

Does tagging for radio acoustic positioning telemetry change spawning behaviour of Chokka squid, *Loligo vulgaris reynaudii*?

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Publication info: Dalhousie University (Canada), ProQuest, UMI Dissertations Publishing, 2000. MQ57259.

[ProQuest document link](#)

Abstract: Although centuries of work illustrate man's desire to discover loliginid behaviour only recently has the ability to detail spawning behaviour been obtained. Radio Acoustic Positioning Telemetry (RAPT) analysis allows researchers to observe in situ behaviour with more accuracy and greater precision and continuity than ever before. However, the transmitters effect on the animals and analytical limitations are unknown. Video analysis combined with data from the literature and general observations allowed 'Normal' behaviour to be represented by sequential dots making it comparable to readouts derived from data collected by RAPT triangulation algorithms. Qualitative comparisons between normal behaviours and behaviours seen by RAPT allowed for biological interpretations of the patterns seen and hence an understanding of movements and in situ arrangements over the egg beds along the South African shore. These comparisons and an analysis of change over time of the RAPT data allowed for behavioural change caused by RAPT tags to be assessed. Behavioural change was seen to occur over the first 3 days of experimentation after which they stabilized and observations were made. Notable observations included zone differentiation, approach patterns where female Chokka laid egg strings independently while escort males hovered above, the distinguishing of sneaker males by movement patterns alone and the observation of temporal division of beds by males.

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Subject: Zoology; Oceanography

Classification: 0472: Zoology; 0416: Oceanography

Identifier / keyword: Biological sciences

Pages: 149 p.

Number of pages: 149

Publication year: 2000

Degree date: 2000

School code: 0328

Source: MAI 39/04, p. 1100, Aug 2001

Place of publication: Ann Arbor

Country of publication: United States

ISBN: 9780612572591, 0612572595

Advisor: O'Dor, Ron K

University/institution: Dalhousie University (Canada)

University location: Canada

Degree: M.Sc.

Source type: Dissertations & Theses

Language: English

Document type: Dissertation/Thesis

Dissertation/thesis number: MQ57259

ProQuest document ID: 304642851

Document URL:

<http://ezproxy.library.dal.ca/login?url=http://search.proquest.com/docview/304642851?accountid=10406>

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Database: ProQuest Dissertations & Theses Full Text