D-03: Quantitative study of gamma emitting radionuclides, in some marine algae

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Many marine organisms are capable of concentrating within their tissues, various trace metals including radionuclides, although the sea water concentrations of most of these elements and radionuclides occur at ultra trace levels. Gamma activity measurements were made for 7 marine algae from Beruwala and Mt. Lavinia. The individual radionuclide contents of 4 members of the thorium series, Pb212 Ac228, Bi212, Tl208 and K40 contents for the different algae are reported. This study reveals the accumulation of radioactive elements from the marine environment with a greater accumulation in the algae from Beruwala where monazite placer deposits occur. Among the algae studied *Chaetomorpha* shows remarkably higher levels of the thorium daughter products. Thus *Chaetomorpha* may be used as an indicator plant for radioelements of the thorium series. This could be useful to identify the presence of thorium mineral resources.