Length weight relationship and sex ratio of spiny lobster (*Panulirus homarus*) as a suitable species for cage culture

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Abstract

Spiny lobster *Panulirus homarus* is one of the most valuable commercial aquatic species in the southern coast of Iran - Sistan and Baluchestan province. This species is one of the most suitable species for cage culture due to its high growth rate compared to other lobsters and higher resistance to environmental conditions. In order to study length- weight relationship and sex ratio of spiny lobster, total numbers of 118 lobsters were investigated during the period of August 2016 to July 2017. The mean total length, carapace length and total weight were 160.3 mm, 25.8 mm and 143.5 g respectively. All specimens were sexed and length-weight relationships were determined separately for males, females. Among the studied species, 43.74% were male and 56.26% were female and the overall sex ratio was female biased

(1.28:1). In the present study, the length-weight relationship for total population was calculated as W = 0.00132 TL $^{2.171}$, R2 = (0.889). The length-weight relationship was calculated as W = 0.066 TL $^{1.410}$, R2 = (0.945) for males and W = 0.000016TL $^{3.001}$, R^2 = (0.895) for females. t-test analysis showed a significant difference between the b values obtained for male and total population from number 3 which show an allometric growth, while in female spiny lobsters “b” value did not show a significant difference from 3 ($P < 0.05$) which show isometric growth of the female species. Based on results of this study with knowing the value of length or total weight can be estimate weight or body length in a population, which can be used to estimate feeding rate during the cage culture period.
Keywords: *Panulirus homarus*, Spiny lobster, Length weight relationship, Oman Sea