A NOTE ON PHOTOGRAPHING OTOLITHS

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The sagittal otoliths of fishes have in recent years become important taxonomic aids. For this purpose high quality photographs have become essential to illustrate such fine structures as the cristae and the colliculi which are often useful in distinguishing between closely related species. The method described below proved to be successful in illustrating these features.

The ends of a glass tube (d=5 mm) *ca.* 16 cm long are heat-bent at right angles to form two arms approximately 3 cm long. Approximately 1 g of ammonium chloride(NH_4Cl) crystals is put into the glass tube and heated with a bunsen flame from below. NH_4Cl has the property of changing from the solid to the gaseous state on heating. When a gaseous vapour becomes evident in the glass tube the flame is moved to one of the open ends of the tube and the other end is placed over the otolith. As it cools on the otolith the gas instantaneously returns to the solid state in the form of a thin white powdery layer. Care must be exercised to obtain a thin evenly distributed layer over the otolith.

This thin white layer has the property of accentuating the important features on the otolith surface. Moreover, it renders the otolith opaque, which is an added advantage for photography. After photographing the otolith the NH_4Cl film may be removed by rubbing with the fingers.

Figure 1 illustrates the advantages of this method of preparation.

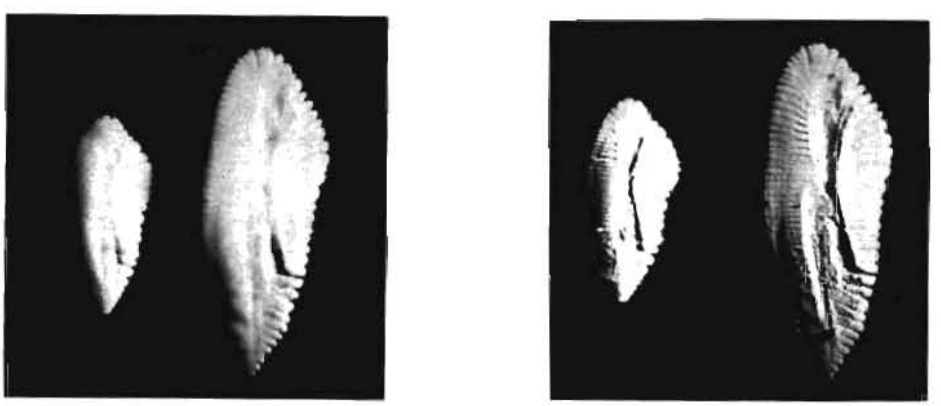

FIGURE 1

Sagittal otoliths of *Merluccius capensis* not treated (left) and treated (right) with NH_4Cl.