

Length-Weight and Length-Maximum Girth Relationship of *Catla catla* (Ham) in Commercial Landings of Gandhi Sagar Reservoir

Among the major carps *Catla catla* is a highly economic fast growing fish in Indian reservoirs. Therefore, an attempt has been made to study the length-weight and length-Girth relationship of *Catla catla* for deriving the growth pattern and to know weight composition of catla in commercial landings.

During the course of the study, morphometric data such as length, maximum girth and weight of 222 fishes of average commercial length 50-85 cm and weight 3-14.50 kg were collected. The length-weight and length-maximum girth relationship were worked out by Curvilinear regression and linear regression methods (Snedecor, 1956).

The data on length, maximum girth and weight of fishes is presented in Table 1. The length weight relationship of *Catla catla* is calculated as,

$$W = 0.0000 5038 l^{2.8347}$$

where w= weight in kg and l the length in cm. Using 't' test,

$$t = \frac{lb - \beta 1}{Sb} \text{ where } b \text{ is the exponent}$$

in the length weight relationship and β is the isometric growth factor (=3). The significance of difference between 2.8347 and 3 was tested. The calculated value of 't' is 1.35 having a degree of freedom 23, which is not significant at 5% level, indicating that 2.8347 is not significantly different from 3. Hence it may be concluded that the growth is isometric in the case of *Catla catla*.

Table 1. Length, maximum girth and weight relationship of *Catla catla*

Sl. no.	Length (cm)	Maximum girth (cm)	Weight (kg)
1	50	46	3.00
2	51	44	3.00
3	52	46	3.50
4	53	48	4.00
5	55	52	4.50
6	55	52	4.50
7	56	53	4.50
8	58	56	5.50
9	58	55	5.50
10	60	58	6.00
11	61	57	6.00
12	61	57	6.00
13	64	55	6.00
14	67	68	7.50
15	66	64	7.50
16	68	66	8.00
17	69	67	8.00
18	70	68	9.00
19	74	69	11.00
20	75	73	11.00
21	78	69	12.00
22	80	78	13.00
23	82	80	13.00
24	83	80	13.50
25	85	83	14.50

Length-girth	Length-weight
r = 0.9558	r = 0.9732
m = 1.0712	m = 2.8347
c = - .1573	c = - 4.2977

r = coefficient co-relation, m = regression coefficient, c = y- intercept

The length and maximum girth relationship
of *C. catla*, $g = 0.6961 l^{1.0712}$

where 'g' is the maximum girth in cm and
T is the length in cm

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References

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