

## QUANTITATIVE RELATIONSHIP BETWEEN LENGTH AND WEIGHT OF THE BRAIN AND BODY IN A HILL-STREAM LOACH, *LEPIDOCEPHALICHTHYS GUNTEA* (HAM.) FROM MANDAL RIVER

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### ABSTRACT

The paper deals with study of fish brain and body parameter relationship in the hill-stream loach *Lepidocephalichthys guntea* (Ham.). An aim of study is to investigate the quantitative length-weight analysis of the loach fish in river Mandal of Uttarakhand.

**Key words:** *Quantitative relationship, Brain-length, Brain-weight, Lepidocephalichthys guntea (Ham.).*

### INTRODUCTION

*Lepidocephalichthys guntea* (Ham.) is a spring fed water loach fish, which is found abundantly in Mandal river. Loaches are normally small in shape and size. Scanty literature is available on the fish brain quantitative length-weight relationship analysis. During the recent years, the brain-length, brain-weight relationship of some fish species has been studied by Bhatt and Singh (1982, 1983), Bauchet et.al (1973), Jafri and Noori (1976), Sherly (2002, 2004) and Bahuguna et.al. (2005). Present publication deals with the statistical relationship between body length–brain weight, body weight–brain weight and brain length– brain weight.

### MATERIAL AND METHODS

Fish for the present study were collected from different sections of Mandal river is a stretch of about 2 Km. from Banjadevi to Garukapul in the foot hills of Garhwal Himalaya during December 2007 to November 2008. It is an abundant species, of which only 78 specimens were considered for the present study. The method of least squares ( $Y=a+bx$ ) was applied in which Y is dependent variable (brain length, brain weight) and X is the independent variable (the fish standard length and fish weight), a = intercept and b = slope or the regression coefficient. The coefficient of correlation (r) and coefficient of determination ( $r^2$ ) were also calculated.

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