

## Threatened fishes of the world: *Salmo dentex* (Heckel 1852) (Salmonidae)

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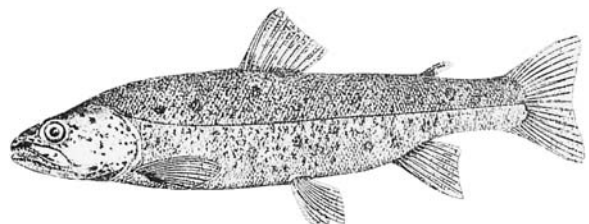
Common name: Zubatak (Cro), Tooth trout (E) (Fig. 1). Conservation status: Data deficient (Baillie and Groombridge 1996). Listed as critically endangered in Croatia (Mrakovčić et al. 2006). Identification: Body laterally compressed, back silverish fading gradually to white in the abdomen; head pointed, snout narrow; fins greyish, turning in orange during the spawning season. D IV 9–10: A IV 7–8: V II 8: P I 11–13: C 19; LI. scales 115–122. Gill rakers: right 11–13; left 12–14. Pyloric caeca 35–45. In Hutovo Blato wetland (Bosnia-Herzegovina) this species may reach 58.2 cm TL and a weight of 2360 g, commonly 20–25 cm (Glamuzina and Bartulović 2006). Drawing by P. Tutman based on illustration in Vuković (1977). Distribution: Restricted to the main rivers of the Adriatic watershed in Croatia

(Mrakovčić et al. 1995), Bosnia-Herzegovina (Vuković 1977) and Montenegro (Marić 1995). Abundance: Not sufficiently known but scarce everywhere. Nevertheless, some moderately numbered populations occur in colder streams and lakes of the Hutovo Blato wetland. Habitat and ecology: Inhabits colder lakes and streams where temperature is between 13° and 13.5°C throughout whole year. Reproduction: Apparently from November to January. There are no thorough studies of its biology. Threats: Principal threats are those related to loss of environmental quality by organic and chemical water pollution and hydrological changes. Also, gravel extraction is causing loss of spawning areas from some parts of river. In addition, there is intensive commercial fishing pressure. Conservation action: No conservation actions were ever implemented. Conservation recommendation: A detailed study of current population status, biology and ecology is required. Effective habitat protection, especially of spawning areas and water

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**Fig. 1** *Salmo dentex* (Heckel 1852)

quality enhancement is strongly recommended. Remarks: Recent genetic studies of Neretva salmonids describes it as a distinct Neretva phylogeographic lineage of *Salmo trutta*, which indicates his recent evolutionary origin (Razpet and Snoj 2004).

## References

- Baillie J, Groombridge B (eds) (1996) 1996 IUCN red list of threatened animals. IUCN, Gland, Switzerland, 378 pp
- Glamuzina B, Bartulović V (2006) Some characteristics of the endemic dentex trout, *Salmo dentex* (Heckel, 1851) from the Neretva River, Bosnia-Herzegovina. *Ribarstvo* 64(2): 59–64
- Marić D (1995) Endemic fish species of Montenegro. *Biol Conserv* 72:187–194
- Mrakovčić M, Mišetić S, Pov M (1995) Status of freshwater fish in Croatian Adriatic river systems. *Biol Conserv* 72: 179–185
- Mrakovčić M, Brigić A, Buj I, Čaleta M, Mustafić P, Zanella D (2006) Red book of freshwater fish of Croatia. Ministry of Culture, State Institute for Nature Protection, Republic of Croatia, 253 pp
- Razpet A, Snoj A (2004) Taxonomic survey of salmonid taxa of the Neretva basin, Bosnia and Herzegovina, using DNA markers. XI European Congress of Ichthyology, September 6–10, Tallin, Estonia. Abstract volume, p 37
- Vuković T (1977) Ribe Bosne i Hercegovine. (Fishes of Bosnia and Herzegovina). IGKRO «Svjetlost», Sarajevo, 197 pp