

## Free amino acids and nitrogen contents of the coastal plants in Korea

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35 species of coastal plants (mainly halophytes) including 8 species of Chenopodiaceae were investigated for their free amino acids and the total and water-soluble nitrogen contents in leaves. All plants under investigation except some plant species (e.g. *Scutellaria* and *Linaria*) contained proline, but only in *Tetragonia* and *Raphanus* in rather high amounts, that it can be thought to serve as a cytoplasmic osmolyte. In some plant species (*Euphorbia*, *Glehnia* and monocotyledonous *Carex* & *Zoysia*), however, hydroxyproline than proline were accumulated to a considerable extent. The concentrations of the total free amino acids were low in *Linaria*, *Plantago*, *Aster* and especially in the members of the Chenopodiaceae. Marked differences also occurred in the nitrogen levels. Aizoaceae, Chenopodiaceae, Cruciferae and Leguminosae usually showed high values of total and water-soluble nitrogen, while the opposite was true for most of the Crassulaceae, Cyperaceae, Gramineae and Scophuriaceae. The free amino acids in the investigated plant species contributed very little to the nitrogen content, but in plants of *Euphorbia*, *Messerschmidia* and *Orostachys*, their amino acid-N made up for 25 - 30 % of the total nitrogen.

In conclusion, only a few cases did proline known as compatible solute constitute a significant proportion of the free amino acid pool in coastal plants.