



dark sky ecotourism

Module 4 – Experience from Portugal

Rural accommodation and Dark Sky Ecotourism



Dark Sky Ecotourism VET
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INTRODUCTION

In suitable locations, stargazing can make for a very enjoyable, exciting and educational evening. It can be done in a variety of ways, with very different levels of investment and equipment, and complement many other activities.



By taking advantage of the dark sky and minimising light pollution, rural accommodation can offer visitors a diverse range of experiences that promote a deep connection with the natural world and the universe.

Establish your plan

Creating facilities and developing activities centred on the dark sky can attract new audiences and provide memorable nature and astronomy experiences in and around your facilities.

Providing overnight stays "under the stars" or setting up a small astronomical observatory requires significant investment, but many other alternatives need little more than knowledge or access to it and some creativity, always guaranteeing safety, of course.

Astrophotography workshops, storytelling sessions associated with the night, night walks, candlelit dinners, or simply setting up mattresses in the backyard for stargazing are all activities you can organise under the dark sky, provided you take the necessary precautions in terms of lighting, which is a critical factor for the success of your astrotourism initiative. By doing so, you will also contribute to increasing biodiversity on your premises, broadening the potential diversity of your dark sky ecotourism offer.

We'll look briefly at two examples of initiatives that you can develop on your premises or in the neighbourhood.



But first, don't forget some preconditions when defining your night ecotourism strategy:

- Confirm that you have the necessary dark sky conditions;
- Seek out and join networks and partnerships that will support your initiative, whether in tourism promotion or in the specialised technical fields you will need, for example, astronomy;
- Carry out an analysis of all applicable laws and regulations and a rigorous risk assessment for all the activities you plan to carry out (at night, the risks are generally greater, and some activities are even prohibited).

For more information on these and other topics, consult the project tools and materials.

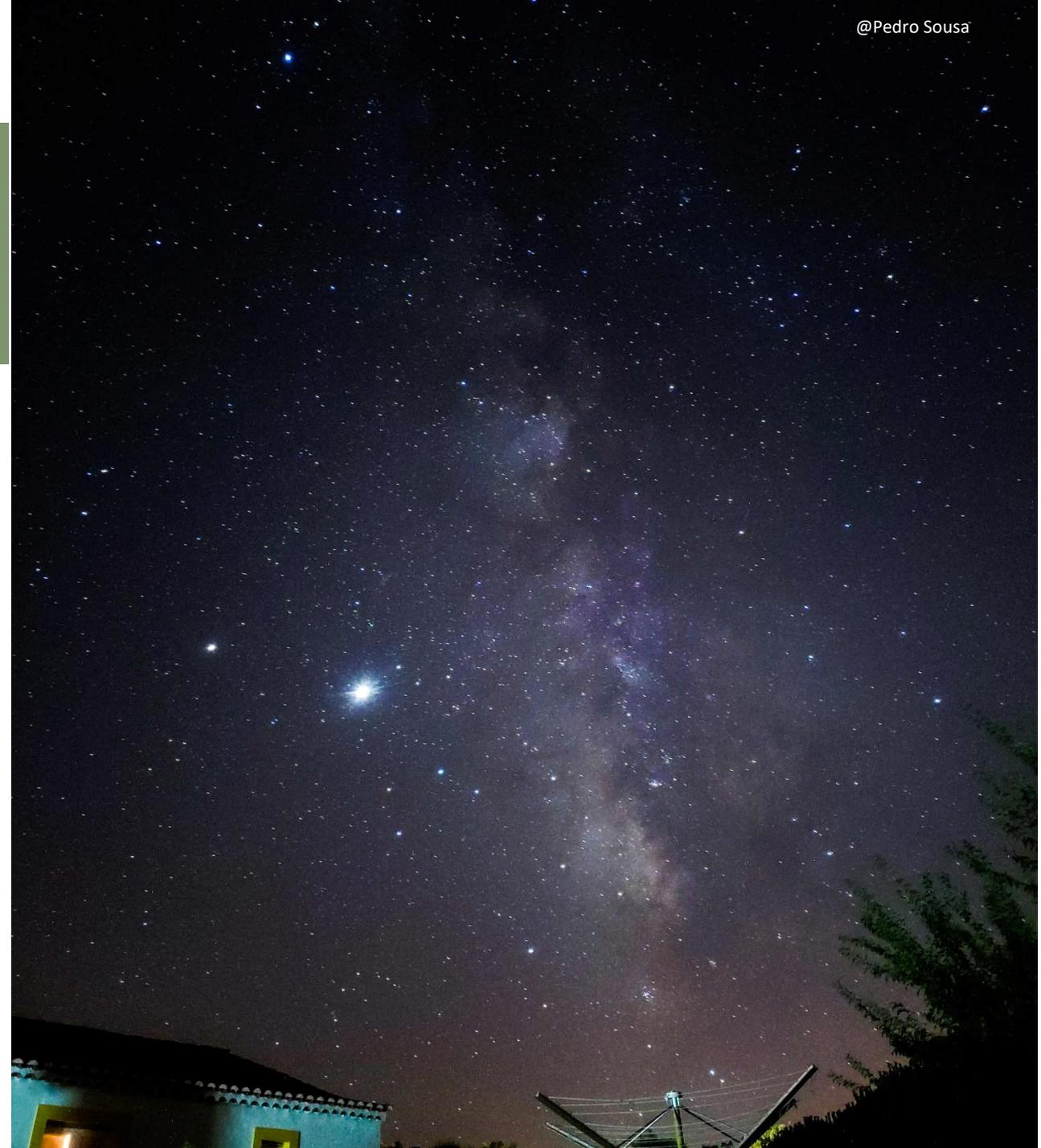
Reduce Light Pollution

As this is a fundamental aspect, pay special attention to the lighting on your premises.

Reducing light pollution on your property is important for preserving the night sky, protecting nocturnal biodiversity, saving energy and creating a more peaceful and pleasant environment at night.

Whilst you should seek expert technical support, here are some tips on how to minimise light pollution on your property, particularly in your outdoor spaces:

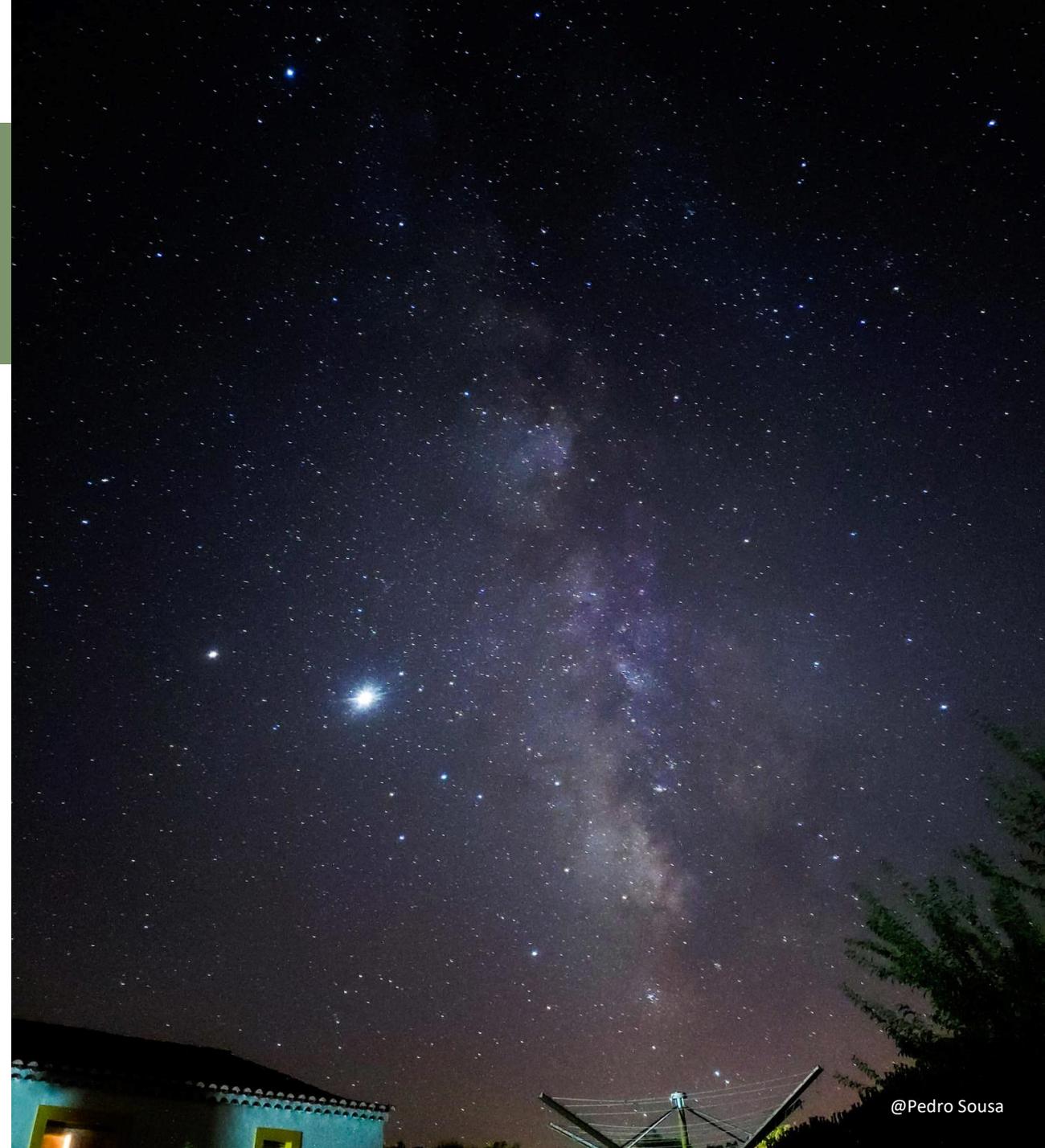
- Opt for directional and efficient lighting, such as luminaires that direct light downwards where it is needed. Use LED bulbs with a warmer colour temperature instead of white or blue lights. Avoid excessively bright lighting.



Reduce Light Pollution

- Install Timers and Motion Sensors so that lights are activated only when necessary. Switch off unnecessary lights.
- Avoid bright billboards.
- Use shutters or curtains on windows to reduce the projection of light outwards.
- Plant trees and shrubs to help block out intrusive light and create natural barriers.
- Raise awareness and educate colleagues, neighbours and guests about the importance of reducing light pollution and encourage good practices.
- Participate in local or national projects or initiatives to promote good practices and advocate for policy measures to reduce light pollution.

The Milky Way from a rural hotel in the Alentejo region





Increase Biodiversity

Reducing lighting is also one of the steps towards increasing biodiversity on your property and in your region, providing other opportunities for nocturnal ecotourism. Other actions could be:

- Plant trees, shrubs and native flowers to attract nocturnal animals.
- Create habitats such as nesting boxes and burrows for nocturnal animals.
- Let natural areas grow without intervention to serve as habitat.
- Consider adding a lake or pond.
- Plant flowers that bloom at night to attract nocturnal pollinators.



Increase Biodiversity

- Offer food and fresh water to nocturnal wildlife.
- Avoid toxic chemicals and exotic ornamental plants.
- Grow host plants for nocturnal moth larvae.

As with astronomy, study nocturnal biodiversity in your area to understand which species you can attract and support, work with scientists and get involved in wildlife monitoring and protection projects.

Renaturalise your property and try to involve others around you to improve the quality of local ecosystems.

Watching the Stars

A stargazing session is an educational and inspiring activity that can be enjoyed by people of all ages. It promotes an understanding of the cosmos and a connection with the universe, encouraging curiosity and an appreciation for astronomy.

The purchase of some equipment, such as telescopes, allows you to organise stargazing activities on your premises, which can also be combined with other activities, for example, a gastronomic event (why not a (G)astronomy initiative?)

Beforehand...

Taking advantage of the fact that you're in a dark sky area can set your holiday resort apart and attract visitors looking for unique experiences in contact with nature and the universe.

If you want to install a small observatory, here is some advice to follow:

Start with detailed research into the requirements and regulations for establishing an observatory in your location.

Choose a location in your hotel that offers darkness and low light pollution (having worked for it!).

Purchase telescopes and astronomical equipment suitable for stargazing. Consider equipment that is easy to use for novice guests. You can build or adapt a structure, such as a dome or observation platform, to house the equipment, weatherproof and secure.



Beforehand...

Acquire knowledge or hire specialised astronomy guides who can lead stargazing activities and share information about the night sky. Look for partnerships with local observatories and experts.

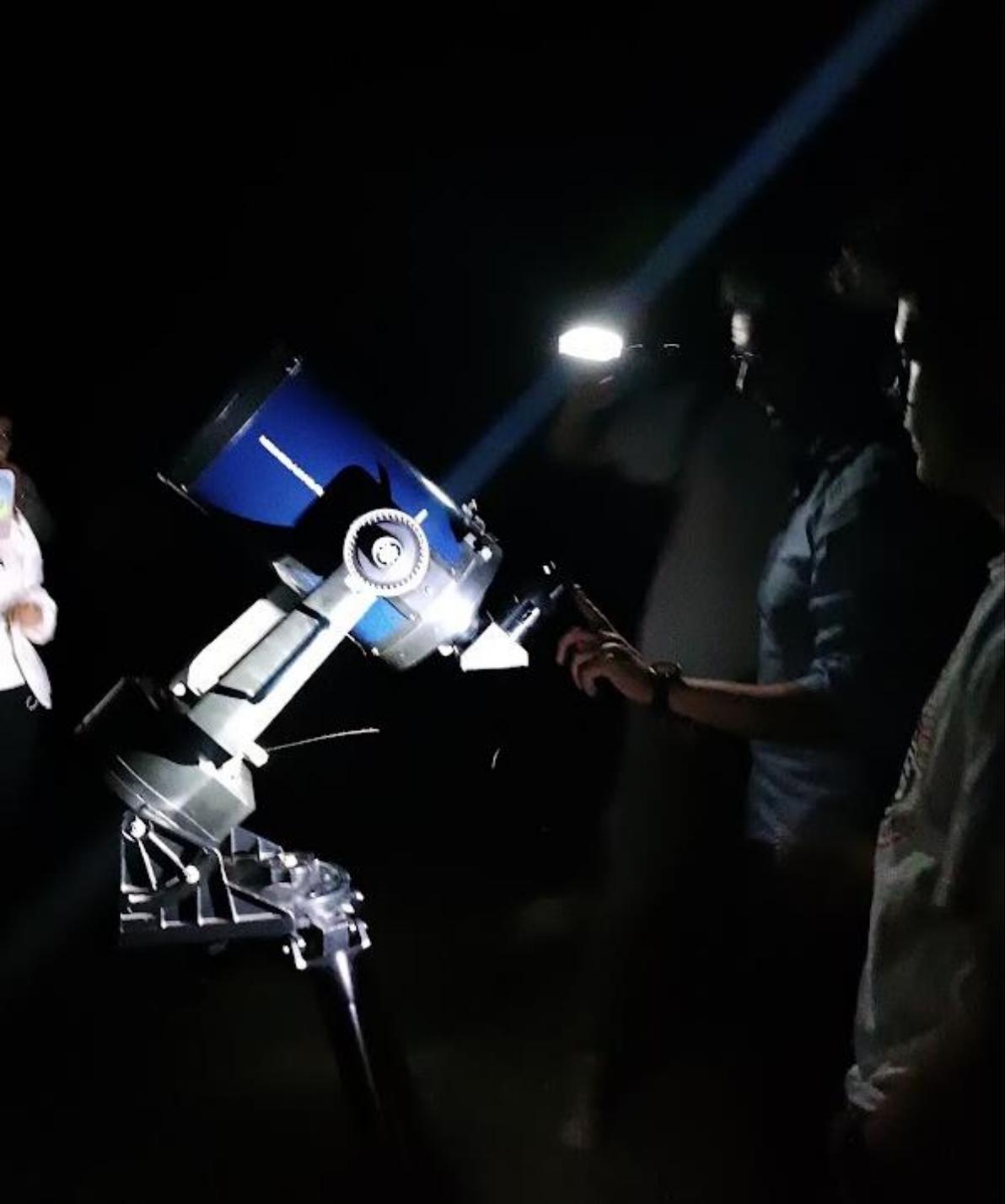
Create or join programmes that include night observations, astronomy lectures and practical workshops.

Be aware of important astronomical events, such as meteor showers, eclipses and the positioning of planets, and include them in your programme.

Equip yourself with educational materials, such as brochures, presentations and online content, to educate guests about what they are seeing. Consider creating a small museum space on the theme, where you would start the activity.

Promote environmental conservation practices and light pollution reduction.



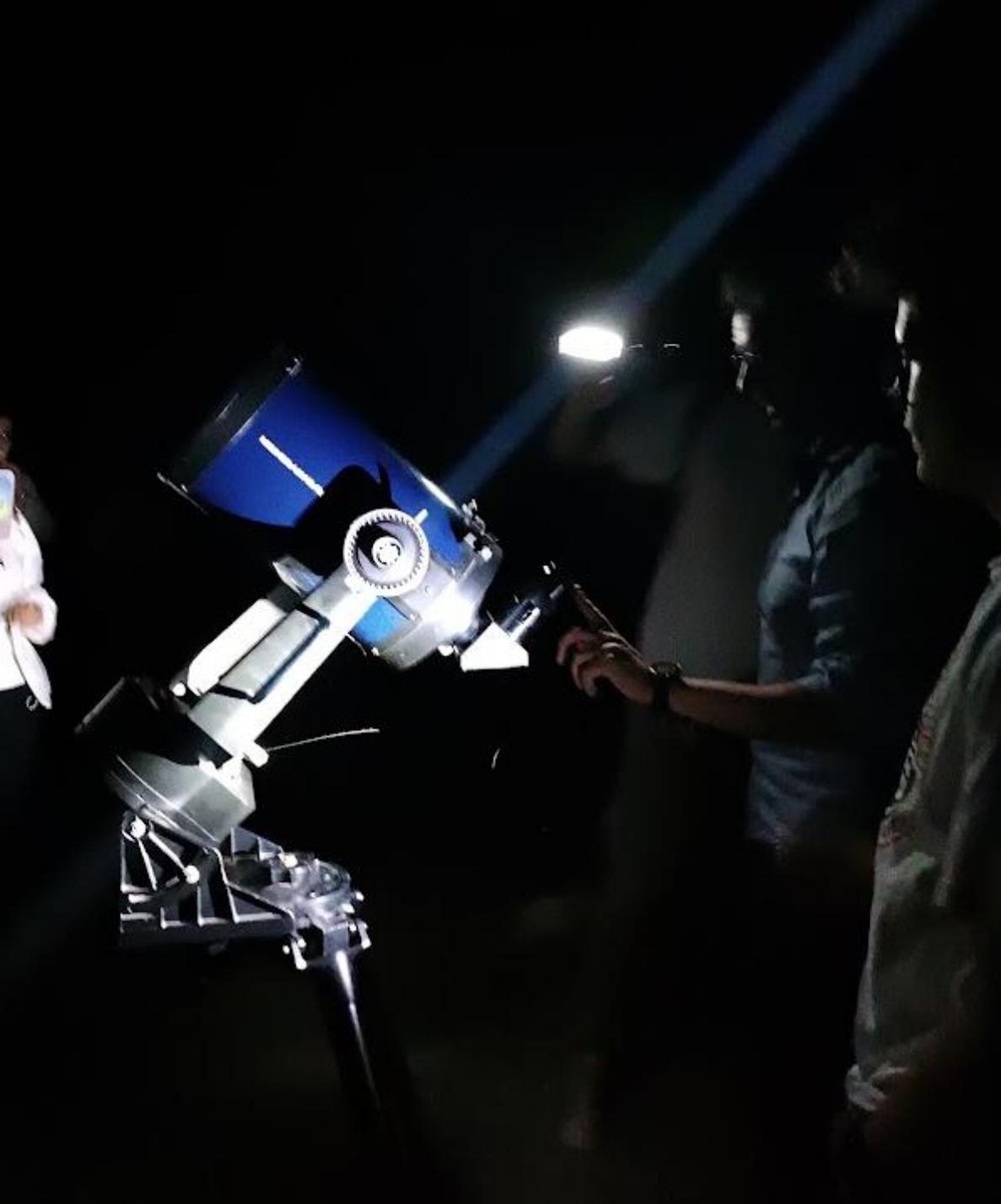


Preparing the activity

You need:

1. **Date:** Choose a night with clear skies and no full moon, as moonlight can obscure the stars. Take advantage of all the opportunities linked to astronomical phenomena.
2. **Equipment:** Provide telescopes, binoculars, camping mats or chairs, sky maps or astronomy apps and torches with red light to preserve night vision. Have a laser pointer handy.
3. **Education and Information:** Prepare information about the constellations, stars and other celestial objects that can be observed that night.
4. **Safety and Comfort:** Make sure participants are dressed appropriately for the night conditions (warm clothing). Provide seats or blankets for comfort.

For more information about the equipment, consult the project tools and materials.



Step-by-Step: What to do...

1. Start at dusk, when the stars begin to appear. You can start the activity indoors by showing some videos or photographs that frame the theme.
2. Outside, use torches with red light to avoid obscuring night vision.
3. Identify the constellations and highlight the objects of interest, such as planets, stars, nebulae and galaxies, using a laser pointer.
4. Point telescopes or binoculars at specific objects, allowing participants to take a closer look.
5. Explain astronomical phenomena, such as shooting stars, and provide context about the distances and sizes of stars. Encourage participants to ask questions and tell their experiences and stories.

Additional Resources

- Video links
- Astronomy websites
- Social media links
- Tools and materials available on the project website <https://darkskytourism.eu>

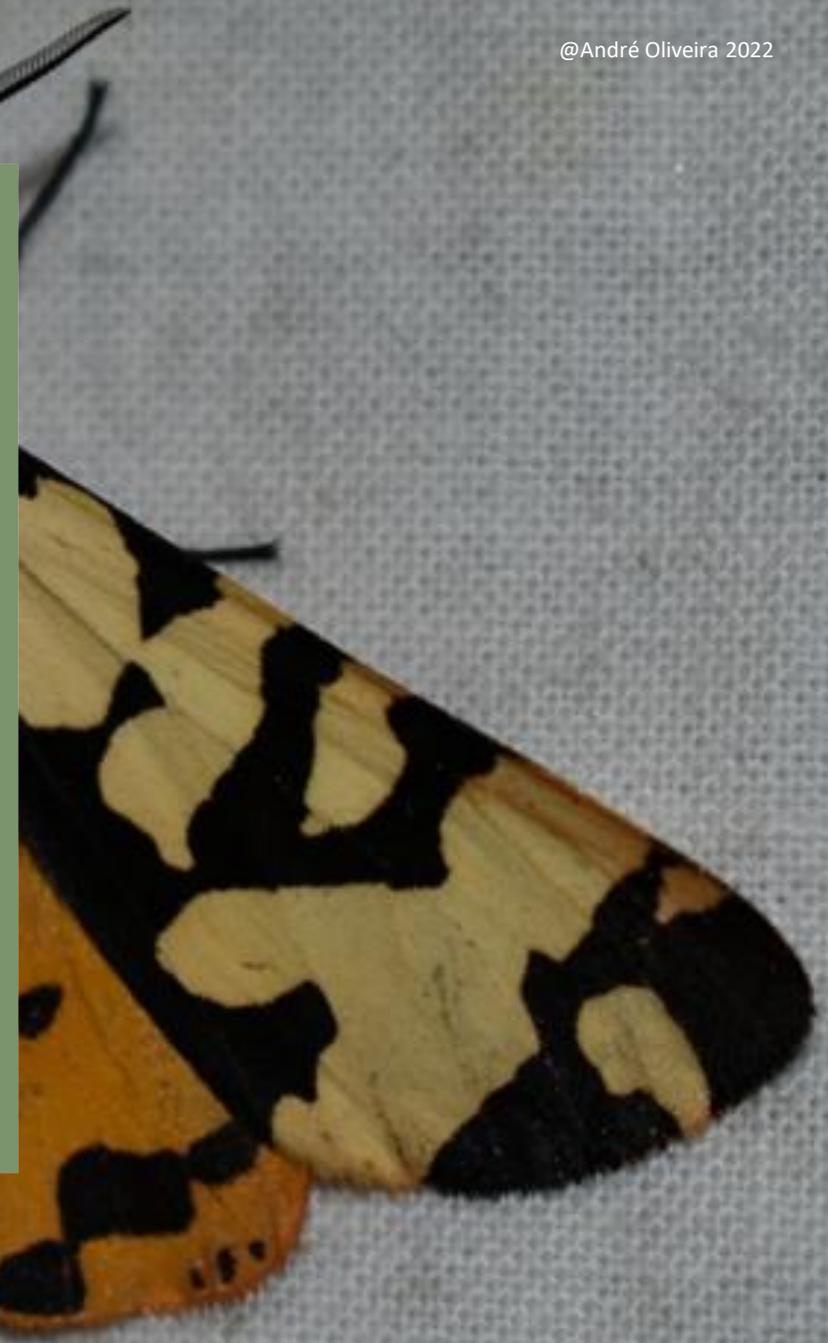
Get actively involved in advocacy and awareness-raising initiatives to reduce light pollution.

Viewing and identifying insects

This is a simple night-time activity for which only basic equipment is needed.

It will show visitors the life of local insects and make them aware of the extreme importance of protecting pollinators.

Your efforts to create a pollinator-friendly "moon garden" (with plant species attractive to moths) will be compensated.



Preparing the Activity

No advanced prior knowledge is required to carry out this activity at its simplest level. But you can also count on the help of biologists or entomologists.

The activity allows you to attract insects to an observation site and is a simple way of involving younger visitors in activities to recognise and enjoy biodiversity.

You need:

- 1) Good weather conditions, preferably with a mild climate and a location with vegetation and habitat suitable for nocturnal insects.
- 2) Soft, directional lighting (red lights so as not to disorientate the insects).
- 3) A large, plain white bedsheet (or large sheet of paper), pots for temporary collection, insect nets
- 4) Insect identification guides and, if possible, a magnifying glass for detailed observation



Step-by-step: what to do

1. Attach the sheet so it is wide open between two trees. It could also be on the ground. You can see an example in the pictures above.
2. Start at dusk, when nocturnal insects start to become active.
3. Use torches with red lights to avoid disturbing the insects.
4. Use insect nets to temporarily collect specimens and then release them.
5. Examine the insects collected using identification guides and magnifying glasses.
6. Identify and discuss the insects observed, highlighting their characteristics and behaviour.
7. Encourage participants to take photos or make notes about the insects observed. This can be useful for documentation and further learning.
8. Remind participants of the importance of not harming insects or their habitats. Return all collected insects to their environment after observation.



What happens if no insects land on the sheet?

Don't panic if conditions don't work out one night. You can still easily educate and entertain your guests about local ecology even if conditions don't cooperate. Here are some ideas of what you could do:

- You could play insect videos or sounds on your phone and ask younger guests to mimic insect actions or sounds.
- Learn some basic local ecology so you can explain to your guests what insects are in the region (e.g. species of butterflies, moths, spiders, etc)
- You could purchase some insect samples and bring them with you to show guests (e.g. displayed in glass casings).
- You might be able to purchase a game/ wall chart showing different insect species and bring this with you as backup

Additional resources

- Video links
- Insect ecology websites
- Other technology you could purchase (e.g. audio frequency devices)
- Social media links

Get involved in insect monitoring and protection projects in your region.

