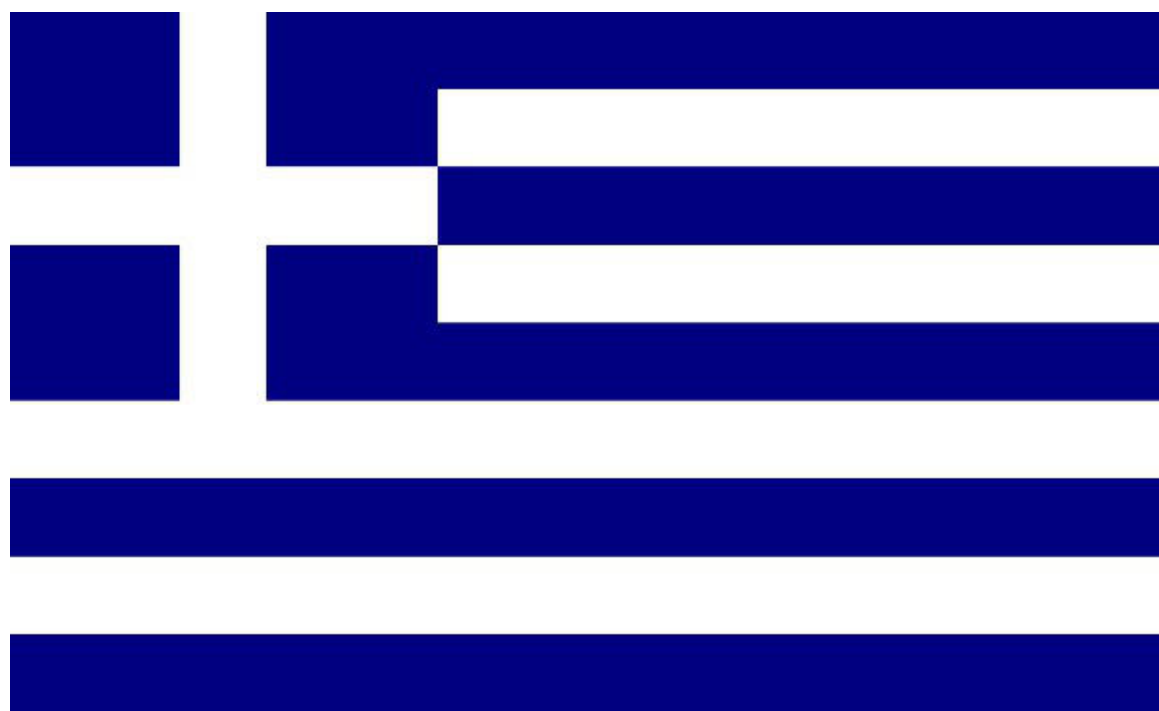


GUIDE Crete

GEOEXPORERS – Erasmus +



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Location

Crete is the biggest and also the southernmost island of Greece (**Pic. 1**). It's located in the Mediterranean Sea and it's the 5th biggest island of this sea. Crete is divided into 4 regions- Chania, Rethymno, Iraklio and Lasithi. Capital city is Iraklio with more like 170 000 population.



Pic.1: The map of Crete

Climate

Weather is typical of Mediterranean Sea and belongs to the hottest of Greece, its islands and also all Europe. The summer is hot and dry and the winter mild with snow on mountains, where can be until end of May. Precipitation is about 500mm per year.

The weather can be very changeable and sometimes long-term weather forecast have no significance here especially because of mountainousness of Greece. In the summer there is the temperature about 20-27°C. In the winter about 12-14°C. The autumn is the mildest of all seasons. But the spring is hotter and the temperature is ideal.

In spring, Crete the most green island in Mediterranean Sea because of the humidity, precipitation and climate. You can find here more than 2000 species of herbs and plants, from which 160 of all belong to endemic species.

Travelling

Since Crete is the island which is far from land, we can arrive here only by plane (**Pic.2**). A boat transport is another possibility, of course, but people use the plane more often and only big travel ships anchor big in its harbour. On the island there are two big airports, 1st in the capital city and the 2nd in Chania town. Bus transport is quite reliable. For example, our road from Heraclion to Sitia took about 4hours. Also, there are lot of car rentals.



Pic.2: The plane to Crete

Terrain

Because of mountainous surface, it is a good idea to take some hiking boots. There is also very variable weather so you need a raincoat and lots of socks. Terrain is not always good so you must be really careful and look around you (**Pic. 3**). But if you surmount this “challenge” you can enjoy lot of beautiful views and get stunning memories.



Pic. 3: The terrain of the Richtis gorge

Food

In the bigger towns you can find lots of restaurants and bistros on the every corner. People often go to taverns here, which is the biggest part of Greece people's social life. They spend a lot of time here. You can order here classic Greece food for example Souvlaki with Pita bread and Greece salad (**Pic. 4**). And if you are not in a good restaurant right now, you can take some fruit from the fruit tree which is around you.



Pic. 4: the traditional Greece bistro food

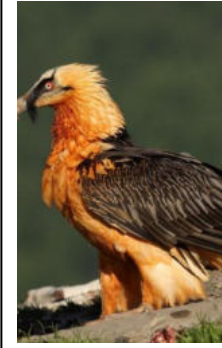
Fauna

Fauna is poorer than flora. But a lot of endemits (typical for Crete) live here like a mountain wild goat named Kri Kri (*Capra aegagrus cretica*) (pict.5) or lammergeyer (*Gypaetus barbatus*) (pict.6), the largest predator bird in Europe.

pict.5



pict.6



Typical sea animal what lives here is sea turtle (*Caretta caretta*) (pict.7). It lays it's eggs on several beaches around Crete.

pict.7



Flora

Pinus halepensis grows on the coast (pict.8) and a stunted oak (pict.9) or myrtle grows in the mainland but the most famous tree is olive tree (pict.10).

pict.8



pict.9



pict.10



National parks

Samaria (pict.11) is a gorge in mountains Lefka Ori and it's the longest gorge in Europe.

pict.11



Dios cave (pict.12) is according to legend place where the ruler of the Gods was born and it's one of the most beautiful cave with stalactites.

pict.12



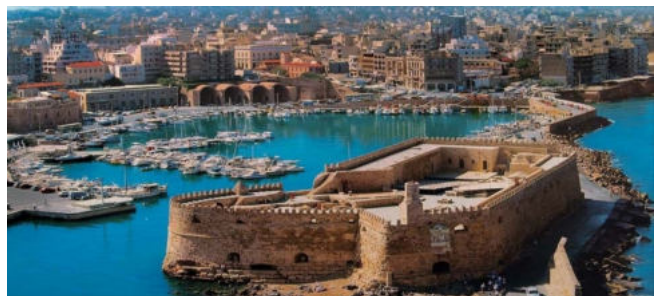
Héraklion/ Ηράκλειο

Héraklion is capital city of Crete with 173 450 inhabitants. There are the main port of Crete and football club PAE Ergotelis. Very interesting are cultural monumets like Orthodox catedral (pict.13) or Venitian fort (pict.14), then Archeological site of Knossos (pict.15) and Catedral Church (pict.16).

pict.13



pict.14



pict.15



pict.16



Geoexplorers

We visited 3 really beautiful gorges: Pefki, Zakros and Richis. The following texts are giving information about location, rocks, fauna and flora of all of them.

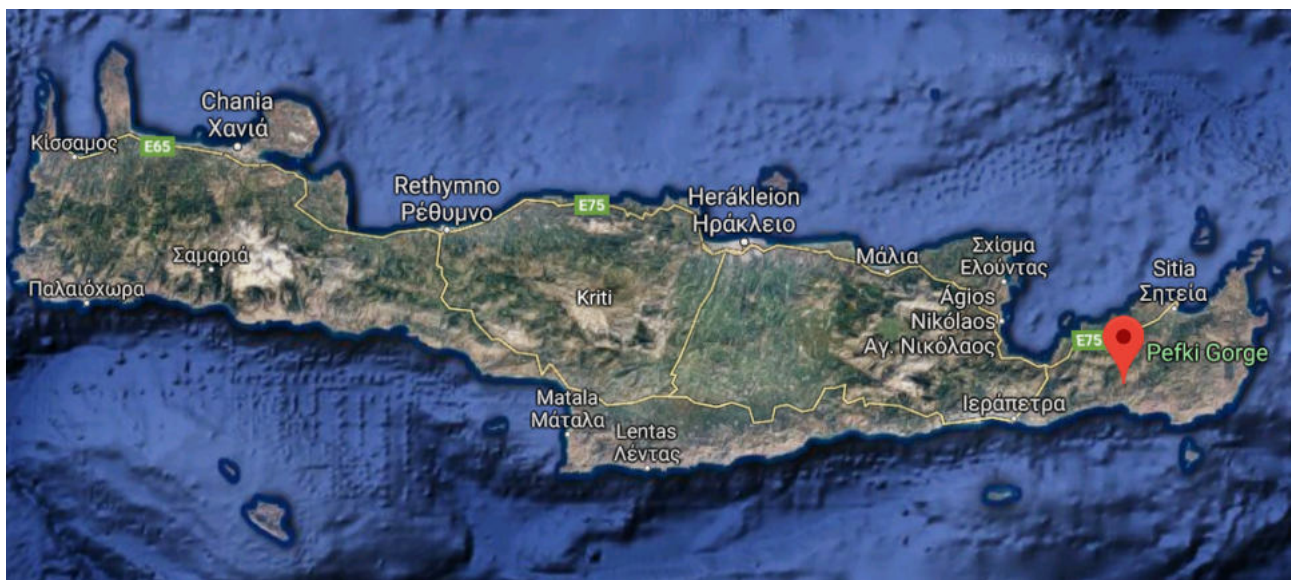
Pefki gorge

Location and characterisation

The location is in the picture 1 (**Pic. 17**) and you can see the scenery in the photo (**Pic. 18**).

It is 7 km long and goes from the Pefki village to the beach. We did not go to the beach, we simply went back to our beginning. Our journey started in Sitia, we rented a bus and went about 50 minutes to the South-west, it was cca 37 km through mountainous terrain.

The path started in an olive trees plantation and went down the gorge, between rocks and pines.



Pic. 17: the map showing the gorge, red colour



Pic. 18: the Pefki gorge scenery

Rocks

Limestone

Limestone (**Pic. 19**) is a carbonate sedimentary rock that is often composed of the skeletal fragment of Marine organisms such as coral, foraminifera, and molluscs. Its major materials are minerals calcite and aragonite, which are different crystallic forms of calcium carbonate.



Pic. 19: The Pefki limestone

Flora

Asparagus sp (Pic. 20)
– One of the species of subtropical throned shrub of genus *Asparagus*. Its thorns are against animals which eat vegetation.



Pic. 20: *Asparagus sp*

Allium Roseum - edible garlic from Central Europe. It has strong garlic smell. (Pic. 21)



Pic. 21: This picture shows white *Allium* and yellow *Ranunculus*

Olea europaea ssp oleaster - evergreen shrubs and trees with leaves. There olives grow which have economic importance not only for Greece. Olives are used in cosmetics and oil products.

Quercus coccifera - it is a shrub or small tree reaching heights of 1 - 6 m. His trunk may be up to 50 cm, it's an avergreen tree, whose leaves have saw-toothed shape. The acorns are of about 18 months after pollination.

Pinus sp. (Pic. 22)- the trees which prefer stony and sandy soils and do not need much water.



Pic. 22: A view to the gorge with *Pinus* sp

Platanus orientalis – the most common European *Platanus*

Ranunculus creticus - herb with yellow flowers and the leaves covered with fine hair. this is a poisonous plant, which is already in many countries of the world invasion. (Pic. 21)

Salvia sp - the plant of the *Labiatae* family. Greek oregano or Greek sage essential oil used for cooking food, or tea. Typically, after plucking. (Pic. 23)

Pic. 23: *Salvia* sp



Fauna

Eriocheir sinensis - it is also called the Chinese crab. It comes from East Asia, but as an invasive species has spread to Europe and North America too. (Pic. 24)



Pic. 24: *Eriocheir sinensis*

Helix pomatia (Pic. 25): the Mediterranean variety of the common snail, but invasive now in the CZ



Pic. 25: *Helix pomatia*

Zakros gorge

Location and characterisation

The Zakros Gorge is a small gorge in the eastern part of Crete, which starts a bit far from the village of Ano Zakros and ends at the village and on beach of Kato Zakros. It is both beautiful and accessible, although its other name, the “Gorge of the Dead” (**Pic.26**) It may seem rather worrying at first if you don’t know its history.



Pic. 26: The Valley of Death

It wasn’t called that because hikers leave their bones there, but because the ancient Minoans used the caves in its steep cliffs to bury their dead. It must have been a great honor for the dead that people risked lives getting them up the sheer walls of the gorge to lay them in their final resting place, a cave in this imposing gorge.

The footpath through the gorge to Kato Zakros is important for another reason apart from its ancient history and its scenic landscape with the many caves. It is the last section of the European E4 path (**Pic. 27**), which starts at Portugal, crosses the Mediterranean countries of the southern Europe, as Switzerland, Hungary, Bulgaria and traverses Greece from the North to South and Crete from the West to East, to the end at Kato Zakros

Location

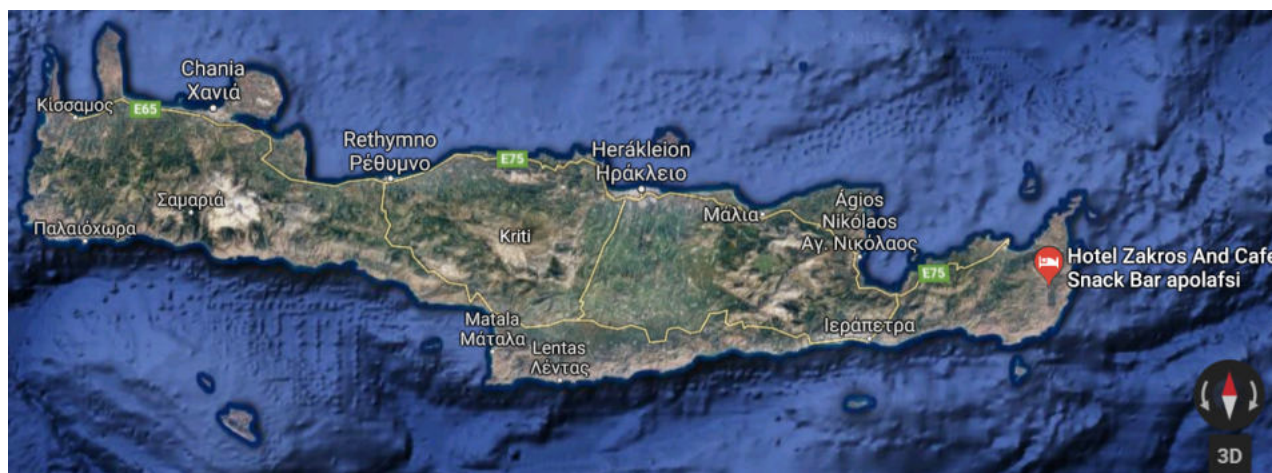
You can enter Zakros Gorge (**Pic. 28**) by two entrances:

The first entrance is shortly after the village of Ano Zakros, 38 kilometres south of Sitia. The second entrance is 4 kilometres from Ano Zakros and is a quite short-cut. It's about two hours' walk down from here to the exit. There is a plenty of space for cars to park and a bus shelter. The gorge seems a little bit difficult. The first steep slope may seem a bit scary, but in fact there's no danger.

There are daily morning buses to Ano Zakros and it is 1 hour drive. To return from Kato Zakros to Sitia, in the summer, the last bus leaves at 4 p.m.



Pic. 27: The European E4 path sign.



Pic. 28: the Satellite map of Crete and Zakros, Zakros is marked by red colour sign

Rocks

Ferrous claystone – It is a type of clastic sedimentary rock composed primarily of clay-sized particles with iron. It had been a river bed. (**Pic. 29**)



Pic. 29: Ferrous claystone

Limestone – another sedimentary rock, consists of Calcium carbonate. (**Pic. 30**)



Pic. 30: Limestone

Limonite – It is an aggregated iron ore consisting of a mixture of hydrated iron(III) oxide-hydroxides in varying composition. (**Pic. 31**)



Pic. 31CLimonite

Flora

Arundo donax – the most common reed in Greece, grows mostly in riverine ecosystems. (**Pic. 32**)



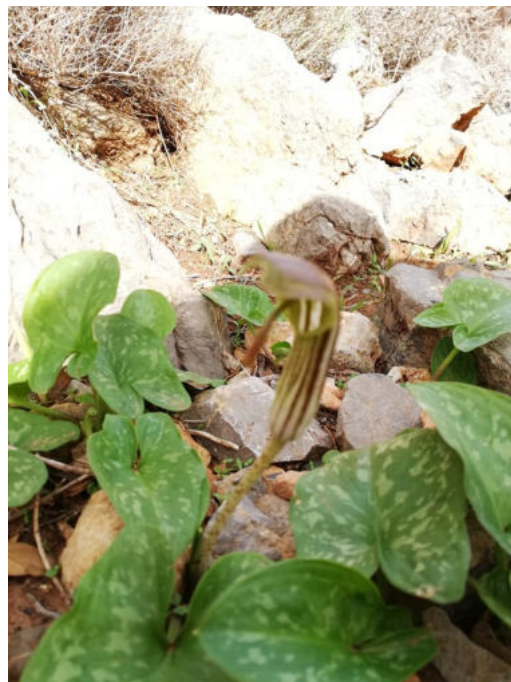
Pic. 32: *Arundo donax*

Mandragora Officinarum – it is often known as mandrake and native in the Mediterranean region. It contains hallucinogenic alkaloids, therefore used in healing, especially in the past. (Pic. 33)



Pic. 33 *Mandragora Officinarum*

Nepenthes – It is well known genus of carnivorous plants. This specimen is not epiphytic. (Pic. 34)



Pic. 34: *Nepenthes*

Olea europaea ssp oleaster - evergreen shrubs and trees with leaves. There olives grow which have economic importance not only for Greece. Olives are used in cosmetics and oil products. (Pic. 35)



Pic. 35: *Olea europaea ssp oleaster* with the author

Platanus orientalis – the most common European *Platanus*. (Pic. 36)



Pic. 36! *Platanus orientalis*

Quercus coccifera - it is a shrub or small tree reaching heights of 1 - 6 m. Its trunk may be up to 50 cm, it's an evergreen tree, whose leaves have saw-toothed shape. The acorns are of about 18 months after pollination. (Pic. 37)



Pic. 37: *Quercus coccifera*

Scolymus hispanicus - the plant with yellow flowers on the leaves and thorns. This plant and its root too is located in culinary use, such as in salads, soups or scrambled eggs.

Fauna

Atypus muralis – This “tarantula” spider of the Mediterranean region lives in dry, open pine-woods and heathland. (Pic. 38A)

Buthus occitanus - it's a tiny yellow scorpion with little claws and a poison tail. It lives in the dry and hot areas with little vegetation. It hides beneath the stones or buries. In nights it can be found out of hiding, looking for insects or spiders. Its poison is painful but not dangerous. (Pic. 39)

Ctenolepisma lineata - wingless insects which live in humid biotops. (Pic. 40)

Carabus banoni – Cretan endemic ground beetle (Pic. 41)



Pic. 38: *Atypus muralis*



Pic. 39: *Buthus occitanus*



Pic. 40: *Ctenolepisma lineata*

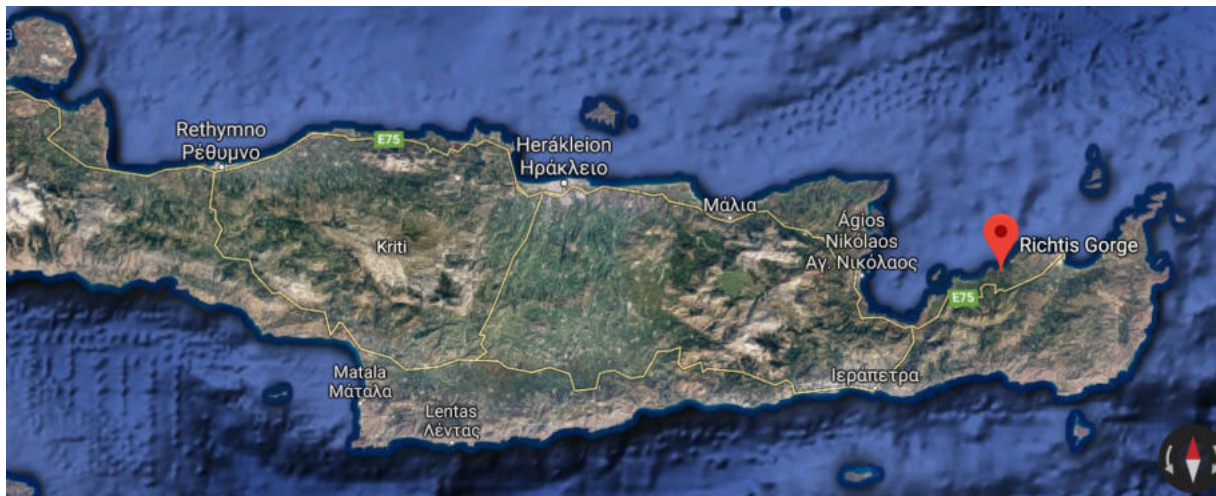


Pic. 41: *Carabus banoni*

Richtis gorge

Location and Characterisation

To this place, you can go by car from Sitia, it's about 30 minutes. Gorge is located in a reservation near the village Exo Mouliana. Richtis Gorge (**Pic. 42**) is different than other gorges we have visited. It's because of a little stream which flows in here so the gorge can have a lot of moisture for the vegetation. You can see a lot of different vegetation and beautiful fauna here. You can find here plane tree for example and lots of species of herbs. There are also lianas which are nowhere else. From fauna, you can see here species of butterflies, little reptiles and birds.



Pic. 42: The Richtis Gorge in the red colour

On the road, you definitely come across the old mill, accurately on his debris, or the old bridge made by earlier civilization.

Sometimes it can be very difficult to absolve this tour because of bad weather when the terrain is wet and slippery. You must also overstep the stream and small lakes. The road is easy only at the beginning. From the middle to the end it is really hard to surmount so you need endurance and good mood. In the end there is a beautiful waterfall (**Pic. 43**) so you can go under the water and enjoy the feeling after the long road.

Near the end of the stream (near the sea) there is the road so if you don't have enough energy you can hitch-hike a car and go back. In our case it was the same road as at the beginning.



Pic. 43: The Richtis waterfall

Rocks

Limestone

Limestone (**Pic. 45**) is a carbonate sedimentary rock that is often composed of the skeletal fragment of Marine organisms such as coral, foraminifera, and molluscs. It's major materials are minerals calcite and aragonite, which are different crystallic forms of calcium carbonate.



Pic. 45: The Richtis limestone

pudding stone

Or plum- pudding stone (**Pic. 46**) is a popular name to a conglomerate that consists of distinctly rounded pebbles whose colors contrast sharply with the color of the finer-grained, often sandy, matrix or cement surrounding them. The rounded pebbles and the sharp contrast in color gives this type of conglomerate the appearance of a raisin or Christmas pudding.



Pic. 46: The Richtis pudding stone

Flora

Ficus carica (Pic. 47)– It is an Asian species, aka common fig, native to the Middle East and western Asia. It could be used for its crop fig. It is a tree or a larger shrub.



Pic. 47: *Ficus carica*

Ipomoea indica – aka blue morning glory (**Pic. 48**) etc., is well known flowering plant. It is a vine native to tropical habitats around the world. In many states it is considered an invasive species.



Pic. 48: *Ipomoea indica*

Liana (Pic. 49) - it is a name of an epiphytic plants on many different plant families. The plant is usually long-stemmed, rooted in the soil at ground level using trees, as well as other means of vertical support, to climb up to the canopy to get access to well-lit areas of the forest.



Pic. 49: Liana

Nerium oleander (Pic. 50)- *Oleander* is the only representative of the genus. It is a shrub or tree and is characterized by narrow green leaves and colorful flowers, most often pink, yellow or white. It grows to a height of two to six meters and has "living" leaves throughout the year. It is poisonous, two leaves are enough to kill an adult person and the poison reaches the heart. It is widespread worldwide.



Pic. 51: *Nerium Oleander*

***Oxalis pes-caprae* (Pic. 52)**– *Oxalis* is often called sourgrass due to its sour favour. This species is invasive, native in South Africa



Pic. 52: *Oxalis pes.caprae*

Platanus orientalis (Pic. 53) - It is a mighty deciduous tree. The only species of platanus tree in Europe and it's a glacial relic. *Platanus* reaches a thirty meters high and the bark is peeling off in coloured plates. Originally in the eastern Mediterranean, it grows mostly near to water.



Pic. 53 *Platanus orientalis*

Rosea sp. - this wild rose grew near our path. It is as usual a shrub with thorns. (Pic. 54)

Pic. 54: *Rosea* sp.



Resources: our own photos, www.wikipedia.org, www.explorecrete.com

