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The impact of snorkelling activities on coral reefs at Redang Island, Terengganu, Malaysia / Yam Tze Yong.

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**THE IMPACT OF SNORKELLING ACTIVITIES ON CORAL REEFS AT  
REDANG ISLAND, TERENGGANU,  
MALAYSIA**

**BY**

**YAM TZE YONG**

This project is submitted in partial fulfillment of the requirements for the degree of  
Bachelor of Science (Marine Biology)

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Dedication...

To whom I love, and who loves me...especially 'Xiao Chior' and 'Xiao Dolphin'...♥

PERPUSTAKAAN SULTANAH NUR ZAHIRAH

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## ABSTRACT

This study was conducted to investigate the impact of snorkelling activities on coral reefs at Redang Island. Transect surveys were carried out to determine the reef condition at the study sites. Information on the snorkellers and their activities were collected through questionnaires and direct observation studies. Coral reefs in Redang Island were still in good condition with live coral coverage of  $70.1 \pm 8.6\%$ . Coral reef distribution was affected by the intensity of snorkellers, sites with lower frequency of visits by snorkellers had higher live coral cover percentage than sites with high intensity of snorkellers. Reef fish showed higher abundance in sites with higher frequency of visit by snorkellers, where fish feeding occurred. Giant clams had the highest abundance of shellfish species recorded. Direct observation showed the highest type of contact were standing on coral by snorkellers, total frequency were 89 times or averaging 9.89 times per trip. Through the questionnaire survey, 25% of the tourists confessed to stepping on coral while snorkelling. A Chi-square contingency test showed the chance of stepping on coral were gender related. While 11% of the tourists did damage to corals accidentally. More than 80% of the tourists were aware that coral reefs in Redang Island were threatened and protected. All tourists agreed that coral reefs should be protected, with only 2% of the males disagreeing.

## ABSTRAK

Kajian mengenai kesan aktiviti 'snorkelling' terhadap terumbu karang ini dijalankan di Pulau Redang. Kaedah transek telah digunakan untuk mengkaji populasi terumbu tersebut. Maklumat tentang aktiviti dan profil pelancong diperolehi melalui soal selidik dan pemerhatian terhadap aktiviti 'snorkelling'. Terumbu karang di Pulau Redang masih berada dalam keadaan yang baik di mana kawasan yang diliputi karang adalah  $70.1 \pm 8.6\%$ . Taburan terumbu karang dipengaruhi oleh kekerapan lawatan pelancong, kawasan yang kurang dilawat pelancong mempunyai liputan karang mati yang lebih tinggi. Bilangan ikan terumbu adalah lebih tinggi di kawasan sering dilawat pelancong, di mana berlakunya pemberian makanan kepada ikan oleh pelancong. Kima merupakan spesis cengkerang yang dominan di kawasan terumbu. Pelancong sering berdiri atas batu karang semasa 'snorkelling', iaitu berjumlah sebanyak 89 kali atau purata 9.98 kali per setiap permergian. Maklumat dari soal selidik menunjukkan 25% pelancong mengaku bahawa mereka memijak di atas batu karang semasa 'snorkelling'. Ujian *Chi-square* menunjukkan kecenderungan pelancong memijak atas batu karang adalah berbeza antara jantina. Manakala 11% pelancong telah merosakkan batu karang secara tidak sengaja. Lebih daripada 80% pelancong sedar bahawa terumbu karang di Pulau Redang adalah diancam dan dilindungi. Semua pelancong setuju bahawa terumbu karang patut dilindungi, hanya 2% pelancong lelaki tidak setuju.