



# WALKING TRAILS

FROM THE SERRA D'ARGA  
TO THE FOZ DO ÂNCORA

#### PRODUCED BY



#### WENATURE

Ecotourism And Nature Technologies, Lda

Travessa das Águas, N. 171  
4000-078 Porto  
**wenature@wenature.pt**

#### TERRITÓRIO XXI

Gestão Integrada do Território e do Ambiente, Lda

Rua D. João I, 298 - 1.º andar  
4450-162 Matosinhos  
T. +351 220 135 202  
**geral@territorioxxi.pt**

#### INTERMUNICIPAL PROJECT

##### Miguel Alves

Mayor of Caminha

##### José Maria Costa

Mayor of Viana do Castelo

##### Victor Mendes

Mayor of Ponte de Lima

General coordination and supervision

##### Guilherme Lagido Domingos

Deputy Mayor of Caminha

#### TECHNICAL TEAM

**WENATURE** - Ecotourism And Nature Technologies, Lda

**TERRITÓRIO XXI** - Gestão Integrada do Território e do Ambiente, Lda

Coordination

##### **Davide Fernandes**

Texts

##### **Carla Maia**

##### **Davide Fernandes**

##### **João Almeida**

##### **Paulo Alves**

##### **Vera Santos Silva**

Geographic information systems

##### **Joana Diz de Sá**

Translation

##### **Wisdom Translations**

Graphic design

##### **Miew Creative Studio**

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# Introduction

The Site of Community Importance 'Serra de Arga' (SCI PTCON0039), classified in accordance with the Decision of the Commission of 7 December 2004, with a total area of 4,493 hectares, is a special conservation area that includes the municipalities of Caminha, Viana do Castelo and Ponte de Lima.

This small brochure is part of a set of materials promoting this region's heritage. The aim is to highlight some of the region's natural and cultural assets while raising awareness about the importance of preserving them.

The Serra d'Arga is one of the most emblematic areas in the Alto Minho region, due to the vastness of the wild landscape around its mountain peaks and its unique natural values. Around the highest points of the mountain, dominated by imposing granite massifs, there are natural grazing areas of rare beauty amidst a variety of different heaths and pastures with a remarkable range of flora. Goats, cows and Garrano ponies graze on these heaths and meadows, sharing the ecosystem with one of the wolf populations living closest to the coast. Around the charming villages located on the transition between granite and schist, the landscape is one of farmlands, wetlands and natural woodlands, crossed by various rivers and streams. These watercourses were the energy source for numerous mills that used to grind the cereals grown in the fields, and which can still be seen today.

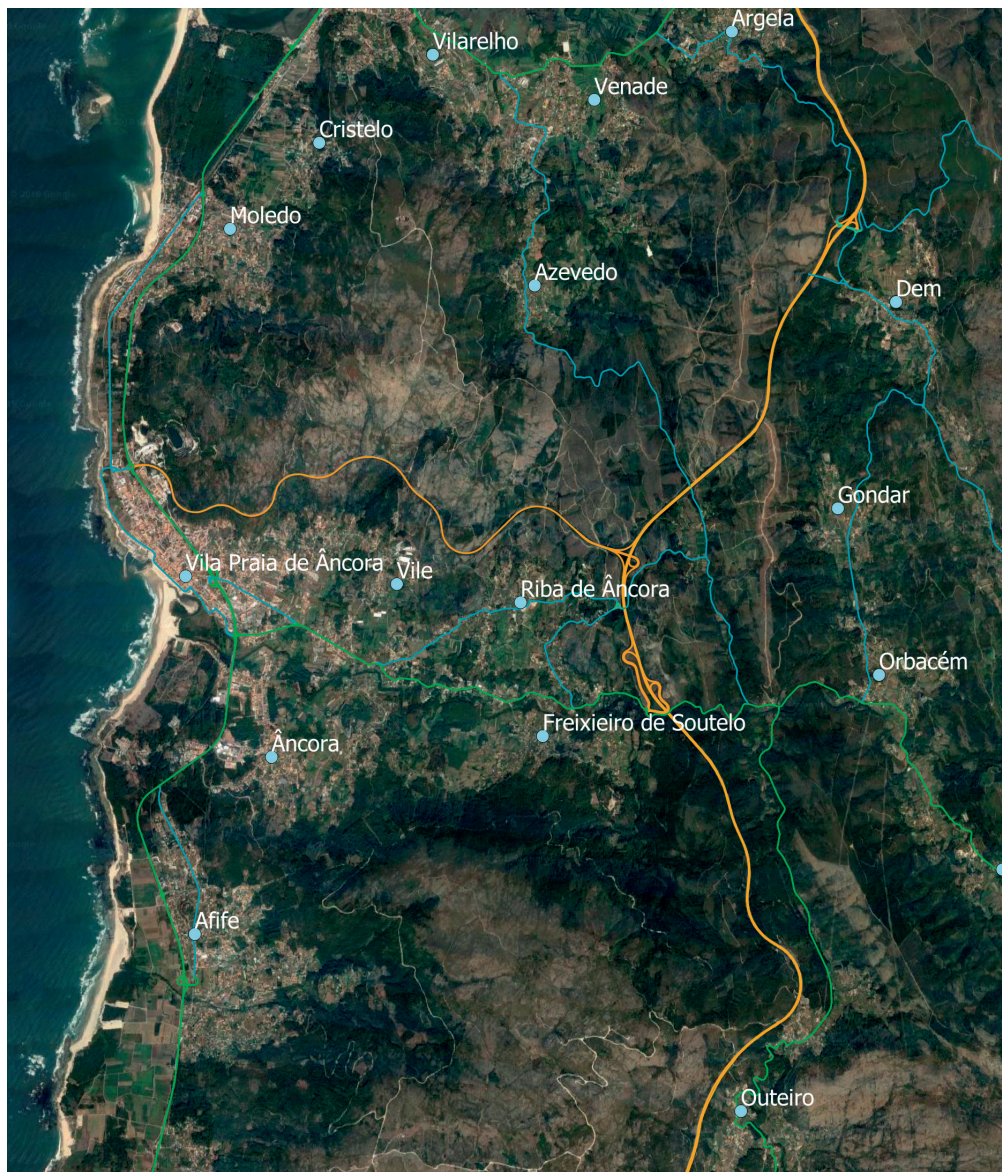
Six of the several walking trails in the Serra d'Arga have been selected and their flora, fauna, geology, landscape and culture have been described in detail.

So, when visitors set out along the Cabeço do Meio Dia, Lobo Atlântico, Chã Grande, Montanha Sagrada, Pastores and Cerquido trails, they will have information on the special points of interest each trail has to offer and can therefore enjoy them to the full through a better understanding of their surroundings.

Visitors must comply with the following standards of conduct along the trails in order to protect the landscape and preserve biodiversity:

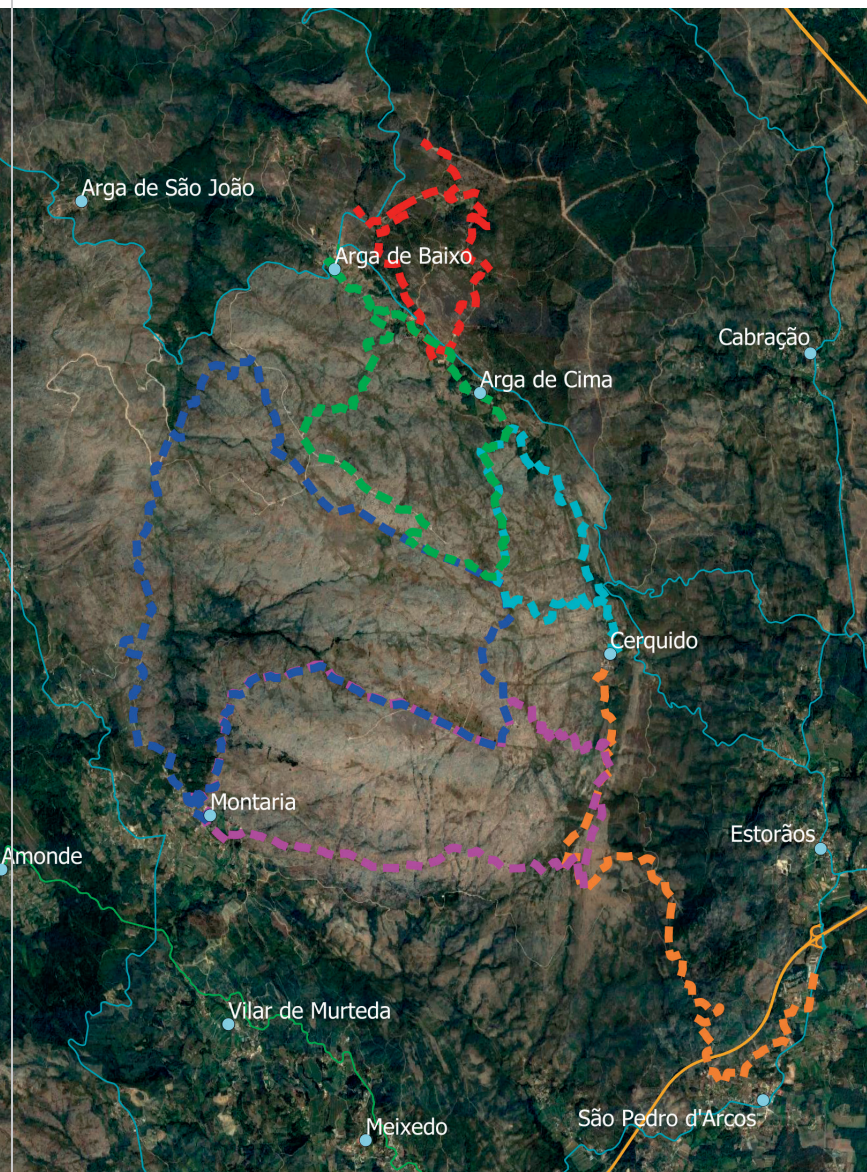
- Respect the signposts and do not stray off the marked path;
- Do not cause damage to flora or fauna;
- Do not collect plants, animals or rocks;
- Respect the uses, customs and traditions of the local population;
- Do not start fires;
- Avoid walking alone;
- Use clothing and footwear appropriate to the weather conditions.





Trail locations

- |   |  |  |
|---|--|--|
| <span style="color: red;">---</span> Cabeço do Meio Dia Trail | <span style="color: blue;">---</span> Montanha Sagrada Trail | <span style="color: yellow;">---</span> Motorway     |
| <span style="color: cyan;">---</span> Lobo Atlântico Trail    | <span style="color: purple;">---</span> Pastores Trail       | <span style="color: green;">---</span> National Road |
| <span style="color: green;">---</span> Chã Grande Trail       | <span style="color: orange;">---</span> Cerquido Trail       | <span style="color: blue;">---</span> Municipal Road |



0 1 2Km





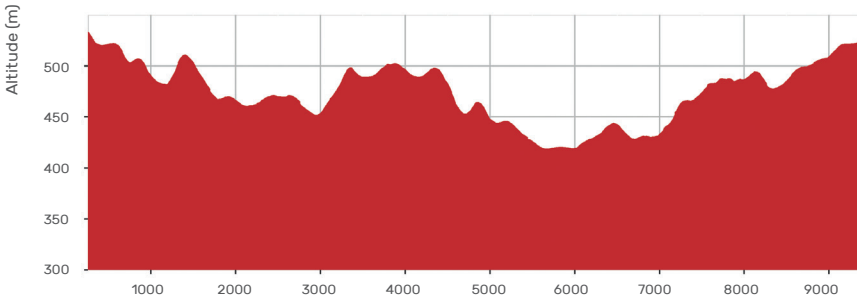
# Cabeço do Meio Dia Trail



## Pontos of Interest

- |   |   |
|---|---|
| 1 Santo Antão Chapel and Crosses                                | 10 Cabeço do Meio Dia: peak stratified with quartzite |
| 2 Panoramic view from the shepherds' shelter; heaths with thyme | 11 Species of wet meadow flora                        |
| 3 Reptile habitat   | 12 Fauna from mountain rivers; Porto Carro Bridge     |
| 4 Bat shelter; wet heaths                                       | 13 Baixo Mill   |
| 5 Ribeiro das Pombas stream and farmlands                       | 14 English oak boundaries                             |
| 6 Stream in a potential fault zone                              | 15 Gold-striped salamander; Traves Mill and Bridge    |
| 7 Pine woods birds and flora                                    | 16 Ribeiro da Arga Stream valley                      |
| 8 Traditional house   | 17 Gândara productive landscape and mills             |
| 9 Fossilised ripple marks                                       | 18 Pontão do Lobo; Arga de Cima Parish Church         |

Name: Cabeço do Meio Dia Trail  
Trail type: Circular  
Length: 9,355 m  
Degree of difficulty: Easy  
Duration: 4 h  
Start and finish: Santo Antão Chapel (41°50'11.90" N, 8°41'50.75" W)



Elevation profile of the Cabeço do Meio Dia Trail

Distance (m)

Farmland and trees bordering the Ribeiro das Pombas stream







The Cabeço do Meio Dia trail winds through the territory that extends eastwards from the Serra d'Arga foothills. There, from the Alto do Lousado and Cabeço do Meio Dia, there are panoramic views not only over that territory and its landscape mosaic, but also of those beyond it, as the valley of the River Minho and the mountains of Peneda and Gerês.

Along the Pombas and Arga streams you can see the most characteristic aspects of human impact on the landscape: meadows and floodplains, terraces supported by stone walls, trellised vineyards, English oak and holly marking property boundaries, mills, woodlands and riparian galleries — a pleasant and fertile landscape in contrast with the rugged and rocky mountains.

Along the way there are features of geological and geomorphological interest such as lithological alternations and relief contrasts, along with various elements indicating the natural history of this region. The area is marked by schist formations interspersed with quartz layers. Schist occasionally becomes mica schist (with a shinier appearance), which has been subjected to higher-grade metamorphism and tends to be located closer to the granite. Quartzite, sometimes in the form of stratified crystals, can also be found. Some of these strata contain fossilised ripple marks, showing that they were once submersed sand from former beaches. There is also a stream tucked away in a fault zone, giant's kettles in streams, and groundwater resources exploited by water mines.

A panorama of geological and geomorphological interest



The schist formations along most of the trail favours the existence of poor soils with heaths, the majority small in size, as well as a series of glades without vegetation. The heaths are dominated by prickled broom (*Pterospartum tridentatum*), gorse (*Ulex micranthus*) and sometimes endemic species such as *Succisa pinnatifida* in the clearings. In the concave areas or where local hydrology allows there is wet heath dominated by heather (*Erica ciliaris* and *Calluna vulgaris*), dwarf gorse (*Ulex minor*) and *Genista berberidea*, a species endemic to the north-west of the Iberian Peninsula. A wide variety of herbs can be found growing in the lowest areas between the wetlands and the waterside woodlands.



*Succisa pinnatifida*

The dry, rocky environments at the beginning of the trail provide shelter for reptiles such as the western three-toed skink (*Chalcides striatus*), which lie on the rocks exposed to the sun to get warm and regulate their body temperature. The trail then crosses two small streams with an abundance of amphibians, such as the rare gold-striped salamander (*Chioglossa lusitanica*), as well as of birds, reptiles and mammals. The mammals in this area include the bats that shelter in the disused mills during the day. There is also a wide variety of birds, with many small passerines in the agricultural areas and birds of prey such as the goshawk (*Accipiter gentilis*), short-toed snake eagle (*Circus gallicus*) and common buzzard (*Buteo buteo*) making their nests in the pine woods.

In terms of local heritage, some of the most characteristic and emblematic examples along the way include Arga de Cima Parish Church and Santo Antão Chapel, as well as traditional dwellings built with regional stone and the shepherds' shelter at Alto de Lousado.

The use of the watercourses that flow across the countryside is evident from the many mills nestling on the slopes. Good examples are the Gandra and Baixo mills – the latter still in use.

At river crossings along the trail you can also admire bridges such as Ponte das Traves and Pontão do Lobo that form part of the pathways linking the different villages.



Western three-toed skink (*Chalcides striatus*)

Ponte das Traves Bridge





# Highlights



Santo Antão Chapel

## Santo Antão Chapel and Crosses

Santo Antão Chapel (otherwise known as the chapel of Santo do Alto or Santo do Chocalho) was built in 1939 on the spot where there used to be a small stone oratory with a picture of Santo Antão (a popular saint canonised by the people). It is said that the site was formerly occupied by a leper colony where the lepers carried cowbells (chocalhos) in their hands to announce their presence.

The small Santo Antão Chapel has a porch attached to the main façade supported by two side walls and two stone pillars. A rudimentary painted stone image of the 'Santo do Chocalho' or 'Santinho do Alto' saint stands on the main altar with a cowbell hanging from his right wrist.

Feast days in honour of Santo Antão and São Silvestre are celebrated in this chapel on 17 January and 31 December respectively, the latter consisting in the blessing of cattle and other livestock by Santo Antão, São Silvestre and Santo António.



Detail of wet heaths

## Wet heaths

Wet heaths are typical of areas with an abundance of water due to their proximity to the water table or the presence of humid soils.

*Genista berberidea*, a species endemic to the north-west of the Iberian Peninsula, can be seen on these heaths; indeed, it is more abundant in the Serra d'Arga than anywhere else in Portugal. The characteristic species of these heaths, Dorset heath (*Erica ciliaris*), is a type of heather that is typical of moist soils and is almost always accompanied by dwarf gorse (*Ulex minor*). These heaths are a priority habitat classified by a specific law and are officially designated 4020\* - Temperate Atlantic wet heaths of *Erica ciliaris* and *Erica tetralix*. The Dorset heath used to serve as bedding for livestock and was then spread on the fields as fertiliser, providing phosphate from the aerial parts of the cut plants and nitrogen from the manure of the cattle and other animals.

## Cabeço do Meio Dia

Cabeço do Meio Dia is one of the most easily recognisable features of this mountainous landscape, and at a height of 550 metres provides one of the most breathtaking panoramic views in the region. The border between the municipalities of Caminha and Vila Nova da Cerveira passes through here.

Looking westwards towards the Atlantic, you can see the remarkable terraces of Chã de Franqueira; Pedra Alçada, at 742 metres the highest point in the municipality of Caminha; the eastern flank of the granite mass of the Serra d'Arga; and the villages of Gândara and Arga de Baixo at its foothills.

This is the origin of the Ribeiro da Arga stream, which forms a pair of high waterfalls a few hundred metres downstream.

There is also a partial view of the valley of the River Coura, which winds its way along to the River Minho. In the distance, already in Galicia, are Santa Tecla Mountain and A Guarda.

To the east is the protected landscape of Corno do Pico, and to the north-west the high peaks of the Serra da Peneda in Peneda-Gerês National Park.



Panoramic view over Chão de Franqueira

## Gold-striped salamander

This area is the habitat of one of the most important and emblematic species of Portuguese fauna, the gold-striped salamander (*Chioglossa lusitanica*), normally found in small limpid creeks in cool shady areas with abundant vegetation.

The gold-striped salamander is endemic to the north-west of the Iberian Peninsula and, despite being an endangered species, it is relatively abundant in the Serra d'Arga. These small amphibians are normally found hiding in the vegetation or under stones, always in very wet and shady spots. It is the only amphibian species in Portugal with caudal autotomy (which means that when threatened by a predator they can drop a portion of their tail, which continues to move for a short while therefore serving as a distraction, allowing them to escape).



Gold-striped salamander (*Chioglossa lusitanica*)



# Lobo Atlântico Trail



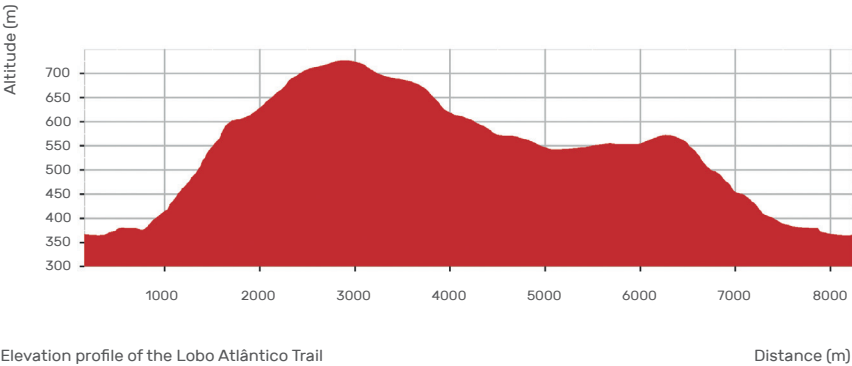
— Lobo Atlântico Trail

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## Points of Interest

- |  |  |
|--|--|
| 1 View across the valleys of the rivers Estorãos and Lima from Santa Rufina Chapel | 11 Panoramic view over Arga de Baixo                                     |
| 2 Oak woodland with holly edge   | 12 Valley with multiform granite outcrops                                |
| 3 Birds in the agricultural mosaic   | 13 View of Laje, mountains and woodland                                  |
| 4 Granite basins   | 14 Covão and Presa mills; amphibian breeding pond                        |
| 5 Amphibians and reptiles  | 15 Caminho das Leiras; farmlands and oak woodland                        |
| 6 Panoramic view of the valleys of the rivers Estorãos and Lima                    | 16 Woodland birds  |
| 7 Heathland fauna: heather-gorse with hoop-petticoat daffodils                     | 17 Reconco   |
| 8 Granite disjunction  | 18 Forest House  |
| 9 Signs of physical and anthropic erosion; Porta do Lobo and Regato da Fraga Brook | 19 Fojo do Lobo  |
| 10 Thrift  | 20 View of Cerquido; quartz crystals in the heart of the quartz phyllite |
|  | 21 Terraces with trellised vineyards attached                            |

Name: Lobo Atlântico Trail  
Trail type: Circular  
Length: 7,700 m  
Degree of difficulty: Moderate  
Duration: 3 h  
Start and finish: Cerquido (41°48'26.96" N, 8°40'30.83" W)



Elevation profile of the Lobo Atlântico Trail

Lush woodland beside the village of Laje





The Lobo Atlântico (Atlantic Wolf) Trail runs along the slopes and peaks of the Serra d'Arga and through the area lower down to the east.

From the mountain slopes, namely from Porta do Lobo and Alto do Cavalinho, there are panoramic views over this area and its landscape mosaic, and further away the Minho and Lima river valleys and the mountains of Peneda, Amarela and Gerês are also visible.

Along the valleys of the Ribeiro das Pombas Stream, Regato da Fraga and Fundo do Cavalinho Brooks there are signs of how humans have moulded the landscape: agricultural fields created on the floodplains; terraces, sometimes climbing up like immense staircases towards the rural villages; trellised vineyards and woodlands of oak, cork oak, birch and holly.

The trail runs around the east flank of the Serra d'Arga, where the geological and geomorphological curiosities include a long line of contact between granite and schist.

Here, schist is interspersed with quartzite and quartz phyllites. Quartzite normally forms small ridges due to its resistance

to erosion. Quartz phyllites have small polygonal quartz crystals as a result of metamorphic recrystallisation. In geomorphological terms, granites are more abundant as they form the main ridges and tops of slopes. These areas have an abundance of picturesque morphologies, such as basins, disjunction and signs of physical and anthropic erosion. From another vantage point you can see views of geological and geomorphological interest.

In steeper parts of the trail, the vegetation is sparse and dominated by dry heaths of common gorse (*Ulex europaeus*) in the middle of dry meadows with different species of grass. In the flat granite areas at the top, there are different types of mountain vegetation such as rocky areas where thrift (*Armeria humilis* subsp. *odorata*) and thyme (*Thymus caespitius*) grow.

Descending into the villages, land use varies, with an abundance of farmlands, wet meadows and oak woodlands. Between Arga de Cima and Cerquido, on schist formations, there is an abundance of prickled broom (*Pterospartum tridentatum*), gorse (*Ulex micranthus*) and heather (*Erica umbellata*).



Valley with spoil heaps and lithological contact upstream



Patches of thyme (*Thymus caespitius*)



Short-toed snake eagle (*Circaetus gallicus*)



Partial view of Reconco (Arga de Cima)

As for the local fauna, large populations of birds feed and shelter in the patchwork of farmlands near Cerquido. The traditional stone walls are a refuge for lizards and other, more discreet reptiles. Amphibians frequent the abundant water points such as irrigation channels, tanks and small ponds. In the thickets between the fields there are jays (*Garrulus glandarius*), woodpeckers (*Picus viridis* and *Dendrocopos major*) and a wide variety of songbirds.

In the mountains, agricultural soils give way to rocky areas and heaths that are home to bird species such as larks (*Lullula arborea* and *Alauda arvensis*) and the booted eagle (*Circaetus gallicus*), as well as emblematic mammals such as the wolf (*Canis lupus*) and the Garrano pony (*Equus caballus celticus*).

The trail passes by the eighteenth-century mills of Covão and Presa, the latter named after its location beside a dam, which is quite a common irrigation system in the Serra d'Arga. Beyond the Caminho das Leiras path, created during the seventeenth century, Reconco, is really worth a visit. The ruins of this small settlement

are evidence of the more traditional kinds of mountain buildings made from schist and granite, including typical granaries and stone fountains.

At Alto do Cavalinho you can enter the ruins of the former forest ranger's house with its rural architecture, located in a strategic setting.

Before the descent to Cerquido you can visit Fojo do Lobo, a rare piece of the heritage of this mountain region and a unique example of the ancestral relationship between humans and wolves.



# Highlights

## Heathland fauna

In typical mountain environments, with hardly a tree in sight, heaths are often the preferred shelters of several animal species.

African stonechats (*Saxicola torquatus*) can often be seen here, perched on top of bushes. If you stay quiet for a minute you can also hear and see other small birds such as the curious Dartford warbler (*Sylvia undata*) and the common linnet (*Linaria cannabina*). The bushes also serve as a refuge for reptiles such as the Iberian lizard (*Podarcis hispanica*), which seeks refuge in the undergrowth and between the rocks but often appears for visitors to see. Mammals are more difficult to spot, though the abundance of droppings from wild rabbits (*Oryctolagus cuniculus*) reveals their frequent presence. Along the way there are also signs of other mammals including wolves (*Canis lupus*), whose droppings look different from those of dogs because they contain hair.



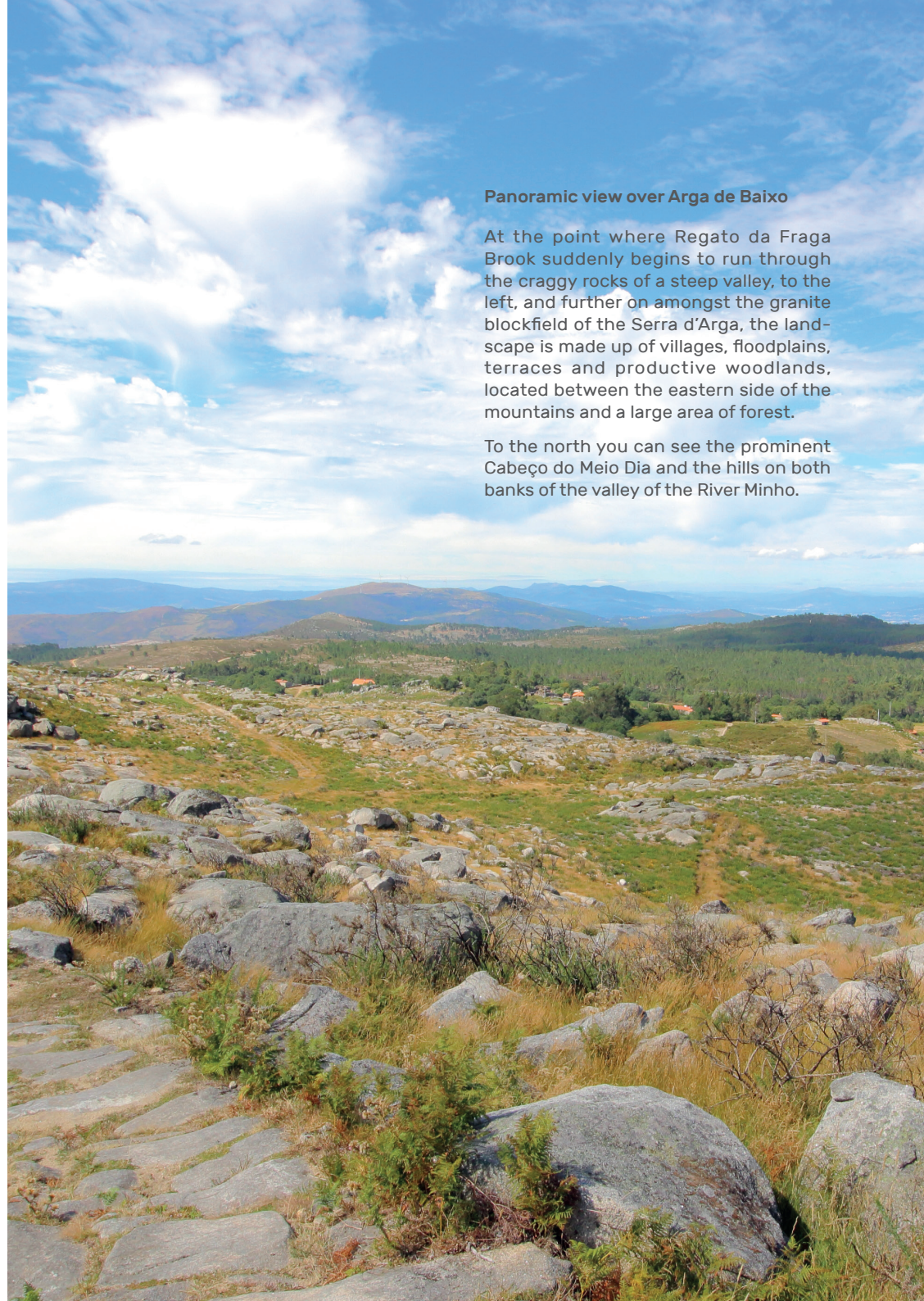
Fox (*Vulpes vulpes*)

## Thrift

The *Armeria humilis* subsp. *odorata* is a kind of thrift endemic to (i.e. only found in) some of the mountain areas in the north of the Iberian Peninsula. In Portugal it grows in the mountains of Laboreiro, Amarela, Cabreira and, nearer the coast, in the Serra d'Arga. There are also populations in Pitões das Júnias and Serra do Alvão, but those are hybrids in transition to other species. It can be distinguished from the typical subspecies (*A. humilis* subsp. *humilis*) by the colour of its petals, the size and number of the veins on its leaves, and the shape of its involucral bracts and calyx edges. The botanist who described the *odorata* subspecies, Gonçalo Sampaio, mentioned the peculiarity of its flowers having a fragrant aroma that not all people can detect.



Thrift (*Armeria humilis* subsp. *odorata*)



## Panoramic view over Argas de Baixo

At the point where Regato da Fraga Brook suddenly begins to run through the craggy rocks of a steep valley, to the left, and further on amongst the granite blockfield of the Serra d'Arga, the landscape is made up of villages, floodplains, terraces and productive woodlands, located between the eastern side of the mountains and a large area of forest.

To the north you can see the prominent Cabeço do Meio Dia and the hills on both banks of the valley of the River Minho.





Valley with multiform granite outcrops

### Valley with multiform granite outcrops

Normally, one of the most recurring examples of the erosion of granite landforms is evident in valleys with prominent slopes marked by V-shaped cross-sections. However, there are valley areas of the Serra d'Arga with U-shaped sections. In fact, the valley could be the site of a tectonic accident (tectonic control). However, between the different granite morphologies (e.g. blockfield, polygonal disjunction and tor) are smooth surfaces in line with the topography (U-sections). The combination of these geomorphological aspects may be a sign of glacial erosion.



Caminho das Leiras

### Caminho das Leiras

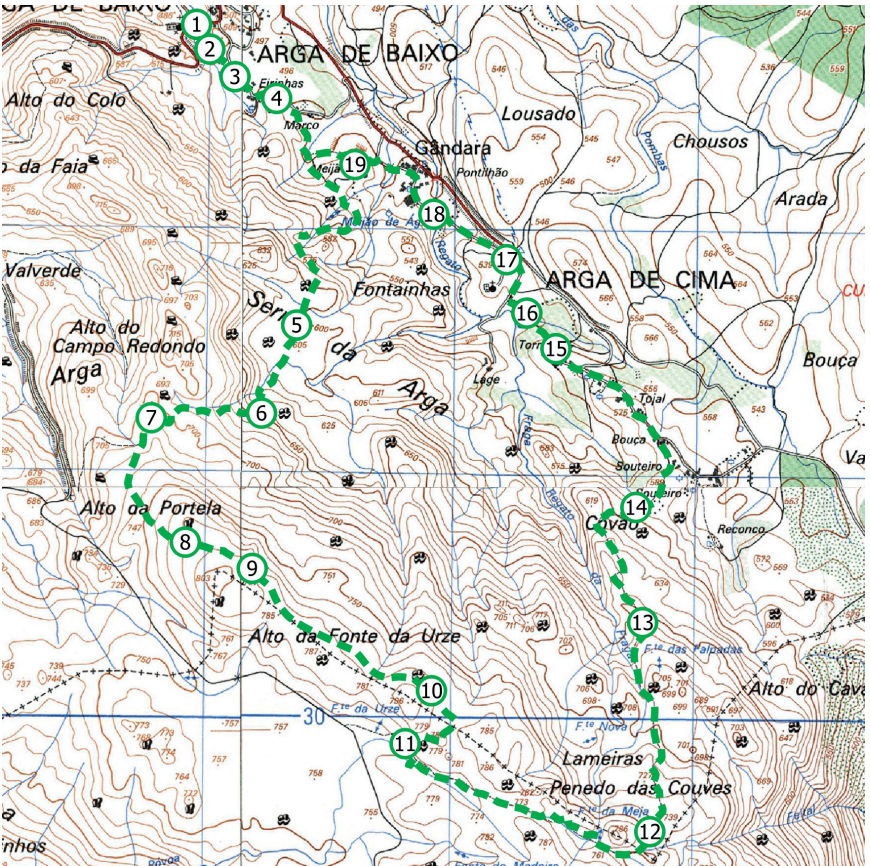
The Caminho das Leiras is located around 130 metres north-east of the trail. It is a public path for workers, created during the seventeenth century to provide access to private farmlands (plots).

The path is around 100 metres long and one metre wide. It is made of granite slabs in the form of a bridge over the land, built to protect farmers from constant flooding and rising river water.

The properties alongside this path are divided by walls made of piles of schist and large slabs — anteiras (triangular stones placed at the base) — leaving room for different stone gates — portelos — whose form depends on whether they are used by vehicles, animals or people.



# Chã Grande Trail



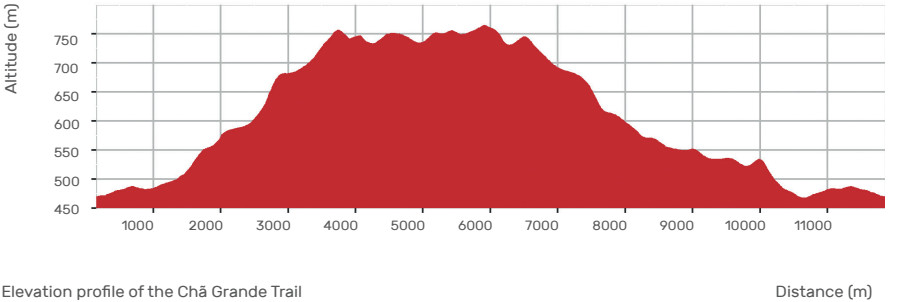
Chã Grande Trail



## Points of Interest

- |   |   |
|---|---|
| <ol style="list-style-type: none"> <li>1 Parish Church and Cross; Cemetery and Shrine of Arga de Baixo</li> <li>2 Fonte Salgueira; small stream with amphibians</li> <li>3 Casa da Eirinha; large, isolated, round rock</li> <li>4 Arga de Baixo farmlands; birds; huge blockfield</li> <li>5 Garrano grazing area; alluvial floodplain</li> <li>6 Panoramic view over plain; wolves and other mammals</li> <li>7 Alto do Monte Redondo; thrift and thyme</li> <li>8 Pedunculated rock and pseudostratification</li> <li>9 Alto da Fonte da Urze</li> </ol> | <ol style="list-style-type: none"> <li>10 Granite densely fractured with pseudostratification; Chã de São João</li> <li>11 Mountain birds; Fonte da Urze peat bog; shepherds' shelter</li> <li>12 Porta do Lobo and Regato da Fraga Brook; flat granite surface</li> <li>13 Panoramic view over Arga de Baixo</li> <li>14 Covão Mills; view of Laje, mountains and woodland</li> <li>15 Figwort (<i>Scrophularia bourgaeana</i>) beside oak woodland</li> <li>16 View of Laje; Arga de Cima Parish Church and Cemetery</li> <li>17 Santo Antão Chapel and Crosses</li> <li>18 Gândara productive landscape and mills</li> <li>19 Herbs</li> </ol> |
|---|---|

Name: Chã Grande Trail  
 Trail type: Circular  
 Length: 11,861 m  
 Degree of difficulty: Moderate  
 Duration: 5 h  
 Start and finish: Arga de Baixo (41°50'42.54" N, 8°42'47.23" W)



Panoramic view over Chã de São João







Pathway made of granite slabs

The Chã Grande Trail runs along the slopes and peaks of the Serra d'Arga and through the area lower down to the east.

Along the Ribeiro da Arga Stream you can see how humans have moulded this landscape: agricultural fields created on the floodplains, terraces supported by stone walls, trellised vineyards, mills, woodlands and riparian galleries.

In the mountains, dominated by a granite blockfield, there is the stark contrast between the flatlands of the plains (chãs) and the surrounding steep slopes. From the Alto do Monte Redondo peak you can see the Minho estuary crowned by Santa Tecla Mountain and, from the top of Fonte da Urze, to the east, the whole area between the Minho and Lima valleys. To the west lies the vast and bare Chã de São João, where the earth is pounded by herds of Garrano ponies, and where two of the three sources of the River Âncora are located.

This trail is a good example of the geology of the Arga region as it includes a wide range of geological and geomorphological features. There is an abundance of granite outcrops, sometimes with peculiar morphologies, such as natural beds, pseudo-stratification, blockfields and granite basins.

The rocky massifs are highly tectonized, mainly in the form of fracture joints but also faults and lodes.

Fracturing is an important hydrogeomorphologic process as it influences relief, hydrography, erosion indexes and groundwater resources.

The variations of rocky substrate are endless because, in addition to granite, there are aplitic and aplitopegmatitic, schist and quartzite lodes.

In the transition zone of schist lithology for granite, where the trail begins, dominate the heaths of common gorse (*Ulex europaeus*) and dwarf gorse (*Ulex minor*), between meadows dominated by typical grasses of dry soils. On this trail you can see some of the best examples of chãs (Chã de São João and Chã Grande), the flat areas at the top of the mountain where the soil contains more organic matter than in the neighbouring areas. There are also hygrophilous heaths and mountain pastures called cervunais, home to rare plants such as arnica (*Arnica montana*) and the endemic *Carex durieui*. In the village of Arga de Cima farmlands and a small oak woodland can be seen.

When it comes to fauna, the farmlands are rich in birdlife such as the swallows (*Hirundo rustica* and *Delichon urbicum*) that patrol the fields in search of insects. The small streams are full of Iberian frogs (*Rana iberica*) as well as rare species such as the gold-striped salamander (*Chionoglossa lusitanica*).





Badger (*Meles meles*)

On the slopes, you can often see carnivorous animals such as the badger (*Meles meles*) and fox (*Vulpes vulpes*), and species endemic to mountain areas also start appearing, such as the Garrano pony (*Equus caballus celticus*), emblematic of the northern mountains of Portugal, as well as their main predator, the wolf (*Canis lupus*). The dominant bird species are those that have adapted to barren environments, such as the European stonechat (*Saxicola rubicola*), skylarks and woodlarks (*Lullula arborea* and *Alauda arvensis*), and the northern wheatear (*Oenanthe oenanthe*).

The cultural heritage in this area includes the parish churches of Arga de Cima and Arga de Baixo, and the Chapel of Santo Antão, a popular saint canonised by the people. In Arga de Baixo, the Casa da Eirinha has all the most characteristic features of traditional mountain farmhouses – the farmyard and animal outages, the granary and the threshing floor, the typical boundary walls, and the fertile plots separated by innumerable streams.

Precious evidence of the ancestral relationship between mankind and the environment is the shepherds' shelter, located at Alto da Fonte da Urze, one of only two examples of such buildings in the Serra d'Arga.

The trail also gives you the chance to see some of the mills scattered over the mountain, such as Gandra and Covão, which are very rudimentary structures.

Fonte da Urze peat bog (beside the source of the River Âncora)





# Highlights

## Alto da Fonte da Urze

From Alto da Fonte da Urze, at an altitude of almost 800 metres, the view to the west is one of the most panoramic along this trail. To the left are the peaks of São Paio, Monte do Forte, Forte da Cidade and Cabeço do Meio Dia, beyond which stretches the wide, and international, valley of the River Minho, framed by high mountains on either side, and across which there is a clear view of Tui and Valença. In the foreground is the territory of Arga de Baixo and Arga de Cima, with the villages, terraces and farmlands bordered by lush woodlands. You can also see a series of ridges extending to where the bare granite summits of the Serra da Peneda mark the horizon. Finally, to the right, is the valley of the River Lima, dominated by the steep peaks of the Serra do Gerês.



View over Cabeço do Meio Dia and the River Minho valley

## Granite densely fractured with pseudostratification

On ridges and plains, granite pseudostratification is a frequent occurrence and is often referred to as 'false stratification'. There are occasionally also vertical fractures that systematically 'cut across' the pseudostratification planes, giving the impression of small man-made terraces.

These vertical fractures, developed after pseudostratification, are a result of recent tectonic stress in the geologic past, probably related to alpine orogeny. They are therefore an important indicator of the region's natural development.



Granite densely fractured with pseudostratification



Griffon vulture (*Gyps fulvus*)

## Mountain birds

Rocky areas with a scarcity of trees and bushes constitute barren environments where only species of animals that are well adapted to these conditions can be found.

Around here it is easy to spot or hear skylarks (the *Alaudidae* family), as the woodlark (*Lullula arborea*), Eurasian skylark (*Alauda arvensis*) and crested lark (*Galerida cristata*) are all common. Other passerines typically found in the northern mountains of Portugal, such as the rock bunting (*Emberiza cia*), northern wheatear (*Oenanthe oenanthe*) and African stonechat (*Saxicola torquatus*), are also abundant and frequently seen on the ground, rocks or small bushes.

In this area, as at other high points of the Serra d'Arga, griffon vultures (*Gyps fulvus*) can sometimes be seen. These impressive birds of prey, whose breeding grounds and shelters are mainly in inland Portugal, hundreds of kilometres away, often come here to feed on the carcasses of Garrano ponies killed by wolves.



### Covão Mills

The three Covão Mills, built in the mid-eighteenth century, are located to the south of the trail after the small Covão hill that leads towards Fonte das Farpadas. The nearest mill is about 50 metres from the trail and the furthest is 200 metres away.

All three mills are rectangular, with a single millstone and a gable roof made of schist and granite slabs. Their walls are made of dry granite stones.

The mills are fed by individual irrigation channels built on granite walls in the form of an aqueduct, terminating in large drums.

One of the Covão Mills



### Figwort (*Scrophularia bourgaeana*) beside oak woodland

Figwort (*Scrophularia bourgaeana*) is a plant endemic to the Iberian Peninsula and is mainly found in the centre of Spain (in the Gredos and Béjar mountains) and in just one area of north-western Portugal. Until a short while ago the only examples in Portugal were in the Ramiscal valley in the Serra do Soajo, where the botanists José Malato-Beliz and Joaquim Guerra picked a sample of this taxon in August 1978. It was only in April 2017 that a small number of these plants — one of the rarest kinds of Portuguese flora — were also discovered in the Serra d'Arga. In the village of Arga de Cima, no more than six of them were found in the cracks of a wall and about a dozen more on the stony banks of the nearby stream. Between the two nuclei of this species, the village wall and the banks of the stream, there is a hill with a verdant oak woodland consisting mostly of English oaks (*Quercus robur*).

*Scrophularia bourgaeana*





# Montanha Sagrada Trail



Montanha Sagrada Trail

0 600 1200m

## Points of Interest

- |   |  |
|---|--|
| 1 Parish Church and Cross of São Lourenço da Montaria             | 16 Fonte da Urze   |
| 2 Riparian fauna  | 17 Penedo das Couves   |
| 3 Trás-Àncora terraces  | 18 Birds of prey   |
| 4 Plain (Chã) and granite slope                                   | 19 Blockfield and wind-abraded mushrooms;  |
| 5 Valley between granite walls                                    | 20 Chão das Sizedas  |
| 6 Watercourse with giant's kettles; path with chamomile and thyme | 21 Slightly protruding granite plain   |
| 7 Regueiro da Lapa Brook valley; multi-form granite rocks         | 22 Chã Grande; Sanctuary of Nossa Senhora da Conceição do Minho                                    |
| 8 Multi-form granite ridge, tor-type; gold-striped salamanders    | 23 Small plantation of birch trees with trumpet daffodils; mountain birds                          |
| 9 Regueiro da Fisga Brook valley                                  | 24 Temporary amphibian breeding ponds  |
| 10 Grassland with rushes; heathland birds and rocky areas         | 25 Heaths with cervunals; reptile habitat  |
| 11 Granite landform with a V-shaped valley and spring area        | 26 Panoramic view between Alto do Corisco and Outeiro do Homem; peat bog with insectivorous plants |
| 12 Ribeiro da Arga Stream valley                                  | 27 Valley of the River Âncora  |
| 13 Granite pseudostratification                                   | 28 Forest House  |
| 14 Chã de São João  | 29 Pioneer hygroturfous biotopes and two species of insectivorous plants                           |
| 15 Chã de São João pasture with arnica and <i>Carex duriei</i>    | View of Montaria   |

Name: Montanha Sagrada Trail

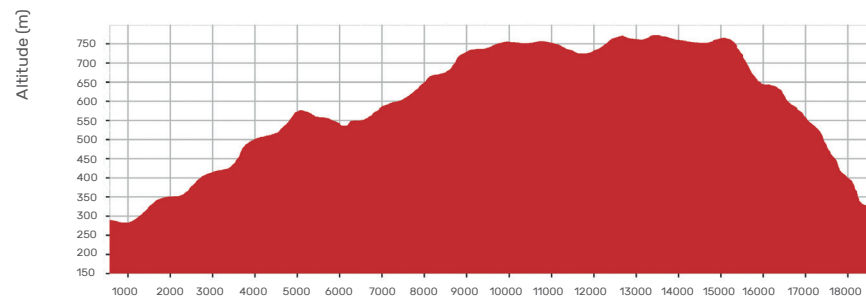
Trail type: Circular

Length: 18,719 m

Degree of difficulty: Difficult

Duration: 7 h

Start and finish: Montaria (41°47'28.17"N, 8°43'43.22"W)



Elevation profile of the Montanha Sagrada Trail

Distance (m)

View of Penedo das Couves plain





The Montanha Sagrada (Sacred Mountain) Trail mainly runs along the slopes and peaks of the Serra d'Arga. It starts with a view over the valley of the River Âncora and the wide terraces supported by stone walls of Trás-Âncora, as well as of its orchards, olive groves, trellised vineyards and lush woodlands.

At the top of the mountain there are plains (chãs) with very few trees, where herds of Garrano ponies can often be seen grazing. These are the Chã de São João and Chã Grande, between which the mountain rises to its highest point, 825 metres, at Alto do Espinheiro. Two springs – the Urze and Madeiro – arise on the Chã de São João, their waters converging downstream to form the River Âncora; from the Chã Grande there is a panoramic view over the valley of the River Lima and its floodplain.

Most of the trail crosses plateaux, summit lines and hilltops, passing through a vast landscape of granite. The apparent visual monotony is broken by the innumerable different shapes of rock, rugged valleys, watercourses flowing through fault zones, and high floodplains.

Despite the predominance of granite, on west-facing slopes there is also quartz diorite, which is much lighter in colour than the other rocks. There are also recent geological formations in the form of screes.

Close to the trail you can see remnants of past mining activities, particularly in the Regueiro da Lapa Brook valley (part of the hydrographic basin of the River Âncora) where there are signs of former tin and gold mines.

The granite formations at the beginning of the trail are dominated by dry heaths of common gorse (*Ulex europaeus*) and dry pastures with grasses that are typical of poor soils. Under the large granite slabs scattered along the trail are plants that like to grow in shady spots. At the top of the slope are the plains with acidic soils containing high amounts of organic matter

where you can find different types of habitats typical of moist soils. On the descent to São Lourenço da Montaria there is a peat bog, the only one in good condition in the Serra d'Arga, where you can find small bushes of *Erica tetralix*, hundreds of round- and oblong-leaved sundew plants (*Drosera rotundifolia* and *Drosera intermedia*) and *Carex durieui*, an endemic plant that is critically endangered due to the disappearance of its habitat.

The great diversity of fauna ranges from aquatic species such as the trout (*Salmo trutta*), otter (*Lutra lutra*), white-throated dipper (*Cinclus cinclus*), Iberian emerald lizard (*Lacerta schreiberi*) and gold-striped salamander (*Chioglossa lusitanica*) to mountain birds including the peregrine falcon (*Falco peregrinus*), short-toed snake eagle (*Circaetus gallicus*), Montagu's harrier (*Circus pygargus*), great spotted cuckoo (*Clamator glandarius*) and Eurasian wryneck (*Jynx torquilla*). On the mountain there are also temporary ponds providing habitats for amphibians such as the natterjack toad (*Epidalea calamita*), reptiles including the western three-toed skink (*Chalcides striatus*), and mammals such as the wolf (*Canis lupus*) and Garrano pony (*Equus caballus celticus*).

The cultural heritage in this area includes Montaria Parish Church and Nossa Senhora da Conceição Chapel, as well as the Parish and Nossa Senhora do Carmo crosses. Through a small detour on the trail, after the Regueiro da Fisga Brook valley, you can visit the São João d'Arga Monastery. On Chã Grande there is a small niche containing a simple image of Nossa Senhora do Minho.

After descending from Outeiro do Homem you can enter the ruins of the former forest ranger's house.

The house, with its rural architecture and strategic position, has many large rooms and a kitchen with a large fireplace and chimney, and outside, the granary, oven room and livestock pens.

At the end of the trail, near the Montaria public washhouse, are the Lavadouro Mills, three rudimentary structures made of loose stone, dating back to the mid-eighteenth century.



Plateau and granite outcrops



Montagu's harrier (*Circus pygargus*)



São João d'Arga Monastery



Round-leaved sundew (*Drosera rotundifolia*) with captured insects



Sanctuary of Nossa Senhora da Conceição do Minho



# Highlights

## Parish Church and Cross of São Lourenço da Montaria

The Parish Church of São Lourenço da Montaria, built in 1714, is of longitudinal plan and comprises a nave, a main chapel, a quadrangular tower on the east side and symmetrical lateral sacristies. The church can be accessed through three axial and lateral entrances, marked by sphere-topped columns on a pedestal. The main façade, facing south-west, is framed by four pillars with pinnacles, supporting a triangular pediment topped by a niche with the image of São Lourenço. The interior comprises a single nave with a tiled wainscot containing scenes and landscapes from Brazil, and a wooden upper choir with a guard-rail.

In August this church hosts the festivities in honour of São Lourenço, the parish patron saint, and Santa Bárbara, the protector saint against lightning and storms.

The Parish Cross, located to the north of the church, has a crucifix that rests on a hexagonal shaft with a cubic base standing on a five-fold step.



Parish Cross of São Lourenço da Montaria

## Riparian fauna

This area by the River Âncora has some of the most diverse fauna in the Serra d'Arga, where species of all the different groups of vertebrate can be found.

If you are patient, you can see in the limpid waters of the river a species of trout (*Salmo trutta*) typical of mountain rivers. On the river bed and banks there are also several species of amphibian, such as the gold-striped salamander (*Chionoglossa lusitana*), the Iberian frog (*Rana iberica*) and the Bosca's newt (*Lissotriton boscai*), the latter being easier to see than the discreet salamander. Amongst the reptiles found here are the viperine snake (*Natrix maura*), grass snake (*Natrix natrix*) and, more frequently, the Iberian emerald lizard (*Lacerta schreiberi*), a species endemic to the Iberian Peninsula and typical of the rivers in the north of the country with good-quality water. The mammals most frequently seen in this area are the Pyrenean desman (*Galemys pyrenaicus*) and the otter (*Lutra lutra*), although both are discreet species and very difficult to find. The riparian galleries are also home to dozens of passerines such as the white-throated dippers (*Cinclus cinclus*) that can normally be seen perched on stones protruding from the river.



Otter (*Lutra lutra*)



Trás-Âncora terraces

## Trás-Âncora terraces

One of the most prominent features of the Serra d'Arga are the villages with their farmlands and patches of woodland. In Trás-Âncora, on the right bank of the River Âncora, is one of the largest and most beautiful areas of farmland in the mountain, where cereals, vineyards and olive trees grow on wide terraces that are supported by schist walls and descend gradually to the river. The waters of the Âncora, whose source is high up in the mountains, are joined by those of innumerable streams and creeks and from here run through a winding schist valley until they converge with the Atlantic Ocean at Vila Praia de Âncora, both visible to the west. Their backcloth is the granite slopes of the Serra de Santa Luzia, to the left, and others rising to Alto da Espiga, to the right.





Multiform granite ridge, tor-type

### Multiform granite ridge, tor-type

Some of the granite ridges of Serra d'Arga show multiform or transitional outcrops, dominated by granite tors.

In these rocks, the predominant morphology is characterised by disjunct cubes or polygons, containing at least three main families of fractures (with different directions and slopes). The rocks resulting from this fracturing process are rounded due to wind abrasion.

The general aspect of the ridges where these morphologies are located can sometimes be reminiscent of the ruins of castles, due to the irregular patterns of the rock fractures in the main outcrop and the groups of rocks on the periphery.

### Chã Grande

From the Sanctuary of Nossa Senhora da Conceição do Minho, your field of vision is filled by the huge expanse of the largest mountain plain, Chã Grande. It is approximately 1,300 metres long and 300 metres wide, with an average elevation of 770 metres.

The vegetation here is very exposed to influences from the Atlantic and consists mainly of undergrowth covering meadows and peat bogs with a scattering of birch trees, where Garrano ponies can often be seen grazing. To the south is the steep granite slope that descends

to Montaria, almost 500 metres down. To the west are two hills crowned by granite rocks that mark its entrance: Alto do Corisco (780 metres) and Outeiro do Homem (806 metres). Also visible to the west is the Sanctuary of Santa Luzia, in Viana do Castelo, and the Atlantic Ocean. To the north, where a series of granite hills separate Chã Grande from Chão das Sizedas, Alto do Espinheiro rises to an altitude of 825 metres – the highest point in the Serra d'Arga and in the municipality of Viana do Castelo.

Panoramic view of Chã Grande from the Sanctuary of Nossa Senhora do Minho







### Small plantation of birch trees with trumpet daffodils

The small plantation of birch trees (*Betula alba*), also called silver birches, is an oasis in these high parts of the mountain, where trees have disappeared due to human impact. Birches are also called 'forest brides' because of their white trunks. Some botanists believe that the *Betula alba* populations in the Iberian Peninsula are in fact a different species, designated *Betula celtiberica*. The trumpet daffodil (*Narcissus pseudonarcissus* subsp. *portensis*) blooms at the end of the winter or in early spring, its beauty giving it great potential for use as a decoration.

Because they flower before most other plants, they have fewer competitors when it comes to attracting pollinators. The name of the species comes from the myth of Narcissus, a very handsome young man who fell in love with his own reflection.

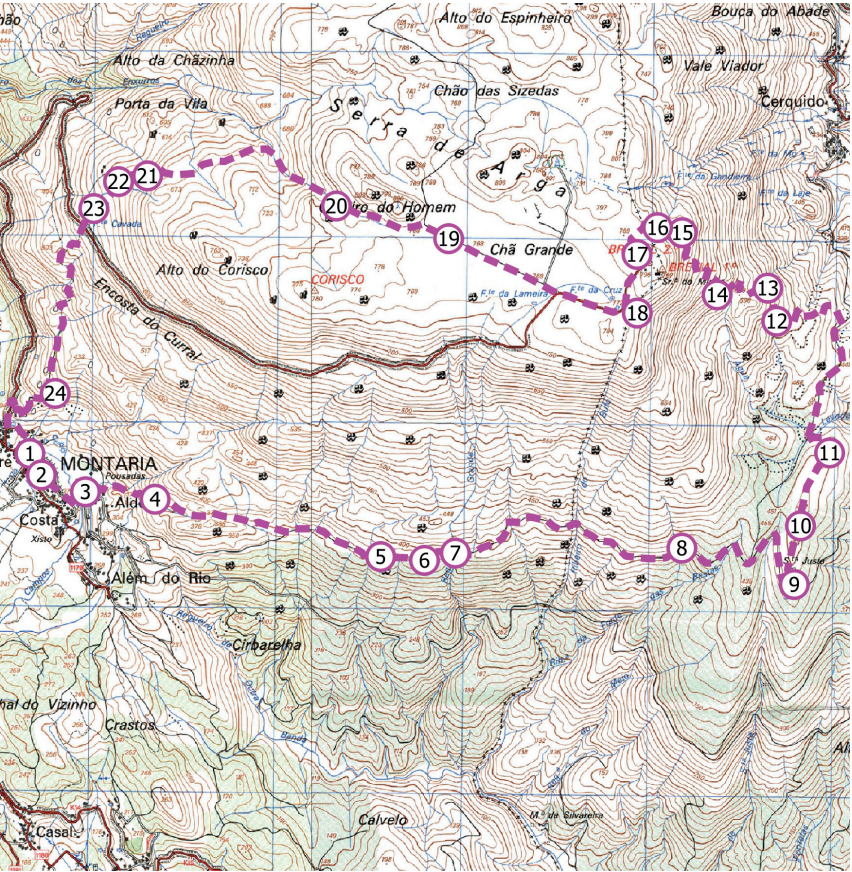
Small plantation of birch trees  
(*Betula alba*)

Trumpet daffodil (*Narcissus  
pseudonarcissus* subsp.  
*portensis*) (right)





# Pastores Trail



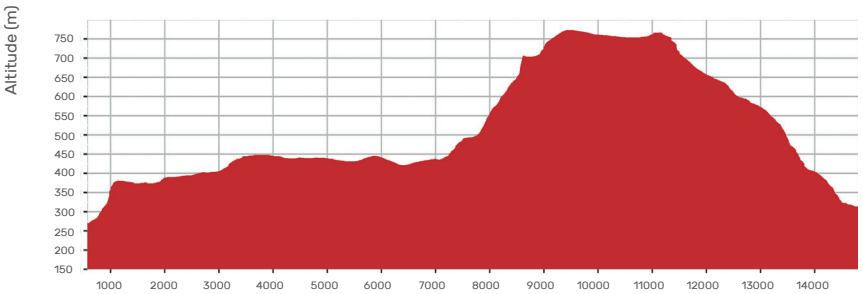
— Pastores Trail



## Points of Interest

- |   |   |
|---|---|
| 1 Lavadouro Mills; large chestnut and American oak                                | 14 Panoramic view with alternating lithological substrates                      |
| 2 Parish Church and Calvary of São Lourenço da Montaria                           | 15 Garrano and wolf   |
| 3 Costa Mills and Fountain  | 16 Panoramic view of the Ribeiro do Formigoso Stream valley                     |
| 4 Panoramic view of Montaria; pasture with scutch grass and chamomile             | 17 Sanctuary of Nossa Senhora da Conceição do Minho; Chã Grande                 |
| 5 Fault plain with signs of shearing; dry heaths                                  | 18 Panoramic view over the fields of Lima; Mountain birds                       |
| 6 Panoramic view over the River Lima valley                                       | 19 Temporary amphibian mating ponds   |
| 7 Gold-striped salamanders  | 20 Peat bog with <i>Carex durieui</i> and two species of sundew; panoramic view |
| 8 Schist fracture with iron oxide deposits; wet heaths and myrtle                 | 21 River Ancora valley; Pedra Cavaleira (pendunculated rock)                    |
| 9 Santa Justa Barracks and view of the River Lima valley                          | 22 Forest House   |
| 10 Santa Justa Calvary  | 23 Pioneer hygroturfous biotopes and two species of insectivorous plants        |
| 11 Eastern slopes of the Serra d'Arga.  | 24 Panoramic view of Montaria   |
| 12 Multifarm granite basins   |   |
| 13 View over Cerquido; transitional granite morphology between tor and blockfield |   |

Name: Pastores Trail  
 Trail type: Circular  
 Length: 14,829 m  
 Degree of difficulty: Moderate  
 Duration: 6 h  
 Start and finish: Montaria (41°47'28.17"N, 8°43'43.22"W)



Elevation profile of the Pastores Trail

Distance (m)

Panoramic view over the fields of Montaria







Granite landscape crossed by a watercourse in a probable geological fault zone

The Pastores (Shepherds') Trail mainly runs along the slopes and peaks of the Serra d'Arga. At the outset you can see the houses of Montaria and its fertile agricultural land along with the roughest and most rugged slopes of the mountain, where vegetation is scarce and solitary pine trees grow between granite blockfields.

From the Santa Justa Barracks you can see the mountain's granite batholith, Cerquido village and its terraces. At the top is Chã Grande, where there are small groves of birch trees and where herds of Garrano ponies graze. From there you can enjoy a panoramic view over the Lima valley and the Gerês peaks. To the west, between Outeiro do Homem and Alto do Corisco, the view is of the valley of the River Âncora and the Atlantic, at the beginning of the descent towards Montaria.

The trail crosses most of the batholith of the Serra d'Arga, covering different geomorphological areas such as ridges, plateaux and floodplains, rocky slopes, and streams with blockfields.

The landscape is dominated by granite, but you can also find quartzite, schist,

veins and screes. The relevance of the granite outcrops is added to from time to time by large fault plains classified as 'fault mirrors', which preserve streaks of sliding rock. There are several geological and geomorphological sites of interest, alternating between lithological variations, alluvial floodplains and signs of glacial activity (large coves and slope deposits).

On the upward slope right after the beginning of the trail, the vegetation is dominated by dry heaths of common gorse (*Ulex europaeus*). After climbing this slope you reach the flatlands at the top of the mountain, with temporary Atlantic ponds and vegetation suited to rocky ground such as thrift (*Armeria humilis* subsp. *odorata*) and thyme (*Thymus caespitius*). On Chã Grande there are different types of habitat that are typical of humid soils, such as hygrophilous heaths and cervunais (mountain pastures). These begin to proliferate along the trail, culminating in a peat bog, the only one in good condition in the Serra d'Arga, with hundreds of sundew plants (*Drosera rotundifolia* and *Drosera intermedia*) and the endemic *Carex durieui*.

As for the local fauna, you can find many common bird species in the rural areas and rarer species on the higher ground, until the trail crosses the River Âncora at one of the richest spots for wildlife in the whole region. There are gold-striped salamanders (*Chioglossa lusitanica*), which frequent small streams; the natterjack toad (*Epidalea calamita*), which breeds in temporary ponds; the Iberian emerald lizard (*Lacerta schreiberi*), common on the banks of the Âncora; birds such as the tawny pipit (*Anthus campestris*) and rock bunting (*Emberiza cia*), typical of open mountain areas; and mammals including the common genet (*Genetta Genetta*), present in riparian woodlands, and the wolf (*Canis lupus*) and Garrano pony (*Equus caballus celticus*) in the mountain areas.

Examples of cultural heritage in the area include the Cross and Parish Church of Montaria and, on Santa Justa Mountain, the chapel and former barracks, recently restored, that are associated with the popular local belief regarding the martyrdom of the sisters Justa and Rufina.

The Calvaries of Montaria and Santa Justa appear along the trail with their granite crosses and, after descending from Outeiro do Homem, you can also enter the ruins of a former forest house built in the first half of the twentieth century.



Wolf (*Canis lupus*)

At Montaria you can also see some of the mills (moinhos) that were built from the seventeenth century onwards along the innumerable watercourses that cross the region, such as the three Moinhos da Costa Mills and the three Lavadouro Mills.



Habitat 7150 – Pioneer peat bogs



Santa Justa Chapel



# Highlights

## Lavadouro Mills

Built in the mid-eighteenth century, the three Lavadouro Mills are located near the public washhouse in Montaria and beside the tributaries of the River dos Campos, about 130 and 160 metres from the trail.

These mills have a single division, a rectangular base, granite walls and lintels, and a sloping tiled roof.



One of the Lavadouro Mills

Large fault plane with signs of shearing

## Fault plane with signs of shearing

One of the most prominent natural characteristics of the Serra d'Arga are the geological faults, which are of great interest not only to scientists but also, because of their sheer size, to tourists.

Along the first few kilometres of the Pastores Trail there are prominent examples of such geological faults, with large fracture planes (fault mirrors) that can extend over ten metres.

On all fault planes you can see well-preserved signs of displacement between rocks, in the form of sliding streaks. These streaks reveal horizontal movement, which means these are shearing faults. It is essentially a local phenomenon that reveals the existence of a shearing zone (probably of alpine origin), in an ENE-WSW direction.



Garranos (*Equus caballus celticus*)

## Santa Justa Calvary

Located on Santa Justa Mountain, the calvary of the same name, in the form of a Latin cross, is made up of seven simple granite crosses resting on a cubic base that is part of the so-called via sacra that leads to the chapel and barracks of Santa Justa.



Santa Justa Calvary

## Garrano and wolf

This is a favourite area for Garrano ponies (*Equus caballus celticus*), one of the most emblematic animals of the Serra d'Arga.

The Garranos are not a wild species but live freely in their habitat all year round and behave as their wild ancestors did. These small horses (always less than 1.35 metres tall at the withers) graze in the mountain pastures and live mainly in herds, a single adult male forming a harem with several adult females. You can often see dozens of these animals together, normally following a single female leader.

In the Serra d'Arga, the areas frequented by Garranos are also the habitats of their main predator, the wolf (*Canis lupus*). Evidence of its recent presence can often be found around here.





Panoramic view over the valley and fields of the River Lima

### Panoramic view over the fields of Lima

At a spot about 80 metres from the trail, at an altitude of 779 metres, there is a breathtaking view over the valley of the River Lima, the fertile floodplain that stretches out from its banks to the bottom of the surrounding granite mountains, and the traditional scattered settlement system of the Alto Minho region with its farmlands and patches of vegetation. In a prominent position is the town of Ponte de Lima and the large woodland belonging to the Protected Landscape of Lagoas de Bertandos and São Pedro d'Arcos, along the banks of the River Estorãos.

On the right bank of the Lima, to the east, are the mountains of Formigoso, Antelas and Alto de Santo Ovídio, while to the west you can see the top of Alto de Estorãos. On the left bank, bordering the green fields, are the Serra da Nora and Alto das Barcas with the Sameiro Sanctuary, in Braga, in the distance. Crowning the view are the bare granite rocky mountains of Peneda and Gerês



Peat bog with two species of sundew

### Peat bog with *Carex durieui* and two species of sundew

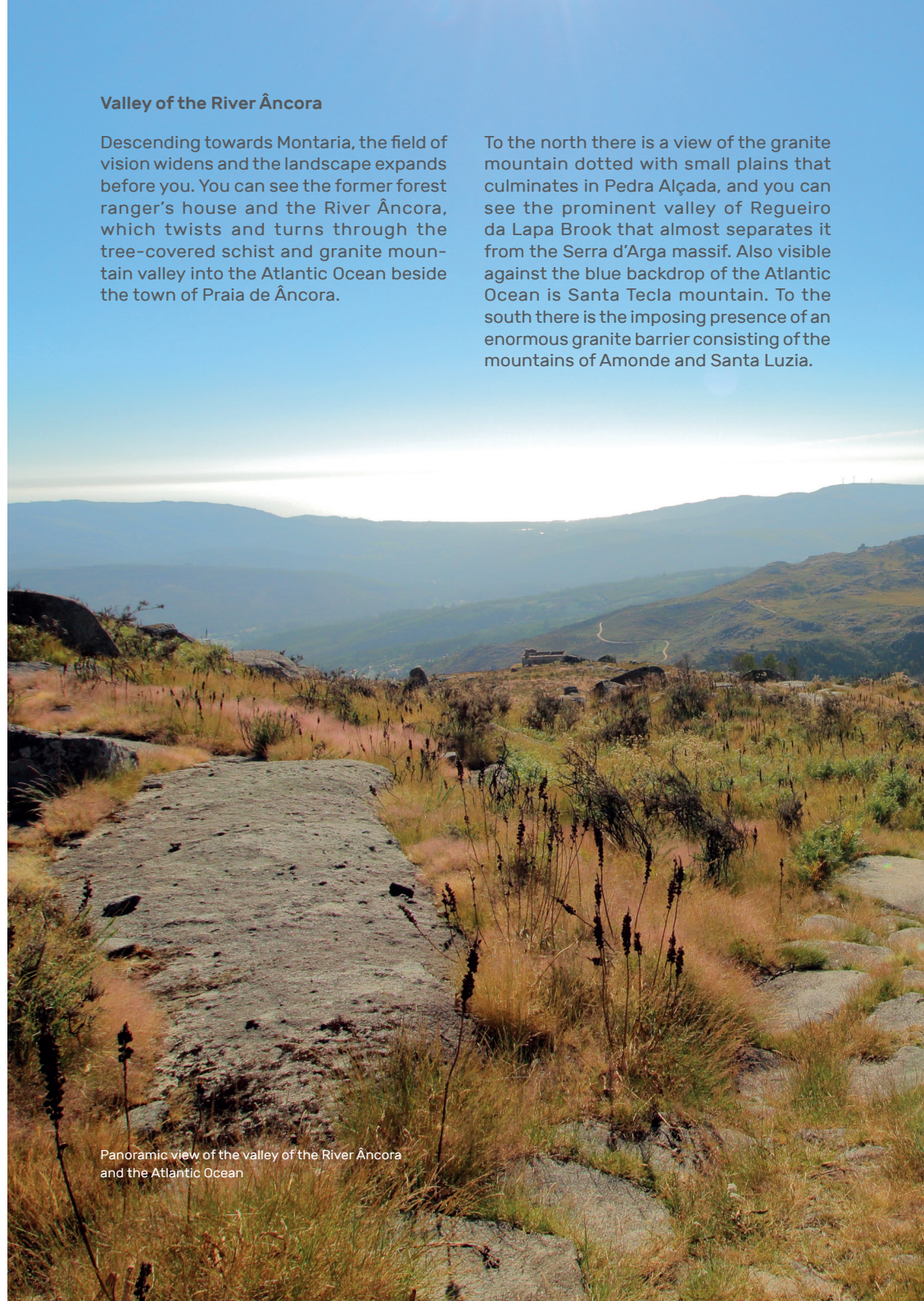
Peat bogs may once have been common in the Serra d'Arga, and the flatlands covered with turf at the tops of the mountains could be the last remnants of this type of vegetation. Most of the peat bogs have already disappeared because they were drained for use as grazing land. These bogs are the result of the growth of moss (*Sphagnum* spp.), referred to as 'the ecosystem engineer' because it changes the conditions of its surrounding area. In fact, without moss, there would be no acidification of the substrate, so there would be no peat bogs.

This peat bog is made up of moss islets with small bog heather (*Erica tetralix*) bushes and more open areas with moss carpets, hundreds of round- and oblong-leaved sundew plants (*Drosera rotundifolia* and *Drosera intermedia*) and *Carex durieui*. Sundew are insectivorous plants that can capture and digest insects to compensate for the lack of nutrients such as phosphate and potassium in these types of habitat.

### Valley of the River Âncora

Descending towards Montaria, the field of vision widens and the landscape expands before you. You can see the former forest ranger's house and the River Âncora, which twists and turns through the tree-covered schist and granite mountain valley into the Atlantic Ocean beside the town of Praia de Âncora.

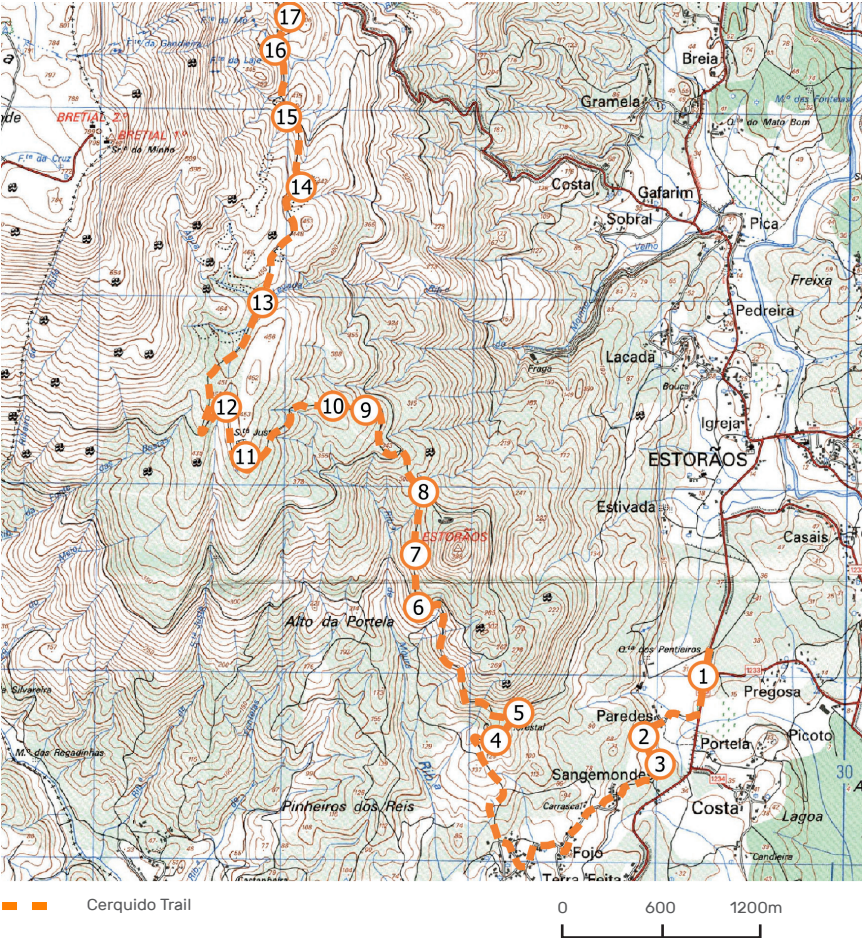
To the north there is a view of the granite mountain dotted with small plains that culminates in Pedra Alçada, and you can see the prominent valley of Regueiro da Lapa Brook that almost separates it from the Serra d'Arga massif. Also visible against the blue backdrop of the Atlantic Ocean is Santa Tecla mountain. To the south there is the imposing presence of an enormous granite barrier consisting of the mountains of Amonde and Santa Luzia.



Panoramic view of the valley of the River Âncora and the Atlantic Ocean



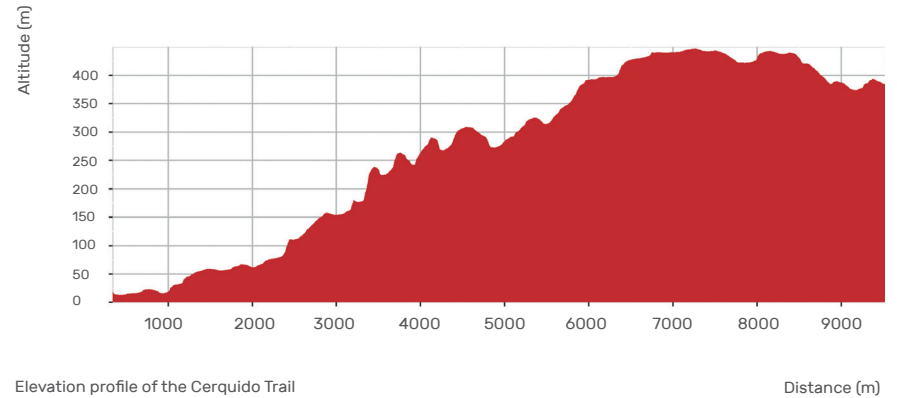
# Cerquido Trail



## Points of Interest

- |  |   |
|--|---|
| 1 Pentieiros Farm and Chapel   | 11 Santa Justa Barracks and Chapel; view of the River Lima valley   |
| 2 Farmlands in the valley of the River Lima  | 12 Furrow from vein dismantling; central massif of the Serra d'Arga |
| 3 Costa Mills and Fountain   | 13 Amphibian breeding ponds; pond                                   |
| 4 Forest House   | 14 Granite and schist landforms; view of Cerquido                   |
| 5 View of Pentieiros Farm and the Lima valley  | 15 Large English oak; valley of contact between schist and granite  |
| 6 Panoramic view of the River Lima estuary and the eastern slope of the Serra d'Arga | 16 Amphibians; M6 Fountain; Cerquido hillside and terraces          |
| 7 Formigoso Hillfort   | 17 Cerquido   |
| 8 Protruding granite ridge (inselberg)   |   |
| 9 Panoramic view of the eastern slope of the Serra d'Arga                            |   |
| 10 Patch of needlebush and Australian blackwood                                      |   |

Name: Cerquido Trail  
 Trail type: Linear  
 Length: 9,536 m  
 Degree of difficulty: Moderate  
 Duration: 4 h  
 Start: Pentieiros Farm (41°46'31.98" N, 8°38'57.41" W)  
 Finish: Cerquido (41°48'21.1" N, 8°40'35.22" W)



View over farmlands in the valley of the River Lima







Gorse (*Ulex micranthus*)

The Cerquido Trail crosses the floodplain of the River Lima and the eastern slopes of the Serra d'Arga. It passes through the scattered settlements typical of the Alto Minho region, where fertile farmlands, orchards and olive groves can be seen through dense patches of forest.

As you ascend, there are panoramic views of the Lima extending as far as its estuary to the west. At the top of the schist slopes you can see the barracks and chapel of Santa Justa, with the imposing granite mountain rising in the background.

In the foothills there are typical rural properties enclosed by schist walls. In front of you is Cerquido and its terraces surrounded by the steep mountain slope, at the top of which you can see the Sanctuary of Nossa Senhora do Minho.

Important alternations occur in the rocky substrate along the Cerquido Trail, especially between schist and granite but also quartzite.

All these lithologies show signs of intense crustal deformation occurring in ancient periods of natural history, in the form of fractures, lodes and folds in schist.

The landscape is marked by contrasting relief due to lithological variations (schist-granite), but also floodplains on granite soil, the flatness of which allowed

for the construction of villages with their adjacent agricultural plots.

A sign of human interaction with the landscape is present in the archaeological-mining heritage, more specifically in the wolfram and tin mines in the form of rectilinear cavities (pits) left from dismantling veins.

In the schist lithology along the trail there is an abundance of prickled broom (*Pterospartum tridentatum*), gorse (*Ulex micranthus*) and heather (*Erica umbellata*), as well as invasive ligneous species such as Australian blackwood (*Acacia melanoxylon*), silver wattle (*Acacia dealbata*) and needlewood (*Hakea decurrens* subsp. *physocarpa*). The latter colonises soils lacking in phosphates and is a pyrophytic plant, i.e. its ecology is linked to fires. Its fruits are very hard and



Granite dome surrounded by schist substrate

fire-resistant and release their seeds immediately after the fire.

The Lima valley has some patches of typical natural woodland with English oaks (*Quercus robur*) and black alders (*Alnus glutinosa*), the latter growing in lower floodlands during the winter.

In terms of fauna, the amphibians living in this area can be found in the main water points along the trail. Species such as the Perez's frog (*Pelophylax perezii*), Iberian frog (*Rana iberica*), marbled newt (*Triturus marmoratus*) and Bosca's newt (*Lissotriton boscai*) can be seen during most of the year, while the common midwife toad (*Alytes obstetricans*) mainly appears during the breeding season (which begins with the autumn rains).

Along the way you can also see mammal species such as the fox (*Vulpes vulpes*) and badger (*Meles meles*), normally found in areas near Cerquido, or birds of prey including the round-winged eagle (*Buteo buteo*) and a wide variety of passerines normally found in rural environments.

The local cultural heritage includes the former forest ranger's house in Sangemondes, built in the first half of the twentieth century and still in good condition.

On the way up to Santa Justa Mountain, on the right, you will see the Formigoso



Common midwife toad (*Alytes obstetricans*)

Hillfort (Castro), a fortified settlement that still shows some signs of human occupation such as notches in rocky outcrops, ceramic items, construction debris and a dug grave. In Santa Justa, the chapel and former barracks, recently restored, are still linked to the tradition of equestrian events in Ponte de Lima.

The trail ends in Cerquido, where you will find traditional terraces, narrow streets and the houses with its granaries amidst a landscape of granite mountains rising up to Nossa Senhora do Minho.



Forest House



# Highlights

## The central massif of the Serra d'Arga

After passing the Barracks and Chapel of Santa Justa, the rocky southern and eastern slopes of the granite massif of the Serra d'Arga emerge from the arid and schist surroundings to dominate the landscape. At the top, at an altitude of 798 metres, is the Sanctuary of Nossa Senhora da Conceição do Minho. The poor fertility of the soils did not prevent human habitation on the smoother parts of the slopes, where there are numerous small and medium-sized properties. These are normally irregular in shape, enclosed by schist walls and intended mainly for forestry – the so-called “cantões de gatenho”. Signs of wolfram mining are still evident here, after passing the Ribeira da Água Levada Stream.



Central massif of the Serra d'Arga.

## Large English oak

The English oak (*Quercus robur*) is native to the forests in the north-west of Portugal and to most of Europe, and also grows in other places in the world with temperate climates. The word *robur*, meaning strength or robustness, refers both to the tree's habit and to the hardness of its wood. In its native areas this tree is very important for biodiversity because it serves as food and refuge for many species, especially insects. Its acorns are very important for feeding various mammals and also birds such as the Eurasian jay (*Garrulus glandarius*). The high tannin content in the wood of the English oak makes it ideal for making the barrels in which wines and spirits drinks like whisky are matured.



Large English oak



Marbled newt (*Triturus marmoratus*)

## Amphibians

The area beside this small stream is flooded after the rainy period and is an excellent place for several species of amphibians to live and breed.

Frogs and newts can be seen here, in their adult and larvae (tadpoles) phases. Amongst the frogs, the two species which occur in the Serra d'Arga can be seen here: the Iberian frog (*Rana iberica*), normally smaller, with a more brownish/reddish shade and a typical dark patch behind the eye; and the Perez's frog (*Pelophylax perezii*), normally larger, with more greenish hues and a typical light green line along its backbone. Newts, more discreet than frogs, can also be seen, especially during the breeding period. Two species

can often be identified at this time: the marbled newt (*Triturus marmoratus*), which is larger (up to about 16 cm) and bright green with dark patches; and the smaller Bosca's newt (*Lissotriton boscai*), normally less than 10 cm, with a variable colour on its back, normally brown or greenish with black spots, and an orange stomach that makes it clearly distinguishable.



**Photographic credits:**

Landscape: João Almeida

Geology: Wenature

Fauna: Carla Maia and Duarte Mendes (except for: José Teixeira, photographs of *Chalcides striatus*, *Alytes obstetricans*, *Triturus marmoratus*; S. Tavares & D. Gomes, photograph of *Circus pygargus* and PBG/CMG, photograph of *Meles meles*)

Flora: Wenature

Culture: João Almeida and Vera Santos Silva

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