



## BIOMETRICS AND RADIOGRAPHIC STUDIES ON THE TERATOLOGY OF STARFISH (*PENTACERASTER AFFINIS*) FROM THOOTHUKUDI COAST OF GULF OF MANNAR, INDIA

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### Abstract

Asteroidea (Phylum: Echinodermata) are pentamerous with five primary arms but very few asteroids exhibit deviation. In the course of echinoderm faunal investigation along Gulf of Mannar, two four armed abnormal starfish, *Pentacaster affinis* were encountered in the bottom set gillnet fishery (2017) along with the normal one (with five arms) from the Vellapatti fish landing centre of Thoothukudi, Southeast coast of India. The percentage abnormality is accounting to a tune of 0.02%. Biometric and radiographic investigation was made on the 5 and 4 armed specimens. The arm lengths (R, mouth to arm tip; r, mouth to inter radius end), arm breadth (b, arm base width) among the 5 and 4 rayed specimens was not statistically significant ( $P > 0.05$ ). The four armed starfish had four radial plates and are usually symmetrical as in the case of five armed one. However, in the observed specimens, the reduction in the number of arms (as abnormal) are attributed to early stage of development and possibly a genetic basis. The possible reasons for deviation of the location of madreporite and anus of abnormal four armed specimens from that of Carpenter letters system and results of radiographic visualisation were discussed elaborately in the paper.

**Keywords:** Echinoderms, Autotomy Regeneration, Symmetry, Ray, Pentamerous