Characterization and Identification of Previously Isolated Bacteria from Water and Sediment Samples along Forbes Bridge and Sooc Bridge in Iloilo River

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ABSTRACT

This study identified and characterized eighteen previously collected bacteria from water and bottom sediment samples in Forbes Bridge and Sooc Bridge along Iloilo River. Conventional method of bacterial characterization was used in this study. Morphological, physiological and biochemical tests were employed to all bacterial isolates. Identification to genus level was based on The Prokaryotes and Bergey's Manual of Systematic Bacteriology. Four genera were identified: *Staphylococcus spp.* was the most abundant (50%), followed by *Bacillus spp.* (22.22%), *Acinetobacter spp.* (16.67%), and *Cellulomonas spp.* (11.11%). *Staphylococcus spp.* and *Bacillus spp.* were found in both sampling sites, while *Acinetobacter spp.* was found only in Forbes Bridge area and *Cellulomonas spp.* was present only in Sooc Bridge area. Three genera were identified in samples from Forbes Bridge: *Staphylococcus spp.* (45.5%) followed by *Acinetobacter spp.* and *Bacillus spp.*of equal distribution of 27.35%. Three genera were also identified and characterized from water and sediment samples from Sooc Bridge: genus *Staphylococcus* (37.14%), followed by *Cellulomonas* (28.67%) and lastly, *Bacillus spp. (14.29%)*. The result of the study revealed that the two sampling sites were contaminated with bacteria. Bacterial contamination predominantly came from animal and human waste from residential units, establishments and hospitals brought to the river water directly or through runoffs.