

# Another Invasive Vine Strangles North Carolina: Mile-a-minute vine (*Persicaria perfoliata*) by Rick Iverson



DAN WALL, NCDA&CS

Figure 1. Infestation along Highway 221 in Alleghany County near Sparta, NC.



RICK IVERSON, NCDA&CS

Figure 2. MAM covering a Fraser fir Christmas tree.

*Persicaria perfoliata* (previously known as *Polygonum perfoliatum*) is listed in North Carolina as a Class A Federal Noxious Weed, which means it is a harmful non-native weed that was not confirmed as being established in North Carolina – *until now!* It was first noticed on June 12, 2000 by Plant Pest Specialist, Dan Wall, as a contaminant with potted hosta plants in two shade houses in southern Wake County, North Carolina. Recently, a naturalized population of mile-a-minute vine (MAM) was documented by Appalachian State University botanist, Derick Poindexter, on what was originally thought to be three distinct populations in natural and roadside habitats (Poindexter 2010) (Figure 1). However, delimiting surveys by the North Carolina Department of Agriculture and Consumer Services (NCDA&CS) have shown that all three of the populations were connected along the Elk Creek stream corridor which drains into the New River near the Virginia border with North Carolina.

## Habitat And Biology

Mile-a-minute vine is an annual herbaceous trailing vine that is indigenous to Asia, where it is widely distributed. It was first reported in the United States in Portland, Oregon in the 1890s. It was thought to have been introduced to the eastern United States in the mid-1930s at the Gable Nursery in Stewartstown, Pennsylvania, as a contaminant in holly seeds from Japan (Hough-Goldstein et al. 2009). As indicated by the common name, MAM grows rapidly and can quickly smother, weaken and potentially kill shrubs and other vegetation in native plant habitats. It also has the ability to cover tree seedlings and farmed Christmas trees, slowing their growth, reducing their quality and interfering with management operations such as pruning (Figure 2). MAM is not very tolerant of heavy shade and prefers disturbed mesic sites exposed to the sun. Common habitats for MAM include roadsides, pastures, cleared forests, croplands, nurseries and natural areas such as bottomland riparian corridors.

MAM seed can be dispersed by animal vectors such as deer and rodents, and the buoyant fruit can be dispersed by moving water. It is highly probable that the North Carolina infestation along the Elk Creek corridor spread by movement of the fruit in the flowing water, especially during flooding events. The source of the initial infestation is not known for certain, but the importation of contaminated hay from infested fields is a plausible explanation. Seed can remain viable in the soil for up to six years (Hough-Goldstein et al. 2010). Consequently, control programs need to include annual surveys and spring treatments before seed production for at least six years.

## Identification

MAM has several distinguishing features that help in identification. Leaves are alternate and triangular-shaped and the stems, petioles and leaf veins are covered with small, backward-projecting, recurved barbs. The plant also has distinctive, saucer-shaped leafy structures (ocreae) that surround the stem at each leaf node (Figure 3).

Each fruit encloses a single, hard, shiny, black seed (achene) (Figures 4 & 5).

A key to help differentiate MAM from similar native congeners in North America has been provided by Derick Poindexter (Poindexter 2010).

## Proposed Management

Since the infestation is too large to eradicate, the NCDA&CS is planning to change the regulatory status of MAM to a Class B noxious weed. As a regulated species, articles that could contain MAM would have to be cleared with a phytosanitary certificate before they could be moved from the regulated MAM area. It is hoped that a quarantine boundary can be easily described that will include a portion of Alleghany County, rather than the entire county.

Figure 3. Distinctive triangular-shaped leaf and the ocreae of MAM.

Among other actions to help contain this invasive pest plant is a plan to release a weevil, *Rhynoncomimus latipes*, in the spring of 2011, in cooperation with Richard Reardon, manager of the biological control program for the Forest Health Technology Enterprise Team (FHTET) and Judy Hough-Goldstein, with the Department of Entomology and Wildlife Ecology, University of Delaware. The weevil is being successfully mass-reared for use in promising MAM control programs (Hough-Goldstein et al. 2010).

The North Carolina Department of Transportation has been informed of the MAM infestation and will be cooperating with the NCDA&CS to spray herbicides on infestations along roadside corridors. The North Carolina DOT also plans to discontinue mowing where MAM infestations intersect with regular mowing sites to prevent the potential spread of propagules by equipment.

### Literature Cited

- Hough-Goldstein, Judy, et al. 2009. *Biology and control of Mile-A-Minute Weed*. Forest Health Technology Enterprise Team, FHTET-2008-10, 2<sup>nd</sup> Edition, September, 2009.
- Poindexter, Derick B. 2010. *Persicaria perfoliata* (Polygonaceae) reaches North Carolina. *Phytoneuron* 2010-30: 1-9.

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Figure 4. Iridescent blue berries about 1/4" across.



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Figure 5. Seeds or achenes.

## CALL FOR PRESENTATIONS AND POSTERS

# Joint Annual Meeting Kentucky Invasive Species Working Group and the Southeast Exotic Pest Plant Council

May 3-5, 2011 • Lexington, KY • <http://invasives2011.org>



The 2nd annual conference of the Kentucky Invasive Species Working Group and the 13th annual conference of the Southeast Exotic Pest Plant Council will encompass topics related to the research, management, outreach, education, and policy of invasive species in the eastern and central regions of the United States. We welcome contributions in the following major areas:

1. Ecology of invasive species and their impact on ecosystem functions and processes
2. Invasive species management
3. Invasive species education and policy

### Submission of Abstracts

- Deadline for oral and poster presentation abstract is February 7, 2011
- Please submit your abstract electronically via <http://invasives2011.org>, including the following information (1) type of submission – Oral Presentation or Poster, (2) title of the submission, (3) the author(s) and their affiliations, (4) corresponding author's title, affiliation, phone number, and email address, and (5) abstract (250 words or less).

### Publication

- The conference will publish electronic proceedings. All presenters are encouraged to submit a full-length paper.

### IMPORTANT DATES

#### For oral presentation

- Feb. 7, 2011 – Abstract due
- Feb. 14, 2011 – Acceptance notification
- May 3, 2011 – Draft proceeding paper due

#### For poster presentation

- Feb. 7, 2011 – Abstract due
- Feb. 14, 2011 – Acceptance notification

### Conference Co-chairs

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