

TAXONOMIC STUDY OF A SELECTED
NON-BENICULATE CORM-LIKE RED ALGA FROM
PULAU REDANG MARINE PARK, TERENGGANU

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**TAXONOMIC STUDY OF A SELECTED NON-GENICULATE CORALLINE
RED ALGA FROM PULAU REDANG MARINE PARK, TERENGGANU**

By

SUIT LAI YOONG

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Faculty of Science and Technology
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ABSTRACT

This is a preliminary taxonomic study on a non-geniculate coralline red algae in Malaysia, which describes the detailed structures of a selected non-geniculate coralline species that is found abundant in the intertidal area at Pulau Redang Marine Park, Terengganu, Malaysia.

Direct observations of the specimen were made through a dissecting microscope. The specimens were then preserved in 10 % formalin in seawater, fragmented and decalcified using 10 % nitric acid solution prior to embedding. A freezing microtome was used for sectioning and each section mounted on 50 % Karo syrup containing aniline blue. Drawings were made, followed by cell measurement and counts before being identified.

The characteristics of the selected coralline red alga are: non-geniculate, non-endophytic and lacking haustoria cell; thallus encrusting, thick and dimerous; thallus lacking protuberances and palisade cells; single epithallial cells; trichocytes are seen but rarely; cell fusions are present and lacking secondary pit connections; bisporangial conceptacles are slightly raised and uniporate; no columella is present; bisporangia and tetrasporangia are zonately divided and pore canals of bisporangial conceptacles lined by a ring of conspicuous, elongated cells that arise from filaments interspersed among sporangial initials that do not protrude into the canal and are oriented more or less perpendicularly to the roof surface.

The selected species is most likely a member of *Hydrolithon*. However, it cannot be confirmed without the findings of carposporangial dan spermatangial conceptacles.

ABSTRAK

Kajian ini merupakan suatu kajian perintis terhadap taksonomi sejenis alga merah berkapur (Corallinales) di Malaysia yang tidak bercabang dan boleh didapati dengan banyaknya di kawasan air pasang surut di Taman Laut Pulau Redang, Terengganu.

Pemerhatian struktur luaran spesimen telah dilakukan melalui mikroskop pembedahan. Spesimen diawet dalam 10 % formalin dan dihilangkan kalsium karbonatnya dengan 10 % larutan asid nitrik sebelum *embedding*. Pemotongan spesimen melalui mikrotom pembekuan dan setiap potongan akan *mount* dalam 50 % Karo syrup yang mengandungi aniline biru. Lukisan, pengukuran dan pengiraan sel telah dilakukan untuk pengenalpastian.

Ciri-ciri yang terdapat pada alga merah berkapur yang terpilih tersebut ialah: tidak bercabang, bukan endofit dan tiada sel *haustoria*; talus melekat, tebal dan dimeros; tiada bonjol dan sel palisad; sel epitalial tunggal; kehadiran sel trikosit adalah jarang; tiada penghubung pit sekunder tetapi ada pergabungan sel; konseptakel bisporangia adalah sedikit timbul dan berliang tunggal; tiada kolumela; bisporangia dan tetrasporangia jenis zonat dan terusan pore dikelilingi oleh sel-sel yang disusun dalam bentuk cincin dan memanjang daripada filamen di permulaan perkembangan sporangia di mana sel-sel ini tidak menganjur kepada terusan dan kedudukan sel-sel ini adalah lebih kurang berserenjang kepada permukaan bumbung.

Alga merah berkapur yang terpilih tersebut kemungkinan besar tergolong dalam genus *Hydrolithon*. Sehubungan itu, pengenalpastian ini boleh disahkan seandainya terdapat penemuan konseptakel jenis karposporangial dan spermatangial.