Moulting performances evaluation of female orange mud crab, scylla Olivacea (herbst, 1796) in-captivity: effects of water salinity and limb autotomy

ABSTRACT

Female Scylla olivacea has become more popular in Malaysia as emerging species mainly for soft-shell crabs and crab fattening (to increase weight, size and ovary maturation so that they can be sold at a higher price). To harvest crabs in soft-shell conditions and fattening, both conditions depend mostly on moulting events. To accelerate the moulting process, the manipulation of water parameter (salinity) and autotomy of the limb is commonly used. In this study, the evaluation of the moulting performances of full limb autotomy (the removal of all the appendages except for the swimming legs) and non-ablated (control) using immature S. olivacea cultured in three different salinity treatments (10 ppt, 20 ppt and 30 ppt) were performed. Results indicate there were significant differences between mud crab's culture duration, BW increments, growth performances and feeding efficiency with salinity. However, CW increments and survival indicate no significant effect with salinity. Meanwhile, limb autotomy proved to affect the culture duration, BW increments, survival and feeding efficiency of S. olivacea. The study concludes that both salinity and limb autotomy play significant roles in moulting performances of S. olivacea, with 20 ppt being the best salinity to stimulate S. olivacea moulting and development compared with the other two treatments (10 ppt and 30 ppt). Limb autotomy also indicates promising results as this technique proved to accelerate the moulting duration of S. olivacea with a 100% moulting percentage within 30 days. Therefore, the outcome would certainly benefit in the aquaculture production of this species of commercial importance mainly on soft-shell crabs production and also emerge as crabs fattening technique.