

**Kregiel, D., Rygala, A. Occurrence of Heterotrophic Bacteria of the Genus *Aeromonas* in a Water Distribution System: A Case Study. *Ochrona Srodowiska* 2010, Vol. 32, No. 4, pp. 47–50.**

**Abstract:** Heterotrophic strains of *Aeromonas* sp. are ubiquitous in aquatic environments, but some of them have a pathogenic impact on humans and fish. Samples were taken regularly over a one-year period from a system distributing unchlorinated groundwater, which was analyzed for the presence of *Aeromonas hydrophila*. Bacteria of the genus *Aeromonas* were detected in tap water samples collected from May to October, the largest increase in the number of these bacteria (156 cfu/100 cm<sup>3</sup>) being observed in August. Approximately 80% of the isolated strains, with a capacity for  $\beta$ -hemolysis, were identified as *Aeromonas hydrophila*. The bacteria showed the ability to adhere to the surface of PVC, a material widely used in water-supply systems. Taking into account, on the one hand, the strong adhesion properties of *Aeromonas* sp., which stimulate biofilm formation, and considering, on the other hand, the occurrence of various virulence factors that underlie the pathogenicity of *Aeromonas* sp., it seems recommendable to include rods of the genus *Aeromonas* not only into routine microbiological analysis of tap water, but also into the monitoring of the functioning of water distribution systems.

**Keywords:** Tap water, *Aeromonas* sp., biofilm, adhesion, luminometry.