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ANALYSIS OF *TRADESCANTIA PALLIDA* PLANT EXPOSED IN DIFFERENT SITES FOR BIOMONITORING PURPOSES

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In recent years, *Tradescantia* plants have become widely acknowledged for the detection of genotoxic effects of heavy metal ions by micronucleus assay and it is suggested to be used for biomonitoring metal-contaminated soils. Moreover the *Tradescantia*-micronucleus bioassay has been carried out to detect genotoxicity of emissions from city waste incinerators, of pollution levels of rivers and for monitoring around nuclear power plants.

The purpose of this work is to compare concentrations of elements accumulated by *Tradescantia pallida* exposed in sites of different levels of pollution, aiming further use of this species as biomonitor of environmental pollution

T. pallida was planted in several vases and then they were placed in the following sites: Cerqueira César and Congonhas districts, considered polluted areas of São Paulo city and in Caucaia do Alto county, considered non polluted control site situated about 50 km from São Paulo downtown. The soil utilized in these vases was commercial one. The leaf samples collected in the third knot from the edge of the stems and this collection was carried out monthly during a period of about one year. The samples were cleaned using distilled water, frozen dried and then ground for analyses. About 150 mg of each sample were weighed accurately in polyethylene involucre and sealed by heating. Irradiations were carried out in an IEA-R1 nuclear research reactor with elemental synthetic standards. The gamma ray measurements were carried out using an HGe detector coupled a Model 1510 Integrated Signal Processor, both from Canberra.

Concentrations of As, Br, Ca, K, Mn, Sr, Th and Zn were of the same magnitude for the samples collected in the three sites. However samples from clean place of Caucaia do Norte presented lower concentrations of Ba, Ce, Cr, Co, Fe, La, Sb and Sc when compared with those cultivated in polluted sites of Cerqueira Cesar and Congonhas. These findings and the easy cultivation and propagation of *T. pallida* indicate the possibility of using this plant as biomonitor of environmental pollution. (Work supported by IAEA, FAPESP and CNPq.)

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