

Red-toothed triggerfish emerges as the popular live bait for handline based yellowfin tuna fishery in Lakshadweep

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Live-bait is an integral part of pole and line tuna fisheries of Lakshadweep waters. Nearly 14 species belonging to families Dussumieriidae, Apogonidae, Caesioididae, Pomacentridae, Emmelichthyidae and Atherinidae are collection island to island and

seasonal variations in species dominance. *Spratelloides* spp., *Apogon* spp., *Archamia* spp, *Ceasio* spp., *Pteroceasio* spp., *C. caeruleus*, *L. tapainosoma* and *Spratelloides delicatulus* are the most dominant live-bait species across atolls.



Fig. 1. Red toothed triggerfish

However, species and size of bait for pole and hand-line fisheries of yellowfin tunas differ from those for skipjack tuna. Relatively larger fishes belonging to the family of damsels and fusiliers are the common baits for the yellowfin tunas.

In recent years, red-toothed triggerfish, *Odonus niger* (Fig. 1) has been observed to be gaining popularity as live bait in hand-line fishing for larger yellowfin tuna in most of the islands of Lakshadweep. It is found in the lagoons and shelves. The *Ceasio* spp. and *Pteroceasio* spp. (fusiliers) which were commonly used as live baits for the yellowfin tuna are presently scarce. Though the preferred bait is still fusiliers, *O. niger* which is easy to catch and hardy for handling has a comparatively higher survivability in both live-bait tank onboard and live bait storage cages used for storing excess bait in the lagoon.

Presently, *O. niger* is abundantly available throughout the outer reef of the Islands and at times inside the lagoons at depths ranging from 5 and 30m. The fish is caught by specialized live bait lift net having mesh size of 8 mm. Two sizes of nets 12 x 12 m and 15 x 15 m are commonly used depending on the size of the boat. The fishers spread the live bait net in the water column with the help of four fishermen swimming with the bridles. One of the

fishermen carry *chum* (fish paste ball made up of chopped fish waste covered in a piece of mosquito net) tied on a rope and drop it into the sea slightly away from the net. The juvenile *O. niger* gets attracted to the fish chum and congregate in large numbers. Then, the fishermen slowly bring the chum along with the aggregated trigger fishes into the centre of the live bait net spread. The fishermen then hand over the bridles of the net to the boat for lifting the same gradually and put the bait-fishes caught into the bait tank onboard. The fishermen at present are able to catch sufficient bait in one or two operations of one to one and a half hours duration.

Size of *O. niger* used as live-bait for yellowfin tuna vary from 5 to 10 cm. On reaching the yellowfin tuna ground, the fishermen release the *O. niger* into the sea for attracting the yellowfin tunas from depths. Meanwhile, they release hand lines baited with relative larger sized baits and wait for the tunas to get hooked. Due to the convenience of catching and handling the *O. niger*, even the smaller canoes, fitted with outboard motors are carrying out fishing for yellowfin tuna using live baits. They carry smaller fibre reinforced plastic (FRP) tanks as live bait tanks. In general, the fishers release the remaining live bait into water or to live bait cages kept afloat inside the lagoons for next days use. Chopped fish or fish waste is given as feed for the live baits held in such cages if they are to be maintained longer.

Though the bait fishery is targeted and free from by-catches, dependence on juveniles makes it susceptible for growth overfishing. Hence, the bait fisheries need to be monitored closely. Ensuring sufficient number of spawning population of *O. niger*, identifying alternative bait species and hatchery production of *O. niger* are some of the options for ensuring sustainability of the resource in Lakshadweep Seas.