

Title Post-mortem changes in viscera of cuttlefish *Sepia officinalis* L. during storage at two different temperatures

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Abstract

We observed the post-mortem changes in viscera of cuttlefish *Sepia officinalis* in order to apply the data to autolysate production. Cuttlefish viscera were stored at 4 or 25 °C and sampled regularly over 4 months. Our results showed that total acid proteases and cathepsins were rapidly released to the extracellular medium due to the breakdown of lysosomes. Total alkaline protease activity increased 2 h after death due to the breakdown of zymogene vesicles. The same patterns were found with trypsin, chymotrypsin and α -amylase activities. After 10 days of incubation, no endogenous enzymatic activity was found. After 50 days of storage, the TCA soluble protein levels decreased rapidly to approximately 30% due to protein degradation and aggregation. After 10 days, the pH of viscera stored at 25 °C was alkaline, whereas in the viscera stored at 4 °C the pH increased more slowly. As significant reduction in the protein molecular weight due to autolysis, was also observed.