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BIOMETRIC ANALYSIS OF WHITE SARDINE, *ESCUALOSA THORACATA* (VALENCIENNES, 1847) ALONG THE RATNAGIRI COAST OF MAHARASHTRA, INDIA

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ABSTARCT : Morphometric characters and length-weight relationship of white sardine, *E. thoracata* (Valenciennes, 1847) have been studied by 528 specimens comprising of 241 males and 287 femalesfrom Ratnagiri waters of Maharashtra. The regression coefficient (b) was found to be highest for fork length (0.8092) and standard length (0.7656) and lowest for pupil diameter (0.0053) and orbital diameter (0.0533). The length-weight relationship was $W = 0.0174 L^{2.7521}$ for the males, $W = 0.0133 L^{2.8567}$ for females and $W = 0.0162 L^{2.8537}$ for pooled data indicating allometric growth in *E. thoracata*.Coefficient of correlation (r) for the length-weight relationship was estimated at 0.8719, 0.9057 and 0.9012 for the males, females and pooled data, respectively.

Key words : Morphomertic, *E. thoracata,* Ratnagiri, regression coefficient, allometric.

INTRODUCTION

The annual fish production of the country depends on success or failure of groups like clupeoids, mackerel, Bombay duck, carangids and ribbon fish. Clupeoids contribute nearly 50% of the pelagic fishes.The white sardine, *E. thoracata* (Valenciennes, 1847) is a shoaling clupeid, inhabiting shallow coastal waters of India and it supports economically important fishery along the southwest coast of India (Nair, 1951). It is recorded from India, Pakistan, Ceylon (=Sri Lanka), Burma (Myanmar), Malaya, Malay Archipelago and China (Mishra, 1947). *E. thoracata* is the one of the most important pelagic fish which become the fishermen's earn for living (Setiono *et al*, 2014).

Earlier reports on the mophometric chracters of *E. thoracata*are those by Rahangdale (2014) and Prajapat (2015). Studies on the length-weight relationship of *E. thoracata* have been carried out by Raje *et al* (1994), Nabi *et al* (2009), Rahangdale (2014) and Prajapat (2015). Morphometric and meristic characters in fishes have provided useful knowledge for identifying marine fish stocks and describing their spatial distributions (Ihssen *et al*, 1981). The length-weight relationship studies are critical for fisheries research and management because they allow the conversion of growth-in-length equations to growth-in-weight for use in stock assessment models, estimation of biomass from length observations and estimation of the condition of the fish (Goncalves *et al*, 1997 and Stergiou and Moutopoulos, 2001). Separate catch data for white sardine is not available and is grouped under category of other clupeids. At present level commercial exploitation and the importance gained by it compared with oil sardine because of oil sardine is highly fluctuating in nature. No information was available on morphometric and length-weight relationship of *E. thoracata* from Ratnagiri coast, hence the present study was carried out the morphometric and length-weight relationship of *E. thoracata* along the Ratnagiri coast.

MATERIALS AND METHODS

Morphological characteristics

A total number of 528 specimens of *E. thoracata* in length range of 69 mm to 110 mm and weight range of 3.25 g to 13.59 g were collected twice in a month from Burondi (Lat 17º68'33''N and Long 73º14'38''E) a minor fishing harbour situated in the north west coast of Ratnagiri, Maharashtra, India during February 2015 to January 2016.Samples collected were brought to the laboratory and morphometric characters were recorded by using standard fish measuring board to accuracy of 1 mm. Each specimen was placed properly on measuring board, (by fixing the tip of the snout of the specimen to the vertical side of the board) total length (TL),fork length (FL), standard length (SL), snout length (SNL), head