# *Psettodes erumei* (Bloch & Schneider, 1801)

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## IDENTIFICATION

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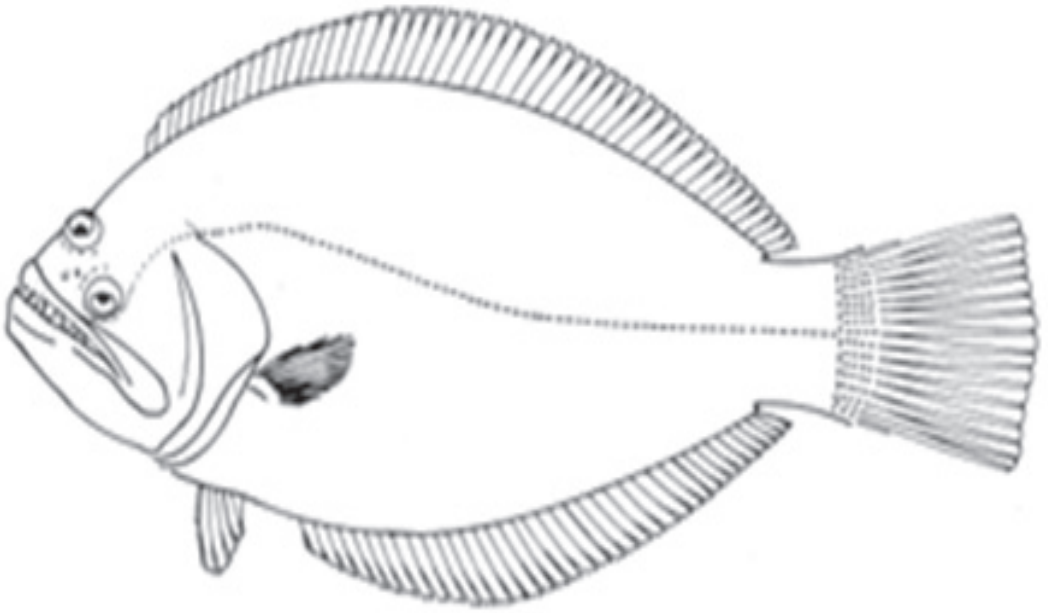
|---|---|---|
| Order | : | **Pleuronectiformes** |
| Family | : | **Psettodidae** |
| Common/FAO Name (English) | : | **Indian halibut** |

**Local names**: Haria (**Gujarati**); Bakas, Zhipali (**Marathi**); Boxlep (**Konkani**); Aayirampalli, Panjukadiyan (**Malayalam**); Erumeinakku (**Tamil**); Norunalaka, Adalam (**Telugu**)

## MORPHOLOGICAL DESCRIPTION

Oval, flat body, usually brown or grey in colour, often with dark bands. Blind side occasionally partially coloured. Large mouth with several strong pointed teeth. Both eyes either on left or right side. Maxilla reaches beyond the posterior edge of lower eye. Gill rakers are not developed. There are 9-11 dorsal spines, 38-45 dorsal soft rays, 1 anal spine and 33-43 anal soft rays in this species. Dorsal fin origin well posterior to eyes; anterior fin rays spinous; lateral line almost straight. Tips of dorsal, anal and caudal fins black.

Source of image : RC of CMFRI, Chennai



PROFILE

## GEOGRAPHICAL DISTRIBUTION

The Indian halibut occurs in the Indo-West Pacific region from east Africa and Red Sea to Japan and Australia and all along the Indian coast.

## HABITAT AND BIOLOGY

*Psettodes erumei* is a bottom dwelling, piscivorous marine flatfish found in depth range 1-100 m, usually 20-50 m. They are mainly recorded on sandy and muddy bottoms. They are nocturnal, usually deeply buried in the substrate during the day, and moving out for hunting at night. In captivity these fishes are mostly sedentary, swim vertically up occasionally and rest of the time move horizontally with the flat white ventral surface beneath. They exhibit high levels of camouflage when live and normally their colour and pattern resembles that of the sandy substrate. If probed and handled the band pattern turns deeper and brownish and when taken out the dorsal skin colour turns dark brown. They are hardy to handle, scales are firm and can remain outside water for several minutes. It feeds on benthic fish like cardinal fishes, eels, silver bellies, threadfin breams, lizardfish, anchovies and milkfish. Younger fish

feeds mainly on invertebrates like *Sepia* sp. and crabs, which are gradually replaced by small fish mostly *Engraulis* sp. and *Clupea* sp. as the halibut grows. The fish is highly predacious and predominantly piscivorous.

The size range of the fish landed at Kovalam, Chennai ranged from 255-545 mm with fecundity ranging from 19,740 to 3,00,699. Depending on the ovarian maturation stage, the number of eggs/g ranged from 1,420 to 3,850 in the wild sample. The size at maturity of the species ranges between 371-390 mm total length and ripe gonads are often seen during March-May. The spawning period is restricted during March to May along the Pakistan coast. In India spawning season differs on each coast. Along the west coast off Bombay, the species spawns during September and October. However, the spawning season is from May to September with peak in May to August in Porto Novo waters in south India. It breeds only once in a year for 3 to 4 months in Porto Novo waters. They spawn in two batches. Females outnumber males in nature. Maximum length in fishery is 64 cm with common size being 50 cm.

## PRODUCTION SYSTEMS

### BREEDING IN CAPTIVE CONDITIONS

Domestication and spawning of *Psettodes erumei* was achieved at Kovalam Field Lab of CMFRI in 2013. Wild caught fish of size range 130-555 mm total length (TL) were domesticated in captivity. A single female fish of weight 1.87 kg spawned in a 2 t black FRP tank. Spawning occurred in early morning and the fish released approximately 60,000 eggs. However none of the eggs survived beyond 16 h.

### LARVAL REARING

Though information on larval rearing is not available, reports on larval description of *Psettodes erumei* are available. The larvae of this species can be easily identified by 9-10 long anterior dorsal rays which are not present in the larvae of other flatfish. Also the larvae have large head, strong canine teeth and pre-operculum with spines.

### NURSERY REARING

Information not available

### GROW-OUT

Information not available

### FOOD AND FEEDING

Information not available

### GROWTH RATE

Information not available

## DISEASES AND CONTROL MEASURES

The skin and respiratory surfaces of this species are quite vulnerable to external parasites and trematodes as they remain in the substrate for long. Periodic treatments with formaldehyde and deworming agents can help in long survival of these fish. Several digenetic trematodes have been reported from this species from Indian waters. *Dasyrhynchus thomasi*, a cestode has been reported from this species from Indian waters.

# PRODUCTION, MARKET AND TRADE

## PRODUCTION

In 2014 approximately 1,784 t of *P. erumei* were landed in India. No information is available on quantities of cultured Indian halibut.

## MARKET AND TRADE

It is a highly valued table-fish with white meat yield between 42-49 %, making it an attractive fish for culture. The price of Indian halibut is around ₹ 300/ kg in India.

# CHALLENGES TO MARICULTURE

The main researchable issues, which have to be sorted out for this species in India are (i) Broodstock management protocol (ii) Larval rearing protocol: standardization of larval rearing by environmental and nutritional manipulation (iii) Disease and feed management and (iv) Grow out techniques.

# FUTURE PROSPECTS

The fish is highly suitable for fillet preparation with meat yield of around 42-49 %. With its high demand in the domestic market, amenability to processing and high value, it is a good candidate for mariculture in India.

# SUGGESTED READING

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