# The Aspects on Reproductive Biology of Blue Swimming Crab *Portunus pelagicus,* (Linnaeus, 1758) in Mannar Area

A.P. Abeygunawardana,S.C. Jayamanne
*Department of Animal Science, Uva Wellassa University, Badulla, Sri Lanka.*

Blue swimming crab fishery is a newly emerging export oriented fishery in North and North-Eastern provinces of Sri Lanka. Since the exploitation is heavy in these areas establishment of management strategies are important for sustainability of the fisheries. Hence the aspects on reproductive biology such as maturity stages, pre-spawning and post spawning fecundity, size at first maturity and gonadosomatic index of the Blue swimming crab *(Portunus pealagicus)* in Mannar area were studied during the period, May to July, 2015. The fecundity was estimated using Gravimetric method. Six ovarian development stages, immature, developing, early Mature, late mature, ripe and spent were identified in non ovigerous crabs and five ovarian development stages, light yellow ovaries, pale yellow ovaries, pale orange ovaries, black colour ovaries and grey colour ovaries were identified in ovigerous female crabs. The size at first maturity was determined as 57.5 mm carapace length and carapace width 113.50 mm. The pre spawning fecundity estimates ranged from 105874 to 516000 in the crabs of 133 mm to 158 mm carapace width. The post spawning fecundity estimates ranged from 537600 to 1739000 in the crabs of 121 mm to161 mm carapace width. The pre spawning fecundity and the post spawning fecundity showed positive correlations with the carapace width, carapace length and the body weight ($P<0.01$). The Gonadosomatic Index of the female crabs varied from 0.94+0.0208 in immature crabs to 30.6 +0.8048 in matured crabs. More than 80 % of the catches contained immature crabs while percentage of ovigerous females was 8%. High exploitation of immature crabs and ovigerous crabs may have serious impacts on the sustainability of the Blue swimming crab fishery in future.

Keywords: Carapace length, Pre spawning fecundity, Post spawning fecundity, Reproductive biology.