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## Extraction and quantification of vitamin A from livers and skins of selected reef fish species

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Reef fish play an important role in the coastal fishing of Sri Lanka and provide special health benefits. Vitamin A is a valuable nutrient present in reef fish. This study was planned to extract and quantify vitamin A in the liver and skin of four reef fish species namely *Lutjanus rivulatus*, *Lethrinus olivaceus*, *Epinephelus undulosus* and *Lutjanus argentimaculatus.* Four replicate samples of male fish from each species were collected from Dondra and Matara of Southern Sri Lanka and their biological indices such as body weight, total length, liver weight and Hepato Somatic Index (HSI) were recorded. Vitamin A was analyzed using a colorimetric assay. The mean vitamin A content of the liver in *E. undulosus, L. rivulatus, L. olivaceus* and *L. argentimaculatus* were 9246±2706, 8042±4705,1998±1811 and 2128±856 µg $g^{-1}$, respectively. Statistical analysis showed a significant difference in vitamin A content in the liver among the four species ($p<0.05$). Correlation of vitamin A in the fish liver and biological indices of each species (body weight, total length, liver weight and HSI), indicated positive relationships ($R=0.574$; $P<0.05$). Respective mean vitamin A content in the skin of *E. undulosus*, *L. rivulatus, L. olivaceus* and *L. argentimaculatus* were 2.7± 1.0, 6.3± 2.1, 4.8± 1.5 and 6.2± 0.8 µg $g^{-1}$. Fish skin comparatively had a much lower vitamin A content than of fish liver. One-way ANOVA indicated significant difference in mean vitamin A contents in skin of the four fish species ($p<0.05$). No significant correlations were detected between vitamin A content in fish skin and biological indices of each species (body weight and total length). In conclusion, *E. undulosus* and *L. rivulatus* contained significantly higher Vitamin A content in the liver.

Keywords: Vitamin A, reef fish skin and liver, *Lutjanus rivulatus*, *Lethrinus olivaceus*, *Epinephelus undulosus, Lutjanus argentimaculatus*

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