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Morphological and Genetic Variations of Populations of *Suaeda maritima* according to the Altitude of their Habitats

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This research, which was conducted from August to November 2003, sought to find out the morphological variations of *Suaeda maritima* according to the altitude of their habitats at the dune located at Jogeum-naru, Mangun-myeon, Muan-gun, Jeollanamdo, South Korea, by surveying the environmental factors affecting the characteristics of vegetative organs and the biomass and morphological variations of vegetative organs. Their habitats were divided into a low area, a mid-level area and a high area. For the environmental factors, the research delved into the soil's salinity, electrical conductivity (E.C.), pH, available phosphate (A-P), total nitrogen (T-N) content, water content, organic matter, altitude, PAR and UV-B. For the morphological factors, measured were the length, width and thickness of the leaves, the length of the stems, the length of the roots, the number of branches, the number of seeds in the twigs, the population density, and the biomass. The results showed that there was a statistically significant relationship between the environmental factors and the biomass of *Suaeda maritima* according to their habitat's altitude. In particular, the higher the altitude of the habitat was, the less were the soil's water content, total nitrogen content, available phosphate, organic matter, density and biomass. For the morphological variation width, the length of the aerial stem in the low area was measured at 17.980.46mm, and in the high area, was shorter by 0.70 times. Likewise, the length of the main roots in the low area was measured at 8.060.21mm, and in the high area, was longer by 1.58 times. The length of the leaves in the middle of the dwarf stems that branched out three times from the aerial stems in the low area was measured at 7.830.12mm, and in the high area, was shorter by 0.83 times. The width of the leaves in the low area was measured at 1.880.01mm, and in the high area, was longer by 1.16 times. Genetic variations did not appear in accordance with the sand dune's altitude, but within the population.