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# A STUDY ON FOOD AND FEEDING HABITS OF WHITE SARDINE, *ESCUALOSA THORACATA* (VALENCIENNES, 1847) FROM THE RATNAGIRI COAST, MAHARASHTRA

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**ABSTRACT : Specimens of *E. thoracata* were collected twice in a month during the period of February 2015 to January 2016 from Burondi, landing centre of Ratnagiri coastfor investigated food and feeding habits.*E. thoracata* is a planktivorous fish, mainly feeding on copepods, cladocerans, crustacean's larvae, fish eggs, bivalve larvae, tintinnids and diatoms (*Ceratium* spp., *Coscinodiscus* spp., *Nitzschia* spp., *Rhizosolenia* spp.). Among the food items copepods were most dominant (69.09%) item in the diet followed by crustacean appendages (7.41%) and lowest item was *Rhizosolenia* spp.(0.01%). Group-wise index of preponderance of different food items indicated that crustaceans formed most dominant group (83.81%). Monthly index of preponderance of different food items indicated that copepods were dominant in all the months. Sex-wise index of preponderance indicated that copepods were dominant for both the sexes recording 71.88% in males and 65.06% in females. In pooled data for feeding intensity full stomach was observed in 16% fish during May, 3/4$^{th}$ full stomach was observed in 26% fish during month of September, 1/2$^{th}$full stomach was observed in 40% fish during month of April, 1/4$^{th}$ fullstomachfeeding was observed in 58% fish during the month of December whereas empty stomach was observed in 24% fish during February. Highest percentage of full stomach was observed in 23.08% in male during June and 21.74% in female during May, whereas empty stomach was observed highest in February for both the sexes.**

***Key words :*** *E. thoracata,* Ratnagiri, feeding intensity, planktivorous.

## INTRODUCTION

The white sardine, *E. thoracata* (Valenciennes, 1847) is locally called 'Bhilji' or 'Motaka' due to its shining silvery white appearance. The white sardine, *E. thoracata* is a shoaling Clupeid, inhabiting shallow coastal waters of India. Although it is reported in less quantity from most of the coastal waters of the country, it supports economically important fishery along the southwest coast of India (Nair, 1952), but it also occurs in swarms on the east coast suggesting probable existence of an unexploited stock there (Mookerjee and Bhattacharya, 1950). Along the Ratnagiri coast it was occasionally captured by means of gill nets and cast nets operated in shallow creeks and is now supporting a regular fishery, along the Harnai-Dabhol coast of Ratnagiri, Maharashtra. The fisheries of *E. thoracata* have assumed importance in recent years due to its huge demand from the domestic consumers. The highly discontinuous distribution of this fishery, present level commercial exploitation and the importance gained by it compared with oil sardine has developed enthusiasm to study its aspects in details, with respect to the fishery and biology along the Ratnagiri coast. The study of food and feeding habit of marine fishes is important biological factor for ecosystem modeling, fish stock assessment and understanding the trophic dynamics of ecosystem. Gut content analysis is the best technique to study the food and feeding habit of fishes which gives importance in feeding patterns and quantitative assessment of food. Pelagic fish that live in water surface and column rely on speed to catch their prey and also to avoid their own predators. There are several reports on the food and feeding of white sardine Bapat and Bal (1950), Nair (1952), Raje *et al* (1994), Rahangdale (2014) and Prajapat (2015) which concluded that *E. thoracata* is a planktivorous fish, mainly feeding on copepods, cladocerans, crustacean's larvae, fish eggs, bivalve larvae, tintinnids and diatoms. As no studies of white sardine resource along the Ratnagiri coast has been reported therefore, the present study was conducted to investigate the feeding aspects of *E. thoracata* along the Ratnagiri coast of Maharashtra.

## MATERIALS AND METHODS

The samples were collected twice in a month from the Burondi (Lat 17º68'33''N and Long 73º14'38''E) fish landing centre a minor fishing harbour situated in the north west coast of Ratnagiri from February 2015 to January