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## STUDIES ON ANTARCTIC KRILL: I—LENGTH WEIGHT RELATIONSHIP IN ADULT, *EUPHAUSIA SUPERBA*, DANA 1850

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ANTARCTIC Krill—an euphausiid—having an estimated standing stock of 650 million tonnes[1], is considered to be the world's largest single source of natural proteins. Recent studies[2–4], on the biological productivity off Queen Maud Coast, have indicated, not only the abundance of Antarctic Krill, especially, *Euphausia superba*, Dana 1850, but also have highlighted its key role in the food web of the Indian Ocean sector of maritime Antarctic[5].

Although distribution and abundance of *E. superba* has been studied, rather extensively[6], there is a dearth of information about its biological aspects, especially from the Indian Ocean sector of Antarctic Ocean. During the course of the first (1981–82) and the second (1982–83) Indian scientific expedition to Antarctica, a series of observations were undertaken on the distribution, abundance and growth of *E. superba* and the results on length weight relationship are presented, here.

Area of sampling lies within the geographical coordinates—latitude 55 to 67°S and longitude 10 to 37°E. Deploying a 500 $\mu$ mesh size Bongo net, samples were collected, through vertical hauls, from 300 metres to the surface. Depending upon the distribution and abundance, a few vertical hauls were taken with an Indian Ocean Standard net, (300 $\mu$ mesh) having 1 meter wide opening. Measurement of length and body weight was as per Nemoto[7] and length weight data was analyzed by the method of Le Cren[8].

Specimens of *E. superba* were in the size range of 30–42 mm in length and 82–521 mg in wet weight and thus can be called as adult and sexually matured individuals, 2–3 years old[9]. Mean length and mean body weight was 34.18 mm and 202 mg, respectively.

The length weight data[8] were analysed by using linear regression, $\log W = a + b \log L$ and the equation derived could be expressed as $\log W = (-1.081) + 2.181 \log L$ (figure 1a). At 95% confidence limit, the value of $b$ ranges between 2.269 and 2.892. The parabolic representation was $W = 0.029 \times 10^{-5} L^{2.181}$ (figure 1b).

As assessed from $r$ (coefficient of correlation) value, which was 0.995, there seems to exist a high degree of relationship between length and weight[10] in *E. superba*. Though the present set of observations pertain only to adults (males and females, combined), the slope of the regression line was found adequate to fit the equation and thus appropriately represents the length weight relationship.

Estimation of length weight relationship, as an indicator of growth progression[8], is not only essential for understanding the biology and population dynamics of the species concerned but also for the proper

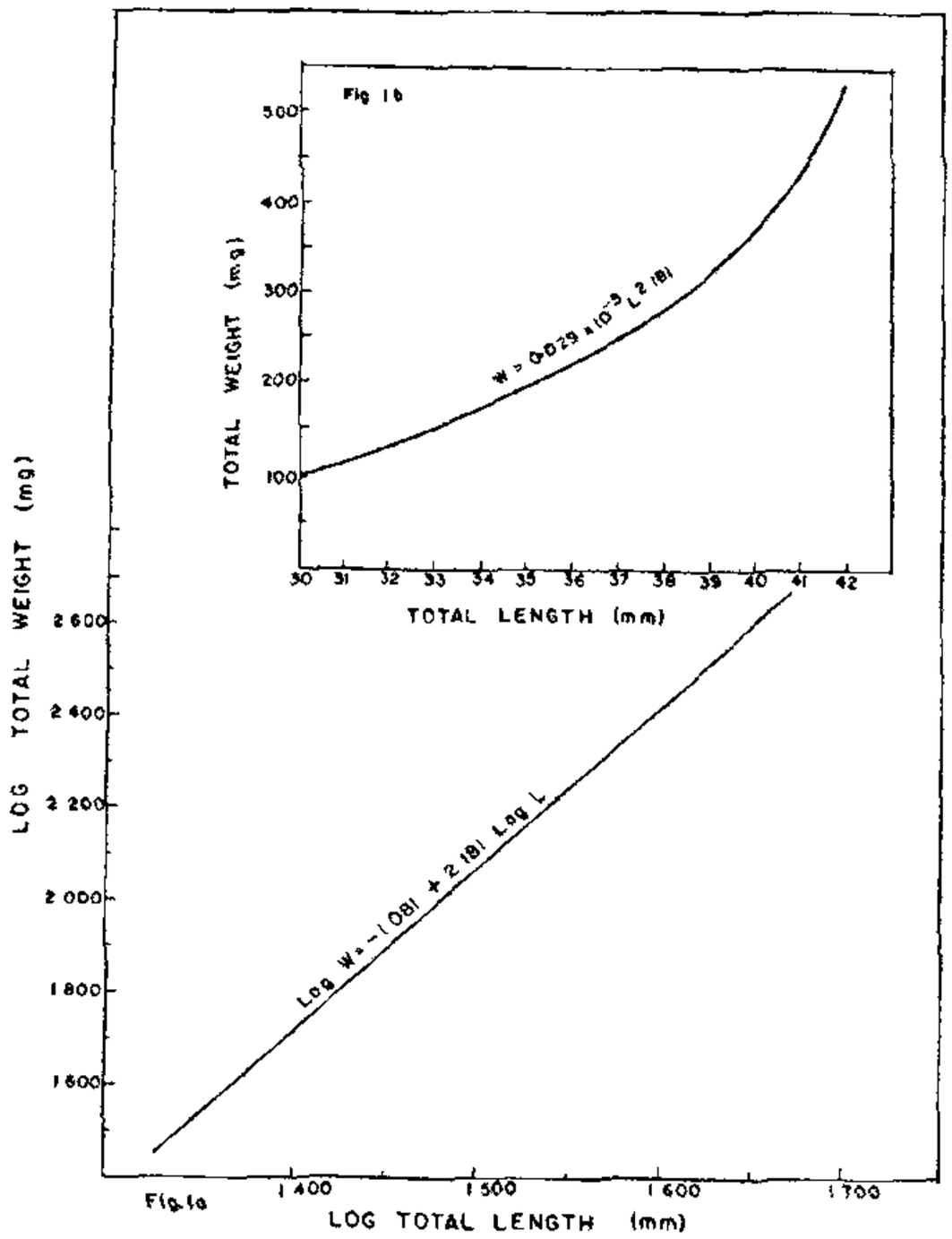


**Figure 1.** Length-weight relationship in the Antarctic Krill, *Euphausia superba*. Dana 1850. **1a.** Linear regression equation, **1b.** Parabolic representation.

management of exploitable resources. Value of *b*, being less than 3, suggests that the body weight of *E. superba*, increases at a lower rate than the conventional cube of the length[10]. Such a deviation from isometric growth, reflects on the overall slow growth rate—a characteristic feature of organisms, inhabiting the supercooled polar waters[11]. Further studies on the length-weight relationship of *E. superba*, need to be undertaken, for a proper understanding of the magnitude of seasonal variations in the growth progression of harvestable krill resources of the Indian Ocean Sector of maritime Antarctic.

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## NEW RECORD OF SCLERACTINIAN CORAL *ASTRANGIA* SP. FROM INDIAN WATERS

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THE scleractinian coral, *Astrangia* sp. was found settled on aluminium and mild steel panels exposed at two stations, Cortalim Bridge and the Oil jetty of Marmagoa Harbour.

At Cortalim station the coral settled at 3 metres depth during Feb–May 83 and at the Oil jetty, at three different depths, 3, 4.5, and 6 m during Feb–May 83 as well as June–Sept 83. In addition, the long-term panel exposed for the period Feb–Sept 83 also had these forms indicating thereby their survival during the low-saline (10.27‰) monsoon period.

No corals have hitherto been recorded from Goa water[1] thereby making this the first record from Goa waters. Similarly, the work of Gopinath Pillai[2] does not list *Astrangia* sp. from the seas around India (figure 1). The other bioecological aspects of this coral are being reported elsewhere.

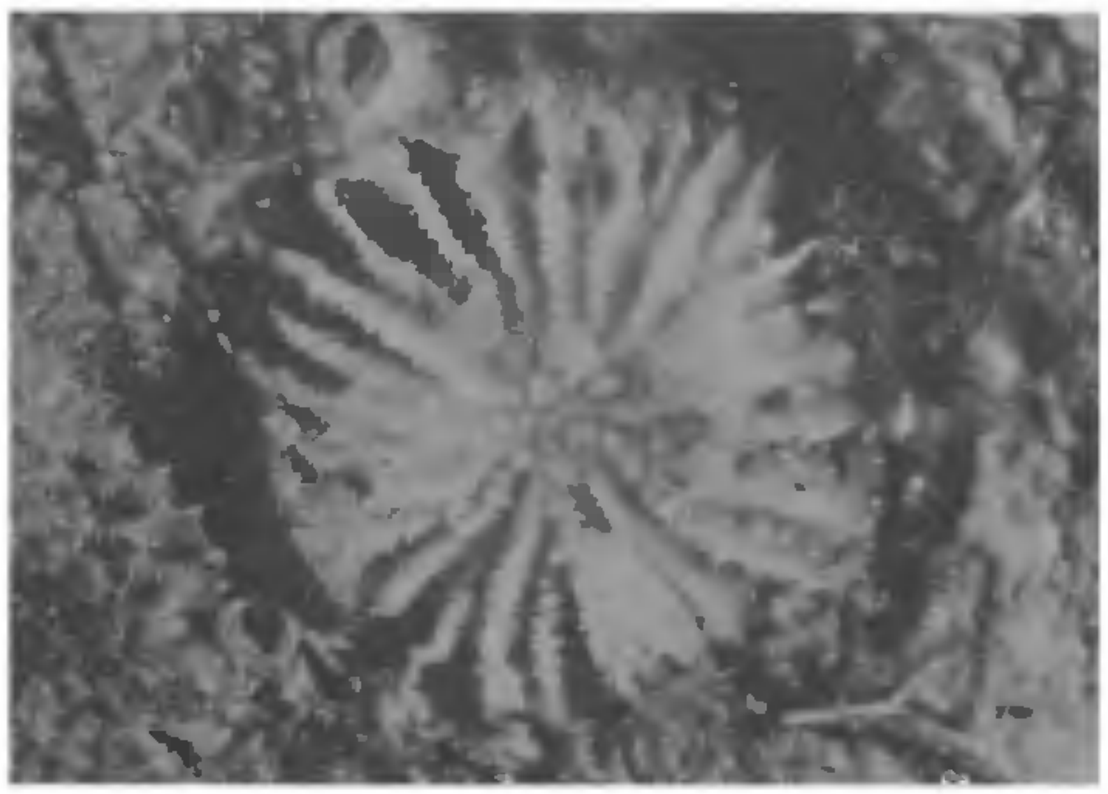

**Figure 1.** *Astrangia* sp.

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