

SEED BIOLOGY OF SELECTED HEATH VEGETATION
SPECIES OF TERENGGANU

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FACULTY SCIENCE DAN TEKNOLOGI
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SEED BIOLOGY OF SELECTED HEATH VEGETATION SPECIES OF
TERENGGANU

By
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LIST OF ABBREVIATIONS

BRIS	-	Beach Ridges Interspersed with Swales
ISTA	-	The International Seed Testing Association
MBU	-	Makmal Biologi Umum
UMT	-	Universiti Malaysia Terengganu

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ABSTRACT

Seeds are varied in their morphology, physiology and adaptations to its environment, in order to maintain their viability. The study was conducted in heath vegetation of Setiu and Rantau Abang, Terengganu to investigate seed biology of heath vegetation species. In total, seeds of 14 plant species representing 10 families were collected. Seeds were determined its fresh moisture content and tested for fresh germination percentage. Descriptive morphological data of seed were documented and compared between species. Weight of collected seeds was in the range of 0.3 - 1.5 mg. Majority of collected seeds (78%) could be classified as small seeds with weight ranging between 0.3 - 0.5 mg. The remaining seeds can be grouped in medium and large seed classes. The heaviest seed was an unidentified species (UMT 1) with 1.52 ± 0.21 mg (mean \pm SD), and the lightest seed was *Breynia coronata* (Euphorbiaceae), 0.03 ± 0.01 mg. Fresh moisture content of the seeds were in the range of 22% to 50%. Fresh germination rate of seeds collected were in the range of 2.2% to 72%. The highest and lowest germination percentage was recorded for unidentified specimen (UMT 2) with $72 \pm 5.8\%$, and *Lepironia articulata* (Cyperaceae) with $2.2 \pm 1.9\%$. Based on moisture content and germination data, majority of the seeds could be grouped into orthodox types, representing 89% of total collected seed species. Seeds morphology and physiology of heath vegetation species indicate their adaptations to harsh condition of heath ecosystem.

**BIOLOGI BIJI BENIH SPESIS
TERPILIH DARI VEGETASI PADANG TERENGGANU**

ABSTRAK

Biji benih mempunyai kepelbagaian dari segi morfologi, fisiologi, dan adaptasi kepada persekitaran, bagi mengekalkan kemandiriannya. Kajian telah dijalankan di vegetasi hutan padang yang terletak di Setiu dan Rantau Abang, Terengganu untuk menentukan biologi biji benih spesis hutan padang. Keseluruhannya, biji benih bagi 14 spesis tumbuhan mewakili 10 famili telah dikutip. Biji benih telah ditentukan kandungan kelembapan dan telah diuji bagi mendapatkan peratus percambahan. Data deskriptif morfologi biji benih direkodkan dan dibandingkan antara spesis. Berat biji benih yang dikutip berada dalam lingkungan 0.3 – 1.5 mg. Majoriti biji benih yang dikutip (78%) dikelaskan sebagai biji benih kecil dengan berat dalam lingkungan antara 0.3 – 0.5 mg. Biji benih selebihnya dikelaskan dalam kelas sederhana dan besar. Biji benih yang paling berat adalah spesimen yang tidak dikenalpasti (UMT 1), 1.52 ± 0.21 mg (purata \pm sisihan piawai), dan biji benih yang paling ringan ialah *Breynia coronata* (Euphorbiaceae), 0.03 ± 0.01 mg. Kandungan kelembapan biji benih yang dikutip terletak dalam lingkungan 2.2% sehingga 72%. Peratus percambahan yang tertinggi dan terendah telah direkodkan bagi spesimen yang tidak dikenalpasti (UMT 2) dengan $72 \pm 5.8\%$, dan *Lepironia articulata* (Cyperaceae) dengan $2.2 \pm 1.9\%$. Berdasarkan data kandungan kelembapan dan percambahan, majoriti biji benih dikelaskan sebagai jenis ortodoks, mewakili 89% dari keseluruhan spesis biji benih yang dikutip. Morfologi dan fisiologi biji benih vegetasi hutan padang menunjukkan adaptasi spesis terhadap keadaan ekosistem hutan padang yang melampau.