



Relationships Between Fish and Otolith Size for *Serranus hepatus* (Linnaeus, 1758) from the Southern Aegean Sea

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Abstract

In the present study, the relationships between sagittal otoliths (otolith length (OL), height (OH) and weight (OW)), fish size (fish length (TL) and weight (W)) in brown comber (*Serranus hepatus*, Linnaeus, 1758) specimens (N=504, 41–133 mm in TL and 1.05–31.98 g) captured via bottom trawl vessels from off the Gulluk Bay (Southern Aegean Sea) between January and December 2013 were analysed. Left otolith pairs were used for calculations since there was no statistical differences between left and right otoliths ($P>0.05$). Regression formulas were used as follows: $TL= 16.94*OL+10.14$, $TL= 26.77*OH+24.88$, $TL= 375.7*OW^{0.315}$, $W= 0.251*OL^{2.431}$, $W= 2.009*OH^{1.917}$, $W= 854.0*OW+1.552$, $OH= 0.600*OL-0.394$, $OW= 0.00025*OL^{2.555}$ and $OW= 0.001*OH^{2.007}$. Calculated regressions were revealed a high coefficient of determinations ranging from 0.865 to 0.960. The linear and non-linear functions provided the best fit for %44 and %56, respectively. It is found that otolith sizes and weight are good indicators of the total length and weight of *S. hepatus*.

Keywords:

Brown comber, Serranidae, sagittae, otolith biometry
