

## Characterization of Microbial Communities and assessment of natural self-cleansing action in rivers in Changwon city

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The diversity of bacterial populations in rivers flowing through Changwon City, Gyeongsangnamdo, Korea, was investigated using quinone profiling.

The physico-chemical properties such as temperature, pH, dissolved oxygen(DO), dissolved organic carbon(DOC) and biochemical oxygen demand(BOD) were also measured in this study.

Ubiquinone (UQ)-8, UQ-9 UQ-10 were observed in all samples for the sites investigated. UQ-8 was the predominant quinone species in rivers except for Namchun down stream, Towolchun, and Gaumjungchun in autumn, while UQ-8 was also found as major quinones in the sample except for Hanamchun, Towolchun, Gaumjungchun, and Nasanchun in winter.

A higher concentration of DOC in river water yields high concentration of plasto quinone (PQ-9) and those of total quinones in river. Correlation analysis also indicate that BOD is considered to be a major factor controlling the concentration of PQ in river.

### References

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2. Collins MD, Jones D (1981) Distribution of isoprenoid quinone structural types in bacteria and their taxonomic implications. *Microbiol Rev* 45:316-354