

DETERMINATION OF SPAWNING SEASON OF CUTTLEFISH IN THE BAY OF BENGAL IN BANGLADESH

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Executive Summary

Sepiella inermis, spineless and small-size cuttlefish, is one of the important species of cephalopods and widely distributed in the Indo-west Pacific region. This study, for the very first time in the southeastern region of the Bay of Bengal Bangladesh, was conducted to investigate the length-weight relationship, condition factors and spawning season of *S. inermis*. Samples (~149) were collected monthly from the Bangladesh Fisheries Development Corporation (BFDC) landing center, Cox's Bazar from July 2022 to May 2023 (samples in June 2023 were absent due to the banning period). b value of the length-weight (DML vs BW) relationship of female and male was 1.912 (r^2 0.5072) and 2.119 (r^2 0.9557) respectively, which indicated a negative allometric growth pattern of cuttlefish. Five gonadal and testis maturation stages (immature, maturing, mature, spawning, and spent) were observed that fluctuated based on DML and months. Females have a greater average gonadosomatic index (6.87%) than males (1.98%). A major peak in GSI of females was observed in September 2022 (9.13%) and after that, it decreased gradually, and second peak was in January 2023 (9.78%). The major spawning season in males was observed during January and May 2023. Since this is the baseline study on the reproduction aspects of *S. inermis*, further study could suggest that oceanographic and climatic parameters on the abundance and reproduction of cuttlefish in the Bay of Bengal.

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