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Overcoming resistant bacteria to antibiotics by use of biocontrol

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Over the last decade, cholera outbreaks have become common in some parts of Kenya. The most recent cholera outbreak occurred in Coastal and Lake Victoria region during January 2009 and May 2010, where a total of 11, 769 cases and 274 deaths were reported by the Ministry of Public Health and Sanitation. The objective of this study is to isolate *Vibrio cholerae* bacteriophages from the environmental waters of the Lake Victoria region of Kenya with potential for use as a biocontrol for cholera outbreaks. Water samples from wells, ponds, sewage effluent, bore- holes, rivers, and lakes of the Lake Victoria region of Kenya were enriched for 48 h at 37°C in broth containing a an environmental strain of *V. cholerae*. Bacteriophages were isolated from 5 out of the 42 environmental water samples taken. Isolated phages produced tiny, round, and clear plaques suggesting that these phages were lytic to *V. cholerae*. Transmission electron microscope examination revealed that all the nine phages belonged to the family Myoviridae, with typical icosahedral heads, long contractile tails, and fibers. Head had an average diameter of 88.3 nm and tail of length and width 84.9 and 16.1 nm, respectively. Vibriophages isolated from the Lake Victoria region of Kenya have been characterized and the isolated phages may have a potential to be used as antibacterial agents to control pathogenic *V. cholerae* bacteria in water reservoirs.

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