

Bush Honeysuckle

Lonicera species

Identification Features:

- Upright multi-stemmed SHRUB.
- OPPOSITE branching pattern.
- SIMPLE, OVAL shaped leaves. Leaves have a sharp pointed tip. ENTIRE margins. Underside of leaves are fuzzy.
- Stems of mature plants are hollow,
- Tubular fragrant flowers bloom in spring. Flowers are pink or yellowish-white depending on the species.
- Fruits are red or orange BERRIES that ripen in August.
- Reaches heights up to 16 feet tall.



LEAVES

Habitat:

- INTRODUCED & INVASIVE to Pennsylvania.
- Abandoned fields, along roadsides, near marshes, and in recently disturbed woodlots.



FLOWERS

Where did it come from?

Bush honeysuckles are native to Europe and Asia. Bush honeysuckles were introduced to the United States in the 1800's as ornamentals. They were also planted for wildlife food and cover. The two species commonly found in Pennsylvania are Tartarian honeysuckle (*Lonicera tatarica*) and Morrow's honeysuckle (*Lonicera morrowii*).

How does it spread?

Bush honeysuckles compete with many native plant species for natural habitats. Honeysuckles grow in a wide range of habitats and tolerate varying moisture conditions. Birds feed on honeysuckle berries spreading the seeds. Seeds can remain viable in the soil for several years.



STEM



FRUIT

How can it be controlled?

Bush honeysuckle can be cleared by hand pulling because of its shallow root system. Make sure to remove all the roots, because new sprouts will grow from the root system. For severe infestations, cutting them in early spring and late fall for several years will eventually kill the honeysuckle by reducing the plant's reserve nutrients. Do not cut the bushes in the winter because this will cause the plant to re-sprout vigorously. Applying an herbicide to the leaves or a freshly cut stump late in the growing season will also help control bush honeysuckles.

Native alternatives:

flowering dogwood
witch hazel
spice bush
sassafras



Callery Pear

Pyrus calleryana

LEAF

Identification Features:

- ALTERNATE branching pattern.
- SIMPLE, glossy leaves. OVATE shaped. Finely TOOTHED margins.
- Showy white flowers bloom prior to bud break in the spring. Unpleasant smelling.
- Fruit is a round, pinkish brown POME. Pome fruits have a "core" of several small seeds, surrounded by a tough membrane.
- Tree reaches heights of 50 feet tall.



Habitat:

- INTRODUCED & INVASIVE to Pennsylvania.
- Found in parks, disturbed woods and roadsides.

Where did it come from?

The callery pear is native to China, Japan, Korea, Taiwan, and Vietnam. It was introduced to the United States in 1917 for hybridization experiments to improve disease resistance of the common fruiting pear. In the 1950's, the cultivar "Bradford" was developed and became popular for ornamental planting. This is also where it's other name, Bradford pear, originates. Since then, many other cultivars were developed with slightly different characteristics; all contribute to the species' invasiveness.

How does it spread?

The callery pear grows rapidly and produces large amounts of seeds. The callery pear spreads mostly by seed. European starlings and American robins eat the small pears and spread the seeds. Each pear contains 2-6 seeds. The tree can also root sprout, if injured or cut. Callery pear is adapted to a wide variety of environmental conditions including heavy clay soils, drought, heat and pollution and can form dense thickets that push out other plants including native species.

FLOWERS



POMES



How can it be controlled?

Complete removal of the tree is the best control. Large trees should be cut, with an immediate herbicide application to the stump. Seedlings can be pulled or dug out.

Native alternatives:

serviceberry

hawthorn

redbud

flowering dogwood

spicebush



Mile-a-Minute

Persicaria perfoliata

Identification Features:

- Herbaceous annual VINE.
- ALTERNATE branching pattern.
- SIMPLE, TRIANGLE shaped leaves. Leaves light green in color. Undersides of leaves contain barbs.
- Stems are reddish in color and contain downward facing barbs or prickles.
- Round leaf-like structures called ocreae surround the stem.
- Clusters of small white, rather inconspicuous, flowers emerge from the ocreae.
- Fruits are berry-like and turn bright blue in mid-summer. Each fruit contains a single black or reddish-black hard seed, called an ACHENE.
- Vine can grow as much as 6 inches per day and can reach heights of more than 25 feet within a single growing season.



LEAVES

Habitat:

- INTRODUCED & INVASIVE to Pennsylvania.
- Found along forest edges, wetlands, roadsides and forest clearings.



ORCEAE

Where did it come from?

Mile-a-minute, also known as devil's tail tearthumb, is native to Asia. It and was first introduced into the United States in the 1930's at a nursery in York County, Pennsylvania where seeds were spread with rhododendron stock. Since then it has spread out to neighboring states.

How does it spread?

As its name implies, mile-a-minute spreads very rapidly in sunny areas. The vine can grow as much as 6 inches a day and can reach heights of more than 25 feet within the growing season. Its prickly stems and leaves allow it to climb over surrounding vegetation and form dense, tangled mats that shade out and choke underlying vegetation. Seeds are dispersed by birds and mammals which eat the fruit. Floodwaters facilitate long distance dispersal of seeds. Seeds are also dispersed by moving contaminated soil and as hitchhikers on clothes, shoes and equipment. Seeds can survive in the soil for 7 years.



FRUIT



BARBS

How can it be controlled?

Vines can be hand-pulled but thick gloves should be worn. Removal should be done prior to fruit formation. Repeated mowing will prevent the plant from flowering and reduce fruit production. Herbicides may be used as an alternative in heavily infested areas. To be safe and effective, herbicide use requires knowledge of the chemicals and their appropriate concentrations as well as understanding of the method and timing of their application. Also, a biological control is currently being tested. A weevil, *Rhinocominus latipes*, is being used on various test plots in Pennsylvania and elsewhere to control mile-a-minute. These small insects feed on the leaves and bore into the stems. While they will not eliminate the plant, they help keep it in check and reduce fruit production.

Native alternatives:

virgin's bower
trumpet honeysuckle
Virginia creeper



Multiflora Rose

Rosa multiflora

Identification Features:

- SHRUB
- ALTERNATE branching pattern.
- PINNATELY COMPOUND leaves with 5–11 OVAL shaped and TOOTHED leaflets. Leaves have a feathery stipule (leaflike structure) at the base of the petiole.
- Flowers are white and found only at the end of branches. Blooms in June.
- Fruits are red HIPS that ripen in August.
- Twigs are thorned arching stems. Layering occurs when branches come in contact with the ground and take root. The thorns point downward.
- Shrub can reach 10 feet tall.



LEAF

Habitat:

- INTRODUCED & INVASIVE to Pennsylvania.
- Found along forest edges, in open fields, or in fencerows.

Where did it come from?

Multiflora rose is an introduced species that is native to Japan and Korea and was introduced to the U.S. in the 1860s. It was originally planted as an ornamental shrub. In the 1930s, conservation agencies began to promote it as a wildlife food and a cover plant for animal habitats. It was also used for erosion control and as living fences to confine livestock. Since its introduction, multiflora rose has spread rapidly from cultivation and readily invades open woodlands, forest edges, open fields, stream banks and other areas that have been subjected to land disturbance.

How does it spread?

Multiflora rose is spread by seeds and by suckering. Birds eat and disperse the seeds which are the primary means by which the shrub moves to new areas. An average plant may produce a million seeds per year. These seeds may sprout for up to 20 years. Suckering occurs both when the tips of arching stems root where they contact the ground and also when roots sprout new growth. Reproduction by suckering allows the plant to form dense, impassable thickets. Multiflora rose has a wide tolerance for soil, moisture and light conditions allowing it to spread to many habitats.



FLOWERS



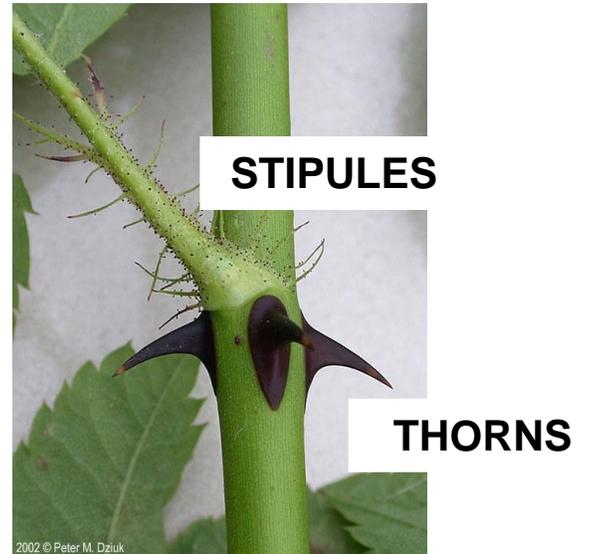
HIPS

How can it be controlled?

Regular mowing and repeated cutting in grassy areas inhibit seedling establishment. Shrubs can be removed by digging and pulling. This is only effective when all of the roots are removed. Treatments with certain herbicides have also been effective at controlling the plant. Repeated treatments are needed because the seeds remain viable in the soil for many years. Also, two biological controls have been used successfully to manage the spread of multiflora rose. One is a native fungal pathogen (rose-rosette disease) that is spread by a tiny native mite. The second is a non-native seed-infesting wasp, the European rose chalcid.

Native alternatives:

- common blackberry
- flowering raspberry
- pasture rose
- swamp rose
- witch hazel
- spicebush



Norway Maple

Acer platanoides



Identification Features:

- OPPOSITE branching pattern.
- SIMPLE leaves with 5 lobes. Milky sap exudes from broken leaf stalk.
- Fruits are SAMARAS with the wings wide spreading to nearly horizontal. Maturing in autumn.
- Tree reaches heights of 50 feet tall.

Habitat:

- INTRODUCED & INVASIVE to Pennsylvania.
- Found along city streets and in parks, disturbed woods and roadsides.

Where did it come from?

Norway maple is an introduced species that is native to Eurasia from southern Scandinavia to Iran. It was introduced in Philadelphia in 1776 by a botanist as an ornamental shade tree. It was frequently planted in neighborhoods during the 1950's to replace native American elms that were killed by the Dutch elm disease.

How does it spread?

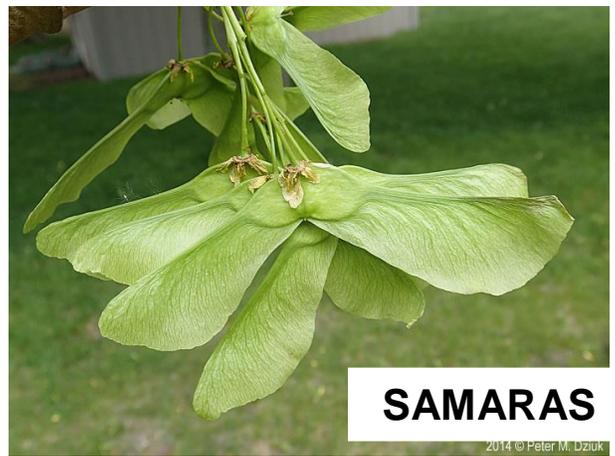
The seeds (samaras) are spread by the wind. Norway maples out-compete native maples, even in shady conditions.

How can it be controlled?

Seedlings can be hand pulled when the ground is wet or dug out. Larger trees can be cut close to the ground.

Native alternatives:

red maple
American beech
sweet gum
black gum



Oriental Bittersweet

Celastrus orbiculatus

Identification Features:

- Woody, perennial VINE.
- ALTERNATE branching pattern.
- SIMPLE, OVAL to ROUND glossy leaves. Leaves with rounded TEETH.
- Stem furrowed and brown with noticeable lenticels.
- Surface of roots is bright orange.
- Small greenish flowers that grow in clusters along the stem. Flowers bloom in spring.
- Round green fruits that, when ripe, turn yellow and split open to reveal three orange-red arils containing the seeds. Fruits ripen in autumn and remain on the vine through winter. (An aril is a covering over a seed).
- Vine can grow to 5 inches in diameter and up to 66 feet long.



LEAF

Habitat:

- INTRODUCED & INVASIVE to Pennsylvania.
- Woodlands, fields and streams.

Where did it come from?

Oriental bittersweet is native to Asia. It was brought to the United States in the mid 1800's. It was used as an ornamental and has escaped cultivation. The fruiting stems are frequently used in fall decorations.



FRUITS

How does it spread?

Oriental bittersweet can overrun natural vegetation. It strangles shrubs and small trees, can weaken mature trees by girdling* the trunk, and can weigh trees down breaking the tree tops. It also, blocks sunlight from native species and competes with natives for water and nutrients from the soil. A typical female plant can produce up to 370 fruits. Oriental bittersweet can be spread by birds and mammals that feed on the fruits, and then drop the seeds in their scat. People also move the seeds by using fruiting stems in flower arrangements and then carelessly discarding them. Additionally, roots can spread and send up new plants.

*Girdling is when something is tightly wrapped around the tree and can potentially kill the tree.



STEM

How can it be controlled?

Oriental bittersweet vines can be pulled out by the root. Be sure to remove all the root or the vine will re-sprout. If there are any fruits present, they should be bagged and disposed of. Herbicides applied to cut stems have been successful. Do not use Oriental bittersweet stems in decorations.

Native alternatives:

Virgin's bower
Trumpet honeysuckle
Virginia creeper



Tree of Heaven

Ailanthus altissima

Identification Features:

- ALTERNATE branching pattern.
- PINNATELY COMPOUND leaves with ELLIPTICAL shaped leaflets. Leaves have 11-41 leaflets. Lower leaflets often are TOOTHED at the base.
- Fruits are SAMARAS that occur in summer through autumn. Samaras are flat, twisted, and papery structures which occur in large clusters. The fruits are tan to pink in color and have a single, flattened seed in the center.
- Twigs have a rank odor when broken.
- Tree reaches heights up to 90 feet tall.



Habitat:

- INTRODUCED & INVASIVE to Pennsylvania.
- Disturbed woods, roadsides, vacant lots and railroad banks.



Where did it come from?

Tree of heaven is an introduced species that is native to central China. It was introduced to the U.S. in 1784 by a Philadelphia, PA gardener. By 1840 it was commonly available from nurseries. Since its introduction, tree of heaven has sprouted up just about anywhere including alleys, sidewalks, parking lots, streets as well as in fields, roadsides, fencerows, woodland edges and forest openings.

How does it spread?

Tree of heaven spreads by seeds and suckering. Suckering occurs when cut stumps and root fragments re-sprout. A single tree can produce up to 325,000 seeds per year. The seeds are very light in weight and can easily be transported by wind. Wind can blow samaras onto clothing, gear or cars of a hiker or biker. If the person is not careful to clean off these items, they can easily "hitchhike" their way to new locations. Once established, it grows rapidly and forms dense stands that displace native plants. Tree of heaven also produces chemicals that kill or prevent other plants from growing near it.



SAMARAS

How can it be controlled?

Seedlings can be pulled or dug up. Care must be taken to remove the entire plant including all roots and fragments to prevent re-sprouting. Several herbicides have also proven to be effective in controlling tree of heaven. Targeting the removal of large female trees is the best way to control their spread because female trees are responsible for seed production. Before any control measures are used, it is important to correctly identify the plant because some native species are often confused with tree of heaven.

Native alternatives:

box elder
smooth sumac
staghorn sumac
black walnut
white ash
tulip tree

