

Ghol Fish and its Utilisation

THE seas abounding India are filled with fishes of various types, sizes and the like. Some fishes find themselves occupying an important place in man's diet, while others do not even get a chance to lie on his plate. Among the innumerable varieties available in our sea is the ghol fish (*Pseudosciaena diacanthus*). It is included under the group of sciaenids. Sciaenids are not only found in our seas but they are equally widely distributed in the different parts of the world in the name of jew fish, croakers, grunters, drummers and the like.

Between 1975 and 1984 sciaenid landings contributed to about 6.8% of the total landings in India (Anon, 1985). Ghol has emerged as one of the important foreign exchange earners in the recent past. This fish is found along the Western part of Arabian sea, Persian Gulf, Eastern shores of India, Sri Lanka, Eastern Bay of Bengal, Andamans, Indonesia, Northern and Western Australia (Bal and Rao, 1984). Ghol in India is mainly confined to the waters between Bombay and the Gulf of Kutch. Table 1 gives the trend of ghol landings in Gujarat during 1975-76 to 1985-86.

FOOD AND FEEDING HABIT

Generally sciaenids are carnivorous in habit, feeding on crustaceans, fish to a certain extent on mollusca, echinoderms, annelids, and occasionally on ascidians, radiolarians, etc (Bigelow and Welsh, 1924; Longhurst, 1957; Lowe (Mc Connell) Rosemary, 1962). Ghol has been found to show marked preference for *Parapeaeeopsis stylifera* in the juvenile stages and fish diet in its adult stage. The diet of the adult fish include *Ilisha filigera*, *Thrissocles*, *Otolithus ruber*, *Johnius dussumieri*, *Nemipterus japonicus*, *Caranx* and *Leiognathus*. Crustaceans which rank as the second important group, consist of *Metapenaeus affinis*, *Palaemon tenuipes*, etc. while crabs, bivalves, gastropods and cephalopods are also consumed in small quantities (Rao, K. V. S, 1963).

AGE AND GROWTH

Age and growth studies have indicated that they grow to 46.39 cm in the first year and 64.13, 80.52, 93.44, 101.21 and 105.85 cm in the second to sixth year, and 113.89 cm by the end of the seventh year (Rao K. V. S. 1962 and Rao, K. V. S. 1971).

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REPRODUCTION

Ghol attains maturity when it is 3-4 years old and by about 850 mm in length. External secondary sexual characters are lacking in ghol to differentiate the two sexes. The females produce 5000 to 12,500 ova and the peak spawning period is between June and September. The individual fish is said to spawn in two successive batches but once in a year (Rao, K. V S., 1962).

CRAFT AND GEAR

Craft and gear used in ghol fishery varies in different regions. In the Gulf of Kutch around Bedi big meshed drift nets are used. In North Gujarat the craft used is the "Vahan" or matada which are plank built boats, 10-14 M long, 18-23 M deep, beam: 3-4 M and draught of 1-2 M. The net used is the bottom set gill net with varying mesh size. A primitive type of trap called "Wadas" are also used in the Jamnagar area. These are circular enclosures of 100-150 M diameter, with an opening facing the sea and provided with a collapsible gate. The gate is kept open for the incoming tide and once the flow is over, the gate is closed and the sea water allowed to filter through the interstices of the stones that form the main "Wada" leaving the fish in the enclosure (Bhat et al., 1964). Towards north of Ratnagiri in Maharashtra ghol is caught in bigger meshed drift gill nets and in dol nets while towards south boat seine called "Jot" is used. Between Ratnagiri in north and upto Kanara in the south, fishermen are using motorized gill nets. With the advent of trawl

fishing ghol landing has improved a lot as a bycatch in bottom trawls in different parts of the country.

UTILISATION

INTERNAL CONSUMPTION:-

Till recently the entire landing was consumed internally in the form of fresh or iced fish. At the landing centres fish is iced in tea chests or other forms of packaging and distributed to interior markets like Delhi, Ahmedabad, Baroda etc. In the coastal region ghol is consumed mostly in fresh condition. In the retail markets the fish is cut into small pieces due to its large size for easy purchase by individual customers

PROCESSING FOR EXPORT:-

The important products produced from ghol for export are:

1. FROZEN GUTTED GHOL:- Here the fish is cut open at the ventral side and eviscerated. The fish is then thoroughly washed and individually quick frozen and packed in 20 kg master cartons and stored at -23°C .
2. FROZEN HEADLESS GUTTED GHOL:- In addition to gutted as described above the fish is also beheaded and packed.
3. SKIN-LESS FILLET:- The flow chart for the processing of skin-less fillet is presented in fig. 1. Generally the preprocessing activities like gutting, beheading, skinning and filleting are being done at the pre-processing centres near the landing centre. Some times it is also done at the pre-processing hall attached to the processing factory itself. Grading of the products are based on the requirements of the buyer.



FIG. 1

PRODUCTION OF FROZEN SKIN LESS FILLET FROM GHOL

4. **FISH MAWS:-** Air bladder obtained from ghol fish is larger in size and better in quality compared to the one obtained from other fishes. Fish maws is being prepared out of it. The yield of air bladder (wet) is between 2-3% and that of fish maws is 1-1.5% (Badonia, et al., 1987). Table 2 gives the yield of various products manufactured from ghol fish.

The bulk of the quantity goes in fillet form to various countries. At present the main importers of these

products are Gulf countries, U. S. A. and West European countries. Export prices of various products are given in table-2.

OTHER USES:-

Ghol skin is found suitable for making leather which in turn can be used for the manufacture of fancy articles like vanity bags, purses, etc. (Dholakia, 1987). Ghol scales in different shades (colours) were prepared by Ramachandran and Viswanathan Nair (Unpublished) and this can be used for various ornamental purposes like wall fixtures, artificial flowers etc. Even the processing waste of ghol finds a place in the fish meal plants.

CONCLUSION

Today ghol fish is being utilised in many ways. Even now research is going on in making use of various parts of its body for making different items. There will come a day when ghol will be like the coconut tree where every part of it could be utilised. One will not be surprised to find "ghol eyes" the most sensitive part too being utilised in one form or the other as time passes.

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Table: 1
TREND OF GHOL FISH LANDINGS IN GUJARAT (1975-76 to 1985-86)

Year	Ghol landings in tons	% of Total Gujarat landings
1975-76	7,639	3.67
1976-77	2,472	1.97
1977-78	5,001	2.83
1978-79	—	—
1979-80	5,081	2.46
1980-81	—	—
1981-82	—	—
1982-83	5,396	2.80
1983-84	—	—
1984-85	7,457	2.57
1985-86	7,408	2.42

Source: Gujarat Fisheries Statistics (1987) published by Gujarat Information Centre, Commissionerate of Fisheries, Gandhinagar, Gujarat.

Table: 2
YIELD OF DIFFERENT PRODUCTS FROM WHOLE GHOLEFISH (%)

Sl. No.	Product	Export price/kg	Yield
1.	Fr. Head-on gutted ghol	19.00	85-90
2.	Fr. Head-less gutted ghol	24.00	60-65
3.	Fr. Skinless fillet	30.00	45-48
4.	Fish Maws	700.00	1.0-1.5