

Title Sensory, microbiological, physical and chemical properties of cuttlefish (*Sepia officinalis*) and broadtail shortfin squid (*Illex coindetii*) stored in ice

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Abstract

The objective of this study was to characterize whole raw cuttlefish (*Sepia officinalis*) and shortfin squid (*Illex coindetii*) during storage in ice through sensory, microbiological, chemical and physical analyses. The recently developed Quality Index Method (QIM) tables for these species were used for sensory analysis. Shelf-life of whole cuttlefish and shortfin squid were estimated as around 10 and 9 days, respectively, according to QIM, which is shorter than for most species, especially fish. The numbers of microorganisms found in cuttlefish and shortfin squid surfaces until rejection were lower than in fish, which suggest predominance of enzymatic (autolytic) degradation. H₂S-producing bacteria constituted a significant proportion of the spoilage flora. Physical analysis performed using the RT-Freshmeter and the Torrymeter showed these instruments can be applied to cuttlefish and shortfin squid, providing useful complementary information on the rates of change of electrical properties. Free tryptophan and VBN contents significantly changed during the first storage week indicating that low levels of these compounds could be used as indicators of fresh and high quality cuttlefish and broadtail shortfin squid. Urea can be useful as spoilage indicator for cuttlefish, as well as agmatine for broadtail shortfin squid. An overall look into data obtained shows, as expected, that spoilage of these cephalopod species can be considered a different phenomena when compared to fish and is not yet completely clarified.