



**ISOLATION OF LYTIC *Salmonella* Typhimurium PHAGE FROM
LAGUNA DE BAY, CALAMBA CITY, LAGUNA**

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**ALBERTO, JOHN KEVIN C.
DANO, MICHAEL JOSEPH D.**

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ABSTRACT

Salmonella Typhimurium causes gastroenteritis in humans. Antibiotics are the common treatment for the disease, however, resistance caused by the exposure of the bacteria to antibiotics has been observed recently. Therapies are being looked into as possible alternatives to antibiotic to treat diseases caused by the drug resistant *Salmonella* species and one of the the possible alternatives is bacteriophage treatment. Bacteriophages are viruses that infect specific bacteria and can cause lysis to their host cells. This study is aimed to detect the presence of bacteriophage against *Salmonella* Typhimurium. The sewage water was added to bacterial sample and enrichment broth. After 24 hours of incubation, it undergone membrane filtration and centrifugation. Purification was done through centrifugation and shaking of the isolates for less than four hours. Characterizations of isolated phages are done through the use of electron microscopy at the Research Institute of Tropical Medicine. And to identify the lytic effectiveness, Spot test was used. The result of the study has shown that bacteriophages are present in the sample water obtained from Laguna de Bay. They are characterized as having an icosahedral head with a non-contractile tail and no tail fibers. However, these phages are incapable of inducing lysis to *Salmonella* Typhimurium. The isolation confirmed the presence of the bacteriophage in freshwater. The characteristics match that of the order *Caudovirales* or the tailed bacteriophages. No bacteriophages specific to *Salmonella* Typhimurium were isolated. Therefore, Laguna de Bay is not a viable source of bacteriophages that can be used as treatment for gastroenteritis.



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