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## THREATENED FISHES OF THE WORLD: *Hucho taimen* (Pallas, 1773)

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### ABSTRACT

Taimen *Hucho taimen* (Pallas, 1773) was once common in China, Russia, Kazakhstan and Mongolia but is disappearing now from its native region. This vulnerable species has considerable ecological importance but there are few data available on its biology. The limited available data on its systematics, distribution, ecology, reproduction and threats are summarized and discussed.

### COMMON NAMES

Taimen (China, Kazakhstan, Mongolia, Russian Fed, USA, Sweden, etc.); Taimenlaks (Denmark). The species is also known as Siberian taimen, Mongolian taimen and Siberian salmon (Fig 1).

### CONSERVATION STATUS

Vulnerable A2bcd in China, Russia, Kazakhstan and Mongolia, and is being considered for listing in the International Union for Conservation of Nature (IUCN) Red List (Wang and Xie, 2004; Matveyev et al., 1998; Baasanjav and Tsend-Ayush, 2001). So far, it has just been listed as vulnerable in the IUCN Red List in 2012.

### IDENTIFICATION

Body elongate and slightly compressed. Mouth terminal and slit large, praemaxilla reaching the rear edge of the eyes. Maxilla, lower jaw, vomer, palatine and tongue with sharp teeth. Scales oval, minute, without radial grooves and rings extremely clear. There are 173-288 scales in a midlateral row (107-164 pored scales). Adipose fin is well-developed. Body color dark green on back and belly silvery

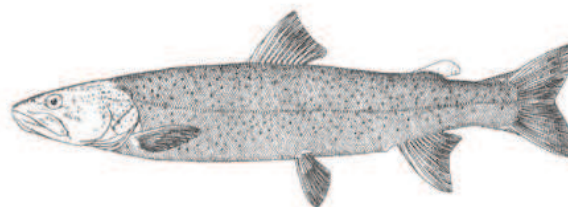


Fig 1. *Hucho taimen* in River (Yue and Chen, 1998)

white. Some small cross-shaped dark spots on head and flanks. Pelvic fin carmine red, anal fin and caudal fin appear in the adult, likewise, but only during the spawning period. The number of pyloric caeca varies from 205 to 219 (Zhang, 1995; Yue and Chen, 1998).

### DISTRIBUTION

In China, it is distributed in the river systems of the Amur River, Wusuli River, Tumen River, Songhua River, Irtysh River and Hanasi Lake. In Russia, it is distributed in the upper reaches of the Volga and Ural rivers (Yue and Chen, 1998). In Mongolia, it is distributed in rivers throughout Siberia and northern Mongolia (Esteve et al., 2009).

## ABUNDANCE

It has an estimated area of occupancy of 12,404,332 km<sup>2</sup> (including the entire watershed area). The total range area lost is estimated to be 444,972 km<sup>2</sup> (Hogan and Jensen, 2013). It was estimated that there was a total natural range reduction of 3.6%. Loss in the range area for specific regions varies from 3.2% within Russia (in the Volga, Ural and Pechora Rivers), 6.9% within China (in the Amur River basin) and 19.1% within Mongolia (Hogan and Jensen, 2013).

## HABITAT AND ECOLOGY

Inhabits the fast-flowing streams below 15°C. In order to overwinter, it gradually moves into large rivers or deeper waters in the neighboring areas before ice is formed. It feeds mainly on other fishes. Sometimes, it also preys on snakes, frogs, rodents and aquatic birds (Yue and Chen, 1998). Maturity is reached at age 5 (Yue and Chen, 1998). After the ice melts, when the temperature range is 8-10°C, matured parent fish excavate nests. They spawn in the section of rivers with rapid flow and gravel bottom, and have the habit of burying and protecting eggs (Zhang, 1995).

## THREATS

The main factor is poaching in the spawning period which has significant influence on declining of populations. Water pollution by wastewater from mining and factories along the river is another important factor.

## CONSERVATION ACTION

No protective measures are in place except that it was listed as a protected wild animal in China (Wang and Xie, 2004).

## CONSERVATION RECOMMENDATIONS

Fishing must be prohibited during the spawning migration in the spring and the pollution of rivers must be stopped in order to improve the habitat of the fish (Wang and Xie, 2004). Ban illegal fishing methods. A recovery plan should be implemented immediately. Feeding and breeding has been successfully made in the Heilongjiang River Fisheries Research Institute. Further studies on its ecology, nutrition, disease and reproductive biology are needed.

## ACKNOWLEDGEMENTS

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## Sažetak

### UGROŽENE VRSTE RIBA U SVIJETU: *Hucho taimen* (Pallas, 1773)

Taimen *Hucho taimen* (Pallas, 1773) je nekoč bio čest u Kini, Rusiji, Kazahstanu i Mongoliji, ali sada nestaje iz svojih prirodnih staništa. Ova osjetljiva vrsta ima značajnu ekološku važnost iako ima malo podataka o njejoj biologiji. Dostupni podaci vezani uz sistematiku, distribuciju, ekologiju, razmnožavanje i prijetnje su ograničeni te su sažeti i o njima se raspravlja.

**Ključne riječi:** *Hucho taimen*, Salmonidae, zaštita, ugrožene vrste

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