Pattern of distribution of selected trace elements in the marine brown alga, *Sargassum filipendula* Ag. from Sri Lanka

Ranjith Jayasekera

Department of Botany,University of Kelaniya,Kelaniya, Sri Lanka

Abstract

Baseline concentrations together with biological variations of 29 trace elements (Ag, As, Au, Ba, Br, Cd, Ce, Co, Cr, Cs, Eu, Fe, Hf, I, Mn, Mo, Ni, Pb, Rb, Sb, Sc, Se, Sm, Sr, Tb, Th, Yb, Zn and Zr) were investigated in the brown alga, *Sargassum filipendula* collected from the western coast of Sri Lanka. Several elements (Co, Cr, Fe, Hf, Ni, Sc, Se, Th, Zr and the rare earth elements) were found to be enriched in *S. filipendula* compared to NIES No. 9 *Sargasso* reference material. Concentration of strontium in *S. filipendula* was highest at all sites. Chemical abundance of the rare earth elements decreased approximately linearly with increasing atomic numbers. The pattern of elemental distribution appears to be due to the fact that *S. filipendula* seems capable of concentrating high levels of trace elements under conditions of their very low availability in sea water. Concentration factors for elements in *S. filipendula* lie in a higher range compared with those reported in the literaure for brown algae.

Keywords: Brown algae, concentration factor, *Sargassum filipendula,* Sri Lanka, trace elements