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Isolation and Identification of Pathogenic Bacteria from Sewage Water in Imphal East District, Manipur

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Abstract

The waste water from various human activities, such as domestic, agricultural and industrial activities, is technically referred to as sewage. The sewage is mostly composed of organic and inorganic compounds, toxic substances, heavy metal and pathogenic organisms, etc. The bacteriological examination of waste water has a special significance in pollution studies as it is the direct indicator of deleterious effect of pollution on human health. The serial dilution–agar planting method, microscopic examination and biochemical test were employed to isolate and identify the bacterial colony from waste water samples which were collected from 10 randomly selected major drainage systems of Imphal-East District, Manipur. The isolated bacterial colonies were identified as *Escherichia coli*, *Shigella dysenteriae*, *Staphylococcus aureus*, *Enterococcus faecalis*, *Salmonella typhimurium* and *Streptococcus lactis*. The presence of coliform bacteria in the sewage water demonstrates the level of pollution of their environment, because coliforms are not the normal bacterial flora of sewage water and are known for potential pathogens. The presence of *S. aureus* and *Shigella sp.* and *E. coli* indicate faecal contamination and environmental pollution attributed to the contamination of the aquatic animals by the faecal material fed to them.

Keywords: Imphal-East, Sewage water, Pathogenic bacteria, Bacteriological examination, Community health, Pollution

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