NORTH CAROLINA FOREST SERVICE N C

Invasive Species Leaflet

Excerpted with permission from "Invasive Exotic Plants of North Carolina"
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Alliaria petiolata (Garlic Mustard)

Initial Introduction and Expansion in Range

During the 1800s, *Alliaria petiolata* was brought to the United States from Europe as a medicinal herb and for cooking purposes. It is now found throughout the Northeast, the Midwest, Georgia and Oregon. *Alliaria petiolata* spreads exclusively by seed. Each plant can produce hundreds of seeds that are ballistically dispersed up to 10 feet when the fruits burst open. Since the seeds do not float well and are probably not carried far by wind, wildlife and human activities are probably responsible for long distance dispersal of the seeds.

Description and Biology

- During the first year of establishment, the plants form rosettes of kidney-shaped leaves approximately 4 inches high that stay green throughout the winter. These rosettes may be mistaken for *Viola* spp. (violets).
- In the second year, the plant flowers and can grow 2 to 4 feet in height. Leaves are heart-shaped and coarsely toothed.
- Blooms from April to May with flowers occurring in a cluster at the end of the stem. Flowers are white with 4 petals in the shape of a cross.
- Fruits are slender capsules that contain a row of shiny black seeds when mature.
- Slender white taproot is a distinguishing characteristic of this plant.
- Distinctive garlic odor when leaves and stems are crushed.

Habitats Susceptible to Invasion

Alliaria petiolata poses a significant threat to natural areas because of its ability to thrive in partial shade. It can also grow in full shade to full sun and a variety of moisture regimes and soil types. As a result, this plant readily invades roadsides, trail edges,

floodplains, stream banks, and forest edges and interiors. *Alliaria petiolata* is less common on acidic soils including peat and muck.

In North Carolina, *A. petiolata* is posing the biggest threat to natural communities in the mountains where it displaces native wildflowers that occur in the same habitat. This invasion of *A. petiolata* also threatens certain native butterfly species since the chemicals in this plant appear to be toxic to their eggs.

Prevention and Control

Alliaria petiolata is difficult to eradicate once established so the best and most effective control method is to prevent its initial establishment. Monitor potential habitats in the late fall or early spring for immature rosettes, and in early- to mid-spring for flowering adults in order to locate and remove plants before seeds are produced. In the case of small infestations, plants can be removed by hand but care must be taken to ensure that the entire root system is removed.

For larger infestations, flowering stems can be cut at ground level or within several inches of the ground to prevent seed production. If stems are cut too high it is possible for this plant to produce additional flowers at the leaf axils. This practice should continue until the seed bank is exhausted. In addition, *A. petiolata* is effectively killed with a 2 percent solution of glyphosate as long as the temperature is above 50 degrees Fahrenheit.

THE LABEL IS THE LAW!

WHEN USING ANY PESTICIDE, FOLLOW ALL LABEL INSTRUCTIONS

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Alliaria petiolata photography by Cherri Smith, NCDOT *(left)* and Karen M. Lynch, NCDOT *(right)*.

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