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SOME NOTES ON QUEENFISHES AND THEIR FISHERY ALONG THE INDIAN COASTS*

A large variety of fishes popularly called horse mackerels, shads, trevellies, queenfishes, pompanos, runners *etc.* comprise the family Carangidae which includes four well defined subfamilies *viz.*, Caranginae, Scomberoidae, Naucratinae and Trachinotinae. Among them, the subfamily Scomberoidae represented by the genus *Scomberoides* (- *Chorinemus*) is popularly known as queenfishes.

The queenfishes are distributed widely along the warm coastal waters of eastern Indian Ocean, western Indian Ocean and western central Pacific and are restricted to neritic waters near continental shelf. They form an important constituent in the marine fish landings of India especially along the Tamil Nadu and Andhra Pradesh coasts. However, very little is known about their fishery and biology. An attempt is made here to highlight some of the taxonomic characters for easy field identification and also to review in brief the status of fishery of this group of fishes.

These fishes possess a compressed elongate body and a blunt snout with a depression over eye. Dorsal and anal fin bases are approximately equal in length. Anal fin is with two detached spines, the characteristic of the family Carangidae, with 16-19 soft rays but without anal scutes. Lateral line is slightly wavy anteriorly and straight over most of its length (Fig. 1). The body colour is dusky green above with silvery golden yellow below. Based mainly on the nature of 5-8 blotches over the lateral line and also by the length of maxilla in relation to eye, four distinct species are recorded from Indian waters *viz.*, *Scomberoides commersonianus*, *S. lysan*, *S. tala* and *S. tol* as shown in

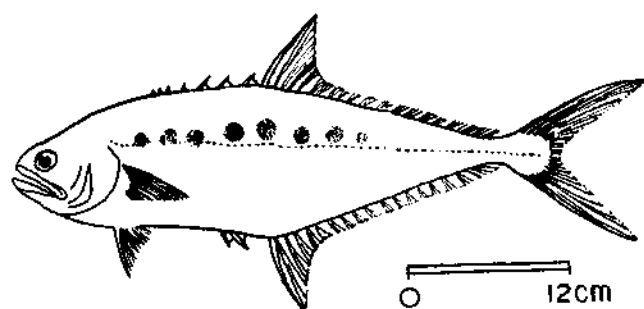
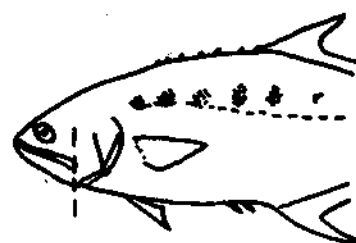


Fig. 1. The dominant species of the queenfish *Scomberoides commersonianus*.

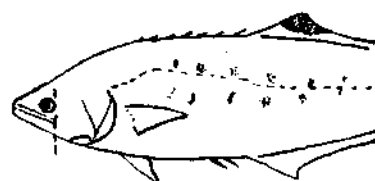
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Fig. 2 (*Species identification sheets for fishery purposes, FAO, 1974*).

According to a recent study (Circular No. 710, FAO, 1985), during the period 1981-'84, the entire carangid fishes contributed to about 36,000 tonnes and 192,000 tonnes from the eastern Indian Ocean and western Indian Ocean respectively.



Scomberoides commersonianus



S. lysan



S. tol



S. tala

Fig. 2. Systematic characters of four species of queenfishes.

Fig. 3 represents the landings of queenfishes along the Indian coasts during 1971-'84 period. Trends in the landings indicate steady increase from 1978-'79 period to a maximum of 10,005 tonnes landed in 1983, although some minor fluctuations are seen in certain years. Tamil Nadu recorded maximum landings followed by Andhra Pradesh, Gujarat and Maharashtra contributing to 27, 22, 19 and 9 per cent respectively of the total queenfish landings in the country during 1971-'84 period.

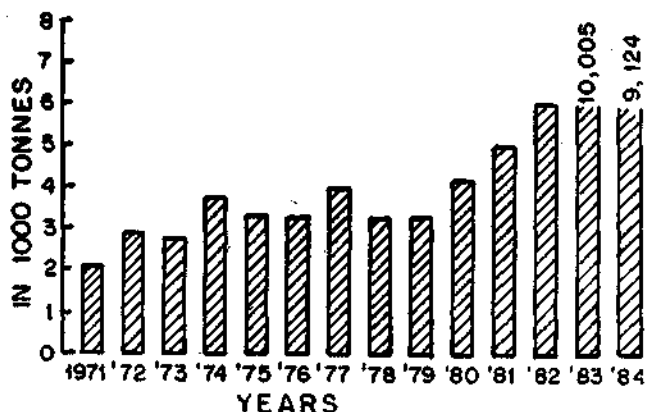


Fig. 3. The landings of queenfishes from Indian waters during 1971-'84.

Queenfishes are landed seasonally along the Kerala coast by the drift gill nets. During 1981-'85 period, a study was made on the trend of landings of these fishes at Cochin Fisheries Harbour. Some observations were also made in 1982 and 1983 on the various size groups contributing to the fishery.

The mechanised drift gill netters, operating off Cochin that land queenfishes, range from 7.62 to 9.14 m in length and are operated generally in the 20-50 m depth range confining to the surface and mid-depth zones (Silas, E.G. 1984, *Mar. Fish. Infor. Serv., T & E Ser.*, 55: 1-12). Among the queenfishes, *Scomberoides commersonianus* formed the major species that landed at Cochin Fisheries Harbour, the other species being *S. tol.*

Fig. 4 shows the average monthwise estimated landings of queenfishes during the five year period, 1981-'85 at Cochin Fisheries Harbour. Peak landing takes place during June, July, August and October.

The length frequency data on *S. commersonianus* collected during August, September and October of 1982 and '83 are shown in Fig. 5. The total length was measured from the tip of snout to the elongated lobe of caudal fin and the size of fish measured were in the

length range of 31 to 90 cm. In 1982 while the fishery comprised size groups ranging from 31-40 cm to 81-90 cm in the month of September the same was between 21-30 cm and 61-70 cm with a gap of size groups between 41-50 and 51-60 cm. In 1983, however, a single size group 71-80 cm predominated the fishery although the size groups in the fishery ranged between 31-40 cm and 81-90 cm.

The price of queenfishes at the Fisheries Harbour in the above three months of 1982 and 1983 was around Rs. 12-14 per fish which fell to Rs. 4-6 during the peak landing. From the monthly landings and price structures collected during the above period, it is estimated that a sum of Rs. 93,962 and Rs. 2,41,876 were realised in 1982 and '83 respectively from this fishery alone.

Apart from the fishery and biological investigations from Rameswaram Island by James (*Indian J. Fish.* 11 A (1): 269-276, 1964) information are lacking on queenfishes from the Indian waters. Adult queenfishes feed mainly on larger fishes whereas young ones subsist on smaller fishes and crustaceans. The reason for the landings of immature and juvenile queenfishes is attributed mainly to the selectivity of gear.

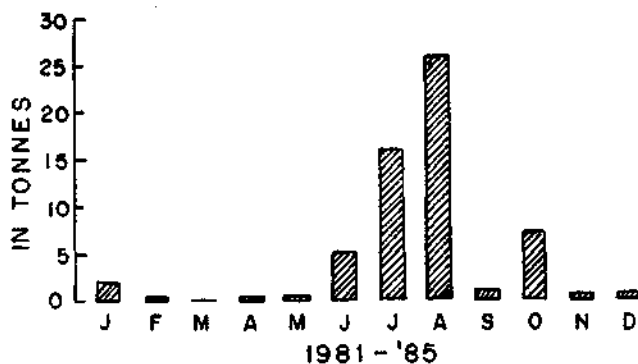


Fig. 4. Estimated average monthly landings of *S. commersonianus* from Cochin Fisheries Harbour during 1981-'85.

The fecundity studies on queenfishes, mainly *S. lysan* (James, 1964) indicated that the total number of eggs in mature ovary varied between 8 and 35 lakhs. These fishes spawn at least twice during the spawning season (April to August) along the Palk Bay and Gulf of Mannar coasts.

From the distribution and relative abundance of larval and early juvenile stages measuring 3 mm to 25 mm of *Chorinemus sanctipetri*, it is estimated that this species spawns during March-April period along the southwest coast of India (Premalatha, 1977, *Proc.*

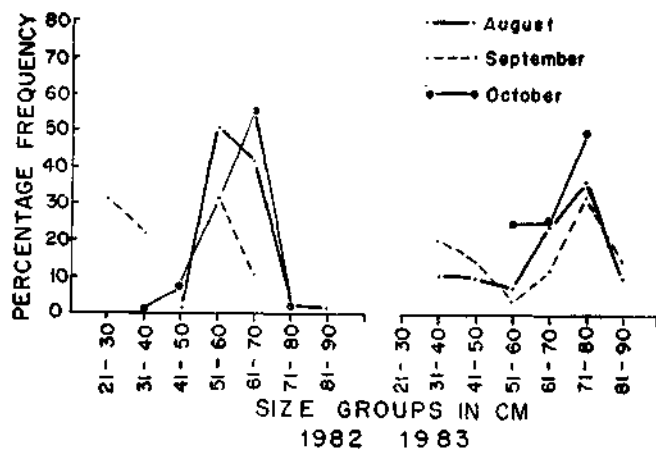


Fig. 5. Size groups of *S. commersonianus* landed at Cochin Fisheries Harbour during August, September and October of 1982 and 1983.

Symposium on Warmwater Zooplankton: 450-459). Due to lack of descriptions regarding the specific identity of early juvenile stages in other species of queenfishes, the above study assigning larval and juvenile stages to *C. sanctipetri* appears to be not valid. It is more likely that the species referred to is *S. commersonianus* the predominant species along the Kerala coast. Moreover, from the indicated spawning period *i.e.* March-April it appears that the queenfishes have a restricted spawning period. But the availability of young ones of queenfishes for a longer period in trawlers and drift gill netters at the Cochin Fisheries Harbour does not support this view.

