Length-weight relationship of Sphyraena obtusata cuvier, 1829 (Pisces: Perciformes) from the Jaffna Lagoon, Sri Lanka

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Abstract

The present study was carried out to gain some knowledge on length-weight relationship parameters, growth pattern and difference between the growth parameters of male and female Spltyraena obtusata. The knowledge of length-weight relationship has numerous practical applications in fishery biology. Such a mathematical equation enables conversion of one parameter in to another as is often required during monitoring field measurements. Length weight regression equations were derived for make and female estimated by using the logarithms of the total lengths and the corresponding weights. The curvilinear relationships of length-weight relationships for male and female were $W=0.0117*L^{2.896}$ and $W=0.0138*L^{2.843}$, respectively. Covariance analysis for length-weight relationships of males and females revealed that there is no significant difference ($p>0.05$) between male and female and hence a common formulae of $W=0.0133*TL^{2.857}$ was derived for S. obtusata, The 'b' values 2.898 and 2.843 obtained for male and female respectively indicate that the fish follows the cube law and its growth is negative allometry.

Author keywords

Cube law; Growth; Jaffna lagoon; Obtuse barracuda; Regression coefficients

Indexed keywords

GEOBASE Subject Index: allometry; covariance analysis; fish biology; growth rate; length-weight relationship; parameterization; power law; regression analysis

Regional Index: Asia; Eurasia; Jaffna Peninsula; Northern Province [Sri Lanka]; South Asia; Sri Lanka

Species Index: Perciformes; Pisces; Sphyraena obtusata