



Soil and phytoceanological studies in ecosystems from urbanized regions

Maria Sokolova (1), Miglena Zhiyanski (1), Jaume Bech (2), Nuria Roca (2), and Evguenia Slavtcheva (3)

(1) Forest Research Institute, BAS, 132 "Kl.Ohridski" Blvd., 1756 Sofia, Bulgaria mariagrozeva@abv.bg (zhiyanski@abv.bg),

(2) University of Barcelona, 645, Avda Diagonal, 08028 Barcelona, Spain (jaumebechborras@gmail.com), (3) State Fund Agriculture, Ministry of Agriculture and Food, 136 „Tzar Boris III“ Blvd., 1618 Sofia, Bulgaria

The components of ecosystems from forest park in Pernik town in Bulgaria, part of a green system of Sofia-Pernik agglomeration, were investigated. The aim of the study was to be outlined the main practically applied and straight indicators in order to characterize the general status of sites both qualitatively and quantitatively at different levels of anthropogenic impacts. Measurements on air and water quality in the recreation zones were performed. Deteriorated conditions of grass, shrubs and tree vegetation in the studied urban forest park were established. The mixture of unfavorable climatic parameters (high summer temperatures and low precipitation during the last years), worse soil conditions determined by the specific properties of substrate (waste embankment after open coal mining), contaminated environment (atmospheric air and rainfalls), active recreation impact and bad management of urban forest area were influenced the growth parameters of vegetation (height, diameter and radial increment of forest stands). These supposed to recommend the application of appropriate silvicultural systems and targeted management of ecosystems if the urban forest park.