

## SPACIAL DISTRIBUTION OF FISHES OF THE FAMILY SILLAGINIDAE IN ESTUARINE WATERS

### ABSTRACT

*Sillaginopodys chondropus*, *Sillago sihama*, *S. intermedius*, *S. indica*, *S. soringa*, *S. argentifasciata*, *S. lutea*, *S. vincenti* and *Sillaginopsis panijus* of the family Sillaginidae have been so far recorded from Indian waters. Eight species are represented in the estuaries and *S. argentifasciata* occurs in sea only.

FISHES of the family Sillaginidae are popular although they are of some local importance in the coastal and estuarine fisheries in India. They are shallow water marine fishes which enter estuaries (McKay, 1985). *Sillago soringa*, *Sillago argentifasciata*, *S. sihama*, *S. lutea*, *S. intermedius*, *S. indica* *Sillaginopodys chondropus* and *Sillaginopsis panijus* are reported from Indian waters.

There is no report of the sillaginids from freshwater in India. Gopalakrishnan (1971) states that in the river Hooghly, *Sillago sihama* and *Sillaginopsis panijus* are represented in the true estuarine and in the marine zones. Preliminary studies show relative species dominance in different regions of the estuaries.

*Sillago soringa* is reported from coastal waters from Madras, Visakhapatnam and Kakinada. It is mostly captured by prawn trawling vessels.

*S. argentifasciata* is represented mostly in the trawl catches off Visakhapatnam. This shows that this species prefers deeper marine waters.

*Sillago lutea* prefers mostly saline waters. It is reported from Visakhapatnam, Kakinada, Cochin (Sujatha and Dutt, 1985) and Karwar. At Visakhapatnam and Kakinada *S. lutea* is the most common species, being captured both by traditional gear and by trawl. It grows to 161 mm and matures at 110 mm. It contributes to commercial catches from Kakinada and Visakhapatnam from February to August.

The random samples from Kakinada, Visakhapatnam, Karwar, Netravathi and Gangoulli Estuary contains *S. intermedius*. At Visakhapatnam small specimens measuring 80-100 mm are represented in the infralittoral zones. At Kakinada larger specimens 100-130 mm are represented in the catches.

*S. indica* is found in the fish catches of Kakinada, Visakhapatnam and Karwar. The juveniles measuring 20-90 mm TL extend also into the intertidal zone during high tide, where they are captured by cast net and dragnet. Specimens above 100 mm occur in trawl catches from late March to late June.

*S. sihama* is reported from all the estuaries and brackishwaters in India. It contributes about 4% of total fish catch and 34% of the perch fishery of Lake Pulicat (Krishnamurthy and Kaliyamurthy, 1983). James *et al.* (1976) state that in the South Korea region, it contributes to commercial catches from the Netravathi and Gangoulli Estuaries. In the sea off this coast, the species is caught only in stray specimens which are usually not more than 120 mm in total length, whereas in the estuaries fish upto a size of 323 mm were caught.

*S. sihama* was also reported from estuarine waters in the vicinity of Karwar (Palekar and Bal, 1955; Palekar, 1959) and Hooghly-Matlah estuarine system (Gopalakrishnan, 1971).

A sample of sillaginids from Gollapalem, contain specimens of *S. sihama*. It shows that *S. sihama* favours estuarine waters to coastal

waters. It does not constitute a fishery from sea as in brackishwaters and estuaries.

*S. vincenti* the estuarine whiting, is reported from Cochin (McKay, 1980), Karwar, Visakhapatnam and Kakinada (Dutt and Sujatha, 1980). This species more common in estuarine waters than in the coastal waters. They are represented only in small quantities in the catches off Visakhapatnam.

*Sillaginopodys chondropus* is reported along the Coromandal Coast, Ganges delta, Goa (Talwar, 1972), estuarine waters in the vicinity of Karwar, Cochin and Kakinada. *S. chondropus* was encountered only in handling catches. It is interesting to note that *S. chondropus* was not encountered in the catches by the other types of traditional gear, nor in the trawl catches. This shows that this species favours shallow waters both in the coastal and estuarine regions.

*Sillaginopsis panijus* is common in estuarine waters. Only two specimens (390 and 398 mm TL) were encountered in the samples collected at Visakhapatnam. A sample from Yanam and a sample from Gollapalem (where a small stream opens into the sea), about 225 km south of Visakhapatnam, contains mostly *S. panijus*.

Day (1876) stated that Coconada (=Kakinada) is the lowest point of its distribution in the Bay of Bengal. Gollapalem is further south of Kakinada which is at the mouth of River Godavari. Cuvier's *Sillago domina* (= *S. panijus*) was recorded from Pondicherry. Since Jordon (1851) did not come across specimens of *S. domina* at Madras, he doubted whether Cuvier's material was from Pondicherry; he conjectured that it was most probably from the mouths of River Ganges. According to Day, some specimens might easily stray down Pondicherry (by implication, from Kakinada). It is one of the commercially important fishes of the Hooghly Estuary, where the largest (443 mm TL) specimen recorded (Gopalakrishnayya, 1968). It would appear that *S. panijus* favours the brackishwater and is less common in the coastal waters of relatively higher salinity.

As regards the distribution of Sillaginids in Gautami Godavari Estuary, in Gollapalem and Yanam where there is less saline waters *Sillaginopsis panijus* dominate the catches of Sillaginids, then *Sillago sihama* and *S. vincenti*, in Kakinada, *S. lutea* and *S. soringa* dominates the catches. In shallow water *S. chondropus* dominates the sillaginid catches.

Dept. of Marine Living Resources,  
Andhra University, Visakhapatnam-530 003.

K. SUJATHA

#### REFERENCES

- DAY, F. 1876. *The fishes of India*. London, 778 pp. (Reprinted Wm. Dowson & Sons, 1958).
- DUTT, S. AND K. SUJATHA 1980. *Mahasagar-Bull. Nat. Inst. Oceanogr.*, 13 (4) : 371-375.
- GOPALAKRISHNAN, V. 1971. *J. mar. biol. Ass. India*, 13 (1 & 2) : 182-194.
- GOPALAKRISHNAYYA, CH. 1968. *Indian J. Fish.*, Sec. A, 10 (2) : 391-412.
- JAMES, P. S. B. R., T. J. VARGHESE AND K. V. DEVARAJ 1976. *J. Inland Fish. Soc. India*, 8 : 212-220.
- JERDON, T. C. 1851. *Madras J. Lit. Sci.*, 17 : 128-151
- MCKAY, R. J. 1980. *J. mar. biol. Ass. India*, 18 (2) : 375-385.
- 1985. *Mem. Qd. Mus.*, 22 (1) : 1-73.
- PALEKAR, V. C. AND D. V. BAL 1955. *Curr. Sci.* 24 (4) : 128-129.
- SUJATHA, K. AND S. DUTT 1985. *Mahasagar-Bull. Nat. Inst. Oceanogr.*, 18 (3) : 429-431.
- TALWAR, P. K. 1972. *Rec. Zool. Surv. India*, 67 : 191-232.