

INDUCE MATING TRIALS AND OBSERVATION OF MATING  
PROCESS FOR CROSSBREEDING OF TWO MUD CRAB  
SPECIES *Scylla olivacea* (Herbst, 1796 ) and *Scylla tranquebarica*  
( Fabricius , 1798 )

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**Induce mating trials and observation of mating process for crossbreeding of two mud crab species *Scylla olivacea* (Herbst, 1796) and *Scylla tranquebarica* (Fabricius, 1798)**

**By  
Nurul Akmal Bt Sudin**

**Research Report submitted in partial fulfillment of  
the requirements for the degree of  
Bachelor of Science (Marine Biology)**

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**DEPARTMENT OF MARINE SCIENCE  
FACULTY OF MARITIME STUDIES AND MARINE SCIENCE  
UNIVERSITI MALAYSIA TERENGGANU**

**DECLARATION AND VERIFICATION REPORT  
FINAL YEAR RESEARCH PROJECT**

It is hereby declared and verified that this research report entitled: **Induce mating trials and observation of mating process for crossbreeding of two mud crab species *Scylla olivacea* (Herbst, 1796) and *Scylla tranquebarica* (Fabricius, 1798) by Nurul Akmal Bt Sudin, Matric No.: UK 15968** have been examined and all errors identified have been corrected. This report is submitted to the Department of Marine Science as partial fulfillment towards obtaining the Degree **Marine Biology**, Faculty of Maritime Studies and Marine Science, Universiti Malaysia Terengganu.

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## LIST OF ABBREVIATIONS

Cm	-	Centimeter
DO	-	Dissolve Oxygen
g	-	gram
Kg	-	kilogram
min	-	minute
mg	-	milligram
m	-	meter
mm	-	milimeter
Ppt	-	part per thousand
Ppm	-	part per million
PVC	-	Polivinyll chloride
°C	-	degree celcius
<i>S. olivacea</i>	-	<i>Scylla olivacea</i>
<i>S. tranquebarica</i>	-	<i>Scylla tranquebarica</i>
Spp	-	Species
%	-	percent

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## ABSTRACT

This study was done in order to investigate the mating success between two mud crab species in Malaysia which is *S. olivacea* and *S. tranquebarica*, determine the duration of mating occur after intermoult male been place together with new moulted female, determine the duration of mating process activity and also to record of mating process. Both brood stocks were bought from the market place at Setiu Wetland. When female crabs in premoult condition, it will transfer into the culture tank with the intermoult male to face crossbreeding process. This crossbreeding was divided into two type which are intraspecies crossbreeding and interspecies crossbreeding. As a result, the percentage of success mating for intraspecies crossbreeding *S. olivacea* was 60%, while for *S. tranquebarica* there were 50% was succeed to mate. On the other side, the percentages of success mating for interspecies crossbreeding was 40% pairs for male *S. olivacea* and female *S. tranquebarica* while 30% was succeed for interspecies crossbreeding for male *S. tranquebarica* and female *S. olivacea*. From the observation mud crab species mates during the intermoult male find the moulted and female mud crab species did not show apparent courtship behaviour. Male mud crab initiate copulation by approaching females and copulation process takes place within short period. There are possible chances of these mud crabs to undergo interspecies crossbreeding although there are high cannibalism factor happen during these experimental period

Mengalakkan percubaan mengawan dan pemerhatian terhadap proses mengawan untuk kacukan di antara dua spesies ketam nipah *Scylla olivacea* (Herbst, 1796) dan *Scylla tranquebarica* (Fabricius, 1798)

### ABSTRAK

Kajian ini dijalankan untuk mengkaji kejayaan proses mengawan di antara dua spesies ketam nipah di Malaysia iaitu *Scylla olivacea* dan *Scylla tranquebarica*, menentukan masa untuk proses pengawanan bermula selepas intermoult jantan diletakkan bersama betina yang baru bersalin kulit., menentukan masa untuk aktiviti proses pengawanan dan juga merekod proses-proses pengawanan. Kedua-dua baka di beli dari pasar yang terletak di Setiu Wetland. Apabila ketam betina berada didalam keadaan pra-bersalin kulit, ianya akan di pindahka kedalam tangki bersama ketam jantan untuk proses pengawanan. Kacukan ini terbahagi kepada dua jenis iaitu kacukan intraspesis dan kacukan interspesis. Keputusannya, peratusan kacukan yang berjaya untuk kacukan intraspesis bagi *S.olivacea* adalah 60%, manakala untuk *S. tranquebarica* adalah sebanyak 50%. Untuk kacukan interspesis jantan *S. olivacea* dan betina *S. tranquebarica* peratusan yang berjaya mengawan adalah sebanyak 40% manakala 30% yang berjaya mengawan untuk kacukan interspesis jantan *S. tranquebarica* dan betina *S. olivacea*. daripada pemerhatian sepsis ketam nipah mangawan semasa intermoult jantan bertemu dengan betina yang bersalin kulit dan ketam nipah tidak menunjukkan tabiat 'courtship' yang jelas. Ketam nipah jantan memulakan pengawanan denagan mendekati ketam betina dan proses pengawana mengambil masa yang singkat. Dari kajian ini, ada kemungkinan untuk ketam nipah untuk mengalami kacukan interspesis walaupun terdapat faktor kanibalisma yang tinggi.