

HOST SPECIFICITY AND DISTRIBUTION OF A POWDERY MILDEW FUNGUS ATTACKING GARLIC MUSTARD, *ALLIARIA PETIOLATA*, IN SOUTHWESTERN OHIO. Victoria L. Ciola* and Don Cipollini, Department of Biological Sciences, Wright State University, Dayton, OH 45435.

In Southwestern Ohio, many garlic mustard populations are infected with the powdery mildew *Erysiphe cruciferarum* that can reduce the growth and fitness of garlic mustard. *E. cruciferarum* was assessed in order to guide decisions regarding its potential use in the management of garlic mustard. We determined the distribution of *E. cruciferarum* on garlic mustard and we determined the potential risk of *E. cruciferarum* to native brassicaceous species and selected crops. We surveyed 19 parks in Southwestern Ohio and made a distribution map of disease incidence of *E. cruciferarum* on garlic mustard using GIS ERSI (ArcMap) software. Five native spring ephemeral mustards were surveyed and then obtained from local wooded areas in May 2008. Individual plants were transplanted in the greenhouse and then exposed to infected garlic mustard plants. The native plants surveyed showed no obvious signs of *E. cruciferarum* infection. All of the native plants subjected to powdery mildew under greenhouse conditions at this time became mildly infected with *E. cruciferarum*. Twelve crops in the family Brassicaceae along with 3 crops in the Cucurbitaceae, Fabaceae, and Solanaceae families were planted and inoculated with *E. cruciferarum* and only one Savanna Mustard (*Brassica juncea*) became infected with powdery mildew. Our field survey revealed Montgomery County Ohio as the “hot spot” for *E. cruciferarum* infection on garlic mustard with disease incidence decreasing away from Montgomery County. Results from the greenhouse study indicate that *E. cruciferarum* likely poses little threat to native brassicaceous plants because the phenology of native plants is early and allows them to escape infection. *E. cruciferarum* poses little threat to cultivated crops since only one crop became infected and Savanna Mustard is not a common cultivated variety in Ohio.