

Gallery of Ichthyofauna

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Enhancing Knowledge on Biodiversity and Assessing Ecological Status of the Lower Catchment of Neretva River in Bosnia and Herzegovina



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“The Critical Ecosystem Partnership Fund is a joint initiative of l’Agence Française de Développement, Conservation International, the European Union, the Global Environment Facility, the Government of Japan and the World Bank. A fundamental goal is to ensure civil society is engaged in biodiversity conservation.”



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Eurasian minnow

(Phoxinus phoxinus) Linnaeus, 1758



- Regional category of endangerment: LC
- European RedList (IUCN category 2020): LC
- Global RedList (IUCN category): LC

Species description

- *Phoxinus* is a genus of freshwater fish in the family Cyprinidae of order Cypriniformes.
- The genus *Phoxinus* is found throughout Eurasia, and includes 21 known species.
- *Phoxinus phoxinus* coloration can be variable according to age, maturity stage, environment, and season.
- The body is covered with small scales except for the belly between the pelvic and pectoral fins.
- Normally, the dorsal side is brownish-green, and is separated from the whitish-gray ventral side by a longitudinal series of blotches that may unite into a dark line.
- During the breeding season, males are brightly colored and have reddish pectoral and pelvic fins, a black throat, and a scarlet belly.
- *Phoxinus phoxinus* inhabits fresh and brackish ponds, lakes, and streams located in coastal areas to the high mountains. It is more common in shallow lakes and slow flowing streams.

River trout

(Salmo trutta m. Fario) Adriatic strain, Linnaeus, 1758



- Regional category of endangerment: **LC**
- European RedList (IUCN category 2020): **LC**
- Global RedList (IUCN category): **LC**

Species description

- River trout in river Buna is endemic species which is typical representative of the Salmonidae family.
- It is characterized by a relatively large head and large mouth
- The jaws and vomer are equipped with sharp teeth.
- They vary in shade from dark to light brown and olive-brown. The color of the back is mostly olive brown, while the sides are yellow-green.
- Dark and red spots bordered by light edges can be seen on the body. The whole body is covered with tiny, thin and round scales.
- Due to quality of its meat and distribution, brown trout is a very attractive fish species for sport fishing.
- Since it was listed in regional category of endangerment as **LC**, as a result of current research of this species it should be considered and placed on IUCN list as **CR** on European and global Red list in Neretva river and its tributaries.

Softmouth trout

(Salmothymus obtusirostris oxyrhynchus) Steindachner, 1882



- Regional category of endangerment: CR
- European RedList (IUCN category 2020): EN
- Global RedList (IUCN category): EN

Species description

- Softmouth trout arouses the curiosity of ichthyologists from the very beginnings of exploring this area of zoology to the present day.
- It is included in the genus *Salmothymus*, with one recent species, and therefore the whole genus is monophyletic.
- Softmouth trout have four subspecies that are endemic to the middle and southern parts of the Adriatic basin.
- Four subspecies of softmouth trout are differentiated:
 - *Salmothymus obtusirostris oxyrhynchus* Steindachner, 1882
 - *Salmothymus obtusirostris salonitana* Karaman, 1926
 - *Salmothymus obtusirostris krkensis* Karaman, 1926
 - *Salmothymus obtusirostris zetensis* Karaman, 1932
- Since it was listed in regional category of endangerment as CR, as a result of current research this species should be considered and placed on IUCN list as CR on European and global Red list in Neretva river and its tributaries.

Lake trout

(Salmo trutta m. Lacustris) Linnaeus, 1758



- Regional category of endangerment: *LC*
- European RedList (IUCN category 2020): *LC*
- Global RedList (IUCN category): *LC*

Species description

- Lake trout is larger than brown trout and has irregularly shaped black spots.
- Its back is blue-green and its hips are lighter, green-yellow shades.
- In ideal conditions it can grow up to 20 kg and it becomes fully mature in the fourth or fifth year, and spawns from October to December in streams that flow into lakes.
- It is very predatory and feeds on small fish and flies.
- During our research, this species was recorded in Salakovac as well as Lake Mostar.
- Due to quality of its meat and distribution, lake trout is a very attractive fish species for sport fishing.

Neretvan spined loach

(Cobitis narentana) Karaman, 1928



Species description

- *Cobitis narentana* is a species of ray-finned fish in the true loach family (*Cobitidae*).
- It is found in Bosnia and Herzegovina and Croatia.
- Its natural habitats are rivers, freshwater lakes and freshwater marshes of the Neretva River basin.
- It is threatened by habitat loss.

- Regional category of endangerment: VU
- European RedList (IUCN category 2020): VU
- Global RedList (IUCN kcategory): VU

Pike perch

(Sander lucioperca); synonym: Stizostedion lucioperca Linnaeus, 1758



- Regional category of endangerment: LC
- European RedList (IUCN category 2020): LC
- Global RedList (IUCN category): LC

Species description

- The slender body is covered with small scales that give the perch a rough look.
- The elongated head ends in a sharp-shaped mouth.
- It has excellent vision, even at great depths and in the absence of light.
- In general, the dorsal part is gray-greenish, and it becomes lighter on the sides dotted with vertical dark stripes.
- It likes rocky or pebble bottoms with various obstacles.
- Perch breeds between April and May.
- Consumes small fish.

Neretva chub

(Leuciscus svallize) Heckel et Kner, 1852



- Regional category of endangerment: VU
- European RedList (IUCN category 2020): VU
- Global RedList (IUCN category): VU

Species description

- It is characterized by a slender body, and the head and forehead are rather narrow and rounded.
- It inhabits (along the Neretva and its tributaries) the accumulation lakes of Herzegovina: Bilećko, Jablanicko, Ramsko, etc., in which it has adapted extremely well to the ecological conditions of "new" ecosystems.
- It inhabits karst waters, mostly in larger flocks.
- It reaches sexual maturity in the third and fourth year.
- It spawns in the spring period from April to June.
- It lays its eggs on a rocky base.

Pumpkinseed

(Lepomis gibbosus) Linnaeus, 1758



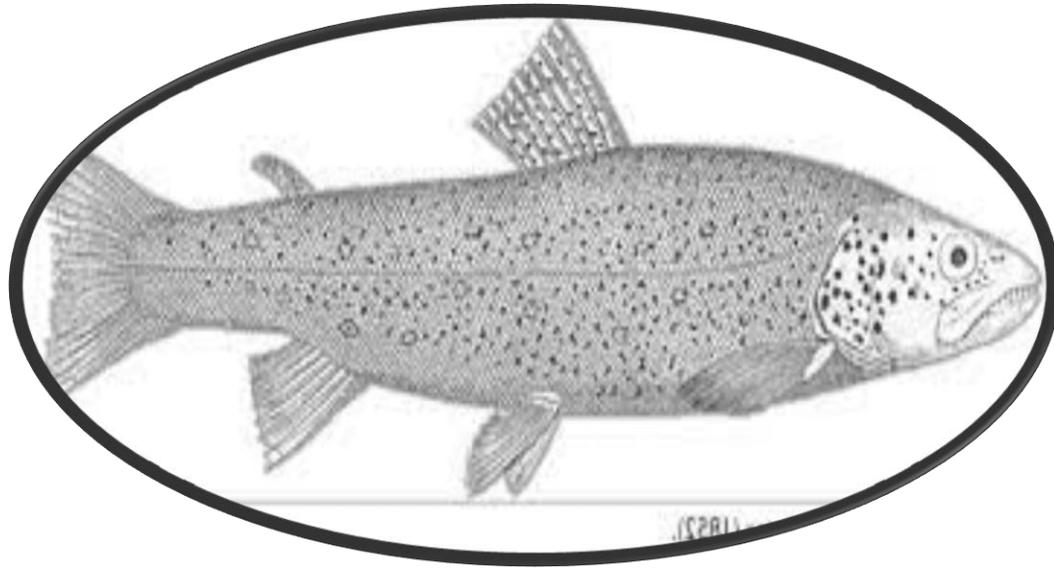
- Regional category of endangerment: LC
- European RedList (IUCN category 2020): LC
- Global RedList (IUCN category): LC

Species description

- Due to its unusually attractive appearance, it was transferred to Europe as an aquarium fish.
- Through human negligence, it spread through nature, where it multiplied extremely quickly, seriously endangering many of our indigenous species.
- It does best in shallow, warm, stagnant waters with lots of herbs.
- It is aggressive in nature and predatory.
- It feeds on all aquatic animals that it manages to catch and swallow, including the young of other fish species.
- Unlike most European species, sunfish eat their eggs and newly hatched larvae of larger fish.

Dentex trout

(Salmo dentex) Heckel, 1852



- Regional category of endangerment: DD
- European RedList (IUCN category 2020): DD
- Global RedList (IUCN category): DD

Species description

- It owes its name to the big fangs that stand out of its teeth.
- It grows up to 1 meter in length and reaches a weight of 16 kg.
- Strong jaws and very large and sharp fangs stand out.
- It is oblong, but the body is compressed at the sides.
- It is a very dangerous predator and an excellent swimmer.
- It likes overgrown benthals.
- It avoids steep coasts, sandy and muddy bedrock, muddy waters, quiet coves and coastal areas.
- It feeds mainly on fish, crabs, cephalopods, worms, etc.
- As a typical predator it attacks anything that is on the move and is always ready to attack.
- It is a very persistent hunter.
- Spawns in early summer.

Marble trout

(Salmo marmoratus) Cuvier, 1817



- Regional category of endangerment: *CR*
- European RedList (IUCN category 2020): *LC*
- Global RedList (IUCN category): *LC*

Species description

- Endemic to the Adriatic basin.
- Elongated and cylindrical body.
- The head makes up 20-25% of the total body length.
- The whole body is characterised with irregular curved lines.
- It stays in deep springs with reefs, where it takes refuge.
- It spawns from November to early January.
- It reaches sexual maturity at the age of five or six.
- It is a predator, carnivore and feeds on other fish.
- Since it was listed in regional category of endangerment as *CR*, as a result of current research this species should be considered and placed on IUCN list as *CR* on European and global Red list in Neretva river and its tributaries.

Brook trout

(Salvelinus fontinalis) Mitchill, 1815



- Regional category of endangerment: *LC*
- European RedList (IUCN category 2020): *LC*
- Global RedList (IUCN kcategory): *LC*

Species description

- It is native to eastern North America (in the United States and Canada), but has been introduced elsewhere in the world (Iceland, Europe, and Asia).
- The specific epithet "fontinalis" comes from the Latin for "source".
- It is also known as spotted trout and mud trout.
- It lives in clear, cold streams.

Tench

(Tinca tinca) Linnaeus, 1758



- Regional category of endangerment: LC
- European RedList (IUCN category 2020): LC
- Global RedList (IUCN category): LC

Species description

- It is widespread almost all over Europe. In Bosnia and Herzegovina, it can be found in the lower course of the Sava tributary and in the lower course of the Neretva River (Hutovo Blato).
- It has an elongated shape.
- The skin is covered with thick mucus, and is green, dark green to golden yellow in color.
- It is up to 70 cm long and weighs 7.5 kg.

Basak

(Rutilus basak) Heckel, 1843



- Regional category of endangerment: CR
- European RedList (IUCN category 2020): NT
- Global RedList (IUCN category): NT

Species description

- Endemic and indigenous to the Adriatic basin. It lives only in Croatia and Bosnia and Herzegovina. It inhabits the lower course of the Neretva River, while the largest population is in Hutovo Blato.
- It has an elongated body.
- It can grow up to 55 cm and reach a weight of over 3 kg.

White chub

(Leuciscus cephalus albus) Bonaparte, 1838



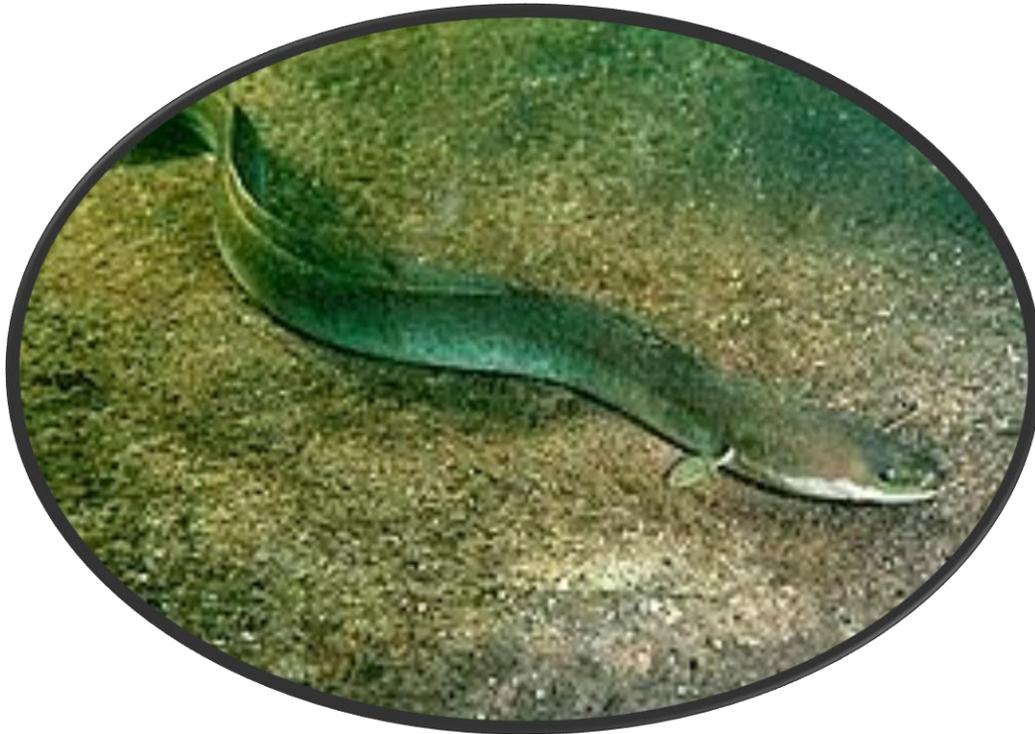
- Regional category of endangerment: LC
- European RedList (IUCN category 2020): DD
- Global RedList (IUCN category): DD

Species description

- It inhabits freshwater of central Italy, the Peloponnese and Albania. In BiH, it lives in hydro-accumulation lakes as well as the Neretva River.
- It has a spindle-shaped and strong body, adapted to swimming in strong water currents.
- It is covered with large scales marked with a black stripe.
- Its head is massive with a round snout covering his wide slit mouth.

Eel

(Anguilla Anguilla) Linneaus, 1758



- Regional category of endangerment: CR
- European RedList (IUCN category 2020): CR
- Global RedList (IUCN kcategory): CR

Species description

- Inhabits Europe along with the Atlantic ocean, Mediterranean, Azov and Black Seas. It is also present in the river Neretva.
- After mating, the eels die.
- The appearance of the eel is serpentine, has a long, elongated body.
- The dorsal fins start far behind the head, the tail ends in a ribbon, with the junction of the dorsal and ventral fins.

Pike

(Esox lucius) Linnaeus, 1758



- Regional category of endangerment: *LC*
- European RedList (IUCN category 2020): *LC*
- Global RedList (IUCN category): *LC*

Species description

- It inhabits the Trebižat river and Hutovo Blato.
- It has a spindle-shaped body.
- It is a large predator.
- The spindle-shaped body ends with a characteristic head, broad and flattened, in the shape of a duck's beak.
- The jaw is equipped with about 700 teeth, tilted inward.

European greyling

(Thymallus thymallus) Linnaeus, 1758



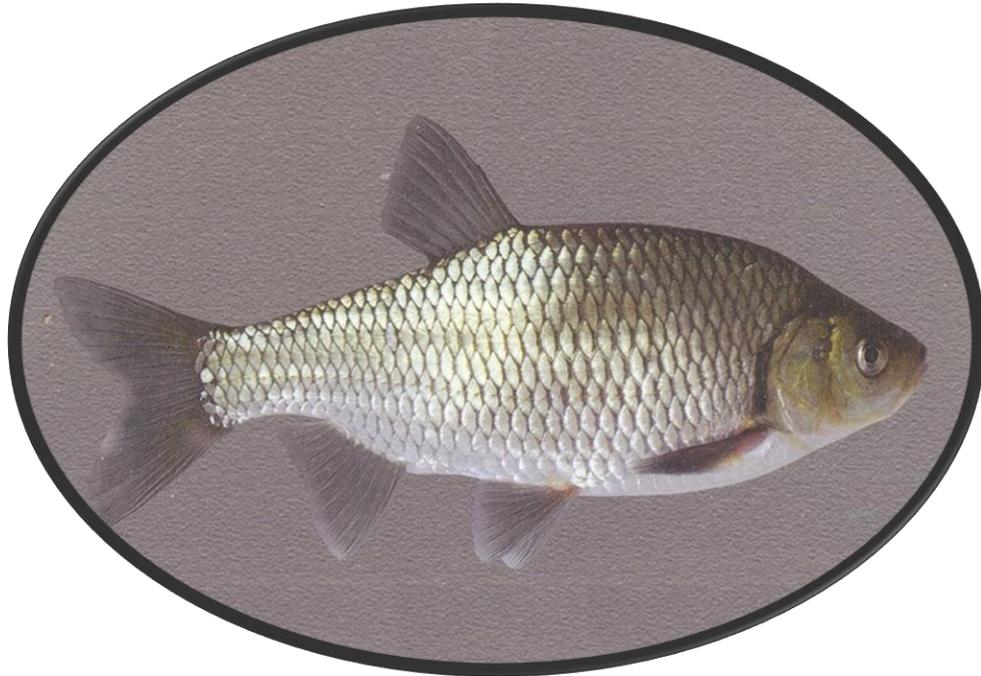
Species description

- It was originally introduced in the upper part of the watercourse above Konjic, and eventually spread to the lower part of the Neretva River downstream of Mostar.

- Regional category of endangerment: *LC*
- European RedList (IUCN category 2020): *LC*
- Global RedList (IUCN kcategory): *LC*

Sandpiper

(Scardinius plotizza) Heckel et Kner, 1958



- Regional category of endangerment: LC
- European RedList (IUCN category 2020): DD
- Global RedList (IUCN category): DD

Species description

- Indigenous and endemic species of the Adriatic basin.
- It inhabits slow and stagnant waters of riverbeds and floodplains with rich aquatic vegetation.
- It lives in shallow and calm streams of the Neretva delta and enters the zone of muddy water.
- Data on the biology of this species is scarce.
- Due to the loss of habitat this species should be placed in the regional category of Since it was listed in regional category of endangerment as CR.
- As a result of current research this species should be considered and placed on IUCN list as CR on European and global Red list in Neretva river and its tributaries.

White bleak

(Alburnus alburnus alborella) De Filippi, 1844



Species description

- Inhabits Salakovac and Mostar lakes.
- It is the main food source of the California trout and pike perch.
- This population is difficult to control.
- It spawns twice a year.

- Regional category of endangerment: LC
- European RedList (IUCN category 2020): LC
- Global RedList (IUCN category): LC

Dalmatian Nase

(Chondrostoma knerii) Heckel, 1834



- Regional category of endangerment: EN
- European RedList (IUCN category 2020): VU
- Global RedList (IUCN category): VU

Species description

- This is an autochthonous and endemic basin of the lower reaches of the Neretva, and inhabits the rivers Buna, Bunica, Bregava and Hutovo blato.
- It spends part of the year in underground streams, spawning in shallow water.
- Interventions on watercourses in the eastern parts of Herzegovina, through the project "Upper Horizons", will reduce the inflow of water in the Neretva basin, especially in winter, when podustva spawns.
- The BiH Red List has the status of endangered species (EN) and the IUCN Red List status vulnerable (VU).

Californian rainbow trout

(Oncorhynchus mykiss), Walbaum, 1792



- Regional category of endangerment: LC
- European RedList (IUCN category 2020): LC
- Global RedList (IUCN category): LC

Species description

- Spindle-shaped body, slightly wider than that of brown trout.
- The back is dark green, and a line of rainbow colors runs along the hips along the entire length of the body.
- The whole body is covered with dark spots.
- It grows from 35 to 70 cm in length and 0.5 to 6 kg in weight.
- There is a theory that this species is successfully spawning in the river tributaries of Salakováčko lake.
- Spawning takes place in the upper parts of the rivers, from November to May, at a water temperature of 10 to 15 °C.