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THREATENED FISHES OF THE WORLD: *Botia dario* (Hamilton, 1822) (Cypriniformes: Cobitidae)

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ABSTRACT

Bengal loach *Botia dario* is a valuable food fish in South Asian countries including Bangladesh, Bhutan, India and Nepal. However, the wild population is declining due to heavy harvest, habitat loss and its ecological changes. This paper suggests actions for the conservation of the lasting isolated populations of *B. dario* in Asian countries.

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COMMON NAME

B. dario is commonly known as Rani or Bou mach in Bangladesh (Rahman, 1989), Botuk mach in India (Nath and Dey, 1989) and Tiger loach in Nepal (Shrestha, 2008).

food fish in Asian countries including Bangladesh, Bhutan, India and Nepal for its invigorating qualities of flesh. Also important for aquarium trade in many countries (Froese and Pauly, 2014).

CONSERVATION STATUS

Endangered in Bangladesh (IUCN Bangladesh, 2000) and near endangered in lower Brahmaputra basin of Assam, India (CAMP, 1998).



IMPORTANCE

Botia dario (Fig. 1) is the most common of the Genus *Botia* and is a target species of all small-scale fishers. It is used as

Fig 1. *Botia dario* photo was taken by the author (Md. Yeamin Hossain) from the Ganges River (known as Padma in Bangladesh) on 3 February 2015.

IDENTIFICATION

Body is elongated and laterally compressed. There are four pairs of barbel (two pairs - rostral, one pair - maxillary and one pair - mandibular). Body color is yellowish with several (7-8) yellow colored transverse bands. Fin formula is D.11-13 (2-3/9-10), P₁.14; P₂. 8, A. 7-8/(2/5-6) (Rahman, 1989), and D. 11-12 (2/ 9-10), P₁. 13 (2/11), P₂. 8 (2/6), A. 6 (1/5), C. 18-20 (4/ 14-16) (Hossain, unpublished data).

DISTRIBUTION

This fish is widely distributed in Bhutan (Petr, 1999), Bangladesh, India (Talwar and Jhingran, 1991) and in Nepal (Shrestha, 2008).

ABUNDANCE

Bengal loach was previously abundant in different water bodies like rivers, streams, *beels*, but natural population is declining rapidly in its habitats (IUCN Bangladesh, 2000; Rahman et al., 2012a).

HABITAT AND ECOLOGY

This fish mainly inhabits rivers, clear mountain streams and sandy bottom of wetlands (Froese and Pauly, 2014; Haque and Biswas, 2014). It is an omnivorous feeder and takes both commercially prepared feeds and live foods.

REPRODUCTION

B. dario naturally breeds in monsoon season (Das and Biswas, 2008). Size at first sexual maturity of *B. dario* is 7.32 cm in total length (TL) for males and 7.89 cm in TL for females (Hossen et al., 2014). Fecundity varied from 5245 to 53754 in fishes ranging in TL from 9.60 cm to 13.50 cm and in body weight from 14.51 g to 43.29 g (Hussain et al., 2007).

THREATS

Reckless fishing for ornamental trade, habitat modification, climate changes and reduced water flow are the principal threats to this species (Chaudhry, 2010; Hossain et al., 2012; 2015a).

CONSERVATION ACTION

Several studies on ecology, biometrics, length-weight relationships, condition factors have been performed (Gopalakrishnan and Ponniah, 2000; Haque and Biswas, 2014; Hossen et al., 2014).

CONSERVATION RECOMMENDATIONS

Further studies on the reproductive biology and stock assessment are urgently required for this endangered loach (Hossain, 2014; Hossain et al., 2015b). To conserve this species in its natural habitat, over-exploitation and habitat loss should be protected (Rahman et al., 2012b; Hossain et al., 2015c). Establishment of suitable sanctuaries in preferred areas of rivers, streams, reservoirs, lakes and wetland is suggested (Hossain et al., 2009; 2015d). Fishing of sexual mature fishes should be banned (Hossain and Alam, 2015; Hossain et al., 2015e). The preservation status of *B. dario* should be enhanced through sustainable management and by creating public awareness.

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Sažetak

UGROŽENE VRSTE RIBA U SVIJETU: *Botia dario* (Hamilton, 1822) (Cypriniformes: Cobitidae)

Benegalski vijun, *Botia dario*, u južnim azijskim zemljama, uključujući Bangladeš, Butan, Indiju i Nepal, ima visoku važnost u prehrani. Međutim, divlje populacije su u opadanju zbog teškog iskorištavanja, gubitka staništa i ekoloških promjena. U ovom članku se predlažu akcije za očuvanje posljednjih izoliranih populacija *B. dario* u azijskim zemljama.

Ključne riječi: *Botia dario*, Benegalski vijun, ugrožena vrsta, hrana, Azija

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