



United Nations
Educational, Scientific and
Cultural Organization



Lesvos Island
UNESCO
Global Geopark

Nissiopi

Marine Petrified Forest Park



NISSIOPI MARINE PETRIFIED FOREST PARK

A large expanse of the bay of Sigri as well as the Nissiopei islet are part of the protected area of the Lesvos Petrified Forest, which includes fascinating concentrations of 18 million year old petrified trees found along the seashore and on the seabed.

The Petrified Forest has been declared a monument of nature while a large part of the western peninsula is part of the European ecological network Natura 2000 because of its uniqueness and ecological value. The wider area of the Bay of Sigri is also protected under the Barcelona Convention given its special environmental, geological and ecological value.

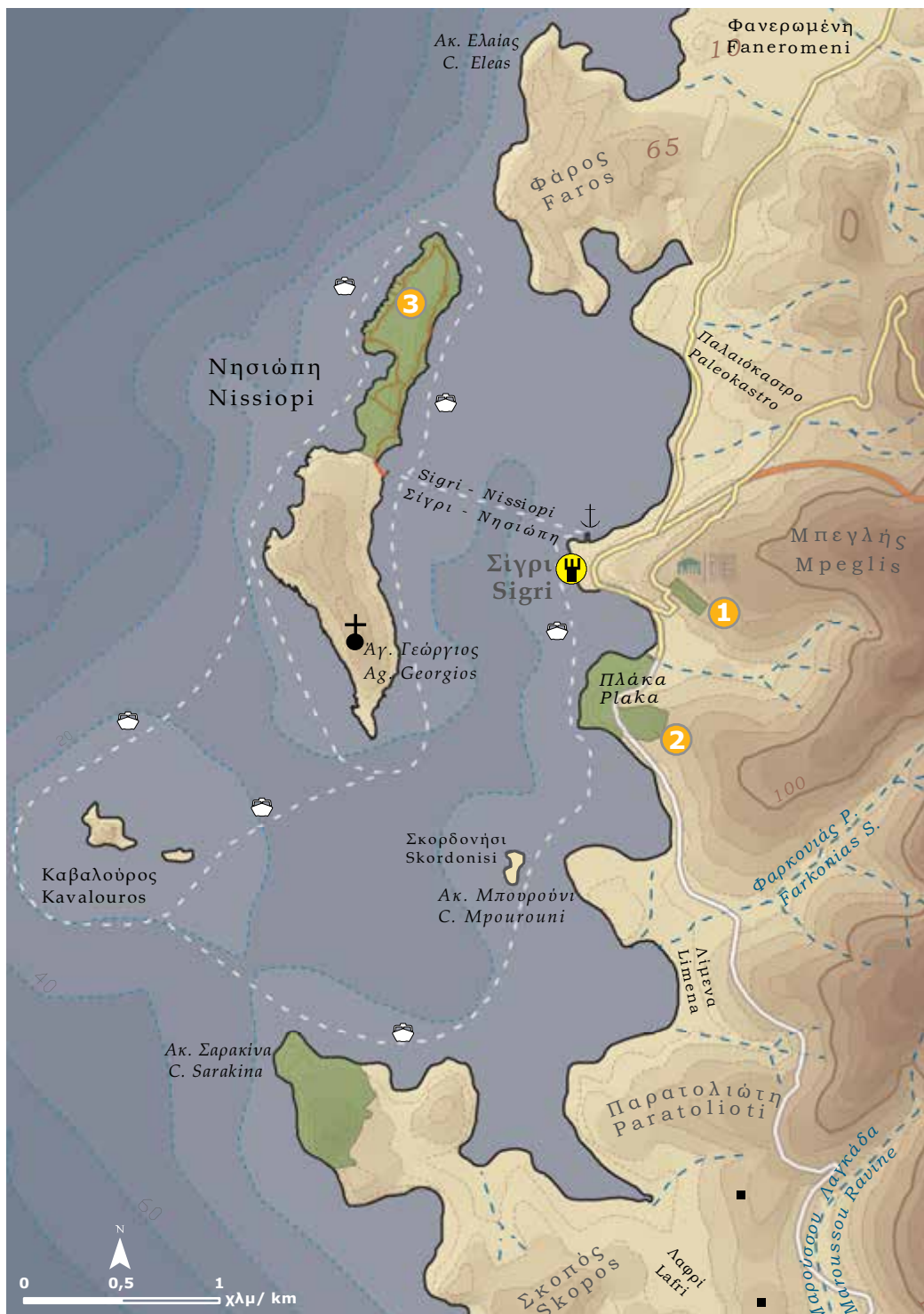
Thus the Natural History Museum of the Lesvos Petrified Forest has created the first fossil marine park in Greece in Sigri. The creation of this new marine park of the Nissiopei Petrified Forest is part of the project entitled "Promotion and development of the Nissiopei islet Petrified Forest" of the NSRF 2007-2013 - ROP Crete and Aegean islands program.

Visitors to the park can tour the sea area around the Nissiopei islet with a special glass bottomed boat and learn about important fossil sites on the seabed and along the coast.

While touring, visitors can view the seagrass meadows of the benthic flora and fauna through the boat's glass bottom. They can also observe spectacular volcanic, tectonic and coastal geotopes.

Guided tours on the islet of Nissiopei permit visitors to access 44 fossil sites featuring 20 million year old petrified tree trunks of fruit trees and conifers via a network of trails. The fossil cove on the west coast is fascinating as well as the impressive 17.20 meter long giant Sequoia tree trunk which was recently excavated. Besides the dozens of impressive fossil sites of upright and downed trees, visitors will also encounter the flora and fauna of the island with its 62 species of birds, mammals and invertebrates in the midst of intriguing volcanic, tectonic and coastal landforms.





SEA TOUR AROUND THE BAY OF SIGRI AND THE NISSIOPI ISLET

The Nissiopi Park offers visitors to western Lesvos a unique experience: a tour of the little-known marine section of the Lesvos Petrified Forest.

The Natural History Museum of the Lesvos Petrified Forest's specially made glass bottom boat offers visitors a chance to tour the Bay of Sigri as well as the islets of Nissiopi, Kavalouros and Faness, in addition to the coastal landscapes generated by volcanic activity and sculpted over the years the waves of the Aegean Sea.

The tour with the specially adapted boat called “Nissiopi” starts out from the Sigri harbour once the information presentation at the Natural History Museum of the Lesvos Petrified Forest has been completed by visitors.

The sea tour makes it possible for visitors to experience an undersea world with its dramatic volcanic seascape of corals, ravines, and enigmatic geomorphs which have resulted from the intense geotectonic processes, changing sea levels, and coastal hydrodynamics that have shaped the landscape of the region.

Visitors can also observe impressive tree fossils on the shore and in the sea, modern witnesses of ancient ecosystems and the dramatic changes in the of the Aegean terrain over the last 20 million years, as well as the rich benthic life of the current marine ecosystem that includes impressive Neptune grass meadows (*Posidonia oceanica*) which are natural fish breeding-grounds in the Aegean.

Available sea tour options:

- A tour of the Nissiopi islet and a tour of the inner part of the bay of Sigri.
- A tour of the protected area of the bay of Sigri, which includes the islets of Kavalouros and Faness, the Sarakina peninsula, the coastal part of the Plaka Park and coastline of Sigri in addition to the Nissiopi islet tour.



The sea route around the Nisiopi islet offers to its visitors an exciting view of the dramatic volcanic coastal landscape and the underwater terrain, with reefs, coves and enigmatic landforms, the result of geotectonic processes, changes in sea level and coastal hydrodynamics that shaped the landscape of the islet. Coastal caves, sea arches, fossiliferous horizons and honeycomb weathering structures captivate the gaze and excite the imagination.





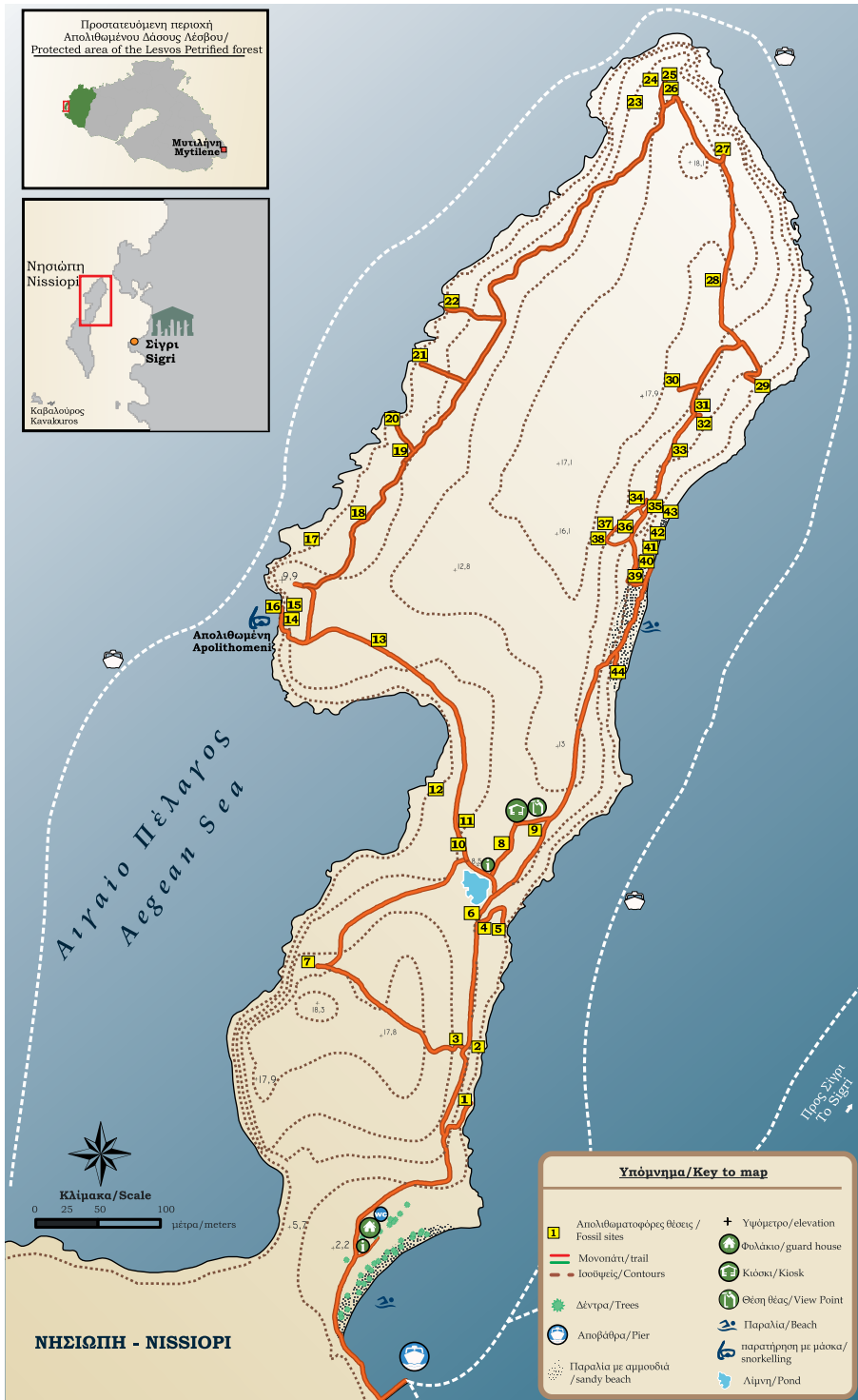


A rich flora and fauna that includes more than 100 different plant species, 3 species of mammals, 3 species of reptiles and 65 species of birds has been recorded in Nissiopi.

Of particular interest is the presence of the Lily of the Sea (*Parcratium maritimum*) and birds such as the Falcon, Ruddy Shelduck, Eurasian Stone-Curlew, Lesser Kestrel and a large colony of common gulls (*Caspian gull*).

The rich benthic flora and fauna features abundant seagrass meadows, as well as the presence of important types of biological communities such as coral and "forests" of the brown alga *Cystoseira*. All coexist harmoniously with petrified tree trunks that for millions of years remain at the bottom of today's sea, around the island of Nisiopi.





FOSSIL SITES

At the Nissiopi Park, 44 fossil sites have been excavated and are accessible to visitors along a 4 km long network of trails.

The map of Nissiopi's northern section shows the 44 fossil sites, the small visitor information center as well as the viewpoints and rest points with their wooden benches.

The excavations have uncovered a total of 250 fossils embedded within three different successive horizons of pyroclastic materials mainly of volcanic as hand volcanic pebbles-breccia layers.

Many petrified logs are still standing in their natural growth positions along with fossilized root systems. Visitors can also view downed petrified trunks, which were trapped in volcanic material mud flows, as well as many fragments of tree trunks, branches, twigs and some leaf horizons.

Most of the conifer findings belong to the Pinaceae and Taxodiaceae (Cupressaceae) families. There are also many angiosperms (fruit) trees such as oak, walnut, laurel, cinnamon trees and palm trees.

The richest fossil site of the Nissiopi Park (No. 14-16), is Fossil Cove which is the focal point of the protected area of the Petrified Forest. Hundreds of colorful fragments of fossilized trees are scattered all along the coast, as well as in the sea. Even the walls of the steep cliffs contain fossils embedded in layers of volcanic ash, cobbles and breccia. These layers were created by pyroclastic materials deposited by successive volcanic eruptions.

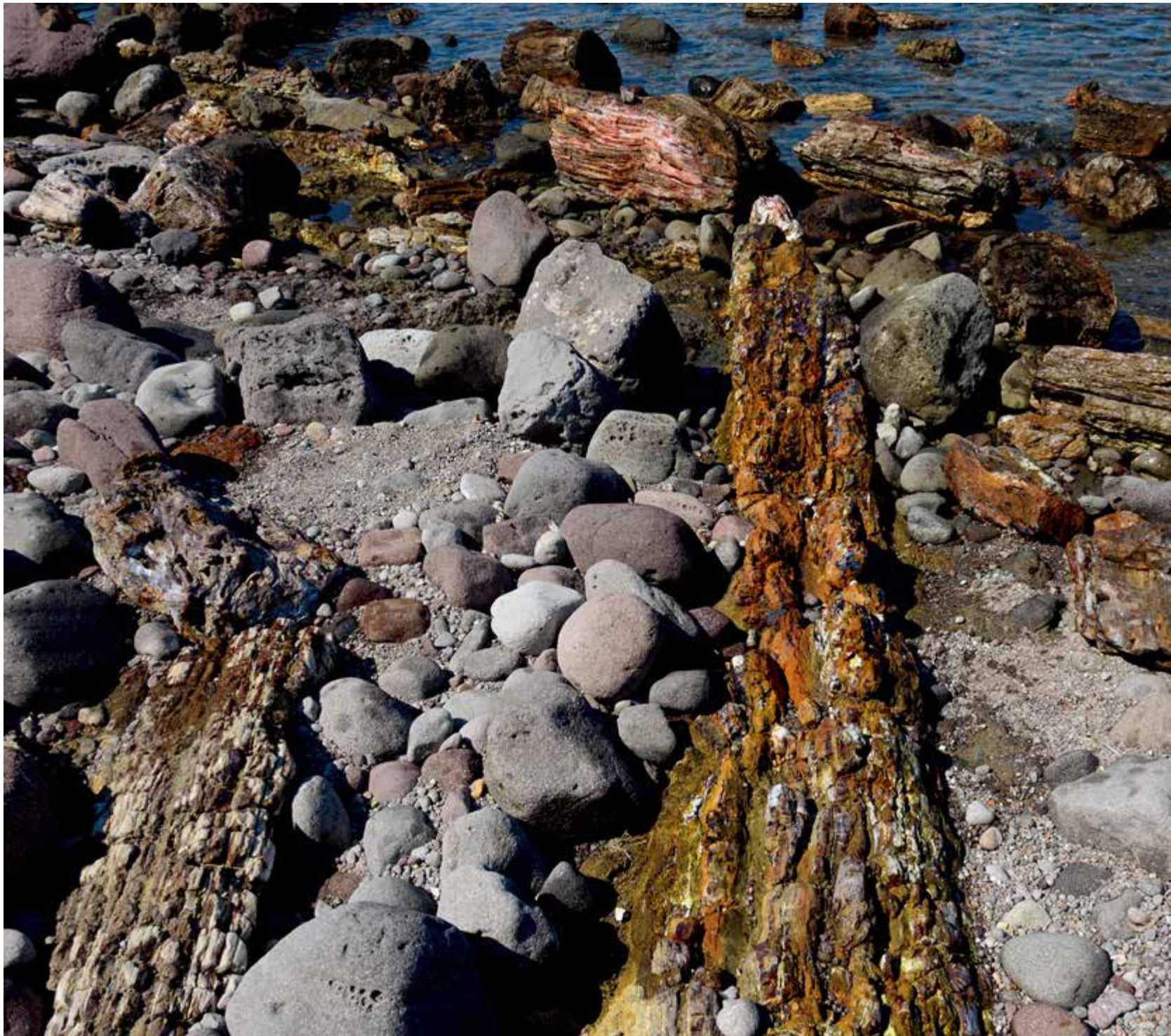




Fossil Cove hosts hundreds of colorful fragments of fossilized conifer tree trunks and angiosperms, large downed trunks as well as parts of uprights trunks standing among volcanic bombs which are strewn all along the coast and in the sea as well. Tree fossils can even be observed embedded in the vertical walls of the steep cliffs among the layers of volcanic ash, cobbles and breccia.

These layers were created by successive volcanic eruptions which deposited pyroclastic materials in successive layers.

Even the walls of the steep cliffs contain fossils embedded in layers of volcanic ash, cobbles and breccia. These layers were created by pyroclastic materials deposited by successive volcanic eruptions.





FOSSILS ON THE EASTERN COASTLINE

On the eastern shores of Nissiopi, part of a conifer forest has been discovered under successive horizons of pyroclastic rocks. Closely standing coniferous trunks and large root systems bear witness to the density of this Miocene subtropical forest.

The trees were suddenly blanketed in volcanic ash causing their fossilization and forming the purple shaded horizon of pyroclastic material found all along the coast. The fossil-bearing horizon is interrupted by faults generated during the most recent geological period when Nissiopi was separated from Lesbos.





PROMOTION, PROTECTION AND MAINTENANCE

An extensive program of promotion, preservation and protection of the petrified Nissipi trees was implemented from 2013-2015. Dozens of petrified trunks were carefully excavated, stabilized and prepared for viewing, while damaged fossilized trees were reconstructed with hundreds of fossil fragments.

Mobile protective covers were also constructed to prevent damage to exposed fossil trunks, particularly during the winter months.

One of the more striking fossils is a downed conifer tree trunk, 15 meters length, belonging to the pine family. The trunk has been cut into two by a north-south fault which shaped the eastern coast of Nissipi. The smaller trunk segment was moved eastward at a lower elevation.







In excavation site no. 32 a total of 10 fossilized trunks were uncovered within horizons of cream-colored volcanic ash, 7 downed and 3 upright vividly colored trunks in excellent condition. The standing trunks lean to the west as do the downed trees, thus indicating the movement of pyroclastic materials from volcanic centers located to the east.

Excavation site no. 8 reveals a thin downed angiosperm trunk, with a length of 12.5 meters and a diameter of 40 cm, which was dragged along by volcanic mudflows until it was caught by the two standing coniferous tree trunks which are located next to it.

Excavation position no. 26 presents the lower part of a standing conifer tree with an impressive root system.





Excavation site no.6 captures the violence of the Miocene volcanic eruptions. Here we have a standing coniferous tree trunk from the pine family next to a large volcanic bomb which was shot up into the air from the volcano and fell out of the sky breaking off a large branch of the tree. The branch is still visible today trapped under the bomb.

Excavation site no. 18 hosts the largest petrified tree on Nissiopi. It is an impressive horizontal Sequoia trunk with a length 17.20 meters and a maximum diameter of 1.70 meters with a complete root system. This huge tree was uprooted by the violent eruptions and then engulfed by tremendous mudflows of pyroclastic materials.







The petrified logs are shaded in incredibly vivid colors, strongly contrasting with the background of gray volcanic ash.

The microscopic details of the petrified wood delight viewers with exquisite images.









NATURAL
HISTORY
MUSEUM
OF THE LESVOS
PETRIFIED FOREST

Natural History Museum of the Lesvos Petrified Forest Gr-81 103 Sigrí Lesvos Greece

T.- F. +30 22530 54434, +30 22510 47033 | **e-mail:** lesvospf@otenet.gr

www.lesvosmuseum.gr | www.petrifiedforest.gr | www.lesvosgeopark.gr



European Union
European Regional
Development Fund

Operational Programme
Crete and Aegean Islands 2007-2013



Co-financed by Greece and the European Union