



POR O FUNCHAL SEMPRE À FRENTE





PÔR O FUNCHAL SEMPRE À FRENTE



Santa Luzia  
Valley



Snow Well



Santa Luzia Valley

## INTRODUCTION

### THE FUNCHAL ECOLOGICAL PARK IS A NATURAL AND ENVIRONMENTAL PROTECTION AREA UNDER THE MANAGEMENT OF MUNICIPALITY OF FUNCHAL

The Municipality of Funchal bought this vast area known as Montado

do Barreiro and supervised it since **1918**.



Barreiros Viewpoint

**THE MAIN AIM OF THIS ACQUISITION** was the exploitation of the various water springs along the Santa Luzia Valley under the 1600 meter altitude mark to provide water to Funchal city.

**DURING THE 30s AND 40s**, the municipal property expanded its area with the acquisition of the lands of the Montado do Pisão.

In **1946** the “Plan of reforestation of the Montado do Barreiro” was published, by the engineer Abílio Barros e Sousa. The reforestation was an audacious project, using indigenous and exotic species, with the objective of covering the

slopes devoid of vegetation due to many years of overgrazing.

In **1994**, the official project of the Funchal Ecological Park began with a nature conservation strategy for the area. It started with reforestation using native species and as a privileged area used for environmental education and leisure activities in contact with nature (Quintal 2000).

**NOWADAYS**, the Park covers an area of approximately 8 km<sup>2</sup>, raising up from the 470 meters of altitude, at the Pisão Stream and the Santa Luzia Stream, up to the north at 1 818 meters of altitude at Pico Areeiro.



Reception and Interpretation Center of the Ecological Park of Funchal



Piquenique area of Pico Alto

To the west, the Santa Luzia Stream limits the entire border of the Park, and to the east follows the Regional 103 road between Cales Stream and Poiso, and the Regional 202 road between Poiso and Pico do Areeiro.

### IN AUGUST 2010

**AND THEN 2016**, the park faced two substantial forest fires, which damaged 92% and 63% of the park respectively. The fires destroyed a large extent of conservation work previously done and the ecosystem itself.

One of the primary consequences of the fires was the proliferation of invasive species, especially communities of

acacia *Acacia* sp, at lower altitudes, and the high-density areas of Gorse *Ulex europaeus* and the Common Broom *Cytisus scoparius*, especially beyond 1100 meters of altitude.

In 2018, began a large-scale project to reforest the burned areas that included the plantation of 288 thousand native plants with great ecological importance. The plants were mainly shrubs and tree species adapted to local climate conditions and the characteristics of the soil. This project also had in mind all the potential plant communities in the different areas of interven-

### NOWADAYS, ONE

**OF THE MAIN GOALS** of the project Funchal Ecological Park is environmental education. The Park provides a stimulating space for learning and environmental activities for the public and schools. These activities have as main topics the importance of the forest ecosystems, actual threats for the species, and water importance as an essential element for life and ecosystem equilibrium.

### THE ENVIRONMENT

**AND THE NATURE** in the Funchal Ecological Park make it a privileged area for the recreational and leisure activities in contact with nature. In these

areas, visitors can enjoy the picnic areas, pedestrian paths, and sports such as mountain biking (BTT) and canyoning.

### THE RESTORATION OF VEGETAL COVERAGE

is extremely important for the maintenance of the protection functions and regulation of the ecosystem. The headwater and valley ecosystems are greatly sensitive and shelter an especially rich flora with great endemic variety. The preservation of these areas is essential to maintain the landscape services, and to improve water resources and all associated ecosystems, essential to the population of the municipality of Funchal.



Madeira Billberry  
*Vaccinium padifolium*



Pride of Madeira  
*Echium candicans*

## INDEX

FLORA

10

FAUNA

16

POINTS OF  
INTEREST

22

ACTIVITIES

30



Madeira chaffinch  
*Fringilla coelebs ssp. maderensis*



Chão da  
Lagoa



Tree Heather  
*Erica arborea*



Madreia Thrift  
*Armeria maderensis*

## FLORA

WITH AN ALTITUDINAL RANGE BETWEEN 470 TO 1818 METERS AND THE CLIMATIC VARIATION ASSOCIATED, COMBINED WITH THE ABUNDANCES OF WATER FLOWS AND THE EXISTENCE OF INACCESSIBLE AREAS, AND ARE THE MAIN FACTORS THAT PROVIDES A HIGH DIVERSITY OF NATIVE AND UNIQUE VEGETATION IN THE ECOLOGICAL PARK OF FUNCHAL, IN THE SOUTH OF THE ISLAND



Pride of Madeira  
*Echium candicans*

In **2014**, Fontinha et al. listed 202 taxa (species and subspecies) of vascular plants for the Funchal Ecological Park. Nowadays, the list includes 214 species at the park, of which 54 are endemic species of Madeira, 26 endemics to Macaronesia and 53 natives.

**NEAR PICO DO AREIRO**, it is possible to find substantial diversity of endemic floral species of Madeira. This diversity resulted from the adaptations to the strong winds and high thermic amplitudes. From all the very characteristic species of these mountain habitats stand out the Madeira Thrift Ar-

*meria maderensis*, the Madeira Grey Heather *Erica maderensis*, Madeira Mountain Stock *Erysimum bicolor*, Disc Houseleek *Aeonium glandulosum* and the Pride of Madeira *Echium candicans*, whose flowers embellish the highest areas of the Park.

**STARTING AT 1400 METERS OF ALTITUDE**, we can observe the main species dominating the landscape such as Madeiran Bilberries (*Vaccinium padifolium*) and heaths (*Erica arborea* and *Erica platycodon* subsp. *madericola*). After the last fires, these plants have presented a weak recovery, performing as pioneer species.



Madeira Rowan  
*Sorbus maderensis*

Especially these two species have an essential function to the equilibrium of the altitude ecosystem. The bilberries and heaths have the special function of retaining the water drops present in the fog; it is a mechanism designated occult precipitation. One of the rarest endemic species stands out, the Madeira Rowan *Sorbus maderensis*, a relict species of Madeira. It is a medium size and deciduous shrub, which was common in the past. However due to the indiscriminate cutting and the uncontrolled grazing

in the past century, it almost went extinct (Quintal, 2000). More recently, in August 2010, a large forest fire reduced the population of this species by more than 93% and the species became Critically Endangered, according to the International Union for Conservation of Nature (IUCN). Based on this classification, in recent years, conservation actions started with the reintroduction of individuals of this species in potential distribution areas above 1500 meters of altitude.



Canary Laurel  
*Laurus novocanariensis*

### IN THE LOWER AREAS

it is possible to observe other native species, some of which are endemic. The most common species are the Canary Laurel (*Laurus novocanariensis*), the Wax Myrtle (*Morella faya*), Melliferous Spurge

(*Euphorbia mellifera*), Lily-of-the-Valley Tree (*Clethra arborea*), Madeira Juniper (*Juniperus cedrus* subsp. *Maderensis*), Picconia (*Picconia excelsa*), Madeira Holy (*Ilex perado* subsp. *Perado*), Madeira Stork's Bill (*Geranium maderense*).

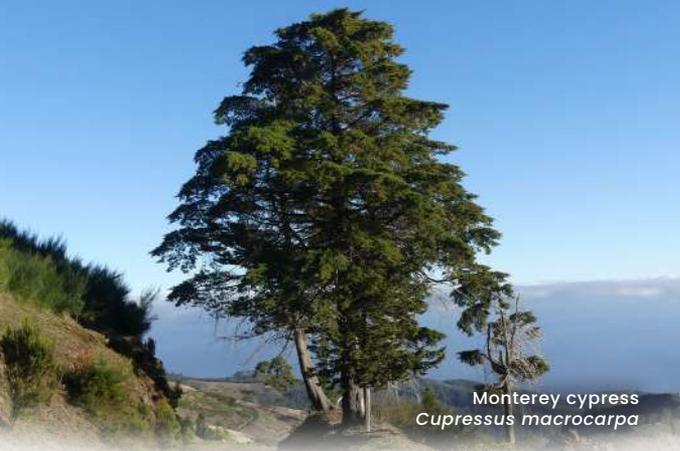


Madeiran mahogany  
*Persea indica*

### THE SANTA LUZIA VALLEY AND CALES

**STREAM**, due to specific edaphoclimatic conditions, have a very similar vegetal biodiversity composition to the Laurel Forest. It is possible to observe Stink laurel *Ocotea foetens*, Madeiran ma-

hogany *Persea indica*, Sow Thistle *Sonchus fruticosus* and *Sonchus pin-natus*, Black Parsley *Melanoselinum decipiens*, Golden Musschia *Musschia aurea*, Soft Brom and Shrub Trefoil *Genista tenera* and *Teline maderensis*.



Monterey cypress  
*Cupressus macrocarpa*

APART FROM THE INDIGENOUS SPECIES THAT OCCUR IN THE PARK, THE VEGETATION OF THIS GREEN MUNICIPAL AREA IS COMPOSED OF 81 EXOTIC SPECIES, SOME OF THEM INTRODUCED INTENTIONALLY TO ENHANCE THE FLORAL ENRICHMENT OF THIS REGION



Maritime pine  
*Pinus pinaster*

The species introduced were the Spanish Chestnut Tree *Castanea sativa*, Walnut Tree *Juglans regia*, Douglas Fir *Pseudotsuga menziesii*, European Beech *Fagus sylvatica*,

Holm Oak *Quercus ilex*, and the Coast Redwood *Sequoia sempervirens*, which represent traces of the aforestations done in the last century (Quintal, 2000).

FROM ALL THE EXOTIC SPECIES IDENTIFIED IN THE ECOLOGICAL PARK, 16 EXOTIC SPECIES ARE INVASIVE SPECIES, WITH WIDESPREAD COVERAGE



Gorse  
*Ulex europaeus*

The common and hairy-fruit brooms *Cytisus scoparius* and *Cytisus striatus*, Gorse *Ulex europaeus* and *Ulex minor*, Eucalyptus *Eucalyptus globulus*, *Acacia* *Acacia dealba-*

*ta*, *Acacia melanoxylon*, *Acacia verticillata*, *Acacia longifolia*, *Acacia mearnsii* and some areas of *Acacia elata*, have been recently under control actions.



Black wattle  
*Acacia mearnsii*



Kestrel  
*Falco tinnunculus canariensis*

## FAUNA

**IN THE ECOLOGICAL PARK, THE MOST REPRESENTATIVE GROUP OF VERTEBRATES ARE THE BIRDS, NOT ONLY BECAUSE OF THE DIVERSITY, BUT ALSO BECAUSE OF THE OCCURRENCE OF SEVERAL MIGRATORY SPECIES**

During the migration seasons, we can observe these birds in the Chão da Lagoa Plateau, around 1500 meters of altitude (Fagundes et al 2008).



Madeira Firecrest  
*Regulus madeirensis*



Common Buzzard  
*Buteo buteo harterti*

**THE BIRDS OF PREY** are the most emblematic, especially the Common Buzzard *Buteo buteo harterti* for its magnificence. The Kestrel *Falco tinnunculus canariensis* is also an emblematic species for its characteristic sifted flight while looking for prey on the ground. Still within the

birds of prey, the timid, Eurasian Sparrowhawk *Accipiter nisus granti*, subspecies restricted to Madeira Island and the Canary Archipelago. This is a breeding species in the park, it occurs more frequently in the shrubby forest understory where it feeds mainly on birds (González et al 2020).



Spectacled Warbler  
*Sylvia conspicillata orbitalis*

**IN THE GROUP OF THE PASSERIFORMES**, one of the main species is the Madeira Firecrest *Regulus madeirensis*. It

is an endemic species and the smallest bird in the avifauna of Madeira. Additionally, the Spectacled Warbler *Curruca*

*conspicillata orbitalis* can be observed in the areas above 1200 meters of altitude, in areas dominated by shrub and it can be easily detected by its alarm sound. Another peculiar species is

the Eurasian Siskin *Carduelis spinus*, this species colonized our island at the end of the last century and can be observed quite easily in the small softwood forests.



Berthelot's Pipit  
*Anthus berthelotii madeirensis*

#### AT HIGHER

**ALTITUDES**, there can be seen Berthelot's Pipit *Anthus berthelotii madeirensis*. It is a small bird, endemic to the Madeira and Canary Archipelagos, known for frequently walking and running, and flying only when approached closely.

#### IN THE CALES STREAM AND SANTA

**LUZIA VALLE**, the Madeiran Laurel Pigeon *Columba trocaz*, an endemic species of Madeira Island, is a resident species and easily seen.



Manx Shearwater  
*Puffinus puffinus*

#### ALONG THE SANTA LUZIA VALLE

occurs the most emblematic species of the Funchal Ecological Park, the Manx Shearwater *Puffinus puffinus*. This seabird breeds in the valley and it is the main target of the conservation "Project Puffinus". The main objectives of the project are the conservation of the habitat, the control of the invasive species, and

the improvement of the knowledge of its ecology. This species is adapted to the sea environment where they live most of their lives, however, in mid-January; the individuals fly back to the steep slopes in the Santa Luzia Valley. The species dig their nests in areas covered with indigenous vegetation and they lay only one egg (Nunes et al 2010).



Madeiran Speckled Wood  
*Pararge xiphia*

## IN THE INVERTEBRATE GROUP, IN THE PARK WE CAN OBSERVE 12 SPECIES OF DAYLIGHT BUTTERFLIES

Special emphasis to the Madeiran Grayling *Hipparchia maderensis* and the Madeiran Speckled Wood *Pararge xiphia*,

both endemic to Madeira and common in the Ecological Park (Dawson et al 2001).

## BATS ARE ONE OF THE FEW MAMMALS THAT OCCUR NATURALLY ON THE OCEANIC ISLANDS

### IN THE MADEIRAN ARCHIPELAGO,

three species represent this group, and all of these occur in the Ecological Park.

The Madeiran Pipistrelle *Pipistrellus maderensis* is an endemic species from Macaronesia that, besides Madeira Archipelago, occurs in the Canaries and Azores. It stands out for its small dimensions and a zigzag flight similar to that of a butterfly. The Leisler's Bat *Nyctalus leisleri verrucosus*, endemic subspecies to Madeira, also very common, but it is bigger and has a faster and linear flight compared to the Madeiran Pipistrelle.

Even though both have nocturnal habits, we can observe both species all over the park during nightfall.

**IN THE FOREST,** we can also observe the grey long-eared bat *Plecotus austriacus*, a species that is harder to detect, known for its huge ears that gives it the common name.

**ALL THE BATS IN MADEIRA** are insectivorous and in one night, these mammals can ingest more than half of their body weight in insects. This makes them very important for the equilibrium of the ecosystem where they live.



Madeiran Pipistrelle  
*Pipistrellus maderensis*

## POINTS OF INTEREST AND LANDMARKS



*Viewpoint  
Pico Alto*

### PICO ALTO VIEWPOINT

At **1129 METERS** of altitude, the top of Pico Alto is a viewpoint with wide sights over the city of Funchal and the sur-

rounding mountainous areas. The access to this viewpoint is on footpath, a 150 meter itinerary from Pico Alto picnic area.



*Viewpoint  
Pico Alto*

## NATIVE PLANTS NURSERY

### THE PRODUCTION

**OF PLANTS** has been one of the priorities to aid the conservation and recovery of the native vegetal coverage of the Funchal Ecological Park. In the past, there were many different temporary plant nursery areas in Montado do Barreiro. With the creation of the Funchal Ecological Park, there was a need to establish a permanent plant nursery. In 1998, appeared the infrastructure near the Cales

Stream with an objective to:

- Grow native plants for the reforestation of the Ecological Park.
- Contribute to the study and propagation of some rare species.
- Promote environmental education, giving the possibility of active student collaboration in the production and plantation of the native species.



*Native  
Plants Nursery*

## THE PLANT NURSERY

mainly uses seeds for the propagation of plants (sexual reproduction).

In the case of some rare species or in difficult germination processes, the cutting process was an alternative method of propagation (vegetative reproduction).

## THE MAIN PLANTS

**GROWN** in this plant nursery are trees and bushes from Madeiran flora. The nursery produces mainly tree spe-

cies like Wax Myrtle *Morella faya*, Canary Laurel *Laurus novocanariensis*, Stinklaurel *Ocotea foetens*, Madeiran Mahogany *Persea indica* and Madeira Juniper *Juniperus cedrus*.

In the group of the shrubs, the main species are the Pride of Madeira *Echium candicans*, Shrub Trefoil *Teline maderensis*, Chrysanthemum *Argyranthemum pinnatifidum* and the Madeira Mountain Stock *Erysimum bicolor*.



Wax Myrtle  
*Morella faya*

## POÇO DA NEVE (SNOW WELL)

In the Ecological Park, we can find a **HERITAGE SYMBOL** called Poço da Neve (Snow Well). It is the only construction of

this nature that is still in a good condition in Madeira Island. It is located on the southern mountains of the Pico Areeiro, next



Snow  
Well

to the Regional route number 202, on the left side of the de Santa Luzia Valley at 1630 meters of altitude. Built around 1813, it was the only method of stocking and preserving ice at those times. The Snow Well could stock the snow and hail that rarely fell in the high mountains of Funchal in winter and spring seasons.

The hospitals, the hotels, and the sorbet factories in the Funchal area were the main recipients of the **ICE STOCKS**. In the early dawn, workers carried the ice on foot mainly through the paths in the mountains of São Roque and Santo António. The workers carried the goods in leather bags covered in straw and transported in wicker baskets.



Snow  
Well

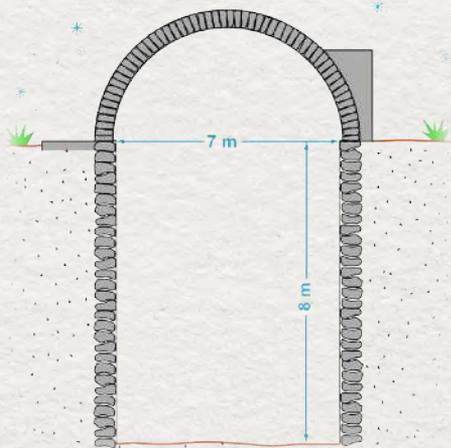
Until the first artificial ice-producing systems appeared in Funchal, in the end of the first half of the past century, the well was **THE MAIN SOURCE OF ICE**.

### DESCRIPTION OF THE CONSTRUCTION AND MATERIALS

The visible part Snow Well is the cover of the pit; the workers piled blocks of

carved basalt in the form of a hemisphere that protected the ice from the weather conditions, for its conservation.

The reservoir that stocked the ice was a cylindrical underground pit, with walls covered by stones and natural water permeable materials at the bottom. The capacity of the stock is 308 m<sup>3</sup>.



Technical Design of the Snow Well



## PICO DO AREEIRO

### THE HIGHEST POINT

in the municipality of Funchal and the upper limit of the Ecological Park, at **1818 METERS** altitude. A set of support infrastructures and car access make this place one

of the most visited tourist spots in Madeira Island, especially for the panoramic views of the south coast, the Central Mountainous Massif and for the sunrise and sunset sight.





*Old Water Treatment  
Station of Tornos*

## OLD WATER TREATMENT STATION OF TORNOS

**FOR THREE DECADES,** this station treated most of the public water supply for Funchal City. The water arrived in the station from the north of the island and from many areas along with the flow of the Levada of Tornos and one of these channels comes from Urzal Stream, in Boaventura. Part of the levada, between the Fajã da Nogueira and the Tornos station, has a tunnel with 5 100 meters length.

The Water Treatment station in Tornos was work-

ing until the year **2000** but retains some of the original equipment with additional equipment added during its functional years. In **2009**, the building was adapted to receive visitors, having an educational component that was named the Thematic Water Center. This Center has the equipment and expositions about the drinkable water around the district of Funchal and promotes the natural heritage of the Santa Luzia Valley.

*Old Water Treatment  
Station of Tornos*

**THE WATER** continues to pass by the station from the north of the island and taken to the new water treatment station in the sítio da Alegria, in São Roque. Part of the water goes for agricultural irrigation, then following the channel of Tornos until Santa Cruz.

**FROM THE TORNOS STATION,** it is possible to explore the Streambed of the Santa Luzia Valley until a perilous waterfall at around 1500 meters of altitude, or to hike up to the springs in the Tornos Altos, by the pedestrian walks. By following the Levada dos Tornos from

the station, is possible to also access Babosas and Curral dos Romeiros.

### **THE CONNECTION BETWEEN THE CENTRE OF MONTE AND TORNOS WATER TREATMENT STATION**

is possible due to routes that pass the urban areas of the parish, passing by the Corujeira de Dentro, by the path of Tornos and Levada dos Tornos. In this path, there are several points of interest in a natural environment, like the waterfall over the Ponte do Pisão, indigenous fauna and flora in the area of Tornos, and the Santa Luzia Valley.



*Old Water Treatment  
Station of Tornos*



*Piquenique area  
of Pico Alto*

## ACTIVITIES

**FUNCHAL ECOLOGICAL PARK PROVIDE INFRASTRUCTURES AND NATURAL CONDITIONS FOR SPORTS AND LEISURE, PICNIC AREAS AND SUPPORT SERVICES THAT BENEFIT FAMILY ACTIVITIES WITHIN NATURE**



*BTT practitioners in  
the Ecological Park*

Given the unique conditions that we can find in the Park, **IT INVITES THE PUBLIC TO GET OUT OF THE ROUTINE AND BREATHE NATURE.**

**THE PICNIC AREAS** have different infrastructures, including small shelters or outdoor spaces, and depending on the location, they might include tables, benches and fountains.

**IN THE CALES STREAM VALLEY**, near the Reception and Interpretation Centre of the Ecological Park, you can find a bar, surrounded by nature, far from the routine and city movement, and there is the possibility of staying in a touristic shelter unit, which benefits from the tranquility of Cales Stream Valley and all its natural beauty.



*Touristic-Mountain  
shelter*

**SOME ACTIVITIES** have itineraries prepared for the use of practitioners,

with emphasis on hiking, canyoning and mountain biking.



PR3-PR4 uphill path to Pico Areeiro and Snow Well

## PEDESTRIAN PATHS

### PR3 - PICO DO AREIRO – RIBEIRA DAS CALES

#### MAIN DESIGNATION OF THE PATH

Vereda do Burro

#### ADDITIONAL DESIGNATION OF INDICATION

Pico do Areeiro – Cales Stream

#### DISTANCE

7,2km

#### APPROXIMATE DURATION

2h40

#### MAXIMUM ALTITUDE

1805 m

#### MINIMUM ALTITUDE

1130 m

#### START POINT

Pico Areeiro

#### ENDING POINT

Cales Stream – Reception and Interpretation Centre of the Funchal Ecological Park



#### Map legend:

- You are here
- Informative board
- Other informative boards
- Mountain shelter
- Parking
- Belvedere
- Toilets
- Viewing spots
- Coffee
- Leisure area
- Fauna
- Indigenous flora

#### Other connections to the path:

- PR1 - Vereda do Areeiro
- PR4 - Levada do Barreiro
- PR3.1 - Caminho Real do Monte



PR3 – The view over the north side of Madeira Island

### DESCRIPTION:

The pedestrian path that connects Pico do Areeiro and the Reception Centre of the Funchal Ecological Park walks are areas with typical high-altitude flora and fauna of Madeira. In addition, you can find a singular construction of regional heritage on the

walk around the Snow Well. To end the walk, the exploration of the Cales Stream provides an opportunity to observe some of the indigenous vegetation of the hillside and get access to small waterfalls and lagoons, which are part of the watercourse.



PR3 – Santa Luzia Valley



PR3 – The view over the Nun's Valley

### THE UPPER PART OF THE PATH

is at 1805 meters of altitude, a bit lower than the third highest point on the island, Pico Areeiro (1818 meters). At the beginning of the walk, we can observe a wide panoramic view over Ponte do Cidrão, which connects Curral das Freiras to the Vale dos Socorridos, and to the occidental Mountainous Massif of Madeira Island, which emphasizes the Paúl da Serra Plateau.

### THE SNOW WELL

is the next point to visit; it is around 1.7km from the starting point of the walk. Dating from 1813, used throughout time for stocking snow and hail, which fell occasionally on the highest mountains of Funchal. Hospitals, hotels, and sorbet factories used this ice until the first half of the 20th century when the first ice machines appeared in Madeira.



Snow Well

## THE PATH CONTINUES UNTIL THE START OF THE CALES STREAM

where we can observe typical high-altitude species, some of them very rare in the Madeiran flora, such as the Madeiran Rowan, *Sorbus maderensis*, or the more common, like the heathers, *Erica platycodon* and *Erica arborea*, Madeira Bilberry, *Vaccinium padifolium*

and some trees, like the Madeira Holy, *Ilex perado* and the Canary Laurel, *Laurus novocanariensis*. In these areas, it is easy to observe many different Passeriformes species and the most common ones are the Berthelot's Pipit, *Anthus berthelotti madeirensis*, and the Madeiran Firecrest, *Regulus madeirensis*.



PR3 – Cales  
Streams Valley



PR3 – Cales  
Streams Valley

The path leads to the **CALES STREAM VALLEY** which alternates between the left Streambed in the beginning and continues on the right side until the path gets closer to the Reception Centre of the Funchal Ecological Park.

### DIFFICULTY :

- Extension: 7.2 km
- 745 meters downhill and 70 meters uphill uneven terrain.
- Uneven terrain in the different parts of the itinerary, especially in the initial part between Pico

do Areiro and the Cales Stream Valley, and the water lines crossing areas.

- In rainy seasons walkers must be cautious, avoid Stream crossings where water flow is elevated, and seek for an alternative way to exit the path.
- Possibility of fog occurring at higher altitude and may affect the sense of direction on the path.
- The paths go along mountainous areas or cliffs, so it is possible that abysses exist in the path.



### START POINT

Pico do Areiro  
32°44'05.8"N 16°55'43.6"W

### ENDING POINT

Cales Stream  
32°42'04.7"N 16°54'11.2"W

## PR3.1 - CALES STREAM – MONTE



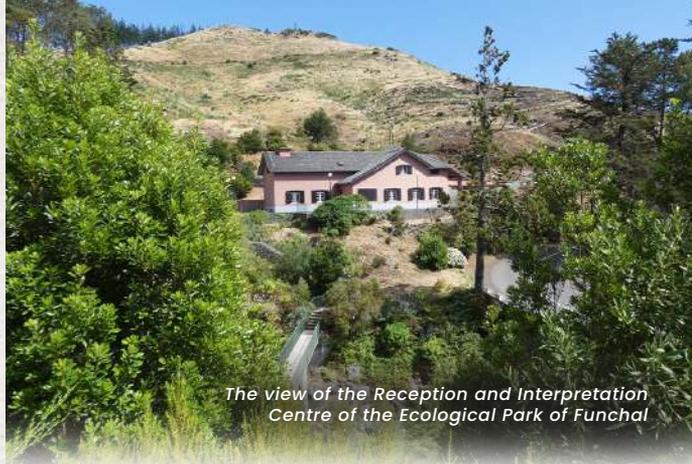
*Signage to the Cales Stream*

### MAIN DESIGNATION OF THE PATH

Real do Monte Path

### ADDITIONAL DESIGNATION OF INDICATION

Cales Stream – Monte



*The view of the Reception and Interpretation Centre of the Ecological Park of Funchal*

### EXTENSION

4,2km

### APPROXIMATE DURATION

2h

### MAXIMUM ALTITUDE

1130 m

### MINIMUM ALTITUDE

550 m

### START POINT

Cales Stream –  
Reception Centre of the  
Funchal Ecological Park

### ENDING POINT

Monte



*Monte*



The view from the Viewpoint of Pico Alto

### DESCRIPTION:

The path of the Cales Stream-Monte connects the natural environment of the Funchal Ecological Park to the Historical Centre of the Monte, which has a uniquely constructed patrimony.

space around the Cales Stream House and the forests around presents possibilities for the observation of indigenous and exotic vegetation with high diversity and the most common bird species of this habitat.

### THE BEGINNING OF THE ROUTE

is next to the Reception Centre of the Funchal Ecological Park across the Cales Stream and an old channel of the Funchal Municipality, the levada das Cales, which is dated to 1784. Still in this initial area of the path, the

### STILL IN THE AREA

OF THE PARK, the itinerary passes by the Plant Nursery of the Cales Stream and the viewpoint of Pico Alto (1129 meters of altitude). From this altitude, it is possible to see one of the widest panoramic views of the district of Funchal.



Path from Pico Alto to Arrentão

## BETWEEN THE ARREBENTÃO AND THE LAJINHAS,

the path follows the Real route number 24, before the access route to the mountains of Monte and connection to the district of Santana.

## PASSING BY THE TERREIRO DA LUTA,

two constructions catch one's eyes, Quinta do Terreiro da Luta and in a short itinerary, the monument of Our Lady of Peace.

**FROM THE LAJINHA,** the constructed patrimony that characterizes the Parish of Monte is represented especially by the head church, some old

manors and the Monte gardens.

To discover more about the **HISTORY CENTRE OF MONTE,** it is possible to visit the Tropical Garden Palace of Monte Palace and the Largo das Babosas. From there two possibilities to get to the centre include Monte's toboggans and two-way cable cars to continue discovering the beauties of the district of Funchal.

## DIFFICULTIES:

- Path extension 4.2km with uneven terrain of 640 meters downhill.
- The path crosses three main driving routes.



Monte

Walkers must be careful while crossing them.

- The path between the Plant Nursery and the Arrebentão, is 1300 meters, it is narrow and occasionally the ground is uneven.

- The rocky path may be slippery when covered by vegetation or wet.

- In this path, most of the uneven walks are stairways.



Royal path next to the Terreiro da Luta manor



## STARTING POINT

Cales Stream  
32°42'04.7"N 16°54'11.2"W

## ENDING POINT

Monte  
32°40'36.3"N 16°54'12.1"W



Signage PR4 Snow Well - Casa do Barreiro

## PR4 - SNOW WELL – CASA DO BARREIRO

### MAIN DESIGNATION OF THE PATH

Levada do Barreiro

### ADDITIONAL DESIGNATION OF INDICATION

Poço da Neve – Casa do Barreiro

### DISTANCE

5,2km

### APPROXIMATE DURATION

2h10

### MAXIMUM ALTITUDE

1650 m

### MINIMUM ALTITUDE

975 m

### START POINT

Snow Well

### ENDING POINT

Casa do Barreiro





Snow  
Well

**THE PATH** "Snow Well – Casa do Barreiro" joins the heritage construction, nature, and wide landscapes of City of Funchal, mainly following the Levada do Barreiro, in the left Streambed of the Santa Luzia Valley.

**THE ITINERARY STARTS** on Regional Route number 202 that goes to Pico

do Areeiro. It begins at the Snow Well, one unique element of constructed heritage of the district of Funchal, dating to 1813. The snow and the hail, which occurred occasionally in winter, accumulated in the well, providing ice for the whole year. Workers carried the snow by foot to the lower areas of the Funchal City.



PR4 – Levada  
do Barreiro



View from Levada do Barreiro  
over the Santa Luzia Waterfall

**THE ITINERARY CONTINUES DOWNHILL**, passing by a centre of high-altitude vegetation where tree heathers and Madeiran Bilberries stand out. Further, after crossing the asphalted route, the itinerary continues for a channel of the Levada do

Barreiro until the Frades Stream Valley, where it is possible to find the main channel.

**THE PATH FOLLOWS THE LEVADA DO**

**BARREIRO**, with wide panoramic views over the Santa Luzia Val-



The view from Levada  
do Barreiro



*Barreiro  
Viewpoint*

ley and over the City of Funchal, and it continues this way until detours to the right, already in the final stretch of the path, to visit the viewpoint of the Barreiro, situated at the top of a small, elevated area.

**CASA DO BARREIRO** is the next destination, and

it marks the ending point of the path at the Funchal Ecological Park. It is possible to continue the walk until the centre of the Parish of Monte, following the Monumental Route of the Barreiro House, Regional Route number 101 (ER 101) and taking the pedestrian path PR3.1 in the Terreiro da Luta.



*PR4 – Downhill path from  
the Barreiro Viewpoint*



*PR4 – Panoramic view  
over Funchal*

### DIFFICULTIES:

- The path extension 5.2 km and there is sharp 680 meters downhill uneven terrain.
- After walking 400 meters, the path crosses a car route. Walkers must exercise caution while crossing these routes.

- The path of the Levada do Barreiro is narrow and sometimes, the ground is uneven; some areas might be slippery especially when wet.
- The itinerary along the Levada do Barreiro contains exposed passages, some protected with railings; however, the vertical cliffs are constant.



### STARTING POINT

Snow Well  
32°43'33.4"N 16°55'29.2"W

### ENDING POINT

Casa do Barreiro  
32°41'43.3"N 16°54'34.4"W



Cales Stream's Informative Panel

## SAFETY & WALKING CODE



Do not walk alone; invite another person to walk with you. Carry a charged mobile device.



Stay within the track, do not use shortcuts, in order to avoid lack of orientation, loss of balance and risk of fall.



Be sure to confirm the time it will take so that you can finish before nightfall.



Wear suitable cloths and footwear.



The trails run through mountainous areas or cliffs, and there may be exposed cliffs near the path.



Footpaths can be wet and slippery, and sometimes uneven, so walk with caution and extra care.



Walking along footpaths you may come across narrow areas. Therefore, please make way, in safety, for other walkers who may be walking near the edge, avoiding passing near the edge of the trail/cliffs.



Avoid noises or actions against nature



Do not collect, damage the plants or disturb the animals.



Do not collect, damage the plants or disturb the animals.



Do not light any fires.



Do not change or damage the signs.



*Pico do Areeiro  
Informative Panel*



Bicycles or motorcycles are forbidden on the footpaths.



In case of interruption of the route by overturns, other obstacles or heavy rain and strong winds, turn back using the same route.



*Signage PR3.3 –  
Pico Alto*

## FIELD MARKS



Right way.



Wrong way.



Footpath turns right.



Footpath turns left.



*PR3.1 – Signage Cales  
Stream house's garden*



*Rapel – Cales Stream Canyon*



*Lagoon – Cales Stream Canyon*

## CANYONING

**CANYONING** is an activity that consists on the descent of water lines, by foot, swimming, climb down small walls, or using rope manoeuvres to pass vertical obstacles (rappelling). This activity is performed in environments with various morphological characteristics, special emphasis given to the lagoons, waterfalls, and slide ways; some also allowing the use of toboggans. During this activity, it is common to find native species in high densities, protected by the inaccessible environment associated with

most canyons.

**THE RIBEIRA DAS CALES** is an affluent of the João Gomes Stream that is one of the main water lines that drains in the sea at Funchal City. The beginning of the Cales Stream is found at Achada Grande, approximately 1550 meters of altitude, it's directing a significant amount of water over the years moulded the canyoning itinerary to be very attractive and slender, with many waterfalls, small lagoons, and toboggans.

### CANYON OF THE CALES STREAM

The itinerary starts in the watershed of the Cales Stream, between 1440 and 1270 meters of altitude; it is easy to access for most of the beginners interested in the activity.

The water flow changes depending on the season of the year, and the rainy season, always maintaining some water, that allows the realization of the activity throughout the year.



*Toboggan – Cales Stream Canyon*



*Waterfall – Cales Stream Canyon*

**TECHNICAL INFORMATION:**

**APPROXIMATION**

5 min

**PATH**

2h

**RETURNING**

20min

**STARTING ALTITUDE**

1440 m

**ENDING ALTITUDE**

1270 m

**EXTENSION**

900m

**RAPPELS**

4

**HIGHEST WATERFALL**

12 m

**MINIMUM ROPE (2X)**

12 m

**VERTICAL DIFFICULTY**

I - Very Easy

**AQUATIC DIFFICULTY**

I - Very Easy

**EXIT DIFFICULTY**

II - Easy

**CONNECTION BY CAR**

7km



*Cales Stream Canyon*

**RECOMMENDATIONS/  
WARNINGS:**

- Canyoning demands adequate equipment, or knowledge about all its technical aspects, the area of the practice and the appropriate supervision by prepared monitors.



*Cales Stream Canyon*



*Cales Stream  
Canyon*

- The realization of Canyoning, in this itinerary, is exclusively the responsibility of the interested parties.
- Before Canyoning it is recommended to inform someone about the realization of this activity, the location, and the expected duration.

## PARAGLIDING TAKE-OFF



*Take-off at Chão  
das Mantas*



*Paragliding – Flight  
over Funchal*

### THE CHÃO DAS

**MANTAS** got its name due to the frequency that birds of prey appear in this area, with special emphasis for the largest breeding species, the Buzzard *Buteo buteo* harterti, which is generally observed landing or flying.

**THE MORPHOLOGY** of this place presents a small platform with southern exposure that permits viewing a wide

landscape over the city of Funchal and over the Santa Luzia Valley, which stands out by its depth and magnificence.

### THE SURROUNDING LANDSCAPE AND NATURAL

**ENVIRONMENT** provide unique conditions for paragliding, which has a take-off at Chão das Mantas that provides an emblematic flight over the Funchal City.



Chão da Lagoa

## ORIENTEERING



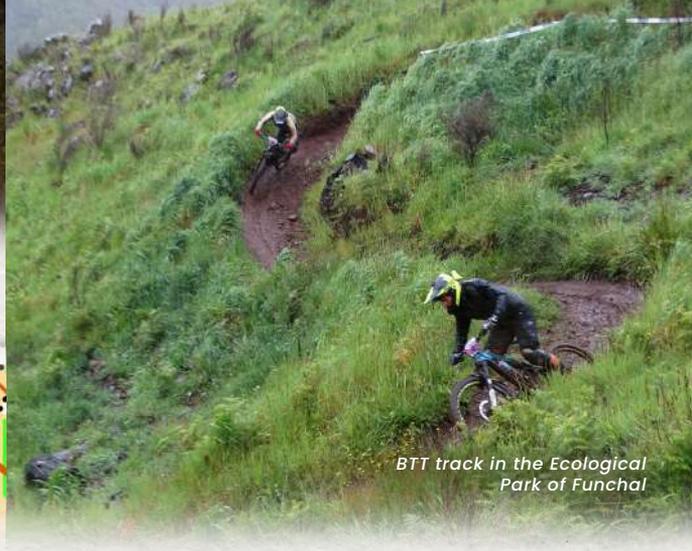
Chão da Lagoa Map  
Extract – Madeira

**THE CHÃO DA LAGOA PLATEAU** is the preferred location for the practice of Orienteering activities in the Funchal Ecological Park. There is a specific Orienteering map, with 1km<sup>2</sup>. These activities pro-

vide different experiences, from the beginner's level based on the paths and other built elements to the most demanding navigation challenges that make use of details of vegetation and relief.



Chão da Lagoa



BTT track in the Ecological Park of Funchal

## BTT

### IN THE FUNCHAL ECOLOGICAL PARK,

there are many possibilities for mountain biking. The area of Chão da Lagoa and a vast network of forest paths all around through the Park. There is still a prepared and sign-posted track for the practice of the BTT Enduro discipline.

**THE ENDURO TRAIL** of the Funchal Ecological Park starts in the Achada

Grande and follows the smooth orthography of this area until it enters the left downhill of the Cales Stream Valley.

### THE FUNCHAL CITY AND THE CALES STREAM VALLEY

stands out for its landscape from the Montado dos Curraleiros. The trail descends until the end of the valley, ending the itinerary at the Reception Centre of the Park.



Starting point of the BTT track – Achada Grande



Signage BTT

## SIGNS



Wrong Path



Dangerous path is coming from the left side



Go straight



Dangerous path is coming from the right side



Turning Left



Dangerous



Turning Right



Prohibited the walkers

## TERMS OF USE:

- Obligatory use of a helmet.
- Respect the signs on the paths.
- Take an appropriate amount of food and drink.
- Choose the path most adequate for your physical and technical condition.
- Move at appropriate speeds.
- Use only the authorized paths.
- Do not pollute the environment.
- Give priority.
- Do not scare the animals.
- Be vigilant for the possibility of crossing paths with other users or different vehicles.
- In the public routes always follow the traffic rules.
- Appropriately register the emergency number.

**NOTES:** The practice of BTT in this itinerary is completely the responsibility of the users.



BTT Track



Touristic shelter at  
Cales Stream

## BIBLIOGRAPHY:

- Barros, A., (1946) - Plano de Arborização do Montado do Barreiro: Edição da Câmara Municipal do Funchal.
- Dawson, A., Salmon, M., & Franquinho, A. (2001) Guia de campo das borboletas diurnas do Parque Ecológico do Funchal e do Arquipélago da Madeira. Editado pelo Município do Funchal.
- Fagundes, A. I., Nunes, J. & Ferreira, J. (2008) - Atlas das Aves nidificantes do Parque Ecológico do Funchal. Funchal: Editado pelo Município do Funchal.
- Fontinha, S., Henriques, D., Nóbrega, H., Teixeira, D., Ferro, A. & De Carvalho, M. (2014, December). Vegetation recovery after a large forest fire in the Ecological Park of Funchal (Madeira Island, Portugal). SILVA LUSITANA.Vol.22 (2), p 207-229.
- Nunes, J., Nunes, M., Fagundes, A. I., Valkenburg, T., (2010) – Contributo para a conservação do Fura-bucho-do-atlântico *Puffinus puffinus*, uma espécie ameaçada na ilha da Madeira. Airo 20: 12-21
- Quintal, R. (2000) - O parque ecológico do Funchal e a prevenção de cheias e incêndios florestais. Territorium. Revista de Geografia Física Aplicada no Ordenamento do Território e Gestão de Riscos Naturais, (7)
- Yolanda Gonzalez, Pereira, E., Vulcano, A., Alvarez, S., Gouveia, C., Nunes, M., Castello, I., Fagundes, I., Coelho, N., Delgado, G., Nogales, M., (2021) - Food Habits Of The Macaronesian Sparrowhawk (*Accipiter nisus granti*) on Madeira. J. Raptor res. 55(1)

## DATASHEET

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Santa Luzia  
Valley



*Check the  
guidebook*



*Check  
the map*

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