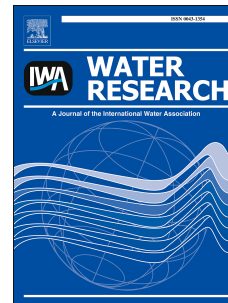


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Title:

Distribution, abundance and activity of geosmin and 2-methylisoborneol-producing *Streptomyces* in drinking water reservoirs

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Abstract

While cyanobacteria have been widely recognised as the most common cause of geosmin and 2-methylisoborneol related taste and odour (T&O) episodes in drinking water supplies, many reported occurrences could not be attributed to these organisms. The *Streptomyces* genus of soil bacteria also includes producers of these compounds, however their potential role in such occurrences is poorly understood and often disregarded on the basis that they are terrestrial rather than aquatic organisms, with their detection in water samples assumed to reflect the presence of dormant spores rather than metabolically active vegetative cells. Using qPCR and a differential cell lysis technique for DNA extraction, allowing distinction of spores from vegetative cells, the aim of this study was to determine the distribution, abundance and potential activity of *Streptomyces* species across a range of aquatic and marginal habitat zones in two drinking water

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