

RESEARCH ON HEMPEDU BUMI
(*Andrographis paniculata*) THAT CAN CURE
DIABETES

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KUSTEM

2003

CU 1584

1100024994



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Research on hempedu bumi (Andrographis paniculata) that can cure diabetes / Loh Song Wei.

1100024994

PERPUSTAKAAN
KOLEJ UNIVERSITI SAINS & TEKNOLOGI MALAYSIA
(KUSTEM)

Pengarang LOH SONG WEI		No. Panggilan CU 1584	
Judul Research on Hapadu Bumi			
Tarikh	Waktu Pemulangan	Nombor Ahli	Tamut tangan
28/09/08	2.02 pm	U18784	

24/2/10

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003

RESEARCH ON HEMPEDU BUMI (*Andrographis paniculata*) THAT CAN CURE
DIABETES

BY:

LOH SONG WEI

THIS PROJECT REPORT IS SUBMITTED IN PARTIAL FULFILMENT OF THE
REQUIREMENT FOR THE BACHELOR OF APPLIED SCIENCE
(BIODIVERSITY CONSERVATION AND MANAGEMENT)

DEPARTMENT OF BIOLOGICAL SCIENCES
FACULTY OF SCIENCE AND TECHNOLOGY
KOLEJ UNIVERSITI SAINS DAN TEKNOLOGI MALAYSIA, KUSTEM
2003

1100024994

This project report should be cited as:

Loh, SW. 2003. Research on Hempedu Bumi (*Andrographis paniculata*) That Can Cure Diabetes. Report of Final Year Academic Project, Bachelor of Applied Science (Biodiversity Conservation and Management), Faculty of Science and Technology, University College of Science and Technology Malaysia. 56 p.


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KOLEJ UNIVERSITI SAINS DAN TEKNOLOGI MALAYSIA

PENGAKUAN DAN PENGESAHAN LAPORAN PENYELIDIKAN ILMIAH TAHUN AKHIR

Adalah ini diakui dan disahkan bahawa laporan penyelidikan ilmiah tahun akhir bertajuk **Research on Hempudu Bumi (*Andrographis paniculata*) That Can Cure Diabetes** oleh **LOH SONG WEI**, no matrik **UK 4466** telah diperiksa dan semua pembedaan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Biologi sebagai memenuhi sebahagian daripada keperluan memperolehi ijazah Sarjana Muda Sains Gunaan Pengurusan Dan Pemuliharaan Biodiversiti, Fakulti Sains dan Teknologi, Kolej Universiti Sains dan Teknologi Malaysia.

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Tarikh: 6/3/03

Acknowledgements

For this final year project SBD 4998/9 Management and Conservation of Biodiversity, I would like to thank all the people who have contributed to this project. Firstly, I would like to give special thanks to my supervisor Prof Madya Dr Awang Soh bin Mamat for all the encouragement, support, advice, and care shown throughout the course of the study. Without him, this project would not have been completed successfully.

Dr Effendy is also acknowledged for providing additional information and advice this project.

I would like to express my appreciation to Encik Sharul and Encik Mazrul, laboratory assistants who helped to provide the materials to run the project.

Finally, I would like to thank my friends for their help. With the co-operation formed among us, this project worked properly and without any obstacles to prevent this project from finishing. The spirit and enthusiasm in the conduct of this project is also one of the factors that I consider to be thankful for my success. I would also like to thank my family for their encouragement in doing this project.

ABSTRAK

Satu kajian telah dijalankan ke atas tumbuhan herba spesis *Andrographis paniculata* atau lebih dikenali sebagai Hempedu Bumi di kalangan penduduk tempatan. Kajian ini bertujuan untuk mengekstrak komponen kasar daripada bahagian-bahagian daun hempedu bumi (*Andrographis paniculata*) dengan menggunakan pengekstrakan pejal/cecair iaitu Pengekstrakan Soxhlet. Kesan penggunaan hasil ekstrak kasar spesis ini ke atas tahap kandungan glukosa dalam darah tikus juga dikaji. Didapati pengurangan glukosa dalam darah adalah bergantung kepada dos dan masa. Hasil pengekstrakan memberi kesan pengurangan glukosa dalam darah pada tikus normal dan tikus diabetes. Dalam tempoh 48 jam, tikus diabetes yang diberi 2.0 mg/kg *A. paniculata*, purata pengurangan glukosa dalam darah sebanyak 24.6 % dapat diperhatikan manakala hanya 8.1 % dapat diperhatikan dalam tikus diabetes yang diberi 1.0 mg/kg *A. paniculata*. Purata pengurangan glukosa darah pada tikus diabetes semakin meningkat selepas 1 jam pemberian 2.0 mg/kg *A. paniculata* manakala purata pengurangan glukosa darah semakin kurang selepas 1 jam pemberian 1.0 mg/kg *A. paniculata* dalam 48 jam.

ABSTRACT

A study was carried out on a medicinal herb, species *Andrographis paniculata* which is commonly known as Hempedu Bumi among the local people. The objective of this project was to extract the crude components from the leaves of *A. paniculata* by using traditional methods of solid/liquid extraction called Soxhlet extraction. The effect of crude components of *A. paniculata* on glucose levels in the blood of mice was observed. The results showed hypoglycemic activity to be dose- and time- dependent. The extracts reduced blood glucose level following administration in both normal and alloxan-induced diabetic mice. Within 48 hours, alloxan-induced diabetic mice blood glucose was markedly reduced by an average of 24.6 % with treatment of 2.0 mg/kg *A. paniculata*, while the treatment of 1.0 mg/kg *A. paniculata* reduced the blood glucose by an average of 8.1 % only. The rate of glucose reduction in diabetes mice treated with 2.0 mg/kg *A. paniculata* improved within the 48 hours of treatment. However, mice treated with 1.0 mg/kg *A. paniculata* showed a deteriorated rate of glucose reduction within the 48 hours of treatment.