



VEGETATION ECOLOGY RESEARCH: A WAY TO UNDERSTAND THE “ROMA ECOSYSTEM”.

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The urban ecology is an important and fundamental aspect in the general purview of the landscape ecology. It has been studied for decades in the USA and Mitteleuropa, while it is at the beginning by the way of Mediterranean thermophilic and xeric areas. Urbanized areas, due to high habitat diversity, can be considered as biodiversity hotspots to manage. In a context of progressive urbanization, of change in the use of available lands inside and outside the urbanized centers, as well as an increasing in the average temperatures, it's more and more important to understand the mixed pattern of disturbance to maintain a high level of biodiversity in these areas. Plant species, given the owned important bioindicative information, are effective tools to report these variations and patterns, interpretable by means the change of specific composition of a given area, during time. The depth knowledge of the urban ecosystem is useful for several aspects: the floristic component of a determined area can bring to typify phytosociological classes present, which are enough to describe the habitats included in the Habitat Directive. Furthermore, the most allergenic species will be investigated in order to understand the eventual uppermost relationship between urban framework and development of allergenic ruderal plant species.

The main goal of this project is to inquire the urban ecosystem of the city of Rome, both in space and in time, in order to better understand the pattern related to flora distribution, through a multidisciplinary approach consisting of:

- Long Term Ecological Approach (LTER), by new floristic field research, carried out from the past year in study sites already investigated. Collected data will be compared with previous research, in order to explain the eventual variations.
- Elaboration of GIS maps about the urban ecosystem portion that could be ascribable to Habitat Directive.
- Monitoring and ecological study of ruderal allergenic plant species in urban environment.

The cases covered could be subsequently develop in several settings, among which vegetation ecology, urban ecology, planning of management of sensitive and protected areas.

Thanks to the concrete foundation of this project, an effective scenario of a great monitoring network will be developed, both for the purely ecological/vegetation aspect, through the creation of a solid LTER project, both for monitoring allergenic plants, through a collecting data plan accessible by all.

Furthermore, this research is a useful tool to understand how to manage the urban areas in order to maintain a high biodiversity.