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The age of squids, *Illex illecebrosus* (LeSueur, 1821), from their statoliths

by

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Introduction

The procedure of accurate ageing of the squids was unknown. Many authors have not found any regular growth rings of the statoliths (Arnold *et al.*, 1974; Dilly, 1976).

The aim of this paper is to describe a simple method concerning the ageing of the squids.

Material and Methods

The squid samples were collected during the cruise of M/T PLETWAL (July-September 1977). Only a small part of the material was analyzed and it is presented here rather for methodological purposes than for a detailed investigation of *Illex* population age composition.

The heads of the fresh squids were dissected and the statoliths removed and placed in small paper bags. The dorsal mantle length (in mm), sex, maturity, and stomach content was also noted in each case. After several months the statoliths were mounted in evaporated Canada Balsam, ground and polished with a water-silicon carbide (1,000 and 1,200 grit) to the mid-frontal and/or mid-transverse plane. Some statoliths were also kept in the liquid Eukitt for approximately one week.

Results

The growth rings could be fairly seen as well after the "polishing method" as after the Eukitt one (Fig. 1-4). Keeping statoliths in the Eukitt is recommended because of the simplicity of this method.

Several measurements showed fine growth increments (2 mm each) at the nucleus zone of the statolith (Fig. 1). There are usually 40 of these increments in this zone. The results of some readings are shown in Fig. 5.

Discussion

The fine growth increments within the nucleus are believed to be the daily marks of the statolith. This zone is called "juvenile statolith"; beyond the "juvenile statolith" growth marks may be observed that we consider to belong to monthly growth increments. The works of Brothers *et al.* (1976), Struhsaker and Uchiyama (1976), Taubert and Coble (1977) confirm this interpretation.

Conclusion

The statolith of *Illex illecebrosus* could be used for fair ageing of these squids.

Literature Cited

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Fig. 1. The statolith structure of *Iller illecebrosus*; Male II.
ML = 220 mm 150X. The mid-frontal plane. Polishing method.



Fig. 2. The same specimen as in Fig. 1. The mid-transverse plane. Polishing method.



Fig. 3. The *Iller illecebrosus* statolith structure. Female II.
ML = 225 mm. 120X. Eukitt method.

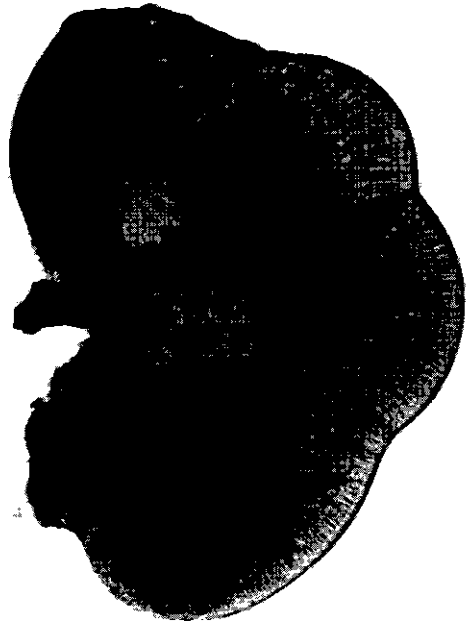


Fig. 4. The same specimen as in Fig. 3. Eukitt method.

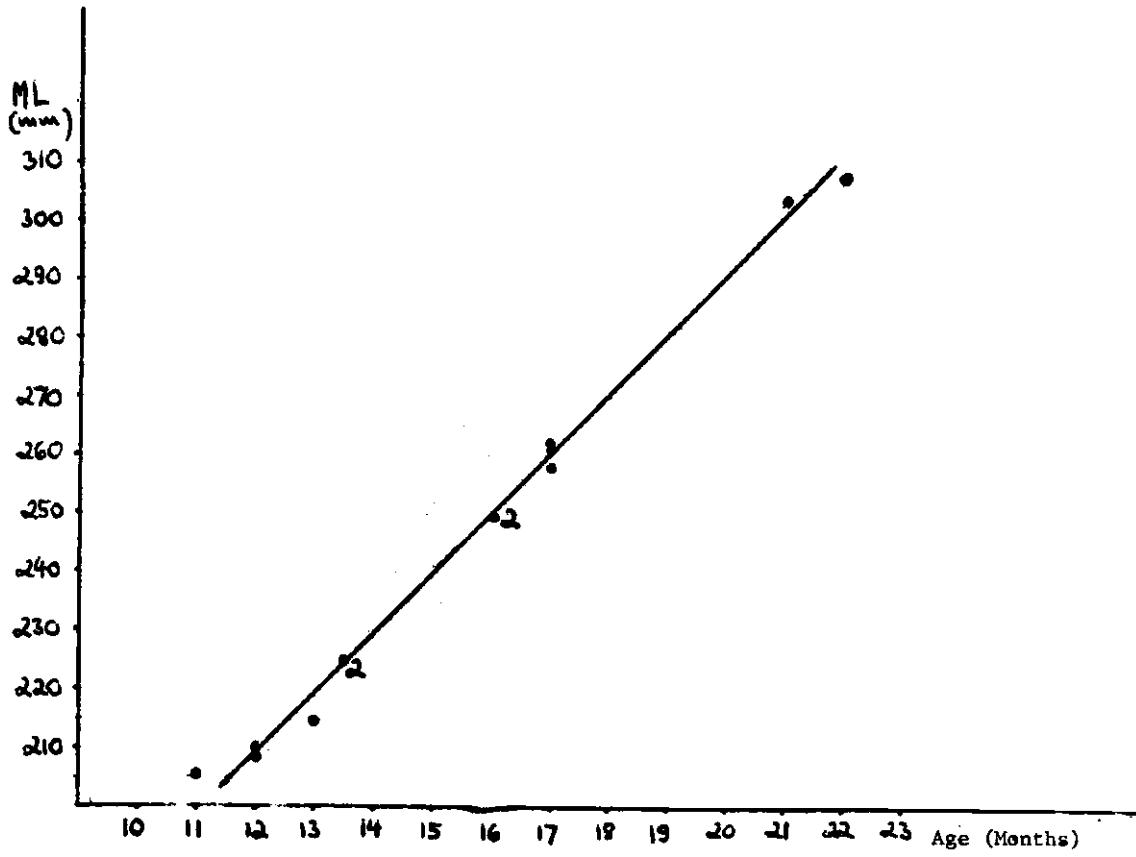


Fig. 5. The readings of the several Illex statoliths.