

Analysis of Fatty Acid Composition in the Flesh of Boal (*Wallagu attu*)

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The fatty acid composition of the muscle tissue of *Wallagu attu* found in Gangetic West Bengal, India was investigated to get an insight of its nutritional capacity. The fish muscle proved to be a rich source of both mono and poly unsaturated fatty acids. Of the saturated fatty acids Palmitic and Heneicosanoic acid is detected in considerable amount. Of the MUFA's present Palmetoleic acid, Elaidic acid, Oleic acid and nervonic acid is found in good amount. Nutritionally important ω -6 PUFA's like Linoleic acid and Arachidonic acid are found in the fish. EPA and DHA the two star ω -3 PUFA's whose health benefits are beyond doubt are also detected in the fish. *Wallagu attu* is generally not farmed as it devours other fishes but considering its nutritional capacity and high market demands, its farming may prove beneficial for consumers and producers.

Key words: *Wallagu attu*, fatty acid profile, PUFA, MUFA, nervonic acid, arachidonic acid.

The most popular animal food source of the people of West Bengal is beyond doubt fish. The state possess abundant and diverse aquatic resources which houses 267 fresh water fresh species¹. Fish fats are rich in ω -3 fatty acids, ω -6 fatty acids and mono unsaturated fats all of which are very much essential in our diets. Understanding the science behind this will prove useful to fish producers, sellers and of course consumers. Though all fatty acids are essential there is a lot of ongoing research as to which fatty acid (or which group of fatty acid) is more beneficial and whose consumption should be restricted as they are hazardous to health. The beneficial and curative properties of fatty acids²⁻⁹ are so well established that doctors prescribe fatty acids in

form of supplements. However in a developing country like India where a huge percentage of population is below or just around the poverty line the concept of food supplement is a fantasy. But choice of diet with fish (rather right type of fish) which is abundantly available in West Bengal can save millions from malnutrition. In our laboratory we have taken up the task of screening fishes¹⁰⁻¹² for their fatty acid content. In this article we wish to report the fatty acid profile of *Wallagu attu* (Boal), a fresh water fish of the silurid catfish family. We have reported monthly and seasonal variation of total lipid and fatty acid in the muscle of the same fish¹¹. For determination of the nutritional capacity of *Wallagu attu* in terms of fatty acid content we have been collecting boal for the past three years

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