

# **Aging the American Lobster (*Homarus americanus*) – Does Size Matter?**

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## **Abstract**

Traditionally, the age of American Lobster (*Homarus americanus*) has been determined using body size. Recent studies demonstrated that Lipofuscin (aging pigment) accumulations in the brain are more accurate predictors of age.

The purpose of this research is to apply lipofuscin age determination to the Long Island Sound population of American lobster by generating an age-based index of lipofuscin concentration in the brain from a series of known age animals. Cross sections from brain tissues were taken and examined using a BioRad CellMap Confocal Microscope equipped with LaserSharp 2000 software. The average number, size and area of lipofuscin granules were calculated using NIH Image J software. The area fraction of lipofuscin in the cell mass was determined and used as an index of age. Although preliminary, data are consistent with previous studies and show average particle size and percent mean area occupied by lipofuscin increase with age.

Keywords: *Homarus americanus* – Age pigment – Lipofuscin – Fluorescence

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