

MORPHOLOGICAL, BIOCHEMICAL, PHYSIOLOGICAL  
AND ANTIBIOGRAM OF LUMINOUS *VIBRIO* SP.  
ISOLATED FROM SHRIMP FARMS  
(*PENAEUS MONODON*)

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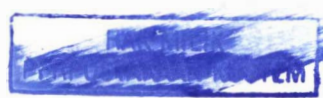
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Morphological biochemical, physiological antibiogram of  
luminous vibrio sp. isolated from shrimp farms (penaeus  
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MORPHOLOGICAL, BIOCHEMICAL, PHYSIOLOGICAL AND  
ANTIBIOGRAM OF LUMINOUS *VIBRIO* SP. ISOLATED FROM  
SHRIMP FARMS (*Penaeus monodon*).

NORFAZLIN BINTI SUPARI

This project report is submitted in partial fulfillment of the requirement of  
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## ABSTRACT

The morphological, biochemical, physiological and antibiogram of luminous *Vibrio* sp. characteristics were determined. The isolates were from Johor state. Luminous *Vibrio* was Gram-negative, rod, catalase and oxidase positive, but unable to produce acid and gas, OF positive. It can hydrolyze starch, casein and lipid but not gelatin. This bacteria was found to be sensitive to several antibiotic, vibriostat 0/129. It was unable to grow at 0°C and 55°C but able to grow at 28°C and 37°C. Luminous *Vibrio* bacteria also grow in 0.5% to 5% NaCl but not in 0% NaCl. All strain of luminous *Vibrio* studied was Indole positive, L-Tyrosine dan L-Serine decarboxylase positive but negative to L-Glycine decarboxylase and phenylalanine deaminase negative. It did not produce Acetate and Arginine and also grow in TCBS agar which produces green colonies. Results also showed that it could use glucose but not sucrose and lactose. Differences within strains were in some biochemical properties such as O/F test, amylase hydrolyze, casein, L-Tyrosine decarbxylyase, L-Serine decarboxylase and sensitivity to antibiotic.



## ABSTRAK

Kajian mengenai ciri-ciri morfologi, biokimia, fisiologi dan antibiogram terhadap luminous *Vibrio* ke atas udang ternakan merupakan sample udang dari Johor. Melalui kajian ini, didapati luminous *Vibrio* adalah daripada Gram-negatif, berbentuk rod, katalase dan oksidase positif, boleh melakukan penguraian secara oksidatif dan fermentatif tetapi tidak boleh menghasilkan asid dan gas. Bakteria ini juga didapati boleh menghidrolisis kanji, lipid dan casein sebaliknya tidak boleh menghidrolisis gelatin. Luminous *Vibrio* didapati sensitif kepada antibiotic dan Vibriostat 0/129. Bakteria ini tidak boleh tumbuh pada suhu 4<sup>0</sup>C dan 55<sup>0</sup>C tetapi ia didapati boleh tumbuh pada suhu 28<sup>0</sup>C dan 37<sup>0</sup>C. Pada 0% NaCl, luminous *Vibrio* didapati tidak boleh melakukan pertumbuhan tetapi pada 0.5% hingga 5% NaCl, ia boleh melakukan pertumbuhan. Bakteria ini juga didapati bersifat Indole positif, L-Tyrosine dan L-Serine decarboxylase positif tetapi L-Glycine decarboxylase negative dan phenylalanine deaminase negatif. Ia tidak menghasilkan Acetate dan Arginine serta tumbuh di atas TCBS dengan menghasilkan koloni berwarna hijau. Hasil daripada kajian ini mendapati bahawa, bacteria ini boleh menghasilkan glukosa. Terdapat juga perbezaan ciri-ciri pada bakteria ini dari segi ciri-ciri penguraian secara oksidatif dan fermentative, penghasilan amylase, casein, L-Tyrosine decarboxylase, L-Serine decarboxylase dan sensitif kepada beberapa antibiotik.