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A report on bioluminescent bacteria symbiont from Philippine marine fishes

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Background: Studies regarding the existence of bioluminescent bacteria within organisms are very limited, considering the need this study was conducted to contribute more detailed data about the bacterial identities in Philippine aquaculture. The most abundant and widely distributed light emitting organism is luminous bacteria, and this will be found as free-living in the ocean, as gut symbionts in the digestive tracts of marine fish, as parasites in crustacean and insects, as light organ symbionts in teleost fish and also as saprophytes growing on dead fish or meat.

Objective: This study is aimed to identify different Philippine marine fishes with bioluminescent bacteria symbiont. Subjects of the study were collected from two sampling sites in Luzon; Roxas, Oriental Mindoro and Bolinao, Pangasinan, using appropriate culture media, careful isolation was done by swabbing on the eyes, skin, stomach and gut parts and proper inoculation techniques.

Results: Results showed that bioluminescent bacteria are present in the gut part of all the 17 marine fishes collected. The bioluminescent bacteria isolated from the skin, eyes and stomach part are also deemed to be present but not in all of the fishes collected.

Conclusion: The Philippines, being the "center of the center" of marine diversity, is also a home of bioluminescent bacteria from marine fishes, as proven in this study.

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Vibrio species in water and sediment from Litopenaeus vannamei shrimp culture in Maracaibo, Venezuela

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Shrimp aquaculture is an important practice around Lake Maracaibo, Venezuela being *Litopenaeus vannamei,* one of the most cultivated species at semi-intensive levels in farms. *Vibrio* species are responsible for bacterial diseases in shrimp farming. In this study, *Vibrio* species' presence in water and sediment in *L. vannamei* pond culture was determined at a shrimp farm located on the shore of Lake Maracaibo. The relation between physicochemical (temperature, dissolve oxygen, pH and salinity) and bacterial growth was evaluated. Samples were taken every 15 days at three points (input, center and output) in nine ponds. Enumeration was done using TCBS agar with identification using API® 20 NE. Results showed higher *Vibrio* concentration in sediment than water samples. *V. parahaemolyticus* was the most prevalent species followed by *V. fluvialis, V. mimicus* and *V. alginolyticus*. Presence of *Vibrio* species, particularly *V. parahaemolyticus*, showed the importance of surveillance on shrimp ponds in order to control any problem on them. There was no significant correlation between physicochemical parameters and *Vibrio* presence in the samples.

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