# SEX DIFFERENTIATION THROUGH MORPHOLOGICAL COMPARISON AND LENGTH-WEIGHT CORRELATION OF BLUE SPOTTED MUDSKIPPER, *Boleophthalmus boddarti* (Pallas, 1770)

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## ABSTRACT

### SEX DIFFERENTIATION THROUGH MORPHOLOGICAL COMPARISON AND LENGTH-WEIGHT CORRELATION OF BLUE SPOTTED MUDSKIPPER, *Boleophthalmus boddarti* (Pallas, 1770)

This study was focused on aspects of sex differentiation through morphological comparison and length-weight correlation of Blue Spotted mudskipper, *Boleophthalmus boddarti* (Pallas,1770). This species is known to contribute economically as food or baits industrial or in fisheries management. A total of 70 samples were collected from the three selected mangrove areas in Peninsular Malaysia including Matang Perak, Pekan Pahang and Pendas Johor. The length and weight of the individuals were recorded for further data analysis. The gonads of the samples were critically observed to differentiate the gonads of male and female in terms of coloration, contents, structure or texture. The results from the observation shows that male exhibit pinkish color when mature while the female ovary appeared in yellowish color when mature. The texture of both male and female gonads having the lobes indicate that the development of the content. Interestingly, the maturity of the female ovary is connected with the size of the liver stated that the liver play an important role in maturation of ovary by providing the nutrition such as lipids and vitellogenin crucial for the development of the eggs. In this study reveals that the length-weight correlation of male is slightly higher than female in which the correlation coefficient, $R^2$ for male is 0.971 while the female is 0.959. In length and weight correlation between the two sexes, male and female show a strong positive regression. The data analysis result shows that 95% confident that the true regression line slope, b in male is between 2.759 and 3.007 and for female is between 2.876 and 3.414. From the length-weight relationship graph, the length of the fish increases, the weight of the fish also increases. The slope in female and male are both $b \neq 3$. In the value of b is 2.198 smaller than 3 ($b<3$) thus the male is expressing the negative growth of allometric. However for the slope of the female is 3.145 to the nearest one $b=3$, showing that female exhibit isometric growth pattern.