

Changes of Taste and Taste-active Components in Bivalves  
Acclimated to Different Salinity.

Shinya Fuke, Tokyo Gakugei University,  
Faculty of Education.

(summary)

Short-necked clam (*Tapes japonica*) and mussel (*Mytilus coruscum*) was bred about 5 hours in natural seawater and artificial seawater whose concentration was adjusted to 50, 75, 100, 125 and 150% of the concentration of natural seawater. They were used for sensory analyses by preparing soup and for the analyses of extractive components.

Taste of soups: In case of short-necked clam, natural seawater and 125 % artificial seawater were evaluated most tasty. The soup of 100 % occupied the next position, however, 50 and 75 % were poor in taste and 150 % was very strong in both sweetness and saltiness. The most tasty soup in mussel was obtained from natural seawater.

The composition of the extracts: Short-necked clam; Extractive nitrogen and the sum of free amino acids were increased with the increase of salinity. Among the amino acids, taurine was remarkably high, exceeded 50 % of the total amino acids, and increased with the elevation of salinity. Arg, Gly, Ala and Glu were also rich. The sum of nucleotides were detected almost the same level in any of the 6 samples. In native mussel, the sum of free amino acids were reached about 60 to 80% of that of short-necked clam. The sum of nucleotides was apparently higher in native mussel than that in short-necked clam.

Synthetic extracts, consisted of free amino acids, AMP, succinic acid and NaCl, were prepared for short-necked clam. When IMP was added to the extracts, the taste of 50 to 100 % was changed to more like short-necked clam and that of natural seawater and 125% were increased in thickness.