

Meeting abstract

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In situ monitoring of the genotoxic effects in the vicinity of a petrochemical plant with the *Tradescantia* micronucleus (Trad-MCN) and with pollen abortion test

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The aim of this study was to monitor the genotoxic effects of polluted air in Bratislava (Slovakia). In situ monitoring was carried out at a location polluted with emissions from a city incinerator and of a petrochemical plant. The *Tradescantia* micronucleus (Trad-MCN) test and pollen abortion assays with wild life plants (*Chelidonium majus*, *Clematis vitalba*, *Cichorium intybus*, *Linaria vulgaris*) were used in this study. The experiments were carried out during two sampling periods i.e. 1997–2000 and 2003–2006. Compared to the effects seen in *Tradescantia* plants exposed in a rural area with low pollution levels, the MCN frequencies in pollen tetrads were significantly higher in specimens from the urban site during the first period whereas no significant differences were found during the second sampling period. The results of the pollen abortion assays showed a similar pattern as that observed in the Trad-MCN bioassays, i.e. pronounced effects were only seen between 1997 and 2000. The differences of the results obtained in the two sampling periods can be explained by reduction of the pollution of the urban air due to new production technologies and installation of filter systems which led to a substantial improvement of air quality parameters such as particulate matter, organic volatiles and SO₂ emissions. These results confirm the sensitivity of the *Tradescantia* MCN test and of pollen abortion assays for the detection of air pollution and that both biomoni-

toring models reflect improvement of air quality parameters.