

**Bacteria Active in the Conversion of Nitrogen and Sulphur Compounds in Rainfall Collected under Crowns and Flowing Down Tree of Pines and Spruces in Wigry National Park** – Stanisław Niewolak, Ewa Korzeniewska, Joanna Staszewska, Lech Krzysztofiak

Summary

The paper contains the results of numbers of ammonifying, nitrifying and denitrifying bacteria, the data on bacteria which oxidize sulphur and thiosulphates as well as those reducing sulphates in rainwater that has flown from crowns and trunks of pines and spruces. Rainfall samples were collected in the spring and autumn of 1999. On each occasion samples were taken from three collectors under common spruce (*Picea excelsa*) and common pine (*Pinus silevstris*) canopy and from spiral collectors installed in tree trunks of spruces and pines. Rainwater collected under crowns of pine and spruce trees contain approximately the same, low numbers of ammonifying bacteria and I phase nitrifying bacteria; periodically, these rainwater samples contained elevated counts of II phase nitrifying bacteria and bacteria reducing  $\text{NO}_3^-$  to  $\text{NO}_2^-$  and exceptionally high numbers of denitrifying bacteria. None of the rainwater samples analyzed contained bacteria oxidizing sulphur or sulphur compounds or sulphate reducing bacteria. Differences in the counts of the assayed nitrogen cycle bacteria in the rainwater samples taken from the collectors under pine and spruce canopy and from the collectors catching water flowing down trunks of these two tree species were inconsistent and depended on a physiological group of bacteria, tree species and the time of sampling.