THE DETERMINATION OF ZOOXANTHELLAE IN CORALS OF DIFFERENT COLORS

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FACULTY OF SCIENCE AND TECHNOLOGY

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Lihat sebelah

THE DETERMINATION OF ZOOXANTHELLAE IN CORALS OF DIFFERENT COLOURS

By

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JABATAN SAINS SAMUDERA
FAKULTI SAINS DAN TEKNOLOGI
KOLEJ UIVERSITI SAINS DAN TEKNOLOGI MALAYSIA

PENGAKUAN DAN PENGESAHAN LAPORAN
PROJEK PENYELIDIKAN I DAN II

Adalah diakui dan disahkan bahawa laporan penyelidikan bertajuk:

The Determination of Zooxanthellae in Corals of Different Colours

oleh Nor Asmah Binti Aziman No Matrik UK 8779

telah diperiksa dan semua pembetlan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabtan Sains Samudera sebagai memenuhi sebahagian daripada keperluan memperolehi Ijazah Sarjana Muda Sains Biologi Marin

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SYMBOLS	MEANINGS
DO	Dissolved Oxygen
µm	Micrometer
mm	Milimeter
mL	Mililitre
cm^2	Centimeter square
FSW	Filtered Seawater
DPX	Distrene Plasticizer Xylene
°C	Degree celcius
mg/l	milligram per litre
ppt	Part Per Thousand
P.dami	*Pocillopora damicornis*
A.form	*Acropora formosa*
Mon. aeq	*Montipora aequituberculata*
A.hya	*Acropora hyacinthus*
Pav. fron	*Pavona frondifera*

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ABSTRAK

Terumbu karang merupakan salah satu daripada ekosistem yang paling cantik dan menarik pelancong dari seluruh dunia datang ke Malaysia untuk melihat dengan mata sendiri. Banyak kajian berkaitan dengan karang telah dijalankan dan mendapati terdapatnya sejenis alga yang bersimbiosis dengan karang, yang dikenali sebagai *zooxanthellae* yang terbukti memberikan warna kepada karang. Tetapi tidak banyak kajian dijalankan dalam mengenalpasti perbezaan kecerahan warna karang. Perbezaan in sama ada ini disebabkan oleh perbezaan pigmen dalam zooxanthellae ataupun kepadatan zooxanthellae dalam karang yang mempunyai warna yang sama. Kajian ini dijalankan dengan mengira kepadatan zooxanthellae daripada karang yang sama warna tetapi berlainan kecerahan. 'Coral Colour Chart' yang diperkenalkan oleh University of Queensland, Brisbane, Australia telah digunakan dalam membandingkan perbezaan kecerahan karang tersebut. Keputusan menunjukkan bahawa zooxanthellae bertangungjawab dalam memberi warna kepada karang, tetapi perbezaan kecerahan juga turut disebabkan oleh pigmen yang terdapat dalam karang tersebut. Karang yang berwarna gelap tidak semestinya mempunyai kepadatan zooxanthellae yang tinggi kerana alga ini dapat mengubah kepadatan, pigmen dan strain apabila terdedah kepada keamatan cahaya dan komposisi air laut yang berbeza.

ABSTRACT

Coral reef is one of the most beautiful ecosystem that attracted people from around the world to visit Malaysia and see with their own eyes. Lots of research have been done on coral and reported that the symbiotic algae in coral, also known as zooxanthellae are proved to make coral appear in various colour. But not so much study was done to find out about the different brightness in coral. Either it is because of the different pigments in zooxanthellae or the density of zooxanthellae itself in the coral that contribute to the different brightness of the same colour of coral. This study is done by counting the density of zooxanthellae from the same colour of coral but different in brightness. The Coral Colour Chart that introduced by University of Queensland, Brisbane, Australia and have been used to monitor the different brightness of coral. Results show that zooxanthellae are responsible to give colour to coral but the brightness is also contributed by the pigments in coral tissues itself. Darker colour of corals are not necessarily contain high number of zooxanthellae because these symbiosis algae can change the number, pigment and strain due to different light intensity and water composition condition.