

A STUDY ON CLOWNFISH (*Amphiprion* sp.) DIVERSITY AND
ASSOCIATE WITH SEA ANEMONE IN SOME SELECTED SITES
IN PULAU BIDONG AND PULAU REDANG

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This book is dedicated to my...

*Beloved family,
My father and my mom
(Ayahanda Jeropakal and Bonda Halimah)
My brothers and sisters
(Saidatul Dzerah, Suziewati, Tan
Sri Jaya, Khairul Nazri, Amie Rizan,
Mohd. Shafiee, Dayang Mawarni,
Mohd. Firdaus, Razul Ezuan, Airatul
Hasana and to my new birth sister,
Aizatul Ardana.)*

*And also specially dedicated
to my adopted sister, Azizah Md. Ali
(Jie), thanks for being my glorious and
understanding sister. This relation was very
meaningfull for me. I never forget your
support and encouragement.*

*Lastly, I would like to say
'Thank You' to all of you to pray for me
finishing my degree and to obtain this
success.*

I Love You All.....

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WITH SEA ANEMONE IN SOME SELECTED SITES IN
PULAU BIDONG AND PULAU REDANG**

BY

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ABSTRACT

Studies were carried out to identify the diversity of species of clownfish and sea anemone and to measure carrying capacity of the sea anemone with regard to different species of clownfish. This study was conducted at Pulau Bidong and Pulau Redang. Four species of anemone were found in Pulau Bidong and Pulau Redang, which belonged to family Actiniidae and Stichodactylidae. They were *Heteractis magnifica*, *Entacmaea quadricolor*, *Macroactyla doreensis* and *Stichodactyla mertensii*. Five species of clownfish (family Pomacentridae) were found in both islands. They were *Amphiprion ocellaris*, *Amphiprion clarkii*, *Amphiprion melanopus*, *Amphiprion nigripes* and *Amphiprion perideraion*. The carrying capacity of sea anemone with regard to different species of clownfish revealed that the maximum number of clownfish dwelling in an anemone was 10 fishes. *Heteractis magnifica* was found symbiotic with four species of clownfish. The other three species were found to be symbiotic with a single species of clownfish. Statistical analysis showed that there was a significant regression between depth and size of sea anemone ($P < 0.05$; $R = 0.25$) and also between the number of clownfish and size of anemone ($P < 0.05$; $R = 0.27$).

ABSTRAK

Kajian ini telah dijalankan untuk mengenalpasti kepelbagaian spesis 'Clownfish' dan 'Sea Anemone' dan untuk mengukur kadar muatan 'Sea Anemone' berhubung dengan spesis 'Clownfish' yang berbeza. Kajian ini telah dijalankan di Pulau Bidong dan Pulau Redang. Daripada kajian yang telah dijalankan terdapat empat jenis spesis 'Sea Anemone' telah dijumpai dari kedua-dua pulau tersebut. Spesis-spesis yang telah dijumpai ini adalah tergolong dari famili Actiniidae dan Stichodactyla. Spesis-spesis 'anemone' yang telah dijumpai adalah seperti *Heteractis magnifica*, *Entacmaea quadricolor*, *Macroactyla doreensis* dan *Stichodactyla mertensii*. Lima jenis spesis 'clownfish' telah dijumpai dan telah dikenalpasti dari kedua-dua pulau yang mana ianya adalah dari famili Pomacentridae. Spesis-spesis itu adalah *Amphiprion ocellaris*, *Amphiprion clarkii*, *Amphiprion melanopus*, *Amphiprion nigripes* dan *Amphiprion perideraion*. Daripada kajian kadar muatan 'anemone' yang telah dilakukan menunjukkan jumlah maksimum ikan yang menduduki satu spesis anemone adalah 10 ekor. *Heteractis magnifica* telah dikenalpasti dapat bersimbiosis dengan empat spesis 'clownfish', manakala 'anemone' yang lain hanya bersimbiosis dengan satu spesis 'clownfish' sahaja. Daripada analisis statistik Regresi, didapati terdapat perhubungan diantara kedalaman dan saiz 'anemone' ($P < 0.05$; $R = 0.25$) dan juga perhubungan diantara bilangan 'clownfish' dan saiz 'anemone' ($P < 0.05$; $R = 0.27$).