

A NOTE ON THE CALORIFIC VALUES OF A FRESHWATER TELEOST, *LABEO GONIUS* (HAMILTON)

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ABSTRACT

Forty specimens of *Labeo gonius* (Ham) were analysed for protein, carbohydrate and fat values. The calorific value was calculated by multiplying the value of protein and carbohydrate with the energy factor 4.1 and for fat by 9.3. The average calorific values of fish for protein, carbohydrate and fat were 72.16, 9.55 and 11.90 cal/100g respectively suggesting that the fishes are highly nutritious.

Fish supplies a relatively high proportion of lysine, threonine and tryptophan amino-acids which are essential for the growth of human body. There are reports on the various organic and inorganic constituents of fish flesh (Natarajan and Sreenivasan, 1961; Jafri and Khawaja, 1968 and Bano, 1977) but limited information is available with respect to its calorific values. Therefore, the present study was taken up to evaluate the energy content in terms of calorific values of a fresh water teleost, *Labeo gonius* (Ham). Forty matured specimens of *L. gonius*, ranging from 26-30 cm in length and 250-360 g in weight were procured from the Keetham reservoir near Agra, during 1982. Before sampling fishes were measured, weighed and skinned. The edible portion was separated and homogenised in an electric mincer. A portion of it was analysed for the estimation of protein, carbohydrate and fat by the standard methods as outlined by Oser (1965). The calorific values were calculated by multiplying with the energy factor 4.1 for protein & carbohydrate and 9.3 for fat and the results are given in Table I. The mean values for protein, carbohydrate and fat were 17.60, 2.33 and 1.28% respectively. The calorific values were highest for protein content (72.16 cal/100g) whereas the values for carbohydrate and fat were more or less comparable. The total calories for protein, carbohydrate and fat contents put together worked out to be 93.61 cal/100 g.

Table I. : Calorific values of protein, carbohydrate and fat in the muscle of *L. gonius*.

Constituents	Range (%)	Mean \pm S.E. (%)	Calorific value (cal/100g)
Protein	16.40 - 19.20	17.60 \pm 0.791	72.16
Carbohydrate	1.55 - 2.95	2.33 \pm 0.345	9.55
Fat	1.10 - 1.30	1.28 \pm 0.200	11.90

Jafri and Khawaja (1964) noted that carps contain higher protein values (57.64 - 79.41 cal/100g) in comparison to catfishes (50-59 - 76.87 cal/100g) whereas the catfishes are highly rich in fat (2.04 - 76.35 cal/100g) and carbohydrate contents (4.40 - 19.15 cal/100g) than carps (1.16 - 12.09 cal/100g for fat and 3.48 - 22.96 cal/100g for carbohydrate). Khawaja (1966) also recorded higher protein values in carps (67.89 - 80.68 cal/100g) in comparison to catfishes (66.62 - 72.02 cal/100g).

In the present study too the highest values were recorded for protein content which are more or less similar to values reported by Jafri and Khawaja (1964) and Khawaja (1966) for carps. Thus, it is clear from the above data that *L. gonius*, like other important fishes, also contains high calorific values especially in the protein content. Therefore, it is suggested that the fish *L. gonius* is highly nutritious for human consumption.

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