World Journal of Fish and Marine Sciences 7 (5): 362-364, 2015
ISSN 2078-4589

DOI: 10.5829/idosi.wjfms.2015.7.5.9629

Silonia Silondia (Hamilton, 1822), A Threatened Fish of Indian Subcontinent

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Abstract: *Silonia silondia* is a catfish species of family Schilbeidae under the order siluriformes which is widely distributed in India, Pakistan, Bangladesh, Nepal and Myanmar. It is a popular food fish as having good taste. It is also a popular game fish in India and recently has also made its entry in ornamental fish markets. At present due to over exploitation, habitat loss and change in habitat ecology, population of this fish species are facing threat of extinction and already has been reported as lower risk near threatened in India and endangered in Bangladesh. So, proper measures must be taken to conserve this important fish species. The present report has been prepared to sum up the available information on different aspects of *Silonia silondia* along with noting down the possible measures that should be taken into consideration for its conservation.

Key words: Threatened · Conservation · *Silonia silondia*

INTRODUCTION

Silonia silondia is a catfish species of family Schilbeidae under the order siluriformes. It is a popular food fish as having good taste [1] and high protein content [2]. It is also famous as a game fish [1] and recently has also been documented to be exported from India as ornamental fish [3].

Common Name: Silong/Shilong/Dhain/Banspati in India; Basa/Bacha/Silon/Shilong in Bangladesh; Nga mrang/Nga mee nyeeng in Myanmar [1, 4].

Conservation Status: Lower Risk near Threatened in India [5], Endangered in Bangladesh [6]

Morphological Characters: Body is elongated, devoid of scale; herring-shaped in younger stages and bulky at the belly in adult. A median fontanel is extending along the entire length of the head; shallow in front and somewhat deeper behind. Occipital process tapers to a fine point posteriorly and separated from the basal bone of the dorsal fin. Teeth in jaws are villiform; those on the palate are arranged in a crescentic band. Mouth is terminal; lower jaw is a little longer, snout is rather broad. Gape of mouth is more than half of the head length; mouth cleft does not extend below eye. Eyes are with narrow adipose lids. A pair of maxillary barbels is present; mandibular barbels are rarely seen. Two dorsal fins are present; the first one is with a weak and finely serrated spine and few rays and is as long as the head behind the middle of the eye; the second dorsal is adipose. Pectoral fin spine is stronger, serrated along both edges and is as long as head without snout. Pelvic fin arises under the posterior dorsal rays and nearly reaches the anal. Anal is long; extending anterior half of the body. Caudal fin is deeply forked. Body is bluish in color along the back and silvery on the sides; lips are red; fins are stained with grey.

Distribution: *Silonia silondia* is widely distributed in India, Bangladesh, Pakistan, Nepal and Myanmar [4, 7-9]

Habitat: Though principally *Silonia silondia* is an estuarine fish [10], it is commonly available in rivers and reservoirs [1]. According to Gopalakrishnan [11], this fish species is quite frequent in the estuarine zone of River Hooghly. Karamchandani and Motwani [12] have reported that this catfish inhabits the estuaries of India and Myanmar; and ascends the large rivers almost to their sources. Due to its long range tolerance for salinity and temperature and long migratory habit, the silondia often ascends and descends from saline zone through freshwater regions of rivers and reservoirs. They are also found to flourish well in tanks [1].

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Maximum Length: 183 cm [7,8, 13]; 152 cm [14]; 100 cm [4]; 80 cm [15,16]; 51 cm [17]; 26 cm [18] have been reported as maximum length for *Silonia silondia* by earlier workers.

Feeding Habit: Carnivorous feeding habit of *Silonia silondia* has been reported by all previous workers [10, 17, 19-21]. The pre- and post larvae of *Silonia silondia* up to 10 mm size used to feed exclusively on zooplankton. The carnivorous feeding habit used to develop right from the early fry stage. 11-25 mm size fry takes carp fry, copepods and nauplius. Voracious piscivorous tendency develops in the fingerling stage when they predate on fry and fingerling of other fishes. Adults consume both fishes and bottom biota like prawns, crabs, molluscs, insects etc. [19]. Hora [10] has reported the young silond below 10 cm size from the river Hooghly to feed on prawns and young fish, while adults mainly consume *Hilsa ilisha* and other fishes. Menon and Chacko [20] and Agarwal and Tyagi [21] have documented the presence of fishes, crustaceans, gastropods and insects in the gut content of silond fish.

Reproduction: *Silonia silondia* is a seasonal breeder, breeds during the monsoon season and in the freshwater zone of the river. For breeding purpose, the silond ascends the river [1]. Hora [10] has reported that in River Ganga, it breeds in the upper freshwater stretches during the south-west monsoon months (June-August).

Threats: Populations of *Silonia silondia* are facing the threat of extinction due to numbers of reasons like over-fishing, habitat loss, adverse changes in habitat ecology etc.

Conservation Measures: So far not much initiative has been taken to support the conservation of *Silonia silondia* except few works to study the feeding and reproductive biology of this fish species.

Recommendations for Conservation: First and foremost a detail survey is really needed to analyze the present status of natural populations of *Silonia silondia*. The existing populations must be provided proper protection and that can be done by the following measures: (i) complete banning of fishing practice during the breeding season; (ii) size specific capture must be suggested to protect the juveniles; (iii) the factors causing habitat loss and change in habitat ecology must be identified and proper steps to be taken to solve these problems. So far captive breeding of this fish species has not been tried anywhere in the world; hence this must be attempted in the coming days.

At present the total supply of this fish species to the domestic markets depends on wild capture. So, support only to the wild populations is not enough to conserve this fish species. To reduce pressure on wild stock, captive breeding and culture of this species must be tried. Success in captive breeding depends on the availability of proper knowledge on feeding and breeding biology of the particular fish species. So far, though few works have been done on feeding biology of this fish species, not much information is available on its reproductive biology. Thus further studies are needed to explore some proper information on this particular aspect. It is a hardy fish in nature and can tolerate a high range of temperature (7-40° C) and moderate range (up to 14 ppt) of salinity [1]; thus is a suitable fish species for captive culture. But so far culture of this fish species has not been tried which to be attempted in coming days. Apart from these measures, awareness program must be arranged to inform the general people about the problem and then using their support and willingness, conservation campaigns can be promoted through education and extension programs.

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