Daily Burrowing Behaviour of Sea cucumber (*Holothuria scabra*): Effect of Lunar days and water quality parameters

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1. Abstract

Holothuria scabra is widely found sea cucumber species around Sri Lanka especially in North Western and Northern region. The sea cucumber fisheries mainly depend on wild collection in Sri Lanka where the resource is overexploited. Holothurians are heavily exploited worldwide during the last decade. Thus at present there is more concern about its conservation. Hatchery production, farming and stock enhancement programs have been directed to ensure its conservation, but all these depend on its behaviour of individuals especially the burrowing behaviour. The present study designed to investigate its daily burrowing behaviour mainly with its size (weight), lunar cycle and some of the water quality parameters. This study was conducted in Regional Research Centre, Kalpitya in the period of July 2012 to October 2012.

Our study revealed that there is no any difference in its burrowing behaviour with respect to its size (weight). And also there is no any difference in its burrowing behaviour with the lunar days, but it showed different burrowing pattern on quarter moon days when compared to normal days. During new moon days between 15:00 to 1:00 hours it showed different burrowing pattern when compared to other lunar days. Among the water quality parameters, water temperature had an effect on proportion of *Holothuria scabra* individuals found on the surface. During our study period *Holothuria scabra* showed allometric growth pattern and reached 7.4 cm (64.3 g) in size within three months under the hatchery condition.

Keywords: *Holothuria scabra*, daily burrowing behaviour, size, lunar cycle, water quality parameters