**Roof-harvested rainwater poses risk of hosting brain-eating amoeba “*Naegleria fowleri*”**

Ensure effective disinfection to reduce the risk of Naegleria fowleri infection

Roof-harvested rainwater has long been considered an alternative source of water in water-scarce regions worldwide. However, concerns regarding the microbiological and chemical quality of roof-harvested rainwater have been raised due to the potential presence of bacterial and protozoan pathogens. A recent study aimed to shed light on this issue by investigating the occurrence of pathogenic amoeba in roof-harvested rainwater tank samples from Southeast Queensland, Australia, and the Kleinmond Housing Scheme in Kleinmond, South Africa. The research, conducted by a team of scientists from Stellenbosch University, Drexel University, and CSIRO Land and Water, focused on *Naegleria fowleri*, a pathogenic amoeba known for its potential health risks and associations with opportunistic pathogens. The team collected a total of 134 roof-harvested rainwater tank samples from Australia and 80 samples from South Africa. To assess the concentration of *Naegleria fowleri*, the researchers employed quantitative PCR (qPCR) assays. The study found that 11.2% of the water samples from Australia (15 out of 134) and 18.8% of the South African tank water samples (15 out of 80) were positive for *Naegleria fowleri*. The concentrations of *Naegleria fowleri* gene copies per 100 mL of water ranged from 1.7 × 102 to 3.6 × 104 in Australia and from 2.1 × 101 to 7.8 × 104 in South Africa. These findings raise concerns about the prevalence of *Naegleria fowleri* in roof-harvested rainwater and emphasize the need for further development of dose-response models for *Naegleria fowleri* and a quantitative microbial risk assessment. These findings also provide valuable insights into the potential health hazards associated with using roof-harvested rainwater as a water source in water-scarce regions. Researchers and policymakers can utilize this information to develop effective mitigation strategies and ensure the safety of people relying on alternative water sources.

**Reference**

Waso, M., Dobrowsky, P. H., Hamilton, K. A., Puzon, G., Miller, H., Khan, W., & Ahmed, W. (2018). Abundance of Naegleria fowleri in roof-harvested rainwater tank samples from two continents. Environmental Science and Pollution Research, 25, 5700-5710. DOI: [10.1007/s11356-017-0870-9](https://link.springer.com/article/10.1007/s11356-017-0870-9#citeas).