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Study the Life Cycle of *Acartia tonsa* at Salinity and Water Temperature Treatments in the Southern Caspian Sea Water

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Abstract

The effects of salinity on density of *A. tonsa* at three salinity treatments include 9 ±1, 11 ±1 and 12 ±1 psu (Mean±SE) and two experimental water temperatures of 25 ±2 and 23 ±2°C were investigated in the present study. Treatments were examined with three replicates inside a 250 cc tanks over a two weeks period trials. Data showed animals grew to copepodites after two days. The first group of experiments with *Acartia tonsa* cultured at 23 ±2°C and 12 ± 1psu. The results of this study showed that about 24-39% of the animals grown and has completed in the tenth to twelfth days to copepodites and reached to sexual maturity. After 16 days, about 68% of the initial nauplii reached sexual maturity. The second group of experiments with Acartia tonsa cultured at 21 ±1°C and 11 ±1 psu. The results showed that after 15 days, nauplii grew to adult and also the adults have spawned within 15th days. The results of this research showed that the appropriate salinity and temperature for *A. tonsa* were 12 psu and 25°C, respectively.

Keywords: *Zooplankton, Copepods, Acartia tonsa, Reproduction, Caspian Sea.*