The Effect of Dietary L-Carnitine Supplementation on the Growth Performance, Survival Rate, Early Maturation and Fatty acids profile of *parthenogenetic Artemia*

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Abstract
Artemia mainly due to its nutrition value and also its merits has been considerate very in research biology and aquaculture. L-carnitine as a food supplement which stimulates the fatty acids oxidation and its affect on increasing of the nitrogen retention and stimulation of resistance against the environmental stresses is used lately in modern aquaculture. In order to study of the effect of dietary L-carnitine supplementation on the growth performance, survival rate and early maturation of *parthenogenetic Artemia*, treatments were done by 1, 10, 100, 1000mg/l of L-carnitine supplement. The cysts of *parthenogenetic Artemia* were hatched in optimal conditions. Acquired larvae were fed as long as 15 days with a compound of enriched yeast with HUFA and the alga *Dunaliella tertioleca* in salinity of 80g/l. L-carnitine supplement was added directly in culture medium and indirectly added by enrichment the algae were fed by specimens. Results revealed that this supplement can stimulate early sexual maturation and aggravates masculinization in all of the experimental groups in comparison with the control group. The best result, in this regard was recorded for 1000 mg concentration of L-carnitine in which at 13th days the best percentage of sexual maturation, 5/04%, was seen. These results showed that L-carnitine has significant effect on growth performance when it exposes in 1000 mg concentration of L-carnitine, also the fatty acids profile in any of these concentration fatty acids DHA is not be.

Keywords: parthenogenetic Artemia, L-carnitine, Early Maturation, Growth, Survive, Yeast, DHA