

CHARACTERIZATION OF *Pseudomonas aeruginosa*  
ISOLATED FROM SOIL

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2008

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**CHARACTERIZATION OF *Pseudomonas aeruginosa* ISOLATED FROM SOIL**

By  
Suhaily Binti Abu

A research report submitted in partial fulfillment of  
the requirements for the award of the degree of  
Bachelor of Science (Biological Sciences)

**DEPARTMENT OF BIOLOGICAL SCIENCES  
FACULTY OF SCIENCE AND TECHNOLOGY  
UNIVERSITI MALAYSIA TERENGGANU  
2008**

1100057863

This project should be cited as:

Suhaily, A. 2008. Characterization of *Pseudomonas aeruginosa* isolated from soil. Undergraduate thesis, Bachelor of Science (Biological Sciences), Faculty of Science and Technology, University Malaysia Terengganu. 42p.

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JABATAN SAINS BIOLOGI  
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**PENGAKUAN DAN PENGESAHAN LAPORAN  
PROJEK PENYELIDIKAN I DAN II  
RESEARCH REPORT VERIFICATION**

Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk: **CHARACTERIZATION OF *Pseudomonas aeruginosa* ISOLATED FROM SOIL** oleh **SUHAILY BINTI ABU**, no. matrik: **UK12009** telah diperiksa dan semua pembedaan 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, Universiti Malaysia Terengganu.

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## DECLARATION

I hereby declare that this thesis entitled Characterization of *Pseudomonas aeruginosa* isolated from soil is the result of my own research except as cited in the references.

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## ACKNOWLEDGEMENTS

First of all, thanks to Allah The Almighty with His blessing I successfully finished this thesis.

Secondly, special thanks and my appreciation to my main supervisor, Madam Fazilah bt Ariffin, Dr. Noraznawati bt Ismail as a coordinator and Dr Mariam bt Taib for her patience, guidance, advise, tolerance in helping me to complete this thesis.

I also would like to dedicate my thanks to the Science Officers of Department of Biological Sciences, Miss Norazlina bt Abdul Aziz, Madam Ku Naiza bt Ku Nordin, Madam Mahidawati Bt Mamat, Mr. Abdul Ridzuan b. Abdul Razak for their kind cooperation and help during my experiment in the Microbiology Laboratory.

Lastly, I would like to thank my parents for their moral support and encouragement and to all my friends Syu, Kak Zira, Linda, Kak Yana, Lia and Daia for the advise and support, and also to individuals either directly or indirectly involved in finishing this thesis successfully. Thank you very much.

## ABSTRACT

*P. aeruginosa* have been isolated from University Malaysia Terengganu (UMT) swamp soil. Soil core (2 cm diameter) samples (to a depth of 10 cm) were disinterred. Soil thermometer and pH meter was used to measure the soil environment. The identification of colonies with typical appearance of *P. aeruginosa* was done by conventional methods of Gram staining and biochemical tests. The optimum temperature for *P. aeruginosa* is 37 °C due to this bacteria are pathogenesis to human. The optimum pH for *P. aeruginosa* is 6 and 0% for NaCl concentration. *P. aeruginosa* can growth in anaerobic condition and only susceptible to gentamicin and polymyxin B. The aim of this study is to know the physiology of *P. aeruginosa* from soil source and to verify the optimum condition for the *P. aeruginosa* to growth because physiology test is a basic test to know the characteristic of *P. aeruginosa* in different condition.



## ABSTRAK

*Pseudomonas aeruginosa* telah dipencilkan daripada tanah paya Universiti Malaysia Terengganu (UMT). Lubang tanah (2 cm diameter) sampel (kedalaman 10 cm) telah digali. Termometer tanah dan meter pH telah digunakan untuk menyukat suhu dan pH tanah sebenar. Pengecaman koloni dengan kemunculan yang biasa oleh *Pseudomonas aeruginosa* dilakukan mengikut langkah kebiasaan pewarnaan gram dan ujian biokimia. Suhu optimum bagi *P. aeruginosa* ialah 37 °C disebabkan kerana bakteria ini adalah patogenik kepada manusia. pH optimum bagi *P. aeruginosa* ialah 6 dan 0% untuk kepekatan NaCl. *P. aeruginosa* boleh hidup dalam keadaan anaerobik dan hanya sensitif terhadap gentamicin dan polymyxin B. Matlamat kajian ini adalah untuk mengetahui fisiologi *Pseudomonas aeruginosa* daripada sumber tanah dan untuk menentukan keadaan optimum bagi *P. aeruginosa* untuk hidup kerana ujian fisiologi adalah ujian asas untuk mengetahui ciri-ciri *Pseudomonas aeruginosa* pada keadaan yang berbeza.