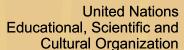


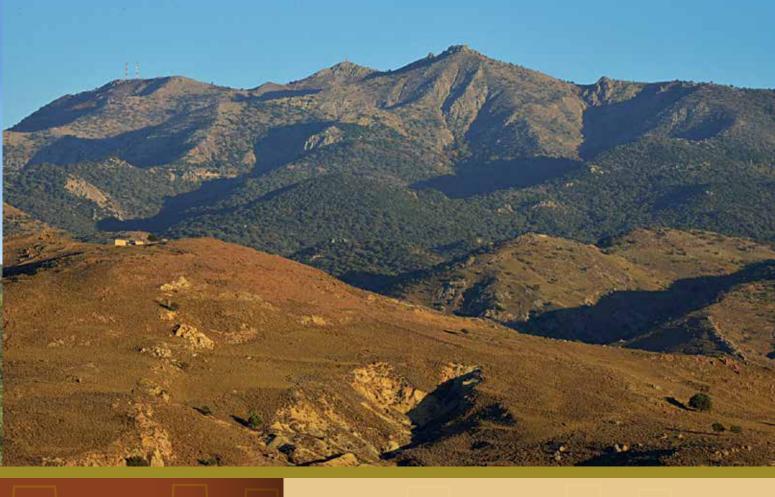
tions Lesvos Island

UNESCO

Global Geopark





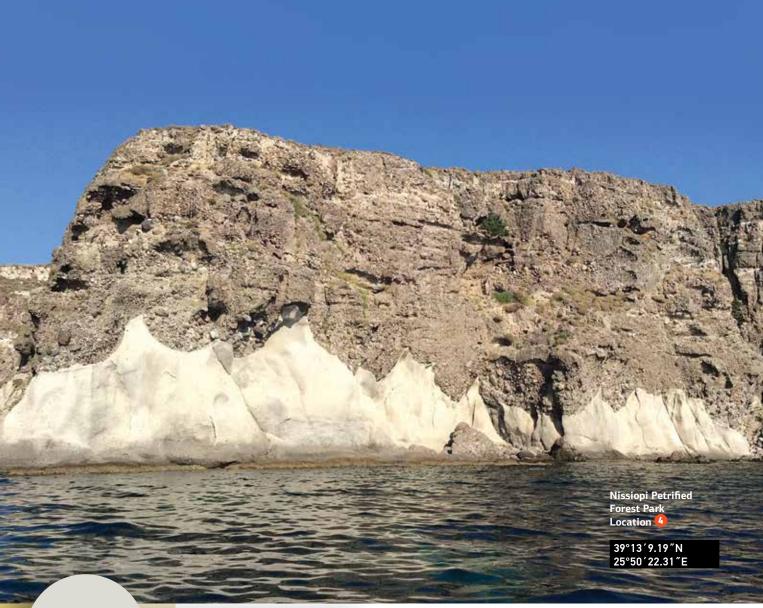












NATURAL HISTORY MUSEUM OF THE LESVOS PETRIFIED FOREST

Project Manager: Prof. Nikolaos Zouros Project team: N. Zouros, I. Valiakos, K. Mpentana, O. Tsalkitzi, V. Rozakis, M. Agiasoti, D. Mpatsios, V. Chatzimichail

> Publication Editors: Nikolaos Zouros, Konstantina Mpentana

Text: Nikolaos Zouros, Konstantina Mpentana, Ilias Valiakos, Katerina Vasileiadou

Maps: Apostolos Makaratzis, Vasilis Rozakis

Photographs: Dimitris Talianis, Kostas Skarlatos, Stamatis Giannakis, Makis Pavlellis, Michael Bakas, Natural History Museum of the Lesvos Petrified Forest, Dimitris Mpatsios, Nikolaos Zouros

Translation in English: Hannah Gaganis Layout: Christos Paraskevaidis

Pagination - Printing: Epikoinonia Aigaiou S.A.

www. lesvosgeopark.gr

Information: Mytilene Information Center 8th November 17, 811 31 Mytilene, Greece Tel. +30 .22510-47033

CONTENTS

THE GEOSITES OF THE LESVOS GEOPARK Fossil sites 12 Volcanic geosites 18 Geomorphological geosites 20 Hot springs 22 Waterfalls 23 Tectonic geosites 24 LESVOS MUSEUMS NETWORK 25 LOCAL THEMATIC MUSEUMS AND COLLECTIONS 27 ARCHAEOLOGICAL SITES 28 OUTDOOR ACTIVITIES Marine glass bottom boat tour - Nissiopi Marine Petrified Forest Park 30 UNESCO Global Geoparks in Greece 31	Welcome to LesvosLesvos as a UNESCO Global GeoparkIntroduction to the Lesvos Geopark	4
Volcanic geosites 18 Geomorphological geosites 20 Hot springs 22 Waterfalls 23 Tectonic geosites 24 LESVOS MUSEUMS NETWORK 25 LOCAL THEMATIC MUSEUMS AND COLLECTIONS 27 ARCHAEOLOGICAL SITES 28 OUTDOOR ACTIVITIES Marine glass bottom boat tour - Nissiopi Marine Petrified Forest Park 30	THE GEOSITES OF THE LESVOS GEOPARK	
Geomorphological geosites 20 Hot springs 22 Waterfalls 23 Tectonic geosites 24 LESVOS MUSEUMS NETWORK 25 LOCAL THEMATIC MUSEUMS AND COLLECTIONS 27 ARCHAEOLOGICAL SITES 28 OUTDOOR ACTIVITIES Marine glass bottom boat tour - Nissiopi Marine Petrified Forest Park 30	Fossil sites 1	2
Geomorphological geosites 20 Hot springs 22 Waterfalls 23 Tectonic geosites 24 LESVOS MUSEUMS NETWORK 25 LOCAL THEMATIC MUSEUMS AND COLLECTIONS 27 ARCHAEOLOGICAL SITES 28 OUTDOOR ACTIVITIES Marine glass bottom boat tour - Nissiopi Marine Petrified Forest Park 30	Volcanic geosites1	8
Waterfalls		
Waterfalls	Hot springs2	2
Tectonic geosites	Waterfalls2	3
LOCAL THEMATIC MUSEUMS AND COLLECTIONS		
ARCHAEOLOGICAL SITES	LESVOS MUSEUMS NETWORK2	:5
OUTDOOR ACTIVITIES Marine glass bottom boat tour – Nissiopi Marine Petrified Forest Park	LOCAL THEMATIC MUSEUMS AND COLLECTIONS	7
Marine glass bottom boat tour – Nissiopi Marine Petrified Forest Park	ARCHAEOLOGICAL SITES2	8
Marine glass bottom boat tour – Nissiopi Marine Petrified Forest Park	OUTDOOR ACTIVITIES	
Nissiopi Marine Petrified Forest Park		
		ın

Welcome to Lesvos



esvos Island has a particularly rich natural environment that has contributed decisively to the development, creation and evolution of societies that flourished over time in this area. The Lesvian nature has been an eternal inspiration to man, who has created here his art and culture.

geological monuments with international recognition, natural beauty, areas of ecological interest and important cultural monuments. All local natural and cultural characteristics that can be exploited through a local sustainable development scheme have contributed to the recognition of Lesvos as a UNESCO Global Geopark.



United Nations . Educational. Scientific and • UNESCO Cultural Organization • Global Geopark



Lesvos Island

The long geological history of Lesvos is reflected in its complex geological structure and the large number of geosites, such as volcanoes, hot springs, important fossiliferous sites, large geological faults, waterfalls, coastal landforms, which constitute signifi-Aegean area.

On the western peninsula of Lesvos, the dominating feature is the Lesvos Petrified Forest, a worldwide unique natural monument, which has been declared by the Greek State a «Protected Natural Monument» (with the Presidential Decree 443/1985).

Lesvos is also characterised by a rich biodiversity. Due to favourable soil and climatic conditions, it is covered by a very rich flora. With more than 1,400 species and subspecies of plants, the island could be described, without exaggeration, as a «Botanic Paradise»: aromatic-medicinal, ornamental and rare plants, trees and shrubs. The special ecological value of Lesvos is emphasized through the integration of many areas within the European ecological network «NATURA 2000». Three areas have been designated as

Special Areas of Conservation (Sites of Community Importance) and 6 areas as Birds Directive Sites (Special Protection Areas).

The natural environment, climatic conditions, fertile soils, hot springs, mineral resources have all created favourable conditions for the establishment of man on Les-The natural heritage of Lesvos includes vos since the Stone Age. In Lesvos one can find prehistoric and historic archaeological sites, medieval castles, Byzantine monasteries, traditional villages. The rich architectural heritage is associated with the use of local building materials, in their turn associated with the geological history and heritage.

> Lesvos is the birthplace of important personalities of literature and the arts, such as the ancient poets Sappho and Alkaios, the philosophers Theophrastus and Pittacus. the famous musician of the 7th century BC Terpandros, as well as of significant contemporary artists, such as the painter Georgios lakovidis and the Nobel laureate poet Odysseus Elytis.

The recognition of Lesvos as a UNESCO Global Geopark relies on the commitment of local authorities, scientific institutions and local communities in the ongoing efforts for conservation and promotion of the elements of the geological, natural and cultural heritage and their utilization within a context of a local sustainable development strategy, with thematic tourism and environmental education as its main pillars.

Lesvos offers its visitors the opportunity to experience and visit a network of geocant evidence of the geological history of the sites geo-monuments, the organised parks of the Petrified Forest, significant habitats, archaeological sites and monuments, which reveal the diachronic presence of humans on the island and their close link with the natural environment and resources. Lesvos also offers a network of important museums that cover a variety of subjects.

> The visitors can participate in a variety of agrotourism and ecotourism activities, original educational programs, sea- and agrotourism activities, cultural festivals and trekking in the unique natural environment where Aristotle and Theophrastus once stepped.

> The Natural History Museum of the Lesvos Petrified Forest coordinates the actions for the promotion of the geological heritage and geosites of Lesvos.

> > Let's discover them together...



"Green Routes"

on the geological

monuments of Lesvos

Guided tours

and cultural

United Nations : Lesvos Island UNESCO Global Geopark Educational, Scientific and Cultural Organization : Global Geopark a UNESCO Global Geopark



lished in June 2000 in Lesvos, by operators responsible for the management of areas with special geological heritage in 4 European countries: Reserve Géologique de Haute-Provence (France), Natural History Museum of the Lesvos Petrified Forest (Greece), Geopark Gerolstein - Vulkaneifel (Germany) and Maestrazgo Cultural Park (Spain). These bodies have decided to cooperate within a European network, sought and encouraged the participation in the network of areas from all over Europe, aiming to the protection, utilization and promotion of geological heritage through cooperation and exchange of good-practice and experience. Key objectives are the promotion of environmental education and of sustainable development of the Geoparks areas, through the development of activities that contribute to the establishment of thematic tourism. Network members are holders of the distinguishing sign "European Geopark", which has been

WHAT IS A UNESCO GLOBAL GEOPARK?

UNESCO Global Geoparks must be single, unified geographical areas where sites and landscapes of international geological significance are managed with a holistic concept of protection, education and sustainable development. A UNESCO Global Geopark must have a clearly defined border, be of adequate size to fulfil its functions and with geological heritage of international significance as independently verified by scientific professionals.

UNESCO Global Geoparks should use that heritage, in connection with all other aspects of that area's natural and cultural heritage, to promote awareness of key issues facing society in the context of the dynamic planet we all live on, in particular to increase knowledge and understanding of: geohazards; climate change; the need for the sustainable use of Earth's natural resources; and the empowerment of indigenous peoples.

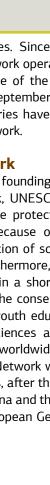
UNESCO Global Geoparks should actively involve local communities and indigenous peoples as key stakeholders in the Geopark. In partnership with local communities, a comanagement plan needs to be drafted and implemented that provides for the social and economic needs of local populations, protects the landscape in which they live and conserves their cultural identity.

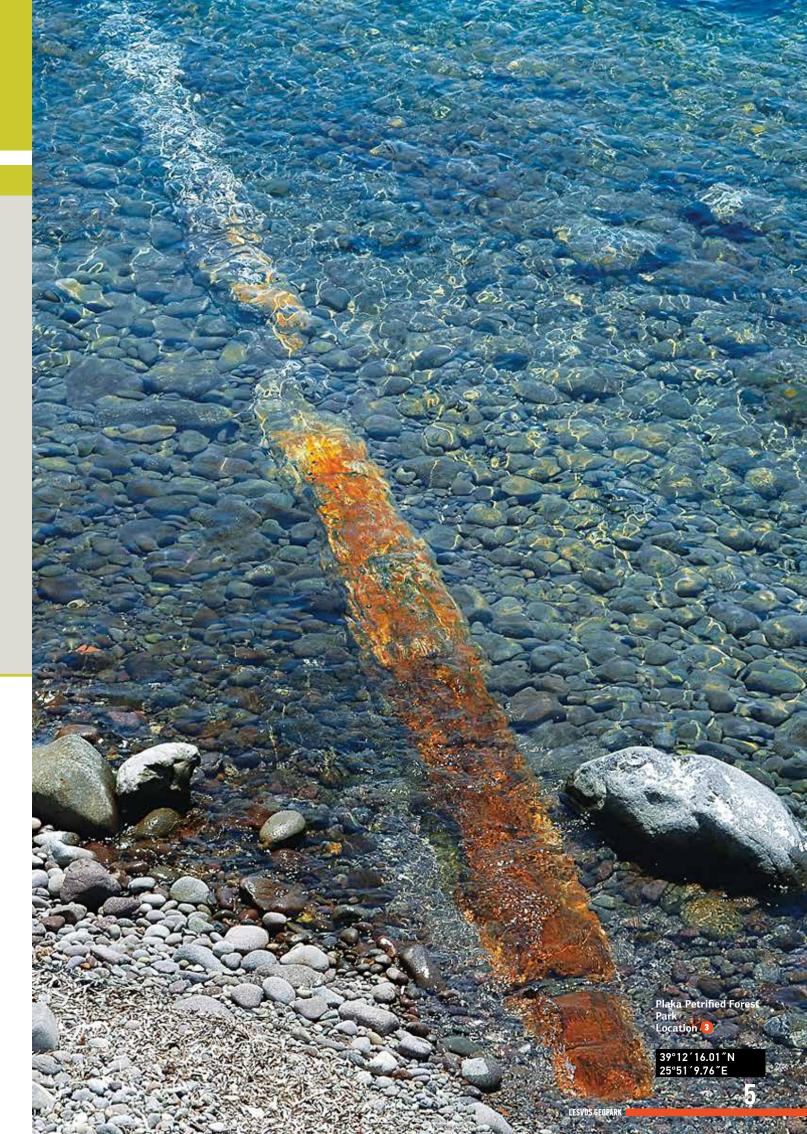
enshrined in all EU countries. Since 2015, the European Geoparks Network operates as a regional network in Europe of the Global Geoparks Network. As of September 2015, 69 members from 23 countries have joined the European Geoparks Network.

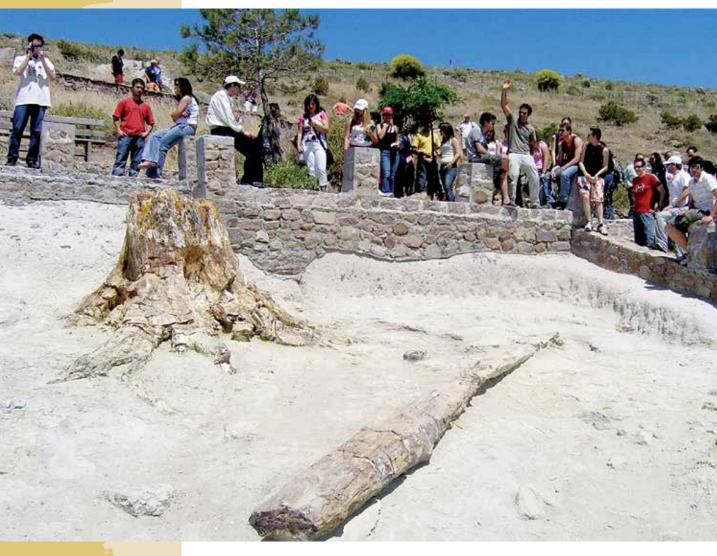
Global Geoparks Network

In 2004, four years after the founding of the European Geoparks Network, UNESCO proclaimed the necessity of the protection of geosites and landscapes because of their evident impact on the evolution of societies and human civilization. Furthermore, it acknowledged that Geoparks, in a short time, significantly contributed to the conservation of geological heritage, the youth education, the popularization of geosciences and the development of geotourism worldwide. As a result, the Global Geoparks Network was established, with first members, after thorough evaluation, 8 Geoparks in China and the up to then 17 members of the European Geoparks









Petrified Forest Park "Bali Alonia" Location 1

39° 12′31.09″N 25° 53′49 47″F Network (including the Lesvos Petrified Forest), owing to their high quality standards. In 2014, the conversion of the Global Geoparks Network to an international company was approved, on the model of the International Council of Museums ICOM, a state that allowed the convention with UNESCO for the operation of the International Programme UNESCO Global Geoparks. In September 2015, the members of the Global Geoparks Network amounted to 120 from 33 countries.

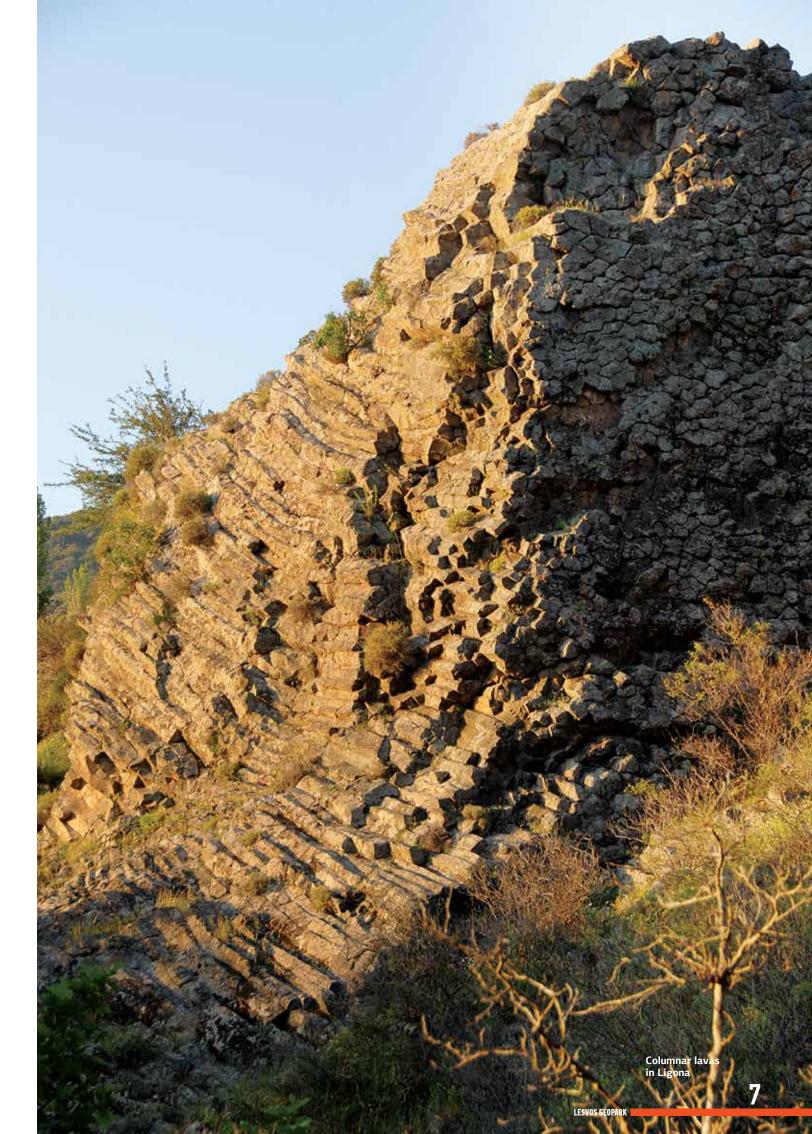
Recognition of Lesvos as a Global Geopark

The Municipal Council of Lesvos, in October 2011, approved the proposal to extend the limits of the up to then existing Lesvos Petrified Forest Geopark and the submission of an application for the inclusion of the entire Lesvos Island to the Global Geoparks Network. A Programmatic Agreement was subsequently signed among the Lesvos Municipality, the Aegean University and the Natural History Museum of the Lesvos Petrified Forest, on the establishment and operation of the «Lesvos Geopark». Under the Programme Contract, the application dossier of the Lesvos Geopark was drafted, which was sub-

mitted for assessment to the European and Global Geoparks Networks. In August 2012, experts from the Global Geoparks Network carried out the assessment of the Lesvos Geopark application and, on the 20th September 2012, approved the inclusion of the Lesvos Geopark to the Global Geoparks Network for the period 2013-2016.

UNESCO Global Geoparks

On November 17th 2015, the General Conference of UNESCO unanimously accepted the development of the new project of the agency for Geosciences and Geoparks (International Geosciences and Geoparks Program), according to which the recognition of areas as "UNESCO Global Geopark" is established. As a result, on the 70th anniversary of UNESCO and the 43rd anniversary of the Programme of World Heritage (World Heritage Sites), the new project establishes the identification of areas with elements of special geological heritage that enjoy international recognition, with the title "UNESCO Global Geopark". All regions that are members of the Global Geoparks Network have been included in the new program, including the Lesvos Geopark.

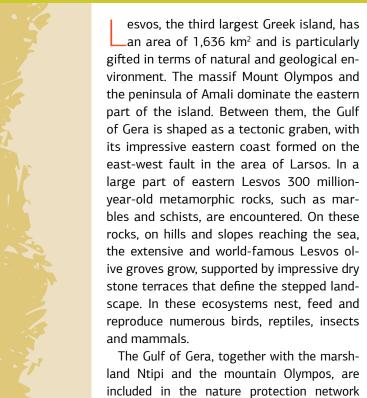




Lesvos Peony,

Peonia mascula

Introduction to the Lesvos Geopark



The Gulf of Gera, together with the marshland Ntipi and the mountain Olympos, are included in the nature protection network "NATURA 2000". The mountain of Olympos, a tectonic window, hosts ecosystems rare for an island, such as the chestnut forest of Agiassos and orchards with cherry, apple and pear trees.

East and north of the Kalloni Gulf, an extensive mature pine forest is developed, the

esvos, the third largest Greek island, has limits of which are almost identical to the area of 1,636 km² and is particularly area occupied by ophiolitic rocks that are ted in terms of natural and geological en-

vironment. The massif Mount Olympos and the peninsula of Amali dominate the eastern part of the island. Between them, the Gulf of Gera is shaped as a tectonic graben, with its impressive eastern coast formed on the east-west fault in the area of Larsos. In a large part of eastern Lesvos 300 millionyear-old metamorphic rocks, such as mar-

In the northern part of Lesvos Geopark impressive volcanic formations can be found. The area is dominated by Lepetymnos, the largest volcanic centre of Lesvos, and two large lava domes forming the hills of Profitis Ilias and Vigla. The traditional village Mythimna (Molyvos) and the castle are built on top of the Mythimna lava dome, formed during the last stage of the volcanic activity in the area 16.5 million years ago.

In the western part of the island, where the Lesvos Petrified Forest, a unique natural monument with worldwide recognition, is located, the climate conditions are much drier than in the rest of the island. The rocks here are volcanic and the topography is dominated by the mountain of Ordymnos, an impres-







Wetland of Kallonis' gulf. Avocet (Recurvirostra avosetta) (Photo M. Bakas)

sive lava dome. In the area, the spectacular and gigantic volcanic caldera of Vatoussa can also be found, inside which the villages of Vatoussa, Pterounta and Chidira are built.

The ecosystems in this part of the island are dominated by the typical Mediterranean garrigue shrublands, with low globular and thorny shrubs growing among the protruding rocks. Typical for this region are also the oak forests whose fruits were in the past tradable product and raw material for the leather industry, a key element of the economy of the island. This area has also been included in the network "NATURA 2000". At the same time, the area of the Petrified Forest belongs to the protected areas of the "NATURA 2000" network and is also protected through the Barcelona Convention and in accordance with the European Landscape Convention.

Lesvos is recognised as an ideal place for bird-watching in the Mediterranean (Steery 2004, Brooks 1998). This is due to several reasons, the main of which are its geographic location, size, geology and human activity. In Lesvos, because of its position in the Eastern Mediterranean, one can observe bird species from the continents of Europe, Asia and Africa. For some species, such as the Krüper's nuthatch (Sitta krueperi) and cinereous bunting (Emberiza cineracea), the western geographical distribution reaches Asia Minor and the only European land that offers habitat is the island of Lesvos. At the same time, the island lies on the broad "corridors" used

and from their wintering areas in Africa and Asia. In addition, Lesvos offers habitats as resorts during periods of heavy winter to Europe populations of bird species that do not migrate to other continents.

Lesvos is famous for its wide variety of local culinary products, including the olive oil that has been for centuries produced on the island, the flavoured ouzo, the famous oil cheese, sardines, traditional sweets etc. The uniqueness of flavours is strongly linked with the geological environment and the rocks on which the plants serving as raw materials are grown.

The geological heritage and natural environment of Lesvos are linked to the foundation of natural sciences by Aristotle and Theophrastus. Aristotle travelled in 347 BC to Lesvos and was fascinated by its wildlife, studied the animal variety around the Kalloni lagoon and walked on landscapes that inspired him in his pioneering work. Theophrastus, Aristotle's student and successor in the Lyceum, was born around 371 BC in Eressos of Lesvos. His name was Tyrtamos, but Aristotle renamed him Theophrastus to indicate the grace of his conversation (from Ancient Greek Θεός «god» and φράζειν «to phrase», i.e. divine expression). Theophrastus is considered as the founder of botany, ecology and mineralogy. He was the first scientist who noticed the existence of fossils and dedicated to them his dissertation "Περὶ τῶν λιθουμένων" (On Fossils), in which by European bird species as they migrate to he referred to the processes of fossilization.









THE GEOSITES OF THE LESVOS GEOPARK

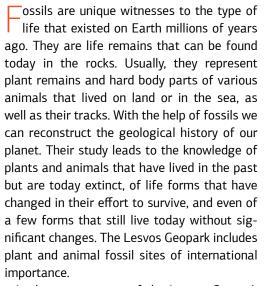


mpressive geosites dominate every corner of Fossil sites the Lesvos Geopark, where enigmatic structures Volcanic geosites create unforgettable scenes, where even the most

Geomorphological geosites humble rock can narrate a story. The Lesvos geo- ■ Hot springs sites, based on internationally recognized criteria, are introduced in the following categories:

- **■** Tectonic geosites

Fossil sites



In the western part of the Lesvos Geopark dominates the Lesvos Petrified Forest, one of the finest and rarest monuments of our geological heritage worldwide and the most important geological monument of the Lesvos Geopark. It was created about 20 million years

What are geosites

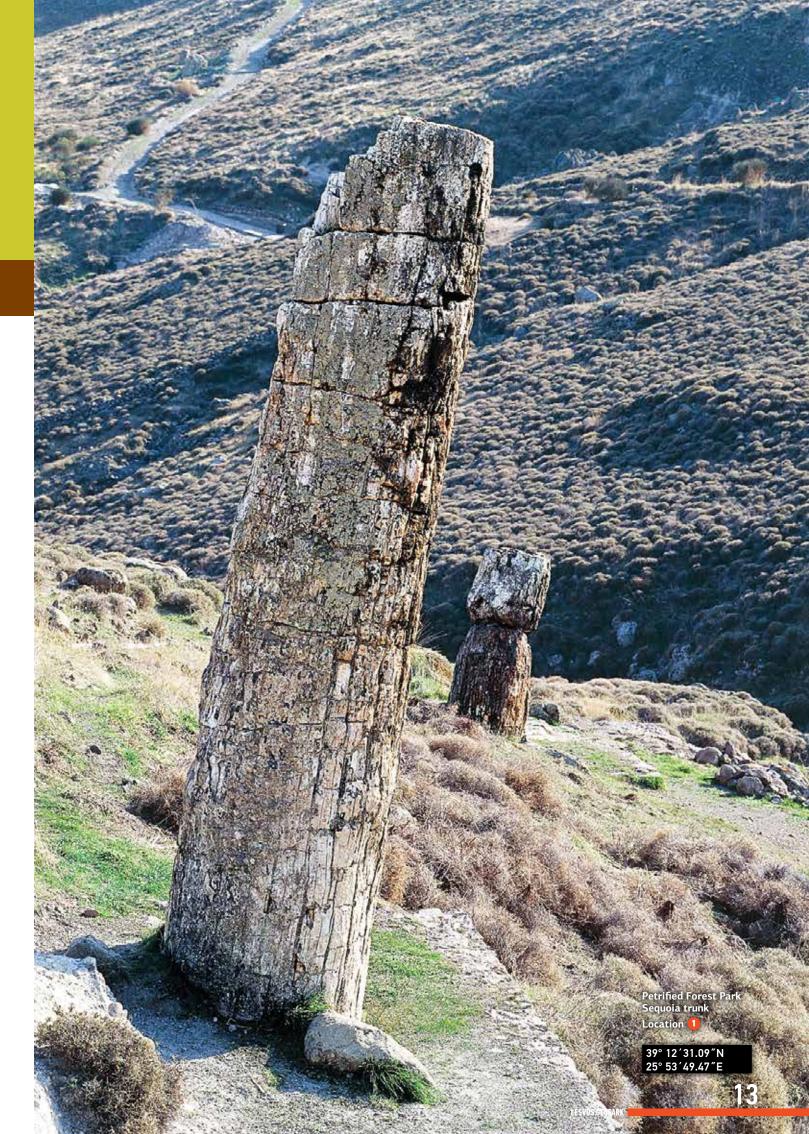
A location is designated as a "Geosite" if it represents a typical example of a step of the evolution of the Earth or a geodynamic process through which the planet surface changes. The term "Geosite" is used to describe outstanding, unique or representative sites of monumental character that can be highlighted because of their particular scientific, ecological or aesthetic value. Geosites can record the geological history of each area and therefore have an exceptional significance. Locations hosting Geosites have been subject to studies and special management during the past few years. The Lesvos Geopark contains geosites of unique value, important evidence of earth's history, which deserve to be preserved for scientific, research, teaching, educational, cultural, ecological, aesthetic and development purposes.

ago, when volcanic material covered and petrified the forest which was back then covering the area. The Greek State, recognizing the great environmental, geological and palaeontological value of the Lesvos Petrified Forest, proceeded to its recognition as a "Natural Monument" (Presidential Decree 443/1985).

The protected region of the Lesvos Petrified Forest has its own characteristic bio-diversity and is a unique place where the geological evolution of the Aegean area during the past 300 million years has been recorded, in elements that make it unique worldwide.

The findings in the Petrified Forest reveal that the area was covered by mixed forests with both coniferous and flowering trees, an indication that the flora of the region had evolved considerably. Conifers are represented by genera of the families Taxodiaceae, Protopinaceae, Pinaceae and Cupressaceae. Several of the revealed fossils have been identified as parts of angiosperm trees, such as cinnamon trees, laurel, poplar, walnut, beech, alder, maple, oak, etc. Of particular importance are the fossil findings belonging to palms, since they constitute rare reports of fossil palms. The composition of the fossilized flora shows that the Lesvos Petrified Forest developed in a subtropical climate. The native nature of the Petrified Forest is one of its most important features, and can be supported by the presence of many petrified trees in their natural upstanding position.

In the area of Gavathas, in 1999, a fossil lower jaw with ten teeth and the bone fragments binding it to the skull of the animal was identified as belonging to the primitive proboscidean species Prodeinotherium bavaricum. The fossil shows that this animal was one of the residents of the subtropical forest that existed in Lesvos in the past. It is one of the oldest fossils of land vertebrate animals in Greece and the oldest fossil of the deinoth-





Nissiopi Petrified Forest Park Under-water fossil trunk Location (

39° 13′9.19″N 25° 50′22.31″E ere family and one of the oldest proboscidean fossils in Europe. At the same time, it demonstrates the migration of deinotheres, about 19 million years ago, from their place of origin, Africa, to Europe via the Aegean area, which at that time was a single land area united with

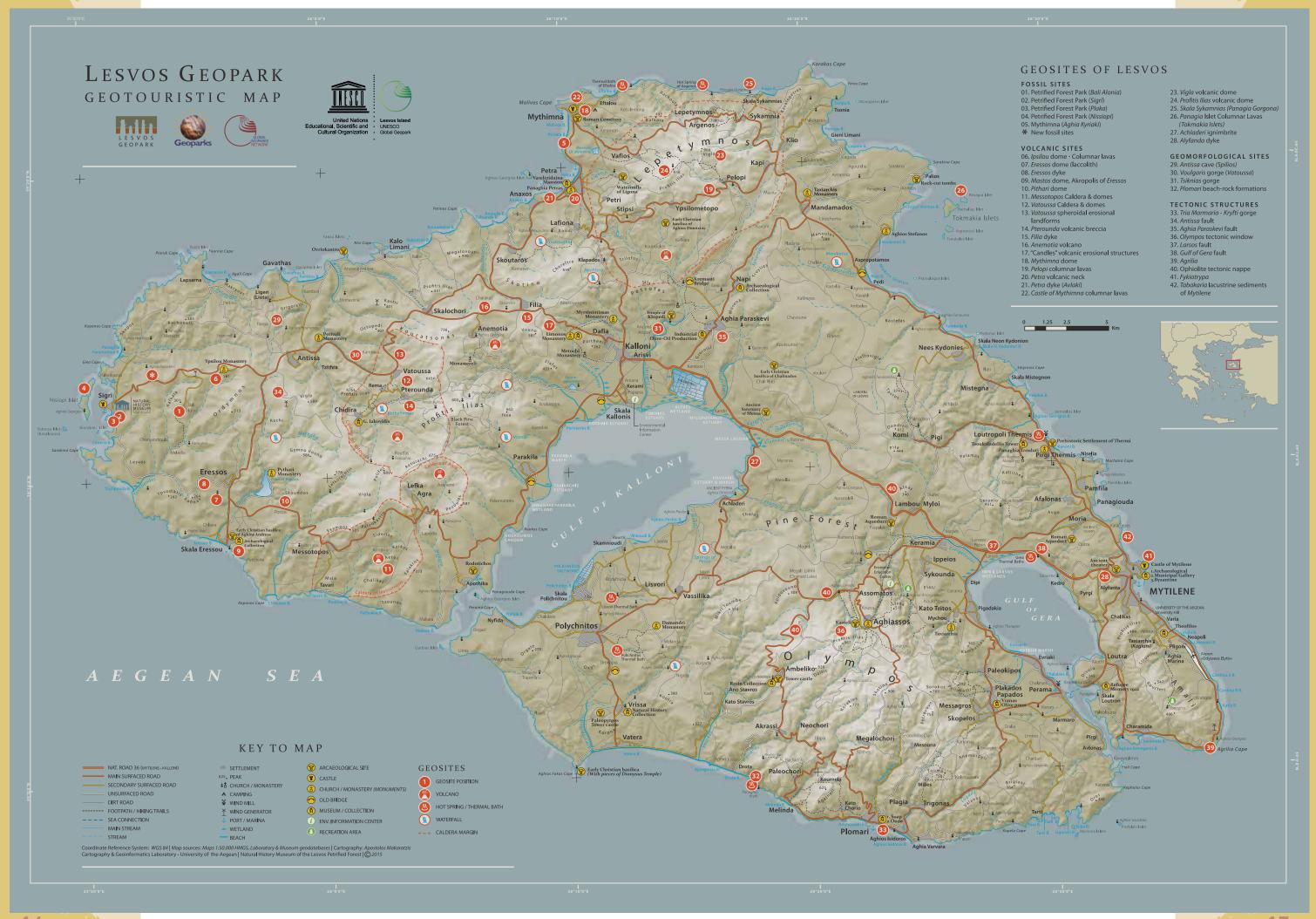
Near Lapsarna, in a thin layer of sediment, a rich fossil fauna has been discovered. It includes shells of lacustrine and terrestrial gastropods, loose pharyngeal teeth and otoliths of lake fish (such as chub and barbel), isolated remains of small amphibians and reptiles, teeth of alligators and small mammals (bats, hedgehogs, moles, shrews, hamsters and dormice). The 19-million-year-old terrestrial fauna is one of the oldest in Greece.

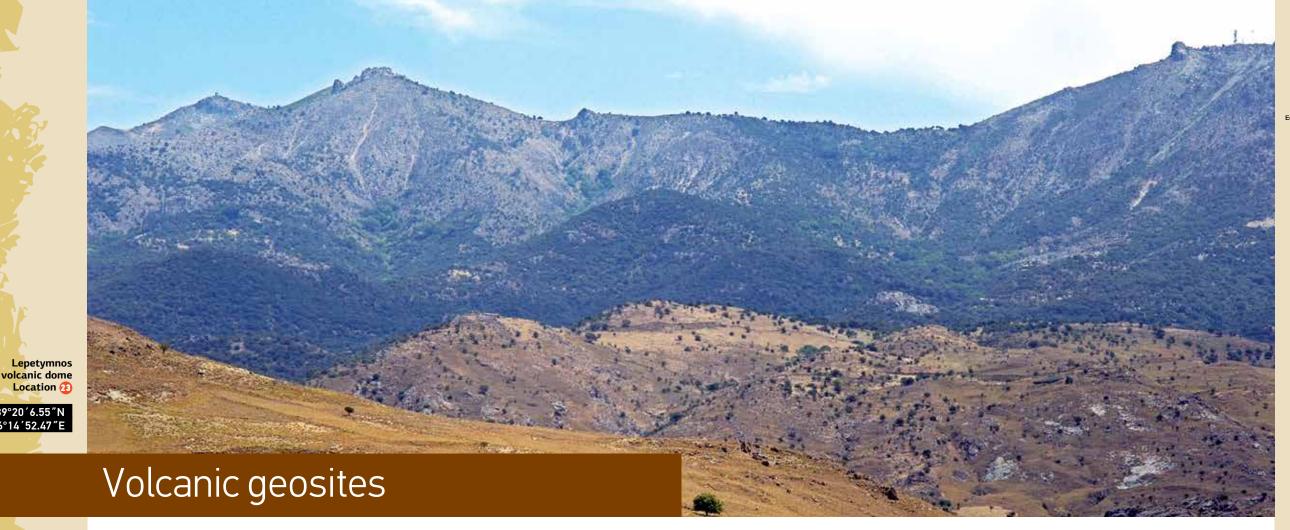
In the area of Vatera, fossils of vertebrate animals that lived in Lesvos 2 million years ago have been found. The fossil fauna includes primitive forms of vertebrate animals that lived at that time in both Europe and Asia, such as horses (of the genus Equus), short-necked giraffes (genus Mitilanotherium), gazelles (genus Gazella), antelopes (genus Gazellospira), cattle (of the genus Leptobos), raccoon dogs (genus Nyctereutes), badgers (genus Meles), saber-toothed cats (genus Ho-

motherium), small rhinos with two horns (genus Stephanorhinus), mastodons with straight tusks (genus Anancus) and Southern mammoths (the species Mammuthus meridionalis, ancestor of the renowned hairy mammoth that lived during the last Ice Age). The most important animals that were discovered, however, are a rare form of a husky bipedal macaque (genus Paradolichopithecus) and a sort of a giant turtle almost 1.8 metres long (genus Cheirogaster). The composition of the Vatera fauna confirms that the area of Lesvos was still united with Asia two million years ago and became an isolated island much later.

In many areas of south-eastern Lesvos, some of the oldest rocks of the island can be found, consisting of sediments collected at the bottom of the ocean of Tethys for hundreds millions years. Along with the sediments, remains of organisms living in the ocean were also collected at the bottom and, some of them, were gradually petrified. The bivalve mollusc *Megalodon* is the most important of the organisms fossilized in this way and its remains can be found today within the Triassic crystalline limestone of the south-eastern Lesvos, such as those revealed in the ancient marble quarry of Moria.







The geological history of Lesvos is inextricably linked with the volcanic activity that took place 21.5 to 16.5 million years ago and led to the creation of large volcanoes, such as those in Lepetymnos, Vatoussa, Agra, Mesotopos and Anemotia. Volcanic eruptions shook the area of modern Lesvos. But the volcanoes were not only cause for destruction, since their activity led to the creation of important geosites and rocks.

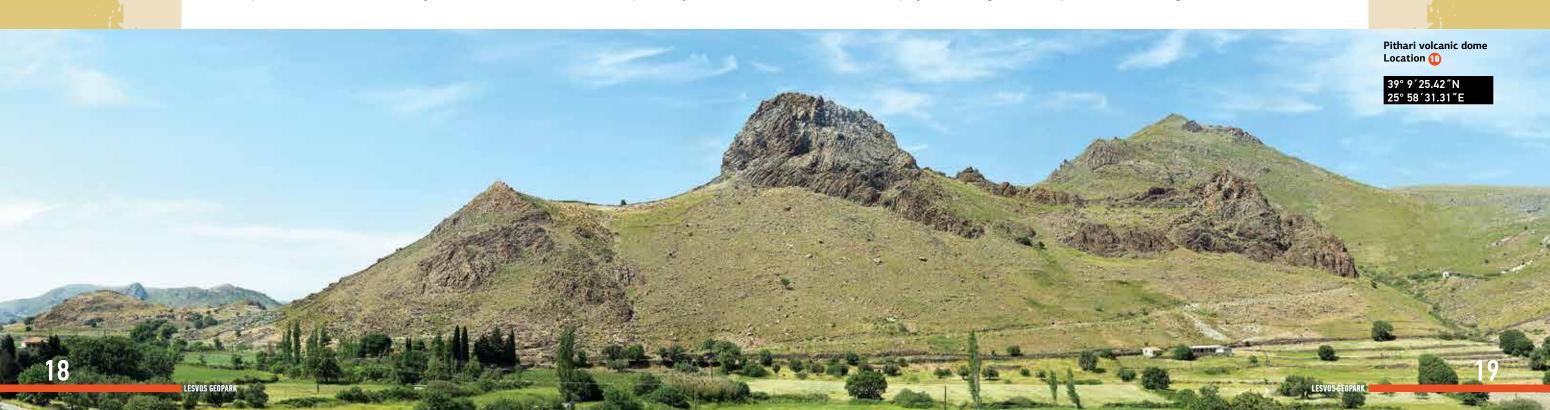
The impressive lava domes in Molyvos valuable natural resources exploited by man

and Ordymnos and the volcanic neck of Petra have been used by man as locations for the construction, respectively, of the Castle of Mythimna, the Ypsilos Monastery and the Church of Panagia Glykofiloussa, thanks to the resistance of their volcanic materials to

Many minerals and rocks, such as quartz and opal, ignimbrite and andesite, alum, bentonite, lead, zinc, magnesite, constitute

over the years. The "alum earth" is a sulphate ductive economy of the island. called alunite, associated with the volcanic times for medical purposes. One of the first natural materials used by man was flint, as evidenced by the archaeological excavations in the area Rodafnidia, near Lisvori. But, one of the first stone tools built and used to grind were the millstones made of volcanic rocks, which have played a leading role in the pro-

Particular is also the raw material for the activity on Lesvos. It was extracted in ancient creation of the Lesvos ceramics, which have the unique ability to keep water cool. The raw material for their creation is pulverized ignimbrite, a volcanic rock associated with the activity of the large Lepetymnos volcano about 17 million years ago. The ceramics are grains and process the fruit of the olive tree created with a technique that has remained almost unchanged since the ancient times in the area of Agios Stefanos, in Mandamados.



Geomorphological geosites



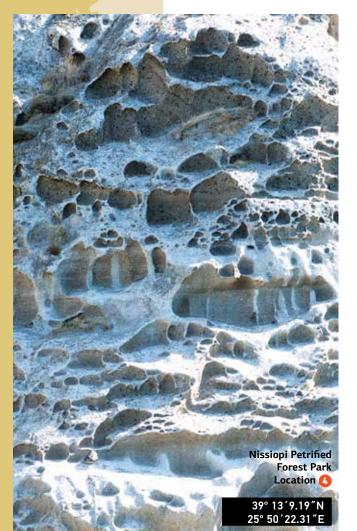
of important geomorphological geosites. Many caves are found in the western part of the island. One of the most important and the largest one is Spilios, the cave of Antissa. In Spilios cave operated the famous oracle of Orpheus. According to the local legend, in the area of Antissa now called Orphicia, the head and lyre of the Thracian musician Orpheus were washed out of the sea, after the Maenads had killed him. dismembered and threw his body in the Thracian Sea. The head of Orpheus was placed in the cave, where it gave prophecies that made the Orpheus oracle known throughout the ancient world. According to oral tradition associated with the sweet songs of Orpheus, the nightingales in this region sing more melodic than in other areas of the island.

Remarkable geosites owing their creation to the phenomenon of weathering can be found in many parts of the island, such as the "tafoni" formations (forms of honey-comb weather-

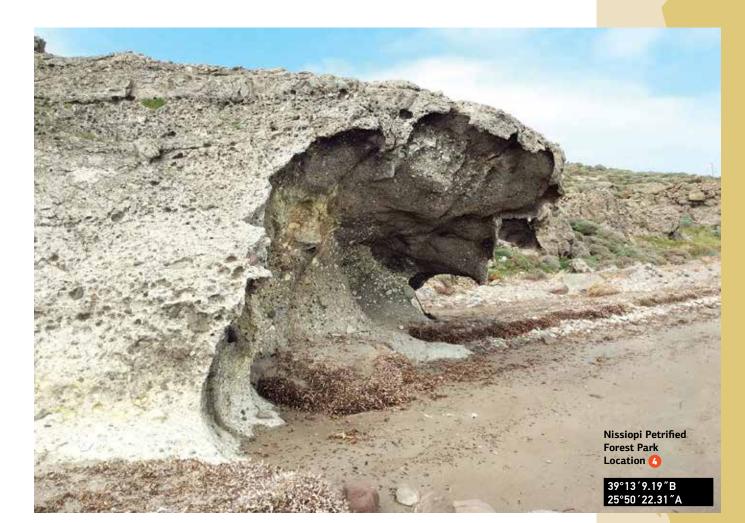
he Lesvos Geopark encloses a large number One of the largest rivers of the island is that of Tsiknias, which crosses the central part of the island and flows into the Kalloni Gulf, eroding the rocks encountered in its path. The hydrographical network of Tsiknias has largely contributed (along with volcanic and tectonic activity) to the creation of the current soils of central Lesvos. Characteristic is the gorge of the river Voulgaris in the area of Vatoussa, which was created within volcanic rocks due to the eroding action of water on the traces of major geological faults.

> In the coastal region of Agios Isidoros, near Plomari, coastal beachrock formations of great importance with a wide geographical continuation can be found, creating continuous several hundred meters long zones. They are considered as significant traces of past coastlines and are valuable clues for the study of the evolution of the Lesvos coasts and the changes in the sea level.

The shores of Lesvos, with a total length ing) in Plaka near Sigri and on Nissiopi islet. of 382 km, are really impressive. The coastal

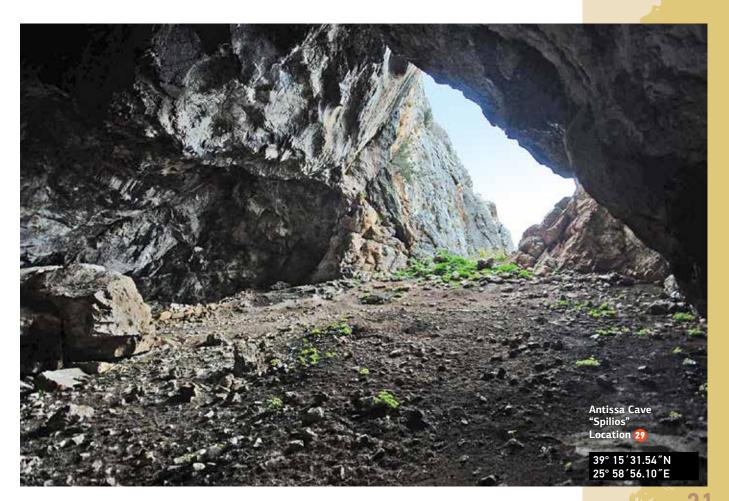


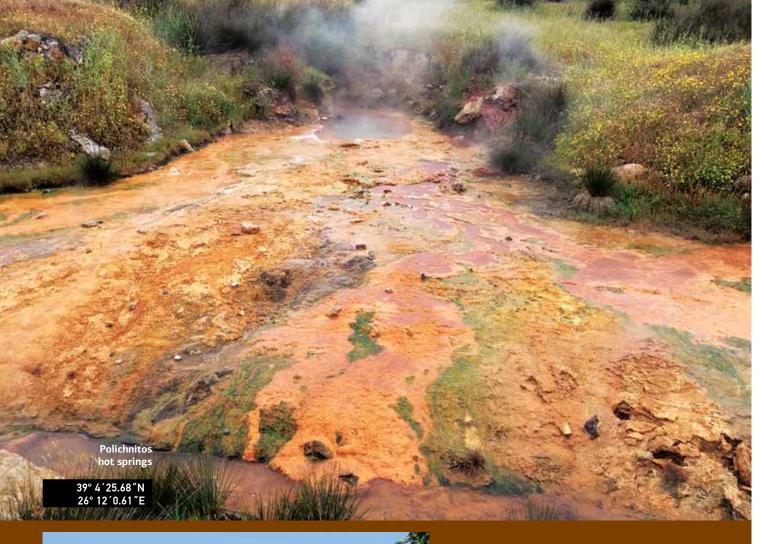




landscapes are places with strong dynamics. They constitute special locations, vulnerable and susceptible to the forces of nature. In Lesvos, the geological and tectonic structure, the scapes and geosites.

variety of rocks, the climatic conditions and changes in the sea levels have contributed to the creation of a large variety of coastal land-



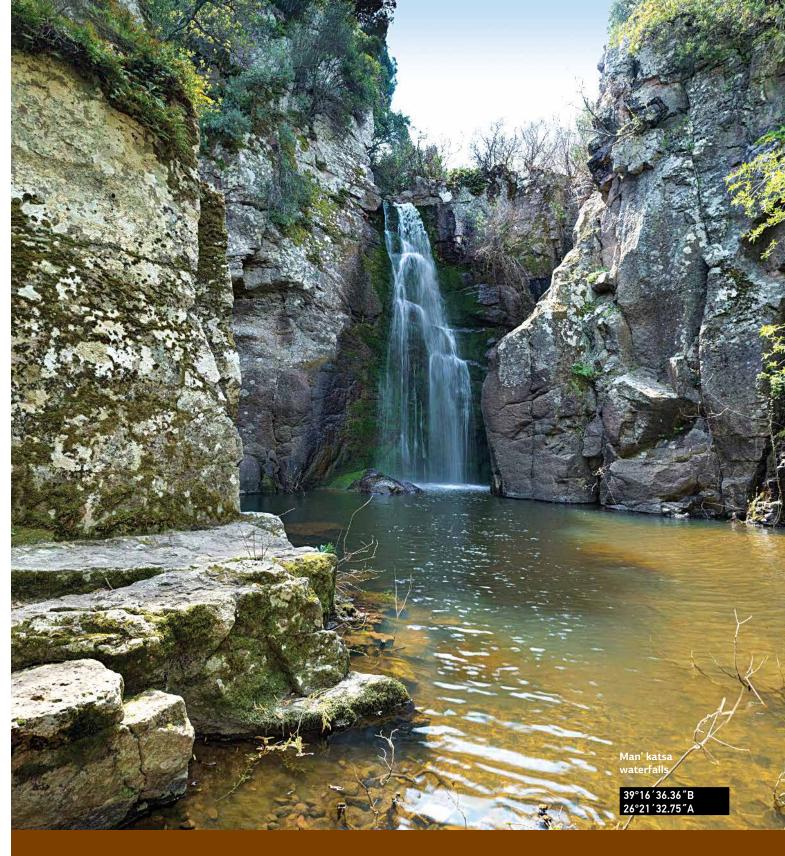




Hot springs

he volcanic activity 21.5 to 16.5 million years ago has provided Lesvos with important hot springs, natural resources exploited by the island's inhabitants over the years. The great volcanoes of Lesvos have silenced a long time ago, but large concentrations of hot magma still remain at shallow depths beneath the island. This magma acts like a giant heater, warming up the water that penetrates into the earth. When approaching the magmatic chamber, the meteoric water is heated and then exits the Earth's surface through hot springs.

In Lesvos, the most important hot springs are located in Polychnitos, which constitute the warmest springs in Europe, in Lisvori, in Thermi, in the Gera Gulf, in Eftalou, which provides the most radioactive therapeutic waters of Lesvos, in Argenos, in Krifti of Plomari. The water, when still worm inside the earth, acquires mineral components responsible for its therapeutic effect. When this water cools down, it cannot longer maintain the dissolved minerals and thus mineral depositions are formed near its exit to the surface. This way, silver and lead deposits have been created in the area of Mythimna (Molyvos), which have been mined in galleries.



Waterfalls

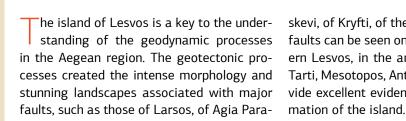
contributed to the creation of impressive They are uniquely beautiful creations of na-Lesvos is usually associated with the presence of large cracks and faults in the rocks. Impressive are the waterfalls of Man' katsa, Nigidas in the area of Vrissa.

The intense tectonic activity in Lesvos has encountered in the ignimbrites of the Lepetymnos volcano, of Pessa in the area of waterfalls, scattered throughout the Geopark. Achladeri, which cross the ophiolitic rocks and stem from the small Lake and Mount ture that show sharp vertical alteration in Olympos, of Klapados, of the pit Koukougia the altitude of a riverbed. Their presence in in the Klapados area, of Potamia, of Parakoila, of Vathylimnos in the area of Chidira, of the Methalia stream in western Lesvos, of





Tectonic geosites



skevi, of Kryfti, of the Gera Gulf. Other active faults can be seen on the southern and western Lesvos, in the areas of Vatera, Plomari, Tarti, Mesotopos, Antissa. All these fauls provide excellent evidence for the active defor-



Lesvos Museums Network

recognized as such by law. The Network aims to raise experience all visitors the museums of Lesvos. The activities and joint events.

The Lesvos Museums Network is an initiative of the Network's framework ensures free cooperation, without bodies managing the museums of Lesvos that are antagonisms and based on the principles of independent and equal expression of views and proposals. The creation awareness of the local population and particularly of the Museums' Network is expressed the belief that by the young people about our heritage, to promote the joining forces, Lesvos' Museums can effectively reach Museums' collections in Greece and abroad and to out to visitors of Lesvos through targeted promotional

■ ARCHAEOLOGICAL MUSEUM • ■ VARELTZIDAINA MANSION **OF MYTILENE**

The Archaeological Museum of Mytilene (New building) presents the religious, economic and political aspects of daily life from the 3rd century BC to the 4th century AD. Among many other artifacts on exhibit is the famous mosaic of the «House of Menander».

Address: November 8th, 811 31 Mytilene Tel: +30 22510 40223 E -mail: efales@culture.gr Website: http://odysseus.culture. gr/h/1/gh151.jsp?obj_id=3484

■ ERESSOS ARCHAEOLOGICAL • COLLECTION

The exhibition comprises three sections: a) religion and worship (votive reliefs and sculpted works) b) burial customs (tombstones, clay sarcophagus, offerings) and c) daily life. The semioutdoor space hosts sizeable architectural items, votive reliefs and Hellenistic and Roman period altars.

Address: Skala Eressou. 811 05 Eressos Tel. - Fax: +30 22530 53037 E -mail: efales@culture.gr Website: http://odvsseus.culture. gr/h/1/gh151.jsp?obj_id=18301



The Vareltzidaina Mansion is one of the few surviving mansions of Lesvos from the end of the 18th - early 19th century. It is an important example of urban architecture of the late Ottoman period of Lesvos, with its characteristic floor plan, thematic decoration, and typical functional and construction details.

Address: Petra, 811 09 Lesvos Tel. - Fax: +30 22530 41510 E - mail: efales@culture.gr Website: http://odysseus.culture. gr/h/2/gh251.jsp?obj_id=16441

■NATURAL HISTORY MUSEUM OF THE LESVOS PETRIFIED FOREST

The museum's modern facilities present unique fossils from the Lesvos Petrified Forest, one of the major Monuments of Nature world-wide. It also presents the physical processes that led to its creation, as well as the geohistorical evolution of the Aegean Sea. Furthermore, the museum organizes various educational programs, temporary exhibitions and cultural events.

Address: Sigri, 81103 Lesvos Tel. - Fax: +30 22530 54434. +30 22510 47033 E - mail: lesvospf@otenet.gr Website: www.lesvosmuseum.gr



ECCLESIASTICAL BYZANTINE MUSEUM

The collection includes icons of Byzantine and folk art from the 13th to the 20th century. Besides the main collection of icons, ecclesiastical objects such as carved wooden objects, liturgical vessels, sanctuary doors, vestments, manuscripts etc. are on display.

Address: St. Therapon Square, 811 31 Mytilene Tel .: +30 22510 28916 E - mail: ebmmyt@gmail.com Website: www.ebmm.gr

■ MUSEUM - LIBRARY OF STRATIS ELEFTHERIADIS-TÉRIADE

The Museum - Library houses, preserves and presents the entire collection of Stratis Eleftheriadis - Tériade's life work of as an editor and publisher. On exhibit in its halls are works of famous artists, copies of the "Great Books" and VERVE with lithographs by Chagall, Matisse, Picasso, Léger, etc. as well as copies of medieval manuscripts.

Address: Varia, 81100 Mytilene Tel .: +30 22510 23372 E - mail: info@museumteriade.gr Website: http://museumteriade.gr/











■THEOPHILOS MUSEUM

Funded by Stratis Eleftheriadis -Tériade, the Theophilos Museum was built in Varia where the folk painter Theophilos was born and where he spent his childhood. In 1965, TERIADE donated the museum to the Municipality of Mytilene along with 86 paintings by Theophilos from his private collection.

Address: Varia, 811 00 Mytilene Tel: +30 22510 41644 Website: http://odysseus.culture. gr/h/1/gh151.jsp?obj_id=3435

■ MUNICIPAL ART GALLERY OF MYTILENE

The gallery presents one of the most important collections of paintings donated to the Municipality by George Simo -Petris and his sister Elli Simou. On display are the works of great painters and engravers, Greek and foreign, as well as a remarkable collection of work by Lesvian painters.

Address: Adramytiou 46, 811 31 Mytilene Tel. - Fax: +30 22510 48002

■MUNICIPAL GALLERY OF MYTHIMNA

The Municipal Gallery of Mythimna is housed in the home where Argyris Eftaliotis lived. It was inaugurated in August 1981 hosting 77 paintings donated either by the artists themselves or by art collectors. In the Gallery are hosted today paintings of earlier painters such as Giannoulis Halepas, as well as paintings of a generation of younger artists.

Address: Mythimna, 811 08 Lesvos Tel.: +30 22530 71323, +30 6947174563, +30 6983611849

■ MUSEUM OF INDUSTRIAL **OLIVE OIL PRODUCTION** OF LESVOS

housed in the complex of the old communal mill (1911 to 1967). Original equipment once again functional, digital presentations and the sound of the factory's "Bourou" whistle bring back to life the production process of olive oil and the cycle of work related to oil production. The museum is operated by the Piraeus Bank Group Cultural Foundation (PIOP).

Address: Agia Paraskevi, 811 02 Lesvos Tel: +30 22530 32300 E - mail: piop@piraeusbank.gr Website: http://www.piop.gr

■ VRANA OLIVE PRESS MUSEUM

This architecturally unique industrial monument was built in 1887 by Nikolaos Vranas, grandfather of the Nobel laureate poet Odysseus Elytis. On display are rare archival material, antiques from when the mill was still in operation and an art exhibit.

Address: Papados, 811 06 Lesvos Tel .: +30 22510 82007 🗜 E - mail: archipelagos1998@gmail. Website: www.vranasmuseum.gr

■ "GEORGIOS JAKOBIDES" **DIGITAL MUSEUM**

The first fully digital art museum This museum in Agia Paraskevi is in Greece can be found in Chidira on Lesvos, the birthplace of the painter Georgios Jakobides. Utilizing new technologies, the museum faithfully showcases the life and work of the renowned Greek painter.

> Address: Chidira, 811 10 Lesvos Tel .: +30 22530 51128 E - mail: info @ jakobides - digital - museum.gr Website: www.jakobides - digital museum.gr/el/?lang=el

••••• **■ VRISSA NATURAL HISTORY** COLLECTION

The museum exhibits valuable vertebrate and invertebrate fossils that once lived in the region two million years ago, fossil specimens, rocks and ores of Lesvos, as well as a zoological and a botanical section.

Address: Vrissa - Polichnitos, 813 00 Lesvos Tel: +30 22520 61890 Website: http://vrisa.geol.uoa.gr/



LOCAL THEMATIC MUSEUMS AND COLLECTIONS

■ REFUGEE MEMORIAL MUSEUM 1922 IN SKALA LOUTRON

In the Museum, visitors have the opportunity to find out everything about Asia Minor from the first Greek colonization to the evolution of the regions where Greeks settled until 1922 and the settlement of refugees in Greece. The Museum's collection includes household utensils, tools. weapons, traditional costumes, jewelry, pictures, photos, printed matter.

Skala Lourton, Lesvos 81100 Tel.: +30 22510 91277

■ ANAGNOSTIRIO **OF AGIASOS**

Anagnostirio of Agiasos "anaptyxi", was established at 1894, as a collective body, in an attempt to promote general education, literature and art pertaining to the Society of Agiasos.

•••••

Until today it continues its valuable cultural activity in the Library Reading Room. Music tradition, Amateur Theatre, Carnival and Folklore Museum.

Agiasos, Lesvos 81101 Tel. +30 22520 22240, 22523 50560 •••••

■SOAP MUSEUM OF PLOMARI

The Soap Museum of Plomari is housed in the former Pulia soap factory, which is today the Cultural Center of Plomari. The Soap Museum of Plomari exhibits soap manufacturing tools, wood and metal seals, packaging and wrapping of soap, labels, dryers, scales, pots and photographs.

Address: Plomari. Lesvos 81200 Tel.: +30 22520 50101, 22520 32320

■ FOLKLORE MUSEUM OF PLOMARI

The Folklore Museum of Plomari is located at the main square of the town of Plomari. The exhibits reflect the rich folklore and naval tradition of the area and include local traditional costumes, household utensils, coins, historical documents, furniture, photos, tools.

Address: Plomari, Lesvos 81200 Tel.: +30 22523 50109

■FOLKLORE MUSEUM OF RESIN COLLECTION **OF AMBELIKO**

The building itself is located in the courtyard of the Church of Agios Nikolaos of Ambeliko. The exhibition is structured into three main sections: the resin collection which is devoted to objects used by the workers to collect the resin, the folklore collection which includes exhibits such as household utensils, tools, musical instruments etc and the ecclesiastical collection in which are preserved and presented priests' garments, books, Holy utensils, pictures etc.

Address: Ambeliko, Lesvos 81200 Tel.: +30 22520 91287

■FOLKLORE MUSEUM OF VATOUSSA

The Folklore Museum of Vatoussa, is housed in one of the finest neoclassical mansions of Lesvos, the mansion of Gogos. The exhibition is spatially structured in three sections (ground floor, basement and first floor) and includes objects illustrating the cultural wealth of the village and the region, such as books, agricultural tools, household utensils, photos, furniture.

Address: Vatoussa, Lesvos 81103 Tel.: +30 22530 51224

■ BARBAYANNIS OUZO MUSEUM

The Barbayannis Ouzo Museum is located in Plomari, Lesvos, in front of the Barbayannis Ouzo Distilleries

In the museum visitors can see the original equipment used to bottle and label the famous Ouzo Barbayanni Blue, as well as the first alembic, constructed in 1858 in Constantinople, used for testing century-old secrets and techniques, and to compose the recipes of the Barbayannis family.

Plomari, Lesvos 81200, Tel. +30 22520 32741

■MUSEUM "THE WORLD OF OUZO"

•••••

The Museum "The world of Ouzo". is housed in the Plomari Ouzo Distillery of Isidoros Arvanitis. Its purpose is to promote the traditional art of ouzo making, which is characteristic for Plomari. Its collections include items used in the distillation and bottling, tools traditionally used for the production of ouzo and the first bottle of Plomari Ouzo of Isidoros Arvanitis.

Address: Kambos Plagias, Plomari **Lesvos 81200** Tel.: +30 22520 31450 E-mail: grammateia@ouzoplomari.gr Ιστότοπος: www.ouzoplomari.gr

LOCAL THEMATIC MUSEUMS AND COLLECTIONS LESVOS MUSEUMS NETWORK

Archaeological Sites

■ MESSA TEMPLE

The sanctuary of Messon is located: near Agia Paraskevi. In antiquity it 🙏 In the archaeological site of Klopedi 🔭 The first architectural phase of was situated in the middle (centre) of the island of Lesvos with its name "Messon" originating from the Aeolic type of the word. The octastylle, pseudo-dipteral, ionic temple of the second half of the 4th century B.C. has integrated the archaic devotional building and its supplementary buildings.

Address: Messa Lesvos Tel. - Fax: +30 22530 31786 E-mail: efales@culture.gr Website: http://odysseus.culture. gr/h/3/gh352.jsp?obj_id=2560

..... ■ ARCHAEOLOGICAL SITE **OF THERMI**

The prehistoric settlement of Thermi is located on the eastern coast of the island of Lesvos, 10 km north of Mytilene. Thermi is the only prehistoric site on Lesvos that has been systematically excavated. The survey revealed an important city of the Early Bronze Age (3200-2400 BC) with five successive building phases (Thermi I to V), and building remnants of the Middle and Late Bronze Age (2000-1300 BC).

Address: Pyrgoi Thermis Lesvos Tel. - Fax: +30 22510 71705 E-mail: efales@culture.gr Website: http://odysseus.culture. gr/h/3/gh351.jsp?obj_id=18324

■ ARCHAIC SANCTUARY **OF KLOPEDI LESVOU**

are the remnants of two temples of • the archaic age.

The Sanctuary at Klopedi, the oldest surviving on Lesvos, has been acknowledged as a milestone monument, both because of its contribution to the history of architecture, as it constitutes a unique example of Aeolian order in Greece, as also because of the connection of its foundation in the 6th century B.C. with a flourishing period of the island.

Address: Klopedi, Agia Paraskevi Lesvos

Tel.: +30 22510 22087 Fax: +30 22510 20745 E-mail: efales@culture.gr Website: http://odysseus.culture. gr/h/3/gh351.jsp?obj_id=20764

■ TSOUKALADELLI TOWER

It is located in the village of Thermi 15 km from Mytilene. It is a stone building with a square floor plan that has four floors. It is one of the oldest stone

mansions that have survived on the island. It was the core building of a farm and served as a holiday residence for its owners.

Address: Thermi Lesvos Tel.: +30 22510 40135 Fax: +30 22510 40112 E-mail: efales@culture.gr

■ ANCIENT THEATER **OF MYTILENE**

the theatre is dated to the early Hellenistic period, as is suggested by the figurines and architectural parts which were found either in situ or as spolia used in the masonry of the castle. The theatre was remodelled in the late Roman period. The horseshoe-shaped cave a would have a capacity of about 10.000 people.

Address: Mytilene Lesvos Tel. - Fax: +30 22510 22741 E-mail: efales@culture.gr Website: http://odysseus.culture. gr/h/2/gh251.jsp?obj_id=752

■ MYTILENE CASTLE

The Castle of Mytilene covers an area of approximately 60 acres and it is one of the biggest castles in the Mediterranean. Its present form is a result of the construction activity of the Gatelouzi that dominated the island during the period 1355-1462 and the Ottomans that occupied Lesvos from 1462 to 1912, while from the castle's Byzantine phase only three parts are still visible.

Address: Mytilene Lesvos Tel.: +30 22510 27790 Fax: +30 22510 37414 E-mail: efales@culture.gr Website: http://odysseus.culture. gr/h/3/gh351.jsp?obj_id=15684

■ MYTHIMNA CASTLE

The castle that crowns the heights: of the town is from Byzantine times and was later repaired by Francesco Gattelusi. In terms of majesty and size it is the second most impressive on the island. During the summer months it is used for concerts and cultural events.

Address: Mythimna Lesvos Tel.: +30 22530 71803 Fax: +30 22510 40112 E-mail: efales@culture.gr Website: http://odysseus.culture. gr/h/2/gh251.jsp?obj_id=15685

■ SIGRI CASTLE

This Byzantine castle was renovated in 1757 by the Turks during their occupation of the island. It sits on a small peninsula above the harbor with a view on the beach and the town.

■ ROMAN AQUEDUCT AT MORIA

The Roman aqueduct of Mytilene was probably constructed at the end of the 2nd or the beginning of the 3rd century A.D. Because of its typical classicistic elements it was considered to have been built by Hadrian. It was used to transport water from the copious springs of mount Olympos to the ancient city of Mytilene, at a distance of ca.26 km. It supplied the city with large quantities of water and its carrying capacity has been estimated at 127.000 cubic meters a day.

Address: Moria Lesvos Tel.: +30 22510 22087 Fax: +30 22510 20745 E-mail: efales@culture.gr Website: http://odysseus.culture. gr/h/2/gh251.jsp?obj_id=1832







ARCHAEOLOGICAL SITES

Outdoor Activities

Lesvos Geopark is a unique place for outdoor activities, both on land and at sea.

Marine glass bottom boat tour NISSIOPI MARINE PETRIFIED FOREST PARK

he visit in the Nissiopi Marine Petrified Forest Park, the first Marine Park of Fossils in Greece, is a unique experience. Nissiopi is the islet which makes a natural barrier on the western side of the Sigri gulf and it is part of the protected area of the Lesvos Petrified Forest. Tours are organized with the special glass bottomed boat in the coastal zone of Sigri, the marine part east of the Nissiopi islet, the marine part around the islet and its terrestrial part. The visitors have the opportunity to observe the impressive petrified trees trunks. but also the richness of the flora and fauna of the islet.

volcanic, tectonic, geomorpholog-

ical and coastal geosites, where landforms appear very often in the coastal zone, as a result of erosion of the rocks in the area. Dozens of faults appear in the surface and at steep cliffs, revealing the strong tectonic activity that the region experienced in the recent geological past and is indicative of the recent separation of the islet from the rest of Lesvos Island.

The visitors of Nissiopi Marine Petrified Forest Park can also join a guided tour following the specially designed trails leading to the 44 impressive fossil sites and admire the unique beauty of the terrestrial part of the Petrified Very interesting is to see the Forest. During the tour they will be **E-mail: lesvospf@otenet.gr** informed about new excavations

of fossilized trees belonging to the Taxodioxylon, among which stands out the impressive finding of an almost intact gigantic tree trunk found in its original position with a total length of 17.20 meters and dozens of others standing and lying petrified tree trunks that have been unearthed after the excavation works of the Nissiopi fossils.

Information: **Natural History Museum of the Lesvos Petrified Forest** Address: Sigri Lesvos, 81103 Tel. - Fax: + 30 22530 54434 / + 30 22510 47033 www.lesvosmuseum.ar

UNESCO Global Geoparks in Greece

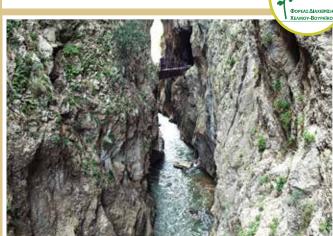
The Hellenic Geoparks Forum was the activities and actions on issues that are related with the promoting of geosites and development of Geoparks in Greece. In the Hellenic Geoparks Forum are represented areas recognized as UNESCO Global Geoparks which are:

- Lesvos Island (2000, 2012)
- Psiloritis Natural Park (2001)
- Chelmos Vouraikos National Park (2009)
- Vikos Aoos National Forest Park (2010)
- Sitia Geopark (2015)

The aims for the establishment of established in order to coordinate the Forum are the coordination and promotion of the Hellenic Geoparks and the strengthening of the efforts for the promotion of geological monuments and sites of the geological and geomorphological heritage of Greece.

> The actions of the Hellenic Geoparks Forum include initiatives for the development and recognition of Geoparks at national level, as well as for the support and strengthening of the European Geoparks Network and the Global Geoparks Network through the organization of special actions.









SITIA GEOPARK











