MILE-A-MINUTE VINE

Grows Faster Than a Speeding Bullet, Smothers Trees and Shrubs

Mile-a-minute vines (center of photo) form fine-textured blankets of foliage as they scale any and all vegetation in their paths. Vines can reach 25 feet into treetops in a single growing season.

The Culprit

Mile-a-minute vine (*Persicaria perfoliata* formerly *Polygonum per-foliatum*) is an annual vine that smothers just about anything in its path. Its rapid growth rate – up to 6 inches a day – explains this invasive's common name. It's also called devil's tearthumb, an allusion to its tiny, sharp barbs, which can lacerate skin.

This prickly, clambering weed, which hails from India and eastern Asia, got its start in the US in the 1930s. It hitchhiked along with rhododendrons shipped from Japan to The Gables Nursery in Stewartstown, Pennsylvania, a famous breeder of azaleas and rhododendrons. From there it spread to the USDA Glen Dale Plant Introduction Center at Beltsville, Maryland. It is now killing vegetation in Virginia, North Carolina, all the Mid-Atlantic States, New York, Connecticut, Massachusetts, Rhode Island and Oregon. This nasty invasive has the potential to spread much further. Its growth is so dense that the vine forms "mile-a-minute sculptures" similar to "kudzu sculptures" as it engulfs shrubs and trees. It can reach heights of 25 feet in a sin-gle season. The prickly, tangled thicket it forms deters workers, hikers, and hunters and overruns native vegetation, thus de-stroying habitat for native plants, birds, and mammals.

Known Hangouts

Mile-a-minute menaces disturbed sites and open areas and can be found invading wetlands, forest edges, streambanks, road-sides, fields, pastures, orchards, Christmas tree plantations, open forests, powerline cuts, and home landscapes. It can be a serious threat in tree plantations and regenerating forests because it outcompetes tree seedlings. The vine prefers average to wet soil and grows poorly where it is dry. It can germinate in shade or sun, but grows upward toward the light. In areas that are repeatedly disturbed, such as plowed fields and powerline cuts that are sprayed with broad-spectrum herbicides, the inva-sive vine can take off each season from its seedbank and spread farther with each passing year.

Modus Operandi

Delicate-looking, the vine is highly deceptive. Tiny, recurved, needle-sharp barbs arm its leaves and stems. These cling like Velcro® to the plants it climbs, so the vine does not need to twine. Although fine-textured, the blanket of foliage and stems becomes so dense it kills the plants it grows on by blocking out sunlight. The vine's weight also crushes herbaceous plants and breaks branches on shrubs and trees. New vines germinate each year beneath the previous year's dead vines. After a few years of repeat infestations, the woody plants it grows on may die.

A prolific seeder, mile-a-minute takes over an area within several years of its introduction. It flowers and fruits continually from early summer until frost. Fewer fruits are produced in shade than in sun, but nevertheless, seeds are numerous. Fruits can remain on frost-killed vines into winter, when they may be eaten by birds or drop to the ground. Seeds are viable in the soil for six or seven years. They germinate any time from early April into July if winter has given them an eight-week cold period be-low 40°F to trigger germination. *The single-seeded fruits ripen from green to blue, but beware: seeds within green fruits are viable*. Birds and mammals eat the fruits, which spreads the plant far and wide. Seeds of mile-a-minute can float for days, allowing the noxious weed to rapidly invade an entire watershed.

Positive Identification

The triangular-shaped leaves make mile-a-minute easy to identify.

New plants of mile-a-minute germinate in early spring and grow quickly. The slender stems are green at first and as they thicken they may become reddish. Leaves, which alter-nate on the stems, are waxy green, about 3 inches long with a triangular shape. Tiny, sharp, recurved barbs line the veins on the backs of the leaves and on the stems. Clusters of tiny, white flowers begin blooming in June and continue forming on new growth until frost. Bunches of single-seeded, green fruits follow

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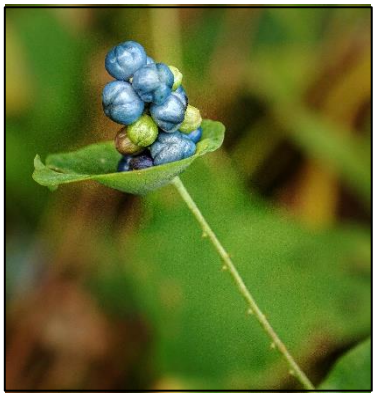
the flowers and ripen to bright blue. A small, saucer-shaped, leaflike structure encircles the stems beneath the flower and fruit clusters, as if sitting in a leafy bowl, a helpful identifying feature.

Mistaken Identity

Two native, annual vining plants, called tearthumbs, might be mistaken for mile-a-minute because they, too, have prickles on leaves and stems. They are the arrow-leaf tearthumb (*Persicaria sagittata*) and the halberd-leaf tearthumb (*Persicaria arifolia*). Arrow-leaf tearthumb leaves are narrower than mile-a-minute's and its larger flowers are white in termi-nal clusters. It is common in wet areas. Halberd-leaf tearthumb leaves are shield-shaped and its flowers are purple, pink or white. Both of these native tearthumbs lack the encir-cling structure beneath the leaves that is characteristic of mile-a minute.



A round, leaf-like structure surrounds the stems, which are studded with tiny sharp spines. beneath the leaves and fruits of mile-a-minute.

To be sure you have mile-a-minute and not one of its cousins, look for a vine-like stem, triangular eaves, sharp downward-curving spines on leaf stems (petioles) and main veins of leaf undersides, a saucer-shaped structure en-circling stems, and round, blue fruits at stem tips.

Control

Search for mile-a-minute near known infestations, especially in wet areas, floodplains, along water courses and in forest clearings and edges. New seedlings germinate in early spring in areas with previous infestations and at a distance from them, especially in areas with soil disturbance. Frost kills mile-a-minute, but leaves the dead vines in place, where they are noticeable for months. You may see the dense mats of dried stems and leaves during winter and can identify the vine by its barbed stems.

Frost-killed vines of mile-a-minute create fine-textured prickly blankets on the plants it was growing on.

Mile-a-minute is easy to kill, but is difficult to permanently eradicate. It is susceptible to hand-pulling, pre-emergent herbicides, and to foliar herbicides, but use extreme caution to avoid injuring the plants it grows on.

Manual & Mechanical: Mile-a-minute can be easily hand-pulled because it has shallow, fibrous roots. When working with this invasive, wear protective clothing, especially gloves, to avoid being stabbed. Rose gloves with long cuffs make the best armor. You can remove large patches with a sturdy garden rake.

As with most annuals , mile-a-minute produces prolific seeds, making it difficult to get rid of. It begins setting seed in mid- to late June, so if you are going to pull it, do so before then. Any plants with fruits, even green ones, should be bagged and discarded in a landfill or burned. You can also repeatedly weed-whack vines as close to the ground as possible, but be careful to not injure any woody plants it is growing on.

Foliar Spray: Mile-a-minute is easily killed with a foliar herbicide. However, the plants it is growing on will likely also be killed. To achieve the best long-term control, hit this invasive vine with a recommended herbicide before it begins setting seed. That is usually before the end of June. Later applications kill vines, but may not kill seeds that are already set. That seed will come back to haunt you in the way of new plants in following years. Where mile-a-minute grows in a wetland or along a watercourse, use an herbicide and surfactant approved for aquatic use. After treatment, scout for new seedlings through July and spot treat if necessary.

Preemergent: In large areas infested with mile-a-minute, pre-emergent herbicide is called for. It should be applied to the soil in early to mid-March, before seeds germinate. Do not use premergent near wetlands, streams, etc. because it harms aquatic life. *Preemergent kills germinating seedlings of all plants,* but does not harm existing perennial or woody plants.

***Biological control*:** The mile-a-minute weevil (*Rhinoncomimus latipes*) is a tiny, stem-boring weevil from China that feeds only on mile-a-minute. Extensive research was done on this weevil at the University of Delaware beginning in 1996. Researchers found the insect to be host-specific and not harmful to native plants. In 2004, the USDA approved the weevil as a biological control and it has been released in many locations in several states. The weevil sets back, but does not completely kill, the invasive vine. Weevil larvae bore into the stems and the adult weevils eat the foliage. This greatly reduces the plants' biomass. The weakened vines produce fewer seeds, slowing the weed's spread. This useful insect overwinters in leaf litter. Weevils are sold by the New Jersey Department of Agriculture Phillip Alampi Beneficial Insect Rearing Laboratory, Trenton, NJ. Permit PPQ 526 is needed from the USDA to purchase and release the weevil. For permits and other information about mile-a-minute weevils, see https://www.aphis.usda.gov/aphis/ourfocus/planthealth/import-information/permits/regulated-organism-and-soil-permits/.

***Restoration*:** Because mile-a-minute smothers all vegetation, once it is eradicated, the ground where it grew may be bare. This invites other invasives to enter the scene. Restoration by planting native grasses and wildflowers is called for in such sit-uations. Before planting, you can wait to see which native plants appear on their own and then selectively kill any invasives. Monitor the site monthly for new incursions of mile-a-minute and zap them before they take off.

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