



# dark sky ecotourism

## Module 4 – Example from Portugal

A night walk on biodiversity,  
guided by biologists



Dark Sky Ecotourism VET  
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# INTRODUCTION

A nocturnal biodiversity walk can be an exciting and educational experience, particularly if it is carried out with the participation of biologists.

You can approach it through a more specific theme - for example, nocturnal birds or moths - using specific equipment and methodologies, or you can combine everything into a single route, giving a broader understanding of biodiversity in the area and how to contribute to its conservation.

A fun format with a certain degree of "adventure" (going out at night with only lanterns and your senses alert...) will certainly amplify its educational potential..



## When Deciding on the Location...

- Make sure that the place you choose is not too sensitive to the presence of people. Natural areas generally require special authorisations or permits to enjoy them, and some are even off-limits to the public.
- Remember that the main motivation for carrying out this type of tourist-scientific activity is to contribute to the conservation of biodiversity, so all stages, from planning and preparation to realisation, should be guided by this principle.
- Respect the animals and their habitats and minimise disturbance to the places you visit, taking care to avoid excessive sound or light and leaving no waste. Be accompanied by biologists to gain a deeper understanding of the animals and their ecology.

# Before departure: the location

Choose a "promising" location from the point of view of its biodiversity. Even if it's not easy to see nocturnal animals, it's important to be able to prove their existence (various traces, photos or videos, audible sounds...).

Passing through different landscapes (lakes, open areas, forests...) can increase the chances of encountering animals or their signs.



## Before departure: Authorisation and Security

- Check whether the chosen location requires authorisation, either official or from private owners, to carry out the activity. Plan how far in advance you need to deal with these matters.
- Make sure the route is safe for participants. Remember that people are not naturally "equipped" for the dark and that, even with torches and a lot of caution, accidents are easy to happen. Choose paths that are easy to walk on (not the rocky trails that would delight you during the day). Full-moon nights may be more suitable for these activities.
- Make sure participants have torches (preferably with red light, which doesn't affect night vision).



## At the beginning...

Before starting the trail, give a brief presentation on nocturnal biodiversity and the animals that can be found in the region.

Prepare illustrated guides and equipment (we'll see some examples below) that will help you listen to, visualise and identify nocturnal animals.

Ideally, invite biologists or other specialists to guide the walk. That way, you can reach audiences who are also more specialised or professional, looking for scientific or more in-depth information.

Their expertise will also be useful for including interactive experiences along the route, such as the following.





@Mariana Tomaz

## Nocturnal birds

If your region is rich in nocturnal birds (owls, nightjars...), you may well be able to hear and even see them during your journey.

You can use apps to emit their chirps. If they are nearby, they will not only respond to the call but may even come closer to find out who is daring to enter their territory.

An experienced biologist or ornithologist will help with identification and with information about the species contacted.



@Ivo Rodrigues

## Moths and other insects

You can include a stop along the way to talk about insects and their importance for pollination and the balance of the ecosystem.

In many cases, you'll see and hear some on the way (like crickets), but you can make it easier to spot them by putting a sheet stretched between trees or on the ground and a bright light pointing at the sheet.

The diversity can be astonishing. From mosquitoes to moths, grasshoppers, praying mantises...

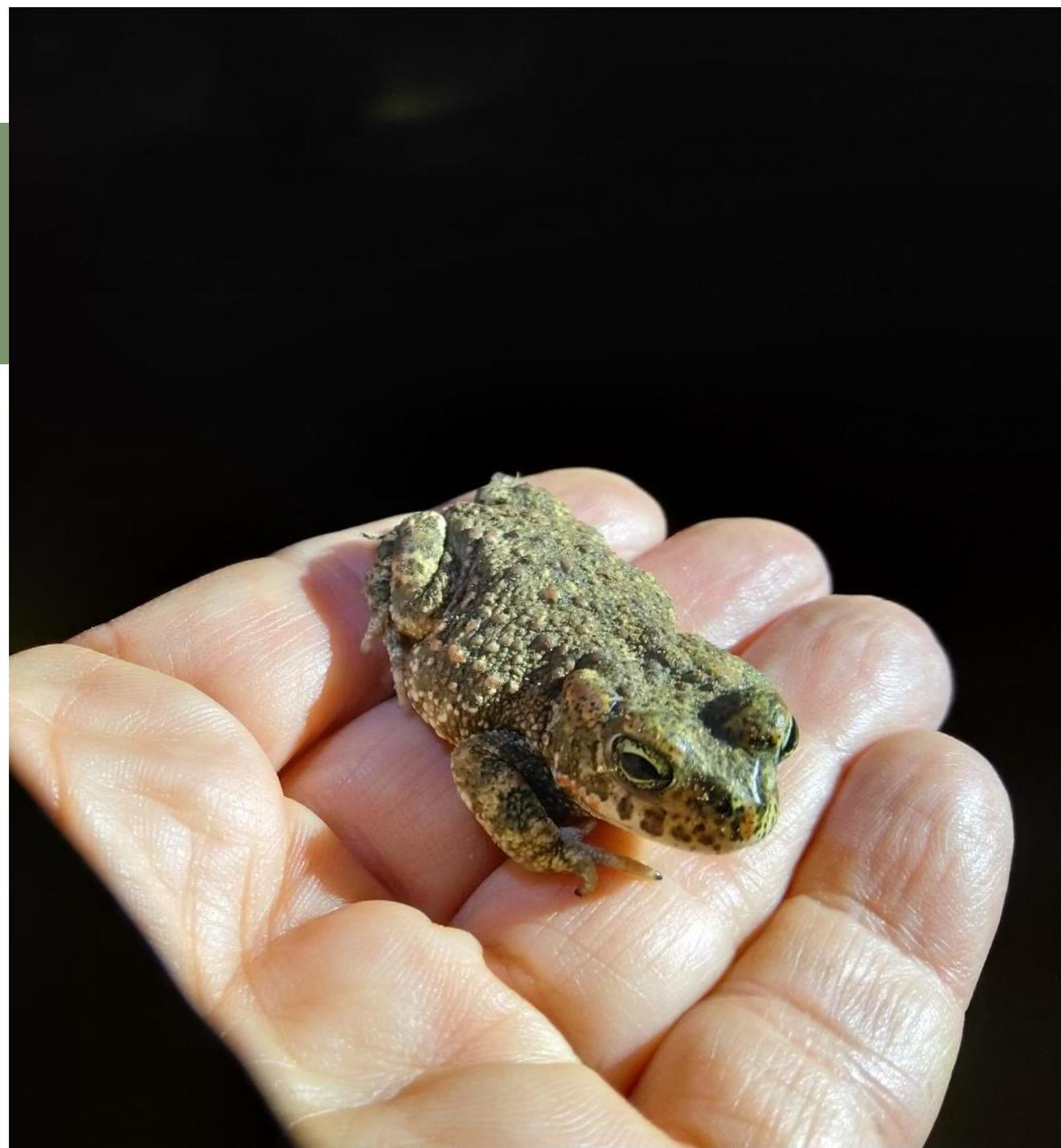
Even if you're not going on a walking tour, this activity can take place in a backyard or garden and occupy some time (the entertainment can be surprising). Check the quality of entomological biodiversity in your region beforehand.

# Reptiles and Amphibians

Water points or even a very wet route will certainly bring you into contact with amphibians - toads, frogs, salamanders... or reptiles - for example, geckos.

At certain times, it may even be necessary to walk carefully so as not to step on small frogs looking for mates along the paths.

Near lakes or rivers, the croaking of frogs will be heard, providing the perfect "musical" accompaniment, for example, to watch the stars.







## Mammals (terrestrial and alate)

Among nocturnal mammals, bats take centre stage. They are generally easy to spot when they come out of their shelters in more or less numerous groups or fly around lamps hunting insects.

To hear them and identify them, you'll need equipment that picks up their ultrasound. Different frequencies allow you to tell which species they are.

Knowing that they don't generally enjoy much sympathy, take the opportunity to emphasise their importance in the fight against pests and counteract legends and myths about their danger to people.



# Mammals (terrestrial and alate)

Other mammals will probably be more difficult to spot, although some can be heard well during certain months of the year. This is the case with the roar of deer during the mating season, which can echo for a long distance.

In general, and perhaps except for foxes, they are very elusive and silent animals, which doesn't stop them from enlivening our route.

Try setting up small "scent stations" a few days in advance. There probably won't be any food there, but the footprints will be visible. Don't forget to take an illustrated guide with you so you can identify who left them.

You can also set up night vision cameras beforehand, which will capture them as they pass, and show these images to the participants.



# If everything is not perfect...

Biodiversity is a subject that always excites, but doesn't always "collaborate" 😊

When time or technology doesn't allow you to observe or listen to animals during your walk, you can supplement the information with educational materials or games.

An insectarium or a collection of insect resins, plaster casts of mammal footprints and previously compiled images will illustrate the diversity and accompany the information provided.





## End of the walk

Use the trail as an opportunity not only to publicise the biodiversity of your region but also to educate about its conservation and how to actively contribute to it.

Providing information on biodiversity apps and websites will complement the experience and amplify the intended effects.

Don't forget to ask the participants for their opinion on the experience, so that you can evaluate its success and identify areas for improvement in the future.