

**Nutrient and Fatty Acid Composition of the Flesh of oil Sardine (*Sardinella longiceps*) and Indian Mackerel (*Rastrelliger kanagurta*) from Hadhramout Coast of the Arabian Sea, Yemen**

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**Abstract:** The current study was conducted to evaluate the nutritional characteristics (moisture, protein, lipids, ash and fatty acid composition) of the flesh of oil sardine (*Sardinella longiceps*) and Indian mackerel (*Rastrelliger kanagurta*) caught from Hadhramout coast of the Arabian Sea. The protein content was 21.6% and 18.1% (wet weight basis) for mackerel and sardine, respectively. The lipid content was much higher in sardine (10.1%) compared with mackerel (1.7%). The fatty acid composition showed that total saturated fatty acids had the highest relative value (37.5%) among other fatty acid groups in the flesh lipids of sardine, followed by polyunsaturated fatty acids (29.9%) and monounsaturated fatty acids (23.4%). In mackerel, polyunsaturated fatty acids was present at 37.4%, followed by saturated fatty acids (36.7%) and then monounsaturated fatty acids (14.3%). The majority of polyunsaturated fatty acids in both fish were deposited as omega-3 (89.8% in sardine and 87.9% in mackerel), of which docosahexaenoic acid and eicosapentaenoic acid were the most abundant. In conclusion, oil sardine and Indian mackerel which are locally available and affordable fish in Yemen can be considered valuable sources of nutrients particularly protein and health-beneficial omega-3 long chain polyunsaturated fatty acids.

**Keywords:**

Nutrient composition, Arabian Sea, omega-3 fatty acids, oil sardine, Indian mackerel.

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