

GEOLOGY

Throughout the history of the Earth, and as a result of the different geological processes, some changes have appeared in the sea level that have located our area both, above and under this level repeatedly. The evidence of this phenomenon is given by the different materials that we come across.

The prevailing rocks in the Geopark are the limestones and marls deposited during the Upper-Cretaceous, about 90 million years ago, characteristic of a maritime environment.

The forces of the Earth and the water have shaped these rocks over the time originating two distinctive types of relief: the HANGING WALL SYNCLINES or LORAS, formed out of great rock folds: Peña Ulaña, Peña Amaya, Peña Castro; and the karst, formed by erosion and dissolution: Los Aceites Pit, Manapites Spring and Yeguamea Waterfall.

FLORA

Vegetation varies depending on the type of soil and the altitude. In lower zones with acidic soils on a basis of siliceous materials (sand and clay) and mild weather conditions, there is a type of oak, locally known as rebollo (*Quercus pirenaica*). Near the riverbeds and streams the outstanding trees are the willows, poplars and ashes.

In upper levels, on the limestones and marls with basic soils, the predominant oak is the quejigo (*Quercus faginea*). In the moors we can see gorse, heather, bearberry and lavender. It is not difficult to see some specimens of rock vegetation such as *Rhamnus pumila*, on the very edges of the cliffs.

Up to 37 species of orchids can be seen in the whole Geopark. That is one third of all the species found in the Peninsula.

Finally, the upper areas, with poor soil and harsh climatic conditions, are the realm of the oak holms (*Quercus ilex*).



The natural area of the sources of the Odra is located in the northeast of Burgos Province, in the very heart of the Geopark Las Loras. Its beauty lies in the peculiar shapes that water and other Earth's forces have been carving in the limestone rock deposited in a marine environment millions of years ago.



DIFFICULTY: Low

RECOMMENDED SEASON: Late winter and early spring, when the water is more abundant due to ice melting.

HOW TO GET THERE: The route starts in the village of FUEN-TEODRA (Humada municipality). Road BU-V-6214, 23 kms from Villadiego, 68 kms from Burgos and 30 kms from Aguilar de Campoo.



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YEGUAMEA WATERFALL AND MANAPITES SPRING

1— Our route starts at Fuenteodra Church, named after the nearby source of the River Odra.

At this point we can see a variety of materials (sand, conglomerate and clay), deposited around 110 million years ago in a continental bioclimatic region and a fluvial-lacustrine environment.

2—At the beginning of Late Cretaceous, 95 million years ago, sea level rises, which is evidenced in a change of materials. Now we can see limestones formed out of oceanic mud with remains of the activity held by dwelling organisms.

3— When the sea withdraws and materials fold and erode due to geological activity, we find inclined platforms called “structural slopes”.

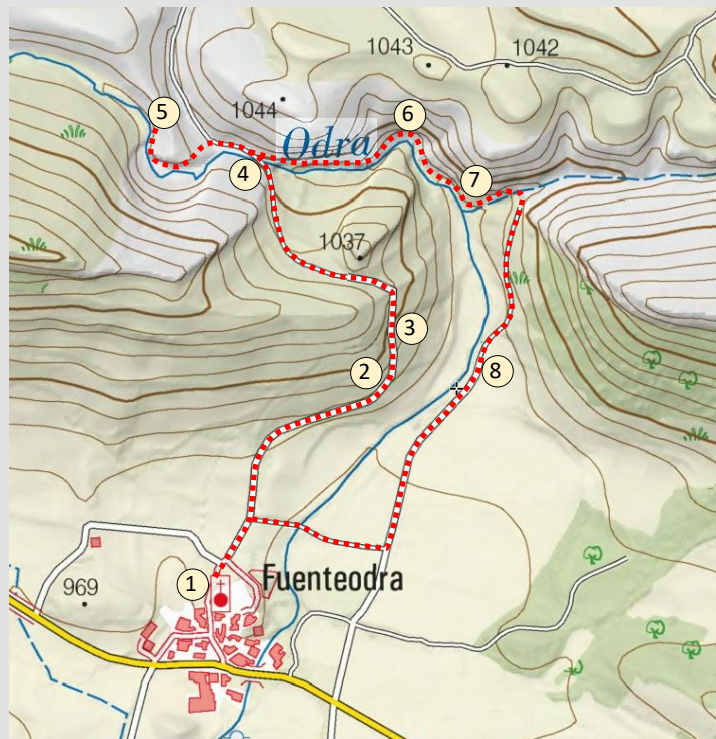
From this spot we can see Yeguamea waterfall.



4 - LOS ACEITES PIT

Water moulds the rock on its way, and before falling into the hole, it has dug an incipient canyon in the hard limestone.

As a curious fact we can point out that the filtered water accumulated in the rifts of the whole Geopark is over 10 billion m³, which is more than the capacity of all the reservoirs located in the Duero basin, among the most important ones in the Iberian Peninsula.



5 - CORRAL PIT

On the surface we can see grooves shaped by limestone dissolution, called locally “lapiaz” or “lenar”, as well as rock flora.

All along the path we can appreciate rudist fossils. Rudists were cone-shaped bivalves which used to live in warm shallow seas making up structures similar to the present day coral reefs.

They became extinguished dramatically at the end of the Cretaceous, some 66 million years ago.



6 - MANAPITES SPRING AND LA OLLA PIT

This spot has been given this name, Manapites, after the water which bubbles out with such a strength that it permanently moves the pebbles inside and polishes them. On its way down, the stream falls onto the nearby La Olla Pit.



7 - YEGUAMEA WATERFALL

In the snow melting season or just after a period of heavy rains, the filtered water collected by the limestone plateau finds its way to the outside making up this waterfall. Two more minor sprouts emerge on both sides. They are called Los Potrillos (the foals).

8 - On the way back we can admire three of the most important loras (tablelands) of the Geopark: to the left, Peña Ulaña and to the right Peña Amaya and Peña Castro with the view of the church of Fuenteodra lying between them.

