

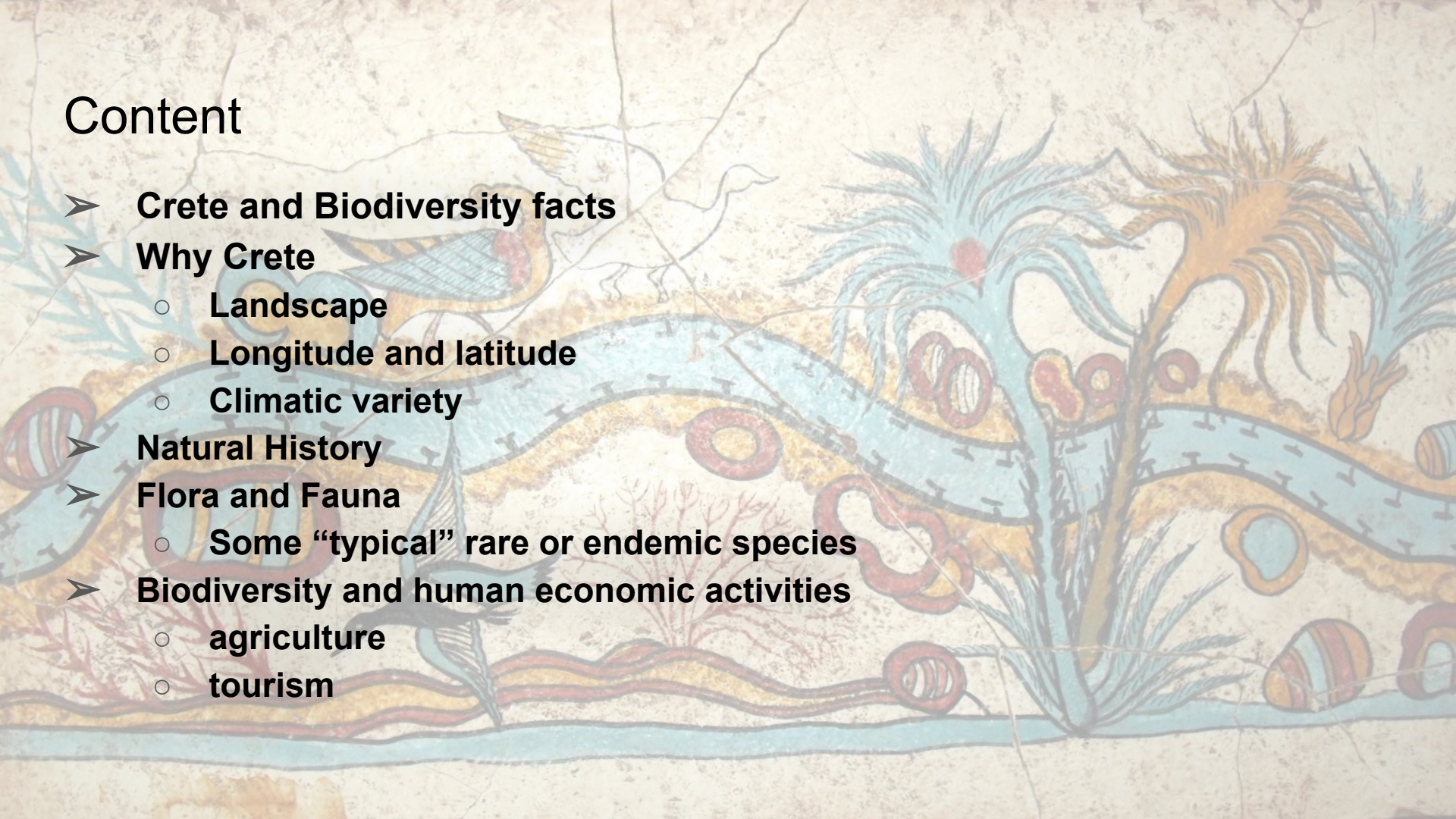


Crete, a continent in an island

a brief introduction to a european biodiversity hotspot

Content

- **Crete and Biodiversity facts**
- **Why Crete**
 - **Landscape**
 - **Longitude and latitude**
 - **Climatic variety**
- **Natural History**
- **Flora and Fauna**
 - **Some “typical” rare or endemic species**
- **Biodiversity and human economic activities**
 - **agriculture**
 - **tourism**



Crete and Biodiversity Facts

- Greece with the exception of the Iberian Peninsula is the country of Europe with the largest number of plant species
- 1800 plant species, or 30% of Greece's flora have been recorded in Crete
- most of the flora of Crete consists of remnant species
- **10% of the flora are endemic species** (more than any other Mediterranean island)
- $\frac{1}{3}$ of the endemic species are extremely rare and we can find them only in two specific places in Crete.
- Crete plays great role in many bird immigration as a stopover
- Has a particular variety in arthropods and gastropods and sea organisms such as foraminifera

What is impressive in Crete is not the vegetation but the variety of species

Why Crete?



Longitude and latitude

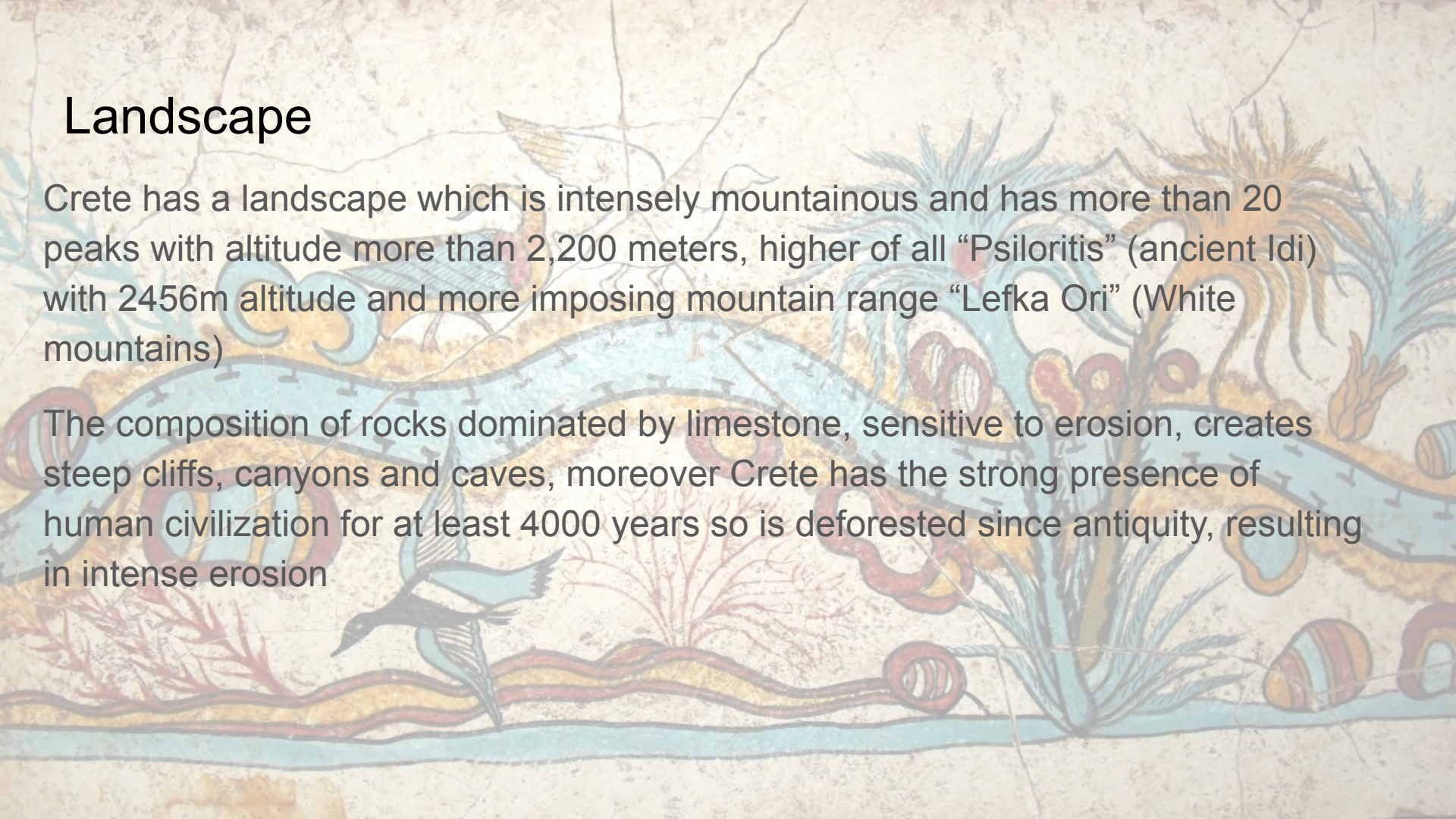
With latitude $35^{\circ} 42'$ North and longitude $26^{\circ} 19'$ East, Crete is just as close to Africa, Europe and Asia and just as far away



Landscape

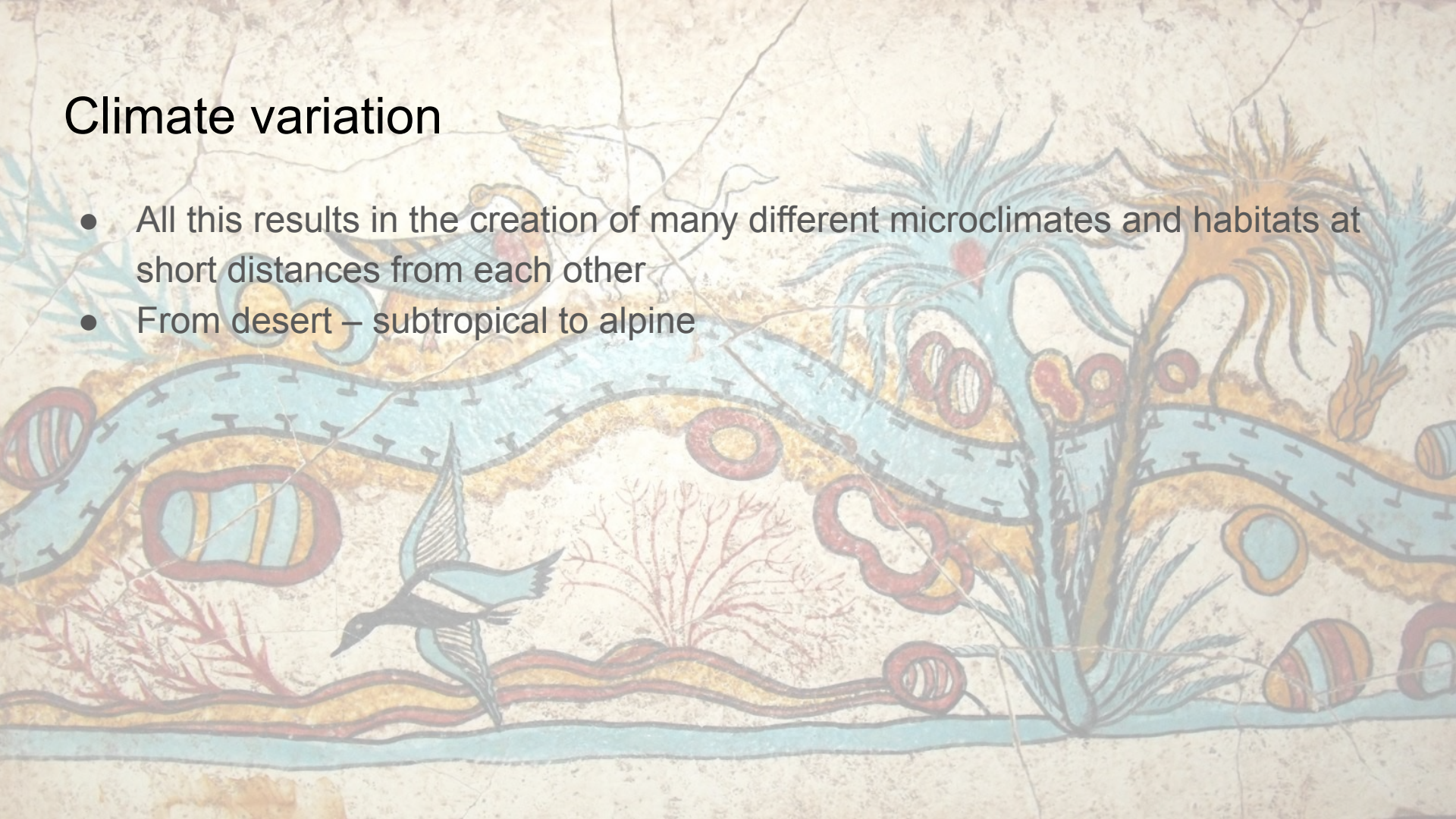
Crete has a landscape which is intensely mountainous and has more than 20 peaks with altitude more than 2,200 meters, higher of all “Psiloritis” (ancient Idi) with 2456m altitude and more imposing mountain range “Lefka Ori” (White mountains)

The composition of rocks dominated by limestone, sensitive to erosion, creates steep cliffs, canyons and caves, moreover Crete has the strong presence of human civilization for at least 4000 years so is deforested since antiquity, resulting in intense erosion



Climate variation

- All this results in the creation of many different microclimates and habitats at short distances from each other
- From desert – subtropical to alpine



Different landscapes



Climatic variety



Palm tree forest of Vai

- It is on the north east side of Crete, nearby the sea.
- The climate there is subtropical
- The name of this specific type of forest's palm tree is Theophrastos, which is an endemic species and has resistance to salinity



Omalos plateau 800m latitude just 30minutes from a zone that subtropical fruits such avocados and bananas are cultivated



Natural history

Extinct species of elephants, hippos and dwarf elephants, otters and a variety of deer along with a multitude of fossilized marine organisms compose the special fossil fauna of Crete

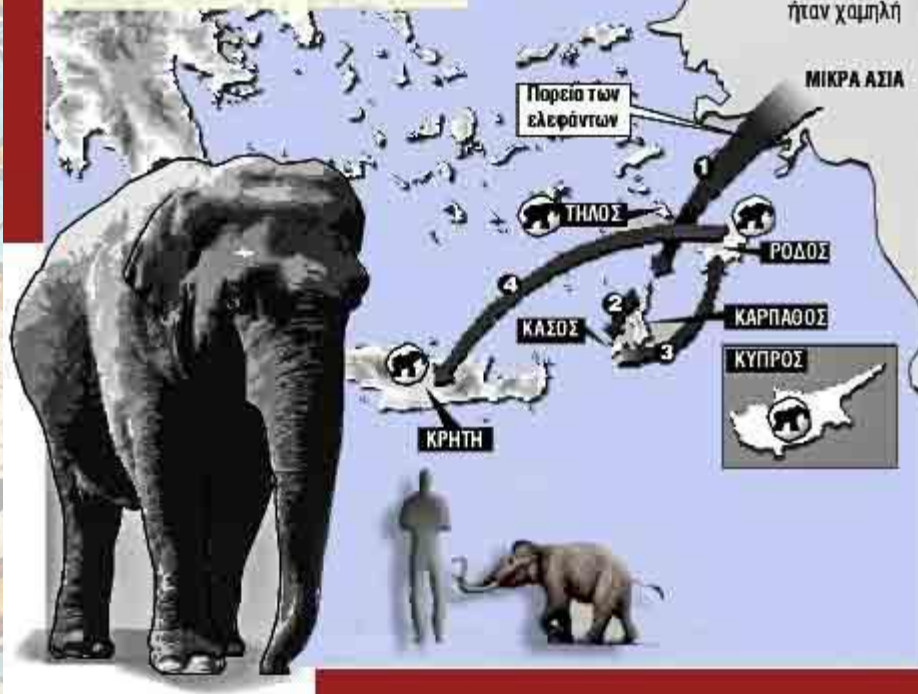


Νάνοι ελέφαντες στα νησιά του Αιγαίου

Οστά νάνων ελεφάντων ηλικίας 10 χιλιάδων έως 14 εκατομμυρίων ετών έχουν βρεθεί: στην Τήλο, την Κρήτη, τη Ρόδο, την Κύπρο.
Το ύψος τους κυμαίνεται από 120 έως 150 εκατοστά

Πώς έφτασαν στα νησιά

Πέρασαν σε μικρούς πληθυσμούς (100 ζώων ή και λιγότερα) από τη Μικρά Ασία κατά την Πλειστόκαινο Περίοδο (πριν από 10 εκατ. χρόνια), όταν η στάθμη της θάλασσας ήταν χαμηλή



Deinotherium and dwarf elephants





A colorful mural on a cracked, light-colored wall. The scene is divided into two horizontal bands. The upper band features a winding blue river with small black rectangular markers along its banks. Above the river, a white bird with outstretched wings flies to the right, and a blue and yellow bird stands on the bank. The lower band shows a dark blue bird in flight above a red, branching plant. To the right, a large, stylized plant with blue and yellow fronds and a red center dominates the scene. The background is filled with various colorful shapes, including red and blue ovals and spirals, and a blue and yellow striped oval. The overall style is reminiscent of ancient Egyptian or Mesopotamian art.

Flora and Fauna

The land of the olive tree

The olive is a hardy tree resistant to drought and winds that can grow even in rocks. It is also an age-old tree. Trees that have withstood all the changes of the climate and all the natural disasters, have seen conquerors leave and come. There are many olives in Crete that date from the time of the Venetian conquest 1200 AD



However, as durable as it is, the truth is that it lives only in a certain very narrow zone around the Mediterranean.

It is the olive zone that determines to the unique Mediterranean climate





indicative plant endemic species of Crete

Androcymbium rechingeri

It is a perennial bulbous plant that is found in sandy places near the beach where, however, in summer thousands of visitors and cars arrive. has been classified as endangered according to IUCN



Dianthus xylorrhizus

Local endemic of Western Crete,
Kissamos province. Perennial smooth
plant. Habitat: Limestone cliffs and
crevices of rocks, at altitudes of 250 -
700 m .. Flowers solitary, white. It
blooms from April to June.



Origanum dictamnus

Origanum dictamnus, the dittany of Crete, Cretan dittany, is a tender perennial plant that grows 20–30 cm high. In the Cretan dialect is known as erontas, "love". It is a therapeutic and aromatic plant that grows wild only on the mountainsides and gorges of the Greek island of Crete.

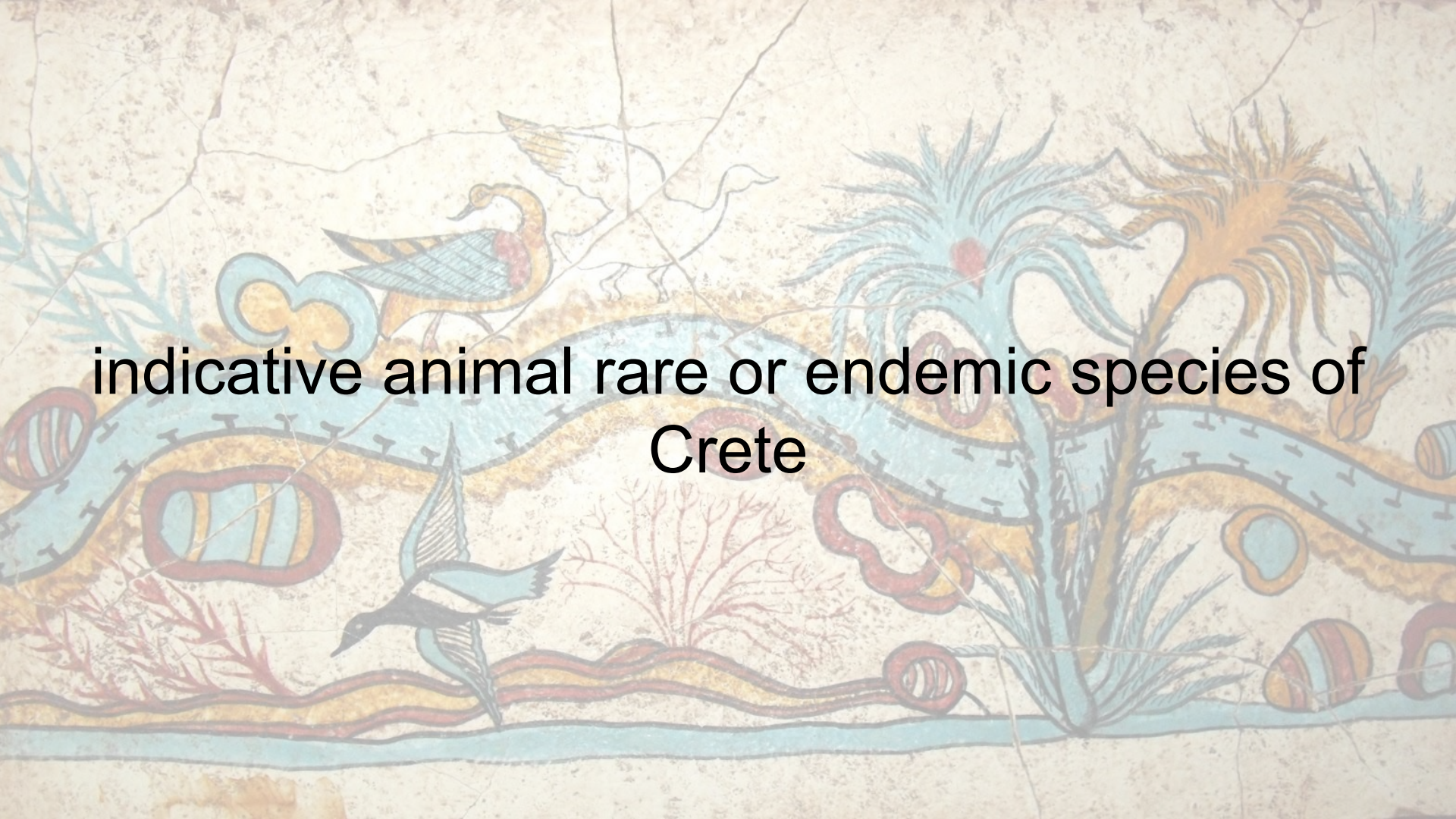


Abelitsia

Zelkova abelicea, is the only endemic tree species on the island. It is found scattered in the 4 large mountains of Crete at an altitude of 800 to 1700 meters. This is an endangered species.



indicative animal rare or endemic species of
Crete



Cretan Ibex

Until the beginning of the 20th century, the species spread to all three large mountain ranges of Crete (Lefka Ori, Idi and Dikti), but today its natural population is limited to 700 goats living in the Samaria National Park. The ibex almost disappeared from all the mountains of Crete during the Second World War, as the guerrillas had no other source of food in the wild mountains of Crete. In 1960 only 200 were remaining in the “Lefka Ori” and for this reason it was declared Samaria as a National Park in 1962. Even today the “Kri Kri” in the White Mountains is threatened by poaching, limited food-seeking areas and disease. But the main danger that threatens the conservation of the subspecies is the hybridization with “ordinary” goats.



Shrews

3 species of shrews live nowadays in Crete.

Zimmermann's shrew (*Crocidura zimmermanni*) is an endemic specie and also a living fossil.

Along with a specie from Sicily *C. sicula* are considering the only remnants from an era that disappeared



Vultures and bearded vulture

Its not an endemic species, its considered the largest vulture of Europe

In south-eastern Europe they live only in Crete where there are 4-6 couples. Their total population is less than 30 people. The ibex and the sheep that die in the mountains of Crete are their main food.



The wildcat of Crete

The wildcat of Crete (*Felis silvestris cretensis*) or furogat is an endemic subspecies of the European wildcat. You will hear some people refer to him as a Cretan Lynx, even though he does not belong to the same family as the Lynx. It is the only wild feline on the island, which is limited to a small part of Crete, mainly in Psiloritis (in the forest of Rouvas), in the White Mountains and in Lassithi.



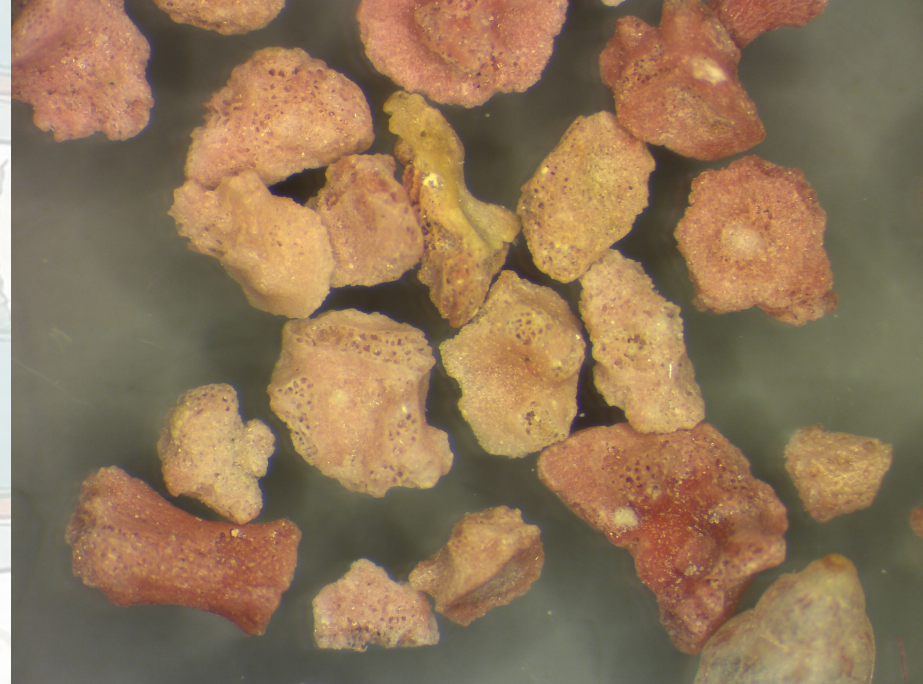
Bats

Crete has isolated forests, many abandoned farmhouses and more than 2000 caverns, which together with the small caves, exceed 5000. Thus, it has always been an ideal place for bats.



Pink foraminifera

Miniacina miniacea, It is a single-celled marine organism that belongs to the foraminifera and is found in the Mediterranean Sea. Its dead shells fill some beaches of Western Crete, making them pink, a fact that is utilized turistically. Nevertheless, it remains a mystery how exactly he lives, how deep at what distance from the mainland, from what he is influenced and is the object of research of our school in collaboration with the institute of marine research.





Biodiversity and human economic activities

- The biodiversity of Crete faces 4 main threats, all man-made
- 1. The excessive tourist activity which usually takes place in places that are extremely important for biodiversity
- 2. Uncontrolled agricultural and livestock activities such as overgrazing
- 3. Poaching
- 4. Military activities due to the US base that have a particularly negative impact on marine life

Excessive touristic activity



Overgrazing



- Cetacean eruptions due to naval and submarine military exercises In 2014 it was decided to destroy Syria's chemical arsenal in the open sea around Crete



Bibliography

Dimos Tsantilis. 2014. "Crete a continent in an island". Natural history museum of Crete.

