Katsuwonus pelamis (Linnaeus, 1758)

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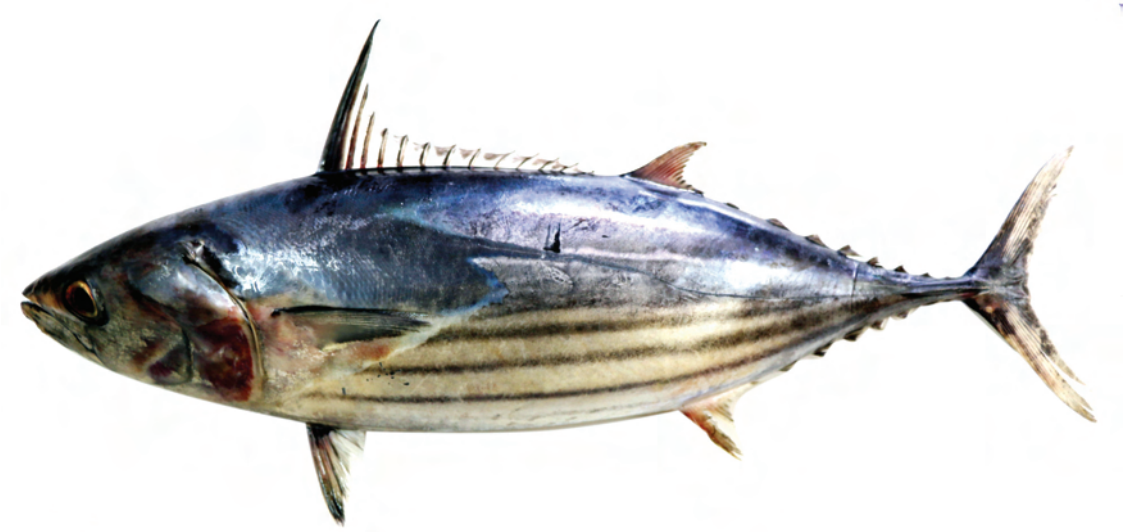
IDENTIFICATION

Order	:	**Perciformes**
Family	:	**Scombridae**
Common/FAO Name (English)	:	**Skipjack tuna**

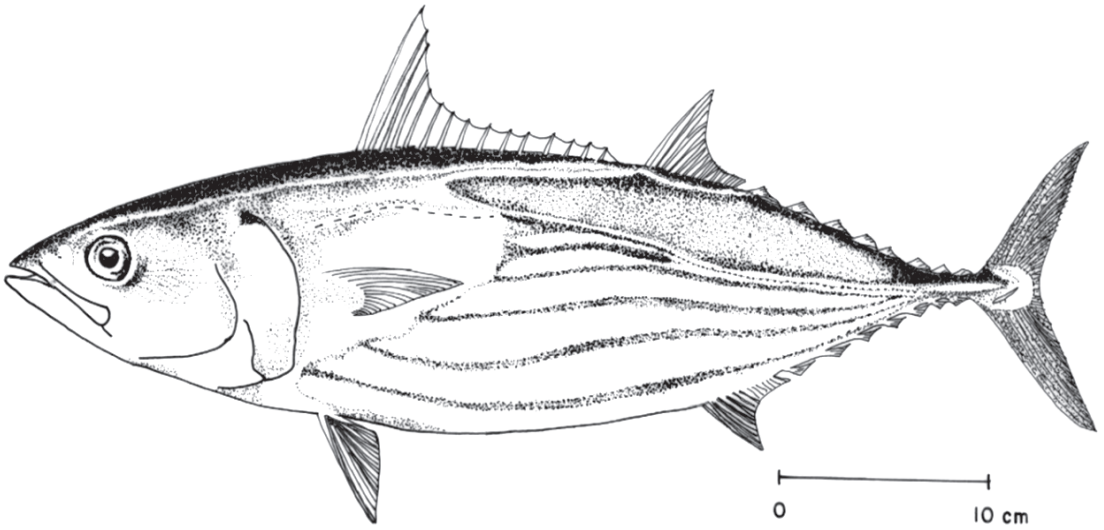


Local names: Gedara (**Gujarati**); Bugudi, Gedar, Kuppa (**Marathi**); Bugudi, Kuppa, Gedar (**Kannada**); Varayan choora (**Malayalam**); Kalililamas (**Lakshadweep**); Varisoorai (**Tamil**); Mas choora, Namalasoora (**Telugu**); Baal, Disco tumbala (**Oriya**)

MORPHOLOGICAL DESCRIPTION

Skipjack tuna has a robust, rounded and elongated body. It has two dorsal fins, separated by a small inter space. A strong keel is present on each side at the base of the caudal fin in between two smaller keels. Second dorsal fin is followed by 7-9 finlets and anal fin is followed by 7-8 finlets. Interpelvic process is paired. Scales are present only in corselet region and on the lateral line. Dorsal colour is dark purplish-blue and ventral colour is silvery white with 4 to 6 striking horizontal dark bands.

Source of image : RC of CMFRI, Visakhapatnam



PROFILE

GEOGRAPHICAL DISTRIBUTION

Skipjack tuna has a cosmopolitan distribution and is reported from most of the tropical and temperate waters except the eastern Mediterranean Sea and the Black Sea. It is seen within the geographical limits of 55° - 60° N and 45° - 50° S.

HABITAT AND BIOLOGY

Skipjack tuna is an epipelagic species, strictly oceanic in distribution. It is highly migratory and is associated with regions of upwelling and is rarely found below 250 m. It is more abundant in the equatorial region round-the-year. Large shoals are generally observed around oceanic Islands, over seamounts and along the shelf beak areas of east and west coast of the mainland. The main factor limiting its distribution is temperature. The preferred surface water temperature is between 17 to 30 °C. It forms large schools in association with other tunas in the mixed layer. Distributed along the coast of mainland and island territories, it aggregates in areas of convergence, boundaries between cold and warm water masses, upwelling regions and regions with hydrographic discontinuities. It exhibits a strong tendency to school in surface waters with birds, drifting objects, sharks and whales and shows a characteristic jumping behaviour. It remains in surface waters during the night and moves to deeper waters during the day.

Food items consist of a wide range of fishes, crustaceans and molluscs especially cephalopods. No marked cannibalistic tendency is reported in this species. Feeding activity is at its peak during early morning and late afternoon hours. The maximum age is not known but is estimated to be around 8-12 years. Both male and female matures at an age of about 1.5 years. It spawns throughout the year with a peak during monsoon. In India, major spawning peak is from December-March, with a minor peak from June-August. In the waters of Minicoy, spawning is for an extended period from January to April and from June to September with peaks in January and June. Maturity is observed from 38 cm fork length and the size at first maturity is 41 cm. Relative fecundity ranges from 80,000 to 3,00,000 eggs/kg body weight. Relative fecundity increases with size of the fish. The exploited size in Indian waters range from 12 to 82 cm fork length. Length distribution from different regions shows marked differences. It grows relatively faster in Indian waters.

PRODUCTION SYSTEMS

BREEDING IN CAPTIVE CONDITIONS

Research on seed production and culture of different tuna species in captivity started in 1969 in Japan. Initially the research focused on artificial fertilisation using wild collected brooders and culture in confined environment using wild collected seeds. However, success was not achieved for skipjack tuna.

LARVAL REARING

For eggs obtained from ripe wild females, larval survival was less than 4.5 days in Japan. The newly hatched out larvae measure 2.5 mm in length.

NURSERY REARING

Information not available

GROW-OUT

Grow-out culture in cages was tried using wild caught fishes in the early 1970s in Japan, but detailed information on the type of cage used, fish growth rate, feeding and survival is not available.

FOOD AND FEEDING

Skipjack tuna hatchlings feed on plankton. Early juvenile feeds on copepods and *Diaphanosoma* sp. and late juvenile is piscivorous, feeding on small fish, crustaceans and molluscs. In wild, adults predominantly feed on fishes, crustaceans and molluscs. Wide array of food items consumed suggests that it is a highly opportunistic feeder. Feeding activity is at its peak during early morning and late afternoon hours.

GROWTH RATE

Growth rate under confinement has not been reported. Maximum daily growth rate of wild collected juveniles based on otolith (sagitta) measurements is approximately 3 mm. In wild, it attains a length of 406 mm, 493 mm, 569 mm, 638 mm and 680 mm at the end of 1 to 5 years.

DISEASES AND CONTROL MEASURES

There is no information available on the diseases, except a few reports of parasites affecting it in the wild.

PRODUCTION, MARKET AND TRADE

PRODUCTION

Global catch in 2014 was 30,58,608 t, with maximum catches recorded from Maldives, France, Spain, Malaysia, Sri Lanka and Indonesia. It is the second most dominant oceanic tuna species landed in India. Landings over the years exhibited an increasing trend till 2007, and thereafter, it registered a downtrend to 14,761 t in 2010. Average annual landing during 2008-2011 was 20,924 t, which is 24.6 % of the estimated potential (85,200 t) from EEZ.

MARKET AND TRADE

It is an ideal species for the preparation of high quality sashimi and is reported to have stronger taste than other tunas and shorter shelf life. It is marketed fresh, frozen, dried, canned and also smoke dried. Retail value in India market ranges from ₹ 100-150/kg.

CHALLENGES TO MARICULTURE

No information is available on the captive breeding and larval rearing of this species. It is therefore, essential to have basic information on fish and larval behaviour and on its rearing in confined environment, with the help of information available from the wild. Being a fast moving and pelagic fish, appropriate water quality requirements can be a barrier for its near shore culture.

FUTURE PROSPECTS

High quality sashimi grade is in high demand and fetches higher prices in the international market. Developing breeding and culture technology to meet this demand is of paramount importance in near future.

SUGGESTED READING

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