The Biodiversity of The Black Sea

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Connecting Seas

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Definition and classification

- The Biodiversity describes the entire range of variability of living organisms within an ecological complex.
- It is divided into: Flora (plants) and Fauna (Animals)

The Black Sea

– The Black Sea covers an area of 423,488 km².

– The deepest point is 2211 m below sea level.

– Tides are generally of small amplitude (about 12 cm).

- The Black Sea contains 198 species of fish
- According to the IUCN(International Union for Nature Conservation), 9 species are critically threatened with extinction and 11 species are vulnerable
- Specialists say the Black Sea could become a dead sea

Species in the black sea

The Salinity

– Salinity refers to the salt content of a solution.

Depending on the degree of mineralization, the seas can be:

– Fresh (salinity below 0.5‰)
– Brine (salinity between 0.5‰ and 30‰)
– Salty (salinity above 30‰)

Let’s connect the Seas

- Many species of fish that are found in the Black Sea can also be found in the Atlantic Ocean and the Mediterranean Sea

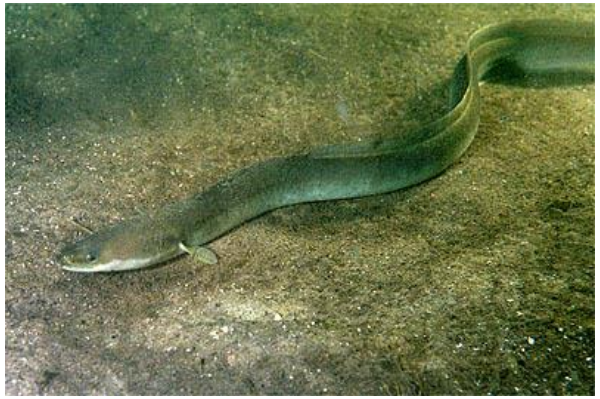
- These species usually support wide ranges of variations in their habitats. For example, the difference in salinity or temperature.

Compared to the degree of tolerance of organisms to different salinity amplitudes, they differ in two ecological groups:

– stenohaline, which supports narrow variations of salinity
– euryhaline, which supports wide variations of this factor.

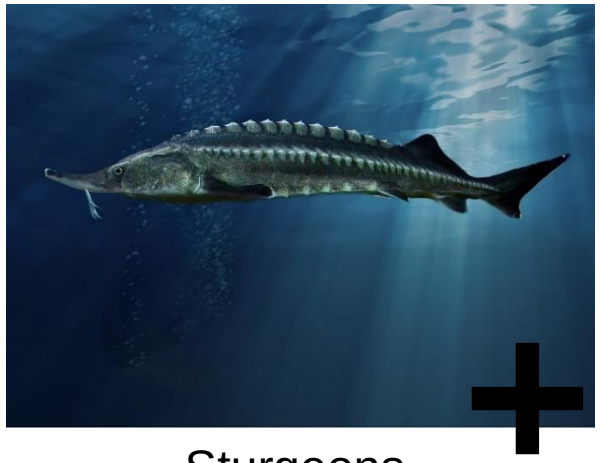
Species found in the Atlantic Ocean, Mediterranean Sea and Black Sea

Blennies
(Aidablennius)



Eels
(Anguilla Anguilla)

Mullets
(Liza)



Sturgeons
(Acipenser)

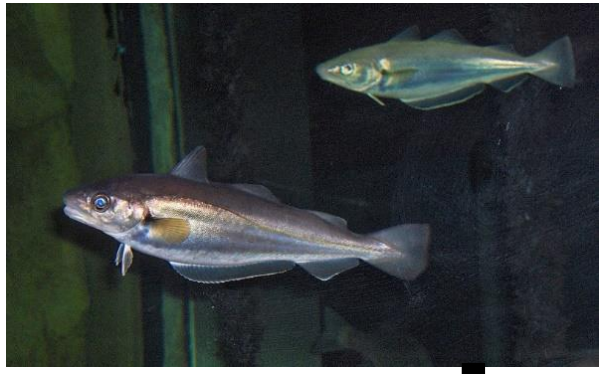
– All these species are *euryhaline* and tolerate wide variations in the amount of salinity, the depth and other factors in their habitats.

The
Oyster
(Ostrea edulis)

The Clam
(Chamelea
gallina)

– These species are *stenohaline*, only being able to live in specific habitats with close to no variations of the salinity

The Sprat
(Sprattus sprattus phalericus)



The Merling
(Merlangius merlangus)

The eutrophication

- represents the enrichment of water in nutrients, especially in nitrogen and / or phosphorus compounds;
- it causes an accelerated growth of algae;
- It leads to an accelerated disturbance of the balance of the organisms present in the water and on the water quality.

The Eutrophication in the Black Sea

- A strange phenomenon was observed on the Romanian Black Sea coast
- The water started to “bloom” at the surface
- Laboratory analysis revealed that the redness was produced by a species of small unicellular algae(Prorocentrum cordatum)

Conclusions

- An important feature of the Black Sea is an unusually high river discharge into the relatively small semi-enclosed Sea.

- The reduced salinity is the most important environmental factor influencing marine biodiversity in the Black Sea (its surface layer salinity is 17‰ -gram salt in 1 liter of seawater, two times less than that of the Ocean -average 35‰).

- The Black Sea is unique among all Seas on our planet.

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Thank you for listening!

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