

MASCA Visitors Center

Expanded content





PARQUE RURAL DE TENO



Teno rural park

The village of Masca

The Masca Ravine



For a better reading

Texts and design:

Mária Mengual y Ángel Morales

Translation:

Agnès Louart

2019

Teno Rural Park







TENO is a small but spectacularly diverse space

Teno Rural Park is located in the north-west corner of the island of Tenerife. It has been a protected area since 1987 and was declared a rural park in 1994. The purpose of the park is to conserve, protect and restore its natural and cultural processes, its biodiversity, uniqueness and beauty, and to promote economic development, striking a balance between quality of life for its inhabitants and conservation, and regulating public use. Its importance is even recognised at European level: it is part of the Natura 2000 Network.

It covers an area of about 8,000 hectares or 80 square kilometres, which means that if it took the shape of a regular square, it would only occupy approximately 9 x 9 kilometres. It may seem like a rather small space, but it contains such a variety of landscapes and secluded nooks and crannies that it is unlikely that visitors will ever get to explore it fully.

The reasons why such a confined space can contain so much diversity are its age, its mountainous terrain, and its microclimates: the highest point of the park is over 1300 metres above sea level and there are notable differences in humidity and sunshine depending on whether we are on northern or southern slopes, near the coast or near the summit.

Visitors to Teno will marvel at towering cliffs and pleasant agricultural valleys, steep ravines carved by time and more recent volcanic cones. This place is home to hundreds of species of plants and animals found only in the Canary Islands, some of which live exclusively in Teno, in addition to some thirty endangered species that find refuge here.

The people who live in this rural park preserve a centuries-old cultural heritage that is reflected in its architecture, agricultural products, local crafts and its unique festivals and celebrations.

To ensure the harmonious development of every aspect of the rural park, careful land-use planning is required, marking out the different areas where, depending on the fragility of their ecological values, certain traditional or tourist activities may or may not be carried out. The aim is to safeguard this treasure for future generations.

We invite you to explore this legacy further in the following sections.





Teno is steeped in millions of years of geological history

The three oldest parts of Tenerife are the massifs of Teno, Anaga, and Adeje. Rising from the seabed, piling up successive layers of volcanic material, Teno finally emerged from the waves seven million years ago. It continued to grow for another two million years, rising up to form a massif much higher and wider than today.

Most of these materials emerged gradually through long fissures, although there were also explosive events, the remains of which can be seen in layers of fragmented materials – such as pyroclastic deposits and scoria – interspersed with more compact lava flows. Teno has also been the site of colossal landslides, when unstable slopes tumbled towards the sea; but since they happened in the distant past, they are not as easily identified in the landscape as other more recent landslides that formed the valleys of La Orotava and Güímar.

Since then, over the last 5 million years, only a few volcanoes have erupted, such as the Teno Alto cones, Montañeta del Palmar or Las Portelas volcano. The lava flows that poured from some of these volcanoes reached the sea, building up new coastal plains, called "islas bajas", and adding to the size of the island.

But mostly this long pause in the construction of the island has given the sea, the intense rains of the past and the force of gravity the opportunity to carry out their patient task of sculpting the landscape. The result is the topography we see today: deep ravines and sections of coast with cliffs rising to heights of several hundred metres.

Erosion has stripped the terrain bare, exposing the skeleton that lies under the skin of the Teno massif. The dykes and outcrops that dot the present-day landscape are the cracks and vents through which magma ascended, filled in by the last of the materials that did not reach the surface. These materials cooled more slowly within the earth than the surrounding materials and became extremely hard. Erosion takes longer to wear them down and today they stand out from the surrounding terrain: the dykes in the form of long walls and the outcrops, or "volcanic plugs", as high turrets.

Erosion has carved some ravines so deeply that, in certain cases, such as the Masca ravine, we can touch volcanic materials that once cooled under the sea.

The geological history of Teno is complex and diverse, stretching back millions of years, and has not yet come to an end. The process of construction and, above all, dismantling will continue.

5



Different conditions for life mean that Teno is home to a remarkable biodiversity

The height difference between the coast and the highest peak of the rural park is 1354 metres. As a result, varying temperature, sunshine, and humidity conditions are found within a short distance, which in turn creates different ecosystems.

The sea that laps against the shores of Teno has been recognised at European level twice over through the creation of the Teno-Rasca Marine Strip, a special area of conservation, and La Gomera-Teno Marine Space, a special protection area for birds. This attests to the value of the biodiversity it contains.

On land but close to the shore, in areas with many hours of sunshine and little rain, we find small plants that are able to tolerate high salinity, such as lechuga de



mar (*Astydamia latifolia*), tomillo marino (*Frankenia erici-folia*), or siempreviva (*Limonium pectinatum*).

As we climb higher, we find the area of vegetation known as "tabaibal-cardonal", formed mainly by sweet tabaiba or balsam spurge (*Euphorbia balsamifera*), bitter tabaiba (*Euphorbia lamarckii*) and cardón or Canary Island spurge (*Euphorbia canariensis*), with its candelabra-shaped form that can reach a height of more than 3 metres. They are accompanied by other plants such as tolda (*Euphorbia aphylla*) and tabaiba majorera (*Euphorbia atropurpurea*).

The coastal cliffs are home to plants that have adapted to living in poor soil conditions, such as various types of bejeque (*Aeonium* spp.), tajinaste (*Echium* spp.) and siempreviva (*Limonium* spp.). They are also the refuge of rare animal species such as the osprey (*Pandion haliaetus*) and the Tenerife speckled lizard (*Gallotia intermedia*). This lizard, which is larger than the more common Tenerife lizard (*Gallotia galloti*), was only discovered a few decades ago and is in danger of extinction.

At altitudes above approximately 300 metres, the temperature and humidity conditions become more pleasant. This is the altitudinal zone with the climate that people generally prefer to live in. That is why the thermophilous forests that occupy this zone are among the most severely affected ecosystems on the islands. In Teno there are still a number of enclaves that harbour Canary Island date palms (*Phoenix canariensis*), sabina (*Juniperus turbinata* ssp. *canariensis*), white broom (*Retama rhodorhizoides*) and some isolated dragon trees (*Dracaena draco*), accompanied by other smaller species.

Where the influence of the trade winds – the beneficial, moisture-laden wind from the north-east – is felt, one of

Teno's most treasured jewels flourishes: the laurel forest or laurisilva. Between approximately 600 and 1000 metres, the clouds deposit their precious cargo of droplets, enabling the survival here of a forest that inhabited large areas of the Mediterranean basin until 20 million years ago. Unable to survive the last ice age, it found its last stronghold on a handful of islands in the Atlantic. Teno boasts one of the best examples of this forest, in Monte del Agua and Los Pasos. The laurel forest comprises about twenty species of evergreen trees, such as the Canary laurel (Laurus novocanariensis), viñatigo (Persea indica) and barbuzano (Apollonias barbujana), plus a cohort of shrubs, herbs, ferns, fungi, lichens, and vines. Among the branches, with luck, we may catch a glimpse of cooing delights: the white-tailed laurel pigeon (Columba junoniae) and Bolle's pigeon (Columba bollii).

The laurisilva is a delicate forest that requires specific humidity conditions and moderate and stable temperatures to survive. Of the species that form it, only the hardiest, such as faya (*Morella faya*), tree heath (*Erica canariensis*) or acebiño (*Ilex canariensis*) can survive slightly higher up. They occupy windswept ridges and form the ecosystem called fayal-brezal, gradually giving way to the pine forests that naturally inhabit only the highest points of the rural park.

The record for diversity is held by the invertebrates: no less than 836 species have been counted in the park so far, a number that continues to increase every year. Of these, 255 are endemic to the Canary Islands and 30 are found only in Teno.





Limited resources and isolation shaped Teno's austere history

Before the arrival of Europeans on the island (mainly from the Iberian Peninsula), an indigenous population that originated in North Africa had already settled in Teno. There are abundant traces of their culture: shelters, burial sites, shells, rock art, and above all, countless ancient place names of Berber origin.

After the conquest of the island, Teno remained largely inaccessible. People here had to survive with the means available to them on these lands. Although certain goods were traded, people generally had to make do with what was at hand. This meant that, until very recently, volcanic rock and local wood were used as building materials.

5

As in other mountainous parts of the archipelago, the steep slopes had to be transformed into a succession of small flat terraces, suitable for cultivation. Then it was a matter of waiting for the scarce rainfall to grow enough crops for subsistence. Other areas were used for grazing, to feed livestock, mainly goats and sheep, following a short-distance transhumance system from the coast in winter to the summit in summer, to better exploit the grass at each time of the year.

Traditionally, houses were aligned along ridges, because it was unthinkable to locate a house on a plot of flat land suitable for cultivation, no matter how small. The stone threshing floors for grain, the wine presses, the tile ovens, the chapels and cobbled paths that dot this landscape of crags and ravines are features that add the finishing touches to the rural park setting.

It is impossible to fully understand Teno without its human presence, without the lifestyles of a community in tune with the hardships of the land and an economy that, until a few decades ago, assigned most of the population the role of workers on other people's land, in exchange for half of the harvest, through a system of sharecropping called *medianería*.

Even so, this arduous life did leave some time for celebrations, theatrical representations, dances and local folklore, as well as craftsmanship (basketwork and woodwork), which also add to the ethnographic heritage of the rural park.

5



Teno Rural Park has a great deal to offer

The previous sections have briefly introduced you to the enormous natural and cultural diversity of the rural park. Different volcanic formations, weathered ravines and towering cliffs, volcanic cones and fertile valleys, radically different ecosystems from coast to summit, small villages, and places where you can gain an understanding of life in the recent past and local ethnographic traditions.

Teno also provides the setting for a variety of activities, from leisurely walks to more adventurous pursuits, spotting marine wildlife, staying in small traditional houses, and chatting under the laurels of the village squares.

Sampling local products will not only introduce you to new flavours but will also help to maintain this landscape. The milk from the goats, which still roam freely when pasture is plentiful, is used to produce both fresh and smoked cheese of renowned quality. Honey from flowers that blossom in the mid-altitude zone, Safflower (*Carthamus tinctorius*), known locally as Canarian saffron, onions from Masca and Los Carrizales, wine from the El Palmar Valley and delicious old varieties of potatoes round off a mouth-watering range of products.

It is still possible to find handicrafts that were once highly useful in everyday life and that today are prized as decorative elements of great ethnographic value: basketwork that uses straw and wood in El Palmar and Teno Alto, and palm and reed in Masca.

If you are fortunate enough to coincide with a local festival, be sure to catch the ribbon dances and local folk dances, such as the tanganillo or tajaraste de Teno, the polka or the joropo. The Baile de las Libreas of El Palmar is a unique folk dance that takes place in September. During carnival and in the summer, festive events take place in almost all the villages.

At the tourist information offices, you will receive advice on how to make the most of your time in this rural park.







Masca is an example of the traditional architecture of Teno

The small houses of Masca are perfectly adapted to the difficult terrain and are harmoniously grouped into four clusters of houses: La Bica, El Turrón, La Piedra or Lomo del Medio and Lomo de Masca. The main square is in La Piedra, in the shadow of its huge Indian laurel tree. Here stands the small 18th-century chapel of Nuestra Señora de la Concepción and, close by, the house of Los Avinculados, one of the oldest in Masca.

When people lived off the land, they had no choice but to locate their houses on land that was not suitable for farming, often on the rock itself, fitting the rooms into the different levels of the terrain.

Old cobbled paths are still in many cases the routes linking the houses. The layout of these paths is an example of traditional engineering methods. They have systems for draining rainwater and are solid enough to withstand the impact of people and load-bearing animals, with little need for maintenance work.

The overall picture is completed by threshing floors – stone circles for threshing grain – platforms where fruit was dried in the sun, and bread ovens. Elements that are now in disuse but are so well-built that they still stand the test of time.

The master craftsmanship is best exemplified by the durability of the terraces: countless dry-stone walls without cement or mortar that transform the steep terrain into small plots of land where crops can be grown. The terraces perform a vital task of preserving fertile soil, preventing it from being swept down the mountainside. Today, most of these terraces are abandoned and some walls are beginning to collapse due to the effect of rain and lack of maintenance.

The village of Masca is the best example of traditional architecture in the Teno Rural Park. In 2004 it was added to the list of Assets of Cultural Interest of the Canary Islands Government as a historical site. This means both recognition of its heritage value and a commitment made by the society of the Canary Islands to protect it.





Reasons for living in such a difficult place

Motor vehicles only arrived in Masca about 50 years ago. Before that time, all movements of people and goods were made on foot or with animals, using cobbled paths and trails. The nearest road passed through the centre of Santiago del Teide, more than an hour away.

Seen from the perspective of the lifestyle of today, it is difficult for us to understand why people lived here in those days, when the isolation was much greater than now. Although the terrain was hostile and they were far from the more populous and convenient parts of the island, a resource that was essential for survival was found here in abundance: water.

For this reason, the original settlers of the island already inhabited the area. They left symbols engraved on the rocks and gave us many place names, such as the name of Masca itself, a name that probably refers to its abrupt relief, since "askan" means horns or high peaks in the Berber language.

5

This domain belonged to the Menceyato of Adeje, one of the Guanche kingdoms into which the island was divided. Adeje took the side of peace during the conquest of the island by Spanish troops: they sided with the conquistadors to protect their property, their freedom and even their own lives.

After the conquest, Alonso Fernandez de Lugo, who had been appointed island governor by the Catholic Monarchs, awarded the lands of Masca to Diego de Adeje, in recognition of his collaboration in the conquest. Ironically, Diego was the Mencey (Guanche king) of Adeje, a kingdom which, as we have seen, already included these same lands.

The governor also ceded land to other conquistadors, making it clear that there was water for everyone. Except for Diego, who settled in Masca, these other owners lived in Buenavista, so that administratively this ravine became part of that municipality.

We can see how from the beginning, despite its remoteness and many hardships, Masca was a place of interest because of its plentiful water, a precious asset on an island with few natural springs and watercourses. In the 20th century, some water infrastructures were built, such as galleries or horizontal tunnels to extract water from aquifers, and channels to transport it to other areas.

In any case, water was the prized asset that, in the past, made up for the hardship of living in a place like Masca.





Building with what was at hand

In such an isolated place, where, until a few decades ago, if you wanted to bring in materials from elsewhere, you had to haul them laboriously up the paths, it was better to make do with locally available materials. That is why all the old buildings are made of volcanic stone, wood from nearby forests, cane, and mud.

A walk around the houses will reveal two types of traditional house: rectangular and L-shaped. Each room was accessed from the outer courtyard, with no internal corridors. Sometimes the houses had two floors. Often there was no need for a staircase to reach the second floor, due to the unevenness of the terrain, but in other cases, steps were carved from the rock and the staircase was completed in wood.

Basalt stone was difficult to carve with rudimentary tools. For this reason, it was a real art to fit the uneven shapes together, like a puzzle, to build the walls.

On the walls of the terraces and houses, you can see how smaller stones were placed between the large stones until they became solid enough to withstand the passage of time.

When a more regular shape was needed, as in the corner stones of the houses, tuff – a reddish volcanic material that is easier to carve – was chosen.

It was difficult to leave openings in these structures, so windows were either tiny or non-existent. In many cases, a stone arch above the doorway helped to redistribute the weight of the roof. The walls were barely whitewashed – only the gaps between the stones to prevent water or wind from entering. The roofs were two- or four-pitched and had an internal structure of wood and cane that was covered with curved tiles, baked in nearby kilns, to waterproof the entire structure.

It was only with the opening of the road in the 1970s that new buildings could be erected using more modern materials, such as cement blocks, metal beam structures or tiled roofs.





Palm cultivation

The image of Masca village is inextricably linked to the palm trees (*Phoenix canariensis*) that rise up gracefully between the houses and on the slopes. Although it is a plant that grows naturally only on these islands, the elegant form of the Canary Island date palm has led it to being planted in gardens and streets all over the planet.





In spite of its great size – it grows to over 30 metres and lives for more than two centuries – it is not a tree as such, but rather a plant with a tree-like appearance. What looks like a trunk to us is nothing more than the accumulation of the remains of previous leaves. Between the chinks in these leaves, organic matter accumulates, and they are often adorned with authentic hanging gardens containing small plants such as ferns and verodes (*Kleinia neriifolia*).

In Masca, as in many other places in the Canary Islands, it was a highly useful resource that was exploited to the full: its date-like fruits were used to feed the animals; its trunks to make beehives, called *corchos* ("corks"); and

the hard central ribs of the branches for the framework of the roofs.

Nowadays, most of these uses have been lost, but handicrafts are still produced from palm leaves, which are used to make brooms, mats, baskets, and hats.



Heroic survivors

Scraping a subsistence in such a remote and rugged place is a feat worthy of superheroes. Transforming the steep slopes into terraces, hoping for a good year of rainfall to grow cereals, potatoes, cabbages, onions, and grapes, to raise goats, chickens, and a few pigs. Relying also on the fig trees, hardy specimens capable of providing the sweetest of fruits even in the most barren years. This was life in Masca until the first road was opened in the 1970s.

Agriculture practised under such rough terrain conditions is called heroic agriculture. And in Masca they really are heroic. For this reason, the people who still cultivate a few terraces deserve the highest praise. Here a unique variety of onion is still grown, the Masca onion, different from the variety grown in the nearby village of Los Carrizales, both of which are officially recognised by the Department of Agriculture of the Tenerife Island Council due to their special organoleptic properties. Honey is also harvested from local flowers and the plentiful water in the gullies is used to grow yams. Yams are large tubers that must be cooked for many hours to soften and are used as an accompaniment to meat or fish, although they are also eaten as a dessert at Christmas time.

If you have the chance, sample these local products and take home palm or wooden handicrafts as a souvenir. In this way you will be helping this place to improve its quality of life without having to abandon its traditions.

The Masca Ravine

<u>ن</u> 6'





The Masca Ravine holds much more than beauty

The narrow canyon, relentlessly carved out by water as it flows to the sea, attracts hundreds of visitors every day. The majesty of the place should not distract you from discovering the small treasures it holds. If you have the chance to visit it, keep all your senses alive to discover Masca in all its glory.



Its legacy is a combination of its geology, with an array of colours and shapes created by the action of time on volcanic materials, the diversity of life that inhabits it, with unique plants and animals, and the traces that you will find of human uses over the centuries, that were maintained until only a few decades ago.

But despite its rugged appearance, the ravine is a very fragile place. The interest it arouses for visitors must not jeopardise its conservation. For this reason, a management system has been established to ensure that it can be enjoyed while preserving its values and guaranteeing the safety of those who visit it. By following rules that appeal to your common sense, such as removing all your waste, not leaving the marked path, not damaging the plant life or disturbing the fauna by making noise, you will contribute to the conservation of this space.

The following pages contain a brief overview of some of the reasons that make the Masca Ravine unique in the world.





Water allows us to peer into the earth's interior

It may seem incredible that something apparently as insubstantial as water has, merely by trickling over the rock surface, managed to carve out this deep ravine. It is not unusual for water to carve out valleys – it happens all over the planet – but in Masca it has done so through layers of hard basalt.

After the formation of the Teno massif, this chisel of water has had five million years to sculpt the rock. Sometimes quietly and slowly, sometimes impetuously. The climate in the Canary Islands has not always been as it is today. For example, about 4 million years ago it was characterised by frequent torrential rains that left the deepest marks on the ravine. But even today, after a heavy downpour, it is possible to see changes in a short time: materials tumble from the rock face and even the large stones in the riverbed are displaced. Every year the sculptor adds new touches to this masterpiece.

5

The gash that the water has carved into the massif allows us to see the successive layers of materials that formed it. At the top, the most recent, the last materials to be ejected; and the deeper we go, the further back in time.

Between these layers, there are prominent reddish layers called almagres. These are formed when solidified lava has lain on the ground for so long that it has been weathered into fertile soil and colonised by life. When it is covered by a new lava flow, it is heated intensely and becomes reddish and compact through a process called rubefaction. These layers then become impermeable, as when ceramics are fired in a kiln. This is why the almagres are so important. They act as layers that prevent the rainwater from filtering further into the ground; the water flows over them until it eventually emerges in the form of springs or headwaters.

On the walls of the ravine we can also see that the horizontal layers are intersected perpendicularly by hundreds of vertical lines, like long walls pointing to the sky. These are dykes. To form the upper layers, the magma had to break through the already formed layers, creating huge cracks. After each eruption, the cracks were filled by material that failed to reach the surface, which cooled very slowly and became extremely hard. Because they are so hard, these dykes are more resistant to erosion than the surrounding materials, and thus stand out against the surrounding rock.

In the deepest reaches of the ravine, water has carved it to such a depth – in other words, so far back in time – that we can see the first layers of the newly formed island that emerged from the sea more than 7 million years ago.





The Masca Ravine is a showcase of Teno's biodiversity

The ravine trail gives us a glimpse into part of the diversity of Teno. From the white broom (*Retama rho-dorhizoides*) and the Canary Island date palms (*Phoenix canariensis*) that grow between the houses and terraces of Masca village, you will then enter the ecosystem of the bed of the ravine, before reaching the zone nearest the sea, where the conditions for life are very different.

On this island, there are not many permanent watercourses. Masca is one of the few ravines that holds a small stream for most of the year. It is an oasis of life. Along the bed of the ravine, species that cannot live without freshwater take refuge. The willow (*Salix canariensis*) is one of the few deciduous trees of the Canary Islands and it forms a corridor of trees that line the stream. Sometimes their branches have a ghostly appearance, due to the webs made by the caterpillars of an endemic moth, the arañuelo (*Yponomeuta gigas*). At the pools

of water, it is common to see dragonflies hovering and many species of birds that come to quench their thirst, such as the grey wagtail, known locally as alpispa (*Motacilla cinerea canariensis*), which is always found close to watercourses.

However, life on the vertical walls is much more challenging. The dragon trees (*Dracaena draco*) may be the most striking plants, but other species such as bejeques (*Aeonium* spp.) or col de risco (*Crambe strigosa*) also perform remarkable balancing acts.

As we near the coast, plants that are more adapted to hot conditions, low rainfall and high salinity take over. Bitter tabaiba (*Euphorbia lamarckii*), verode (*Kleinia neriifolia*) and incienso (*Artemisia thuscula*) are some examples. It is more difficult to spot the few specimens of species that are unique to the area, such as siempreviva de Masca, known in English as Perez's sea lavender (*Limonium perezii*) or corazoncillo de Masca (*Lotus mascaensis*). The elusive Masca spider (*Pholcus mascaensis*) also thrives among these plants.

The coastal cliffs are the refuge of the Tenerife speckled lizard (*Gallotia intermedia*), a species found only on Tenerife and one of our great treasures. Larger than the more common Tenerife lizard, it has only managed to survive in small enclaves on the cliffs of Los Gigantes and Guaza. Three or four pairs of ospreys, known in the Canary Islands as guincho (*Pandion haliaetus*), also nest on this coast.

The Masca ravine, the cliffs of Los Gigantes, and the marine strip that surrounds them are practically the final refuge for unique species. This brings added value to the spectacular scenery of the trail, but it also brings with it a special responsibility: we must do all we can to protect them and to allow them to coexist with our species.



The inhabited ravine

Although today we visit it for its beauty, until a few decades ago the Masca ravine was regularly transited for other reasons. The people of this tiny village had little time for leisure and contemplation, but they ventured out on its paths to obtain vital resources.

All along the ravine there are traces of past uses, many of them related to the plentiful water supply: small patches for growing yams – edible tubers that need moist soil to grow – some fig trees, water collection points and remarkable channels built into the ravine walls to transport this essential resource to other places.

Cane (*Arundo donax*) is a species that was introduced to the Canary Islands to be used for various purposes because of the speed at which it grows and the flexibility and strength of its stems. It was planted in the beds of ravines and cut regularly. Today it is no longer used and has become an extremely aggressive invasive species

that needs to be controlled to prevent it from encroaching on the habitat of willows and other native riverbank plants. Another invasive species that arrived only a few decades ago but has spread rapidly throughout the island is crimson fountaingrass (*Pennisetum setaceum*), which requires urgent measures to curb its propagation in the ravine.

Near the mouth of the ravine, there is a cave that has served as a refuge since time immemorial and, when you reach the shore, the old jetty that still resists the onslaught of the sea. The original purpose of this small structure was not to ferry tourists back and forth, but to trade agricultural products from Masca for fish, wood, and other goods from other villages.

The fact is, before the road was built, walking down the 5 kilometres of ravine was not a bad option if you wanted to get to other parts of the island. The route taken today mainly follows the course of a traditional old trail that has been trodden by people for centuries.

Today, the ravine is still used, albeit temporarily, by the hundreds of people who walk through it every day. In addition to the spectacular trail, we must also stress its invaluable natural and ethnographic heritage. The Masca ravine is a place to be admired, but it also needs us to make a commitment to its conservation.





PARQUE RURAL DE TENO

