



ANCIENT CREATURES

Dragonflies and Damselflies of Malaysia

MALAYSIA BIODIVERSITY INFORMATION SYSTEM (MyBIS)

Serangga Purba: Papatung dan Papatung Jarum di Malaysia

disunting oleh

Chee Yen Choong
Yasser Mohamed Arifin
Nurfarhana Hizan Hijas



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KEMENTERIAN AIR, TANAH DAN SUMBER ASLI
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PENYUMBANG

CONTRIBUTORS

PENASIHAT PROJEK Dato' Dr. Tan Yew Chong
Project Advisors Dato' Haji Suhaimi Haji Mamat
Dato' Wan Mazlan Wan Mahmood
Dr. Megat Sany Megat Ahmad Supian
Dr. Azalia Mohamed

PENYUNTING Dr. Chee Yen Choong
Editors Yasser Mohamed Arifin
Nurfarhana Hizan Hijas

PASUKAN PENGURUSAN PROJEK
Project Management Team

Dr. Khairul Naim Adham, Noor Ashikin Mohamad, Abdul Razak Mohd Nor Rasid, Ajla Rafidah Baharom, Badrul Amin Jaffar, Hamidah Mamat, Tan Kok Kiat, Ahmad Amir Firdaus Mad Apani dan Norayuni Ramlee.





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“Kelebihan ini menjadikan Malaysia sebagai satu destinasi menarik untuk pemerhatian pematung dalam eko-pelancongan”

“This has placed Malaysia as one of the interesting destinations for dragonfly watching in ecotourism”

YB. DR. XAVIER JAYAKUMAR

Menteri Air, Tanah dan Sumber Asli
Minister of Water, Land and Natural Resources

KATA ALU-ALUAN

Negara kita dianugerahkan dengan khazanah kepelbagaian biologi yang tinggi. Hampir 400 spesies pepatung dan pepatung jarum telah direkodkan di Malaysia. Sekurang-sekurangnya 180 spesies daripada spesies tersebut merupakan pepatung dan lebih daripada 210 spesies merupakan pepatung jarum. Didapati lebih daripada 50 spesies ini adalah endemik kepada Malaysia. Kelebihan ini menjadikan Malaysia sebagai satu destinasi menarik untuk pemerhatian pepatung dalam eko-pelancongan.

Penerbitan buku 'Pepatung dan Pematung Jarum Malaysia' merupakan salah satu usaha Kementerian untuk mendokumentasikan spesies pepatung dan pematung jarum yang ada di Malaysia. Buku ini juga bertujuan untuk meningkatkan kesedaran awam mengenai kepentingan dan keunikan kumpulan serangga yang cantik ini. Selain daripada itu, buku ini juga mempromosi Malaysia Biodiversity Information System (MyBIS) sebagai satu pusat repositori setempat untuk kepelbagaian biologi di negara ini. Saya yakin buku ini akan menjadi rujukan mengenai pematung dan pematung jarum bagi pelajar, penyelidik, peminat alam semulajadi dan pembuat dasar.

Akhir kata, saya ingin merakamkan ucapan ribuan terima kasih kepada semua yang terlibat dalam menjayakan penerbitan buku ini.

PREFACE

Our country is blessed with rich biodiversity. Close to 400 Odonata species have been recorded in Malaysia. At least 180 species are dragonflies and not less than 210 species are damselflies. Of these, more than 50 species are endemic to Malaysia. This has placed Malaysia as one of the interesting destinations for dragonfly watching in ecotourism.

The publication of 'Ancient Creatures: Dragonflies and Damselflies of Malaysia' is one of the efforts by the Ministry to document the dragonfly and damselfly species found in Malaysia. This book also aims to rise public awareness of the importance and uniqueness of this group of beautiful insects. Besides, this book promotes Malaysia Biodiversity Information System (MyBIS) as one-stop repository centre for biodiversity in this country. I am confident that this book will provide information and reference on the dragonflies and damselflies to students, researchers, nature-lovers and policy makers.

Finally, I would like to express my appreciation to all parties involved in realising the publication of this book.

PENGENALAN

Penerbitan buku 'Ancient Creatures: Dragonflies and Damselflies of Malaysia - Malaysia Biodiversity Information System' bertujuan untuk mendokumentasikan maklumat mengenai kepelbagaian spesies pepatung dan pepatung jarum di Malaysia dan pada masa yang sama mempromosi pangkalan data kepelbagaian biologi kebangsaan iaitu Malaysia Biodiversity Information System (MyBIS) yang boleh diakses secara atas talian melalui <http://www.mybis.gov.my>. MyBIS merupakan pusat rujukan setempat mengenai kepelbagaian biologi flora dan fauna di Malaysia yang dibangunkan bagi memenuhi salah satu daripada obligasi Malaysia di bawah Konvensyen Kepelbagaian Biologi.

Pepatung dan pepatung jarum yang dikelaskan di bawah order Odonata merupakan satu kumpulan serangga yang mudah dikenali dengan dua mata kompaun yang besar, dua pasang sayap bermembran dan badan yang langsing. Pepatung dan pepatung jarum boleh dibezakan berdasarkan kedudukan kedua-dua mata kompaun, kedudukan pasangan sayap semasa bertenggek, dan saiz serta bentuk sayap hadapan dan belakang. Pada pepatung kedua-dua mata kompaun biasanya bersentuhan, pasangan sayap terbuka semasa bertenggek dan sayap hadapan bersaiz lebih kecil berbanding dengan sayap belakang. Pada pepatung jarum pula kedua-dua mata kompaun berpisah, pasangan sayap biasanya terlipat semasa bertenggek dan kedua-dua sayap hadapan dan belakang bersaiz sama. Odonata menjalankan metamorfosis tidak lengkap dengan tiga peringkat pertumbuhan – telur, larva dan dewasa. Peringkat larvanya berada di dalam air manakala peringkat dewasanya bersifat daratan. Kebanyakan spesies Odonata menunjukkan dimorfisme seksual dengan individu jantan berwarna lebih menarik berbanding dengan individu betina. Semasa mengawan individu jantan dan individu betina akan bersambung untuk menghasilkan satu bentuk cinta yang unik dan cantik.

Odonata sering digunakan sebagai penanda biologi kepada kesihatan ekosistem air tawar. Ia juga merupakan satu kumpulan serangga estetik. Pemerhatian pepatung sebagai satu aktiviti eko-pelancongan semakin mendapat sambutan. Hampir 400 spesies Odonata yang terkandung dalam 17 famili boleh dijumpai di Malaysia. Sekurang-kurangnya 180 spesies merupakan pepatung dan 210 spesies merupakan pepatung jarum. Buku bergambar ini mempamerkan 69 spesies pepatung dan 73 spesies pepatung jarum. Ancaman utama kepada Odonata adalah kehilangan dan degradasi habitat akuatik. Adalah menjadi harapan bahawa buku ini dapat menanam kesedaran awam terhadap pemuliharaan Odonata.

INTRODUCTION

The publication of 'Ancient Creatures: Dragonflies and Damselflies of Malaysia - Malaysia Biodiversity Information System' is to document information on diversity of dragonflies and damselflies in Malaysia and to promote national biodiversity database known as Malaysia Biodiversity Information System (MyBIS) that can be accessed online via <http://www.mybis.gov.my>. MyBIS is the one-stop reference centre for biodiversity of Malaysia, established as part of Malaysia's commitment under the Convention on Biological Diversity.

Dragonflies and damselflies classified under the order Odonata are a group of conspicuous insects with two large compound eyes, two pairs of membranous wings, and a long slender body. Dragonflies and damselflies are distinguished by the compound eye position, the wing position at perching and the size and shape of forewing and hindwing. In dragonflies, the two compound eyes are normally touching each other, the wing pairs are spread out when perching, and the size of forewing is smaller than the hindwing. In damselflies, however, the two compound eyes are well separated, the wing pairs are normally folded when perching, and the forewing has the same size as the hindwing. Odonata undergoes incomplete metamorphosis with three growth stages – egg, larva and adult. The larval stage is spent in water whereas the adult stage is terrestrial. Most Odonata species display sexual dimorphism with more attractive colourful male individual compared to female individual. In mating the male and female individuals will be connected to form a beautiful and unique love shape.

Odonata is commonly used as a bio-indicator for the health of freshwater ecosystem. It is also a group of aesthetic insects. Dragonfly watching as an activity for eco-tourism has been getting more attention. Close to 400 Odonata species in 17 families are found in Malaysia. Of these, at least 180 species are dragonflies and not less than 210 species are damselflies. This picturesque book displays 69 dragonfly species and 73 damselfly species. The main threats to the survival of Odonata are loss and degradation of aquatic habitats. It is hope that this book will raise public awareness for the conservation of Odonata.



PENETASAN LARVA

Larva Odonata hidup dalam air tawar. Peringkat larva memakan masa dari dua minggu hingga beberapa bulan bergantung kepada spesies dan juga ketersediaan sumber makanan. Larva akan mengalami penyalinan kulit sebanyak 10 - 15 kali sebelum menjadi matang. Larva yang matang bersedia untuk menjalankan proses penetasan. Penetasan larva biasanya berlaku pada waktu malam atau awal pagi. Larva matang akan merangkak keluar daripada air dan melekat dirinya pada permukaan kering yang kuat. Bahagian belakang toraks mula meretak, dan serangga dewasa akan keluar daripada salut kulit larvanya secara perlahan-lahan. Bahagian kepala mula-mula muncul, diikuti kaki dan sayap. Proses penetasan akan berhenti sejenak untuk membolehkan kakinya mengeras. Kemudian, proses penetasan diteruskan dengan penarikan keluar abdomen daripada salut kulit larva. Akhirnya serangga dewasa berjaya keluar secara keseluruhan daripada salut kulit larvanya. Selepas itu, cecair badan mula dipamkan masuk ke dalam urat sayap, dan sayap mula berkembang. Pada masa yang sama, abdomen mula memanjang. Penetasan larva merupakan satu tempoh yang paling terdedah kepada ancaman daripada pemangsa dan hujan. Keseluruhan proses penetasan biasanya memakan masa lebih kurang 1 jam bagi papatung jarum dan 3 jam bagi papatung.



LARVAL EMERGENCE

The Odonata larvae live in fresh water. The larval stage takes two weeks to a few months depending on the species and food availability. Normally, larva will molt 10 - 15 times to reach the mature larval stage. The matured larva is ready for emergence. Usually, larval emergence takes place in the night or early morning. The matured larva will leave water and climb up to a solid dry surface. The dorsal part of the thorax starts to crack, and the adult insect emerges slowly from the larval skin. The head appears first, and this is followed by the legs and wings. The emergence process will then pause shortly to allow the legs to harden. Then, the emergence process continues with the withdrawal of the whole abdomen out from the larval skin. Finally, the whole adult insect is out from the larval skin. After that body fluid starts being bumped into the wing veins, and the wings slowly expand. At the same time, the abdomen is also expanding. Larval emergence is the most vulnerable period for the Odonata as it can be threatened by preying and rainfall. The whole larval emergence process will take roughly 1 hour for damselflies and 3 hours for dragonflies.



5



6



7



8



NE

54237

Zyxomma obtusum

White Duskdater
Female; larval emergence





PANDUAN MENGUNAKAN BUKU

USER'S GUIDE BOOK

- 1 Dengan mengimbas kod QR, pembaca boleh memperoleh maklumat tambahan berkaitan spesies tersebut melalui laman web MyBIS. Aplikasi kod QR boleh dimuat turun melalui *Google Play Store* atau *Apple App Store*.

By scanning the QR codes, it will enable readers to find more information related to the species via MyBIS website. The QR code reader app can be downloaded on Google Play Store or Apple App Store.

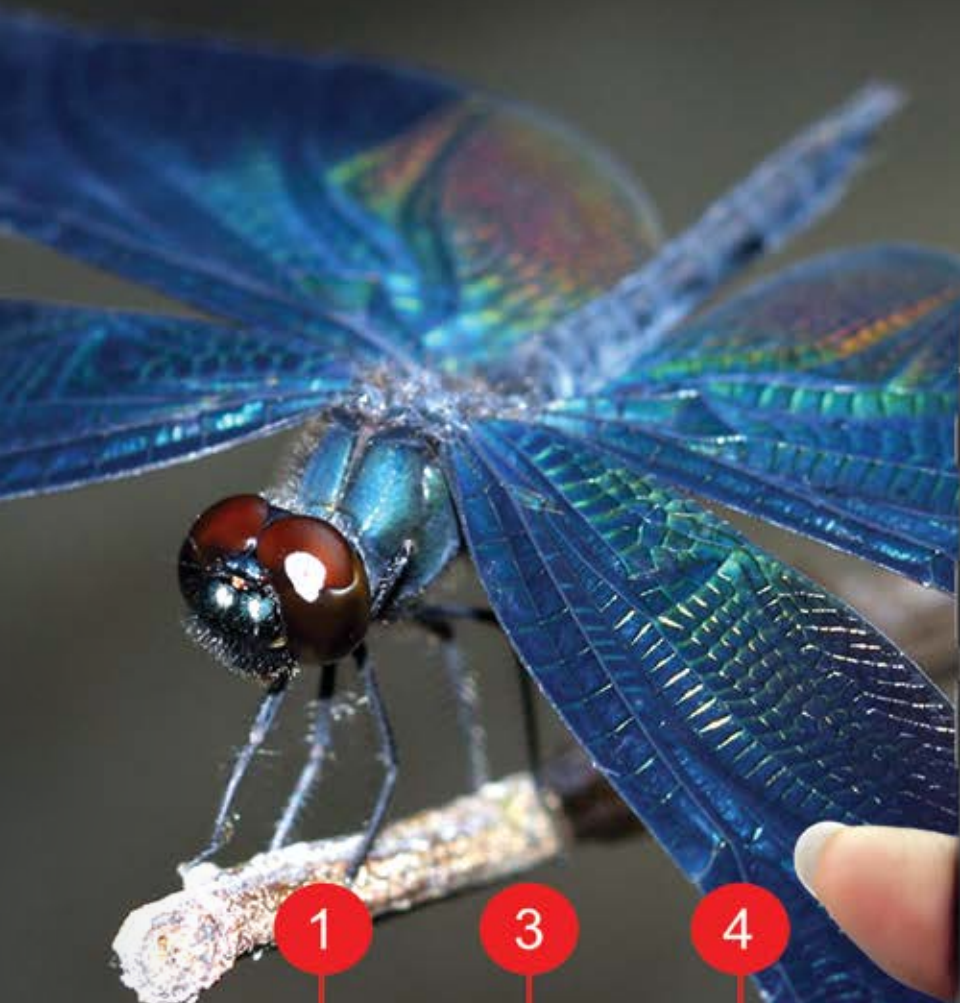
- 2 Senarai status pemuliharaan IUCN spesies dikelaskan kepada beberapa kategori iaitu bagi spesies yang amat terancam (CR), spesies yang terancam (EN), spesies yang terdedah kepada ancaman (VU), spesies yang hampir terancam (NT), spesies yang kurang membimbangkan (LC), spesies yang kekurangan data (DD) dan spesies yang tidak dinilai (NE). (Rujuk Senarai Merah IUCN: <http://www.iucnredlist.org>)

Shows the conservation status of the species whether it is under Critically Endangered (CR), Endangered (EN), Vulnerable (VU), Near Threatened (NT), Least Concern (LC) Data Deficiency or No Evaluation (NE). (Available from the IUCN Red List website: <http://www.iucnredlist.org>)

- 3 Nombor siri spesies dan MyBIS Bot Telegram berfungsi untuk membantu pengguna mencari spesies tanpa melakukan pengimbasan kod QR. Buka pelayar internet dan taip <http://www.mybis.gov.my/sp/xxxxx> (gantikan xxxxx dengan nombor siri tersebut) atau buka aplikasi *Telegram* dan buat carian 'mybisgovmy'. Seterusnya pengguna boleh melakukan carian spesies dengan lebih mudah.

This series number is to help you in searching the species without scanning the QR Code. Go to your internet browser and type www.mybis.gov.my/sp/xxxxx (replace xxxxx with the series number) or open Telegram app on your communication device and search for 'mybisgovmy'. You can then start search with this series number.

- 4 Nama saintifik bagi spesies
Scientific name of the species
- 5 Nama bahasa Inggeris bagi spesies
English name of the species
- 6 Penerangan ringkas berkaitan spesies
Simple description of the species



1

2

3

6

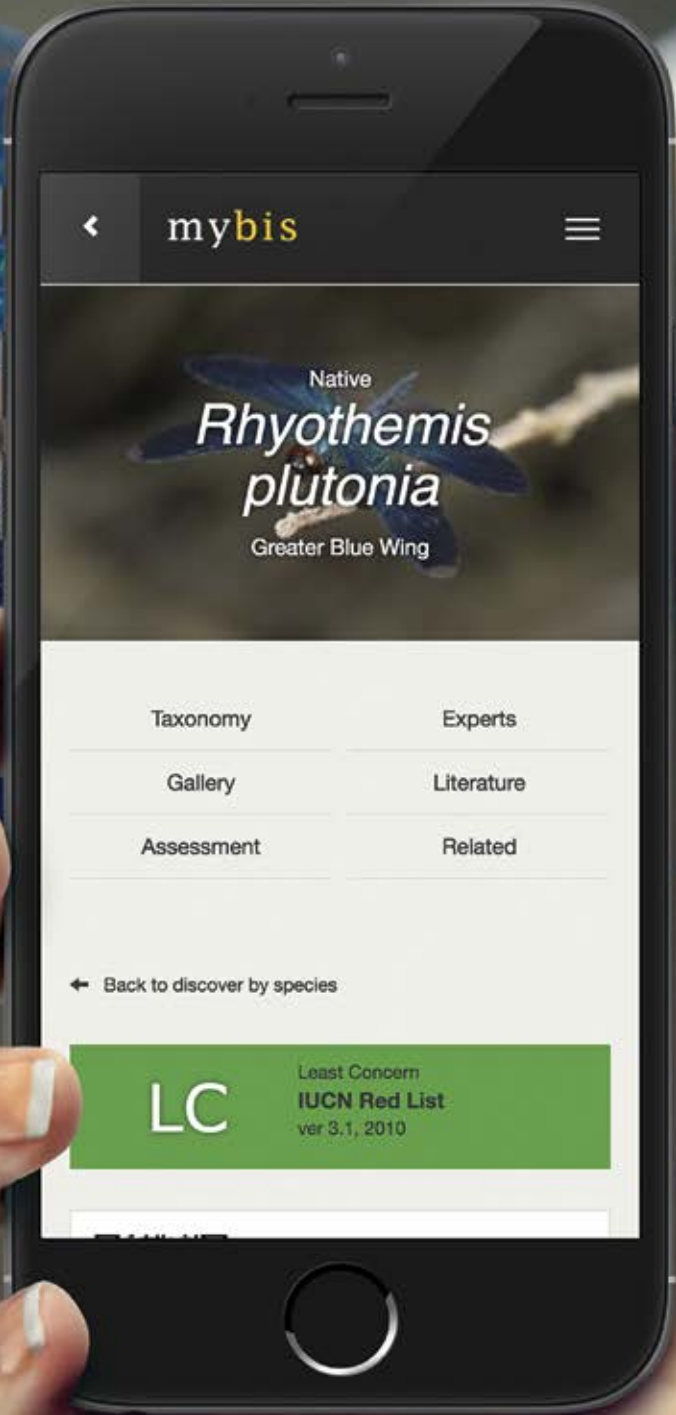
4

5

59108

Rhyothemis

Greater Blue Wing
Male; perching



mybis



Native

*Rhyothemis
plutonia*

Greater Blue Wing

Taxonomy

Experts

Gallery

Literature

Assessment

Related

← Back to discover by species

LC

Least Concern
IUCN Red List
ver 3.1, 2010

DAMSELFLIES







59286

Podolestes buwaldai

Buwalda's Flatwing
Male, perching

NE



56658

Podolestes orientalis

Blue-spotted Flatwing
Left is male; right is female

LC





53927

Neurobasis chinensis

Green Metalwing

Mating pair in wheel



Spesies ini merupakan salah satu spesies Odonata yang paling cantik di dunia kerana sayap belakangnya berwarna hijau logam. Ia kelihatan seakan-akan seekor kupu-kupu apabila ia berterbangan. Spesies pepadang ini mempunyai taburan yang luas di selatan Asia dan Asia Tenggara. Ia biasa dijumpai di kawasan air bersih yang mengalir di dalam hutan. Oleh yang demikian, ia merupakan salah satu spesies Odonata yang penting sebagai penanda biologi untuk kualiti air yang baik dalam ekosistem hutan. Spesies pepadang jarum ini menunjukkan dimorfisme seksual dengan individu jantan bersayap hijau logam dan individu betina bersayap lutsinar.

This species is one of the most beautiful Odonata species in the world due to its iridescent green hindwings. It resembles very much a butterfly while flying. This damselfly species has a wide distribution in southern part of Asia and Southeast Asia. It is commonly found at clean swift streams in the forest. Therefore, it is one of the Odonata species frequently used as a bioindicator for good water quality in forest ecosystem. This damselfly species shows sexual dimorphism with male individual having iridescent green wings and female individual having hyaline wings.



LC

54222

Vestalis amoena

Charming Flashwing
Male; perching



LC

53926

Vestalis gracilis

Clear-winged Flashwing
Male; perching



54221

Vestalis amethystina

Common Flashwing
Male; perching

Spesies pepatan jarum ini mempunyai badan berwarna hijau logam yang menarik. Ia adalah endemik kepada Borneo. Spesies ini agak unik jika dibanding dengan spesies *Vestalis* yang lain dengan mempunyai abdomen yang sangat panjang, iaitu 7 cm. Ia kerap dijumpai di cerun bukit dan permatang dalam hutan, tetapi kelimpahannya sentiasa tidak tinggi. Spesies ini agak berlainan dengan spesies *Vestalis* yang lain dari segi kelakuan bertelur. Individu betina *Vestalis beryllae* didapati bertelur di lubang air yang berlumpur dan berdaun reput manakala spesies *Vestalis* yang lain didapati bertelur di anak sungai.

This damselfly species has attractive metallic green body. It is endemic to Borneo. Among the Vestalis species, this species is quite unique for its very long abdomen, which can measure up to 7 cm. It is frequently found at slopes and ridges in the forest, but always present in low number. This species is also different from other Vestalis species in its egg-laying behaviour. Female individual of Vestalis beryllae was spotted to lay eggs in water pools with mud and death leaves while the other Vestalis species are found to lay eggs in swift forest streams.



58953

Vestalis beryllae

Long-tailed Flashwing
Male; perching

NE



58863

Libellago aurantiaca

Fiery Jewel

Female; laying eggs

Spesies *Libellago* agak unik jika dibandingkan dengan spesies papatung jarum yang lain kerana ia mempunyai sayap yang lebih panjang daripada abdomennya. Kebanyakan spesies *Libellago* adalah bersaiz kecil (panjang sayap belakang adalah 15–20 mm). Antara beberapa spesies *Libellago* yang ada di Malaysia, *Libellago aurantica* (jantan) agak menarik dengan badan berwarna kuning dan abdomen berwarna merah. Ia biasanya dijumpai di kawasan anak sungai di dalam hutan dengan aliran air yang perlahan. Spesies ini menunjukkan dimorfisme seksual dengan individu betina berwarna kuning keperangan. Individu betina kerap dijumpai bertelur secara berkumpulan di atas kayu reput yang separuh tenggelam dalam air yang mengalir.

Libellago species are quite unique if compared to other damselfly species because their wings are longer than their abdomen. Most of Libellago species are small in size (the hindwing length is 15–20 mm). Among the few Libellago species from Malaysia, Libellago aurantica (male) is particularly attractive with its yellow thorax and red abdomen. It is normally found at slow flowing forest streams. This species shows sexual dimorphism with female individual having yellowish brown body. Female individuals are frequently found to lay eggs in group at decayed logs half submerged in flowing water.







NE

58946

Rhinocypha spinifer

Male; perching



NE

54224

Sundacypha petiolata

Sunda Jewel
Male; perching





54361

Aristocypha fenestrella

Peacock Jewel
Male; perching

LC



53940

Heliocypha biforata

Magenta-backed Jewel
Male; perching

NT





54223

Heliocypha perforata

Common Blue Jewel
Male; perching



58864
Libellago hyalina

Clearwing Jewel
Male; perching

LC



53941
Libellago lineata

Golden Jewel
Mating pair in wheel

LC





Atas/Above



58943

Libellago stigmatizans

Orange-faced Jewel
Male; perching

Kiri/Left



59041

Libellago semiopaca

Yellow Jewel
Male; perching



NE

59050

Rhinocypha humeralis

Jewel

Top: Female; laying eggs

Bottom: Male; perching





NE

58945

Rhinocypha aurofulgens

Male; perching



NE

54033

Amphinemesis gracilis

Will-o-wisp
Female; perching

Pada zaman penjajahan British, Arthur Wheeler yang berumur 9 tahun telah menangkap seekor pepatung jarum di sebuah taman bunga di Butterworth, Pulau Pinang. Pakar Odonata Frederic Charles Fraser mendapati spesimen kering pepatung jarum tersebut adalah satu spesies baharu. Maka pada tahun 1942 spesies pepatung jarum itu diperihalkan dan dinamakan mengikut budak yang menangkapnya. Spesies ini agak langka. Selain daripada Butterworth, setakat ini ia hanya direkodkan di dua lokasi di Semenanjung Malaysia, iaitu Pulau Tioman (Pahang) dan Teluk Batik (Perak). Ia juga telah direkodkan di Singapura. Spesies ini biasanya dijumpai di kawasan hutan tepi pantai di mana air sungai mengalir keluar ke laut.

During British colonial time, the 9-year-old Arthur Wheeler caught a damselfly species from a garden in Butterworth, Penang. Later, the odonatologist Frederic Charles Fraser found that the dried damselfly specimen was a new species. Therefore, the damselfly species was described in 1942 and named after the kid who collected it. This species is not common. Apart from Butterworth, this species has so far been recorded from two locations in Peninsular Malaysia, i.e. Tioman Island (Pahang) and Teluk Batik (Perak). It has also been recorded from Singapore. This damselfly species is normally found at coastal forests where the fresh water flows into the sea.



59181

Mortonagrion arthuri

Arthur's Midget
Male; perching



59082

Aciagrion hisopa

Slim Blue
Male; perching

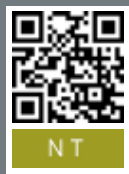


59299

Amphicnemis bebar

Male; perching





59096

Archibasis rebecca

Rebecca's Sprite
Male; perching

NT



58326

Argiocnemis rubescens

Variable Sprite
Mating pair in wheel



59099

Ceriagrion auranticum

Orange-tailed Sprite
Male; perching

LC



59100

Ceriagrion bellona

Male; perching



53932

Ceriagrion cerinorubellum

Ornate Coraltail
Mating pair in wheel



LC

59102

Ceriagrion chaoi

Fiery Coraltail
Tandem pair



LC

54032

Ischnura senegalensis

Common Bluetail
Mating pair in wheel



53938

Pseudagrion australasiae

Look-alike Sprite
Male; chewing food

LC



NE

59189

Pseudagrion pilidorsum

Red Sprite
Male; perching



LC

53935

Pseudagrion pruinsum

Grey Sprite
Male; perching





52318

Pseudagrion microcephalum

Blue Sprite
Male; perching



54031

Pseudagrion rubriceps

Orange-faced Sprite
Mating pair in wheel



LC

59190

Pseudagrion williamsoni

Williamson's Sprite
Male; perching



NE

Top
59194

Teinobasis laidlawi

Laidlaw's Sprite
Male; perching



NE

Bottom
59191

Stenagrion dubium

Male; perching





NE

Top
59196

Teinobasis ruficollis

Red-tailed Sprite
Male; perching



LC

Bottom
53975

Devadatta argyroides

Malayan Grisette
Mating pair in wheel





54225

Dysphaea dimidiata

Black Velvetwing
Male; perching

Spesies pepatung jarum is bersaiz sederhana (panjang sayap belakang adalah 31 mm) dan ia mempunyai badan yang agak pejal. Badan dan sebahagian sayapnya berwarna biru tua. Apabila dipancar cahaya matahari dengan sudut yang betul, ia akan mempamerkan kecantikan warna biru logam, terutamanya pada bahagian sayap. Individu betina kelihatan kurang menarik dengan badan perang kekuningan. Ia biasanya dijumpai di kawasan sungai dengan aliran air yang sederhana deras. Kadang-kadang individu jantan dijumpai dengan sayap terbuka semasa bertenggek. Ini merupakan satu kelakuan yang luar biasa bagi spesies pepatung jarum.

The size of this damselfly species is moderate (hindwing length is 31 mm), and its body is quite heavily built. Its whole body and parts of its wings are in dark blue. Under the sun at certain angle, it displays the beautiful iridescent blue colour on its wings. Female individual is rather dull in colour with yellowish brown. This species is normally found at slow flowing streams. Sometimes, male individual is spotted perching with its wings outspread. This open wing perching behaviour is quite extraordinary for damselfly species.



NE

58948

Euphaea tricolor

Male; perching



LC

54340

Euphaea impar

Blue-sided Satinwing
Male; perching



LC

59070

Euphaea masoni

Male; perching





NE

58947

Euphaea subnodalis

Mating pair in wheel

Indolestes dajakanus adalah spesies pepatung jarum yang bersifat langka, dan ia adalah endemik kepada Sarawak. Ia diperihalkan pada tahun 1954 daripada satu spesimen kering dari Sarawak. Spesimen kering tersebut hanya dilabelkan dengan nama tempat, iaitu Kuching. Maklumat biologi dan ekologinya tidak diketahui. Sejak pemerihalnya, spesies pepatung jarum ini tidak pernah dijumpai oleh pakar Odonata. Saya sangat bernasib baik kerana memperoleh spesimen tambahan di Paya Maga, Sarawak pada tahun 2010. Saya juga berhasil merakam gambar-gambar berharga spesies ini secara hidup, dan salah satu gambarnya dipaparkan di sini. Spesies pepatung jarum ini dijumpai di kawasan tanah tinggi (1600 m daripada aras laut) pada kolam air berumput.

Indolestes dajakanus is a rare damselfly species, and it is endemic to Sarawak. It was described in 1954 from a single dried specimen collected from Sarawak. The specimen was labelled with the name of town Kuching. The biological and ecological information of the species is unknown. Since its description, this species has not been encountered by any odonatologists. I was very fortunate to acquire additional specimens from Paya Maga, Sarawak in 2010. I also managed to capture the precious photos of the species in live, and one of the photos is shown here. This damselfly species is found at grassy ponds in highlands (1600 m above sea level).



59073

Indolestes dajakanus

Male; perching

NE



LC

59074

Lestes dorothea

Tandem pair; female laying eggs



LC

59270

Lestes praemorsus

Crenulated Spreadwing
Male; perching



56409

Orolestes wallacei

Great Spreadwing
Male; peching

LC



NE

59078

Rhinagrion macrocephalum

Western Signaltail
Male; perching



LC

59079

Rhinagrion viridatum

Female; laying eggs



59272

Rhinagrion elopuræ

Male; perching







NE

58327

Calicnemia rectangulata

Male (left) and Female (top);
perching

Spesies pematung jarum ini agak menarik dengan kehadiran warna merah pada segmen abdomen kedua dan ketiga. Bahagian badan yang lain adalah berwarna hitam. Individu jantan dan individu betina mempunyai corak pewarnaan yang lebih kurang sama. Namun, jalur kuning pada bahagian toraks lebih ketara pada individu betina. Ia adalah spesies tanah tinggi dan endemik kepada Semenanjung Malaysia. Ia biasanya dijumpai di kawasan paya dan air mata dalam hutan. Namun demikian, ia adalah spesies langka dan bersifat setempat. Ia pernah direkodkan di Cameron Highlands, Bukit Fraser dan Genting Highlands.

This damselfly species is quite attractive with its second and third abdominal segments in red colour. The other parts of its body are in black colour. Male and female individuals have similar colour markings. However, the yellow strips on thorax are more obvious in female individual. Calicnemia rectangulata is a highland species, and it is endemic to Peninsular Malaysia. It is normally found at swamps and springs in forest. However, it is quite rare and local. This species has been recorded from Cameron Highlands, Fraser's Hill and Genting Highlands.



59200

Calicnemia chaseni

Tandem pair

LC





54372

Coeliccia albicauda

White-tailed Sylvan
Male; perching

LC



59203

Coeliccia campioni

Male; perching

NE



53942

Coeliccia didyma

Twin-spotted Sylvan
Male; perching



54034

Coeliccia octogesima

Telephone Sylvan
Male; perching





LC

50527

Copera marginipes

Yellow Featherlegs
Mating pair in wheel



LC

50529

Copera vittata

Variable Featherlegs
Male; perching





NE

59214

Elattonneura analis

Orange-tipped Threadtail
Male; perching



NE

59215

Elattonneura aurantiaca

Male; perching



LC

54037

Pseudocopera ciliata

Light Blue Featherlegs
Male; perching



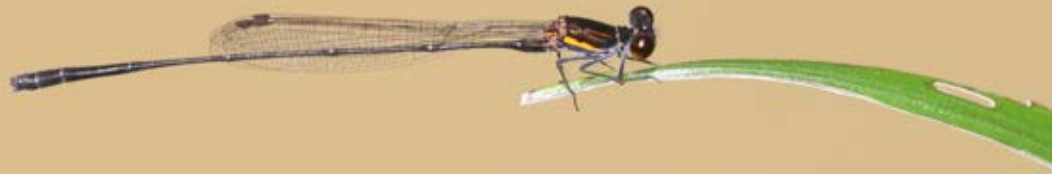


NE

58965

Prodasineura dorsalis

Orange Threadtail
Mating pair in wheel



NE

53987

Prodasineura humeralis

Orange-striped Threadtail
Male; perching



LC

53986

Prodasineura laidlawii

Laidlaw's Threadtail
Mating pair in wheel



54595

Prodasineura notostigma

Crescent Threadtail
Mating pair in wheel





NT

53917

Drepanosticta fontinalis

Male; perching



NE

58959

Drepanosticta rufostigma

Male; perching





DD

58866

Drepanosticta sharpi

Male; perching



NE

58960

Drepanosticta versicolor

Mating pair in wheel



NE

59312

Telosticta janeus

Male; perching



Telosticta janeus merupakan satu spesies pepatung jarum yang menarik dengan warna mata biru muda dan jalur biru muda pada bahagian toraks. Ia biasa dijumpai di kawasan anak sungai di pedalaman hutan. Setakat ini, spesies ini hanya diketahui wujud dari dua lokasi di Sabah iaitu Lembah Danum dan Imbak Canyon. Spesies ini telah diperihal pada tahun 2012 berdasarkan spesimen di National Museum of Natural History Laiden (Belanda) yang dikutip dari Lembah Danum pada tahun 1987. Ia agak langka dan bersifat setempat. Individu betina mempunyai corak penjaluran yang sama dengan individu jantan. Di Lembah Danum, individu betina didapati bertelur di atas dahan kecil atau ranting pokok yang menutupi anak sungai.

Telosticta janeus is an attractive damselfly with light blue eyes and light blue strips on thorax. It is normally found at streamlets in deep jungle. It has so far been known from two locations in Sabah - Danum Valley and Imbak Canyon. It was described in 2012 based on specimens in National Museum of Natural History Laiden (the Netherlands) collected from Danum Valley in 1987. It is rare and very local. The female has similar body marking as the male. In Danum Valley, the female was spotted to lay eggs on small tree branches or twigs overhanging streamlets.

DRAGONFLIES







59174
Anax panybeus

Male; perching



59164
Gynacantha basiguttata

Spoon-tailed Duskhawker
Female; perching



NE

59168

Gynacantha limbalis

Margin-winged Duskhawker
Female; perching



LC

59161

Heliaeschna idae

Poned Nighthawker
Male; perching



LC

54228

Indaeschna grubaueri

Junglehawk
Male; perching



LC

53923

Epophthalmia vittigera

Pond Cruiser
Male; perching





54027

Ictinogomphus decoratus

Common Flangetail
Male; perching

Kebanyakan spesies Odonata dalam famili Gomphidae merupakan penghuni hutan, dan mereka tidak mudah dijumpai. Namun, *Ictinogomphus decoratus* daripada famili Gomphidae bukan penghuni hutan, dan ia biasanya dijumpai di parit, kolam dan tasik di kampung dan kawasan luar bandar. Ia kerap kelihatan bertenggek dan meronda di pinggir air. Spesies pematung ini bersaiz besar dengan sayap belakang berukuran 39 mm. Struktur badannya agak pejal dan kuat. Individu jantan dan individu betina mempunyai corak warna yang lebih kurang sama.

Most of the members in family Gomphidae are forest species, and they are not easily encountered. However, Ictinogomphus decoratus from the family Gomphidae is not a forest species. It is normally found at drainages, ponds and lakes in countryside. It is frequently spotted perching and patrolling water edge. This dragonfly species is large in size, and its hindwing can measure up to 39 mm. Its body is heavily built. Male and female individuals have similar body markings.



54028

Microgomphus chelifer

Tiny Sheartail
Male; perching



Antara spesies Odonata daripada famili Gomphidae, *Microgomphus chelifer* merupakan spesies yang paling kecil dengan panjang sayap belakang berukuran 19 mm. Individu jantan dan betina mempunyai corak penjaluran badan yang lebih kurang sama. Spesies ini mempunyai taburan yang luas di Sundaland. Ia sering dijumpai di sungai berbatu dan berpasir di dalam hutan. Kadang-kadang individu betina kelihatan membawa kelompok telur di hujung abdomen berdekatan sungai untuk bertelur. Satu kelompok telur boleh mengandungi beratus-ratus biji telur yang kecil.

Among the Odonata species from the family Gomphidae, Microgomphus chelifer is the smallest in size with hindwing measuring up to 19 mm. Male and female individuals have similar markings on body. This species has a wide distribution in Sundaland. It is normally found at forest streams with gravel and sand bottom. Sometimes, female individual is spotted with a cluster of eggs at the tip of her abdomen. An egg cluster consists hundreds of tiny eggs.



NE

54588

Burmagomphus insularis

Male; perching



LC

59238

Gomphidictinus perakensis

Male; perching



59234

Ictinogomphus acutus

Male; perching



59328

Leptogomphus tioman

Tioman Clubtail
Male; perching





LC

59228

Macrogomphus parallelogramma

Male; perching



NE

54345

Onychogomphus thienemanni

Narrow-banded Claspertail
Male; perching



53944

Aethriamanta gracilis

Pond Adjutant

Left: Female; perching

Right: Male; perching



53966

Nannophya pygmaea

Scarlet Pygmy
Male; perching

LC

Nannophya pygmaea merupakan salah satu spesies pepatung yang paling kecil di dunia dengan ukuran sayap belakang 12 mm dan panjang keseluruhan badan 17 mm. Ia mempunyai taburan yang agak luas dari subtropika Asia ke Australasia. Ia biasanya dijumpai di kawasan paya dan kolam berumput yang terdedah di tepi hutan. Individu jantan agak menarik dengan badan berwarna merah cerah manakala individu betina pula berwarna kuning keperangan. Ia sentiasa kelihatan bertenggek dengan bukaan sayap tertekan ke bawah.

Nannophya pygmaea is one of the smallest dragonfly species in the world. The hindwing only measures up to 12 mm, and the whole body length is 17 mm. It has a wide distribution from subtropical Asia to Australasia. It is normally found at swamps, marshes and grassy ponds at forest edge. Male individual is quite attractive with bright red body, while the female individual is brownish yellow. It is always spotted perching with depressed wings.



50952
Agrionoptera insignis

Grenadier
Male; perching

LC



59131
Camacinia gigantea

Sultan
Male; perching

LC



59137

Agrionoptera sexlineata

Handsome Grenadier
Male; perching

NE



50240

Brachythemis contaminata

Common Amberwing
Male; perching

LC



53947

Diplacodes trivialis

Blue Percher
Male; perching

LC



59125

Indothemis carnatica

Light-tipped Demon
Male; perching

NT



59126

Indothemis limbata

Restless Demon
Male; perching

LC



54590

Lathrecista asiatica

Scarlet Grenadier
Male; perching

LC





LC

59115

Orthetrum triangulare

Triangle Skimmer
Male; perching



LC

53971

Pseudothemis jorina

Banded Skimmer
Male; perching



54030

Tholymis tillarga

White-barred Duskhawk
Male; perching

LC

Kebanyakan spesies Odonata menjadi aktif pada waktu siang di bawah matahari yang terik. *Tholymis tillarga* berkelakuan lain sedikit, ia hanya aktif pada waktu senja, 2-3 jam sebelum matahari benam. Pada waktu senja, ia kelihatan meronda di kolam dan tasik dengan aktif. Tompok putih pada sayap belakangnya kelihatan unik apabila ia terbang mengelilingi kolam dan tasik. Kadang-kadang ia tertarik kepada cahaya lampu rumah pada waktu malam. Pada waktu siang, ia didapati sembunyi di celah-celah tumbuhan dengan bertenggek secara berjuntai. Individu jantan berwarna merah pada toraks dan abdomen dengan kehadiran tompok putih pada sayap belakang manakala individu betina berwarna kuning keperangan tanpa tompok putih pada sayap.

Most Odonata species are active in day time on hot sunny day. However, Tholymis tillarga behaves oddly as it is only active at dusk, 2-3 hours before sunset. At dusk it is found patrolling ponds and lakes actively. The white patches on its hindwings are particularly unique when in flight. Sometimes, it is attracted to artificial light at night. In day time, it hides in vegetation perching by hanging down its body. Male individual is in red colour on its body with the presence of white patches on wings. On the other hand, female individual has brownish yellow body without white patches on wings.



LC

53968

Acisoma panorpoides

Trumpet Tail

Male (left) and female (right); perching



LC

59138

Aethriamanta brevipennis

Scarlet Adjudant

Male; perching





Antara spesies Odonata yang ada di Malaysia, *Trithemis aurora* merupakan salah satu spesies yang agak biasa dijumpai. Ia mempunyai taburan yang luas di Asia tropika. Ia (individu jantan) merupakan spesies yang paling *sexy* kerana keseluruhan badannya berwarna merah jambu. Urat sayapnya juga berwarna jambu. Spesies ini menunjukkan dimorfisme seksual dengan individu betina berwarna kuning keperangan. Ia kerap dijumpai di kolam dan parit di kawasan kampung dan luar bandar. Ia sentiasa kelihatan bertenggek dengan bukaan sayap tertekan ke bawah.

Among the Odonata species in Malaysia, Trithemis aurora is one of the very common species. It has a wide distribution in tropical Asia. It is (male individual) claimed to be the most sexy species due to its pink body colour. The wing veins are also in pink colour. This species displays sexual dimorphism with female individual being brownish yellow in colour. It is normally found at ponds and drainages at countryside. It frequently spotted perching with depressed wings.



53954

Trithemis aurora

Crimson Dropwing
Male; perching



NE

59251

Chalybeothemis chini

Male; perching



54367
Cratilla lineata

Lined Forest-skimmer
Male; perching

LC



54230
Cratilla metallica

Dark-tipped Forest-skimmer
Male; perching

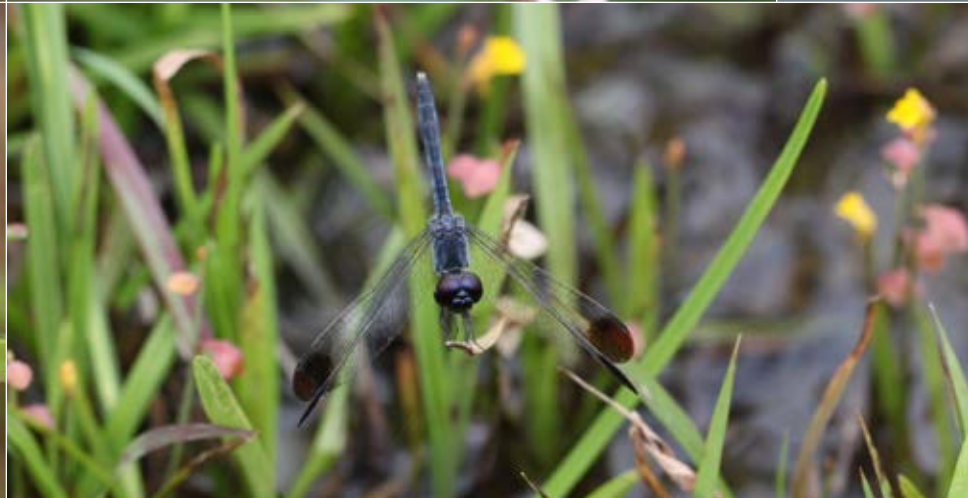
LC



53955
Crocothemis servilia

Common Scarlet
Male; perching

LC



59129
Diplacodes nebulosa

Black-tipped Percher
Male; perching

LC



59113

Raphismia bispina

Mangrove Dwarf
Male; perching

LC

Kawasan paya bakau mempunyai kemasinan air yang tinggi, dan tidak banyak spesies Odonata yang boleh bertoleransi dengan air masin. *Raphismia bispina* yang bersaiz sederhana didapati telah beradaptasi kepada persekitaran air masin di kawasan paya bakau. Di bahagian bawah toraks tidak jauh dari kaki belakang terdapat sepasang struktur duri yang pendek dan tajam. Struktur duri ini dipercayai membantu serangga mengeluarkan garam berlebihan daripada badan. Spesies pematung ini selalu dikelirukan dengan *Brachydiplax chalybea* yang lebih biasa dijumpai kerana kedua-dua spesies ini mempunyai warna biru yang lebih kurang sama. Walau bagaimanapun, *Raphismia bispina* bersaiz lebih kecil berbanding *Brachydiplax chalybea*. Spesies pematung ini menunjukkan sifat dimorfisme seksual. Individu jantan berwarna biru dan individu betina berwarna gelap dengan jalur kuning pada toraks dan abdomen.

*Water in mangrove area has high salinity, and not many Odonata species can tolerate to salty water. *Raphismia bispina* with a moderate size has adapted to salty environment in mangrove swamps. Beneath its thorax not far from its hind legs is a pair of short sharp spines. This spine structure is believed to help the insect secreting excessive salt from its body. This dragonfly species is always confused with the more common *Brachydiplax chalybea* due to the resemblance in body colour. However, *Raphismia bispina* is smaller in size compared to *Brachydiplax chalybea*. This species displays sexual dimorphism. Male individual is in blue colour while female individual is rather dark with yellow strips on thorax and abdomen.*



LC

53956

***Brachydiplax
chalybea***

Blue Dasher
Male; perching



LC

59123

Nesoxenia lineata

Striped Grenadier
Male; perching



50236
Neurothemis fluctuans

Common Parasol
Male, perching



53958
Neurothemis fulvia

Fulvous Forest Skimmer
Male; perching





56546

Neurothemis ramburii

Red Percher
Male; perching

LC



59121

Neurothemis terminata

Straight-edge Red Parasol
Male; perching

LC





54233

Onychothemis culminicola

Male; perching



54355

Onychothemis coccinea

Orange Riverdarter
Male; perching





54029

Onychthemis testacea

Riverhawk
Male; perching

LC



LC

59118

Orchithemis pulcherrima

Variable Sentinel
Mating pair in wheel



LC

53963

Orthetrum chrysis

Spine-tufted Skimmer
Mating pair in wheel



LC

53948

Orthetrum glaucum

Common Blue Skimmer
Mating pair in wheel



LC

54234

Orthetrum luzonicum

Slender Blue Skimmer
Male; perching



50495

Orthetrum testaceum

Scarlet Skimmer
Mating pair in wheel



LC

53962

Orthetrum sabina

Variegated Green Skimmer
Mating pair in wheel



LC

54378

Orthetrum pruinosum

Pink Skimmer
Male; perching



59108

Rhyothemis plutonia

Greater Blue Wing
Male; perching

LC

Spesies pematung ini adalah cukup elegan daripada segi warnanya. Keseluruhan badan, kaki dan sayapnya berwarna hitam logam kecuali matanya berwarna perang kemerahan. Di bawah pancaran cahaya matahari, sayapnya boleh mencerminkan warna biru dan ungu kehijauan. Individu jantan dan individu betina mempunyai corak warna yang sama. Ia mempunyai sayap belakangnya yang lebar. Apabila terbang, ia kelihatan seakan-akan sehelai daun berwarna gelap terapung-apung di udara. Walaupun spesies ini bertaburan luas di Asia tropika, ia bersifat langka dan setempat. Ia biasanya dijumpai di kolam dan kawasan paya di pinggir hutan.

This dragonfly species looks very elegant for its colour. The whole body, legs and wings are in black colour except the eyes which are in reddish brown. Under the sun, the iridescent wing may beautifully reflect colour in blue and purplish green. The male and female individuals have similar colour marking. It has broad hindwings. When in flight it looks like a dark leaf floating in the air. Even though it has a wide distribution in tropical Asia, it appears to be rare and local. It is normally found at ponds and swamps at the forest edge.



59106
Rhythemis aterrima

Black Flutterer
Mating pair in wheel

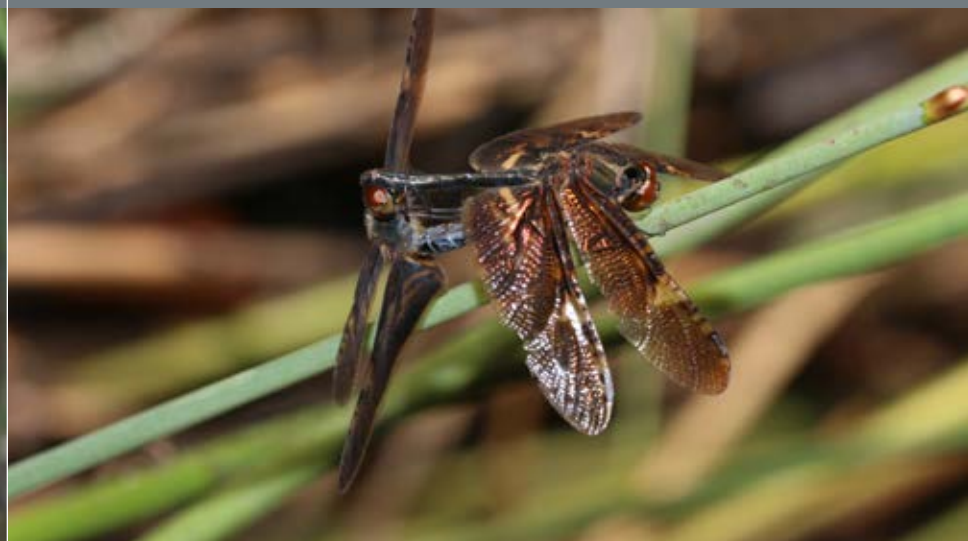
LC



59107
Rhythemis obsolescens

Bronze Flutterer
Mating pair in wheel

LC



53967
Rhythemis phyllis

Yellow-barred Flutterer
Female; perching

LC



59111
Rhythemis triangularis

Sapphire Flutterer
Mating pair in wheel

LC





50531
Tetrathemis irregularis

Elf
Male; perching

LC



54356
Tetrathemis platyptera

Pigmy Skimmer
Male; perching

LC



LC

53957

Trithemis festiva

Indigo Dropwing
Male; perching



LC

59066

Trithemis pallidinervis

Dancing Dropwing
Male; perching



LC

59061

Urothemis signata

Scarlet Basker
Male; perching



LC

59059

Zygonyx ida

Ida's Cascader
Male; perching



54236

Zygonyx iris

Iridescent Stream Glider
Male; perching

LC



59146

Macromia cincta

Steam Cruiser
Female; perching

NE



59152

Macromia moorei

Macromia moorei
Male; perching

LC





NE

53925

Idionyx yolanda

Shadowdancer
Male; perching

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BIODATA

BIODATA



Dr. Chee Yen Choong
Pensyarah
Fakulti Sains dan Teknologi

Dr. C.Y. Choong bekerja dengan Universiti Kebangsaan Malaysia sebagai pensyarah di Fakulti Sains dan Teknologi sejak 1999. Beliau berminat dalam fotografi makro terutamanya untuk pematung dan pematung jarum, dan beliau berhajat untuk mengambil gambar untuk semua spesies Odonata yang ada di Malaysia. Disebabkan minatnya dalam fotografi Odonata, beliau mula mempelajari dan mengkaji Odonata sejak 2005. Penyelidikan Odonata beliau lebih tertumpu kepada kepelbagaian biologi dan taksonomi. Setakat ini, beliau bersama dengan rakan berjaya memperihalkan tiga spesies baharu pematung dan empat spesies baharu pematung jarum dari Malaysia dan Brunei. Beliau pernah membantu Kesatuan Antarabangsa untuk Pemuliharaan Alam (IUCN) untuk menentukan status konservasi spesies Odonata di rantau Asia Tenggara. Beliau juga bekerjasama rapat dengan Jabatan Perlindungan Hidupan Liar (PERHILITAN) dan Wetlands International Malaysia.

Dr. C.Y. Choong has been working with Universiti Kebangsaan Malaysia as a lecturer in Faculty of Science and Technology since 1999. He has profound interest in macro photography especially on dragonflies and damselflies, and he intends to capture photos of all Odonata species occurring in Malaysia. Due to his interest in Odonata photography, he has started to learn and study the Odonata since 2005. His Odonata research more focuses on the biodiversity and taxonomy. Up to date, he and his colleagues have successfully described three new dragonfly species and four new damselfly species from Malaysia and Brunei. He helped International Union for Conservation of Nature (IUCN) to assess the conservation status of Odonata for the Southeast Asia region. He also works closely with Department of Wildlife and National Parks (PERHILITAN) and Wetlands International Malaysia.



KUMPULAN PENGURUSAN PROJEK

PROJECT MANAGEMENT TEAM

Penasihat Projek

Project Advisors



1 DATO' DR. TAN YEW CHONG

2 DATO' HAJI SUHAIMI HAJI MAMAT

3 DATO' WAN MAZLAN WAN MAHMOOD

4 DR. MEGAT SANY MEGAT AHMAD SUPIAN

5 DR. AZALIA MOHAMED

Penyunting

Editors



6 DR. CHEE YEN CHOONG

7 YASSER MOHAMED ARIFIN

8 NURFARHANA HIZAN HIJAS

Kumpulan Pengurusan Projek

Project Management Team



9 DR. KHAIRUL NAIM ADHAM

10 NOOR ASHIKIN MOHAMAD

11 ABDUL RAZAK MOHD NOR RASID

12 AJLA RAFIDAH BAHAROM

13 BADRUL AMIN JAFFAR

14 HAMIAH MAMAT

15 TAN KOK KIAT

16 AHMAD AMIR FIRDAUS MAD APANDI

17 NORAYUNI RAMLEE







Buku ini mengandungi maklumat yang terkini tentang kekayaan spesies pepatung dan pepatung jarum di Malaysia yang dipersembahkan secara jelas dan menarik. Gambar-gambar yang terbaik telah dipilih untuk menyerikan halaman buku ini, lengkap dengan kod QR maklumat tambahan di laman sesawang Malaysia Biodiversity Information System (MyBIS). Tujuan laman sesawang ini adalah untuk menjadikan pusat repositori yang merangkumi maklumat kepelbagaian biologi di Malaysia.

Hampir 400 spesies Odonata yang terkandung dalam 17 famili boleh dijumpai di Malaysia. Sekurang-kurangnya 180 spesies merupakan pepatung dan 210 spesies merupakan pepatung jarum. Buku siri kepelbagaian biologi 'Ancient Creatures: Dragonflies and Damselflies of Malaysia' memaparkan sejumlah 69 spesies pepatung dan 73 spesies pepatung jarum yang kebanyakannya boleh didapati di seluruh Malaysia.

This book presents the latest information on the richness of dragonflies and damselflies species in Malaysia. Enrich with carefully selected pictures, this book also includes QR codes linking to additional information on the Malaysia Biodiversity Information System (MyBIS) website. This website purpose is to become an online repository centre that includes information on Malaysian biological diversity.

Nearly 400 species of Odonata contained in 17 families can be found in Malaysia. At least 180 species are dragonflies and 210 species are damselflies. This MyBIS book series 'Ancient Creatures: Dragonflies and Damselflies of Malaysia' highlights a total of 69 species of dragonflies and 73 species of damselflies which can be found throughout Malaysia.

