A STUDY OF DIVERSITY, DISTRIBUTION AND HABITAT PREFERENCES OF NUDIBRANCH IN REDANG ISLAND

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By

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PENGAKUAN DAN PENGESAHAN LAPORAN PROJEK PENYELIDIKAN I DAN II

Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk: DIVERSITY, DISTRIBUTION AND HABITAT PREFERENCES OF NUDIBRANCHS IN REDANG ISLAND oleh KOH CHIN HONG , No. Matrik UK11620 telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Marin sebagai memenuhi sebahagian daripada keperluan memperolehi IJAZAH SARJANA MUDA SAINS (BIOLOGI MARIN), Fakulti Pengajian Maritim dan Sains Marin, Universiti Malaysia Terengganu.

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ABSTRACT

The aim of this study is to observe and identify the diversity of the nudibranch, to observe the distribution and habitat preferences of the nudibranchs and also to estimate the species abundance in Redang Island. The sampling was divided into two methods; the $0.18m^2$ photoquadrat analysis by Coral Point Count with Excel extension (CPCe) and survey (questionaire) survey that is distributed to dive centres in Redang Island. The species diversity and distribution are analyzed using the ecological indices which are Shannon-Weiner Index and Pielou Evenness Index. The habitat preferences is analyzed using One Way ANOVA and Post Hoc Tukey test ($P<0.05$). Overall, there are 21 species of nudibranchs from 10 genus and seven families of nudibranchs found from 24 dive sites in Redang Island. The most dominant families found are family Chromodorididae and Phyllidiidae with a total of seven and six species respectively. The species that are most abundant is *Phyllidiella pustulosa* from family Phyllidiidae and *Chromodoris bullocki* from family Chromodorididae. In terms of diversity, Terumbu Kili and Tunnel point are highest in number of different species. Pulau Kerengga and Mak Cantik on the other hand house the most nudibranchs in general. The habitat preference for nudibranchs in Redang Island is mostly coralline algae and macroalgae.

Kepelbagaian, Kelimpahan dan Kecenderungan Habitat Nudibranch di Pulau Redang

ABSTRAK

Kajian ini dijalankan untuk melihat dan mengenali kepelbagaian spesis nudibranch, melihat kelimpahan dan kecenderungan habitat nudibranch dan juga menganggarkan taburan spesies nudibranch di Pulau Redang. Persampelan dibahagikan kepada dua cara iaitu menggunakan 'photoquadrat' bersaiz 0.18m^2 yang dianalisakan dengan program 'Coral Point Count with Excel extension' (CPCe) dan tinjauan 'questionaire' yang diedarkan ke 'dive centre' di Pulau Redang. Kepelbagaian dan taburan spesis nudibranch dianalisakan dengan menggunakan indeks-indeks ekologi iaitu Indeks Shannon-Weiner dan juga Indeks Keserataan Pielou manakala kecenderungan habitat dianalisakan melalui 'One Way ANOVA' dan ujian 'Post Hoc Tukey' ($P<0.05$). Secara keseluruhannya, terdapat 21 spesies nudibranch dari 10 genus dan 7 famili yang dijumpai dari 24 lokasi di Pulau Redang. Famili yang paling dominan ialah family Phyllididae yand mempunyai 6 spesies dan Chromodorididae yang mempunyai 7 spesies. Keterdapatan spesis yang paling banyak ialah spesis *Phyllidiella pustulosa* dari famili Phyllidiidae dan *Chromodoris bullocki* dari famili Chromodirididae. Dari segi kepelbagaian spesies, 'Terumbu Kili' dan 'Tunnel Point' mempunyai jumlah spesies yang paling banyak manakala Pulau Kerengga dan Mak Cantik mempunyai kelimpahan nudibranch yang paling banyak. Kecenderungan habitat nudibranch di Pulau Redang adalah lebih kepada 'coralline algae' dan 'macroalgae'.