# Ichthyotoxism in *Capoeta capoeta gracilis* (Keyserling, 1861) from west of Urmia ( Marmisho Lake), Iran

**Ramin M.[1*]; Shiri S. [2]; Doustdar M. [1]**

Received: December 2010 Accepted: May 2011

1-Iranian Fisheries Research Organization, PO Box: 15875-3575, Tehran, Iran.
2-Iranian Artemia Research Cente, P.O.Box:57135-1367, Urmia, Iran.
*Corresponding author's email: mrifro@yahoo.com

**Key words**: *Capoeta capoeta gracilis , Cyprinidae*., Ichthyotoxine, poisoning, Urmia

Fish egg poisoning is a public health hazard although usually the incident rate, mortality and fish species involved are not well reported (Halstead,1970). Four species of *Cyprinidae* in Iran have been suggested as ichthyotoxic by Coad (1979) .namely *Abramis brama. Cyprinus carpio* .*Schizothorax zarudnyi* and *Tinca tinca* and it was thought that other species may be discovered subsequently.Najafpour and Coad (2002) reported ichthyotoxin in the cyprinid *Barbus luteus* from Iran ,and the study records another species. The Cyprinid fish *Capoeta capoeta* known as Siah mahi or gara balig in Iran.

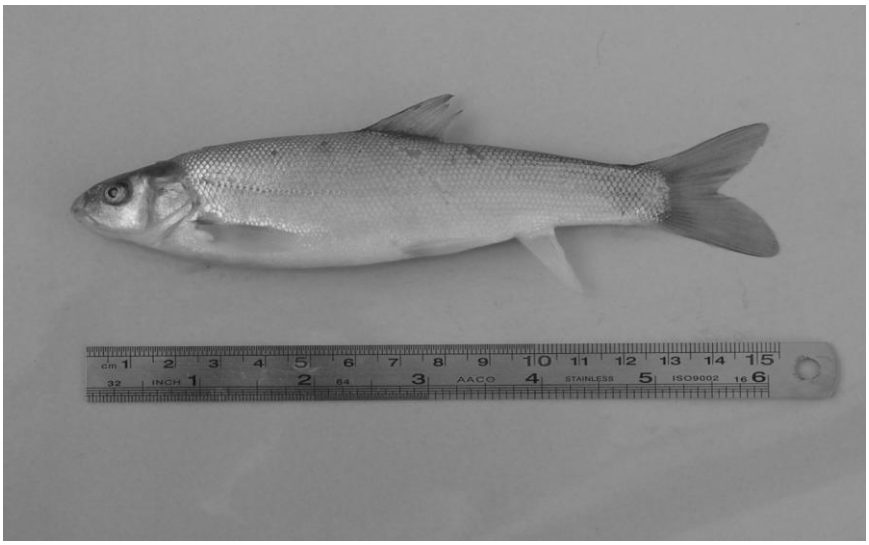

**Figure1:*Capoeta capoeta gracilis***

The *Capoeta* has pharyngeal teeth in 3 rows, a pair of barble and subterminal mouth, the last Non-branching ray of its dorsal fin is thick and relatively Serrated. The maximum standard lenghth of this fish is about 450 mm. Its habitat is in low and middle parts of rivers and clear to muddy water springs with gravel and muddy substrate. Its diet is on aquatic insects and diatoms. The reproduction is in spring,

[ Downloaded from jifro.ir on 2026-11-13 ]

[ DOR: 20.1001.1.15622916.2012.11.1.17.3 ]

since March to July month and the females spawning peak is in May. They are distributed in rivers, fresh water lakes, Caspian southt basin and Urmieh basin. This species has economic worth and some Asian countries have cultured it in soil ponds. It has a wide distribution in northern and central Iran including the Lake Urmia basin (Yahyazadeh,2002). It attains 38 cm in length and 3.5 kg (Amanov, 1970).

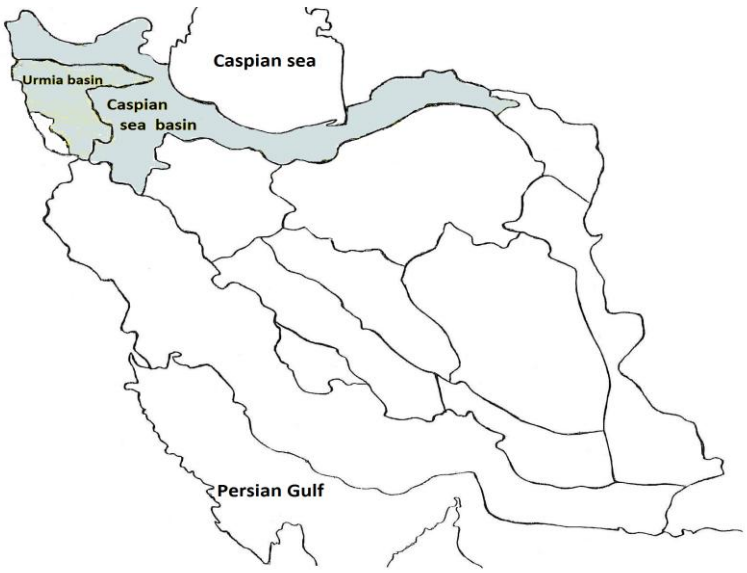


**Figure 2: Distribution of *Capoeta capoeta gracilis* in Iran**

In north – western Iran spawning of *Capoeta capoeta* occurs from April to june. Eggs are yellow in colour and up to 1.5 mm in diameter (personal observations of authors ). The name *Capoeta* is derived from the American and Georgian name for female *Capoeta capoeta* packed with eggs namely "Kapwaeti"

The fish were collected from Marmisho Lake which lies 45 km west of Urmia at 37 30 N, 44 46 E. Marmisho is a natural lake with an area of 5 ha. Fish species belong to the families *Cobitidae Balitoridae Salmonidae* and *Cyprinidae* and the lake is used for sport fishing .The largest *Capoeta capoea* taken in trap nets was 31 cm total lenghth and 400 g weight. Eggs from one specimen formed part of a meal eaten by (shiri) about 1.8 of an ovary was eaten after heating and served fried. The toxic effects were noted as nausea just one minute after ingestion of the first spoonful. Frequent nausea without vomiting abdominal pain and severe chest pain followed .This victim aged 34 years and weighting 70 kg was hospitalized for 24 hours. An anti-vomiting injection (Methochlopramide) was administered but nausea was continuous for 16 hours. The presence of nausea withouth vomiting may be due to the victim having eaten no food for lunch Ingestion of first spoonful of eggs.The toxic ingredients were absorbed into the blood system and nausea was continous until the toxins broke down.

No other confirmed report of poisoning by *Capoeta spp*. has been reported from Iran. However, this record from the genus *Capoeta* is not unexpected. Najafpour and Coad(2002) suggested that

[ Downloaded from jifro.ir on 2026-11-13 ]

[ DOR: 20.1001.1.15622916.2012.11.1.17.3 ]

an early mention of ichthyotoxine in Iran may have referred to *a Capoeta* species (Sykes,1972 ) reffering to the travels of Sir john Chardin. First published in 1686.

Toxic interactions between man and fish are probable in Iran through an active programme in aquaculture for both native and exotic species and expansion of freshwater fisheries to provide food for a population that exceeds 75 million. We have no evidence that ichthyotoxine with *Capoeta spp*. Leads to death although deaths have occurred with other *Cyprinids* such as *Schizothorax.* The toxine is unknown and there is no antidote. Treatment is symptomatic and the stomach should be evacuated as soon as possible.Victims generally recover within 3-5 days in such cases (Halstead, 1970) .Note that cooking does not always destroy the toxin. Raw consumption of eggs should be avoided.Especially in the spring breeding season and the fresh thoroughly cleaned and cooked before eating.

**Referances**

**Amanov, A. A., 1970.** Morphology and ecology of the Samarkand khramulya Varicorhinus capoeta heratensis kessl .Of the Surkhan Darya River basine. *journal of Ichthyology*, Jerusalem, 104, 475-481.

**Coad, B. W., 1979 .** Poisonous and venomous freshwater fishes of Iran-Pahlavi Medical Journal. Shiraz, 9(**4**), 388-407

**Halstead., B. W., 1970.** Poisounous and Venomous Marine Animals of the World. Volume Two-Vertebrates. 1070 pp. Volume Three-Vertebrates continued. 1006pp. United State Government Printing Office. Washington. D.C.

**Najafpour . N. and Coad. B. W., 2002.** Ichthyotoxism in Barbus luteus from Iran (Actinopterygii ,Cyprinidae) *Zoology in the Middle East*, 26, 129-131.

**Sykes. P., 1972.** Sir John Chardins Travels in Persia- The Argonaut Press. London, 287.

**Yahazadeh .M.Y., 2002.** Identification of native fishes of west Azarbaijan Province Phase 1(northern water source). Urmia, 105.

[ Downloaded from jifro.ir on 2026-11-13 ]

[ DOR: 20.1001.1.15622916.2012.11.1.17.3 ]