

Green areas for ecological connectivity

School: ITS institute Deledda-Fabiani in Trieste (Italy)

Students of the classes 3A, 4A and 5A of Environmental Biotechnology, 5A of Environmental Construction and 5A of Design curricula were involved in the project.

The main aim was to move closer the students to the biodiversity topic in the city through the study and mapping of green infrastructures present in the city of Trieste. These play an important role for pollinator activity and the main idea was to analyse their role and how people can improve their presence.



The work started with a first methodological part of the project, and specifically:

1. preparation of spreadsheets on wild plant species present in the city which can possibly attract pollinators;
2. maps highlighting preferred paths for wild animals (made with google maps and google earth applications);
3. detection of ecological pathways and of green areas, including buffer areas.

Student activities spanned from the construction of bug hotels, the analysis of soils, collection of data like air temperature and land cover. Methods and materials included Globe protocols and specific handbooks.




PROGETTO PULCHRA		SCHEDA TECNICA PER LE SPECIE IMPOLLINATORI	
SPECIE		Nome scientifico <i>AZURA URTICAE</i>	
		Nome comune Vanessa delle ortiche	
IMMAGINE			
Formato jpg			
CLASSIFICAZIONE		Ordine	Lepidoptera
		Famiglia	Nymphalidae
		Genere	AZURA
		Specie	<i>AZURA URTICAE</i>
CARATTERISTICHE GENERALI		Anatomia	
		Apertura alare: ♂ 45 - 55 mm, ♀ 52 - 62 mm	
		Distribuzione	
			
		Tutta l'Europa e l'Asia temperate, specialmente in: Europa, Asia Minore, Asia centrale, Siberia, Cina, Nepal, Sikkim, Himalaya, in India, Mongolia, Korea e Giappone	
		Aspetto e caratteristiche distintive	
		<p>Ala parte superiore delle ali è principalmente arancio e vi è la presenza di una zona centrale giallastra sul rovescio dell'ala anteriore e sul dritto dell'ala anteriore, di due macchie nere tra la terza nervatura mediana e le due nervature mediana e le due nervature.</p> <p>Il bordo anteriore delle ali anteriori ha tre macchie marroni e rettangolari; quella centrale e di solito più mancata ed è ornata da una zona arancio pallido più chiaro dell'ala stessa.</p> <p>La parte più vicina al corpo presenta un colore bruno scuro.</p>	

Figure 1. Data collected in the field on pollinators, preparation of spreadsheets and mapping of green areas in the city.

During the second part of the project, students monitored the pollinators insects together with wild species visited by pollinators. Based on data collected, students prepared a flowering calendar for the most common wild plants regularly visited by pollinators.

The monitoring was performed by:

1. collecting georeferenced aerial images;
 2. monitor the presence of pollinators and the wild plant species visited once per week, in the Villa Giulia park, nearby the school;
 3. Establishment of flowerbeds at the school as “stepping stones” improving pollinator activities.
- Finally, a graphic brand was prepared to disseminate results to citizens under the advertising campaign called “Hive city”.



La frammentazione delle aree naturali mette a rischio la biodiversità. I corridoi ecologici sono in questo contesto una soluzione molto efficace, realizzando così una rete ecologica. Per dar vita a quest'area, abbiamo ideato del kit contenente i materiali necessari per la salvaguardia e la conservazione degli impollinatori.



Figure 2. Field activities in Villa Giulia park and in the school (flowerbeds) and seeds packaging under the “Hive City” advertising campaign.

The project ended with the sharing of results with stakeholders on the 18th November and a fruitful discussion on possible exploitation of student results. Stakeholders involved were the Trieste administration, the national environmental association Lega Ambiente Italia and the association Cooperativa Rogos involved in the management of the regional botanical garden Carsiana.

Main results obtained during the here are listed:

- Increased awareness of students towards the biodiversity topic
- Technical meeting with stakeholders for the exploitation of results with actions to safeguard biodiversity in the Trieste city
- Sharing of the pollinator database and of the flowering calendar
- Maps of green urban areas
- Products for advertising the project through the campaign “Hive City”

Students and teachers discussed about the feasibility of exploiting project results for new future activities and how to improve the amount and quality of green areas in the city. The objective should consider the following thoughts:

- The need to improve further the knowledge on the healthy state of urban areas, especially in terms of biodiversity
- Get closer in touch with local land managers and other possible stakeholders that can effectively act on the territory (e.g. management plans)
- Find out people capable to analyse scientific data, in order to improve results.