

FISH ABUNDANCE, COMPOSITION AND DIVERSITY  
AT LATA PAYONG, TERENGGANU

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FISH ABUNDANCE, COMPOSITION AND DIVERSITY AT LATA PAYONG,  
TERENGGANU

By

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**PENGAKUAN DAN PENGESAHAN LAPORAN**  
**PROJEK PENYELIDIKAN I DAN II**

Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk FISH ABUNDANCE, COMPOSITION AND DIVERSITY AT LATA PAYONG, TERENGGANU oleh Siti Nurulhusna Hashim No.Matrik: UK 8102 telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Biologi sebagai memenuhi sebahagian daripada keperluan memperoleh Ijazah Sarjana Muda Sains (Sains Biologi), Fakulti Sains dan Teknologi, Kolej Universiti Sains dan Teknologi Malaysia.

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## LIST OF ABBREVIATIONS AND SYMBOLS

'	= Minutes
"	= Seconds
°	= Degree
<	= More than
>	= Less than
$\Sigma$	= Total
$\approx$	= Almost similar
<b>DO</b>	= Dissolved oxygen
<b>E</b>	= East
<b>H<sub>1</sub></b>	= Alternative hypothesis
<b>H<sub>0</sub></b>	= Null hypothesis
<b>Hz</b>	= Hertz
<b>N</b>	= North
<b>pH</b>	= Concentration of hydrogen ions
<b>SL</b>	= Standard Length
<b>T<sub>w</sub></b>	= Water temperature

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## ABSTRACT

Determination of fish abundance, composition and diversity were done by active and passive removal techniques those respectively by electrofishing and normal capture using net. Seven families consist of 33 species recorded throughout this study. From the total amount of individual caught, Cyprinidae is the dominating family that round up 58%. Most habitats have been altered due to the heavy rainfall and this affected the ecology and fish composition of Lata Payong stream after rainy season. Ecological indices such as Shannon-Weiner, Simpson, Margalef, Menhinick, Evenness and Fisher alpha computed to assess and to compare the fish abundance, composition and diversity of Lata Payong stream; before and after rainy season give slight differences between both seasons. Sorensen's Index and Proportional similarity resulted only 0.57 and 53% accordingly. *t*-test also resulted significant different condition of both seasons with ( $p = 0.8170$ ). Weight-length relationship of five dominating species was done to give better comparison between before and after rainy season. Factors contributing to the significant condition are discussed and some recommendations were made.

# KELIMPAHAN, KOMPOSISI DAN DIVERSITI IKAN DI LATA PAYONG, TERENGGANU.

## ABSTRAK

Penentuan kelimpahan, komposisi dan diversiti ikan dijalankan dengan teknik renjatan elektrik dan penangkapan menggunakan jaring. Tujuh famili daripada 33 spesis ikan diperoleh setelah penyampelan dijalankan sebelum dan selepas musim hujan. Famili Cyprinidae mendominasi jumlah individu tertinggi dengan 58%. Kebanyakan habitat berubah selepas musim hujan dan indeks-indeks ekologi seperti Shannon-Weiner, Simpson, Margalef, Menhinick, Evenness dan Fisher alpha digunakan menunjukkan perbezaan kecil bagi kelimpahan, komposisi dan diversiti ikan di antara kedua-dua musim. Indeks Sorensen yang dikira memberikan nilai 0.57 manakala 'Proportional similarity' memberi nilai 53%. Ujian biostatistik; ujian-*t* digunakan untuk membuktikan persamaan kelimpahan, komposisi dan diversiti ikan bagi dua musim berbeza tersebut memberikan ( $p = 0.8170$ ) mengukuhkan wujudnya perbezaan di antara kedua-dua musim. Hubungan berat-panjang bagi lima spesis dominan di kedua-dua musim juga diberikan. Faktor-faktor yang menyumbang kepada perbezaan ini dibincangkan dan beberapa cadangan disertakan.