

# Zonave me biodiversitet Gosa

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## **Aim of our lecture:**

- Why is Gosa area important for biodiversity?
- Which plant species and habitats are important from conservational view and why?
- What are threats for conservation?

Gosa area-  
Shkumbini River estuary





## **Gosa area**

complex ecosystem of many habitats:

- Osmani lagoon
- Shkumbini river delta
- salt marshes
- sand dunes
- Mediterranean pine forest
- riparian forest



# Flora

at least 180 species

11 important from conservational aspect

9 endangered

2 vulnerable

Nr.	Latin name	Threat Status by IUCN	Type of habitat
1	<i>Pancratium maritimum</i>	EN A1b	Sandy dunes
2	<i>Juniperus oxycedrus</i> subsp. <i>macrocarpa</i>	VU A1b	Sandy dunes
3	<i>Juniperus phoenicea</i>	EN A1b	Coastal Mediterranean coniferous forests
4	<i>Aster albanicus</i> subsp. <i>paparisti</i>	EN A1b	Coastal Mediterranean coniferous forests
5	<i>Sambucus nigra</i>	EN A1b	Riparian forests
6	<i>Ammophila arenaria</i>	EN A1b	Sandy dunes
7	<i>Elymus farctus</i>	EN A1b	Sandy dunes
8	<i>Hypericum perforatum</i>	EN A1b	Riparian and Coastal Mediterranean coniferous forests
9	<i>Stachys maritima</i>	VU A1b	Sandy dunes
10	<i>Origanum vulgare</i>	EN A1b	Riparian and Coastal Mediterranean coniferous forests
11	<i>Colchicum autumnale</i>	EN A1b	Riparian and Coastal Mediterranean coniferous forests

*Pancratium maritimum* L.





*Aster albanicus* ssp. *paparisti* Qosja



*Hypericum perforatum* L.





*Elymus farctus* (Viv).  
Runemark ex Melderis



*Ammophila arenaria*  
(L.) Link





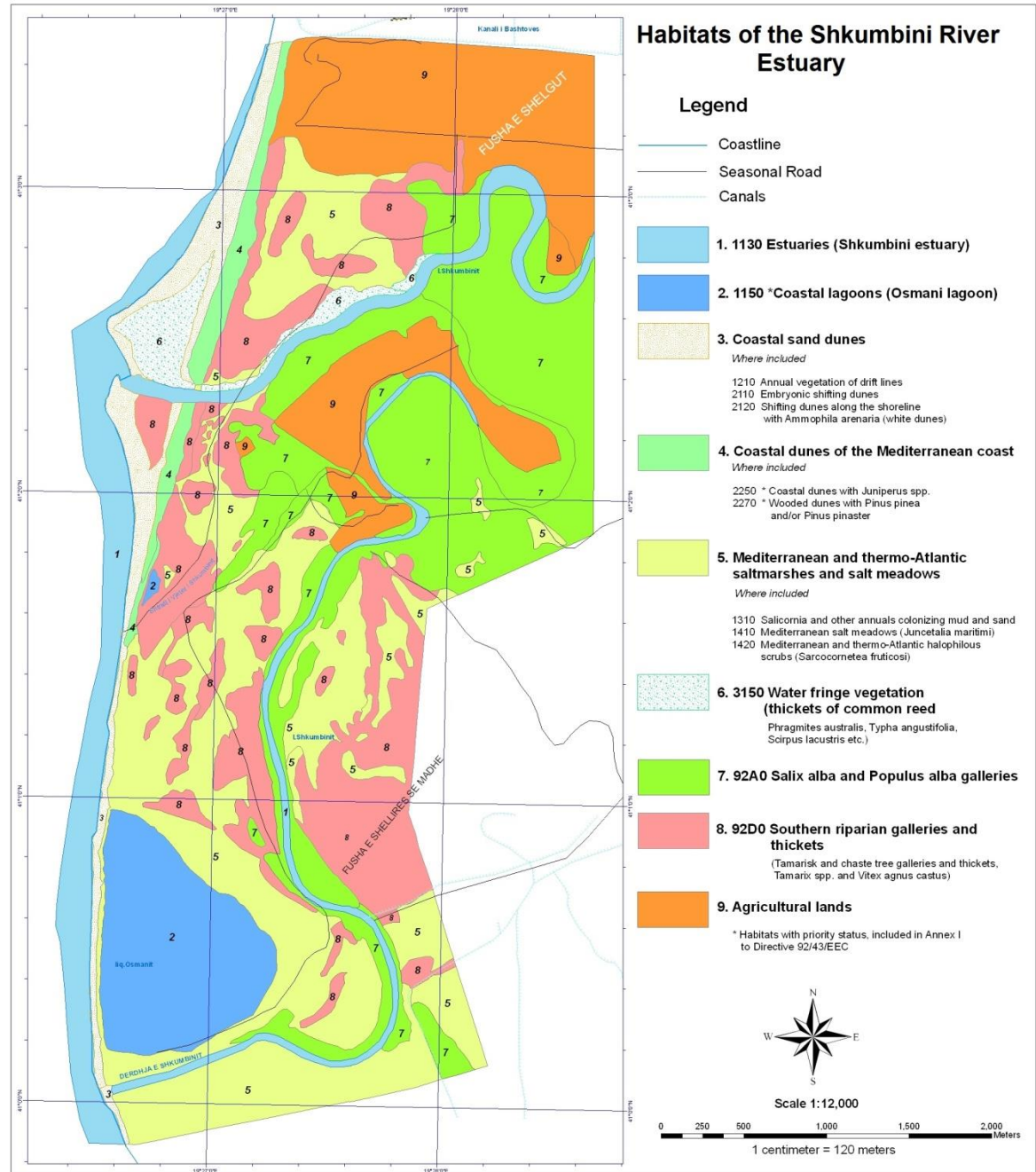
## Flora

### Threats:

- collecting (economic, medicinal or aromatic use)
- endangerment and destruction of their habitats
- limited distribution



# Vegetation (Habitat types)





# Estuaries



## Coastal lagoon





## Annual vegetation of drift lines





## Embryonic shifting dunes







Shifting dunes with  
*Ammophila arenaria*





## Retrodunes and depressions







Coastal dunes with  
*Juniperus* spp.





Wooded dunes with *Pinus pinea*  
and *Pinus halepensis*







*Salicornia* colonizing mud and sand



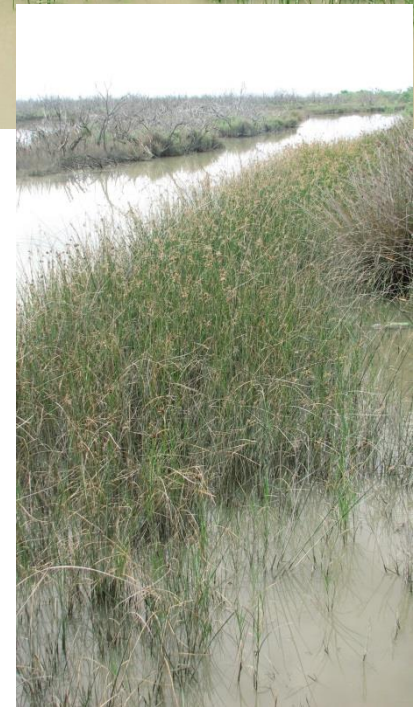
Halophilous scrubs  
(*Arthrocnemum  
fruticosum*)







Salt meadows  
(*Juncus maritimus*,  
*Juncus acuta*,  
*Bolboschoenus maritimus*)





Water fringe vegetation  
(*Phragmites australis*,  
*Typha angustifolia*,  
*Scirpus lacustris* ...)







Riparian forest dominated by *Salix* species

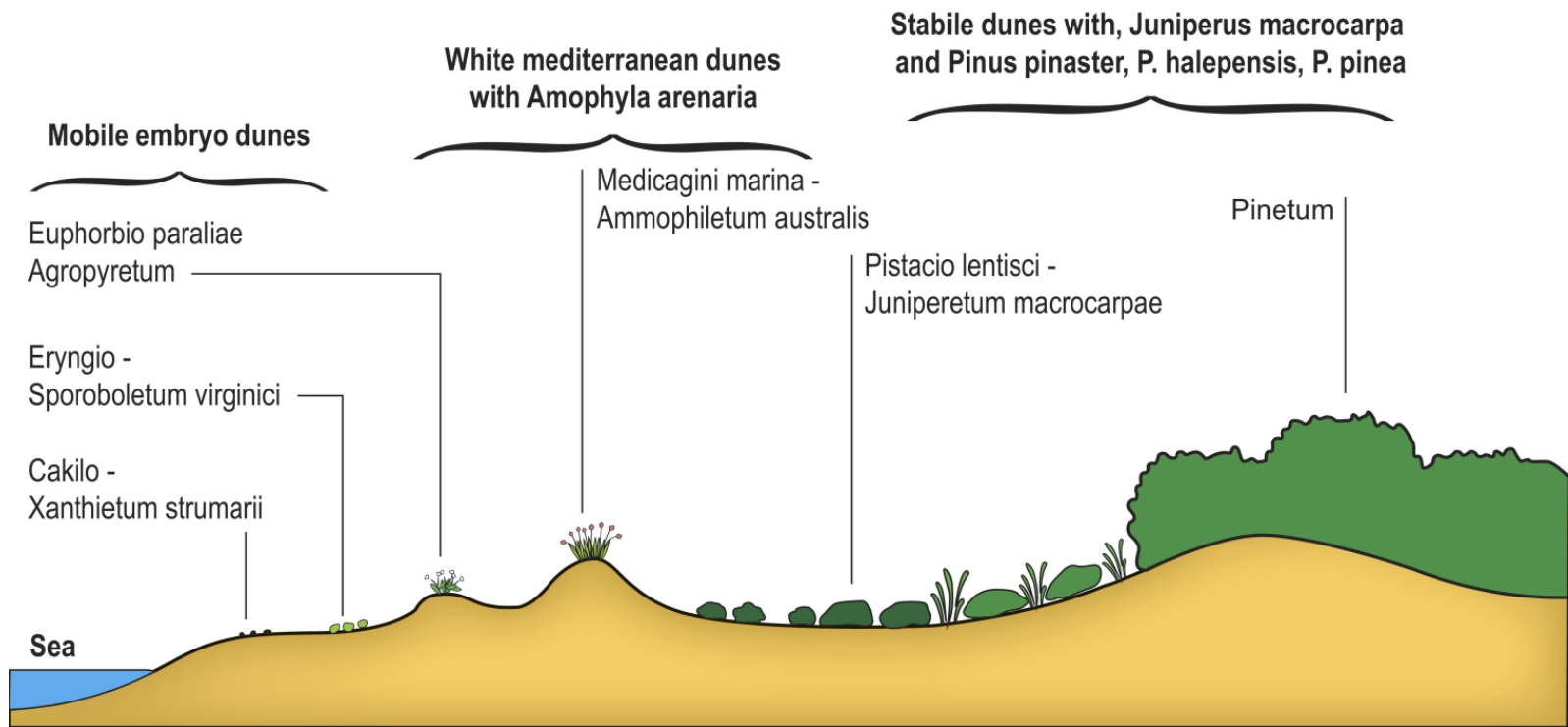






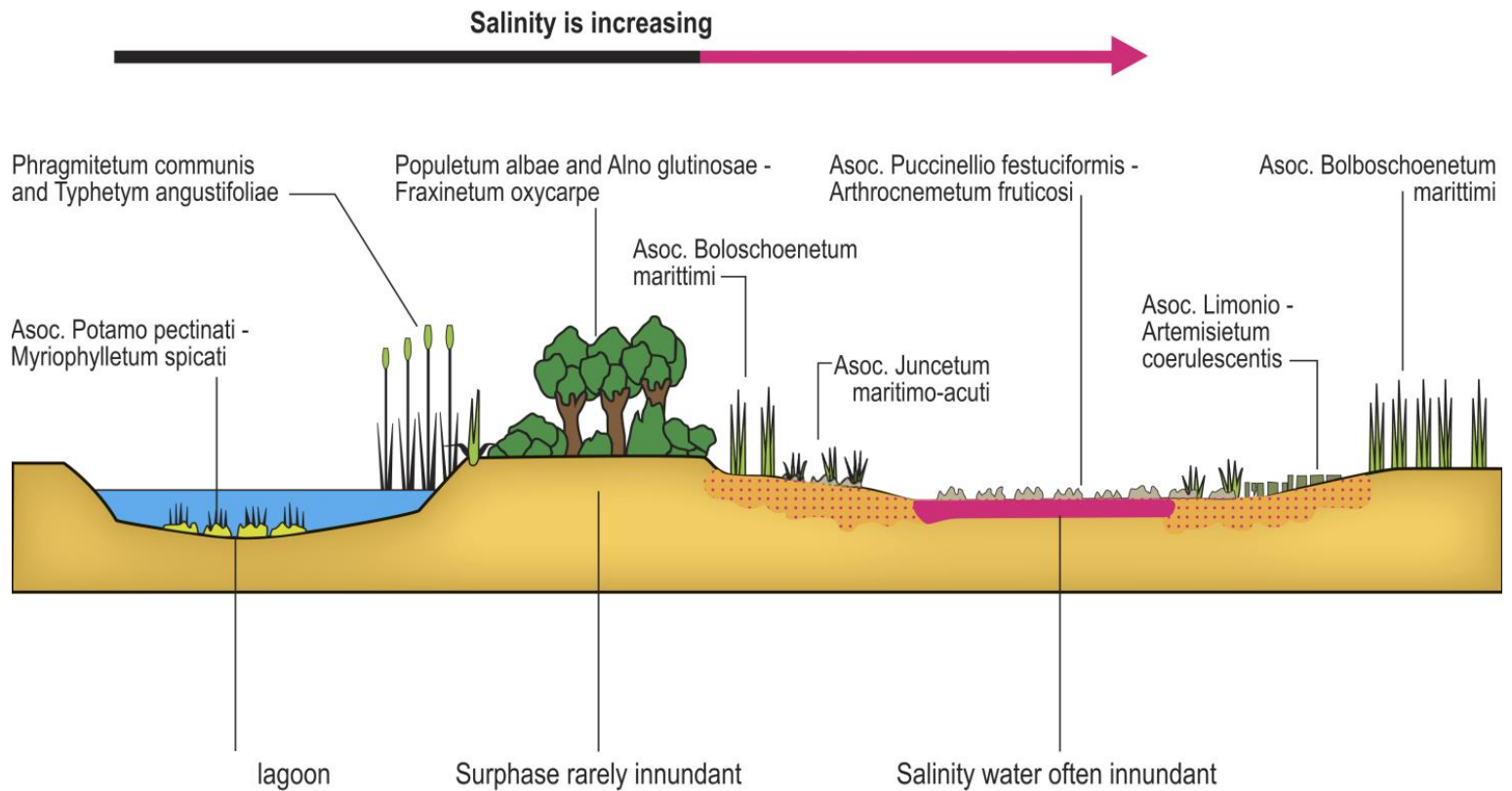
*Tamarix* and chaste tree galleries and thickets





Imeri et al. 2010





Imeri et al. 2010



# Vegetation (Habitat types)

14 habitats (even more plant communities)

## 3 of Community interest

(Habitats with priority status, included in Annex I to Directive 92/43/EEC)

- \* Coastal lagoons
- \* Wooded dunes with *Pinus pinea* and/or *Pinus pinaster*
- \* Coastal dunes with *Juniperus oxycedrus* subsp. *macrocarpa*

## Vegetation (Habitat types)

### Threats:

- endangerment and destruction of their habitats
  - land use change
  - urbanization
  - fisheries
  - transport
  - tourism
  - climate change
  - sea level rise
- limited distribution
- neophytes (*Agave*, *Oenothera* ...)

# ECOSYSTEM SERVICES

## Supporting services

- ✓ nutrient dispersal and cycling
  - seed dispersal
- ✓ Primary production

## Provisioning services:

- ✓ food (including seafood and game), crops, wild foods, and spices
- ✓ water
  - minerals (including diatomite)
- ✓ pharmaceuticals, biochemicals, and industrial products
  - energy (hydropower, biomass fuels)

## Regulating services:

- ✓ carbon sequestration and climate regulation
- ✓ waste decomposition and detoxification
- ✓ purification of water and air
- ✓ crop pollination
  - pest and disease control

## Cultural services:

- ✓ cultural, intellectual and spiritual inspiration
- ✓ recreational experiences (including ecotourism)
- ✓ scientific discovery



In this small area, many plant and animal species and communities found their home.

Therefore we must realize that we are not alone in this beautiful area and that we are to respect their homes.

**Falemnderit!**