PRELIMINARY STUDIES IN BIOGEOCHEMISTRY FOR MINERAL PROSPECTING AND ENVIRONMENTAL IMPACT

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A systematic programme has been initiated in the use of biogeochemistry for mineral prospecting and in the evaluation of environmental impact. Two mineralised areas were selected for study of elemental concentrations in vegetation and supporting soils. Plant-soil correlations are reported for copper mineralisation. The results are presented for selected families of plants. Family *Myrtaceae* and the genus *Grewia* (Tiliaceae) showed significantly high values for Cu and Zn. Plant-soil mapping has been carried out and the variation of Cu/Zn ratios for soil samples and vegetation reported. The values for Cu showed a significantly low background level with distance from the mineralised area.

Samples of *Eugenia bracteata* (*Myrtaceae*) and *Tarnena asiatica* (*Rubiaceae*) together with their supporting soils were collected from different areas in Sri Lanka. Elemental amounts of Cu determined showed significantly different values as compared to the mineralised area. The results obtained could lead to identification of hyper-accumulators of significance to phytochemistry and in mineral prospecting.

The paper also reports study of use of different digestion techniques for evaluating optimum working procedures for chemical analysis.