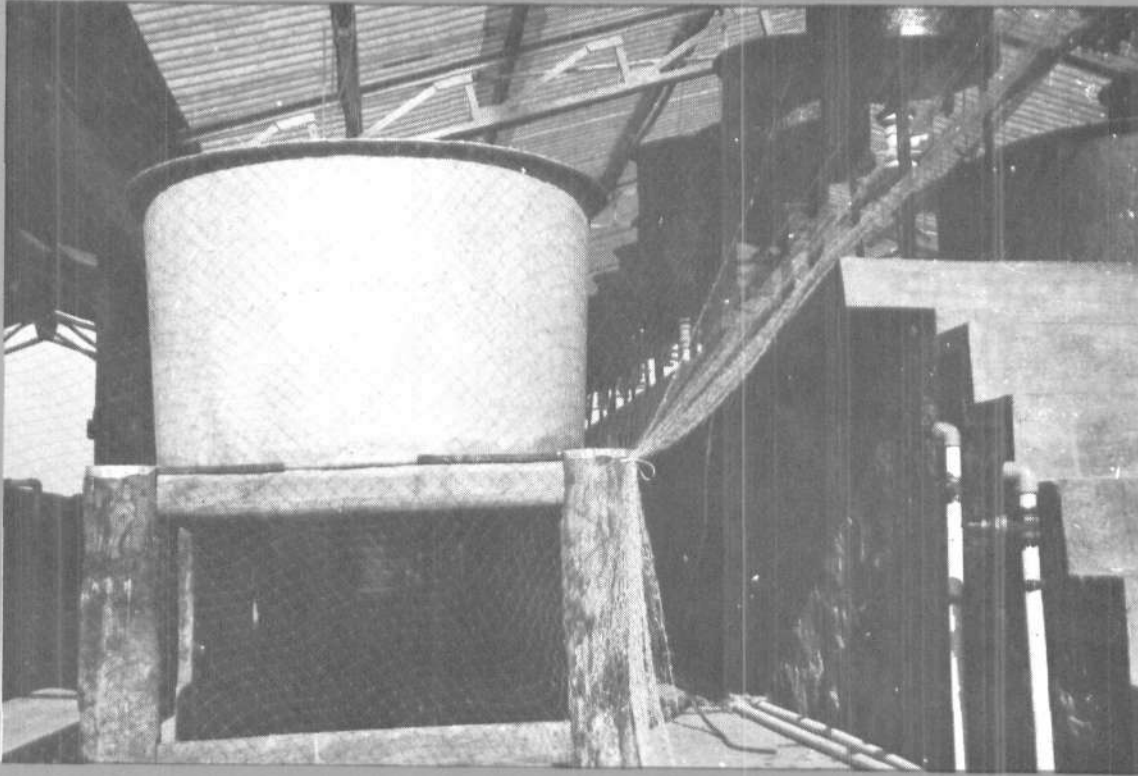




# समुद्री मात्स्यकी सूचना सेवा MARINE FISHERIES INFORMATION SERVICE

No. 107

JANUARY 1991



तकनीकी एवं TECHNICAL AND  
विस्तार अंकावली EXTENSION SERIES

केन्द्रीय समुद्री मात्स्यकी CENTRAL MARINE FISHERIES  
अनुसंधान संस्थान RESEARCH INSTITUTE  
कोचिन, भारत COCHIN, INDIA

भारतीय कृषि अनुसंधान परिषद  
INDIAN COUNCIL OF AGRICULTURAL RESEARCH

## ON THE RARE LANDINGS OF THE DOGFISH SHARK SPECIES FROM GULF OF MANNAR\*

The spiny dogfish shark of the family Squalidae is characterised by the absence of anal fin, and the two dorsal fins often possess a short or long spine on their anterior margin.

Dogfish sharks, often occur in shoals and are caught by trawlers at greater depths. In the Western Pacific region, squalids are caught in line fisheries for their squalene - rich liver. Among the squalids, *Centrophorus moluccensis* (*Centrophorus scalpratus* Mc Culloch and *Atractophorus armatus* Gilchrist) are very common in South Africa and Mozambique waters. It is also present in the Western Pacific off Okinawa, Taiwan Island, Amboina, New Hebrides, New Caledonia, Western Indian Ocean and Australia. Silas (CMFRI, Bull. 12, 1969) recorded the occurrence of this species in the trawl catches from the upper continental slope off the southwest coast of India at depths of 180 - 450 m. The present report deals with a rare case of landing of the spiny dogfish shark *Centrophorus moluccensis* Bleeker in the drift gillnet fishery at Veerapandianpatnam (Lat. 8°29'N, Long. 78°07'E) landing centre in the Gulf of Mannar.

Every year during the tuna fishery season which commences around June - September, drift gillnet fishermen from southeast coast of Tamil Nadu, camp at Veerapandianpatnam to exploit mainly tuna and billfish resources. The fishermen

operate two types of drift gillnets locally known as 'podivalai' (mesh size 70 - 115 mm) and 'paruvalai' (mesh size 120 - 150 mm) made of synthetic nylon twine. Towards end of the season they migrate to Mallapatnam on the southeast coast.

On 17 - 07 - 1990, a catch of 820 kg (224 in numbers) of deepsea dogfish shark *Centrophorus moluccensis* was landed by a single boat which operated drift gillnet (paruvalai) off Veerapandianpatnam at a depth of 200 metres. Since the fishermen on the boat could not haul up the catch they had to seek the assistance of other fishermen operating in nearby areas. Consequent to the heaviness of the catch and prevailing ambient under-water current, the fishermen had to sacrifice a part of the catch along with the net as they had to cut the nets half way.

### Diagnostic characters of *C. moluccensis*

Second dorsal fin much smaller than first, being half its height. A spine arises behind pelvic's free rear tip; inner corners of pectoral fins greatly produced as narrow, pointed lobes reaching past the vertical at tip of first dorsal spine; colour greyish brown above, lighter below; fins slightly darker; eyes considerably large and the eye balls very bright, exhibiting fluorescence.

### Length frequency

The size range of male varied from 420 - 429 mm to 840 - 849 mm size groups with an average size of 762.1 mm and the prominent mode was at 780 - 789 mm size group. Females ranged from 460 - 469 mm to 1020 - 1029 mm size group with multi modes with the prominent mode at 940 - 949 mm size group and the average size at 865.6 mm.

### Length weight relationship

The length weight relationship of 49 males and 72 females of *Centrophorus moluccensis* was studied from the data collected on total length in mm and wet weight in g. The length weight relationship of male is expressed by the equation

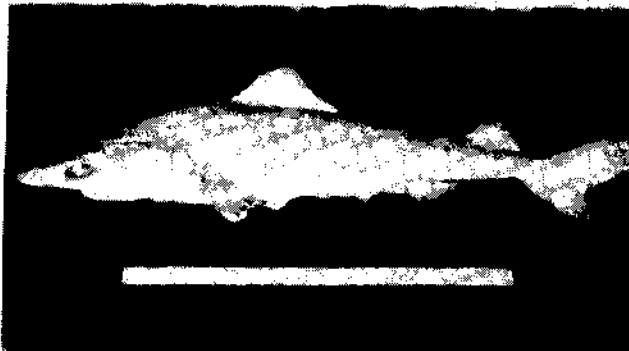


Fig. 1. Female spiny dogfish shark *Centrophorus moluccensis*

\* Reported by : K.M.S. Ameer Hamsa, H. Mohamad Kasim, S. Rajapackiam and T.S. Balasubramanian, Tuticorin Research Centre of CMFRI, Tuticorin.



Fig. 2. View of greatly produced pectoral fin of the specimen.

$\text{Log } W = -5.7182 + 3.1504 \text{ Log } L$  ( $r = 0.9803$ ) and of the female  $\text{Log } W = -6.5778 + 3.4580 \text{ Log } L$  ( $r = 0.9875$ ). These equations are expected to explain the length-weight relationship of this species adequately well.

#### Sex ratio

Sampling of 121 specimens indicates that the females were dominant in the catch with a male to female ratio of 1 : 1.47.

#### Food

The food consisted of fishes *Auxis thazard*, *Dipterygonotus leucogrammicus*; crabs, shrimps and squids.

#### Oil

The liver is used for extraction of oil by

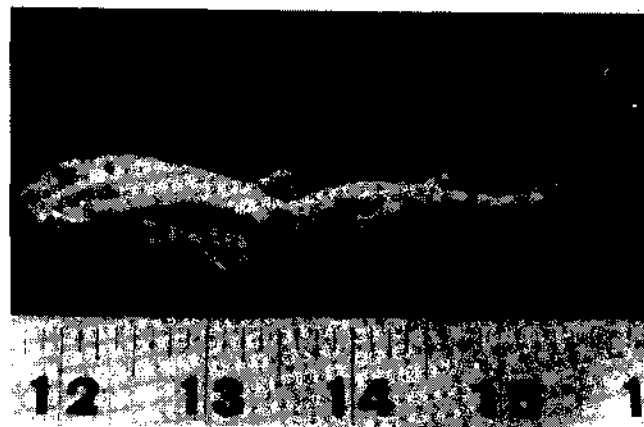


Fig. 3. Foetus of *C. moluccensis* (105 mm in total length) taken out from the uterus of the mother fish.

traditional method. The oil extracted from this species is used for medicinal purposes and therefore is highly valuable and it fetches good price in foreign market. While dissecting the specimen, fair amount of oil and fat melted out freely from the gut.

#### Remarks

The catch was auctioned at the rate of Rs. 150/- for 50 numbers. The commercially important species are sold at the rate of Rs. 12 - 14 per kg. The dogfish shark catch was sent for making dry fish for public consumption.

The present account is the first on the occurrence of the dogfish shark *Centrophorus moluccensis* from the Gulf of Mannar and indicates the availability of a new potentially economic shark resource in deeper waters off Veerapandianpatnam.