

REARING OF CARPIONE *Salmo Carpio*, AN ENDEMIC SALMONID IN LAKE GARDA (ITALY)

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The 'Carpione' (*Salmo carpio* L.) is a species strictly endemic to the Lake Garda, the largest Italian lake, with a peculiar reproductive biology when compared to other Italian endemic Salmonids: it is gregarious and it spawns twice a year (summer and winter) at very high depth (above 150 m).

Carpione is considered to be critically endangered within the IUCN Red List, as its population has drastically reduced in the last decades, mainly for overfishing and introduced species (*Coregonus* spp) and its conservation also goes through *ex-situ* reproduction.

An ongoing project is studying the definition of rearing protocols to produce restocking material. Over the difficulty to find wild spawners, sanitary restrictions impose strict limitations to freely move and propagate the species in breeding plants, so that a specific plant for quarantine has been at first identified.

Also if similarities with other Salmonid culture has been observed, specific hatching and rearing temperature, light-dark cycle and artificial diet are tested in the fish plant of the FEM-IASMA. In particular recent improvements of spawners feed led to an higher eggs production and higher juveniles production (about 25.000 alevins) from the last winter artificial reproduction. Study of spawning areas in Lake Garda by means of sonar sensor measurements and underwater robot camera revealed the potential of evaluating the best reintroduction techniques for the species.