BIODIVERSITY END SPECIES UNDER THREAT IN OHRID-PRESPA BASIN

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The content:

- Flora and vegetation in Ohrid-Prespa basin
- Fauna in this basin
- Species under threat
- Factors endangering biodiversity

- The aim of this topic is the identification of biodiversity, its values and endangered species in this basin

Ohrid and Prespa lakes

- The entire area of the Ohrid-Prespa region is 2318,59 km2.
- Lake Ohrid lies in the valley between Ohrid and Struga, 695 metres above sea level.
- It covers an area of 358.2 km2, the shoreline is 87.5 kilometres long.
- The average depth is 164 metres, and the max. depth 289 m.
- 2-4 million years old
- The Macro Prespa lake 253.6 km2, Micro Prespa is 47.4 km2.
- The two Prespa Lakes are situated at an altitude of 850 m above sea level.

Factors that constrain high biodiversity:

- Lakes Ohrid and Prespa are old and isolated by surrounding hills and mountains and that's why possessing a unique collection of organisms.
- These include a number of relict species, or "living fossils", and many endemic species, found only in Lake Ohrid.
- Only Lake Ohrid, Lake Tanganyika, Lake Caspi, and Lake Baikal are believed to have been formed during the Tertiary Period some 2-4 million years ago, and hence these lakes are characterized by unique flora and fauna distinct to that period.

Flora and vegetation in Ohrid-Prespa basin

- During the main productive season from April to October vertical phytoplankton distribution in Lake Ohrid is quite typical for oligotrophic lakes
- Green algae dominating the top 10 m of the water column
- Small algae taking over between 10 and 30 m

- Pelagic diatoms which show major growth between 20 and 50 m depth
- Potomogeton and Chara rings the lake bed between 6-50 m deep

- Special habitat for the rare species of juniper tree Juniperus excelsa is the island in Prespa Lake.

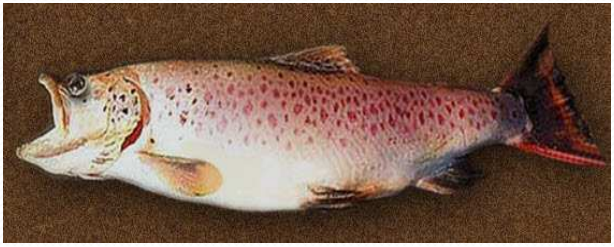
- This association of juniper is special host of the endemic fungi Pyrofomes demidoffii
- Neighboring Galichica National Park contains more than 1,500 species of plants, amongst them numerous relict and at least 11 endemic forms and some 100 species of plants which are gathered for medical use

Fauna of the lake and catchment area

- There are 586 species of animals in the region
- 1,200 native species in Ohrid lake
- 122 species are endemic, including 182 animals
- The adjusted rate of endemicity is estimated at 36% for all taxa
- Endemism among these species is 90% of snails
- 88% of parasitic infusoria
- 71% of flat worms
- 66% of small crabs.

Ochridospongia rotunda – endemic Ohrid sponge

- The endemic circular Ohrid sponge is one of the most interesting survivals in the lake. It has been compared by scientists only to sponges in the Lake of Tiberius in the Near East and in Lake Baikal



Salmo letnica – Ohrid trout

Salmo thymus ohridana - belvica

- Lake Ohrid contains 17 different species of fish belonging to the 3 groups: trout, white fish and eel.
- 10 species of fish are endemic.
- The best - known are two kinds of trout, letnica and belvica, which are not to be found anywhere else.
- Besides eel, chub, carp and barbell there are also under-mouth and moranec and a tiny fish called plasica, bleak.

Barbus prespensis Prespa's mrena

- In Lake Prespa: 11 native and 12 introduced fish species. 9 fish species (82%) are endemics.

- The avifauna includes Dalmatian pelican, great white pelican, European shag, mute swan, black-necked grebe, little grebe, redcrested pochard, common pochard, tufted duck, corncrake.

Dalmatian pelican

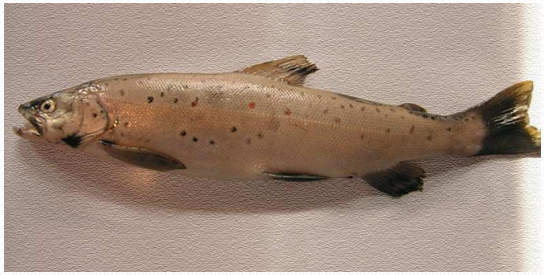
- Raptors include griffon vulture, lammergeier, black vulture, imperial and golden eagle, whitetailed eagle, peregrine, lesser kestrel

- The fauna on Mount Galichica is diverse, with some 170 vertebrate species: 40 mammals, 124 recorded birds, 10 amphibians and 18 reptiles.

Table: Fauna species present in the Shebenik-Oher-Prespa area and their Global and National Conservation Importance

Group	Nb. of reported Species in Albania	Nb. of Species in Shebenik-Oher-Prespa area	Nb of species of Global Conservation Concern (GCC) occurring at this area		Nb of species of National Conservation Concern (NCC) occurring at this area	
			Globally threatened (according to IUCN threat categories, 2008)	Lower Risk (according to IUCN, 2008)	Nationally threatened (same IUCN threat categories)	Lower Risk (according to National Redlist, 2006)
Amphibians	16	13	0	12	1	11
Terrestrial Reptiles	34	21	2	11	1	15
Birds	330	208	3	204	43	20
Terrestrial Mammals	69	61	1	60	11	24
Total vertebrates	449	303	6	287	55	70

Species under threat



Salmo letnica–Ohrid trout

- Overfishing is the major cause of the decline of the trout population.
- The socio-economic pressures that have led to overfishing have impacted the trout more than other fish stocks because of the greater demand and higher economic value of this fish.
- Rainbow trout represents a particular concern because it may displace the native trout.

- A characteristic example of a threatened species in the region is the European eel.

- Changes to water flows (largely due to dams) and in the quantity and quality of water resources through out the watershed, have caused severe dam - age to the fish passages, thus critically endangering the European eel.

- **Over fishing**
- There are six species that are regularly harvested by fishermen, including the famous Lake Ohrid trout (Salmo letnica), the smaller belvica, the bleak, carp, eel (Anguilla anguilla), roach.

- Over the last decade, between 200,000 and 300,000 kg of fish have been taken from the lake each year. Recent data suggest that this level of harvest may be more than the lake can sustain.

- There are 87 licenset fishermens in Prespa area and 160 in Ohrid Lake on the Albanian side. It is estimated that the real number of fishermens in the area surrounding the Ohrid Lake is 500 out of which more than two – thirds are illegal.

- Despite being organised into associations, fishing is frequently out of control, both in time and quantity. Most of them have the minimum education level.

Species under threat

Dalmatian Pelican *Pelecanus crispus*.

- The Dalmatian Pelican is patchily distributed from the Balkan region all the way to Central Asia.
- About a quarter of its global population breeds in Europe with the largest colony found in Lesser Prespa, with around 1400 breeding pairs

- Declines in the past were primarily caused by:
- wetland drainage, shooting and persecution by fishermen
- illegal hunting
- disturbance from tourists and fishermen
- wetland alteration and destruction
- water pollution

Other factors that threaten the biodiversity

- Unsustainable agriculture
- Intensive forestry
- Hunting
- Pollution of water by wastewater discharges
- Pollution of water by solid waste
- Pollution of water by pesticides (copper sulfate, lindane, organophosphates, synthetic fungicides, other chemicals), the fertilizer use is high, averaging 160-200 kg/ha/yr
- Uncontrolled urbanisation and industrialisation.
- Modification or fragmentation of the basin by infrastructure works, dams etc

Thank you for the attention!