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Fat content and fatty acid profile of skin and muscle of the Indo-Pacific sailfish, *Istiophorus platypterus*

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The total fat content and fatty acid profile of the skin, dorsal muscle, ventral muscle and belly flap of the Indo-Pacific sailfish, *Istiophorus platypterus* (Thalapatha) were determined. Three fish samples per month were obtained from Pitipana, Negombo landing site over a period of eight months (August 2007- March 2008). Total fat content was determined by the Majonnier method. For analysis of fatty acids, oil was extracted using the Bligh & Dyer method and the Fatty Acid Methyl Esters (FAME) were prepared by the sodium methoxide method. FAMEs were then identified by injecting in to the Gas Chromatograph and GC peaks were identified comparing retention time with previously prepared standard (Cod liver oil) and reference standard (GLC 411). The concentration of each FAME was calculated as a percentage of total FAMEs. The total mean fat content of the edible portion of *I. platypterus*, was lower than 5%. Therefore *I. platypterus* can be considered as a low fat fish (low < 5%, medium 5-10, high>10%). The percentage content of fat in the skin and muscles were as follows; skin (6.52 ±0.53), ventral muscle (2.52± 0.19), dorsal muscle (1.79± 0.27), belly flap (3.91± 0.15). The highest storage of fat was reported in the skin, while the lowest storage was reported in the dorsal muscle. The composition of saturated fatty acids (SFA), monounsaturated fatty acids (MUFA) and polyunsaturated fatty acids (PUFA) were as follows; skin 56%, 39%, 44%; ventral muscle 44%, 46%, 33%; dorsal muscle 39%, 42%, 24%; Belly flap 52%, 34%, 38%. The predominant fatty acids in the ventral muscle, dorsal muscle, skin and belly flap were the C16:0(Palmitic acid), C 18:0(Stearic acid), C22:1(Erucic acid) and C 22:5n-3 (Docosapentaenoic acid).The proportion of eicosopentaenoic acid (EPA, 20:5n-3) and docosahexaenoic acid (DHA, 22:6n-3) in the fat of skin (2.31%,7.23%) and belly flap (2.06%, 5.36%) were significantly high ($P<0.05$) compared to ventral muscle (0.86%, 2.74%) and dorsal muscle (1.78,2.07%). A negative linear correlation between the total fat content and moisture content (Pearson's correlation -0.732, $P<0.05$) was also recorded.

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