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## Other interesting features

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### Azores

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#### Ilha Terceira

##### Furna Dágua

**Address:** Cabrito - Posto Santo Ilha Terceira

**Timetable:**

Visits must be booked in advance.;

**Characteristics and Services:**

Length: 560m; Signposted routes; Guided Tours;

The Gruta Dágua, on Terceira island, is a cave of volcanic origin. Inside, there are abundant springs of water and it is possible to admire a whole range of lava stalactites.

##### Monumento Natural Regional do Algar do Carvão

**Address:** Ilha Terceira

**Timetable:**

24th April -31st May: 3am - 5pm 1st June - 30th September:

14h45 - 17h45 1st October - 17th October: 15h00 - 17h30;

**Characteristics and Services:**

Altitude: 640m; Length: 120x20m; Signposted routes; Guided Tours; Outdoor parking; Bar;

Algar do Carvão is situated in the central area of Terceira island, at an altitude of roughly 550 metres.

Previously forming part of a Natural Geological Reserve, the area of Algar do Carvão (roughly 40.5 hectares) was recently reclassified as a "Regional Natural Monument" because of its volcanic peculiarities and its importance in environmental terms.

The mouth of the cave (17m x 27m) opens onto a vertical channel with a drop of roughly 45 metres. After a ramp, formed by a gravitational deposit, there is another vertical drop ending in a lake of clear water, at a depth of roughly 80 metres. The lake is fed by rainwater and has a maximum depth of roughly 15 metres, being almost completely dry in the summer in those years when there is little rainfall.

The complex geological and biochemical phenomena occurring in the hydrogeological system that characterises Algar do Carvão have led over the years to the formation of exuberant and rare stalactites and stalagmites of amorphous silica, which are amongst the most beautiful in this cave and in the various volcanic cavities of the Azores.

#### Ilha de São Miguel

##### Gruta do Natal

**Address:** Picos Gordos Reserva Florestal Natural da Serra de Santa Bárbara - Ilha Terceira

**Timetable:**

1st June - 30th September: 3pm - 5:30pm;

**Characteristics and Services:**

Length: 697m; Signposted routes; Guided Tours; Outdoor parking; Bar;

The Gruta do Natal on Terceira island is considered ideal for enjoying a first contact with the different lava features that are to be found in the Azores, making it possible to enjoy the beauty and novelty that this type of natural phenomenon can provide.

During the Christmas season, the cave takes on a certain social importance for the community, for, whenever possible, the Christmas mass is held here. This explains the origin of its name (Gruta do Natal = Christmas Grotto).

## **Monumento Natural Regional da Gruta do Carvão**

**Address: Rua de Lisboa Ponta Delgada - Ilha de São Miguel**

### **Timetable:**

Visits must be booked in advance.;

### **Characteristics and Services:**

Length: 700m; Guided Tours;

The natural wealth of the Gruta do Carvão lies in its great variety of geological aspects, structures and phenomena that are typically caused by volcanic activity. These features include structures known as "gas bubbles", corresponding to sectors of the cave wall that "burst" under the action of the accumulated gases, or the presence of cracks in the walls and ceiling, resulting from the cooling of the lava flow.

Countless stalactites can be seen on the ceiling of the cave: some are conical in shape with a smooth surface, resulting from the solidification of drops of lava; others are irregular in shape, with a whitish colour and very fragile, resulting from phenomena caused by the alteration and sedimentation of the water that infiltrated into the cave. This water also caused the oxidisation of the basalt rocks that form the Gruta do Carvão, giving them red and orange tones. As in other caves in the Azores and on the island of São Miguel, what we see here is clear evidence of the different levels of lava that flowed through the inside of the cave at various times in the past.

The presence of countless volcanic micro-structures prove the importance of the Gruta do Carvão for our knowledge and interpretation of basalt volcanism on the island of São Miguel.

## **Ilha do Pico**

### **Monumento Natural Regional da Gruta das Torres**

**Address: Criação Velha Madalena - Ilha do Pico**

### **Timetable:**

May and October - Weekend: 2:30pm - 5:30pm June and September: 2:30pm - 5:30pm; July and August: 10am - 12pm / 2:30pm - 5:30pm;

### **Other informations:**

Access for persons with disabilities in the visitor's centre;

### **Characteristics and Services:**

Altitude: 295m; Length: 5140m; Signposted routes; Guided Tours; Outdoor parking; Temperature: 15°C;

The Gruta das Torres, located on the island of Pico at an altitude of 285 metres, is the largest lava tunnel known to exist in the Azores, with a total length of roughly 5150 metres and a maximum height of 15 metres.

It consists of a large main tunnel and several secondary tunnels above and to the sides, which, despite being smaller in size, have a wide range of geological structures.

The interior is rich in geological formations, resulting in the presence of various types of lava stalactites and stalagmites, lateral "side-benches", lava balls, striated walls and long rope-shaped strings of lava. One of the most interesting aspects is the floor of the cave which presents a variety of forms, such as a fine, smooth crust under which the lava continued to flow, taking on the form of a rope or a rough, prickly and irregular surface, with pointed protuberances.

It should be noted that the architectural project for the Visitors' Support Centre was selected for the "European Union Prize for Contemporary Architecture Mies van der Rohe Award 2007", organised by the European Union, in partnership with the Mies

van der Rohe Foundation in Barcelona.

The Centre's innovative project reproduces the image of the local building systems used in the livestock pens found in the landscape of Pico island, classified as a World Heritage zone. One should also note the similarity of the texture of the finishing, the black hue and the vitrified lava found within the Grotto. In order to minimise the impact on the soil, the structure has been mounted on a rail.

## Centro de Portugal

### Fátima

#### Grutas da Moeda

**Address: Largo das Grutas da Moeda 2495-028 SÃO MAMEDE (Fátima)**

#### Timetable:

October/March - 09h00/17h00 April/June - 09h00/18h00  
July/September - 09h00/19h00 ;

#### Other informations:

Free transportation in touristical bus from Fátima/Grutas/Fátima

Call for free 800 20 56 18.;

#### Characteristics and Services:

Depth: 45 m; Length: 350 m; Shops; Signposted routes; Guided Tours; Outdoor parking; Bar; Temperature: 19<sup>o</sup>-21<sup>o</sup>;

#### Accessibility:

Disabled access;

The Grutas da Moeda (the Coin Caves) of São Mamede, Fatima, were discovered in 1971 by two hunters while chasing a fox. Once in the cave, they were overcome with curiosity which led them to explore the area more thoroughly. To their amazement, they soon found the "Shepherd's Chamber", a chamber full of the most fantastic limestone formations. For nearly two months the two men continued to dig away at the narrow cracks which led on from the first cave, slowly discovering the other chambers and galleries included today in the Grutas da Moeda.

Soon measures were taken to make use of the cave as a tourist attraction; geologists and other technicians were contracted to rigorously maintain the natural features of the cave, including the mountain landscape above ground. The names given to the chambers are very suggestive of the images that each one presents to the visitor: Nativity Scene, Shepherd, Cascade, Virgin, Red Dome, Marine, Flawed Chapel, Wedding Cake and Spring of Tears.

## Porto de Mós

### Grutas de Santo António - Alvados

**Address:** 2480 Alvados

**Timetable:**

October to March - 9.30am to 5.30pm April and May - 9.30am to 6.00pm June and September - 9.30am to 7.00pm July and August - 9.30am to 8.30pm;

**Characteristics and Services:**

Altitude: 530; Depth: 40; Length: 400; Restaurant; Shops; Guided Tours; Outdoor parking; Bar; Temperature: 17;

In 1955 two men working at a place called Pedra do Altar went through a large opening as they were trying to catch a bird. The Santo António caves were discovered more than 150 million years after their formation in the Middle Jurassic age, when the dinosaurs populated this region. Their footprints can be seen here today.

The entrance is at an altitude of 530m, and the depth inside reaches 40m. The caves occupy a huge area of 6,000 square metres, comprising various rooms adorned with stalagmites and stalactites. In the Room of the Bats, you can observe these charming creatures of the night, which sleep while the sun is shining outside and go out at night in search of food. In the Fátima Room, your guide will show you a stalagmite that looks like the image of Our Lady of Fátima with the Child in her arms.

Appropriate lighting, steps, stepping-stones, background music and the pleasant temperature of 17 degrees Celsius invite you to enter this wonder that Nature took millions of years to form.