

TAXONOMICAL STUDIES OF A POLYSACCHARIDE-
PRODUCING BACTERIA ASSOCIATED WITH BROWN
ROT OF *Dioscorea* sp.

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TAXONOMICAL STUDIES OF A POLYSACCHARIDE-PRODUCING BACTERIUM
ASSOCIATED WITH BROWN SEAWEED, *Dictyota* sp.

By

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ABBREVIATIONS

H ₂ O ₂	Hydrogen peroxide
SSW	sucrose seawater agar
NA	sodium agar
EMB	Eosin Methylene-blue agar
TCBS	Thiosulfate Citrate Bile Sucrose agar
XLD	Xylose Lysine Deoxycholate agar
PC	paper chromatography
rpm	rotate per minute
glc	glucose
gal	galactose

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ABSTRACT

The brown seaweed genus (Phaeophyceae, Dictyotales) is known to produce polysaccharide from a wide variety of bacteria species associated with the seaweed. This study delves upon isolation and production of polysaccharide from bacteria associated with brown seaweed. The seaweed was taken from Bidong Island. Five isolates of bacteria were identified such as D1, D2, D3, D4 and D5 which were isolated and identified by using morphological characteristics, biochemical test, RapID NF Plus and ONE System. These bacteria were observed as Gram-negative bacteria with straight-rod shape and identified as *Brevundimonas diminuta*, *Burkholderia cepacia*, *Enterobacter sakazakii*, *Citrobacter freundii* and *Sphingomonas paucimobilis*. The sugar of the isolates microbial polysaccharide has been determined using paper chromatography (PC) technique using 10 standards.

**PEMENCILAN BAKTERIA DAN PENENTUAN POLISAKARIDA DARIPADA
RUMPAI LAUT, *Dictyota* sp.**

ABSTRAK

Rumpai laut perang daripada genus *Dictyota* (Phaeophyceae, Dictyotales) telah diketahui dapat menghasilkan polisakarida daripada pelbagai jenis bakteria pada rumpai laut itu. Kajian ini meliputi pemencilan dan penghasilan polisakarida daripada bakteria tersebut. Rumpai laut ini diambil di Pulau Bidong. Lima jenis bakteria berjaya dipencilkan dan dinamakan D1, D2, D3, D4, dan D5 berdasarkan ciri-ciri morfologi, ujian biokimia, RapID NF Plus dan ONE System. Kelima-lima bakteria ini dikenal pasti sebagai bakteria gram-negatif dengan bentuk bujur dan panjang dan dikenal pasti sebagai *Brevundimonas diminuta*, *Burkholderia cepacia*, *Enterobacter sakazakii*, *Citrobacter freundii* dan *Sphingomonas paucimobilis*. Kandungan komponen gula daripada polisakarida ini dikesan menggunakan kertas kromatografi dengan 10 standard.