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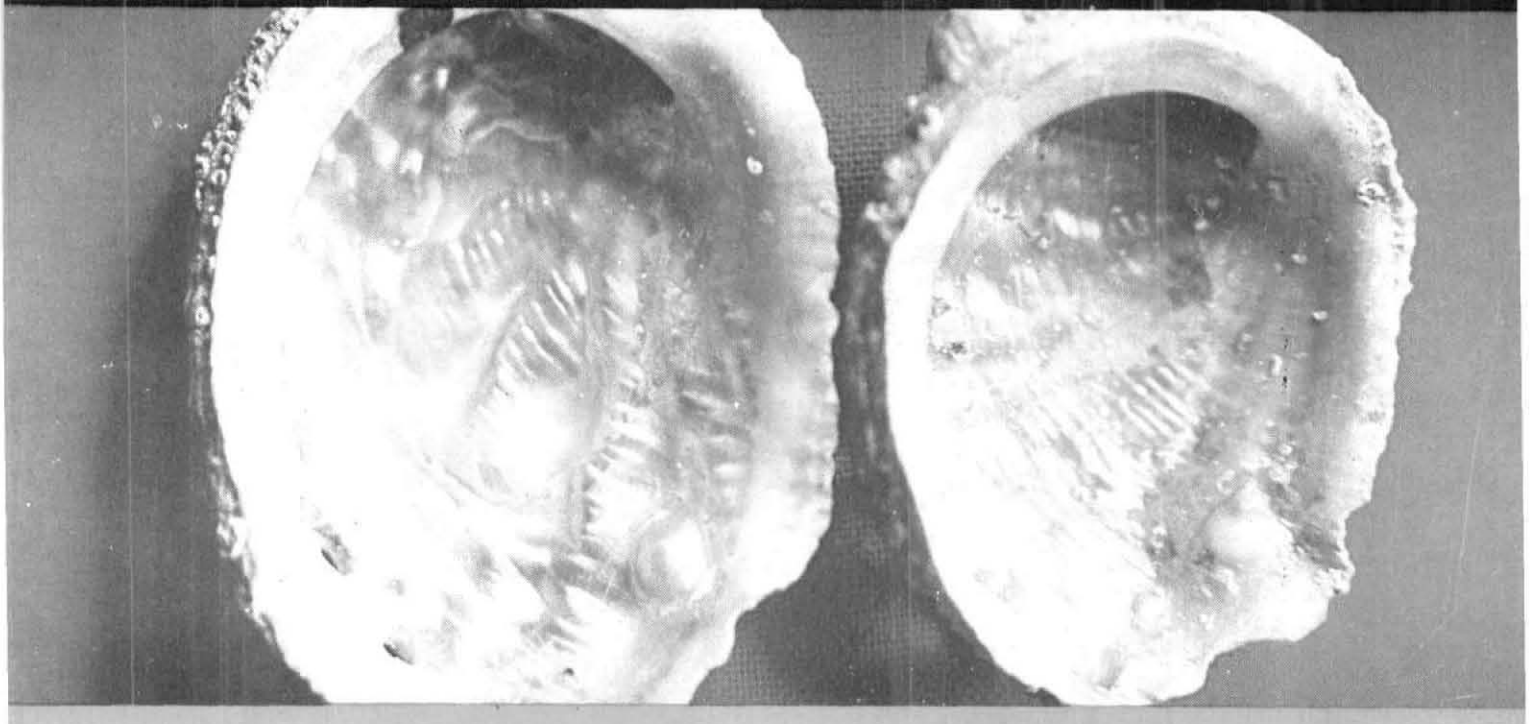

TECHNICAL AND EXTENSION SERIES

CENTRAL MARINE FISHERIES RESEARCH INSTITUTE

COCHIN. INDIA

(INDIAN COUNCIL OF AGRICULTURAL RESEARCH)

## 977 Unusual occurrence of oil sardine along Uchila and Ullal beach on 21st and 28th July 2000

In an unusual instance, live oil sardine in very good numbers were handpicked from the beach at Uchila and Ullal, near Someshwara 20 km south of Mangalore. The beach at Someshwara is very steep and the sea is very rough especially during the monsoon months. Shore seines are not operated here due to unsuitable fishing conditions. However, boat seines fish in the inshore waters and land their catch either at Mangalore fishing harbour or Panambur port. During July this year shoals of oil sardine were noticed very close to the beach (2 to 5 km from the shore) and a number of boat seines started fishing them at depths ranging from 10 to 18 m. But on the 21st July, live oil sardines were observed to be carried away by the strong waves to the beach at Uchila. A similar phenomenon was observed at Ullal beach on the 28th of July. The oil sardines estimated to be around 5,000 kg were handpicked in large numbers from the beach between 8 and 11 a.m., at both the places after which the numbers gradually declined.

It is for the first time that live oil sardines in such large numbers were brought ashore along the Kanara coast. The probable reason for the above phenomenon was that the seawater was contaminated and the fishes in a bid to move away from the contaminated water were forced to jump ashore. A tem of scientists from Mangalore research centre of CMFRI visited Uchilla and Ullal and collected fish and water samples for further analysis.

The water samples were tested for Oxygen and nutrient content. Water samples were also collected from nearby places and the results were compared. The results indicated that oxygen in the water sample collected on the 28th at Ullal was very low at 3.7 mg/I as compared to 6.8 mg/I at other centres. The water sample collected from Ullal beach on the 29th had a normal oxygen content of 6.8 mg/I. The silicate (10.18-14.42 mg-at/l) and phosphate (1.27-2.32 mg-at/l) levels were found to be normal. The low oxygen level in the water indicates that upwelling must have occured in that area. During upwelling, the oxygen deficient waters from the deeper areas are pushed up to the surface and the fishes are forced to move up along with it. In the northern hemisphere during monsoon season, the water current is at right angles to the west coast and the water coming up from the deeper layers are pushed up towards the shore. The phenomenon observed at Uchila and Ullal is an upwelling process occurring on the west coast. During upwelling the fishes inhabiting above the oxygen deficient layer are forced up and then due to the existing current pattern they are pushed towards the shore. After a couple of hours due to intense wave action the oxygen level in the water is replenished and the fishes are able to move lower down and away from the shore. As shore seines are not operated along Uchila beach the fishes brought up by the upwelling process were pushed towards the beach by the waves.

The fish samples collected from Uchila were analysed for their important biological characteristics. The oil sardines had a total length ranging from 130 to 185 mm with a mode at 145 mm. Immature fishes (stage I and II) comprised 82% and the rest comprised of fishes in partially spent and fully spent stages of gonad development. The maturity conditions were comparable with that of the fish samples collected from the ranibale at Panambur port (15 km north of Mangalore) and at Mangalore fishing harbour.

A similar pheneomenon of about half an hour was observed at Padukere near Malpe (65 km north of Mangalore) on the 19th of August, where about 600Kgs. of oil sardine was washed ashore.

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