

nonnegative, the plant can survive. For this reason, this is a hostile habitat for many species, especially for all those that do not tolerate shade. Surviving under the canopy requires strategies and adaptations that allow a plant to capture as much of the scarce light as possible. Increasing leaf surface area, reducing leaf thickness, or increasing the concentration of photosynthesizing pigments per unit surface area or leaf volume are some of the strategies used.

The cool air suggests less need for transpiration and the babble of the water in the creek may indicate the availability of water in the soil.

After hiking through the trees, penetrate now into the brush, composed of bushes. Note the impact of fire and the trail of destruction left behind. Most of the trees died. Now, the intense light makes us close our eyes. The air is hot, you sweat and begin to feel thirsty. Do you have water? The availability of water in the soil is a problem which the plants must deal with cyclically and is the principal limiting factor in this environment. When rain does not replace the water lost through evaporation and transpiration, the soil dries and enters a period of water deficit. How do the plants react to a lack of water? Note the number of leaves, their reduced size or even how some species role their leaves up. Pay attention to thorns. Reducing leaf surface area is an excellent strategy for reducing water loss through transpiration. However, how can plants reconcile the vital need to reduce water loss with an equally vital requirement – photosynthesis?

These are only some suggestions to guide your attention. Do not forget to observe the diversity of plants and animals. You might not see the animals, but there are signs of their presence and activities. Gnawed pinecones, holes, areas that have been slept on, tracks, sounds, and feces may indicate their existence. As you can see, none of your senses should be indifferent. Walk at your own pace and feel you are a part of the environment that surrounds you – since you are.

Try to learn more about the oak forest – our primitive forest – and the communities that resulted from its degradation. All the information you need is easily available from various sources. Some of this information, in the form of theme-based pamphlets, has been published by the National Park.

The oak forests are part of our natural heritage and they need to be conserved, not only for their plant diversity or for the manner in which they make our landscape more valuable, but also for the diversity of animal life that they shelter and sustain. Man has been the principal unstabilizing agent and has been responsible for the aggressive actions in this ecosystem. These actions totally or partially unstabilized the existing environmental conditions. As a consequence, the community was eliminated and replaced by another which had little or nothing in common with the previous one, resulting in degraded communities. These degraded communities – brush – are made up of gorse (*Ulex* sp.), broom (*Cytisus* sp.), heather (*Erica* sp.), and carquesia (*Chamaespartium tridentatum*). Others are occupied by agricultural or forestry areas such as pine (*Pinus pinaster* and *P. sylvestris*) and eucalyptus forests.

All of this biodiversity constitutes a natural, biological and genetic heritage of incalculable value which must be conserved and passed on to the generations to come.

THE PREGUIÇA TRAIL

Ecological Interpretative Trail through the Oak Forest

pedestrian trail

Parque Nacional
Peneda-Gerês



PR 10 (TBR)

The intention of the Preguiça hiking trail is not only to allow the visitor direct contact with nature, but also to awake in him a feeling of belonging to the surrounding community, and stimulate in him a desire for knowledge.

At the observation point, looking South towards the Caniçada dam, you will see the straight valley of the Gerês river, set into the Gerês fault. Looking towards the North, in the direction of the source of the Gerês river, you will see the region through which the trail will pass. Note how the shapes and the green of the vegetation, the action of man and geomorphology unite to give the landscape a unique aspect.

Try to understand your maps. Identify the principal waterways and, through the canopy of trees, locate groups of pines, oaks, other resinous trees, brush and invasive species such as the silver wattle (*Acacia dealbata*).

The principal interest in this region, in terms of environmental education, lies in the great diversity of vegetation. On the one hand, it preserves natural formations with a diversity of species and a structure relatively similar to that of the vegetation that covered this region in primitive times – oak tree forests. On the other hand, other formations which indicate the impact of human activities on the original vegetation – principally agriculture, herding, forestation, fire and the introduction of exotic species – can be seen.

Frequently, we think of vegetation as static, almost unchangeable, and insensitive to the continuous changes in the environment. This is far from the truth. Each plant species requires certain environmental conditions to survive and reproduce, principally light, temperature, humidity, soil and the presence of other living species. As long as a species tolerates the combined action of all environmental factors, it will continue to survive in a given location and may even increase the region in which it grows. However, when the changes introduced alter the set of environmental factors beyond the limits of the tolerance range of a species, it disappears from the area. While some are excluded, others begin to flourish in the vacated location. The combination of these individual changes is reflected in the species present and in the landscape. The horizon clearly mirrors the dynamism of the vegetation in response to the changes caused by man.

Prepare yourself to penetrate into the different natural formations and feel some of the environmental factors that regulate these communities. Use your senses and ask yourself what these sensations may mean to a plant. Under the canopy of an oak or strawberry tree forest, feel the shade, the coolness in the air, the burbling of the water in the creek or the breeze that tickles the leaves. Remember that photosynthesis is a vital activity for plants, which ultimately sustain animal life. Who performs photosynthesis? Light is the energy that stimulates the process, and shade translates into less available energy. How can plants live under the canopy and continue to produce organic material, their food, as if they were supplied with direct sunlight? Since light is scarce, less nutrients are produced and less energy is available for vital reactions, such as growth and reproduction. Growth may be very slow or nonexistent, and the plant may not reproduce, but as long as the equilibrium between the food produced through photosynthesis and that consumed is



Relative Location of the Pregoia Trail
Start: 41° 45' 3" N, 8° 9' 7" W

The Pregoia trails are hiking trails that follow the top of Arnado hill along the left side of the Gerês river fault valley in the middle of the Gerês mountains. The trails are exclusively low-altitude, from the Casa da Pregoia to the Leonte falls, beginning and ending at the Casa da Pregoia.

The set of defined hikes – trails I, II and III – center on the longest, called trail I, with an actual distance of 3.4 miles. They allow you to balance your physical effort and ability to comprehend and pay attention to your environment. In addition, at various points on the defined trail, and in case of need, you will find exits with direct access to National Road 308 where you will be able to return to your starting point easily. You may discover the different species that make up the existing system at your own pace. You will see their organization and structure and, most importantly, learn to feel like an important part of nature and enjoy her, without risking your health.

Trail I is of medium difficulty and has, particularly at the beginning of the hike, a slight upward incline, rising from an altitude of 2180 ft to 2795 ft over a distance of 1100 yards. At an appropriate pace, the hike will take approximately three hours. It is recommended for secondary school students or for visitors in good physical condition.

The remaining trails, numbered II and III, are shorter and easier. Trail III is the shortest and easiest. At a reasonable pace, trail III will take about one hour to complete. It is recommended for elementary school students and visitors who are not accustomed to physical exercise.

PRECAUTIONS:

- Follow posted signs. Do not leave the marked path.
- Avoid making noise.
- Do not leave any trash behind. Carry it to a trash collection point.
- Do not start fires.
- Leave the wilderness the way you found it. Do not collect plants, animals or rocks. Take photographs, they will be an excellent souvenir.
- Dress for comfort. Use appropriate clothing and shoes.

