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Use of calcein to estimate and validate age in juveniles of the winged pearl oyster Pteria sterna

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Determining age is an important step when assessing growth, mortality, and yield of cultivated and wild populations, but studies linking shell growth marks in the pearl oyster *Pteria sterna* with the age of individuals are lacking. Thirty juveniles $(20.0 \pm 1.2 \text{ mm} \text{ shell height})$, collected from a winter spat fall, were marked with the fluorochrome calcein and kept in the field in culture containers. After day 16, the juveniles were cleaned and their shells cut along the sagittal axis to determine periodicity of micro growth bands formed in the inner shell layers and to estimate age. During this trial, fluorescent calcein marking succeeded in individuals larger than 20 mm shell height; these formed an average of 15 micro growth bands over the 16 days, representing 1 band per day. The marker created a wide fluorescent band containing three micro growth marks, suggesting that calcein was incorporated into the shell over the first three days. The use of calcein was found to be an accurate method for validating the micro growth band frequency of formation in *P. sterna* juveniles, which in turn can help to estimate age.

Palabras clave: age validation, Pearl oysters, Age estimation, Fluorochrome calcein marker

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