



CMFRI SPECIAL PUBLICATION

Number 7

**MANUAL OF RESEARCH METHODS FOR
CRUSTACEAN BIOCHEMISTRY AND PHYSIOLOGY**

Issued on the occasion of the **Workshop on
CRUSTACEAN BIOCHEMISTRY AND PHYSIOLOGY**
jointly organised by
the **Department of Zoology, University of Madras** and
the **Centre of Advanced Studies in Mariculture,**
Central Marine Fisheries Research Institute,
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Manual of Research Methods for Crustacean Biochemistry and Physiology

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In regression, the relationship of one variable with another is estimated by expressing the one in terms of the linear function of the other. It is different from correlation (r) in that, in correlation the degree to which the two variables vary together is estimated. In both regression and correlation the values are continuous. The functional relationship in regression is a mathematical relationship which enables to predict the value of a variable y which corresponds to a given variable x . The relationship is determined by $y=a+bx$ in which y is the function of x and is called the dependent variable, x the independent variable. By this formula when the independent variable (x) equals zero, the dependent variable equals 'a'. This point is the intersection of the function line with the y axis which is called as 'y-intercept', and 'b' refers to the slope or the gradient of the function $y=a+bx$. 'b' is called the regression coefficient and the formula is referred to as regression equation (Sokal & Rohlf, 1973).

The regression equation $y=a+bx$ is calculated as follows :—

$$b = \frac{\sum xy - \frac{(\sum x)(\sum y)}{n}}{\sum x^2 - \frac{(\sum x)^2}{n}}$$

$$a = \bar{y} - b\bar{x}$$

$$y = a + bx$$

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For your own notes

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