

of water circulation. This would naturally result in a decrease in the filtration rate. Durve (1960) has pointed out that this rate was adversely affected by low salinity. It is

therefore suggested that under conditions of low salinity during the monsoon the food consumption was low due to low filtration with the result that growth was retarded.

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OTOLITH LENGTH—TOTAL LENGTH RELATIONSHIP IN TWO SPECIES OF SCIAENIDS

ABSTRACT

The relationship between otolith length and total length of two sciaenid fishes *Kathala axillaris* (Cuvier) and *Otolithes ruber* (Schneider), was studied statistically by the method of least squares and found that total length can be estimated from the otolith length in these fishes.

RELATIONSHIP between otolith length and total length of a fish is useful in archaeological studies and prey-predator dynamics. Obvious as this relation is, fish size can be extrapolated from length of otolith found at cooking sites of archaeological middens (Fitch, 1972), in coastal archaeological excavations (Fitch and Brownell, 1968) and in predator's stomach (Ainley *et al.*, 1981; Treacy and Crawford, 1981). Complete knowledge of prey species could be obtained with the aid of existing taxonomic keys of fish species based on otolith morphology. If the prey is a sciaenid it is extremely easy because the large sciaenid otolith is mainly used in the identification of species by taxonomists (Trewavas, 1977). Echeverria

(1987) worked out the relationship between otolith length and total length for 30 rockfish species of the genus *Sebastes*. The present study attempts to derive for the first time the relationship between total length and otolith length of the sciaenid species *Kathala axillaris* (Cuvier) and *Otolithes ruber* (Schneider).

The specimens were collected from commercial landings at Pondicherry during 1989. After re-establishing the identity of the species in the laboratory, they were measured with a scale in mm. The greatest length of the otolith was measured from the anterior to the posterior end to the nearest 0.1 mm with vernier calipers. The linear regressions on total length (y) versus

otolith length (x) were calculated by the method of least squares and expressed as

$$TL = a + b (OL)$$

where TL is the total length, OL is the otolith length, a is the intercept and b is the slope.

The relationship for *K. axillaris* could be expressed as

$$TL = -48.1262 + 20.8587 OL,$$

$r = 0.9706$. $N = 125$ and for *O. ruber* as

$$TL = -26.1173 + 27.0548 OL,$$

$r = 0.9810$. $N = 141$.

Total length can be estimated from the otolith length. For instance an otolith of 10 mm size gives an estimated total length 160 mm for *K. axillaris* and 244 mm for *O. ruber*, respectively. The equation is species specific and also shows a potential to derive estimates of age from otolith length.

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UTILIZATION AND PROXIMATE COMPOSITION OF A CEPHALOPOD *SEPIELLA INERMIS* (FERUSSAC AND D'ORBIGNY)

ABSTRACT

The marine cephalopod *Sepiella inermis* from Porto Novo waters was investigated for utilization and proximate composition for one year. The protein, carbohydrate and lipid content of the dried edible part was estimated. The percentage of protein 60.85, 35.96%, carbohydrate 0.20, 0.45% and lipid 11.7, 5.55% were observed in males and females respectively.

THE VALUE of cephalopods is increasing in the world market due to their nutritive value and India is earning a good foreign exchange by exporting. While a lot of information is available on protein, carbohydrate and lipid of oysters and clams (Ansell, 1972, 1974 a, b, c, d, 1975; Wafer, 1974; John, 1980; Balasubrahmanyam, 1984; Jayabal, 1984), knowledge on these aspects of cephalopods parti-

cularly *Sepiella inermis* is scarce. Hence an attempt is made here to estimate the protein, carbohydrate and lipids of *S. inermis* from Porto Novo waters.

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