

## Investigation of Fatty Acid Content in the Edible Portion of Long-Whiskered Catfish *Sperata aor*

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The composition of fatty acid of *Sperata aor*, a fish consumed as food by the people of gangetic West Bengal, India was investigated to determine its nutritional value. Our investigation shows the presence of PUFA's namely EPA (0.22%), DHA (0.74%), Linolenic acid (0.39%), Linolelaedic acid (30.45%),  $\alpha$ -Linolenic acid (0.24%), Eicosatrienoic acid (0.38%), Arachidonic acid (0.55%) in the fish. The biosynthetic pathway for the synthesis of prostaglandins and cell membranes in mammals requires the presence of Linolelaidic acid which is present in good quantity in this fish. However, its high concentration in human body may lead to heart ailments also. Arachidonic acid, associated with growth, development and health of infants as well as adults is present in the fish. Palmitoleic acid (C16:1) a constituent of adipose tissue in humans, is also present in the fish (42.29%), has the ability to suppress inflammation, and is also known to combat obesity. Though presence of low total SFA (6.20%) is positive nutritional aspect the consumption of this fish however should be restricted due to its not so healthy  $\omega$ -3: $\omega$ -6 ratio (1:4).

**Keywords:** *Sperata aor*, fatty acid profile, PUFA, Palmitoleic acid, Linolelaidic acid, Arachidonic acid.

By virtue of possessing numerous health benefits unsaturated fatty acids are now considered as essential nutrients in both human and animal diet<sup>1-5</sup>. These fatty acids have cardio protective properties<sup>6</sup> – can block dangerous heart rhythms and excessive sodium calcium currents in the heart<sup>7</sup>. Anti-atherosclerotic<sup>6</sup>, anti-thrombotic<sup>8</sup> anti-inflammatory and anti-arthritis<sup>9</sup> properties of fatty acids are well known too. Risk of diagnosis of dementia is reduced by fatty acid consumption<sup>10</sup>. It also helps in dealing with childhood autism.

However, all fatty acids are not beneficial. Saturated fatty acids can cause various health

hazards like cardio vascular diseases. So, all sources of fatty acids may not be safe for consumption. Hence, screening of all dietary sources of fatty acids is an important task. Fishes are one of the most important natural sources of fatty acid. So, screening of fishes for their fatty acid content is a necessary task and we are involved in this task for the past 7 years.<sup>11-13</sup> The chief diet of gangetic West Bengal, India, being fish, it is absolutely necessary to screen fishes found in the area as these fishes are consumed in large volumes by the local residents.

We have chosen to study the fatty acid profile of *Sperata aor* – the long whiskered

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