Seminar EKSPEDISI SAINTIFIK KEPELBAGAIAN BIOLOGI HUTAN Hutan Simpan Panti

KOTA TINGGI, JOHOR

9 MEI HINGGA 11 MEI 2023

(ISNIN HINGGA KHAMIS)

KSL Hotel & Resort,
Johor Bahru

Anjuran bersama:

UTHM
Universiti Tun Hussein Onn Malaysia

SCAN ME

KANDUNGAN

SEULAS PINANG

Assalamualaikum Warahmatullahi Wabarakatuh dan Salam Sejahtera

Alhamdulillah, bersyukur saya kehadrat Illahi kerana dengan izinNya Seminar Ekspedisi Kepelbagaian Biologi Hutan, Hutan Simpan Panti, Kota Tinggi ini dapat dianjurkan dengan jayanya.

Seminar ini merupakan salah satu platform bagi para penyelidik yang terlibat dalam Ekspedisi Kepelbagaian Biologi Hutan, Kota Tinggi pada 21 hingga 25 Ogos 2022 untuk membentangkan kertas kajian, membincangkan hasil penemuan dan bertukar-tukar pandangan dan idea daripada bidang kajian seperti pengurusan hutan, persekitaran fizikal dan kepelbagaian biologi flora dan fauna.

Pelaksanaan ekspedisi saintifik dan seminar ini merupakan iltizam Jabatan Perhutanan Semenanjung Malaysia (JPSM) dalam memperkasakan dokumentasi kepelbagaian sumber hutan negara. Ianya juga selaras dengan Teras 2, Dasar Perhutanan Semenanjung Malaysia (DPSM) yang menetapkan agar konservasi kepelbagaian biologi hutan perlu diberi tumpuan serta dipertingkatkan dalam memelihara dan memulihara kepelbagaian biologi hutan bagi mengelakkan kemerosotan ekosistem, kepupusan spesies dan penurunan sumber genetik.

Usaha seumpama ini dilaksanakan dengan kerjasama dan komitmen yang tinggi dari pelbagai pihak terutama para penyelidik dari pelbagai institut penyelidikan dan universiti tempatan. Usaha seumpama ini juga perlu dipergiatkan dari masa ke masa bagi meningkatkan pangkalan data dan dokumentasi kepelbagaian biologi hutan. Maklumat yang akan didokumenkan ini akan dijadikan sumber rujukan pelbagai pihak yang berkepentingan dalam perancangan dan pengurusan hutan di negara ini.

Akhir kata, saya ingin merakamkan penghargaan dan ucapan terima kasih kepada Kerajaan Negeri Johor terutamanya Jabatan Perhutanan Negeri Johor, para penyelidik dari Institusi Pengajian Tinggi, Badan Bukan Kerajaan, dan semua pihak yang terlibat sama ada secara langsung atau tidak langsung dalam menjayakan ekspedisi saintifik dan Seminar Ekspedisi Kepelbagaian Biologi Hutan, Hutan Simpan Panti, Kota Tinggi kali ini.

Sekian, terima kasih.

DATO' INDERA MOHD RIDZA BIN AWANG
KETUA PENGARAH PERHUTANAN SEMENANJUNG MALAYSIA

SEKAPUR SIRIH

Assalamualaikum Warahmatullahi Wabarakatuh dan Salam Sejahtera.

Alhamdulillah syukur ke hadrat Allah S.W.T. dengan izinNya Seminar Ekspedisi Kepelbagaian Biologi Hutan, Hutan Simpan Panti dapat direalisasikan. Saya mengambil kesempatan ini untuk mengucapkan setinggi-tinggi penghargaan dan terima kasih kepada semua pihak yang terlibat dalam menjayakan seminar ini terutamanya kepada YBhg. Dato' Indera Mohd. Ridza bin Awang, Ketua Pengarah Perhutanan Semenanjung Malaysia atas nasihat dan komitmen YBhg. Dato' Indera serta bantuan dan kerjasama pegawai-pegawai dari Ibu Pejabat Jabatan Perhutanan Senanjung Malaysia (JPSM) khususnya dari Bahagian Silvikultur dan Pemeliharaan Biologi Hutan.

Penghargaan dan terima kasih kepada YBrs. Profesor Dr. Mohd Shahir Shamsir Omar, mantan Timbalan Naib Canselor (Penyelidikan dan Inovasi), Universiti Tun Hussein Onn Malaysia (UTHM) selaku Ketua Ekspedisi di atas kejayaan penganjuran ekspedisi di lapangan yang telah diadakan pada 21 hingga 25 Ogos 2022. Sekalung penghargaan dan tahniah kepada para penyelidik dan semua yang terlibat dalam pelaksanaan ekspedisi di lapangan seterusnya penghargaan dan terima kasih di atas kesudian semua yang dapat menghadiri seminar ini bagi membentang dan berkongsi hasil kajian dan penemuan ekspedisi di lapangan.

Di kesempatan ini juga, izinkan saya merakamkan penghargaan dan terima kasih kepada semua Jabatan, Agensi dan Institusi di peringkat Persekutuan, Negeri dan Daerah serta Badan-badan Bukan Kerajaan (NGO's) yang turut sama menjayakan ekspedisi dan juga seminar pada kali ini. Terima kasih yang tidak terhingga juga kepada pentadbiran Daerah Kota Tinggi, khususnya YB Datin Paduka Hajah Hazlina binti Jalil, Pegawai Daerah Kota Tinggi atas segala sokongan, bantuan dan kerjasama yang telah diberikan sewaktu pelaksanaan ekspedisi di lapangan. Segala bantuan, kerjasama dan komitmen semua dalam penganjuran ekspedisi dan juga seminar amatlah kami hargai dan sanjung tinggi. Adalah diharapkan agar objektif seminar pada kali ini kita dapat dicapai khususnya dalam usaha mengumpul dan mendokumentasi hasil kajian yang telah dijalankan di Hutan Simpan Panti.

Syabas dan tahniah juga diucapkan kepada semua Ahli Jawatankuasa yang dilantik terdiri daripada pegawai dan warga kerja Jabatan Perhutanan Negeri Johor dan Ibu Pejabat JPSM serta penganjur bersama dari UTHM dan Persatuan Pencita Alam Malaysia (MNS) atas kejayaan penganjuran seminar ini, sama-sama kita berdoa agar seminar ini berjalan dengan lancar dan mencapai matlamat yang ditetapkan.

Akhir kata, saya berharap seminar ini akan dapat meningkatkan kesedaran terhadap kepentingan pemeliharaan dan perlindungan kepelbagaian biologi seterusnya menjadi inspirasi untuk sama-sama berganding bahu dalam memastikan khazanah alam ini akan terus terpelihara untuk dinikmati oleh generasi kini dan akan datang.

Sekian, terima kasih.

DATO' HAJI SALIM BIN AMAN
PENGARAH PERHUTANAN NEGERI JOHOR

SEPATAH KATA

Dengan segala hormatnya,

Salam sejahtera dan Salam Malaysia Madani

Alhamdulillah, setinggi-tinggi pujian dan syukur ke hadrat Allah S.W.T kerana Seminar Ekspedisi Kepelbagaian Biologi Hutan, Hutan Simpan Panti, Kota Tinggi ini telah dapat dilaksanakan dengan jayanya. Saya ingin mengambil kesempatan ini untuk mengucapkan setinggi-tinggi penghargaan dan jutaan terima kasih kepada semua yang terlibat terutamanya kepada YBhg. Dato' Indera Mohd. Ridza bin Awang, Ketua Pengarah Perhutanan Semenanjung Malaysia dan Dato' Haji Salim bin Aman, Pengarah Perhutanan Negeri Johor di atas kepimpinan serta bantuan dan kerjasama pegawai-pegawai dari Jabatan Perhutanan Semenanjung Malaysia (JPSM) khususnya dari Jabatan Perhutanan Negeri Johor (JPNJ) yang telah bertungkus lumus menjayakan penganjuran ekspedisi di lapangan pada 21-25 Ogos 2022 dan seterusnya kejayaan penganjuran seminar ekspedisi ini.

Sekalung penghargaan dan tahniah kepada para penyelidik dan semua yang terlibat dalam pelaksanaan ekspedisi di lapangan seterusnya penghargaan dan terima kasih di atas kesudian semua yang dapat menghadiri seminar ini bagi membentang dan berkongsi hasil kajian dan penemuan ekspedisi di lapangan. Di kesempatan ini juga, izinkan saya merakamkan penghargaan dan terima kasih kepada semua Jabatan, Agensi dan Institusi di peringkat Persekutuan, Negeri dan Daerah serta Badan-badan Bukan Kerajaan (NGO's) terutamanya Malaysian Nature Society (MNS) atas usaha yang telah dilakukan dalam menjayakan seminar ini. UTHM amat berbangga menjadi rakan kerjasama Perhutanan dalam bidang penyelidikan dan pembangunan kelestarian hutan. Segala bantuan, kerjasama dan komitmen semua dalam kejayaan penganjuran ekspedisi dan juga seminar amatlah kami hargai dan sanjung tinggi. Adalah diharapkan agar objektif seminar pada kali ini kita dapat dicapai khususnya dalam usaha mengumpul dan mendokumentasi hasil kajian saintifik kepelbagaian biologi hutan yang telah diadakan di Hutan Simpan Panti, Kota Tinggi

Seminar ini menawarkan peluang yang amat bermakna dalam menjalin kerjasama antara UTHM, JPSM, JPNJ dan rakan penyelidik luar Johor dalam bidang penyelidikan dan pembangunan kelestarian hutan. Saya amat berharap seminar ini akan menjadi sebuah platform susulan dari kerja lapangan untuk berdiskusi dan berkongsi idea-idea terkini berkaitan dengan pemuliharaan hutan dan kelestarian alam sekitar. Seminar ini diharapkan dapat memberi manfaat dalam beberapa aspek seperti membantu kerajaan negeri dan jabatan dalam mengurus hutan dengan lebih baik, melancarkan proses dokumentasi dan memberi kesedaran kepada semua peserta tentang kepentingan biodiversiti. Sebagai sebuah universiti, UTHM bersedia menjadi titik rujukan biodiversiti Johor dan terbuka untuk potensi kerjasama akan datang dengan semua agensi.Sekiranya kita dapat bekerjasama dengan sepenuh hati, saya yakin kita akan dapat mencapai matlamat kita untuk mewujudkan satu komuniti yang prihatin terhadap alam sekitar. Semoga seminar ini akan menjadi antara langkah awal dalam melahirkan satu generasi penyelidik yang gemar mempelajari serta memperjuangkan kelestarian alam sekitar.

Akhir kata, saya ingin mengambil kesempatan ini untuk mengucapkan setinggi-tinggi penghargaan kepada semua pihak yang terlibat dalam menganjurkan seminar ini. Semoga seminar ini akan menjadi suatu yang bermanfaat dan memberi impak positif terhadap pembangunan kelestarian hutan dan alam sekitar.

Sekian, terima kasih.

PROFESOR DR. MOHD SHAHIR SHAMSIR OMAR
KETUA EKSPEDISI
MANTAN TIMBALAN NAIB CANSELOR (PENYELIDIKAN DAN INOVASI),
UNIVERSITI TUN HUSSEIN ONN MALAYSIA (UTHM)

LATAR BELAKANG

Hutan Simpan Panti

Puncak Gunung Panti, Kota Tinggi

Hutan Simpan Panti merupakan salah satu daripada kawasan yang diwartakan sebagai Hutan Simpanan Kekal Negeri pada 15 September 1949 di bawah Enakmen Perhutanan Negara (Pemakaian) 1985 Negeri Johor. Terletak dalam Daerah Kota Tinggi dengan keluasan 13,152 hektar, hutan simpan ini kaya dengan kepelbagaian flora dan fauna kaya serta menjadi habitat dan kawasan rayauan utama bagi spesies mamalia besar seperti gajah dan harimau. Selain itu, terdapat pelbagai spesies mamalia lain yang dapat ditemui seperti *White-handed Gibbon*, *Cream-colored Giant Squirrels*, *Short-tailed Mongoose*, *Leopard Cat* dan sebagainya.

Hutan Simpan Panti juga merupakan tempat yang popular bagi pemerhatian burung (birding) yang sering menerima pengunjung dari luar negara semata-mata untuk memerhati dan mengambil gambar burung-burung hutan yang unik dan menarik. Lanjutan itu, hutan simpan ini telah diiktiraf sebagai kawasan penting burung atau Important Bird Area (IBA) oleh persekutuan Bird Life International.

Di samping itu, terdapat pelbagai tarikan semulajadi meliputi kawasan pergunungan yang menjadi puncak tertinggi bagi Daerah Kota Tinggi iaitu Gunung Panti dan Gunung Muntahak; air terjun yang menarik seperti Air Terjun Muntahak dan Sungai Pelepah Kiri; serta monumen batu yang unik seperti di Batu Tenggek dan juga batu berupa muka manusia (face stone).

Halia Landak (Scaphochlamys lanceolata)

LATAR BELAKANG *Seminar*

Menyedari akan kekayaan sumber biodiversiti Hutan Simpan Panti ini, maka Jabatan Perhutanan Negeri Johor dengan Kerjasama Jabatan Perhutanan Semenanjung Malaysia (JPSM), Universiti Tun Hussien Onn Malaysia (UTHM), Persatuan Pencinta Alam Malaysia (MNS) dan Universiti Teknologi Malaysia (UTM) telah mengadakan Ekspedisi Santifik Kepelbagaian Biologi Hutan di Hutan Simpan Panti pada 21 hingga 25 Ogos 2022.

Seramai 126 peserta telah menyertai ekspedisi terdiri daripada para saintis dan penyelidik dari institusi pengajian tinggi awam dan swasta iaitu UTHM, UTM, Universiti Teknologi Mara (UiTM), Universiti Kebangsaan Malaysia (UKM), Universiti Putra Malaysia (UPM), Universiti Malaysia Kelantan (UMK), Universiti Malaysia Terengganu (UMT), Universiti Malaysia Sabah (UMS), Universiti Malaya (UM) dan juga Universiti Nottingham Malaysia. Terdapat juga penyertaan dari agensi Kerajaan iaitu Institut Penyelidikan Perhutanan Malaysia (FRIM); Institut Penyelidikan dan Kemajuan Pertanian Malaysia (MARDI), Jabatan Kimia Malaysia; serta Jabatan Mineral dan Geosains (JMG), di samping dari Badan Bukan Kerajaan (NGO) iaitu MNS, Pertubuhan Kelestarian Ekosistem Alam (NEST) dan Eco Explorers of Malaysia.

Sehubungan itu, seminar ini dianjurkan bagi membentang dan membincangkan hasil dapatan kajian ekspedisi yang telah diadakan di lapangan melibatkan pelbagai disiplin yang merentas sempadan (cross sectoral) meliputi aspek fizikal ekosistem hutan, kepelbagain biologi flora dan fauna, ekopelancongan, ekologi, rekreasi, geologi, arkeologi dan sosio-ekonomi.

Barbodes dunckeri

OBJEKTIF *Seminar*

Seminar ini diadakan adalah bertujuan :-

Mengumpul dan mendokumentasi hasil kajian saintifik ke atas kepelbagaian biologi hutan yang telah diadakan di Hutan Simpan Panti, Kota Tinggi.

Membentangkan resolusi hala tuju Hutan Simpan Panti, Kota Tinggi

ATUR CARA

Majlis Perasmian

SEMINAR EKSPEDISI SAINTIFIK KEPELBAGAIAN BIOLOGI HUTAN
HUTAN SIMPAN PANTI, KOTA TINGGI

8.30 AM
Ketibaan tetamu jemputan dan dif-dif kehormat

8.45 AM
Ketibaan Yang Berhormat Datuk Onn Hafiz Ghazi, Menteri Besar Johor

9.00 AM

- Nyanyian Lagu Bangsa Johor
- Lagu Negaraku
- Bacaan Doa
- Ucapan Alu-aluan Yang Berbahagia Dato' Indera Mohd Ridza bin Awang, Ketua Pengarah Perhutanan Semenanjung Malaysia
- Ucapan Perasmian oleh Yang Amat Berhormat Datuk Onn Hafiz Ghazi, Menteri Besar Johor
- Persembahan multimedia
- Sesi Menandatangani Surat Kerjasama @ Letter of Collaboration (LoC) Antara Jabatan Perhutanan Negeri Johor dan Universiti Teknologi Malaysia
- Penyampaian Ucap Utama (Keynote) oleh Mr. Vincent Chow Kok Kow, Presiden Malaysian Nature Society
- Penyampaian Cenderahati
- Sesi Bergambar
- Lawatan Pameran
- Minum Pagi

Periuk Kera (Nepenthes sp.)


Spotted Leopards (Panthera pardus)

ATUR CARA Seminar

EKSPEDISI SAINTIFIK
KEPELBAGAIAN BIOLOGI HUTAN
HUTAN SIMPAN PANTI, KOTA TINGGI

Selasa 9 MEI 2023

8.00AM
Pendaftaran Peserta

8.30AM
Ketibaan tetamu jemputan dan dif-dif kehormat

8.45AM
Majlis Perasmian Seminar Ekspedisi Saintifik Kepelbagaian Biologi Hutan, Hutan Simpan Panti, Kota Tinggi

10.00AM
Penyampaian Ucap Utama (Keynote) oleh
Mr. Vincent Chow Kok Kow
Presiden, Malaysian Nature Society

10.30AM
Minum pagi / Sesi Poster

Red Tailed-Racer (Gonyosoma oxycephalum)

ATUR CARA

Seminar

EKSPEDISI SAINTIFIK
KEPELBAGAIAN BIOLOGI HUTAN
HUTAN SIMPAN PANTI, KOTA TINGGI

Selasa **9 MEI 2023**

11.00AM

Sesi Pembentangan 1

Pengerusi sesi:
Tn. Hj. Mohd Ridzuwan bin Endot
Pengarah Bahagian Silvikultur & Pemeliharaan Biologi Hutan
Jabatan Perhutanan Semenanjung Malaysia

1.“Pembangunan Hutan Simpan Panti sebagai Panti Conservation Area”
- Encik Abd Ramlizauyahhudin bin Mahli (JPNJ)

2. “Primates of Hutan Simpan Panti”
- Prof. Madya Ts. Dr. Muhammad Abdul Latiff Bin Abu Bakar (UTHM)

3.“Ichthyofauna Diversity And Its Conservation Status In Panti Forest Reserve, Johor”
- Encik Mohd Ilham Norhakim Bin Lokman (UMT)

4.“First Report of Spotted Leopard in Panti Forest Reserve”
- Encik Chew Seng Yian (MNS)

5.“A Preliminary Checklist of Flowering Plants in Panti Forest Reserve, Kota Tinggi, Johor”
- Dr. Ahmad Fitri Bin Zohari (UKM)

6.“Visitor's Preference On Nature Based Recreation At Taman Eko Rimba Panti and Panti Forest Reserved”
-Ts. Dr. Nor Hanisah Mohd Hashim (UiTM)

Sesi Soal Jawab

Penyampaian Cenderahati kepada Pengerusi Sesi dan Pembentang

Systolederus cinereus

ATUR CARA

Seminar

EKSPEDISI SAINTIFIK
KEPELBAGAIAN BIOLOGI HUTAN
HUTAN SIMPAN PANTI, KOTA TINGGI

Selasa 9 MEI 2023

1.00PM

Makan Tengahari / Rehat

2.30PM

Sesi Pembentangan 2

Pengerusi sesi:
En. Abd Ramlizauyahhudin bin Mahli
Timbalan Pengarah (Pembangunan)
Jabatan Perhutanan Negeri Johor (JPNJ)

7.“Measuring Diversing And Inter-site Similarities Of Fishing In Gunung Panti Forest Reserve, Johor”
- Prof. Madya Dr. Amirrudin Bin Ahmad (UMT)

8.“DNA Barcoding Analysis on Nepenthes Species of Panti Forest Reserve”

- Dr. Sharizah Binti Alimat (Jabatan Kimia)

9.“A Preliminary Study on Floristic Composition and Stand Structure of Wild Fruit Trees in Panti Forest Reserve, Johor”
- Dr. Ahmad Fitri Bin Zohari (UKM)

10.“Biodiversity Survey With Trail Camera of PCA”
- Encik Tony Wong (MNS)

11.“Preliminary Survey and Conservation Status of Wild Gingers (Zingiberaceae) From Panti Forest Reserve”
- Cik Aimi Syazana binti Sedek (UTHM)

ATUR CARA Seminar

EKSPEDISI SAINTIFIK
KEPELBAGAIAN BIOLOGI HUTAN
HUTAN SIMPAN PANTI, KOTA TINGGI

Selasa 9 MEI 2023

12.“Medicinal Plants In Panti Forest Reserve, Kota Tinggi, Johor: Diversity Of The Species Utilised By The Orang Kanaq Community”
- Puan Tan Ai Lee (FRIM)

13.“Struktur Dirian dan Kepelbagaian Spesies Pokok Hutan Simpan Panti, Johor”
- Dr. Nur `Aqilah Binti Mustafa Bakray (UKM)

14."Elementary Civil Engineering Assessment for Panti Reserve Forest”
- Ts. Dr. Nor Azizi bin Yusoff (UTHM)

Sesi Soal Jawab

Penyampaian Cenderahati kepada Pengerusi Sesi dan Pembentang

5.00PM
Minum Petang / Sesi Poster

8.00PM
Jamuan Makan Malam Rasmi

***Pakaian : Pakaian Hari Raya**

10.30PM
Jamuan Tamat

Flat-headed cat (Prionailurus planiceps)

ATUR CARA

Majlis Perasmian

SEMINAR EKSPEDISI SAINTIFIK
KEPELBAGAIAN BIOLOGI HUTAN
HUTAN SIMPAN PANTI, KOTA TINGGI

Rabu **10 MEI 2023**

7.00AM - 8.00AM
Sarapan Pagi

8.30 AM

Penyampaian Keynote oleh YBrs. Professor Dr. Rusea Go, Pensyarah, Jabatan Biologi, Fakulti Sains, Universiti Putra Malaysia

Sesi Pembentangan 3

Pengerusi sesi:
Prof. Madya Dr. Mohd Hisyam bin Rasidi
Pengarah,
Jabatan Timbalan Naib Cancelor (Pembangunan),
Universiti Teknologi Malaysia (UTM)

15.“Kepelbagaian Buah-buahan Nadir, Periuk Kera dan Flora Umum Gunung Panti, Johor”
- Dr. Mohd Norfaizal Ghazalli (MARDI)

16.“Scientific Expedition on Biodiversity of The Panti Conservation Area 2022: Survey of Avian Diversity”
- Puan Belinda Wong (MNS)

17.“Dipterocarpaceae of Panti Forest Reserve, Kota Tinggi, Johor”
-Dr. Ahmad Fitri Bin Zohari (UKM)

18."A Prelimanary Checklist of Macrofungi from Panti Forest Reserve”
- Puan Patahayah Mansor (FRIM)

ATUR CARA

Seminar

EKSPEDISI SAINTIFIK
KEPELBAGAIAN BIOLOGI HUTAN
HUTAN SIMPAN PANTI, KOTA TINGGI

Rabu **10 MEI 2023**

19.“An Updated Checlist Of Wild Orchids and Medicinal Plants in Hutan Simpan Panti, Kota Tinggi, Johor”
- Encik Tan Sin Hoong (UPM)

20."Risk Identification for Hikers at Panti Barat Trail, Panti Forest Eco Park, Johor"
- Dr M. Adli Mohd Sidi

Sesi Soal Jawab

Penyampaian Cenderahati kepada Pengerusi Sesi dan Pembentang

10.30AM

Minum pagi / Sesi Poster

11.00AM

Sesi Pembentangan 4

Pengerusi sesi:
Prof. Madya Dr. Muhammad Abdul Latiff Bin Abu Bakar
Timbalan Dekan (Penyelidikan, Penerbitan dan Pembangunan),
Fakulti Sains Gunaan dan Teknologi,
Universiti Tun Hussein Onn (UTHM)

21.“Notes of Pioneer Species in Panti Forest Reserve, Kota Tinggi, Johor”
- Dr. Ahmad Fitri Bin Zohari (UKM)

ATUR CARA Seminar

EKSPEDISI SAINTIFIK
KEPELBAGAIAN BIOLOGI HUTAN
HUTAN SIMPAN PANTI, KOTA TINGGI

Rabu **10 MEI 2023**

22.“Species Richness Estimation of Freshwater Fish in Gunung Panti Forest Reserve, Johor”
- Dr. Mohamad Aqmal bin Mohd Naser (UMT)

23.“The Fish Comprehensive Study of Stream Macroinvertebrates and Nutrient Dynamics for Effective Conservation Management in Johor’s Panti Forest Reserve, Malaysia”
- Dr. Noraini Binti Ruslan (UTHM)

24.“Pengukuran Kualiti Air Berdasarkan Taburan Kepelbagaian Makroinvertebrata di Kawasan Tadahan Hutan simpan Panti Johor”
- Prof Madya Ir Dr Mohd Adib Bin Mohammad (UTHM)

25.“Reptiles and Amphibians of Panti Conservation Area”
- Encik Mark Tan Chin Siong (MNS)

26.“Amphibian Checklist of Gunung Panti Fprest Reserve, Johor, Peninsular Malaysia”
- Encik Baizul Hafsyam Bin Badli Sham (UMT

27.“Rapid Photography Assessment (RaPA)”
- Encik Hardy Adrian A. Chin (Eco Explorers Malaysia)

Sesi Soal Jawab

Penyampaian Cenderahati kepada Pengerusi Sesi dan Pembentang

1.00PM
Makan Tengahari / Rehat

Tytthoscincus sp.

ATUR CARA

Seminar

EKSPEDISI SAINTIFIK
KEPELBAGAIAN BIOLOGI HUTAN
HUTAN SIMPAN PANTI, KOTA TINGGI

Rabu **10 MEI 2023**

2.30PM

Sesi Pembentangan 5

Pengerusi sesi:
Tuan Haji Ramli bin Mat
Timbalan Pengarah,
Bahagian Pengurusan Hutan,
Jabatan Perhutanan Semenanjung Malaysia (JPSM)

28.“Reptiles Diversity in Gunung Panti Forest Reserve”
- Encik Muhamad Fatihah Syafiq bin Abd Rahman (UMT)

29.“Kepelbagian Spesis Araknid di Hutan Simpan Panti, Johor”
- Encik Muhammad Irham bin Abdul Razak (UMT)

30.“Composition and Community Structure of Euphorbiaceae sensu lato in Panti Forest Reserve, Kota Tinggi, Johor”
- En. Muhammad Khairul Faizi (UKM)

31.“Melastomataceae of Panti Forest Reserve, Kota Tinggi, Johor”
- Dr. Ahmad Fitri Bin Zohari (UKM)

32.“A Short Survey of Butterfly Diversity in Panti Conservation Area”
-Dr. Varun Thangamani (MNS)

33.“Birds of Panti Forest Reserve”
-Encil Al-Kautsar Hidayanto Bin Abdul Rahim (UPM)

Xenochrophis trianguligerus

ATUR CARA

Seminar

EKSPEDISI SAINTIFIK
KEPELBAGAIAN BIOLOGI HUTAN
HUTAN SIMPAN PANTI, KOTA TINGGI

Rabu **10 MEI 2023**

34.“Flora Paku Pakis di Gunung Panti dan Kawasan Sekitarnya”
- Prof. Madya Dr. Haja Maideen Bin Kader Maideen (UKM)

35.“Preliminary Checklist Of Ants (Hymenoptera: Formicidae) At Panti Forest Reserve, Johor, Malaysia”
- Puan Amira Aqilah binti Muhammad (UM)

Sesi Soal Jawab

Penyampaian Cenderahati kepada Pengerusi Sesi dan Pembentang

5.00PM
Minum Petang / Sesi Poster

8.00PM
Makan Malam

***Pakaian : Smart Casual**

10.30PM
Jamuan Tamat

ATUR CARA

Seminar

EKSPEDISI SAINTIFIK
KEPELBAGAIAN BIOLOGI HUTAN
HUTAN SIMPAN PANTI, KOTA TINGGI

Khamis **11 MEI 2023**

8.30AM

Sesi Pembentangan 6

Pengerusi sesi:
Dr. Arney binti Sapaat
Pensyarah Kanan,
Fakulti Sains Gunaan dan Teknologi,
Universiti Tun Hussein Onn (UTHM)

36.“Annotated Checklist of Odonates (Insecta: Odonata) in Gunung Panti Forest Reserve, Kota Tinggi, Johor, With Twelve New Records for The Region”
- Dr. Noorhidayah Mamat (UM)

37.“Preliminary Checklist of Pygmy Grasshoppers (Orthoptera: Tetrigidae) from Panti Forest Reserve in Johor, Malaysia”
- Puan Amira Aqilah binti Muhammad (UM)

38.Odonate Tourism for Panti, Kota Tinggi, Johor”
- Encik Mohammad Zulhusni Zakaria (UTHM)

39.“Floristic Composition Of Trees In The Virgin Jungle Reserve Of Panti Forest Reserve, Kota Tinggi, Johor: A Preliminary Study”
- Dr. Ahmad Fitri Bin Zohari (UKM)

ATUR CARA

Seminar

EKSPEDISI SAINTIFIK
KEPELBAGAIAN BIOLOGI HUTAN
HUTAN SIMPAN PANTI, KOTA TINGGI

Khamis **11 MEI 2023**

40.“A Discovery of Spider-parasitic Fungus in Panti Forest Reserve, Johor”
-Dr Yap Jing Wei (UTHM)

41.“Interesting Nocturnal Volant Mammals Observed and Notes of Other Mammals in Panti Forest Reserve, Johor Darul Takzim”
-Dr Jayaraj Vijaya Kumaran (UMK)

42.“Bioacoustic Detections of Elephants and Birds in Panti Forest Reserve, Johor”
-Noah Tsin Wee Thong (University of Nottingham Malaysia)

43.“Interactive Flora Mapping for Selected Plant Spesies in Hutan Simpan Panti, Kota Tinggi, Johor”
- Sr Dr Nazirah Binti Mohamad Abdullah (UTHM)

Sesi soal jawab

Penyampaian Cenderahati kepada Pengerusi Sesi dan Pembentang

11.00AM
Minum Pagi

Asian Golden Cat
(Catopuma temminckii)

ATUR CARA

Seminar

EKSPEDISI SAINTIFIK
KEPELBAGAIAN BIOLOGI HUTAN
HUTAN SIMPAN PANTI, KOTA TINGGI

Khamis **11 MEI 2023**

11.30AM

Sesi Penggulungan oleh Ketua Ekspedisi
YBrs. Profesor Dr. Mohd Shahir Shamsir Omar,
Timbalan Naib Canselor (Penyelidikan dan Inovasi),
Universiti Tun Hussein Onn (UTHM)

Penyampaian Cenderahati kepada Ketua Ekspedisi

Penyampaian Cenderahati kepada Rapporteur

12.30PM

Makan Tengahari

Program tamat dan *Check out* hotel

ABSTRAK PEMBENTANGAN

PRIMATES OF PANTI FOREST RESERVES

Muhammad Abdul Latiff Abu Bakar, Hidayah Haris, Farah Farhana Ramli, Nur Hartini Sariyati, Mohd Faudzir Najmuddin, Nursyuhada Othman

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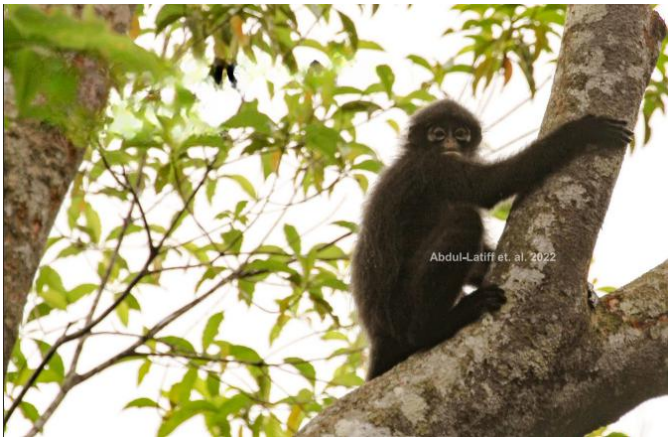
ABSTRACT

The Panti Forest Reserves is renowned for its thrilling jungle trail and captivating rock formations, and it is also a habitat for over 50 mammal species. Despite this, there has yet to be a thorough record compiled of the primate species present in this location. Therefore, in August 2022, a survey was conducted during an expedition organized by Jabatan Perhutanan Negeri Johor (JPNJ) in Panti Forest Reserves from the 21st to the 25th of August 2022. The purpose of the survey was to compile an initial checklist of the primate species present in the area. To document their presence, scan sampling was employed by trekking along the trails and driving on the available roads to look for any sightings. In total, there are six primate species that can be observed, namely the long-tailed macaque (Macaca fascicularis), pig-tailed macaque (Macaca nemestrina), white-handed gibbon (Hylobates lar), dusky leaf monkey (Trachypithecus obscurus), banded langur (Presbytis femoralis) and slow loris (Nycticebus coucang). Out of these species, one is classified as critically endangered (CR) and the remaining five are considered endangered (EN) by the International Union for Conservation of Nature (IUCN). Given the significant number of primate species present in the area, many of which have important conservation value, any future management approach for the forest reserves must be effective and considerate of their impact on primate conservation.

Keywords: Panti Forest Reserves, Primate, Mammal, Checklist



ICHTYOFAUNA DIVERSITY AND ITS CONSERVATION STATUS IN PANTI FOREST RESERVE, JOHOR

Muhammad Fahmi-Ahmad, Syed Ahmad Rizal Tuan Nek, Mohd Lokman Ilham-Norhakim, Mohammad Mirza Zulhilmi Mohd Salleh, Jamsari Amirul Firdaus Jamaluddin, Mohamad Aqmal-Naser, Amirrudin B. Ahmad

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ABSTRACT

Panti Forest Reserve (PFR) is a lowland forest with various freshwater habitats such as headwater streams, freshwater swamps, and blackwater swamps. During the 2022 scientific expedition, a total of 49 species of freshwater fish were recorded from six sites. The fish composition was dominated by the family Cyprinidae with 11 species. The freshwater habitat heterogeneity in PFR contributed to unique fish assemblages that range from the fish that preferred fast-flowing and clear water to slow-flowing and highly acidic environments. *Barbodes dunckeri* is a single species classified as endangered (EN) under IUCN Redlist in the area. This study added 28 more species to the previous list and improved the total number of fish to 57. The substantial number of fish warrants significant attention and resources to ensure PFR and its ecosystem thrive in the rapid development era.

Keywords: Ichtyofauna diversity; conservation status; Panti Forest Reserve; fish assemblages; habitat heterogeneity

FIRST REPORT OF SPOTTED LEOPARD FROM PANTI CONSERVATION AREA (PCA)

Vincent Chow, Aminuddin b Jamin, Hj. Salim b Aman, Tony Wong, Sivapragash Periannan, Vilma D'Rozario

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ABSTRACT

Earlier camera trap surveys have indicated that the Leopard, Panthera pardus, is more commonly found in Peninsular Malaysia as a black or melanistic form. Most observations made south of the Isthmus of Kra had been melanistic and not the spotted form. However, in 2000, a wounded individual of the Spotted Leopard was rescued from the Endau-Rompin National Park, and later recovered at the Malacca Zoo. In 2010, the Wildlife Conservation Society (WCS) obtained three photos of the Spotted Leopard out of 11,500 from Endau-Rompin National Park, confirming that the species was present in Peninsular Malaysia. Another two observations were reported from camera traps at Ulu Muda, of a male in 2014 and subsequently, a female in 2015. The current report covers observations of Leopards from a camera trap study conducted at some compartments of the gazetted Panti Conservation Area (PCA) of size 13,152.13 ha. and highlights the presence of the spotted form as first recorded on 29th September 2022 at PCA, and more evidence in subsequent records in videos and photographs. These observations confirm and reaffirm the presence of the Spotted Leopard at the most southern part of the Central Forest Spine in Johor.

A PRELIMINARY CHECKLIST OF FLOWERING PLANTS IN PANTI FOREST RESERVE, KOTA TINGGI, JOHOR, MALAYSIA

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ABSTRACT

A preliminary checklist of flowering plants in the lowland dipterocarp forest at Panti Forest Reserve, Johor is reported. A total of 466 taxa which comprised of 464 species in 254 genera and 85 families was recorded. Family-wise, Euphorbiaceae represented by 56 species is the most speciose followed by Annonaceae with 23 species, and Myrtaceae of 22 species. *Syzygium* (Myrtaceae) is the largest genus with 19 species followed by *Shorea* (Dipterocarpaceae) with 13 species and *Aporosa* (Euphorbiaceae) with 11 species. A total of 33 taxa found here are endemic to Peninsular Malaysia including some hyper-endemic taxa which only occur in only one or two states such as *Dillenia albiflos* which is only known in Johor. Meanwhile, *Madhuca tomentosa* has been recorded only in recorded in Pahang and Johor. Five taxa, viz. *Beilschmiedia perakensis, Diospyros subrhomboidea, Payena acuminata, Syzygium prainianum* and *S. pseudocrenulatum* are the new records for Johor. The rare species of *Alphonsea johorensis* (Annonaceae) is also recorded. Intensive field collection and further surveys in future may record more than 600 taxa including the hill and montane flora elements around Gunung Muntahak, Gunung Panti Timur, and Gunung Panti Barat.

Keywords: Flowering plants, endemic, lowland forest, Panti Forest Reserve, new record

VISITOR'S PREFERENCE ON NATURE BASED RECREATION AT TAMAN EKO RIMBA PANTI AND PANTI FOREST RESERVED

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ABSTRACT

Nature-based recreation allows tourists to satisfy their recreational demands while preserving the diversity and depth of an area's natural resources, culture, and history. Recreational tourists seek for natural regions to suit their recreational demands, and they frequently travel to isolated areas to do so. This means that such locations and resources are in great demand, yet many areas are failing to quantify their values. This region is a new nature-based recreational area of recreational ecotourism development that has received little attention from other researchers The purpose of the study is to identify the preferences of visitors to the nature-based recreation area at Hutan Simpan Panti Recreational Area. Many recreation enthusiasts come from various walks of life and begin participating in various outdoor recreational activities to gain a recreational experience while also meeting the recreational demands of everyone. This study involved 350 respondents consisting of visitors who were present during the data collection done through a questionnaire or those who had attended the Hutan Simpan Panti Recreational Area. Analysis of the data obtained shows that many visitors think that if a recreational area is developed such as logging, hunting, air, or water pollution will affect the sustainability of the environment. In addition, visitors place great emphasis on the safety aspect of the recreation area because it involves the satisfaction of visitors returning to the recreation area.

Keywords: Nature-based recreation, Taman Eko Rimba Panti, Panti Forest Reserve, Recreational tourist, Outdoor recreational activities

MEASURING DIVERSITY AND INTER-SITE SIMILARITIES OF FISHES IN GUNUNG PANTI FOREST RESERVE, JOHOR

Amirrudin B. Ahmad, Mohamad Aqmal-Naser,Muhammad Fahmi-Ahmad1, Syed Ahmad Rizal Tuan Nek, Mohammad Mirza Zulhilmi Mohd Salleh1 Mohd Lokman Ilham-Norhakim, Jamsari Amirul Firdaus Jamaluddin

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ABSTRACT

In ecology, species diversity measurement is common. Diversity indices are used in many cases and the values obtained informed the ecologists on the status of a community. Fish community at Gunung Panti Forest Reserve (GPFR) is dominated by the family Cyprinidae, followed by Danionidae and Cobitidae. Shannon diversity index falls below 3.0, indicating the studied area was not very diverse. Species richness indices also indicated that species richness is low althouth species evenness indices indicated that species was evenly distributed. Sg. Merbok showed higher diversity values and somehow the least similar to the other streams. In general, the site-similarities are low, indicating the presence of many unique species in each streams. The findings may help conservation managers to prioritize areas with high conservation value for monitoring and protection.

Keywords: Conservation; fish assemblages; fish diversity; Panti Forest Reserve; small streams,

DNA BARCODING ANALYSIS ON NEPENTHES SPECIES OF PANTI FOREST RESERVE

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ABSTRACT

According to the latest update on CITES List, a total of forty four (44) Nepenthes species has been listed in the CITES Appendix, with one (1) species categorised in Appendix I as critically endangered, while forty three (43) species were classified in Appendix II as less endangered (CITES 2021). Malaysia government has enacted the International Trade in Endangered Species Act 2008 (Act 686) with the aim to protect and conserve the endangered species, including Nepenthes. Despite having legal protection for Nepenthes, trafficking issues are still arising due to the high demand in the market. In the late 20th century, plant forensics had emerged, aiming to identify toxic plant species based on the approaches on plant ecology, taxonomy, and anatomy (Bock and Norris 2016). However, the morphology features of Nepenthes may be susceptible due to environmental factors and also hybridisation (Li et al. 2021). Therefore, molecular approach through plant DNA barcoding was developed to overcome the limitations. Two or more DNA barcode regions were needed to provide accurate species identification. In this study, four DNA barcoding markers: rbcL, matK, trnH-psbA, and ITS1 were used to analyze the triplicates of twelve (12) Nepenthes samples and DNA sequence data were successfully generated from all samples. Our results also indicate that the combination of ITS1 and matK can potentially be reliable barcode markers for Nepenthes species identification.

Keywords: DNA barcoding; Nepenthes; Panti

DNA BARCODING ANALYSIS ON NEPENTHES SPECIES OF PANTI FOREST RESERVE

***Ahmad Fitri, Z., Nur 'Aqilah, M.B., Mohmmad Khairul Faizi, Z.,Nasarudin, J., Shahrool Anuar, R., Asiyahtul Husna, H., Nizam, M.S., Nik Hazlan, N.H., Nik Norafida, N.A., Noraini, T. & Latiff, A.**

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ABSTRACT

A preliminary checklist of flowering plants in the lowland dipterocarp forest at Panti Forest Reserve, Johor is reported. A total of 466 taxa which comprised of 464 species in 254 genera and 85 families was recorded. Family-wise, Euphorbiaceae represented by 56 species is the most speciose followed by Annonaceae with 23 species and Myrtaceae of 22 species. Syzygium (Myrtaceae) is the largest genus with 19 species followed by Shorea (Dipterocarpaceae) with 13 species and Aporosa (Euphorbiaceae) with 11 species. A total of 33 taxa found here is endemic to Peninsular Malaysia including some hyper-endemic taxa which only occur in only one or two states such as Dillenia albiflos which is only known in Johor. Meanwhile, Madhuca tomentosa has been recorded only in recorded in Pahang and Johor. Five taxa, viz. Beilschmiedia perakensis, Diospyros subrhomboidea, Payena acuminata, Syzygium prainianum and S. pseudocrenulatum are the new records for Johor. The rare species of Alphonsea johorensis (Annonaceae) is also recorded. Intensive field collection and further surveys in future may record more than 600 taxa including the hill and montane flora elements around Gunung Muntahak, Gunung Panti Timur and Gunung Panti Barat.

Key words: Flowering plants, endemic, lowland forest, Panti Forest Reserve, new record

BIODIVERSITY ASSESSMENT IN PANTI CONSERVATION AREA USING TRAIL CAMERAS

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ABSTRACT

The current wildlife survey of the Panti Conservation Area (PCA) was conducted in collaboration with the Johor Department of Forestry and the Johor Wildlife Department (PERHILITAN). In total, 30 motion sensor trail cameras (also known as camera traps) were mobilised. Results obtained showed a tally of 34 mammalian species, with bycatches of 17 birds and 4 reptiles when compared to previous efforts that obtained lower numbers of mammals (13 and 16). The camera team has been active since August 2021 mostly in Compartments 5, 28, 34, 35 , 36 as well as at Compartments 54 and 55 of the Panti Bird Sanctuary (PBS). The melanistic form of the Leopard was first recorded at Panti by other parties in 2019. No previous proof of the spotted form had been known from the Panti Conservation Area (PCA). In this study, the camera team recorded the Spotted Leopard at PCA for the first time, making it the second confirmation of its presence in Johor after the earlier record at Endau-Rompin Johor National Park. The results have revealed that the 13 152.13 ha of the Panti Conservation Forest is very rich in wildlife and surveys are needed to unravel more.

Keywords: wildlife survey, camera trap, trail cameras, biodiversity assessment

PRELIMINARY SURVEY AND CONSERVATION STATUS OF WILD GINGERS (ZINGIBERACEAE) FROM PANTI FOREST RESERVE

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UTM Innovation Centre in Agritechnology for Advanced Bioprocessing (ICA), Universiti Teknologi Malaysia (Pagoh Campus), 84600 Pagoh, Johor, Malaysia

Jabatan Perhutanan Negeri Johor, Tingkat 2, Bangunan Dato' Mohamad Ibrahim Munsyi Kota Iskandar, 79626 Iskandar Puteri, Johor Darul Takzim

ABSTRACT

Preliminary investigation of the Zingiberaceae family has been conducted at the Panti Forest Reserve, Kota Tinggi, Johor. Zingiberaceae specimens, especially the fertile ones, were collected from several trails and morphologically evaluated. Eleven taxa representing eight genera, i.e., *Alpinia, Boesenbergia, Conamomum, Etlingera, Globba, Hornstedtia, Scaphochlamys,* and *Zingiber*, were identified. *S. lanceolata, S. klossii,* and *G. leucantha* were frequently observed in the study areas. As part of conservation measures, ex-situ cultivation of the specimens was conducted, and selected key species will be studied in the future for micropropagation, metabolite profiling, and systematics.

Keywords: Diversity, Johor, native, taxonomy, Zingiberalese

MEDICINAL PLANTS IN PANTI FOREST RESERVE, KOTA TINGGI, JOHOR: DIVERSITY OF THE SPECIES UTILIZED BY THE ORANG KANAQ COMMUNITY

Ai Lee Tan, Firdaus Kamarulzaman, Mohamad Faizal Sharuddin & Musa Amir

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ABSTRACT

Panti Forest Reserve is a lowland dipterocarp forest with an area of 12,140 ha. The objective of this study was to document the medicinal plants encountered, focusing on the species utilized by the Orang Kanaq community within Panti Forest Reserve. Medicinal plants encountered along the trails were surveyed, photographed and their GPS location was marked. Selected medicinal plant species were collected as representatives from each trail and made into herbarium specimens. In addition, several species were also collected for ex-situ conservation at Ethnobotanical Garden, FRIM. A total of 90 species medicinal plants, belonging to 50 families were recorded by the FRIM medicinal plants team during the expedition. Meanwhile, among the highest families recorded were Rubiaceae, Annonaceae, Araceae, Melastomataceae, and Zingiberaceae. Moreover, the highest record of medicinal plant species was 55 from Bunker Trail; followed by Lukut Trail and Lebak Trail with 45 and 31 each. At least 25/54 species, approximately 46% that were utilized by the Orang Kanaq community were present at the trails surveyed. Eight species, namely *Tectaria singaporiana, Molineria latifolia, Labisia pumila, Agrostistachys borneensis, Polyalthia bullata, Mapania cuspidata, Scaphochlamys malaccana* and *Tacca integrifolia* were found in abundance at certain trails. In conclusion, there were about 104 species from 59 families noted to be present at Panti Forest Reserve; including species encountered by other teams.

Keywords: Medicinal plants; Orang Kanaq; Bunker Trail, Lukut Trail, Lebak Trail

STRUKTUR DIRIAN DAN KEPELBAGAIAN SPESIES POKOK DI HUTAN SIMPAN PANTI, JOHOR

Nur Aqilah Mustafa Bakray, Ahmad Fitri Zohari, Mohamed Khairul Faizi Zulkifli, Alia Shafini Azman, Mohd Nizam Mohd Said

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ABSTRAK

Kajian ekologi hutan adalah penting dalam memahami dan mengetahui status kesihatan sesuatu hutan. Penubuhan plot kajian yang berukuran 25 x 20 meter (m) telah dibina di Hutan Simpan Panti, Johor dan semua pokok dengan diameter pada paras dada (DBH) 5 cm dan ke atas telah diukur, ditanda, dicam dan direkodkan. Pengiraan kepadatan, luas pangkal, anggaran biojisim, stok karbon dan tenaga dikira dalam kajian ini. Indeks kepelbagaian dianalisa. Hasil kajian daripada plot bersaiz 0.05 ha mencatatkan sejumlah 102 pokok yang terdiri daripada 27 famili, 48 genus dan 61 spesies dengan keseluruhan kepadatan dan luas pangkal pokok masing-masing adalah 2,040 individu per hektar (ind/ha) dan 37.71 m2/ha. Euphorbiacaeae merupakan famili terbesar dalam plot kajian manakala Syzygium direkodkan sebagai genus terbesar hadir dalam kajian ini. Jumlah keseluruhan biojisim dalam kajian ini adalah 410.58 tan/ha yang mana disumbangkan oleh biojisim atas tanah (348.70 tan/ha) dan biojisim bawah tanah (61.88 tan/ha). Bagi nilai keseluruhan stok karbon dan tenaga adalah 174.35 tan/ha dan 158. 04 toe. Dipterocarpaceae menjadi penyumbang tertinggi bagi jumlah keseluruhan biojisim, stok karbon dan kandungan tenaga iaitu masing-masing mencatatkan 128.41 tan/ha, 54.36 tan/ha dan 49.43 toe. Hasil kajian ini diharapkan dapat memberikan maklumat asas dan pemahaman tentang fungsi pokok di hutan semula jadi yang memainkan peranan penting dalam kitaran karbon, pengeluaran tenaga dan juga menstabilkan ekosistem hutan.

Kata kunci: kepelbagaian, komuniti, kedinamikan, biojisim, stok karbon

ELEMENTARY CIVIL ENGINEERING ASSESSMENT FOR PANTI FOREST RESERVE

Nor Azizi Yusoff, Mohammad Faizal Tajul Baharudin, Amirzaki Salikin, Muhamad Firdaurs Abdullah

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ABSTRACT

Research Centre for Soft Soil (RECESS) promoted research and development on infrastructure and soil engineering since 1997. Since that, numerous activities were triggered to contribute to and answered national needs. During the expedition on the 21 to 25 August 2022, several data were collected to quickly understand the basic civil engineering needs for the Panti Reserve Forest. Therefore, this study was conducted to recognize relevant engineering parameters such as geohazard, basic geology, forest thermal, and soil properties. From geological and geotechnical perspectives, visual inspection by the competent geologist and geotechnical engineers had been initiated during the field visit at the selected checkpoints. Basic tools such as field vane shear apparatus, thermal camera, a geological hammer, geological compass, and camera had been mobilized. Based on the field observation, several spots of potential geohazard locations have been identified. Thermal assessment of the forest canopy, soils, rocks, and water unit shows that the forest serves well as a better place in minimizing the urban heat island effect. In conclusion, Panti Reserve Forest is potentially a great attraction for recreational purposes and the geological hazard is acceptable.

Keywords: civil engineering, Panti, forest, geohazard, visual inspection

DIVERSITY OF PITCHER PLANTS AND GENERAL FLORA OF PANTI FOREST RESERVE, JOHOR, MALAYSIA

Mohd Norfaizal Ghazallli , Muhammad Ikhwanuddin Mat-Esa, Edward Entalai Besi & Salmaniza Salleh

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Department of Biology, Faculty of Science, Universiti Putra Malaysia (UPM), 43400 Serdang, Selangor

ABSTRACT

Pitcher plants dan general flora diversity of Panti Forest Reserve, Johor was inventoried for flora composition assessment. A total of three species of pitcher plants were identified along the trails provided namely *Nepenthes ampullaria*, *N. gracilis* and *N. rafflesiana*, while 37 species of general flora (wild fruits, wild gingers and ornamental species) were recorded and collected. During this inventory trip, a few species bear fruits due to the unsynchronized fruiting season. The inventorised species consists of 11 important genera- *Artocarpus, Amorphophallus, Baccaurea, Bouea, Barringtonia, Diospyros, Durio, Syzygium, Scaphium, Litsea*, and *Nepenthes*. A total of 37 herbarium specimens from various wild species were also collected and prepared from the trails for safe deposition at respective herbaria.

Keywords: *Nepenthes,* wild and rare fruits, Panti, Malaysia

SCIENTIFIC EXPEDITION ON BIODIVERSITY OF THE PANTI CONSERVATION AREA 2022: SURVEY OF AVIAN DIVERSITY

Belinda ML Wong, Lim Kim Chuah, Lim Kim Keang, Veronica Foo & Chiang Lai Peng

Malaysian Nature Society Johor Branch

ABSTRACT

A bird survey at the Panti Forest Reserve was conducted from 21-24 August 2022 by the Malaysian Nature Society Johor (MNSJ) as part of a wider biodiversity survey organized by Jabatan Perhutanan Negeri Johor (JPNJ). Besides the well-known and popular Panti Bird Sanctuary, this bird survey also covers areas including Bukit Sisek, Sungai Lebak, Lukut, and Gunung Muntahak. The entire area is designated as the Panti Conservation Area (PCA). The survey was carried out on foot in five sites comprising eight trails. Birds sighted and heard were recorded. 131 species from 47 families were recorded during the four days of the survey. This represents 40% of the 325 bird species currently known to occur in Panti Forest Reserve. Of these, six species are globally threatened, and 27 species are Near Threatened. PBS recorded the highest number of bird species with 64 species, as well as registering the highest number of Globally Threatened species. The short four-day survey is too short to establish baseline data on the avian diversity and abundance in the PCA. More extensive surveys are recommended. During the survey, various threats to the forest were noted. It is recommended that immediate actions be taken to prevent further degradation of the forest.

Keywords: Panti, Muntahak, Lebak, Lukut, Sisek

DIPTEROCARPACEAE OF PANTI FOREST RESERVE, KOTA TINGGI, JOHOR

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ABSTRACT

This paper listed the taxa of Dipterocarpaceae that can be found in Panti Forest Reserve, Kota Tinggi, Johor. During the Scientific Expedition of Biological Diversity of Panti Forest Reserve, Johor in August 2022, voucher specimens of Dipterocarpaceae were collected. Information related to the habitat and distribution of each species has been recorded. Additional data were obtained from collections kept at the Herbarium of Forest Research Institute Malaysia (KEP) and National Herbarium of the Netherlands (L) and also from previous botanical surveys in 2016. A total of 41 taxa of Dipterocarpaceae have been recorded in the Panti Forest Reserve, Johor. Three taxa are only recorded in Johor, namely *Dryobalanops beccarii, Hopea johorensis* and *Rubroshorea johorensis*. Nine taxa are also endemic to Peninsular Malaysia, namely *Anthoshorea bentongensis*, *Hopea auriculata, H. johorensis, H. polyalthioides, H. sulcata, Parashorea densiflora, Richetia maxima, Vatica cuspidata* and *V. hullettii*. Only a single species, *Parashorea densiflora*, bear mature fruits when collected in the field in August 2022. Based on records from herbarium specimens, additional information on flowering and fruiting times was also added.

Keywords: Dipterocarpaceae, endemic, *Parashorea densiflora*, Panti Forest Reserve

AN UPDATED CHECKLIST OF WILD ORCHIDS AND MEDICINAL PLANTS IN HUTAN SIMPAN PANTI, KOTA TINGGI, JOHOR

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ABSTRACT

A scientific expedition was conducted at Hutan Simpan Panti from 21st to 25th August 2022 that aimed to evaluate the plant diversity and composition within several selected sites. Convenient sampling was made in three selected trails or denai with two different types of vegetation: a hill heath forest overtopped by a kerangas padang, and two riparian forests. A total of 27 species in 18 genera of orchids and another 55 species in 17 different families of plants with potential medicinal properties (excluding orchids) were collected during the exploration. Epiphytic orchids were most abundant with 10 genera, amongst them were two species of Vanilla. Out of the three trails visited, Gunung Panti owns a higher abundance orchid species. Amongst the non-orchid and medicinal plants collected, one species is endemic to Peninsular Malaysia, Barringtonia corneri. Magnolia singapurensis, is here confirmed as a rediscovery in Peninsular Malaysia, which was previously only known from one doubtful old collection from Perak 94 years ago. Two rare species that endemic or confined to Peninsular Malaysia and Singapore, Actinodaphne malaccensis and Polyspora penangensis are recorded here as new records to Johor, along with the more widespread but undercollected species Rhododendron longiflorum, Miconia dependens, and Piper baccatum.

Keywords: diversity, flowering plant, HS Panti, orchid flora, species composition

NOTES ON PIONEER SPECIES IN PANTI FOREST RESERVE, KOTA TINGGI, JOHOR

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ABSTRACT

Succession is an important phase in the forest growth cycle. During this process, the pioneers and early successional species dominated the severe condition before being replaced by late seral species and finally climax species. In this paper, we discussed the occurrence of pioneer species found in Panti Forest Reserve based on the data from field surveys, ecological plot studies and from herbarium sheets. A total of 31 taxa of pioneers and successionals were recorded. *Cratoxylum formosum*, *Macaranga bancana*, *M. gigantea*, *M. heynei* and *Vitex pinnata* are among the common species found especially in forest gaps, disturbed areas, and near old skid trails. Only five species of pioneers were found in the plot studies, namely *Campnosperma auriculatum*, *Cratoxylum formosum*, *Endospermum diadenum*, *Macaranga conifera* and *M. hypoleuca*. In the pristine forest of virgin jungle reserve in compartment 74, *Campnosperma auriculatum*, *Cratoxylum formosum*, *Endospermum diadenum* also sighted and censused in the plot. Six taxa were only known from herbarium specimens such as *Balakata baccata*, *Clerodendrum villosum*, *Ficus fistulosa* var. *tengerensis*, *Macaranga amissa*, *M. triloba* and *Trema tomentosa*.

Key words: Pioneer, successional, gaps, *Macaranga*, Panti Forest Reserve

SPECIES RICHNESS ESTIMATION OF FRESHWATER FISH IN PANTI FOREST RESERVE, JOHOR

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ABSTRACT

The diverse habitat heterogeneity at the Gunung Panti Forest Reserve able to support high diversity of fish fauna in the ecosystem. However, the sampling efforts for fish study in the Gunung Panti Foreset Reserve is still insufficent. All the species accumulation curves show no sign of levelling off, excpet for Sungai Pelepah Kiri. The extrapolation curve and species richness estimation also estimates an additional six to 42 fish species can be expected based on the current and past studies. More inventories in the near future can be conducted to document the true fish species richness in this forest reserve.

Keywords: Asymptote, estimators, sampling effort, species richness, inventory

STATUS OF FRESHWATER INVERTEBRATE BIODIVERSITY AND COMMUNITY STRUCTURES IN PANTI FOREST RESERVE JOHOR, MALAYSIA: A STRATEGY FOR CONSERVATION

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ABSTRACT

Protected areas such as Panti Forest Reserve (PFR) serve as comprehensive cornerstones to safeguard biodiversity, especially for endangered species. Hence, regular evaluation of the protected area is crucial to improving the effectiveness of conservation management strategies. To date, there has been no formal review of the status of freshwater invertebrate biodiversity and community structures in PFR. To accomplish this goal, freshwater invertebrate and benthic sediments were sampled for total nitrogen, phosphorus, and organic carbon along the stream from upstream to downstream in two expedition trails in Pelepah Kiri and Gunung Muntahak for four consecutive nights at PFR from August 21-24, 2022.

Keywords: Panti Forest Reserve; freshwater habitat; invertebrate communities; sediment; Malaysia

PENGUKURAN KUALITI AIR BERDASARKAN TABURAN KEPELBAGAIAN MAKROINVERTEBRATA DI KAWASAN TADAHAN HUTAN SIMPAN PANTI, JOHOR

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ABSTRAK

Bioindikator merupakan salah satu kaedah terpantas bagi mendapatkan secara awalan kualiti air sungai semasa. Ini kerana makroinvertebrata merupakan haiwan dalam air yang sangat sensitif terhadap perubahan kualiti air. Sekiranya persekitaran pembiakan/tumbesaran terganggu, haiwan ini tidak wujud di kawasan berkenaan atau mati. Objektif kajian ini adalah untuk menentukan kawasan tadahan hutan simpan Panti bagi melihat sistem ekohidrologi di kawasan setempat. (Sungai Pelepah); dan mewujudkan aktiviti tambahan kepada pengunjung mengenai kualiti air terjun/sungai berdasarkan kepada pengkelasan makroinvertebrata yg diperolehi. Lokasi kajian adalah di sungai pelepah di dalam Kawasan tadahan Hutan Panti. Sebanyak 3 lokasi bagi cerapan data di dalam Kawasan tadahan Hutan Panti. Hasil dari kajian yang dijalankan melalui penemuan makroinvetebrata di sungai pelepah, didapati Sungai Pelepah yang terletak dibawah Kawasan tadahan Hutan Panti tergolong dibawah sungai yang bersih. Kualiti Air melalui Biological Water Quality Index, BWQI bagi ketiga-tiga lokasi cerapan adalah di dalam kategori (rather clean – clean water). Walaupun begitu, air sample perlu dijalankan di makmal yang telah diekredatasi bagi menentukan tahap kualiti air dibawah standard National Water Quality Standard bagi mengesahkan hasil kajian ini.

Kata kunci: bioindikator, makroinvertebrata, kualiti air, kawasan tadahan

REPTILES AND AMPHIBIANS OF PANTI CONSERVATION AREA

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ABSTRACT

A herpetological study of Gunung Panti Forest Reserve Johor has been carried out during a scientific expedition organized by Jabatan Perhutanan Negeri Johor on 22 August 2022 to 24 August 2022. The study aims to: Create a comprehensive checklist for all reptiles and amphibian found in the Panti Conservation Area and identify various species of herpetofauna including previously not recorded in PCA as well as any introduced species (if any). The preferred habitat of each species is also being recorded. Several key areas within Panti Forest Reserve were surveyed by foot which include Bukit Sisek, Gunung Muntahak, Sungai Lebak, Kampung Lukut trail, and Panti Bird Sanctuary which covered mainly lowland riparian forest, lowland dipterocarp forest as well as marshy heath forest. Survey was carried out by visually searching the surroundings and possible hiding spots for reptile and amphibian species in each of the survey areas. The survey yielded a total of 8 species of herpetofauna including 3 species of snakes, 2 species of frogs, and 3 species of lizards. No unrecorded species were found during this survey.

Keywords: Reptile, Amphibian, Herpetology, Snake, Lizard, Frog

AMPHIBIAN CHECKLIST OF PANTI FOREST RESERVE, JOHOR, PENINSULAR MALAYSIA

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ABSTRACT

The amphibian diversity in the Gunung Panti Forest Reserve (GPFR), Johor, was surveyed between August 21 and 24, 2022. The surveys were conducted by using the visual encounter survey (VES) to search for frogs and toads, including their advertisement calls. We recorded a total of 23 species of amphibians from GPFR, comprised of six families such as Bufonidae (two species), Dicroglossidae (eight species), Megophryidae (one species), Microhylidae (five species), Ranidae (five species), and Rhacophoridae (two species). Overall, we recorded three new records for GPFR, namely Limnonectes deinodon, L. plicatellus, and Microhyla butleri, which make up a total of 44 species from six families and 25 genera in GPFR. The baseline information produced from this study could be utilised for long-term monitoring of herpetological diversity and conservation efforts at GPFR.

Keywords: Frogs, herpetofauna, species inventory, toads, new records

PENILAIAN BERSASAR FOTOGRAFI (RaPA)

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Eco Explorers Malaysia

ABSTRAK

Pemerhatian dan penilaian dilapangan dengan rakaman fotografi beresolusi tinggi telah dilakukan di Hutan Simpan Panti, Johor pada 22 hingga 24 Ogos 2022. Tinjauandilakukan di sepanjang trek Batu Tenggek. Hutan Simpan Dara (VJR) dan lokasi sekitar air terjun Kota Tinggi.

ADDITIONS TO THE REPTILES OF PANTI FOREST RESERVE, JOHOR, PENINSULAR MALAYSIA

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ABSTRAK

This study represents the checklist of reptiles in Gunung Panti Forest Reserve (GPFR), Kota Tinggi, Johor based on short survey in the recent expedition (21-25th August 2022). This study visited the previously surveyed sites and expanded the survey area with several new localities in GPFR that were understudied. The Visual Encounter Survey (VES) method was employed to survey the reptiles. We documented 20 species of reptiles from eight families and 19 genera. Future survey may uncover additional species in this protected area.

Keywords: conservation, herpetofauna, protected area, Southern Peninsular Malaysia, tropical forest

CHECKLIST OF ARACHNIDS IN PANTI FOREST RESERVE, JOHOR

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ABSTRACT

A survey of arachnid species in Panti Forest Reserve was conducted from August 21st to August 25th, 2022. The study was carried out using the Visual Encounter Survey method to detect the presence of arachnid species. The survey was done from the morning until nighttime. All specimens were deposited at the Universiti Malaysia Terengganu. This is the first checklist of arachnids that were found in this particular area. In total, 49 species of arachnids were recorded that comprise the families of Araneae, Scorpiones, and Opiliones. Four orders of arachnids were discovered in the Panti Forest Reserve area, with the Araneae as the biggest number for the arachnid species count in that area. 16 families from the order Araneae were collected from this area, including one family each from the Scorpiones, Opiliones, and Thelyphonidae. Interesting findings from this survey were the spiders from the Mygalomorph infraorder. The interesting spiders found during the survey were *Damarchus workmanii* (Tube trapdoor spider), *Psednocnemis brachyramosa* (Tarantula), and *Rhianodes atratus* (cork lid spider). This is the first checklist of the arachnids from the Panti Forest Reserve.

Keywords: Arachnid, Tarantula, Spider, Checklist, Panti

COMPOSITION AND COMMUNITY STRUCTURE OF EUPHORBIACEAE S*ENSU LATO* IN PANTI FOREST RESERVE, KOTA TINGGI, JOHOR

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ABSTRARCT

A study of community structure and diversity of Euphorbiaceae *s.l.* was conducted in Panti Forest Reserve, Kota Tinggi, Johor. All Euphorbiaceae trees of diameter ≥ 5.0 cm DBH were marked, measured, and identified to species level. For individuals which are easily identified to species level, identification is conducted directly in the field, while for those which can not be identified; voucher specimens were collected and processed for identification purposes in the herbarium, Universiti Kebangsaan Malaysia (UKMB). Identification was also conducted by using keys and descriptions using respective references. The floristic composition of Euphorbiaceae comprising the genera and species are calculated and abundance parameters such as density and basal area are calculated. In the ecology plots of 0.24 ha, a total of 23 species were represented by 12 genera, and 45 individuals of Euphorbiaceae were recorded. Three species endemic to Peninsular Malaysia were recorded in the plot namely *Aporosa nervosa*, *Baccaurea griffithii,* and *Drypetes curtisii. Aporosa* has recorded the highest number of species with six species. The DBH of Euphorbiaceae trees in a 0.24 ha plot ranges from 5.0 to 48.5 cm. Elateriospermum tapos is the largest tree with DBH of 48.5 cm. The densest genus was *Aporosa* with 33 individuals/ha while the densest species was *Croton argyratus* with 25 trees per/ha. The total basal area for Euphorbiaceae was 5.04 m2/ha. Both *Endospermum* and *E. diadenum* have listed the highest basal area with a value of 1.90 m2/ha (37.66%). A large scale plot of > 1.0 ha and census of ≥ 1cm DBH is recommended to obtain more comprehensive data on floristic composition in the future.

Keywords: Euphorbiaceae s.l., Panti Forest Reserve, *Endospermum diadenum*

MELASTOMATACEAE OF PANTI FOREST RESERVE, KOTA TINGGI, JOHOR

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ABSTRACT

This paper lists the species of Melastomataceae that occur in Panti Forest Reserve, Kota Tinggi, Johor. The data is based on collections (mostly sterile) during the Scientific Expedition of Biological Diversity in August 2022 and previous botanical surveys by the first author. Additional data were obtained from the herbarium specimens deposited in selected herbaria in Malaysia and Netherlands. A total of 25 species from 11 genera of Melastomataceae have been recorded. *Dissochaeta johorensis* is only recorded in Johor and also in Riau Archipelago, Indonesia. *Memecylon hullettii* is a hyper-endemic species in Johor which is also found in several forest reserves such as Kluang Forest Reserve, Labis Forest Reserve, Endau Rompin State Park, Ulu Sebol Forest Reserve and Rengam Forest Reserve. *Miconia dependens* is a naturalised species from Neotropics and considered as the additional record of weeds for Peninsular Malaysia which occur in the Panti Forest Reserve and its vicinity. From personal observation in the field, this species grows together with *Miconia crenata*.

Keywords: Melastomataceae, hyper endemic, *Dissochaeta johorensis*, *Miconia dependens*

A SHORT SURVEY OF BUTTERFLY DIVERSITY IN PANTI CONSERVATION AREA

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ABSTRAK

As part of the Scientific Biodiversity Expedition organized by the Johor State Forestry Department (Jabatan Perhutunan Negeri Johor), a short butterfly survey of the Panti Conservation Area was carried out by the Malaysian Nature Society Johor Branch during 22 - 24 August 2022. A total of 71 species of butterflies belonging to all six families of butterflies found in Malaysia were observed during the survey. Of these, a majority of species noted belonged to the Nymphalidae family (35 species), followed by Lycaenidae (11 species). The highest diversity of butterflies was observed in the Lukut trail, where 47% of all species observed were recorded. A high diversity of butterflies belonging to the Hesperiidae family (8 species) were observed in the Lukut trail.

Keywords: Butterflies; Panti Conservation Area

SCIENTIFIC EXPEDITION ON BIODIVERSITY OF THE PANTI CONSERVATION AREA 2022: SURVEY OF AVIAN DIVERSITY

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ABSTRACT

The bird study was conducted in Panti Forest Reserve, Johor during the Panti Scientific Expedition from 21-25 August 2022. The main objective of this survey is to update the bird species list in Panti Forest Reserve. The field technique employed for the bird species inventory involved mist-netting and direct observation methods. Mist-netting was conducted using eight mist nets near Muntahak Trail and Lukut Trail while direct observation was done along the trails. The short study recorded a total of 31 bird species from 16 families. Family Picidae (5 species of woodpeckers), Pycnonotidae (4 species of bulbuls), and Nectariniidae (4 species of sunbirds and spiderhunter) were among the families that had the most significant number of species recorded. Between the two trails, the highest recorded through observation was at Muntahak Trail with 19 species while at Lukut Trail with 17 species. More intensive and longer period of survey is required to obtain adequate information on the diversity and distribution of birds at Panti Forest Reserve.

Keywords: Mist-net, Direct observation, Bird species, Muntahak Trail, Lukut Trail

NOTES ON FERNS AND LYCOPHYTES OF PANTI FOREST RESERVE, KOTA TINGGI, JOHOR

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ABSTRACT

A survey of ferns and lycophytes was conducted in Panti Forest Reserve, Kota Tinggi for three days from 22 August 2022 to 24 August 2022 during a Scientific Expedition organized by the Johor Forestry Department in collaboration with the Forestry Department Peninsular Malaysia and Universiti Tun Hussein Onn Malaysia. This study aims to prepare a checklist of ferns and lycophytes species in the study area. Sampling was done randomly in the four trails that had been prepared by the organizer. Collected specimens are preserved and curated for identification. A total of 88 species and varieties of ferns and lycophytes were identified from 108 specimens were collected during 3 days of sampling at 4 different trails, namely the Sungai Pelepah trail, Lukut trail, Batu Tenggek, Sungai Lebak trail.

Keywords: ferns, lycophytes, diversity, plant, survey

A PRELIMINARY REPORT ON ANTS (HYMENOPTERA: FORMICIDAE) OF PANTI FOREST RESERVE IN JOHOR, MALAYSIA

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ABSTRACT

Ants are intensively studied across the globe. However, this taxon is still understudied in Panti Forest Reserve (PFR) in Kota Tinggi, Johor. We present here a checklist of ants from several sites within the forest reserve based on the scientific expedition in August 2022. In total, 47 species were recorded, representing 11 tribes from six subfamilies. The collection led to the first species checklist for Formicidae in PFR, with more species expected to be discovered with continued sampling efforts. This report serves as a groundwork for future research and as a reference for nearby habitats that are more or less similar to PFR

Keywords: ants, Hymenoptera, Formicidae, diversity, Panti

ANNOTATED CHECKLIST OF ODONATES (INSECTA: ODONATA) IN PANTI FOREST RESERVE, KOTA TINGGI, JOHOR WITH TWELVE NEW RECORDS FOR THE REGION

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ABSTRACT

Malaysia is made up of a rugged geographical topology and thus provided a wide variety of natural habitat structures suitable for specific communities of organisms including odonates. Odonata is among the most recognizable insects and have been used in a wide array of studies dealing with functional morphology, behaviour, ecology, and evolution. This study is part of an effort to prepare baseline data for the state of Johor. A survey of the odonates in Panti Forest Reserve was carried out during the scientific expedition on 22-24 August 2022. Thirty-four species of Odonata belonging to 25 genera and 10 families were recorded. Among the 10 families, the most well-represented family was Libellulidae with 16 species (47.06%), followed by Gomphidae and Platycnemididae with four species (11.76%) while Calopterygidae, Chlorocyphidae, and Philosinidae represented 2 species (5.88%). As well, Coenagrionidae, Devadattidae, Lestidae, and Euphaeidae are represented by single species for each family (2.94%). *Neurothemis fluctuans* (11.7%) was found to be the most abundant species found followed by *Trithemis aurora* (11.1%) and *Rhinocypha biforata* (8.8%). Of all of these records, 12 species are new species records for Panti Forest Reserve discovered during this survey. The number of odonate species recorded represented 13.6% of the species found in Peninsular Malaysia indicating the high species richness of odonate found in Panti Forest Reserve alone.

Keywords: Damselflies, dragonflies, Malaysia, new records, species inventory

A PRELIMINARY REPORT ON THE PYGMY GRASSHOPPERS (ORTHOPTERA: TETRIGIDAE) OF PANTI FOREST RESERVE IN JOHOR, MALAYSIA

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ABSTRACT

Tetrigidae Rambur, 1838 is an overlooked taxon despite its diversity and richness in Peninsular Malaysia. So far, very few parts of the peninsula have been studied and inventoried for members of this family. This emphasizes the need for research in more undiscovered areas including the Panti Forest Reserve (PFR) in Kota Tinggi, Johor. We present here an illustrated checklist of the pygmy grasshoppers (Tetrigidae) from several sites within the forest reserve based on the scientific expedition in August 2022. In total, 14 species were recorded, representing six tribes from three subfamilies. The collection led to the first species checklist for this Orthoptera family in PFR, with more species expected to be discovered with continued sampling efforts. This report serves as a groundwork for future research and as a reference for nearby habitats that are more or less similar to PFR.

Keyword: Tetrigidae, pygmy grasshoppers, diversity, Panti

ODONATE TOURISM FOR PANTI, KOTA TINGGI, JOHOR

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ABSTRACT

The idea of using insects as an attraction or product for tourism had long been mooted in Malaysia. and proposed several times but had not been gaining attention. This may be due to the inability to plan and implement a concerted effort to bring to light the interesting aspects of insects. Thus, it seems the opportunity to turn one of the most diverse organisms into products that could generate income for the nation is not used. Despite the current global trend of nature tourism getting popular over the conventional mass tourism, the industry goes on its normal business in Malaysia. The Covid 19 episode perhaps had been timely to cause a temporary holdback to the industry; and provide for an alert call to rethink, restructure and reorganise the forward pathway to nature tourism. As it gains popularity, nature tourism is also giving Malaysia an opportunity to manipulate its wealth to give values to biodiversity. This paper inspects the stages of development of using dragonflies and damselflies (generally, both are referred to as odonates) in tourism. The focus had been different from one country to another. Perhaps, in a highly cultured society, the Japanese sees appreciating odonates as something of ethical in nature, more technologically nation such as Singapore see odonate as being a conservation icon. Whereas a state in Africa which venture into odonate tourism have economic goal as its main rationale. In Malaysia although there is yet to be a package for odonate tourism, we would like the development to cover several aspects that we had been trying to prepare, the so called 8 criteria for development of a good nature products for tourism. Here results from a five-day collection expedition from Panti, Kota Tinggi Johor demonstrated the potential of developing odonate tourism in Panti.

FLORISTIC COMPOSITION OF TREES IN THE VIRGIN JUNGLE RESERVE, PANTI FOREST RESERVE, KOTA TINGGI, JOHOR: A PRELIMINARY STUDY

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ABSTRACT

A preliminary study was conducted to determine the floristic composition and community structure of trees in the Virgin Jungle Reserve, Panti Forest Reserve, Kota Tinggi, Johor. This forest is classified as the primary lowland dipterocarp forest and also serves as water catchment area. One ecology plot with the dimension of 25 m x 20 m (0.05 ha in total) had been established. The census was carried out for all trees with diameter at breast height (DBH) 5 cm and above. The data were tabulated into floristic composition, species groups, DBH classes and stand structure. Species composition comprised of 79 individuals from 57 species, 50 genera and 30 families. Anacardiaceae and Euphorbiaceae are the most speciose families with five taxa each followed by Dipterocarpaceae and Lauraceae with four taxa each. Main canopy and understorey were recorded as the highest number of species and individuals with 28 and 15 of species and 44 and 17 of individuals, respectively. Pioneer is rare and only represented by three long-lived taxa, viz. *Campnosperma auriculatum, Cratoxylum formosum* and *Endospermum diadenum*. In addition, *E. diadenum* is also the largest tree in the plot with DBH of 88.3 cm. *Rengas kerbau jalang* or *Gluta wallichii* was represented the highest total number of individuals for DBH classes of ≥ 5 cm, ≥ 10 cm and ≥ 15. This preliminary study contributed the additional data for Virgin Jungle Reserve in Peninsular Malaysia.

Keywords: floristic composition, tree, virgin jungle reserve, Panti Forest Reserve

A DISCOVERY OF SPIDER-PARASITIC FUNGUS IN PANTI FOREST RESERVE, JOHOR

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ABSTRACT

Araneopathogenic fungi are spider-infecting parasitic fungi. Around 80 species of fungal pathogens are known capable of infecting spiders. Among them, the genus Gibellula (Hypocreales, Cordycipitaceae) is specialized in parasitising spiders. Thus far, about 40 species of Gibellula have been described in 33 countries worldwide, in which most of them were reported in tropical and temperate regions. There are very limited knowledge about the distribution and diversity of Gibellula in Peninsular Malaysia. The fungal pathogens of spiders, especially specialized parasites such as Gibellula are important to understand the ecological interactions of spiders with their designated parasites. During the Panti Forest Reserve expedition, one putative Gibellula specimen was found along the Lukut trail on the leaf underside of a seedling, 2 meters above ground. Although morphological identification of the spider host was not possible due to overgrowth of the cadaver by fungal mycelium, isolation and in vitro culture of the Gibellula using mycelium has been done successfully. The culture appeared dark brown in colour and slow growth. Identification and characterization of the fungal specimen will be done using molecular methods. This discovery marks one of the first attempts to identify and describe fungal pathogens of spiders in Peninsular Malaysia.

Keywords:
Araneopathogenic fungi, spiders, Gibellula, parasites, Peninsular Malaysia, biodiversity

INTERESTING NOCTURNAL VOLANT MAMMALS OBSERVED AND NOTES OF OTHER MAMMALS IN PANTI FOREST RESERVE, JOHOR DARUL TAKZIM

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ABSTRACT

A study of nocturnal volant mammals was conducted in Panti Forest Reserve to develop an ecotourism product atthis famous birding site. The study was conducted from 22nd to 23th of August 2022 and involved a night transect survey, mist netting, harp trapping and opportunistic observations. This short survey managed to document 3 new records and interesting nocturnal volant mammals i.e. one species of gliding squirrel, Petaurista petaurista, 3 species of bats (Hipposideros kunzi, Hesperoptenus doriae and Cynopterus sp.) and a number of land mammals namely Nycticebus coucang, Arctogalidia trivirgata and Tragulus kanchil. The current findings together with past studies indicate a high possibility of development of night tourism as a potential ecotourism product. This product should be developed together with its carrying capacity studies to ensure the sustainability of this ecotourism product at Panti Forest Reserve.

Keywords: Nocturnal mammals; night tourism; Ecotourism; wildlife encounter.

BIOACOUSTIC DETECTIONS OF ELEPHANTS AND BIRDS IN PANTI FOREST RESERVE, JOHOR

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ABSTRACT

Bioacoustic monitoring allows for simultaneous recording of the soundscape in large geographical and temporal scales. We explore the efficacy of pairing bioacoustic with deep learning and soundscape analysis methods by detecting elephant and bird sounds in Panti Forest Reserve. This forest reserve is also encompassed by towns, private lands, plantations, and farmlands. Thus, human-elephant conflict and human-elephant vehicle collision are pervasive issues especially around the edge of the forest reserve. Six automated bioacoustic recording devices were deployed to record 24-hour wildlife vocal activity. We manually annotated recordings to identify elephant and bird sounds. Elephant signs were recorded in three sites and elephant sounds were found in one site. Recordings of 1 minute every 10 minutes were extracted to calculate soundscape indices. Daytime activity showed more fluctuation in soundscape indices than nocturnal activity. Panti Forest Reserve remains rich in biodiversity and is fertile ground for bioacoustic research.
Keywords: Bioacoustics, Asian elephants, birds, soundscape analysis, Panti Forest Reserve.

Keywords: Interactive Mapping, Flora, Geographic Information Systems, Species Distribution, Hutan Simpan Panti

INTERACTIVE FLORA MAPPING FOR SELECTED PLANT SPECIES IN HUTAN SIMPAN PANTI, KOTA TINGGI, JOHOR

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ABSTRACT

Hutan Simpan Panti is one of the remaining forest reserves located in Johor, Malaysia. The development of a reliable information system on biodiversity is necessary since this forest reserve consists of unique floristic and faunal richness, their vastness, endemism, heterogeneity, and also inaccessibility of large areas. The information system is crucial for monitoring, analysing, and developing initiatives that are intended to conserve and preserve our biological diversity. Interactive flora mapping is an innovative and effective method for identifying, locating and managing plant species in forest reserves. In this study, we aimed to develop an interactive flora mapping system for selected plant species in Hutan Simpan Panti, Kota Tinggi, Johor. The primary objectives were to identify the location and distribution of the selected plant species within the forest reserve and provide an interactive platform for easy access to this information. The methodology employed for this study involved field surveys, data collection, and mapping using ArcGIS software. The study found that these plant species were mainly distributed in the lowland and hill forest areas of Hutan Simpan Panti.The interactive flora mapping system developed in this study allows users to access information on the location and distribution of these plant species within the forest reserve. The system features an interactive map that allows users to zoom in and out of the forest reserve, and identify the location of the selected plant species. Furthermore, users can also access information on the ecological and conservation status of these plant species.Overall, this study demonstrates the usefulness and effectiveness of interactive flora mapping for managing plant species in forest reserves. The developed system provides a valuable resource for researchers, conservationists, and forest managers to monitor and manage plant species within Hutan Simpan Panti, Kota Tinggi, Johor.

Keywords: Interactive Mapping, Flora, Geographic Information Systems, Species Distribution, Hutan Simpan Panti

PEMBENTANGAN POSTER

01 **A Bird Survey: Panti Forest Eco Park Johor, Malaysia**
Sulaiman Salikan, Shaiful Azhar Abu Bakar, Mohd Sidek Noorwi, V. Kumaran, Nor Hafiz Azmi & Siti Norasikin Ismail

02 **Diversity of Putative Ectomycorrhizal Fungi in Panti FR, Johor**
Patahayah M., Azrai S., Shahliney L., Muhammad Azhari M., Mohd Farid A., & Syazwan S.A.

03 **Antourism Potential in Panti Forest Reserve**
Muhammad Shafiq Hamdin & Maryati Mohamed

04 **Ferns and Lycophytes in Panti Reserve Forest, Kota Tinggi, Johor**
Nurul Nadhirah, Haja Maideen & Nik Haikal

05 **Butterflies of Gunung Panti Forest Reserve, Kota Tinggi, Johor**
Noorhidayah Mamat, Nurul Ashikin Abdullah, Izzudin Abdullah, Sofwan Badr, Badrulhadza Amzah & Amira Aqilah

06 **Evaluating The Role of Panti FR in Carbon Regulation Using TESSA Toolkit**
Lok Huey Kei, Nur Ili Alia, Sui Peng Heon, Shazrul Azwan Johari, Nurul Hidayah Hadzuha, Syahmil Sukawai, Aqilah Awg Abdul Rahman

07 **Chemical Profiling and Antioxidant of Plants for Post-Partum Care from Gunung Panti, Johor**
Nurul Atiqah Rizal, Siti Fatimah Sabran, Arney Sapaat & Foong Yi TIng

08 **Epiphyllous Liverworts of Panti Forest Reserve, Kota Tinggi, Johor**
Elizabeth Pesiu, Nur Saidatul Atiqah Md Sahimi & Gaik Ee Lee

09 **Avifauna of Panti Forest Reserve**
Ahmad Khusaini Mohd Kharip Shah

10 **Natural Environmental Elements of the Panti Forest Reserve: Contribution to Human Psychology**
Nor Akmar Abdul Aziz & Nur Jazilah Jaafar

11 **Leopards (*Panthera pardus*) of Panti Forest**
Sivapragash Periannan

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PENOLONG PENGARAH (EKSPEDISI), IP JPSM

ENCIK AZIZUL BIN RAZALI
PENOLONG PENGARAH (EKSPEDISI), IP JPSM

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PENOLONG PENGARAH (PERANCANGAN DAN PENGURUSAN), IP JPNJ

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PUAN ASFAEZZAH BINTI AB KARIM
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ENCIK MOHD SAMAN BIN MOHD SANGET
PEGAWAI HUTAN DAERAH JOHOR TIMUR, PHDJT

ENCIK RAZIS BIN OSMAN
PEGAWAI HUTAN DAERAH JOHOR TENGAH, PHDJH

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PENGHARGAAN

KERAJAAN NEGERI JOHOR DAN PENGANJUR INGIN MERAKAMKAN SETINGGI-TINGGI PENGHARGAAN DAN UCAPAN TERIMA KASIH KEPADA SEMUA PIHAK YANG TELAH MEMBERIKAN KERJASAMA DAN SUMBANGAN SECARA LANGSUNG ATAU TIDAK LANGSUNG DALAM MENJAYAKAN EKSPEDISI DAN SEMINAR SAINTIFIK KEPELBAGAIAN BIOLOGI HUTAN, HUTAN SIMPAN PANTI, KOTA TINGGI INI.

- PEJABAT DAERAH KOTA TINGGI
- MAJLIS BANDARAYA ISKANDAR PUTERI
- MAJLIS DAERAH KOTA TINGGI
- MAJLIS DAERAH PASIR GUDANG
- PEJABAT KADI JOHOR BAHRU
- JABATAN LANDSKAP NEGERI JOHOR
- LEMBAGA PERINDUSTRIAN NANAS MALAYSIA
- PERBADANAN USAHAWAN JOHOR

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