Oilsardine never formed a sizeable fishery along the Maharashtra coast earlier and the present report deals with the emerging fishery along this coast. Due to lack of demand for fresh fish, the bulk of the catch was sun dried on the beach and later sold to agents who supplied the same to some companies for the manufacture of poultry feed or as manure.

The shoals of oilsardine can either be migrating from south-west coast of India or from the off shore. The wind driven surface currents of the west coast, seawater temperature and salinity appear to influence the oilsardine migration. Conservation of the resource and proper management of the fishery need attention in view of its wide fluctuations coupled with increasing intensity in fishing effort.

Unusual heavy landings of the catfish *Arius dussumieri* in Rajapara Bay of Gujarat coast


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Rajapara is one of the most important dolnet fishing centres in Saurashtra region and the landing centre is a small semicircular bay without any major concrete berthing facilities (Fig. 1). Though, a well constructed jetty is not present in this centre, fishing boats of 10 -14 m size operate and small canoes are used to unload the catch. About 240 dolnet units are under operation, of which 120 are four netters, 90 are three netters and the rest are two netters. Duration of each operation lasts for 4 to 5 h. Depth range of fishing ground is 24 to 40 m and it takes 4-5 h to reach the fishing area.

There was heavy landing of around 28 t of the catfish *Arius dussumieri*, in 11 dolnet units with an average of 2,545 kg per dolnet at Rajapara landing centre on 23-3-2009 (Fig. 2). Weight of each fish varied between 3.6 and 5.2 kg with an average weight of 4.65 kg (Fig. 3). Length frequency analysis showed a single dominant size group with the mode at 70-74 cm and the range between 56-92 cm.

Fig. 1. Semicircular bay type landing centre at Rajapara

Fig. 2. Heavy landing of catfish at Rajapara landing centre on 23-3-2009

Fig. 3. Weighing of *Arius dussumieri* in temporary sheds at the landing centre
Females were found to be dominant in the population. The gonadal studies indicated that 42% of the females were in the advanced ripe condition, 17% were mature and 8% were in the maturing stage (Fig. 4).

Observations made in the nearby landing centre of Nawabunder by Fishery Resources and Assessment Division of CMFRI had also reflected the same trend. Totally 108 dolnet units were deployed and the total catfish catch was estimated as 74.9 t. The trawlnets operated in Veraval, Mangrol, Porbunder and Okha have also shown a similar trend during the previous two months. Based on local enquiry, it was found that comparatively higher catch was observed during this year than the previous years.

The gut content analysis showed that majority of the fishes fed on Acetes which was predominant in the guts of all fishes observed. Second important food item was Coilia dussumieri which was found in 50% of the fishes. The other important food items were Chirocentrus dorab, seerfish, carangids, ribbonfish, non-penaeid prawns and other unidentifiable digested matter (Fig. 5).

Fish unloaded by small canoes at Rajpara Landing Centre were carried in vehicles or as head load by fisherwomen to the nearest fish processing sheds for further processing. After weighing, the fishes were cut open to remove the airbladders and the gonads. The ovary and airbladder were kept separately in different tubs. The egg mass of each fish was sold in the local market at the rate of Rs. 40/-. The airbladders were kept in plastic tubs and chemical was added to remove the blood stain and other impurities (Fig. 6). The airbladder thus cleaned was sold to the middlemen from Nawabunder. Further processing was carried out at Nawabunder and it was exported to China for making isinglass.

Soon after removing the gut, the fish were arranged in plastic tubs with ice and was sold to the buyers from Nawabunder at the rate of Rs. 25-30/- per kg. It was further processed in Nawabunder fish curing yards. The catfishes were beheaded and cut longitudinally into two halves and then washed thoroughly in brine solution. The fishes were arranged in layers one above the other, with salt in between them to a height of 1 to 1.5 m (Fig. 7) and were allowed to remain for 4 days. On the fifth day, they were removed, brushed to remove the excess salt if any and soaked again in brine solution. The fishes were then sun dried for a period of 3 days in multi-tier system of wooden platforms specially made

![Fig. 4. Mature gonads of female A. dussumieri](image)

![Fig. 5. Major food items encountered in the gut of A. dussumieri](image)

![Fig. 6. Chemically treated airbladders of A. dussumieri](image)
for this purpose (Fig. 8). After proper drying, the fishes were removed and kept in a separate shed where they were packed and sent for export mainly to Sri Lanka (Fig. 9).

Spawning migrations of *Arius thalassinus* and *Arius tenuispinis* towards shallow waters of less than 10 m depth have been reported during the south-west monsoon from the west coast. Considering the fact that majority of the female specimens analysed were in the advanced stage of gonadal maturity, it appears that *A. dussumieri* also would have migrated towards shallow waters of the Gujarat coast during February-March.

**Emergence of shore fish traps ‘pattivalai’ - their design and economics of operation along Mandapam coast**

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Shore fish traps, locally known as “pattivalai” are being operated along the Palk Bay and the Gulf of Mannar coast from Thangachimadam to Pudumadam for a stretch of 35 km. In 1990, there were only a few numbers, which has since increased to more than 30 at present (Fig. 1). This new fishing operation was introduced by Srilankan refugees staying in Mandapam camp. Mostly, this permanent or semi-permanent structure is placed in the near shore waters depending on the weather conditions and in some areas during a particular season. During rough weather condition (April - September) in Gulf of Mannar, this structure