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Programme and Abstracts

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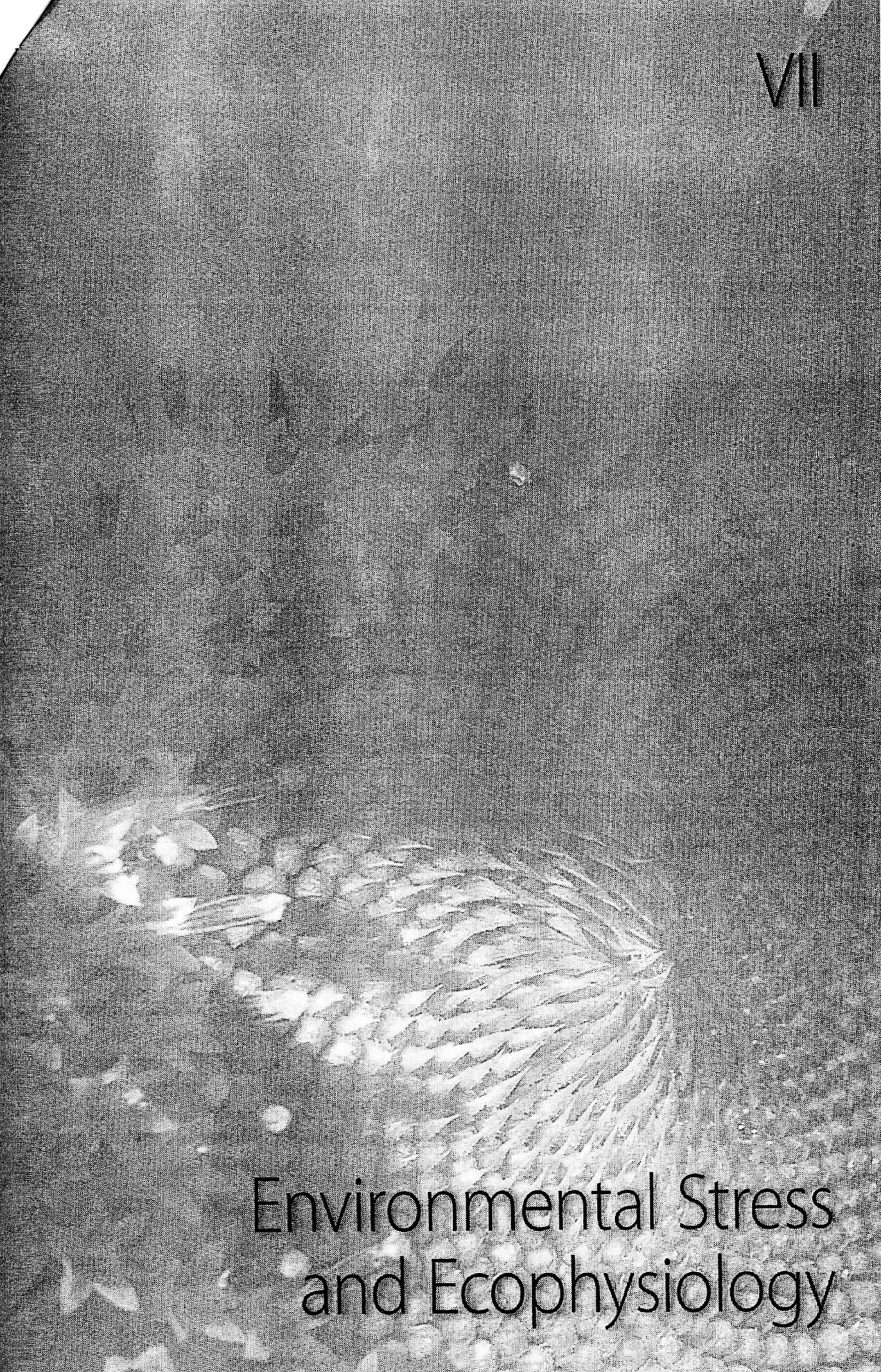

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Environmental Stress and Ecophysiology

al and morphological injuries and that the measured reductions in photosynthetic capacity can be attributable to increased uptake and accumulation of the pollutants in the examined sites.

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Effects of pollution on Norway maple (*Acer pseudoplatanus* L.): chlorophyll fluorescence and photosynthetic pigments

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Many urban areas are polluted by industrial activities and waste disposal. The role of vegetation in mitigating the effects of airborne pollution has been highlighted as one potential benefit of urban green space. Sycamore maple (*Acer pseudoplatanus* L.) is often used for urban landscaping because it is considered to be tolerant to different ecological conditions. The ecophysiological behavior of maple trees in urban areas of four cities in Serbia, characterized by different sources of pollution, was studied. The sampling sites were urban parks in the cities exposed to airborne pollutants from industrial activities, waste disposal and traffic: Belgrade (traffic), Pančevo (factory of nitric fertilizers and a refinery), Obrenovac (thermoelectric power plant and fly ash disposal site), Smederevo (iron smelter), and Košutnjak forest in Belgrade (without direct source of pollution). Site-dependent variations were found in photosynthetic efficiency (Fv/Fm) of maple trees. A reduced vitality was observed in Obrenovac ($p<0.001$), Smederevo ($p<0.001$), and Belgrade $p<0.05$) in relation to control, followed by toxicity symptoms in form of leaf chlorosis and marginal necrosis. Differences in total chlorophyll (Chla+b) levels between sites were as follows: Pančevo ($p<0.001$), Obrenovac ($p<0.001$), Smederevo ($p<0.001$), and Belgrade (ns).

The results clearly demonstrate that the individuals of maple from city parks in Obrenovac with the thermoelectric power plant in its vicinity, in Smederevo with iron smelter and Belgrade with dominance of traffic pollution have lower adaptation response to the pollution. This work highlights the possibility of using a fast and low-cost procedure to evaluate the pollution level through data obtained from plant species growing within an urban environment.

This work was supported by the Ministry of Education, Science and Technological Development of the Republic of Serbia (grant No. 173018).

The effect of drought on photosynthesis of *Q. robur* and *Q. cerris*: use of light response curve as indicator of stress

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Seedlings of *Q. robur* and *Q. cerris* were grown in in the greenhouse pot experiment during one vegetation period. Acorns were collected in natural populations at Mt Fruška gora National park in 2011 and sown