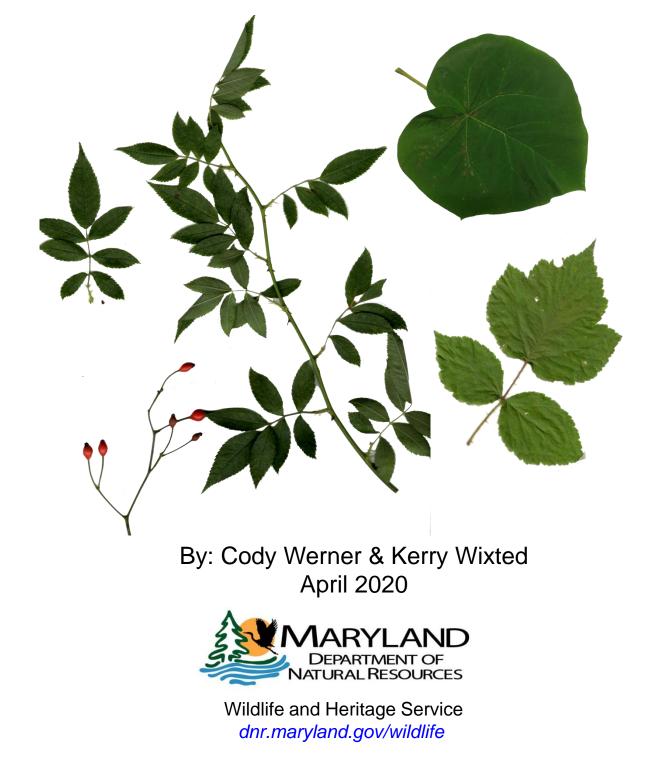
## Common Invasive Plants Easy ID Cards





**Bamboos** Common bamboo *Bambusa vulgaris* Golden bamboo *Phyllostachys aurea* Grass family (Poaceae)

**Size:** Woody stems varying from ¼ inch to 3-4 inches with hollow centers and solid joints; grow to 7-8 feet to 16-40 feet (A)

**Leaves:** Leaves are up to 10 inches long with tapered tips, tough, leathery, and 1-2 inches across. (B)

**Flower:** Flowers are grass-like and occur unpredictably and infrequently. **Fruit:** Spreads by vegetative growth.

Habitat: Adaptable to many different conditions.

**Other:** Form dense single-species thickets that displace and prevent native plant growth. Giant Cane (*Arundinaria gigantea*) is similar but can be distinguished by having only 1 mid-stem branch per node and is rare in MD.



**Garlic Mustard** *Alliaria petiolata* Mustard family (Brassicaceae)

Size: Herbaceous, biennial plant (needs two growing seasons to complete its growth cycle) First year plants are groups of leaves (basal rosette) (C) which grow in the second year when they produce a 1-4 foot tall flowering stalk.(A) Leaves: First year rosettes are green, heart shaped, 1-6 inch leaves. Leaves become more triangular and strongly toothed as the plant matures. (B) Flower: Each flower has 4 small, white petals in the early spring. (C) Fruit: Seeds are shiny black and are produced in slender green pods which turn pale brown late summer.

**Habitat:** Occurs in forest habitats, floodplains, and disturbed lands. Not tolerant of highly acidic soils.

**Other:** Easily recognized by a garlic odor when any part of the plant is crushed. Chemicals in garlic mustard are toxic to native butterfly larvae.

Photos: Kerry Wixted



**Chinese Silvergrass** *Miscanthus sinensis* Grass family (Poaceae)



Size: Forms dense clumps that grow 3-7 feet tall. (A) Leaves: Has slender, upright or somewhat arching leaves up to 18 inches long, with silvery midribs, sharp tips and rough margins. Can be striped in

appearance. (B)

**Flower:** Flowers occur September-October and are feathery, fan-shaped, silvery to pink in color, and 2 feet long at the end of stalks. (C) **Fruit:** Seeds are wind dispersed. (C)

Habitat: Adaptable to nutrient-poor, well-drained soil types such as roadsides and utility right-of-ways and prefers full sun.

**Other:** A potential source for bioenergy production. Similar to native switchgrass, *Panicum virgatum* which has much more narrow leaves.



## Lesser Celandine (Fig Buttercup) Ficaria verna Buttercup Family (Ranunculaceae)

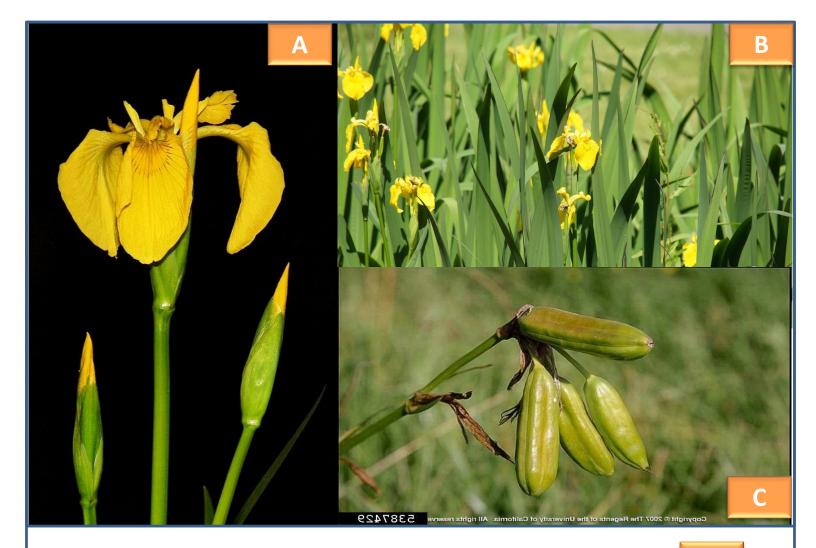


Size: Can grow to 12 inches with thick, tuberous roots, and bublets.
Leaves: Dark green, shiny, kidney to heart shaped, and can vary in size. (B)
Flower: Bright yellow flowers with 8 petals, form on stalks above the leaves in March-April. The flowers can grow to 3 inches wide. (C)

**Fruit:** The fruit are tiny little creamed colored bublets attached to leaf stalks (B). They also spread through the roots.

Habitat: Most commonly found in moist, forested floodplains and other wet areas, typically emerging in winter before other plants. (A)

**Other:** It grows vigorously, creating dense mats that block out other species. Similar to Yellow Marsh Marigold (*Caltha palustris*) which is more uniformly yellow in flower color whereas Lesser Celandine can have white blotches and stripes.



Pale Yellow Iris Iris pseudacorus Iris Family (Iridaceae)

**Size:** Aquatic, perennial plant which grows to 2-3 feet tall along shores in shallow water. (B)

Leaves: Broad, flat, and sword like, in an alternate pattern, and reduce in size going up the stem. Leaves are mostly found at base of plant. (A) Flower: Yellow flowers 2-4 inches wide grow several per stem late spring. (A) Fruit: The fruits are 1-3 inch long capsules, which contain around 120 seeds that start out white but turn brown as they ripen. (C)

**Habitat:** Most commonly found in wetlands. It is tolerant of drying and of some salinity and high soil acidity.

**Other:** It will sicken livestock if ingested, and its resin can cause skin irritation in humans. Without flowers, it can be distinguished from natives by flowering stems shorter than leaves. No native irises have yellow flowers.

Photo A: Robert Pittman Flickr CC by ND 2.0, Photo B: Alywyn Ladell Flickr CC BY-NC-ND 2.0 Photo C: Joseph M DiTomaso, University of California



Autumn Olive Elaeagnus umbellata Oleaster family (Elaeagnaceae)

Size: 3 - 20 foot tall shrub with thorny branches which loses its leaves in the fall. It is easily recognized by the silvery, dotted underside of the leaves. (A)
Leaves: Bright green to gray green above and silver scaly beneath. (A, C)
Flower: Small, yellowish tubular flowers are abundant and occur in clusters of 5 to 10 near the stems from February to June. (B)
Fruit: Round, red, juicy fruit, finely dotted with silvery to silvery-brown scales. Each fruit contains one seed. Fruits ripen from August to November.
Habitat: Old fields, woodland edges, and other disturbed areas. It can form a dense shrub layer which displaces native species and closes open areas.
Other: Drought tolerant and thrives in a variety of conditions; capable of fixing nitrogen in its roots.

Photo A: Mark A Garland; Photo B: Bill Johnson; Photo C: James R Allison, GA DNR.



Japanese Barberry Berberis thunbergii Barberry family (Berberidaceae)

Size: 3-6 feet in height.

**Leaves:** Leaves are  $\frac{1}{2}$  - 1  $\frac{1}{2}$  inches long. Shaped like small spoons. (A) Color ranges from green to bluish-green to dark reddish purple. Fall off in winter.

**Flower:** Abundant pale yellow flowers in April-May along entire length of stem in clusters of two to four.

**Fruit:** Bright red berries about 1/3 inch long that mature July – October and are seen all winter. (B) Fruit is eaten and spread by birds.

Habitat: Grows well in full sun to deep shade.

**Other:** Broken stems show bright yellow color inside. (C) Has thorns. Branches are deeply grooved and brown.



Multiflora Rose Rosa multiflora Rose family (Rosaceae)

Size: 3-6 feet in height as a shrub but can reach 10 feet as a vine. (A) Leaves: 5-11 sharply toothed small leaves in pairs with one at the end. (C) Base of leaves has fringed stipules. (B inset)

**Flower:** Clusters of fragrant white to pinkish flowers, 1 inches wide, appear in May. (B)

**Fruit:** Small, bright red fruits develop during the summer and remain through winter. Fruits are eaten and spread by birds.

Habitat: Tolerates a wide range of habitats and conditions.

**Other:** Produces an estimated one million seeds per year, which can remain in the soil for up to 20 years. Promoted for use in erosion control and as "living fences" for livestock. Native roses (*Rosa spp.*) have pink flowers and no fringed stipules.

Photo A: James H Miller, USDA FS; Photo B: Bill Johnson, James Miller; Photo C: Chris Evans, River to river CWMA.



**Privets** Border privet *Ligustrum obtusifolium* California privet *L. ovalifolium*, Chinese privet *L. sinense* European privet *L. vulgare* Olive family (Oleaceae)

Size: 8-20 feet tall, trunks have multiple stems with long leafy branches.
Species are distinguished by presence and type of hairs on stems.
Leaves: Opposite, entire 1-3 inch long leaves, oval to oblong in shape. (A)
Flower: Cluster at branch tips and are small, white, fragrant, and tubular with 4 petals, occur May to July. (B)

**Fruit:** Small, bluish-black with one seed that mature late summer-fall. (A) **Habitat:** Thrive in floodplains, fields, disturbed forests and edges. They form dense thickets and shade out native plants.

**Other:** Can be confused with Viburnums (*Viburnum* spp.), but flowers are in upright, rounded clusters on Viburnums.

Photo A: Justin 0 of 0, Flickr CC by NC 2.0; Photo B: Chris Evans, University of Illinois (L. sinense



Wineberry Rubus phoenicolasius Rose family (Rosaceae)

**Size:** A multi-stemmed, spiny, small shrub, covered in small, reddish hairs. Canes can grow to 9 feet. (C)

**Leaves:** The leaves are in groups of 3 heart-shaped, toothed leaflets. The undersides of the leaflets are silvery-white and very hairy. (A)

**Flower:** Small, white, 5-petaled flowers develop in May-June. The sepals (the outmost part of the flower) are hairy and longer than the petals, giving the flowers an "unopened" look.

Fruit: The fruit are clusters of bright red edible berries produced in early summer (B). The seeds are consumed and dispersed by animals.
Habitat: Invades open areas and edges but prefers moist habitat. Forms dense shady thickets that displace native plants and alter habitat structure.
Other: Native raspberries (*Rubus* spp.) do not have red, hairy stems.

Photo A: Jil M Swearington, USDI NPS; Photo B: Bill Johnson; Photo C: Leslie J Mehrhoff, University of Connecticut.



**English Ivy** *Hedera helix* Ginseng family (Araliaceae)

**Size:** Evergreen climbing vine that attaches to surfaces by root-like structure that exude a glue-like substance. (A)

Leaves: Leaves are alternate, dark green, waxy, and leathery. Can range from unlobed to 3-5 lobes; typically green with whitish veins. (C) Flower: Flowers are small, greenish-yellow and occur in globe-like starburst type groups at tips of flowering stems in late summer to early fall. (B) Fruit: Fruits are black with a fleshy outer layer and stone-like seeds. Habitat: Flourishes under shady to full sun conditions in soils that are fertile and moist, but it is intolerant of drought and salinity. Spreads vigorously and grows along the ground and into the canopy, can block sunlight from reaching host tree.

**Other:** Leaves and berries are toxic to humans, but birds spread the fruits.

Photo A: Chris Evans, University of Illinois, bugwood.org; Photo B: Jan Samanek, Phytosanitary Administration; Photo C: James H Miller, USDA FS



Sweet Autumn Virginsbower (Japanese Clematis) Clematis terniflora Buttercup family (Ranunculaceae)

Size: Climbing, perennial vine. (A)

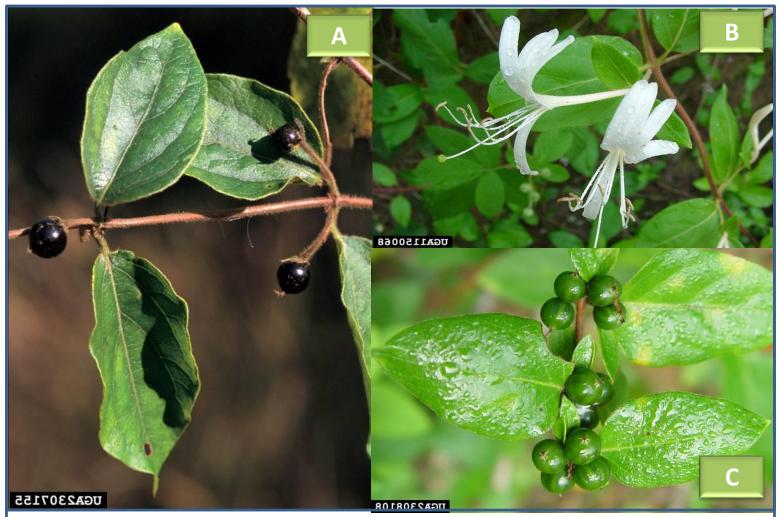
**Leaves:** Leaves are opposite and compound with 3 leaflets that are each 2-3 inches long. (A)

**Flower:** Produces very abundant, showy, fragrant, white flowers with 4 petals from late summer through fall. (A, B)

Fruit: Seeds are long with silvery, feather-like hairs attached. (C)

**Habitat:** Invades edges and open areas where it grows vigorously over other plants forming a dense blanket that blocks out sunlight below.

**Other:** The native Devil's Darning Needles (*C. virginiana*) have toothed edges on the leaves, unlike Sweet Autumn Virginsbower.



Japanese Honeysuckle Lonicera japonica Honeysuckle family (Caprifoliaceae)

**Size:** Woody, perennial, evergreen vine that can be found either trailing or climbing to over 80 feet in length. Stems are hairy and fuzzy. (A)

**Leaves:** Leaves are fuzzy, oval, opposite and 1-2.5 inches long. Young leaves have lobes ("arms"). (A)

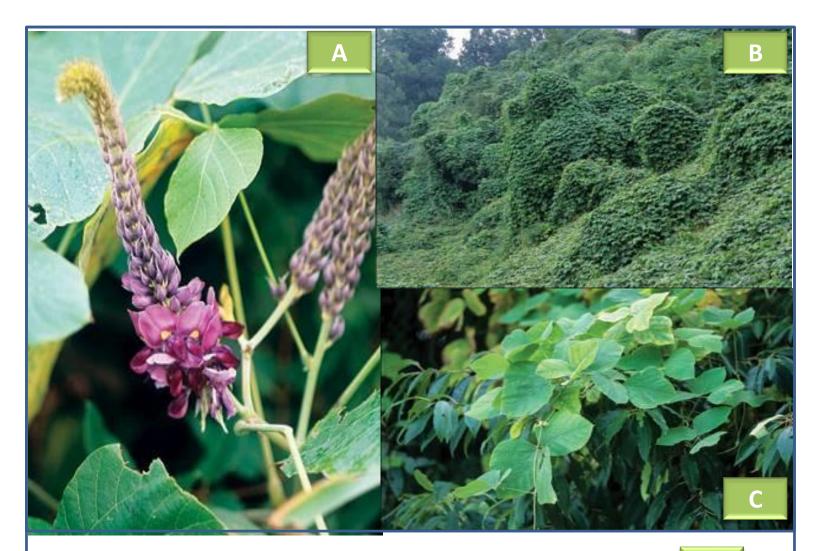
**Flower:** Showy, fragrant, tubular, whitish-pink flowers develop from April to July. The flowers turn cream-yellow as they age. (B)

**Fruit:** Small, shiny and round, and turn black as they ripen. (C, A) Each fruit contains 2-3 small brown to black seeds.

Habitat: Invades multiple habitats. It can form dense mats in the canopies shading everything below and can strangle small saplings.

**Other:** One of the most established invasive vines in the U.S.. It can be confused with native Trumpet Honeysuckle (*Lonicera sempervirens*) which has more colorful flowers only at the end of vines and a leaf that encircles

the step, Photo A: James H Miller, Ted Bodner, Southern Weed Science Society; Photo B, C; Chuck Bargeron, Univ. of Georgia.



**Kudzu** *Pueraria montana* var. *lobata* Pea family (Fabaceae)

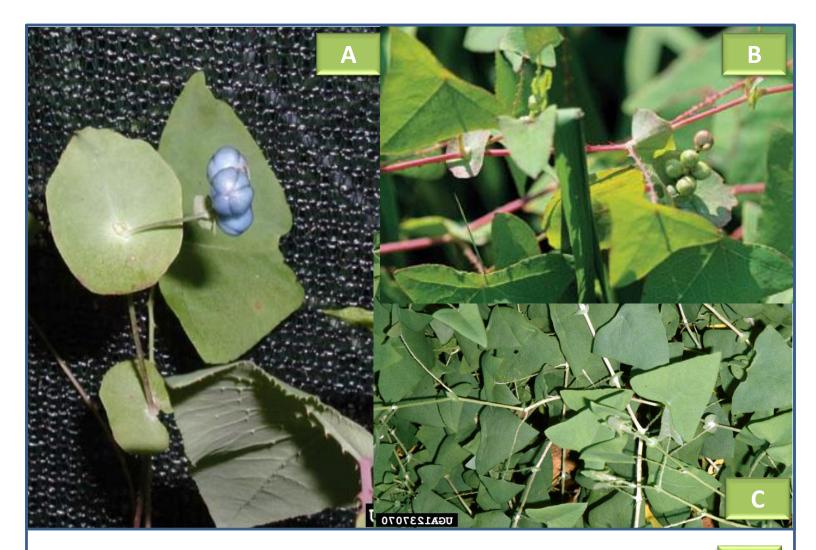
Size: Climbing vine may extend 32-100 feet long, with stems 4 inches thick.
Massive roots can reach 7 inches thick or more, 6 feet or more in length and weigh up to 400 pounds; up to 30 vines may grow from a single plant. (B)
Leaves: Leaves are alternate and compound with 3 broad leaflets up to 4 inches across, which may be entire or lobed with hairy edges. (C)
Flower: During late summer, flowers appear in upright clusters, are ½ inch long, purple and fragrant. (A)
Fruit: Fruits are brown, hairy, flattened seed pods which can contain 10

seeds. Spreads locally by vines that root to form new plants and is pollinated by the giant resin bee.

Habitat: Grows under a wide range of conditions and prefers open, sunny habitats on forest edges or roadsides.

Other: Can grow as rapidly as 1 foot per day!

Photos: Bill Johnson



Asiatic Tearthumb (Mile-A-Minute) Persicaria perfoliata (L.) H. Gross Buckwheat family (Polygonaceae)

Size: Trailing vine with delicate stems that are armed with recurved barbs.(B)
Leaves: Leaves are alternate, pale green and an equilateral triangle (equal sides) 1-3 inches wide and barbed on the undersurface. (C)
Flower: Very small and white and occur at nodes on the stems.
Fruit: Fruits occur mid-July to fall and are berry-like, deep blue and arranged in clusters at terminals. They each contain a single, hard, black seed. (A)
Habitat: Invades open and disturbed areas, such as fields, forest edges, stream banks, wetlands, roadsides and wetlands.

**Other:** Quickly grows into a thick tangle that will cover and kill other plants. Introduced weevils are a good control measure.



**Oriental Bittersweet** *Celastrus orbiculatus* Bittersweet family (Celastraceae)

**Size:** Climbing vine that can grow to 60 feet long and 4 inches around. Bark is brown, while smooth twigs can be grey to dark brown in color.

**Leaves:** Leaves are light green, elliptical to circular in shape, and measure 2-5 inches long; edges of leaves have "teeth." (A)

**Flower:** Small greenish-white flowers develop from May to June between the leaves and the stem.

**Fruit:** The small, globe-like (globose) fruits turn from green to yellow as they ripen, before splitting to reveal scarlet berries that last into winter. (B) **Habitat:** Old home sites, fields, and road edges. The fast growing vines can quickly shade and outcompete other plants, as well as kill large trees. (C) **Other:** Closely resembles American Bittersweet (*Celastrus scandens*) which has flowers and fruits at the end of the branches and narrower leaves.

Photo A: Bill Johnson; Photo B: Chris Evans, River to river CWMA; Photo C: James R Allison, GA DNR, bugwood.org



**Porcelain Berry** *Ampelopsis grandulosa* Grape family (Vitaceae)

**Size:** Woody vine that climbs by tendrils at the base of each leaf. Can grow 15-20 feet (A, C).

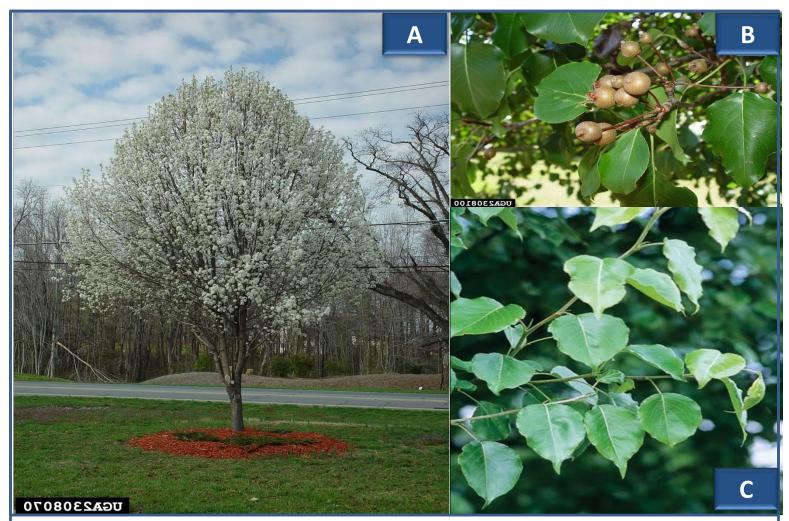
**Leaves:** Alternate, simple, with 3-5 lobes (aka "arms") and coarsely toothed edges. The undersides are shiny with hairs on the veins. (A)

**Flower:** Clusters of small greenish-white flowers occur opposite the leaves in June through August.

**Fruit:** Small, speckled berries ranging in colors from blue to pink to purple; each containing between 2-4 seeds in late summer. (B)

Habitat: Grows well in most soils, forest edges, thickets, near water, and waste areas where there is full sunlight to partial shade.

**Other:** Blankets other plants to kill them by blocking sunlight. Different from native grapes by characteristic white, starchy flesh.



**Bradford/Callery Pear** *Pyrus calleryana* Rose family (Rosaceae)



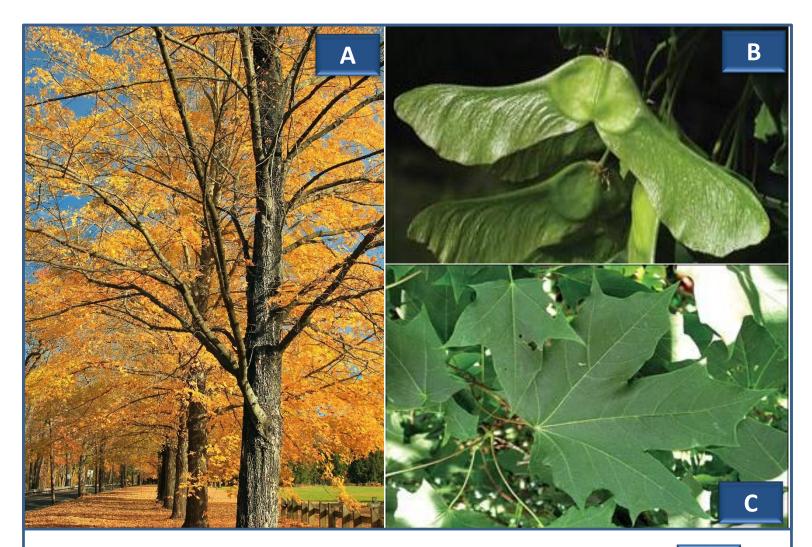
**Size:** Can grow 30-50 feet tall and 20-30 feet wide. Young trees may be thorny. (A)

**Leaves:** Deciduous leaves, alternate, simple, broad-oval to egg-shaped, 1.5-3 inches long, shiny dark green and leathery, small round-toothed edges; scarlet, mahogany, purple hues in fall. (C)

**Flower:** Flowers in early spring before the leaves, white with 5 petals, about 1 inch across. Flowers smell like dead fish. (A)

**Fruit:** Fruits mature in fall and are small, hard, brown, and almost woody. (B) Produces many seeds that are spread by birds and spreads through cuttings. **Habitat:** Grows best in full sun but will tolerate some shading and drought. **Other:** Form dense thickets that push out other plants that can't tolerate the deep shade. Looks like native serviceberries and other trees in the Rose family. Foul-smelling flowers/leathery leaves are good ID keys.

Photo A: Dan Tenaglia, missouriplants.com; Photo B: Chuck Bargeron, University of Georgia; Photo C: Bill Johnson



**Norway Maple** *Acer platanoides* Maple family (Sapindaceae) Т

**Size:** Broad, deciduous (drops leaves at the end of growing season) tree growing up to 90 feet in height. (A)

**Leaves:** Leaves are paired, dark green, and palmate (shaped like a hand). Broader across than from base to tip. (C)

Flower: Bright yellow-green flowers in spring.

**Fruit:** Fruits mature during summer into paired winged "samaras" (aka helicopters). (B)

Habitat: Planted on farms and in towns for shade. It has moved into forests where it prevents natives from growing.

**Other:** Distinguished by milky white sap, yellow fall foliage, and samara wings that are straight out. Native sugar maple (*Acer saccharum*) does not have milky sap.



**Princess Tree** *Paulownia tomentosa* Paulownia family (Paulowniaceae)

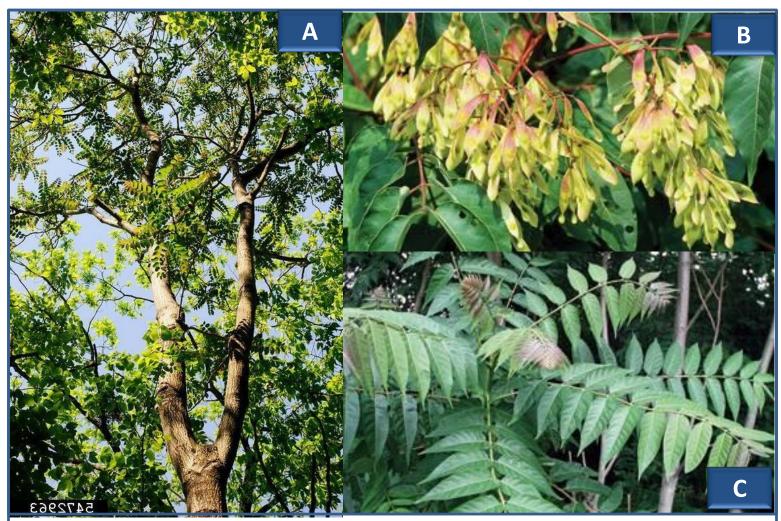
Size: Deciduous (drops leaves at the end of growing season) tree growing 30-60 feet in height. Bark is thin, gray-brown with shallow features. (A)
Leaves: Large, paired and generally oval to heart-shaped, 6-16 inches across; is also hairy on the upper surface. (C)

**Flower:** Showy, pale violet and fragrant, appear in spring before the leaves in upright clusters. (B)

**Fruit:** Thousands of small winged seeds are contained in fourcompartmented oval capsules. (C)

**Habitat:** Adapts very well and can be found mostly on edge habitat. Can tolerate infertile, acidic soils and drought conditions.

**Other:** Can sprout from buds on stems and roots, allowing it to survive fire and cutting. It is highly prized for carving and has medicinal purposes.



**Tree of Heaven** *Ailanthus altissima* Quassia family (Simaroubaceae)



**Size:** Can reach 70 feet tall. Wood is soft and creamy white to light brown in color; twigs are smooth and pale grey to light brown. (A)

**Leaves:** Leaves are alternate, 1-4 feet long, compound with 11-25 smaller leaflets, each with one to several glandular teeth near the base. Broken leaves smell like burnt peanut butter. (C)

**Flower:** Large, showy clusters of small yellowish-green flowers produced during June.

**Fruit:** Fruits are flat, twisted, single-seeded samaras produced in summer.(B) **Habitat:** Adaptable to wide range of soil types and conditions, grows best in full sun and is tolerant of drought. By the use of chemicals, it can also prevent the growth of other plants.

**Other:** Called stinking sumac. Bark has pale vertical lines different from native sumacs which have narrow horizontal markings.

## **Invasive Species Resources**

• "Mistaken Identity: Invasive plants and their native look-alikes" by Matthew Sarver et. al.

http://www.nrcs.usda.gov/Internet/FSE\_DOCUMENTS/nrcs144p2\_02 4329.pdf

- Bay Backpack- Invasive Species Resources
   <u>http://baybackpack.com/schoolyard\_projects/project/identifying\_ma\_naging\_invasive\_species</u>
- Center for Invasive Species: <u>http://bugwood.org/</u> and <u>http://invasive.org/</u> great for websites, publications, and images.
- Maryland Invasive Species Council <a href="http://mdinvasives.org/">http://mdinvasives.org/</a> relevant invasive species to Maryland and resources for educators.
- Maryland Wildlife and Heritage Service
  - <u>http://dnr.maryland.gov/Invasives/Pages/terminology.aspx</u> provides definitions of invasive and native species and other terminology.
  - <u>http://dnr.maryland.gov/Invasives/Pages/default.aspx</u> home page for information on invasive species in Maryland.
  - <u>http://dnr.maryland.gov/wildlife/Pages/plants\_wildlife/Invasives/invintro.aspx</u> provides list of common invasive species in Maryland.
  - <u>https://dnr.maryland.gov/Wildlife/Pages/Education/home.aspx</u> provides education resources like aquatic invasive species trunk and ID resources.
- Plant Invaders of Mid-Atlantic Natural Areas, 4<sup>th</sup> ed.
   <u>https://www.invasive.org/alien/pubs/midatlantic/midatlantic.pdf</u>



Wildlife and Heritage Service dnr.maryland.gov/wildlife