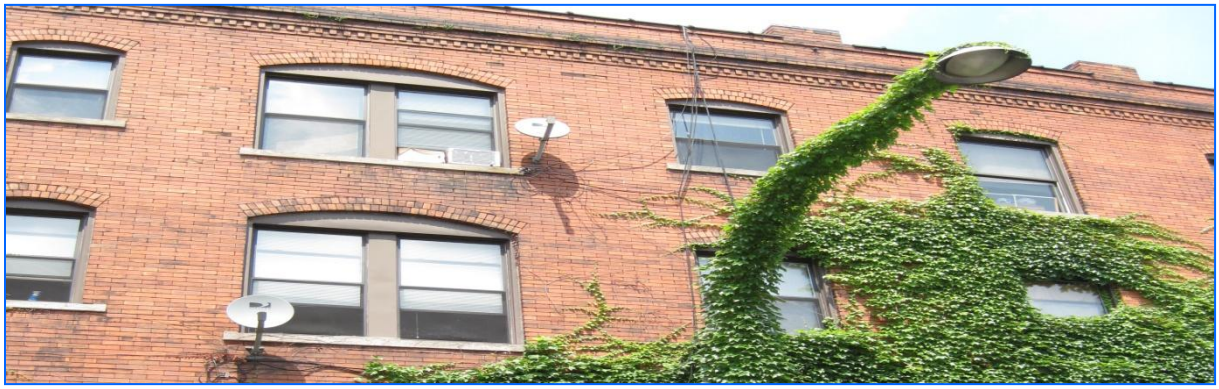
How do humans alter the ecology and evolution of urban plant populations?

Why: Humans are the dominant species in the city. Thus human actions are a major driver of most urban ecosystem patterns and processes. As more of the world becomes urbanized, it is clear that we need to be able to estimate and value the ecosystem services that cities provide, as well as predict how biodiversity levels, including diversity *within* populations, will change over time in urban areas.

What: I am particularly interested in studying how our landscape design and management choices drive how species thrive in and adapt to cities. To get at this question, I will be studying English ivy *(Hedera helix*). *H. helix* is a species that was first introduced to this country in colonial times. Now it is considered a major invasive species along the Atlantic and Pacific coasts of the United States, although it is still regularly planted for its ornamental and functional attributes. Some research questions include:

- Are wild or managed populations of *H. helix* more phenotypically and genetically diverse?
- Are escaped wild populations of *H. helix*, near neighborhoods with larger numbers of plantings, more genetically diverse?
- How well and how quickly does *H. helix* adapt to the urban environment? How does genetic and phenotypic diversity affect adaptation ability?



Work on this project will begin in Baltimore in the fall of 2010. For more information, please contact Anna Johnson, PhD student, at UMBC and with the Baltimore Ecosystem Study, at annaj1@umbc.edu.