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MASTER OF SCIENCE

2017

**PATHOGENESIS OF *Vibrio alginolyticus* ISOLATED
FROM GREEN MUSSELS (*Perna viridis*) IN
MARUDU BAY, SABAH**

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viridis*) IN MARUDU BAY, SABAH**

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**Thesis Submitted in Fulfillment of the Requirement
for the Degree of Master of Science in the Institute of
Marine Biotechnology
Universiti Malaysia Terengganu**

May 2017

*“Oh Prophet You say: Call upon those Gods whom you claim to
besides Allah; as they don’t control even a tiny particle’s weight
in either heaven or on earth” [34:22]*

*Dedicated with love..
my beloved parents, abah and umi..
my siblings..
my supportive friends..*

Abstract of thesis presented to the Senate of Universiti Malaysia Terengganu in fulfillment of the requirement for the degree of Master of Science.

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Institute : Institute of Marine Biotechnology

Bacterial pathogen, *Vibrio alginolyticus* use several ways of mechanisms to cause disease in aquatic organism. Green mussel, *Perna viridis* is raised as one of the main aquaculture activity in Malaysia by the local community as this species provides income and employment. The immune-compromised green mussel usually die because of bacterial infection towards the host regardless various existence of green mussel defence mechanisms. *V. alginolyticus* from *P. viridis* were identified using VITEK system and Eztaxon and a total of 6 from 27 strains had been confirmed as *V. alginolyticus*. The virulence factors were studying by detection of 4 different genes. Results showed *OmpK* to be the most abundant gene as it can be detected in all isolates;(100%), followed by *toxR* (78%), *collagenase* (56%) and *tlh* (52%); as confirmed by PCR and subsequence analysis. *In-vitro* colonization of *V. alginolyticus* was examined by the adherence of *V. alginolyticus* to the tissues of *P. viridis* which started from 3 hours exposure until the end of 12 hours experiment. Gills of *P. viridis*