

Rybak, J. Use of Spider Webs for Assessing Airborne Concentrations of Some Heavy Metals Within the City of Wroclaw. *Ochrona Srodowiska* 2012, Vol. 34, No. 4, pp. 47–50.

Abstract: The study reported on in this paper was the first in Poland to examine the suitability of spider webs as indicators of heavy metal pollution in urban air due to motor vehicle emissions. Webs of three species, *Malthonica sylvestris*, *Malthonica ferruginea* and *Tegenaria atrica* belonging to the Agelenidae family, as well as irregular webs of the species *Pholcus phalangoides* belonging to the Pholcidae family, were collected from nine sampling sites within the city of Wroclaw after 3 and 4 months of exposure to airborne heavy metals. The webs were then analyzed for the extent of Pb, Zn and Pt accumulation. Comparison of the results obtained at particular sites has revealed a statistically significant relation between the heavy metal content of the webs and the distance from the road as the emission source. Analyses were also carried out to determine how the age of the web affects the level of heavy metal accumulation. The results obtained from all the sampling sites tested have disclosed significant differences in the heavy metal content between the webs collected upon 3-month exposure and those collected after 4-month exposure. The study has substantiated the suitability of spider webs as indicators of urban air pollution, especially of the webs constructed by spiders of the family Agelenidae.

Keywords: Spider webs, Agelenidae, Pholcidae, air pollution, heavy metals, bioindication.