Some biogeochemical aspects of ultrabasic areas in Sabah

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The trace elements content and distribution in soils, river sediments and vegetation of ultrabasic (ultramafic) areas at several localities in Sabah have been determined. Particular attention was given to nickel, chromium and cobalt in soils and sediments, and nickel in *Rinorea bengalensis*, a plant species known to be hyperaccumulator of nickel. Analyses have been carried out using AAS technique following sample digestion in hot concentrated nitric acid. The data show geochemical anomalies of Ni, Cr and Co in the soil and sediment samples. The total concentration is, however, variable within the range 100–1,000 μg/g depending on the locality, metal type, sample type and to some extent soil depth. Values for sediments are generally lower compared with soils while Ni:Co and Cr:Co ratios are less than unity in all samples. The Ni content of leaves and barks of *R. bengalensis* is unusually high with levels up to 12,000 μg/g or 1.2 percent (dry weight basis), confirming the hyperaccumulator status of this plant species. Interestingly, the plant Ni is up to at least five times higher than soil Ni, and the extremely high accumulation of Ni is not phytotoxic to the plant. The Cr and Co content of the plant is, however, extremely low compared with that of Ni.