

PHENOLIC GLUCOSIDES OF CRYPTOCORYNE
KEED, ASSAM, FELDA, SE, SEMAN AND
SE. STATE, DAN REGION, SIBIRIAK.

PHENOLIC GLUCOSIDES

FAKULTI SAINS DAN TEKNOLOGI
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2006

**ECOLOGICAL STUDIES OF *CRYPTOCORYNE KEEI* JACOBSEN FROM SG.
SEDIAN AND SG. STAAT, BAU REGION, SARAWAK.**

By

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**Research Report submitted in partial fulfillment of
the requirements the degree of
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**JABATAN SAINS BIOLOGI
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**PENGAKUAN DAN PENGESAHAN LAPORAN
PROJEK PENYELIDIKAN I DAN II**

Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk: ECOLOGICAL STUDIES OF *CRYPTOCORYNE KEEI* JACOBSEN FROM SG. SEDIAN AND SG. STAAT, BAU REGION, SARAWAK oleh Rohani Binti Rashid, no. matrik: UK 7878 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 Gunaan (Pengurusan dan Pemuliharaan Biodiversiti), Fakulti Sains dan Teknologi, Kolej Universiti Sains dan Teknologi Malaysia.

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Buat bonda dan ayahanda tersayang

*Masa kecil ku tak mengerti apa itu kasih sayang...
Ayahanda dan bonda selalu berpesan padaku...
Jadilah anak yang berguna wahai anakku...
Anakmu ini tidak mampu untuk menghadiahi segunung emas...
Anakmu hanya mampu untuk mengenal kasih sayangmu...
Kerana kasih sayangmu wahai ayahanda dan bonda...
Anakmu masih di sini berjuang sendirian...
Kerana diriku umpama belukar...
Berliku-liku jalanan hidupku...
Walaupun belukar itu tiada nilai berharga...
Tetapi akan ku juangkan hingga ke penghujungnya...
Biar orang baru mengenal belukar ini...
Biar satu hari nanti orang akan memuja belukar ini...
Kerana pastinya setiap ciptaan itu ada nilai di sebaliknya...
Pada dasarnya hanyalah cengkaman kasih sayang...
Yang bertautan erat dan bersimpul padu umpama belukar...
Nan megah aku menyatakan...
Dikaulah wahai ayahanda dan bonda yang menyimpul erat ikatan di hati ini...
Dan pastinya akan kekal selamanya...*

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LIST OF ABBREVIATIONS

LWR	-	Leaf Weight Ratio
PWR	-	Petiole Weight Ratio
RWR	-	Root Weight Ratio
SLA	-	Specific Leaf Area
LAR	-	Leaf Area Ratio
DO	-	Dissolved Oxygen
pH	-	potential of hydrogen
cm	-	centimeter
m	-	meter
g	-	gram
N	-	nitrogen
C	-	total organic carbon
Ca	-	calcium
Mg	-	magnesium
K	-	potassium
Na	-	sodium
BS	-	base saturation
mV	-	conductivity
NTU	-	Nephelometric Turbidity Unit

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ABSTRACT

The ecological studies of *Cryptocoryne keei* Jacobsen was conducted at Sg. Sedian and Sg. Staat, Bau, Sarawak. Three quadrates (0.5 m x 0.5 m) were established at Sg. Sedian and only one quadrate (0.5 m x 0.5 m) were established at Sg. Staat to measure the population and the distribution of the species. Water quality analysis such as pH, temperature, conductivity, turbidity, water flow, water depth and soil samples were taken to measure the ambient physical parameters for both rivers. The study comprises biomass allocation, light intensity and photosynthesis measurement. The biomass allocation were calculated and quadrate 2 from Sg. Sedian showed the highest ratio of leaf with an average of 0.1712 ± 0.04 (g/g), petiole with an average of 0.2895 ± 0.07 (g/g) and root with an average of 0.5393 ± 0.07 (g/g) for shaded area with fast water flow and deep water. A shaded area is significant high on photosynthetic gas exchange and open area are high for light intensity.

KAJIAN EKOLOGI KE ATAS *Cryptocoryne keei* Jacobsen DI SUNGAI SEDIAN DAN SUNGAI STAAT, BAHAGIAN BAU, SARAWAK.

ABSTRAK

Kajian ekologi ke atas *Cryptocoryne keei* telah dijalankan di Sg. Sedian dan Sg. Staat, bahagian Bau, Sarawak. Tiga kuadrat telah dibina di Sungai Sedian (0.5 m x 0.5 m) dan satu kuadrat (0.5 m x 0.5 m) dibina di Sg. Staat untuk mengukur populasi dan taburan spesis. Analisis kualiti air seperti pH, suhu, konduktiviti, kekeruhan, kelajuan air, kedalaman air dan sample tanah diambil untuk mengukur parameter ambian fizikal untuk kedua-dua sungai tersebut. Kajian ini merangkumi alokasi biomassa, kekuatan cahaya dan kadar fotosintesis. Pengiraan alokasi biojisim menunjukkan kuadrat 2 dari Sg. Sedian mendapat nisbah paling tinggi untuk daun dengan purata 0.1712 ± 0.04 (g/g), petiol dengan purata 0.2895 ± 0.07 (g/g) dan akar dengan purata 0.5393 ± 0.07 (g/g) bagi kawasan tertutup, kelajuan air deras dan kedalaman tinggi. Kawasan tertutup atau berkanopi menunjukkan kadar pertukaran gas fotosintesis adalah tinggi dan kawasan terdedah pula tinggi dari segi kekuatan cahaya.