

Length-Weight Relationship & Condition Factor of the Sciaenid Fish, *Johnnieops osseus* (Day)

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Length-weight relationship of *J. osseus* indicated an allometric form of growth. Seasonal variations in the condition of fish could not be attributed to any particular factor.

The present observations, which form a part of the general study of the biology of *Johnnieops osseus* (the most abundant sciaenid of the South Kanara coast) deal with the length-weight relationship and condition factor, the information on which is meagre¹⁻³.

Total length and weight of 1539 fishes of all sizes, collected from trawl landings at Mangalore and Malpe during 1976-77 were recorded. Length and weight were plotted in the form of a scatter to note the relationship between the two. This suggests a relationship of the form, $Y = A + BX$, where $Y = \log W$, $A = \log a$, $B = b$ and $X = \log L$. The values of A and B were estimated by the method of least squares. The length-weight relationship, computed from the above equation, for the 2 sexes at each of the locality is Mangalore—females: $\log W = -5.3097 + 3.1877 \log L$; males: $\log W = -5.2294 + 3.1497 \log L$ and Malpe—females: $\log W = -5.1201 + 3.1071 \log L$; males: $\log W = -5.0059 + 3.0468 \log L$.

Analysis of covariance applied to test the difference in the values of B , for the 2 sexes at the 2 localities showed no significant difference at 5% level. Since difference was also not seen between the values of B obtained for the 2 localities, a common regression equation of $\log W = -5.2341 + 3.1540 \log L$ was obtained for the 2 places. The t test⁴, used to test the pattern of growth, indicated an allometric form of growth.

The relative condition factor $K_n = \frac{W}{\bar{W}}$ was obtained for individual fishes. Mean values of K_n for each month were calculated for immature (irrespective of sex) and mature males and females. The weighted average for the above, were also calculated. There was no difference in the condition of fish of both the sexes at

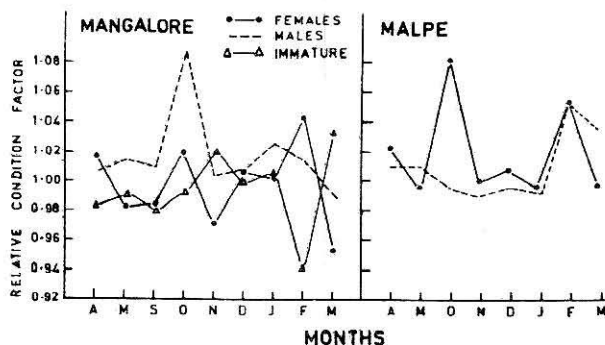


Fig. 1—Variation in relative condition factor of *J. osseus* at Mangalore and Malpe

either of the localities. But the condition of immature fishes was lower than that of the mature fishes.

Data on seasonal variation in condition of fish (Fig. 1) show that in October, December and January, both immature and mature fishes show a high condition indicating that maturity and spawning may not be the factors responsible. Based on the available data, it is difficult to explain the monthly variations in the condition of fish.

Blackburn⁵ remarked that it is not possible to interpret the changes of condition in *Thyrstites atun* basing on sexual cycle or the intake of food and that it may depend on several other factors. The same opinion is also held by James⁶ in the case of *Eupleurogrammus intermedius*. However, Thompson⁷ has pointed out that high and low condition in *Pleuronectes platessa* are found before and after spawning. Hickling⁸ has attributed the low and high condition in *Sardina pilchardus* as due to sexual cycle and availability of food respectively.

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