Importance of Greek Juniper Forests

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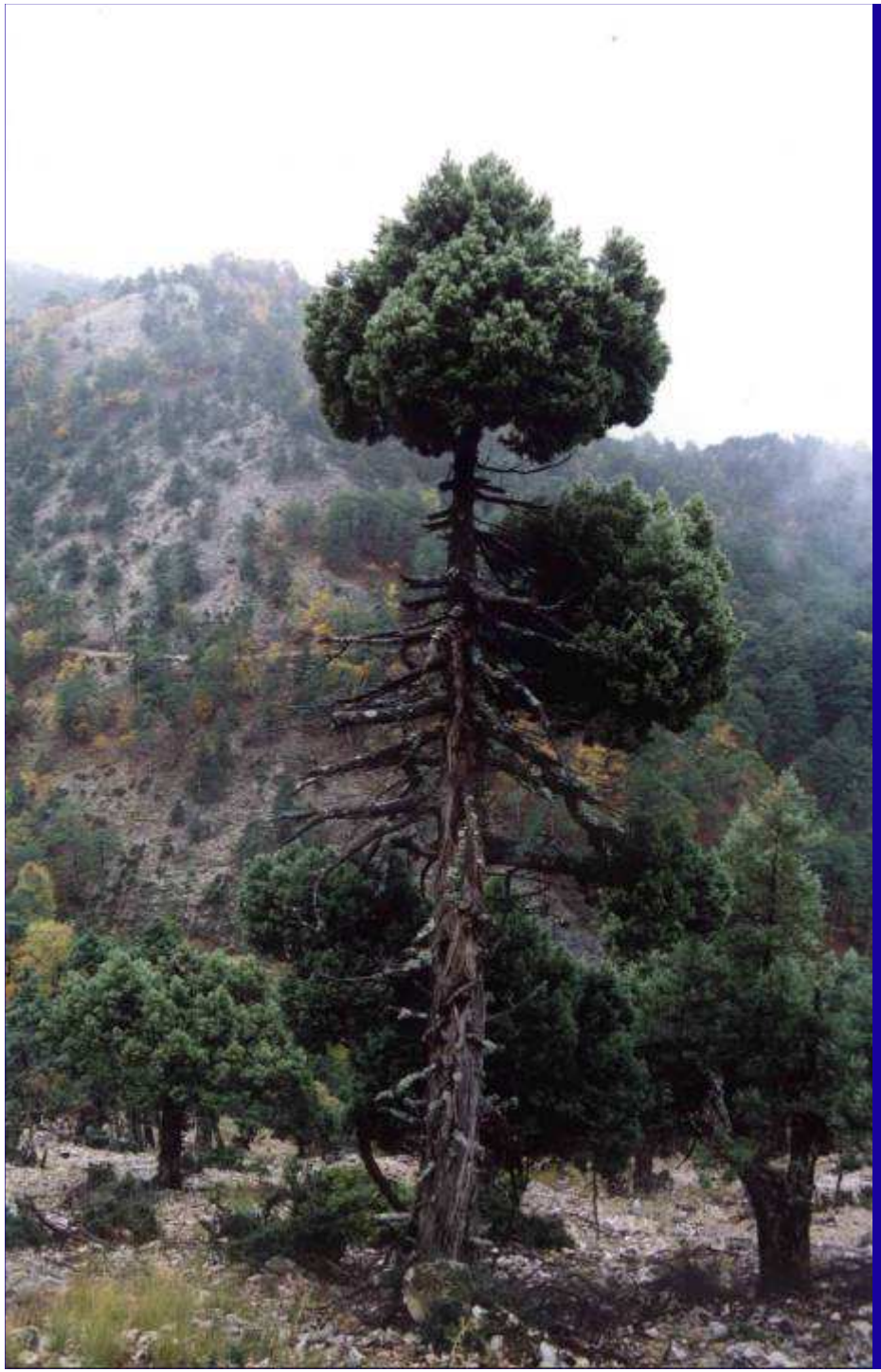
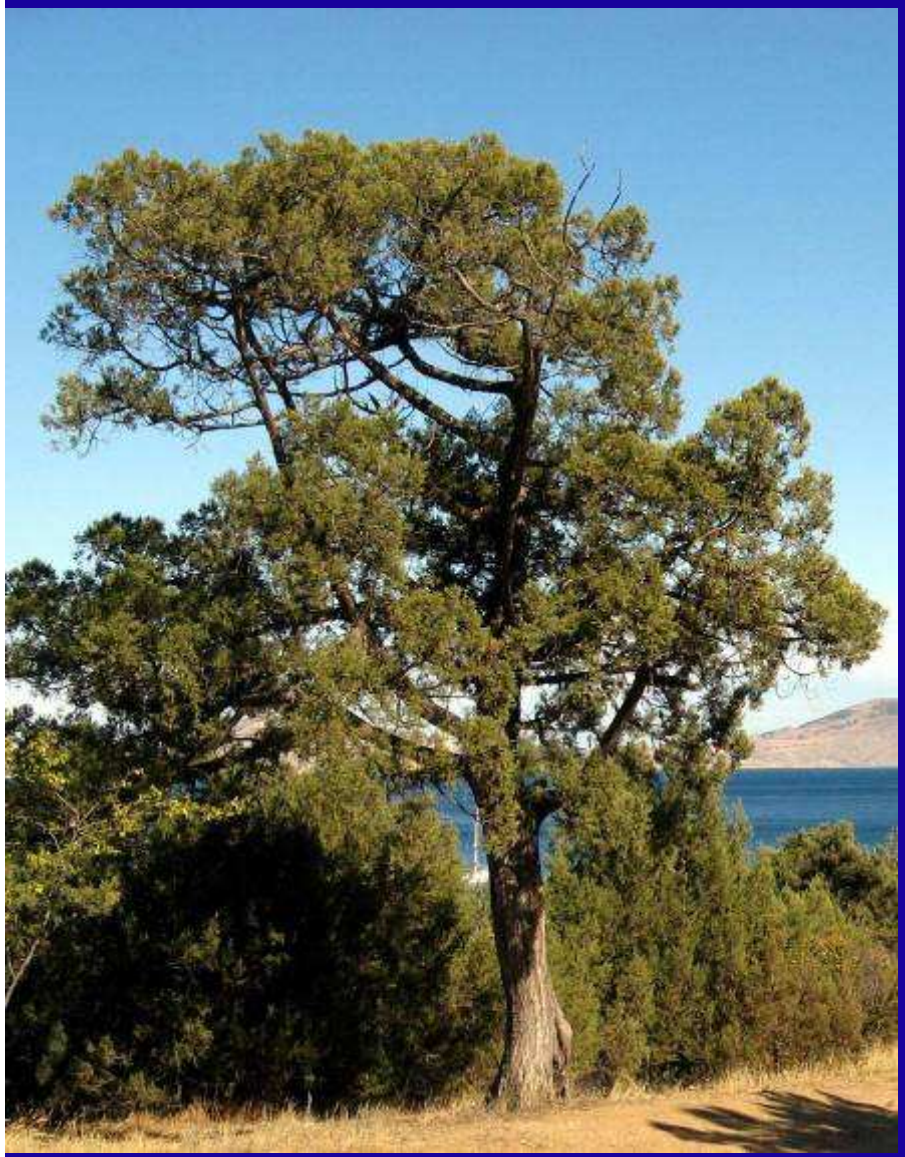


Greek juniper

- Evergreen tree of a middle height with a grey-green crown and scale-like leaves.
- Distribution reaches from Iran, through Asia Minor, Crimea, up to the Balkan Peninsula.
- Prespa is the western border of its distribution.
- Occurs in xerothermic sites, most frequently on limestone.
- Forms a few associations as a dominant tree.

Greek or Crimean Juniper (*Juniperus excelsa* M.Bieb.)



MAIN FEATURES:

Evergreen tree of a middle height (15-20 m) with a pyramidal grey-green crown and scale-like leaves.

Leaves are of two forms, juvenile needle-like leaves 8-10 mm long on seedlings, and adult scale-leaves 0.6-3 mm long on older plants.

It is largely dioecious with separate male and female plants, but some individual plants produce both sexes.

The cones are berry-like, 6-11 mm in diameter, blue-black with a whitish waxy bloom, and contain 3-6 seeds. The male cones are 3-4 mm long, and shed their pollen in early spring.

Greek or Crimean Juniper (*Juniperus excelsa* M.Bieb.)

Foetid Juniper or **Stinking Juniper** (***Juniperus foetidissima***)

It often occurs together with Greek juniper being distinguished from it by:

- thicker shoots 1.2-2 mm diameter (0.7-1.3 mm diameter in *J. excelsa*),
- green, rather than grey-green leaves in *J. excelsa,*
- crushed foliage has a strong foetid smell, from which the species gets its name.
- cones contain 1-2 (rarely 3) seeds; in *J. excelsa* contain 3-6 seeds.

Greek Juniper

Stinking Juniper

Lion Juniper - Turkey

- 25 m tall and 3.38 m trunk diameter
- 1,700 years old
- Protected

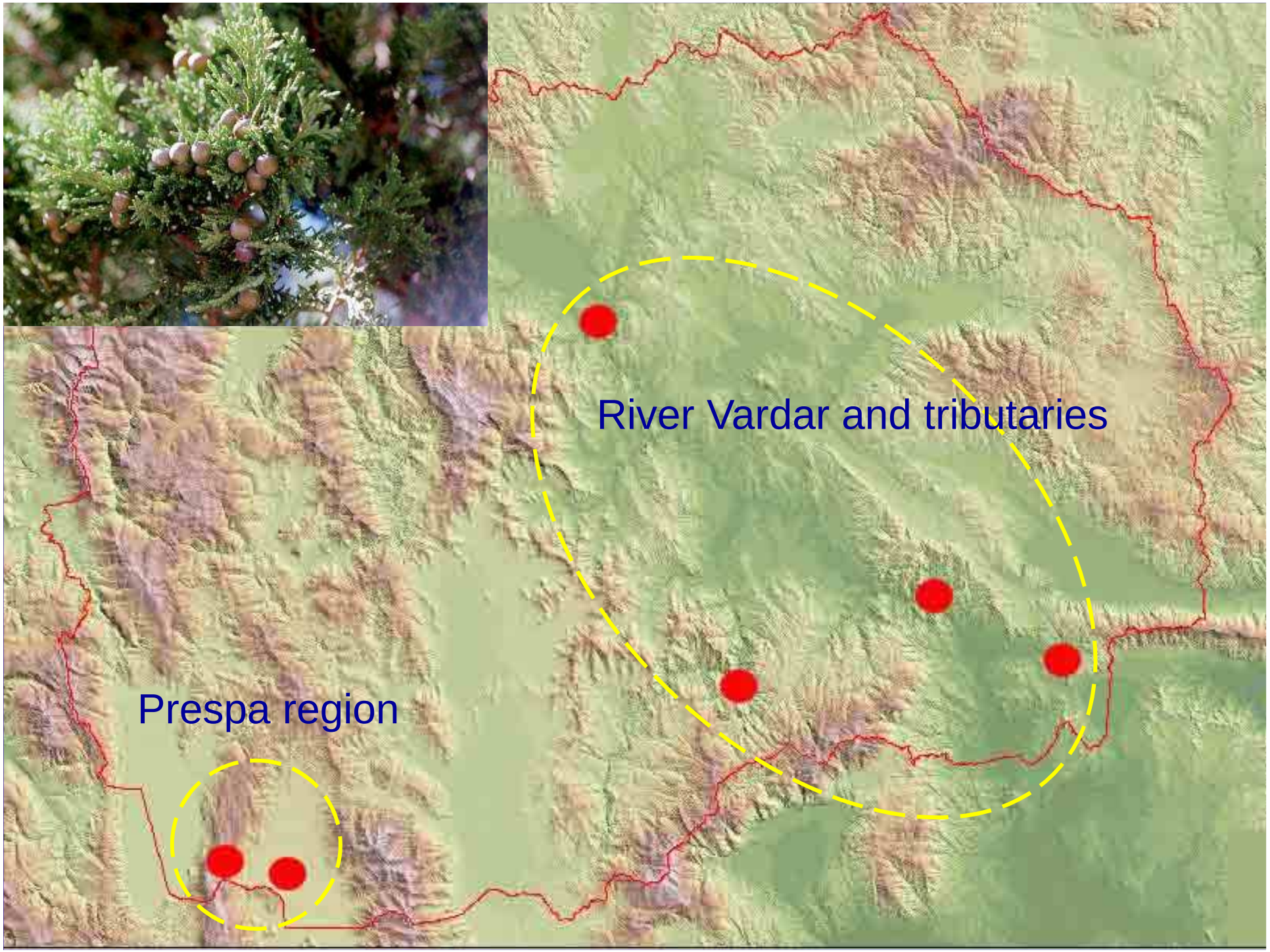
Stinking Juniper

Grecian Juniper

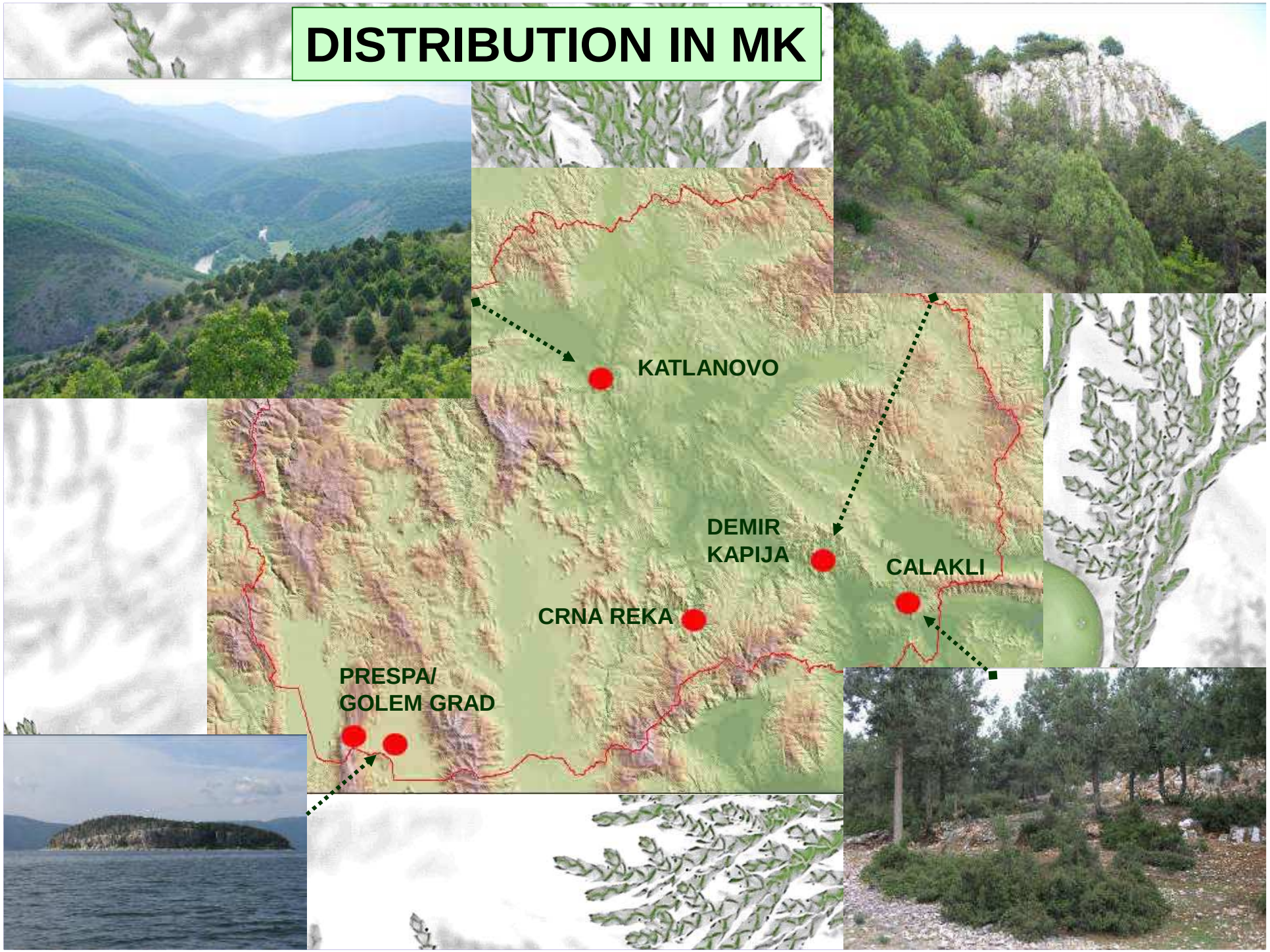
WORLD DISTRIBUTION :

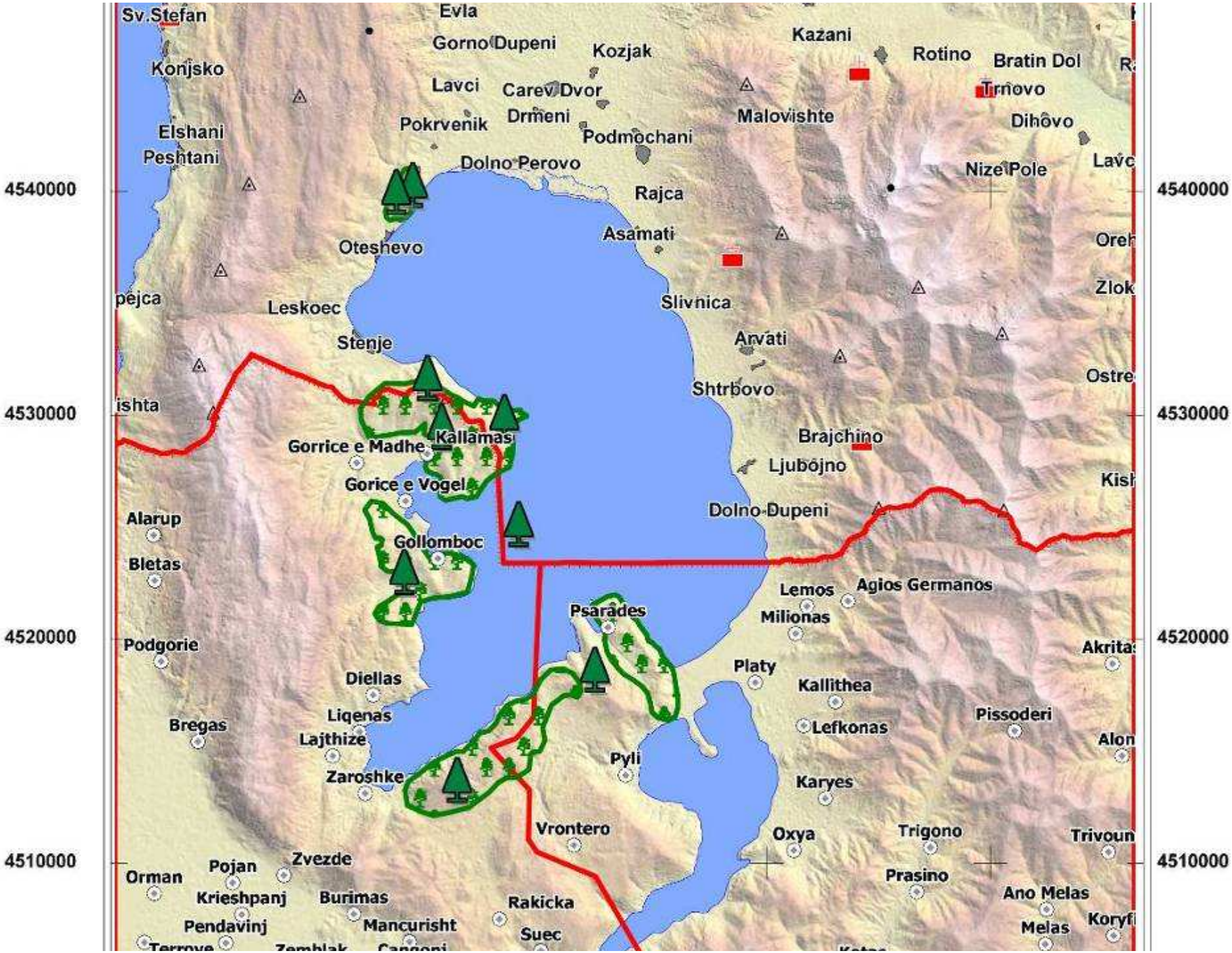
Distributed throughout the eastern Mediterranean, from Macedonia, north-eastern Greece and southern Bulgaria across Turkey to Syria and the Lebanon, and the Caucasus mountains. It does not occur in regions with annual precipitation below 500 mm.

On the Balkan peninsula the altitudinal range of distribution is from 100 to 1300 m, yet in Turkey it goes up to 2200 m. It occurs in xerothermic sites, most frequently on limestone, diabase or serpentine, and often forms rather small, almost pure associations.


River Vardar and tributaries
Prespa region

DISTRIBUTION IN MK




Sv.Stefan
Evla
Gorno Dupeni
Kozjak
Kazani
Rotino
Bratin Dol
Konjsko
Lavci
Carev Dvor
Trnovo
Drmeni
Malovishte
Dihovo
Elshani
Pokrvenik
Podmochani
Peshtani
Dolno Perovo
Nize Pole
Rajca
Asamati
Oteshevo
Slivnica
pejca
Leskoec
Stenje
Arvati
Shtrbovo
ishta
Kallamas
Brajchino
Gorrice e Madhe
Ljubojno
Gorice e Vogel
Dolno Dupeni
Alarup
Gollomboc
Bletas
Lemos
Agios Germanos
Psarades
Milionas
Podgorie
Platy
Diellas
Kallithea
Liqenas
Pissoderi
Bregas
Lefkonas
Lajthize
Pyli
Zaroshke
Karyes
Vrontero
Oxya
Trigono
Zvezde
Pojan
Orman
Prasino
Krieshpanj
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Ano Melas
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- Prespa region is one of the least areas with well preserved forest habitats of Grecian juniper in Balkan peninsula.
- It usually develops under modified continental and sub-Mediterranean climate with average annual temperature of 9.7^{o}C. The temperature variation in this region is quite high – the absolute minimum temperature is -26.5^{o}C, and the absolute maximum is 37°C, approx.
- The annual precipitation is 730 mm.
- Total area covered with Grecian juniper's forests in the Prespa area is 5641.5 ha

FOREST TYPES

Three different types are distinguished: pure, mixed and degraded juniper forests.

Pure forest	Mixed forest	Degraded forest
1089.4 ha (19.2 %).	2194.35 ha (38.6%)	2357.57 ha (41.5 %),

ALBANIA

Grecian juniper forest habitat in Albania are met in semi-natural condition, due to wood cutting in the last 15 years and overgrazing which have promoted soil erosion and active soil layer loss.

Total juniper forests area within the Albanian territory has been estimated to **2884.22 ha** which is **51.5 %** of total Prespa region area covered by Grecian juniper forests. Of these, **57%** is considered as degraded, **27.2%** is mixed and **15.6 %** are pure.

Total juniper area (ha) = 2884.22 (51.5)

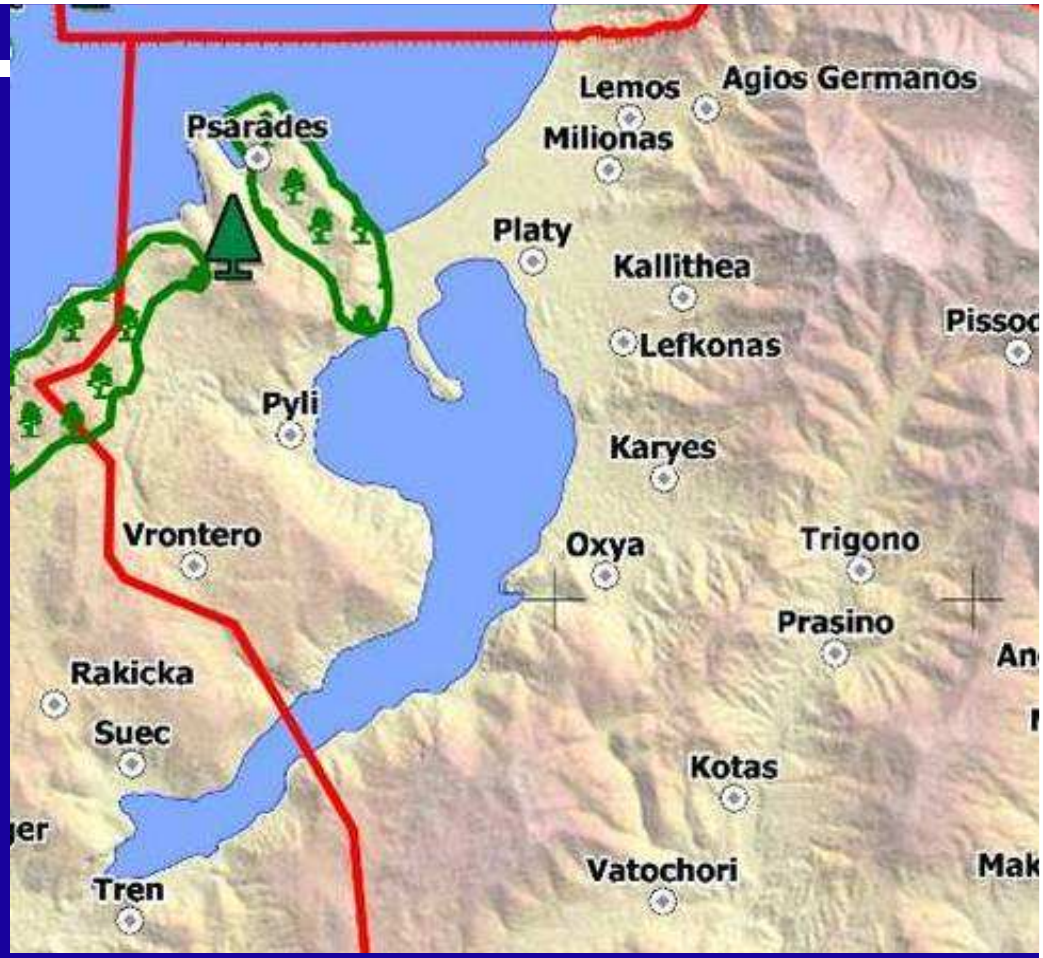
Pure forest	Mixed forest	Degraded forest
450.93 ha (15.6 %).	783.89 ha (27.2 %)	1649.41 ha (57.2 %),

The species Juniperus excelsa is included in the Red List of MoEFWA (Albania) under threat status **CR 1b**, although the habitat is not legally protected.

In the north, to the hills of Kallamas, the forests are degraded while, in a southeastern direction from the village of Gorica e Vogelj, through the areas of Smendero and Tumbite, to the Gollombochi village, found mixed juniper forests; southeast of the Gollombochi village the forests are degraded. the southeast lakeshore next to the Albanian border with Greece it forms the most remarkable pure juniper forests

GREECE

The Greek juniper forests are found in the western section, where calcareous bedrock is dominant in an altitudinal range of 855-1300 m. These forests are usually mixed with deciduous trees or are degradated forests due to the past logging, grazing and wildfires.



Pure, well developed, stands are found in the southeast foothills of Mts Devas and Vrontero and in small, but well developed (of 140 years old trees), stands around Psarades village, southeast of Vrontero village, and on the area around St. George church (in the mountain of Devas).
In these forests more than 300 species are found until now.

Total juniper area (ha) = 2110.41 (37.4)

Pure forest	Mixed forest	Degraded forest
485.13 ha (23 %).	1009.07 ha (47.8 %)	616.21 ha (29.2 %),

Grecian juniper woods are considered as priority habitat in the Habitats Directive and the habitats in Greek part of Prespa are particularly specified: ***Endemic forests with Juniperus spp. - 42.A3 - Grecian juniper woods (*Juniperetum excelsae*)** - forest formations dominated by *Juniperus excelsa*, of the *Ostryo-Carpinion* zone of the mountains of northern Greece (up to 900-1000m, around Lake Prespa).

MACEDONIA

- above Konjsko village (mixed and degraded);
- Mt. Prechna (pure and mixed)
- between the villages Oteshevo and Shurlenci (pure and mixed);
- Sirhan – Sirhansko Kale locality (pure an mixed).
- Golem Grad island (pure an mixed).

Pure forest	Mixed forest	Degraded forest
153.34 ha (23.7 %)	401.4 ha (62.1 %)	92.13 ha (14.2 %)

Total juniper area (ha) = 646.87 (11.5)

Golem Grad Island

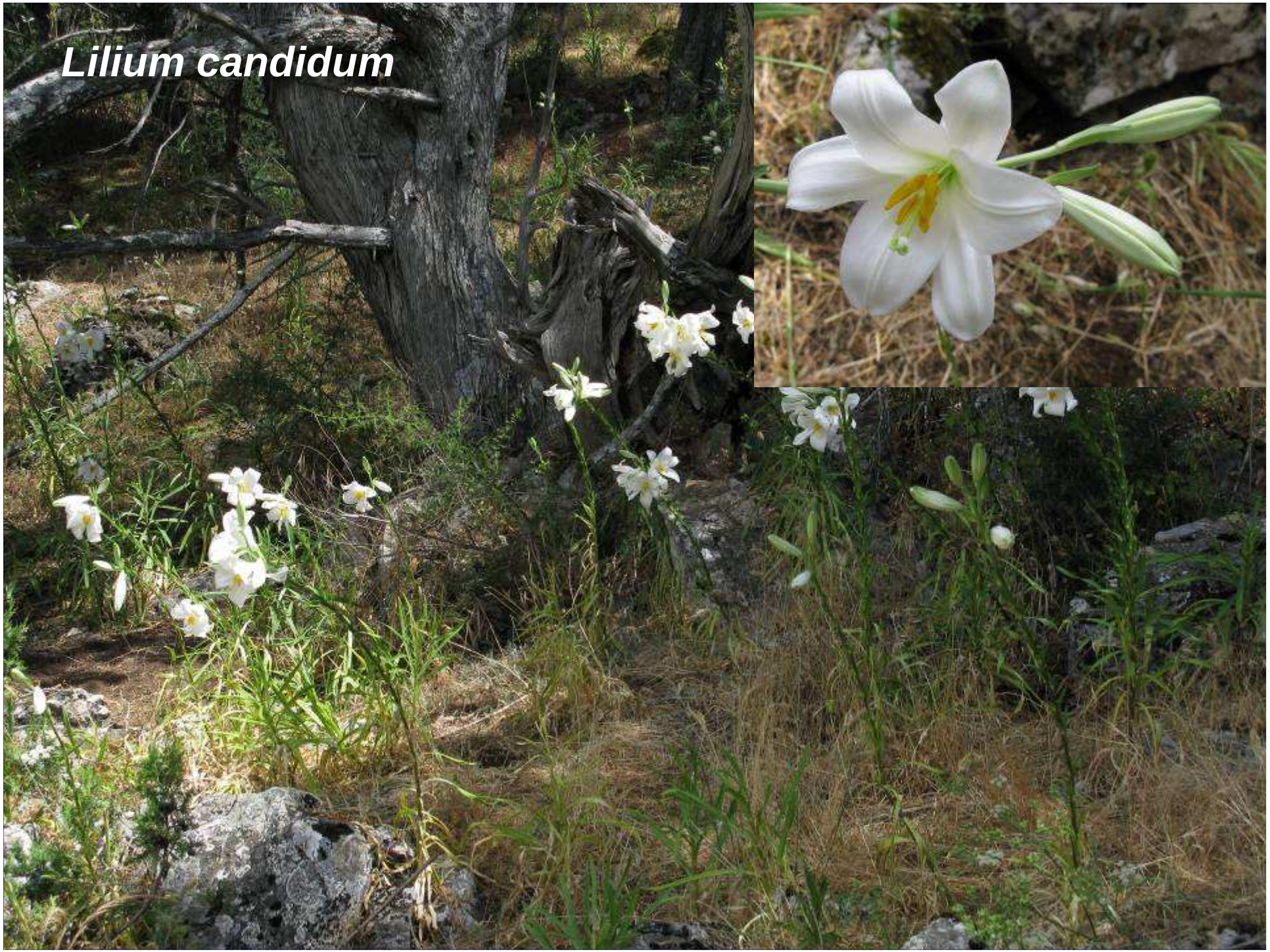
Importance of Greek Juniper Forests

Juniper Forests Communities:

- *Pruneto-Celtetum* and *Biaro tenuifolii-Juniperetum excelsae* (Island Golem Grad) – **Endemic ass.**
- *Juniperetum excelsae-foetidissimae*
- *Querco trojanae-Junipertum excelsae* **ass. nova** (Precna Planina)

Flora species of special importance :

- *Biarum tenuifolium*


Lilium candidum

Celtis glabrata

Euphorbia characias

Ephedra campyloda

Fungal species of special importance :

Battarea phalloides

Pyrofomes demidoffii

Antrodia juniperina

Geastrum fornicatum

Myriostoma coliforme

Astraeus hygrometricus

Calvatia gigantea

Battarrea phalloides

ANTRODIA JUNIPERINA
- Фоина антродија

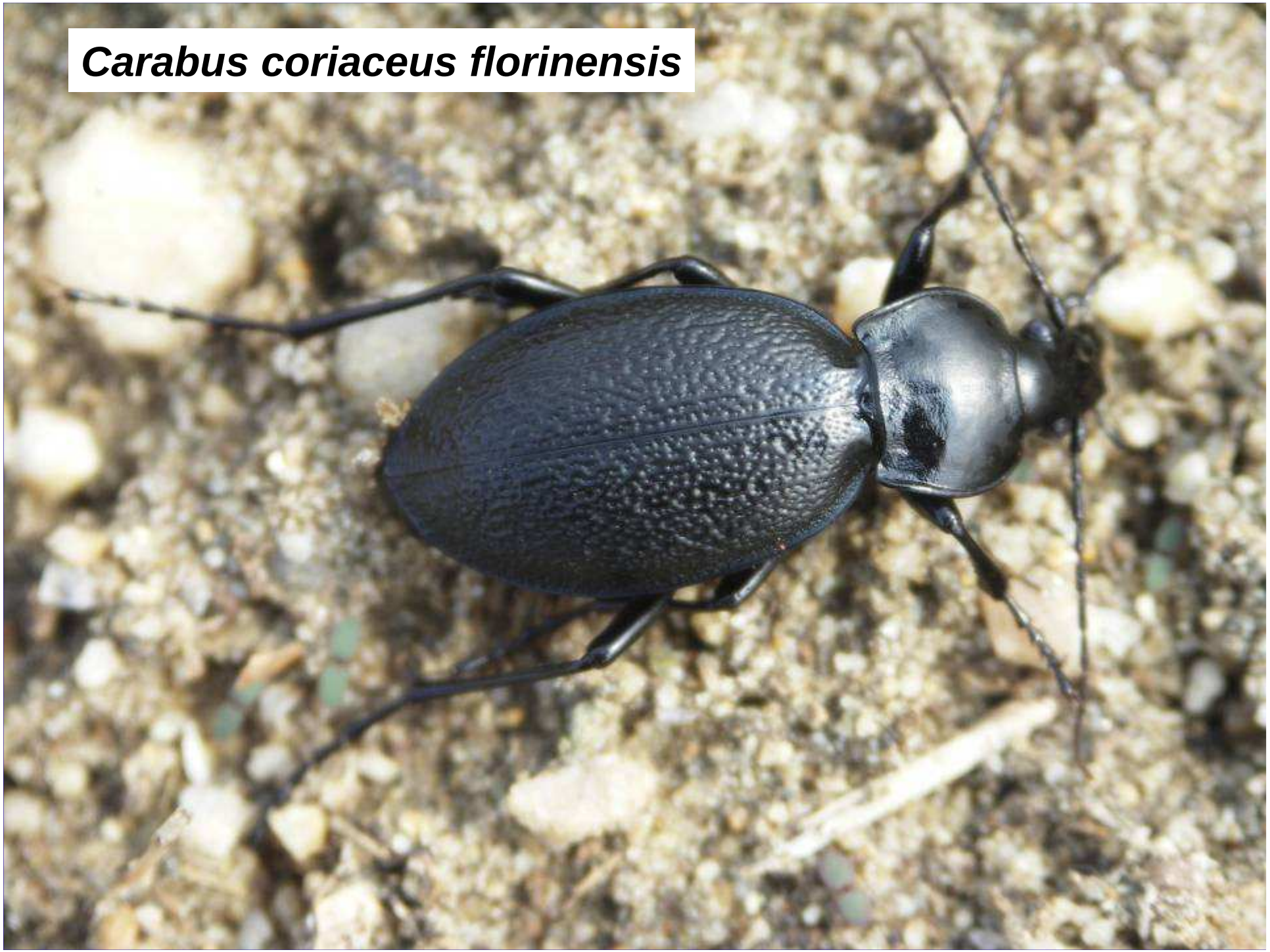
Myriostoma coliforme

Fauna species of special importance :

reptiles*: Vipera ammodytes, Natrix tesselata; Testudo graeca*

invertebrates: *Carabus coriaceus florinensis*, *Zabrus incrassatus* etc.

Birds: Phalacrocorax carbo


Carabus coriaceus florinensis

Thank you…