Article: RT0384

Biotica Research Today

Vol 2:10 1068/1069

2020

Biology and Fishery of *Sperata aor*: A Commercially Important Catfish

A. Singh

Dept. of Zoology, Tripura University (A Central University), Suryamaninagar, Tripura (799 022), India

Open Access

Corresponding Author

A. Singh

e-mail: aprajita.abhi@gmail.com

Keywords

Biology, Catfish, Fishery, *Sperata aor*

How to cite this article?

Singh, 2020. Biology and Fishery of *Sperata aor*: A Commercially Important Catfish. Biotica Research Today 2(10): 1068-1069.

Abstract

Sperata aor is an indigenous and freshwater fish species which is popularly known as "Aar fish". It is generally distributed in riverine condition in different parts of country. It contributes major catch in middle and lower stretches of ganga river mostly during the late winter and early summer. It is carnivores in nature. The present article focuses on providing an overview of biology such as food & feeding habit, sexual dimorphism, breeding period and fishery of *S. aor*.

Introduction

Sperata aor is commonly known as a long-whiskered catfish and generally distributed in many parts of the world *i.e.*, India, Bangladesh, Pakistan, Nepal and Myanmar. It generally inhibits in riverine condition but it also found in ponds, lakes, tanks, channels, reservoirs etc. This species has high ability to tolerate wide range environmental condition. Adults and juveniles are generally bottom dwellers and fry inhibits in shallow marginal areas of the rivers. It is a most popular fish in aquaculture due to its good taste and high nutritious as well as its medicinal value. However, it is to be interesting to note that it did not receive sufficient attention in aquaculture probably due to our ignorance or overlooking the fauna. On the other hand, because of non-availability of wild brood stock, fry and fingerlings from natural sources and also due to cannibalistic habit of the fingerlings of many more fish species it has become a major constrain for their artificial propagation in nature. Recently this fish made its entry in domestic ornamental fish market of India and also give little bit amount of share in ornamental fish trade. *Sperata aor* has special taxonomic characters like elongated body; head greatly depressed along with it has sub terminal mouth.Barbels are generally 4 pairs, maxillary pair reaches to the base of caudal fin. Most important character it has well developed adipose dorsal fin and originated near caudal fin. Caudal fin forked and upper lobe slightly longer than lower lobe. Lateral line is well developed and complete.

Taxonomic Hierarchy

Kingdom - Animalia

Phylum - Chordata

Class - Actinopterygii

Order - Siluriformes

Family - Bagridae

Genus - Sperata

Species - *S. aor*

Article History

Received in 21th October 2020

Received in revised form 27th October 2020

Accepted in final form 28th October 2020

E-mail: *bioticapublications@gmail.com*

Biology

Food and Feeding Habit

They are generally carnivorous in feeding habit. However, Agarwal and Tyagi (1969) reported that Sperata *aor* is an omnivorous fish mainly feeds on worms and tenders parts of aquatic plants. Saigal (1964) observed that the main food items of *Sperata aor* is small fish, insects, crustaceans, plant matter and detritus etc.

Sexual Dimorphism

Sex can be differentiated based on the presence of papillary outgrowth. Papillary outgrowth is present just above the urino-genital pore in case of male and in cases of female this type outgrowth is absent (Saigal, 1964).

Size and Age at First Maturity

Saigal (1964) observed that *S. aor* attains sexual maturity at 84 cm. Ramakrishniah (1992) reported that *S. aor* attains sexual maturity at 57.3 cm of length and he also reported that *S. aor* used to get matured at the age of 4 years.

Gonadal Maturity Stages and Fecundity

Saigal (1964) observed that *S. aor* shows seven gonadal maturity stages *i.e.,* immature, intermediate, early maturing, late maturing, advanced maturing, ripe and spent. The fecundity of *S. aor* ranges from 45000-122500.

Breeding Periodicity and Spawning Type

The breeding season of *S. aor* is varies from region to region. In case of Punjab waters the breeding season of *S. aor* varies from June to July. In case of Tungabhadra river *S. aor* breeds in the month of September to December. Saigal (1964) reported that *S. aor* breeds in the month of April and June in Ganga river. Various factors *i.e.* optimum water temperature (25.2-27 °C), sluggish water current and sandy bed as well as bright sunrise and cool breeze, transparency 30 cm, alkalinity carbonate 1.5-3.0 ppm, bicarbonate 4.7-92.4 ppm, pH 7.4-8.1, dissolved oxygen 6.0-7.4 mg/L plays a significant role in successful spawning of *S. aor*.

Fishery

According to Ramakrishniah (1992), *Sperata aor* is an important species of bagrids contributing to the commercial fishery of all the major river systems in India. Sperata aor constitutes major components of the fishery in the middle and lower stretches of Ganga mostly during the late winter and early summer. According to Saigal (1964), average annual catch of *S. aor* during 1958-1969 at 545.58 t and 367.74 t, respectively, for the Ganga and Yamuna rivers.

Figure 1: Anterior part of *Sperata aor* (Hamilton, 1822) adult female

Conclusion

According to IUCN category, *S. aor* is considered as a near threatened fish species. So, there is need to study the captive breeding of *S. aor* for conservation of this species. A proper management strategy will help to increase the health status of fishes in rivers of India through more research on this species and correlated environment.

References

Agarwal, V.P., Tyagi, A.P., 1969. Food and feeding habits and the alimentary canal of freshwater fishes of Muzzaffarnagar. Agra University Journal of Research, (Science) 18(1), 15-28.

Ramakrishniah, M., 1992. Studies on the breeding and feeding biology of *Mystus aor* (Hamilton) of Nagarjunasagar Reservoir. Proceedings of the National Academy of Sciences, India, 62(3), 357-364.

Saigal, B.N., 1964. Studies on the fishery and biology of the commercial catfishes of the Ganga River system. II. Maturity, spawning and food of Mystus (*Osteobagrus*) aor (Hamilton). Indian Journal of Fisheries, 11(1), 1-44.