

Survival rates of cockle (*anadara antiquata*, Linnaeus 1758) larvae under different treatments for minimization of levels of bacteria

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An attempt to improve cockle (*Anadara antiquata*, Linnaeus 1758) hatchery in Tanzania coastal areas is a useful idea. However, bottlenecks in stable production of high quality juveniles exist throughout the production cycle as most larvae are greatly vulnerable at their early development stages due to the needs of strict requirements for growth, survival and development. The current study was conducted to examine the best treatment for growth and survival of this species that can be applied by local people in the country. Shellfish from Fumba and Unguja Ukuu coastal areas were conditioned for about two months and then spawned where by eggs and sperms were fertilized to obtain larvae. Survival rate (SR) was determined daily while growth rate (GR) was calculated once after every two days while feeding rate and bacteria test were determined daily. The results showed no significant relationship on survival rate of *A. antiquata* larvae among treatments ($p > 0.05$) but highest survival rate was found in ultra violet treated water (UVTW) followed by bleached water (BW) and least in filtered water (FW). Ultra violet treated and bleached water showed high feeding rate of larvae with efficiency in controlling bacteria growth compared to FW. Growth rates showed a significant difference between UVTW and FW ($p < 0.05$) and between BW and FW ($p < 0.05$) but there was no significant difference between UVTW and BW ($p > 0.05$). Thus, the results proved that ultra violet treatment is the best method in reducing larval mortality by restricting bacteria growth with success. Thus hatcheries can be built purposely to rear *A. antiquata* while treating water with ultra violet equipment so as to promote conservation and restoration of this species.