



BUILDING A BUG HOTEL AND PROTECTING BIODIVERSITY

Context

According to the FAO, 60% of the world's ecosystems are degraded or used in unsustainable ways. Faced with a constant loss of biodiversity, the EUtopia workshop proposes reversing this trend, seeking to establish a "utopian" alliance between young people and the smallest and most defenceless inhabitants of our cities: insects.


Each of us can do a lot to protect biodiversity, especially in urban environments. The experience of the EUtopia working groups has shown that young people are often familiar with the concept of biodiversity but think that its protection is something they can do little about as individuals. In addition, young people (particularly those living in cities) are often used to considering insects as 'annoying,' their presence is a source of 'disgust,' and sometimes they are even afraid of them. This is often an irrational fear, whereas an awareness of the importance of these species for the survival of ecosystems should be acquired by young people.

Objectives

An informed and aware young person can easily become an active citizen motivated to contribute to a better world! The main objective of the workshop is to convey awareness of what it means to lose biodiversity. Therefore, the young participants in the workshop should understand that many human activities are irreparably compromising so-called ecosystem functions. These can be grouped into 4 categories:

1) The supply of necessities, which are recognised as having a clear economic value, such as timber, foodstuffs, and medicinal plants;





2) Regulatory services: the range of vital functions provided by ecosystems and to which a clear economic value is not generally attributed. For example, climate regulation through carbon capture and sequestration, reduction of pollution through 'filtering' of air and water; protection from disasters such as landslides and hurricanes;

3) Cultural services: they do not provide direct material benefits but contribute to the wishes and needs of the community;

4) Support services: these do not directly benefit people but are essential for the functioning of the ecosystem. Examples are soil formation and plant growth processes.

One crucial aspect that the young participants will need to embrace is overcoming any fear or reluctance towards insects. By gaining knowledge about their role and their ability to support, they can develop a more open-minded and appreciative attitude towards these creatures, which are an integral part of our ecosystem.

Tools, resources and facilities

The workshop can be organised for small or large groups of young people, with no major age constraints and no need for special previous skills. No large spaces are needed, nor are costs involved. Videos are suggested, in particular to guide the step-by-step construction of a bug hotel from recycled materials. A device for viewing them is needed.

For the construction of the bug hotel, it is recommended to use recycled materials, such as bamboo canes, herbaceous stems, perforated logs, but also earth/clay/perforated bricks and rolled natural fibres, pinecones, stones, empty snail shells.





Photo from Pixabay - [Eveline de Bruin](#)

Description of workshop activities

The Workshop is divided into 3 sessions that can be held in one go:


Session 1 - Young Aware Citizens: This session aims to bring to the attention of young people the importance of protecting biodiversity by providing information on the risks its loss poses, what most threatens it and the concrete actions we can all take to help save it.

Session 2 - Small does not mean insignificant: The aim is to introduce young people to the world of insects and provide some information on recognizing the more 'useful' ones, such as pollinators (beneficial for their role in pollinating plants and maintaining biodiversity) and predators (helpful in keeping pests under control, contributing to plant vitality and environmental sustainability).

Session 3 - Let's build a Bug Hotel: the objective of this session is to propose a practical workshop to create an insect shelter to be placed in small urban green spaces (gardens, vegetable gardens, but also terraces, balconies, and windowsills)

Part 1 - Aware Young Citizens

Step 1 - Some numbers



The first step is to provide some numbers to the young participants so that they realise the scale of the ongoing loss of biodiversity. The Global Risks Report, the document produced by the World Economic Forum, ranked the loss of biodiversity as the third most serious threat humanity will face in the next 10 years. The Red List of Threatened Species of the World Conservation Union (IUCN) provides up-to-date information and data on biodiversity loss on its website:

<https://www.iucnredlist.org/>.

To give some significant figures, did you know that:


- ✦ of the 6,472 arthropod species (of which insects are a part) mapped globally, about 30% are threatened.
- ✦ in Europe, only 233 of the 608 mapped species are not considered threatened or endangered.
- ✦ according to the Global Wetland Outlook (2021), we have lost 35% of natural wetlands since 1970;
- ✦ almost 90 % of wild flowering plants need pollinators (bees, wasps, butterflies, ladybirds, spiders, reptiles, birds and mammals), but due to human actions, more than 40 % of invertebrate pollinator species are threatened with extinction!



Photo by David Clode from Unsplash

Step 2 - The enemies of biodiversity





What compromises biodiversity? Today, factors such as the progressive desertification of the soil, the anthropisation of the land, the massive use of pesticides, and climate change have among their main consequences the progressive loss of biodiversity and of animal, plant and micro-organism species, and insects are no exception, which show worrying extinction rates, especially pollinators (pollinators).

In general, the main causes of biodiversity loss are:

- 1) the destruction and fragmentation of habitats (which also includes urban pressure and overbuilding)
- 2) the introduction of exotic (and GMO) species
- 3) hunting
- 4) pollution and the use of chemicals that alter ecosystems (e.g. in agriculture).


★ A video is available here to help focus this information: Biodiversity in Crisis: The Consequences of Human Activities on Our Planet's Ecosystems, Earth Conservation (2023)
<https://www.youtube.com/watch?v=Pvh7tGpAVF8>

Step 3 - Don't lose heart!

The aim is not to demoralise but rather to suggest lifestyles and solutions to reverse this trend to young people. In this part, it will be crucial to convey to the young participants that each of us, starting in our own small way, can contribute to defending biodiversity, for example, by supporting it with our consumption choices or by paying more attention to our environment. We, therefore, suggest concrete actions to support biodiversity.

Considering that the main cause of extinction and threat to many species is the destruction of habitats due to human activities, one of the most useful actions could be to recreate some of these habitats where we live. This feat is feasible if we think 'small' and devote ourselves to the microcosm of insects.



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- ✦ On the Convention on Biological Diversity website, the list of 22 concrete actions we can all take to protect biodiversity is available in many languages:

<https://www.cbd.int/biodiversity-day/activities/22>]

N.B. To make the information and concepts in this session more immediate, use the Mural or MindMap tool! You will be able to collect the ideas of the young participants, including what they think could harm biodiversity in their local context or in the lifestyle of their community.

Session 2 - Small does not mean insignificant!

In this part, explore the importance of insects with the participants. We provide you with some insights.

Albert Einstein understood the importance of insects for the survival of our planet: 'If one day bees were to disappear, man would only have four years of life left'. Actually, pollinators, such as bees, butterflies, and other insects, are an essential category of elements that contribute to biodiversity. They are vital for plant reproduction and, thus, food production. However, pollinators are at risk due to habitat loss, pesticide use, and other environmental threats.

Therefore, although humans are accustomed to considering insects mostly harmful to agriculture, so much so that numerous synthetic products are dedicated to their destruction, it must be remembered that many of them are valuable allies. Equally important are predatory insects, such as ladybirds, which feed on other insects, fungi and harmful pests (performing the function of chemical pesticides naturally and sustainably).

Here a nice video to recognise good insects:

- ✦ 10 Beneficial Insects You Want in the Garden (Insect Guide), Project Diaries (2017)

https://www.youtube.com/watch?v=ai8XRf_wYjA

N.B. To facilitate discussion on insect fear, use the Concentric Circles activity, described in the Activities and Tools session of the Eutopia website. It will also help analyse these fears and overcome them together!





Photo by [winterseidler](#) from [Pixabay](#)



Photo by [Andre Mouton](#) from [Pixabay](#)

The point is to reason about: why is one afraid of insects? What are the fears? How many and which of these fears are well-founded? An open discussion can make it possible to realise, for example, that the fear that an insect may sting is often not based on correct information!


- ★ A test is available on this site to find out how much you really know about insects:
<https://www.visitgunnersbury.org/learning/activity-trail/back-at-home/bug-hotel-and-visual-art/>

Session 3 - Let's build a Bug Hotel!

Step 1 - What are Bug Hotels

Do you want to do something concrete to help our Planet and promote its biodiversity? Start thinking about a Bug Hotel! But what exactly is a Bug Hotel? A Bug Hotel is a nest for various species





of insects that are not harmful, i.e. not plant pests: e.g. ladybirds, chrysops, hoverflies, dipterans, lepidopterans (butterflies), solitary bees, etc.

Very popular in Northern European countries, they can be constructed in the most diverse ways (using natural rather than artificial materials; by recycling everyday objects or creating them on purpose, small or large; artistic or handmade...). They aim to 1) diversify the environment and safeguard biodiversity in both natural and artificial environments and 2) find allies for our green space, both in terms of crop protection and increasing production due to adequate pollination.

Here's a fascinating **tidbit**: in some of London's public parks, you can find Bug Hotels that are more than just functional. They're highly original creations, built by architects as part of a competition for an 'artistic reinterpretation' of the insect house (here are some photos:

<https://www.britishland.com/news/press-releases/bug-infested-london-hotel-wins-prestigious-architectural-prize>)

Here is also a nice video to learn about a project carried out with children in London.

<https://www.youtube.com/watch?v=R4e0lWtR8nw>


Step 2 - Why is it useful to populate our cities with Bug Hotels?

Building a bug hotel means providing a micro-habitat that accommodates beneficial insects. It has enormous advantages: besides providing a refuge for these animals essential in biological control, it supports pollination, enables the abolition of pesticides, protects our crops from many pests, and protects biodiversity. It also has a social and civic role, creating a decorative element in our garden, even to the point of being a modern urban design feature (as in the case of London's parks!).

These structures play an important role in encouraging the spread of pollinator species such as bees, bumblebees, and butterflies in cities. Solitary bees and butterflies, in fact, play an indispensable role in the health of the ecosystem. They are among the most important pollinating insects and precious allies of the plants in our gardens and vegetable gardens.

Step 3 - How to Build a DIY Bug Hotel





Following simple instructions, everyone can make their bug hotel, leaving room for imagination and fun. Only a few readily available objects are needed to host ladybirds, butterflies, bees, and other insects in our garden or on our balcony.

Two simple videos for the creation of Bug Hotels are available here:

- ✦ How to build a Bug Hotel - Wildlife Connections, Learn at Chester Zoo (2017)
<https://www.youtube.com/watch?v=0exxoXo9uFk>
- ✦ How to build a bee house, BASCFilms (2020):
<https://www.youtube.com/watch?v=ZBGsMIDr-XY>


You might think about launching a local Challenge to build artistic or creative Bug Hotels, monitoring the liking of the bugs that come to stay! Check out the Activities and Tools session of the EUtopia Project website!


Step 4 - Let's enrich our cities with Bug Hotels!

We suggest training young Bugs Hotels creators and experts in bug hotel construction and motivating them to transmit the importance of biodiversity protection to their peers through social media: they can be trainers themselves for other young people!

Padlet tools and the creation of Participatory videos suggested and illustrated in the Activities and Tools session on the EUtopia Project website, can be useful tools in this part of the Workshop to disseminate content and find other allies for the Bugs Hotels in our cities.

Learning Outcomes

- ✦ The primary expected outcome of the Workshop is to make young people aware and informed about:
 - ✦ What biodiversity is and why it is essential for humanity;
 - ✦ What is endangering biodiversity, and what are the consequences of its impoverishment;
 - ✦ How can you contribute in your small way to protecting biodiversity, starting with the smallest of things: insects?
 - ✦ In addition, the Workshop will allow
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- ✦ Make young people (especially those who live in cities and are frightened of insects) understand that insects are not enemies but allies and that their role is essential;
 - ✦ Impart basic knowledge about the world of insects to understand that fear of them is unjustified and to gain awareness of their importance;
 - ✦ Acquire the ability to build a Bug Hotel;
 - ✦ Train motivated young people to be, in turn, promoters of biodiversity and insect protection towards their peers, stimulating them to inform about how it is possible and valuable to host insects in urban green spaces.



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