

Hymenoptera (Formicidae) – Ants

WENDY Y. WANG

Scientific Name:
Eurhopalothrix heliscata
Wilson & Brown, 1985

Common Name:
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Order/Family:
Hymenoptera: Formicidae

National Status: Endangered (EN)

Habitat and Ecology: This species is associated with primary or old/mature secondary forests in Singapore. Nests are usually found in soil within or under rotting wood or fallen logs. The ants are known to be generalized termite feeders, though they have also been observed to hunt other insects occasionally. Unlike many more prominent ant species, *E. heliscata* are solitary huntresses that do not engage in mass hunting raids.

Distribution: Malaysia, Singapore, Thailand

Threats: Anthropogenic development and habitat conversion or destruction.



Full face of *Eurhopalothrix heliscata*.

Scientific Interest and Potential Value: The species was originally discovered in and described from Singapore. Their cryptic habits and reduced behavioural repertoire distinguish it from most other ants of the same subfamily. The ants are unique in their slow movements even while hunting, tendencies for prolonged periods of rest away from the brood, and atypical defensive strategies such as cryptic colouration and feigning death.

Conservation Measures: The Bukit Timah and Central Catchment Nature Reserves provides protected and managed habitat.

Scientific Name:
Harpegnathos venator
(Smith, 1858)

Common Name:
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Order/Family:
Hymenoptera: Formicidae



Profile of *Harpegnathos venator*.

National Status: Critically Endangered (CR)

Habitat and Ecology: This species is associated with primary or mature secondary forests in Singapore, typically found in fringe forest or near forest edges. Individuals have been found foraging on the forest floor. Nests have been observed to be underground in soil with funnel entrances.

Distribution: Bangladesh, Borneo, China (southern), India, Indonesia, Laos, Malaysia (Peninsular), Myanmar, Singapore, Thailand.

Threats: Anthropogenic development and habitat conversion or destruction. Also human disturbance or poaching for the pet trade.

Scientific Interest and Potential Value: Nest structures of *H. venator* are known to be as unusually complex as are those of its sibling species *H. saltator*. For mature colonies of both species, the nest comprises stacked chambers that form a rounded structure, topped off with a thick vaulted roof, and kept apart from surrounding substrate by an empty space. This nest design has been postulated to be a countermeasure against periodic floods – the empty space may help divert or drain flood water from the nest (Peeters et al. 1994).

Conservation Measures: The Central Catchment Nature Reserve provides protected and managed habitat.

Scientific Name:

Odontomachus litoralis Wang,
Yamada & Yamane, 2020

Common Name:

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Order/Family:

Hymenoptera: Formicidae

National Status: Vulnerable (VU)

Habitat and Ecology: This large maritime trap-jaw ant is found exclusively in the mangroves. The ants usually nest in abandoned mud lobster (*Thalassina* sp.) mounds, which are either partially or fully submerged in seawater during high tides. Nests have also been reported from soil mounds among roots of uprooted trees. Workers of this species forage on mud and debris in and around mangrove back forests during low tide. The ants are believed to feed mostly on small invertebrates such as crabs and isopods that co-exist in the mangroves.

Distribution: Borneo, Peninsular Malaysia, Singapore.

Threats: Coastal habitat conversion and destruction.

Photo: Aiki Yamada



Left image: Full face of *Odontomachus litoralis* – Worker. Right image: Full face of *Odontomachus litoralis* – Male.

Scientific Interest and Potential Value: This species was originally described from Singapore. The type series – comprising a colony of workers, queens, and males – of *O. litoralis* was collected from Sungei Buloh Wetland Reserve. *Odontomachus litoralis* is one of two known trap-jaw ant species in the world – the other being *O. malignus* Smith, 1859 – which nest in intertidal coastal zones. Both species have been recorded from Singapore, but they seem to occupy different niches. *Odontomachus malignus* has been found near coral rubble along coastlines, while *O. litoralis* appears to be predominant in local mangroves.

Conservation Measures: The continued protection and management of Sungei Buloh Wetland Reserve should provide protected and managed habitat.

Scientific Name:
Pheidole sexspinosa
Mayr, 1870

Common Name:
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Order/Family:
Hymenoptera: Formicidae

National Status: Vulnerable (VU)

Habitat and Ecology: In Singapore, this species appears associated exclusively with mangroves. The ants have been found nesting in abandoned mud lobster (*Thalassina* sp.) mounds, also in cable roots of mangrove trees such as *Excoecaria agallocha* L., and in decayed or living stems of *Rhizophora* above tide immersion levels. In other parts of the world, namely islands in Oceania, *P. sexspinosa* has been recorded from more inland forests.

Distribution: Singapore, Oceania (most major islands).

Threats: Coastal habitat conversion and destruction.

Scientific Interest and Potential Value: The first and currently the only record of this species in the Oriental region – outside of Oceania and Australasia – is from Singapore. The discovery of *P. sexspinosa* in Singapore

Photo: Aki Yamada



Profile of *Pheidole sexspinosa* - Worker.

challenges the hypothesis that the species originated in New Guinea and colonized eastward to most of the remote Pacific, rather than westward to Sundaland (Economo et al. 2015, Wang et al. 2018). The unusually broad distribution of *P. sexspinosa* may have occurred by means of 1) human-mediated dispersal, or 2) dispersal via seasonal circulatory currents between the west Pacific Ocean and the South China and Java Seas. Viviparous seeds of *E. agallocha* – a mangrove tree species known to house *P. sexspinosa* colonies – can be transported over long distances by ocean currents.

Conservation Measures: The continued protection and management of Sungei Buloh Wetland Reserve should provide protected and managed habitat.

Scientific Name:
Rhopalomastix glabricephala
Wang, Yong & Jaitrong, 2018

Common Name:
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Order/Family:
Hymenoptera: Formicidae

Photo: Wendy Y. Wang



Profile of *Rhopalomastix glabricephala* - Worker.

National Status: Critically Endangered (CR)

Habitat and Ecology: The type series was found in mature native-dominated secondary forest – the ants were nesting in bark of a large Tembusu tree (*Cyrtophyllum fragrans*). Like other congeners, *R. glabricephala* live with armoured scale insects (Diaspididae) in bark tunnels/cavities. The ants provide the diaspidids with protection and shelter, in exchange for the waxy secretions of the latter – a protein-rich food source for the ants.

Nests of *Rhopalomastix* ants in general can usually be detected by the presence of “frass” on the external bark surface. Frass comprises trails of powdered wood debris or residue generated and “pushed” through bark fissures when the ants chew tunnels through inner bark layers.

Distribution: Singapore

Threats: Anthropogenic development and habitat conversion or destruction.

Scientific Interest and Potential Value: This species is only known from its type series collected from a single locality in Singapore. *Rhopalomastix glabricephala* resembles the more widespread (but still uncommon) *R. murphyi* but can be differentiated mainly by head shape and the presence of decumbent hairs on the anterior petiolar face (hairs absent in *R. murphyi*).

Conservation Measures: The type (and globally the only) locality for the species is close to Central Catchment Nature Reserve and may need additional protection.

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Lepidoptera – Butterflies

KHEW SIN KHOON, HORACE TAN, TEA YI-KAI, AARON SOH, JONATHAN SOONG

Scientific Name:
Troides helena cerberus
(C. & R. Felder, 1865)

Common Name:
Common Birdwing

Family:
Papilionidae



Photo: Khew Sin Khoon

National Status: Vulnerable (VU)

Habitat and Ecology: The Common Birdwing survives in a variety of habitats but is essentially a forest species. It is more regularly observed where its caterpillar host plant, *Aristolochia acuminata*, can be found. The species has a large flight range and is usually seen flying at treetop level but often seen feeding at flowering plants in parks and gardens.

Distribution: The species is widely distributed from northern India to Hong Kong, through Thailand, Malaysia and Singapore to the Indonesian islands.

Threats: This species is listed in CITES Appendix II and is sought after by collectors. It is vulnerable as it depends on the availability of its caterpillar host plant, which is considered a non-native plant.

Scientific Interest and Potential Value: It is a large and attractive butterfly and easily noticeable as it flutters around in parks and gardens.

Conservation Measures: This species is highly dependent on the availability of its caterpillar host plant, *Aristolochia acuminata* for its survival in Singapore. The cultivation of its non-native host plant is key to the overall conservation strategy to maintaining a sustainable population of the Common Birdwing in Singapore.

Scientific Name:
Papilio demolition demolition
(Cramer, 1776)

Common Name:
Banded Swallowtail

Family:
Papilionidae

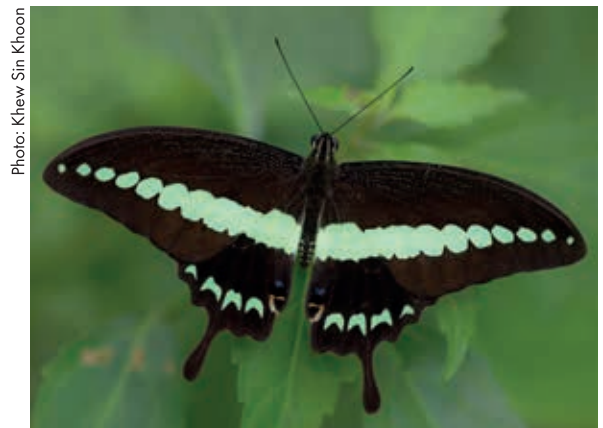


Photo: Khew Sin Khoon

National Status: Endangered (EN)

Habitat and Ecology: The Banded Swallowtail is a fast-flying species that was previously widely distributed across urban and forested habitats in Singapore. In the past 10 years, its population has dwindled, and field sightings are limited to the western forest edges of Singapore. Although its caterpillars are polyphagous and one of the host plants is a common *Citrus* sp., the butterfly is becoming endangered locally.

Distribution: The species is distributed from Myanmar across Southeast Asia and Indonesia. In Singapore, sightings of this species are declining and limited to the western parts of Singapore.

Threats: Its declining status is cause for concern, although the threats to its existence are unknown.

Scientific Interest and Potential Value: Given its recent decline in population, and its potential extirpation in Singapore, this species is of significant conservation interest in species recovery programmes and conservation initiatives.

Conservation Measures: This species may benefit from the careful curation of nature corridors to aid its movements towards other areas of Singapore from its current limited range within the western forested areas.

Scientific Name:
Papilio memnon agenor
(Linnaeus, 1758)

Common Name:
Great Mormon

Family:
Papilionidae

National Status: Vulnerable (VU)

Habitat and Ecology: The Great Mormon is a large butterfly and is a noteworthy species in that the females are polymorphic. The species is an excellent case study for mimicry as each form of the female mimics a distasteful counterpart.

Distribution: The species is widely distributed from south Japan to India and throughout the Sunda subregion.

Threats: Loss of habitat and caterpillar host plants. Its population has been declining since the publication of the Red Data Book 2008, hence its uplisting from Near Threatened to Vulnerable status. This may be because its preferred caterpillar host plant, the Pomelo (*Citrus grandis*) is no longer as commonly found as before.

Photo: Khew Sin Khoon



Scientific Interest and Potential Value: It is a large and noticeable butterfly and is remarkable for its polymorphism in the females.

Conservation Measures: Although the caterpillar of the Great Mormon is known to be able to feed on several species of *Citrus*, there is still a preference for the Pomelo. Conservation measures should include the cultivation of the Pomelo in our nature parks and park connectors to allow this species to thrive again in Singapore.

Scientific Name:

Eurema brigitta senna (C. & R. Felder, 1865)

Common Name:

No Brand Grass Yellow

Family:

Pieridae

National Status: Critically Endangered (CR)

Habitat and Ecology: The No Brand Grass Yellow is one of six extant species of the genus *Eurema* found in Singapore. It was re-discovered in 2006 at a site cleared for development. Its caterpillars appear to only feed on a single host plant, *Cassia mimosoides* which tends to grow wild in open secondary forests or sites cleared for future development.

Distribution: The species is widely distributed from tropical Africa to South East Asia.

Threats: The species is highly dependent on the

Photo: Khew Sin Khoon



availability of its caterpillar host plant which is rare in Singapore.

Scientific Interest and Potential Value: When it was re-discovered in 2006, the No Brand Grass Yellow had not been seen for at least four decades, although it was listed as extant in Singapore in early references.

Conservation Measures: This species is highly dependent on the availability of its caterpillar host plant, *Cassia mimosoides*, for its survival. The cultivation, and long-term sustainable source of this host plant is critical to the survival of this species, without which it is likely to be tipped into extirpation in Singapore.

Scientific Name:

Idea stollii logani (Moore, 1883)

Common Name:

Common Tree Nymph

Family:

Nymphalidae (subfamily Danainae)

National Status: Critically Endangered (CR)

Habitat and Ecology: The Common Tree Nymph is a forest-dependent species which typically flies within Singapore's nature reserves. It was regularly seen, gliding gracefully at treetop level and feeding at flowering trees within the nature reserves.

Distribution: The species is distributed across south Thailand, Malaysia, Singapore and Indonesia.

Photo: Khew Sin Khoon



Threats: Reduction of its forest habitats and decline of its caterpillar host plant availability.

Scientific Interest and Potential Value: The Common Tree Nymph was previously classified as Near Threatened in the Red Data Book second edition (2008) but it was last observed in 2014 and has not been seen for nearly ten years. Its sudden and abrupt disappearance justifies its status elevation to Critically Endangered.

Conservation Measures: The Common Tree Nymph may potentially be extirpated from Singapore if its habitats and hitherto unknown caterpillar host plant

population declines. Whilst it was moderately common in the past two decades, it is now absent from our forests.

Scientific Name:

Idea leuconoe chersonesia
(Fruhstorfer, 1898)

Common Name:

Mangrove Tree Nymph

Family:

Nymphalidae (subfamily Danainae)

National Status: Critically Endangered (CR)

Habitat and Ecology: The Mangrove Tree Nymph is a seashore species and inhabits mangrove areas. It flies in a very localized area on Pulau Tekong and very rarely, on Pulau Ubin.

Distribution: Widely distributed from Taiwan across Thailand, Southeast Asia and Indonesia.

Threats: Loss of mangrove habitats, including by coastal erosion, and depletion of its caterpillar host



Photo: Simon Sng

plant usually found within the mangrove and back-mangrove environments.

Scientific Interest and Potential Value: Of specific interest as a mangrove habitat-dependent species.

Conservation Measures: Conservation of mangrove habitats in Singapore, particularly at the source location on Pulau Tekong. Potential to be translocated to other mangrove habitats in Singapore if the caterpillar host plant is identified and cultivated at other locations.

Scientific Name:

Euploea eyndhovii gardineri
(Fruhstorfer, 1898)

Common Name:

Striped Black Crow

Family:

Nymphalidae (subfamily Danainae)

National Status: Endangered (EN)

Habitat and Ecology: The Striped Black Crow is usually observed singly at forest edges, park connectors and nature parks, usually looking for flowering plants to feed on.



Photo: Khew Sin Khoon

Distribution: The species is distributed from south Myanmar, south Vietnam, Thailand, Malaysia and Singapore to the Indonesian islands.

Threats: Loss of forest habitats and its caterpillar host plant.

Scientific Interest and Potential Value: It is the typical model for Batesian mimicry by the Malayan Eggfly (*Hypolimnys anomala anomala*).

Conservation Measures: As a forest-dependent species, the conservation of Singapore's forest habitats is critical to its survival. Its caterpillar host plant needs to be identified and conserved.

Scientific Name:
Euploea radamanthus radamanthus
(Fabricius, 1793)

Common Name:
Magpie Crow

Family:
Nymphalidae (subfamily Danainae)

Photo: Khew Sin Khoon



National Status: Critically Endangered (CR)

Habitat and Ecology: The Magpie Crow is a forest-dependent species that is usually found along forest trails and foraging along the open forest-edge vegetation. It can also be observed puddling at muddy footpaths and streambanks.

Distribution: The species occurs from southern Thailand to Malaysia, Singapore and Indonesia.

Threats: Loss of forest habitats and its caterpillar host plant.

Scientific Interest and Potential Value: It is typical example of Batesian mimicry in which it is mimicked by the two female forms of the nymphaline Courtesan (*Euripus nyctelius eupleoides*). Female forms of the papilionid Great Blue Mime (*Papilio paradoxa aenigma*) also mimic the Magpie Crow.

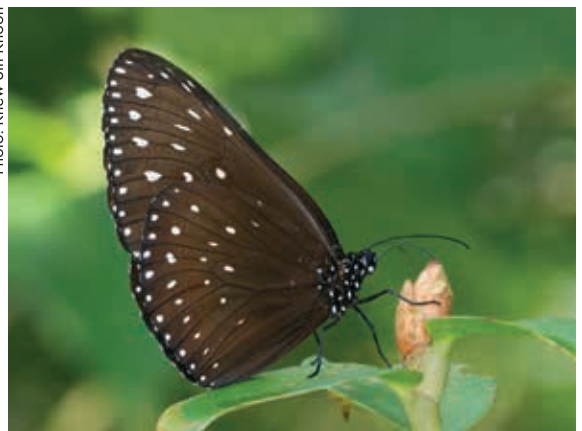
Conservation Measures: Although the Magpie Crow was once moderately common in Singapore, its sudden and abrupt disappearance is also cause for concern. Conservation of pristine forests and its host plant is critical to its survival in Singapore.

Scientific Name:
Euploea camaralzeman malayica
(Butler, 1878)

Common Name:
Malayan Crow

Family:
Nymphalidae (subfamily Danainae)

Photo: Khew Sin Khoon



National Status: Critically Endangered (CR)

Habitat and Ecology: The Malayan Crow is a forest-dependent species and usually seen singly within Singapore's forested nature reserves. It was last spotted in 2012 at the Dairy Farm Nature Park.

Distribution: The species occurs from Myanmar, Thailand, Malaysia and Singapore.

Threats: Loss of forest habitats and its caterpillar host plants (believed to be species of the Apocynaceae family).

Scientific Interest and Potential Value: It is part of Singapore's biodiversity and natural heritage and may already be potentially extirpated as it has not been seen for over ten years.

Conservation Measures: Conservation of forest habitats and cultivation of its documented caterpillar host plants in Singapore's buffer parks to the nature reserves.

Scientific Name:
Mycalesis orseis nautilus
(Butler, 1867)

Common Name:
Purple Bush Brown

Family:
Nymphalidae (subfamily Satyrinae)

Photo: Khew Sin Khoon



National Status: Vulnerable (VU)

Habitat and Ecology: The Purple Bush Brown is the least commonly seen amongst the five extant species of the genus *Mycalesis* found in Singapore. It is a forest-dependent species and rarely strays out of the forested nature reserves in Singapore. It typically flies around shaded grassy areas along forest edges.

Distribution: The species is distributed from southern Thailand to Malaysia, Singapore and Indonesia.

Threats: Loss of shaded forest habitats and its caterpillar host plant, likely to be one of the grasses (Poaceae).

Scientific Interest and Potential Value: It is part of Singapore's biodiversity and natural heritage and its declining population should be studied and monitored for any further reduction.

Conservation Measures: Identification and conservation of the species' preferred forest habitats and conditions where it prefers. Ensuring that its caterpillar host plant is also available at such locations.

Scientific Name:
Ypthima pandocus corticaria
(Butler, 1879)

Common Name:
Common Three Ring

Family:
Nymphalidae (subfamily Satyrinae)

Photo: Khew Sin Khoon



National Status: Vulnerable (VU)

Habitat and Ecology: The Common Three Ring flies in open grassy areas along forest edges within the nature reserves of Singapore. Ironically, contemporary literature puts it as “the commonest butterfly in the Malay Peninsula”. However, its existence in Singapore is severely threatened and its population has declined significantly over the years.

Distribution: The species is widely distributed from southern Thailand, Malaysia, Singapore, Indonesia and the Philippines.

Threats: Loss of forest habitats and reduction of its caterpillar host plant, *Ischaemum muticum* (Poaceae) in the vicinity of its preferred habitats.

Scientific Interest and Potential Value: It is part of Singapore’s biodiversity and natural heritage and its rapidly declining population should be studied and monitored for any further reduction.

Conservation Measures: Conservation of forest habitats and open grassy areas where the remaining colonies of this species are known to survive.

Scientific Name:

Thaumantis noureddin Nouredin
(Westwood, 1851)

Common Name:

Dark Jungle Glory

Family:

Nymphalidae (subfamily Satyrinae)

National Status: Endangered (EN)

Habitat and Ecology: The Dark Jungle Glory was a re-discovery where a colony of the species exists on the western side of Singapore. It flies in heavily shaded forest understorey where palms, bamboos and rattans are abundant.

Distribution: The species is widely distributed from northern India through Thailand, Malaysia and Singapore to Indonesia.

Threats: Loss of habitats and host plants.

Scientific Interest and Potential Value: The Dark Jungle Glory is a good example of how a species can



camouflage itself with its cryptic underside patterns. It frequents bamboo and rattan thickets and is a typical forest-dependent low-flying species.

Conservation Measures: This species requires heavily shaded forest habitats where palms, bamboos and rattans thrive and these conditions should be conserved in the locations where this species is known to survive. Nature corridor connectors should be planned such that this species can spread to other parts of Singapore.

Scientific Name:

Discophora sondaica despoliata
(Stichel 1902)

Common Name:

Common Duffer

Family:

Nymphalidae (subfamily Satyrinae)

National Status: Endangered (EN)

Habitat and Ecology: The Common Duffer frequents heavily vegetated areas in the vicinity of bamboo thickets. A species of bamboo is the caterpillar host plant of this butterfly. It is crepuscular in habit and is usually active in the late hours of the day.

Distribution: The species is widely distributed from northern India to south China, through Thailand, Malaysia and Singapore to the Indonesian islands and the Philippines.

Threats: Loss of habitats and caterpillar host plants.

Photo: Khew Sin Khoon



Scientific Interest and Potential Value: Of scientific interest as part of a small group of bamboo-feeding butterfly fauna. Part of Singapore's biodiversity and natural heritage.

Conservation Measures: The conservation of its habitats and preferred species of bamboo that its caterpillars feed on. Possibility of using nature corridors to allow the species to spread to alternative sites within the nature reserves.

Scientific Name:

Cethosia hypsea hypsina
(C. & R. Felder 1865)

Common Name:

Malay Lacewing

Family:

Nymphalidae (subfamily Heliconiinae)

National Status: Critically Endangered (CR)

Habitat and Ecology: The Malay Lacewing is a forest-dependent species and usually flies within Singapore's nature reserves. It is also found on Pulau Ubin.

Distribution: The species is distributed from south Myanmar through Thailand, Malaysia and Singapore to the Indonesian islands.

Photo: Khew Sin Khoon



Threats: This species status has been elevated to Critically Endangered as its population has experienced severe decline over the past decade. Whereas it was moderately common in the nature reserves, sightings of this species are few and far in between in the last five years.

Scientific Interest and Potential Value: The genus *Cethosia* which the Malay Lacewing belongs to, includes some of the most beautiful butterflies in the region. The delicate patterns and bright colours on the wings are attractive and is a welcome addition to Singapore's butterfly biodiversity.

Conservation Measures: It is critical to conserve its forest habitats and cultivation of its caterpillar host plant, *Adenia macrophylla* var. *singaporeana*, a species of Passifloraceae.

Scientific Name:
Cirrochroa orissa orissa
(C. & R. Felder 1860)

Common Name:
Banded Yeoman

Family:
Nymphalidae (subfamily Heliconiinae)

Photo: Khew Sin Khoon



National Status: Endangered (EN)

Habitat and Ecology: The Banded Yeoman is a forest-dependent species that is found in a very local area within the Central Catchment Nature Reserves.

Distribution: The species occurs in South Myanmar, through South Thailand, Malaysia and Singapore to the Indonesian islands of Sumatra and Borneo.

Threats: Loss of forest habitats and availability of its caterpillar host plant.

Scientific Interest and Potential Value: A forest specialist, this species reflects the health of our forests and the diversity of plant species.

Conservation Measures: The species requires the conservation of Singapore's remaining pristine forested nature reserves and the cultivation of its rather uncommon caterpillar host plant, *Ryparosa scortechinii* (Achariaceae).

Scientific Name:
Cirrochroa emalea emalea
(Guérin-Ménéville, 1843)

Common Name:
Malay Yeoman

Family:
Nymphalidae (subfamily Heliconiinae)

Photo: Khew Sin Khoon



National Status: Endangered (EN)

Habitat and Ecology: The Malay Yeoman is closely related to the Banded Yeoman and frequents the forested areas in Singapore. However, it is more widely distributed within the Central Catchment Nature Reserves. It was only recently re-discovered in 2013 and sightings of this species has been more regular since then.

Distribution: The species is mainly restricted to South Thailand, Malaysia and Singapore.

Threats: Loss of forest habitats and its caterpillar host plant.

Scientific Interest and Potential Value: It is part of Singapore's biodiversity and natural heritage and its recent re-discovery in Singapore after many years of absence is a good justification to conserve this species amongst our butterfly fauna.

Conservation Measures: Conservation of Singapore's forested reserves and further research to establish the species' caterpillar host plant for cultivation.

Scientific Name:

Chersonesia peraka peraka
(Distant, 1884)

Common Name:

Little Maplet

Family:

Nymphalidae (subfamily Cyrestinae)

National Status: Vulnerable (VU)

Habitat and Ecology: This species frequents the forested areas within Singapore's nature reserves and is quite well distributed across the Central Catchment Nature Reserves. Its appearance is erratic and often seasonal.

Distribution: The species occurs in South Thailand, Malaysia and Singapore across to the Indonesian islands.

Threats: Loss of forest habitats and availability of its caterpillar host plant.

Scientific Interest and Potential Value: A forest specialist, this species reflects the health of our forests and the diversity of plant species.

Photo: Khew Sin Khoon



Conservation Measures: The species requires the conservation of Singapore's remaining pristine forested nature reserves and the cultivation of its caterpillar host plant, *Ficus punctata* (Moraceae).

Scientific Name:

Euthalia merta merta (Moore, 1859)

Common Name:

White Tipped Baron

Family:

Nymphalidae (subfamily Limetidineae)

National Status: Endangered (EN)

Habitat and Ecology: The White Tipped Baron is a forest-dependent species and is mainly observed in shaded forest understorey within the Central Catchment Nature Reserves. They prefer to forage amongst leaf litter and sometimes seen feeding on overripe fruits on the forest floor.

Distribution: South Thailand, Malaysia, Singapore to the Philippines.

Threats: Loss of forest habitats and its currently unknown caterpillar host plant.



Photo: Khew Sin Khoon

Scientific Interest and Potential Value: It is part of Singapore's indigenous biological heritage and of general educational value and interest to the public and nature enthusiasts.

Conservation Measures: The conservation of its preferred forested habitats and discovery and cultivation of its hitherto unknown caterpillar host plant would be critical to this species' sustainable survival in Singapore.

Scientific Name:

Euripus nyctelius euploeoides
(C. & R. Felder 1867)

Common Name:

Courtesan

Family:

Nymphalidae (subfamily Apaturinae)

National Status: Critically Endangered (CR)

Habitat and Ecology: The Courtesan is another forest-dependent species but has also been spotted at the Southern Ridges Parks before. After a short period in the Mandai Forest when it was relatively common for a few months in 2013, the species mysteriously disappeared and has not been seen since then.

Distribution: The species occurs throughout Thailand, Malaysia and Singapore to the Indonesian islands and Philippines.



Photo: Khew Sin Khoon

Threats: Loss of forest habitats and availability of its caterpillar host plants.

Scientific Interest and Potential Value: It is part of Singapore's indigenous biological heritage and of general educational value and interest to the public and nature enthusiasts. Of particular interest is that the two female forms of this species mimic the distasteful Magpie Crow for protection against predators.

Conservation Measures: The species requires the conservation of Singapore's remaining pristine forested nature reserves and the cultivation of its caterpillar

host plants, *Trema tomentosum* and *Trema cannabina* (Cannabaceae).

Scientific Name:
Taxila haquinus haquinus
(Fabricius, 1793)

Common Name:
Harlequin

Family:
Riodinidae

National Status: Critically Endangered (CR)

Habitat and Ecology: The Harlequin is a forest-dependent species and prefers heavily shaded forest understorey habitats. A small colony of the species was discovered in a forested patch at the Nanyang Avenue area. Efforts to translocate the species met with limited success until recently when a colony established itself at Sungei Buloh Wetland Reserve.

Distribution: The species is distributed from Assam to South Thailand, Malaysia and Singapore.

Threats: Loss of forest habitats and its caterpillar host plant.

Photo: Khew Sin Khoon



Scientific Interest and Potential Value: The Harlequin is the target species of a Species Recovery Programme, where the butterfly and caterpillars were translocated to alternative habitats around Singapore to attempt to save the species from extirpation.

Conservation Measures: Conservation of Singapore's forested reserves and continued cultivation of its caterpillar host plant, *Ardisia elliptica* should be part of the management initiative to help sustain a population of this species in Singapore.

Scientific Name:
Poritia philota philota
(Hewitson, 1874)

Common Name:
Malay Gem

Family:
Lycaenidae (subfamily Poritinae)

Photo: Khew Sin Khoon



National Status: Endangered (EN)

Habitat and Ecology: The Malay Gem is a forest-dependent species that prefers the shady understorey of heavily shaded forest habitats. Its distribution is thus far limited to the Central Catchment Area in Singapore.

Distribution: Northeast India to Thailand, Malaysia, Singapore to the Philippines.

Threats: Loss of pristine forest habitats and availability of its currently unknown caterpillar host plant.

Scientific Interest and Potential Value: A forest specialist, this species is an indicator of the health of our forests and the diversity of plant species.

Conservation Measures: The species requires the conservation of Singapore's remaining pristine forested nature reserves and further research into its caterpillar host plant.

Scientific Name:

Everes lacturnus rileyi (Godfrey, 1916)

Common Name:

Indian Cupid

Family:

Lycaenidae (subfamily Polyommatainae)

National Status: Endangered (EN)

Habitat and Ecology: This diminutive species is erratic in appearance and flies amongst open grassy areas at forest edges and sometimes in urban areas. However, there are some years when it is absent and not observed.

Distribution: The species is found throughout the Oriental Region and reaches Australia.

Threats: Loss of its preferred habitats and its caterpillar host plant, a species of *Trifolium* or *Desmodium* (Leguminosae).

Photo: Khew Sin Khoon



Scientific Interest and Potential Value: It is part of Singapore's biodiversity and natural heritage and its recent re-discovery in Singapore after many years of absence is a good justification to conserve this species amongst our butterfly fauna.

Conservation Measures: Further research is needed into its caterpillar host plant and the biology of the butterfly to understand why its occurrence in Singapore is sporadic and unpredictable.

Scientific Name:
Catochrysops strabo strabo
(Fabricius, 1793)

Common Name:
Forget Me Not

Family:
Lycaenidae (subfamily Polyommatainae)

National Status: Vulnerable (VU)

Habitat and Ecology: The Forget Me Not prefers open grassy habitats and flies close to the ground. It is often confused with a similar looking species, the Silver Forget Me Not (*Catochrysops panormus exiguus*) which is more common.

Distribution: The species occurs in Sri Lanka and India through Southeast Asia and Indonesia.

Threats: Loss of forest habitats and availability of its caterpillar host plant.

Photo: Khew Sin Khoon



Scientific Interest and Potential Value: The declining population of the Forget Me Not is of concern and of interest in establishing the habitats and conditions in which the species is able to be able to sustain a population.

Conservation Measures: Further research into its caterpillar host plant, *Grona heterocarpus*, and the myrmecophilic relationship with ants is needed to improve the knowledge about this species and how to conserve it.

Scientific Name:
Jamides caeruleus caeruleus (H Druce, 1873)

Common Name:
Sky Blue

Family:
Lycaenidae (subfamily Polyommatainae)

National Status: Critically Endangered (CR)

Habitat and Ecology: The Sky Blue is rarely observed but where it occurs, it flies erratically at low levels amongst shrubbery and usually in the shaded forest understorey.

Distribution: The species is mainly restricted to South Thailand, Malaysia and Singapore.

Photo: Khew Sin Khoon



Threats: Loss of its preferred habitats and its caterpillar host plant, the flowers of *Saraca cauliflora* (Fabaceae).

Scientific Interest and Potential Value: It is part of Singapore's biodiversity and natural heritage.

Conservation Measures: Further research into its preferred habitats and understanding of its biology and its caterpillars' preference for the flowers of *Saraca cauliflora*.

Scientific Name:

Nacaduba pavana singapura
(Butler, 1879)

Common Name:

Singapore Fourline Blue

Family:

Lycaenidae (subfamily Polyommatainae)

National Status: Endangered (EN)

Habitat and Ecology: The Singapore Fourline Blue is regularly found in back-mangrove and mangrove habitats and can sometimes be locally common. It flies erratically and rapidly amongst shrubbery.

Distribution: The species is restricted to Malaysia and Singapore to Indonesia.

Threats: Loss of mangrove and back-mangrove habitats and availability of its caterpillar host plants.

Photo: Low Jian Kai



Scientific Interest and Potential Value: A mangrove specialist, this species has the distinction of carrying the "singapura" subspecies name and is reported as more commonly seen in Singapore than elsewhere.

Conservation Measures: The species requires the conservation of Singapore's mangrove habitats which it appears to prefer, and the cultivation of its caterpillar host plants, *Derris trifoliata* and *Andira inermis* (Fabaceae) and *Allophylus cobbe* (Sapindaceae).

Scientific Name:

Arhopala muta maranda
(Guérin-Ménéville, 1843)

Common Name:

Mutal Oakblue

Family:

Lycaenidae (subfamily Theclinae)

National Status: Vulnerable (VU)

Habitat and Ecology: The genus *Arhopala* comprises over 100 distinct species, many of which are very similar and difficult to identify with confidence. These species prefer to lurk in heavily shaded forested areas and many are very rare.

Distribution: The species is distributed from south Myanmar to Neomalaya, Java and Nias.

Threats: Loss of pristine forest habitats and its caterpillar host plant.

Photo: Khew Sin Khoo



Scientific Interest and Potential Value: The cryptic *Arhopala* species certainly requires extensive and in-depth research to establish their biology and ecological needs in Singapore. There is likely to be several more undiscovered species to be recorded in Singapore.

Conservation Measures: Conservation of Singapore's forested reserves and the species' caterpillar host plant, *Lithocarpus bennettii* (Fagaceae).

Scientific Name:

Arhopala alitaeus pardenas
(Corbet, 1941)

Common Name:

Purple Broken-Band Oakblue

Family:

Lycaenidae (subfamily Theclinae)

National Status: Endangered (EN)

Habitat and Ecology: The Purple Broken-Band Oakblue is found in heavily shaded forested areas like Bukit Timah Nature Reserve.

Distribution: The species is distributed from South Myanmar to Malaysia, Philippines and Sulawesi.

Threats: Loss of pristine forests in the nature reserves of Singapore, and its caterpillar host plant.

Photo: Khew Sin Khoon



Scientific Interest and Potential Value: One of the several rare *Arhopala* species which requires the forested nature reserves for its continued survival.

Conservation Measures: The species requires the conservation of Singapore's forested nature reserves which includes Central Catchment Nature Reserve and Bukit Timah Nature Reserve, and the continued availability of its caterpillar host plant, *Vatica pauciflora* (Dipterocarpaceae).

Scientific Name:

Arhopala myrzala lammas
(Corbet, 1941)

Common Name:

Malayan Oakblue

Family:

Lycaenidae (subfamily Theclinae)

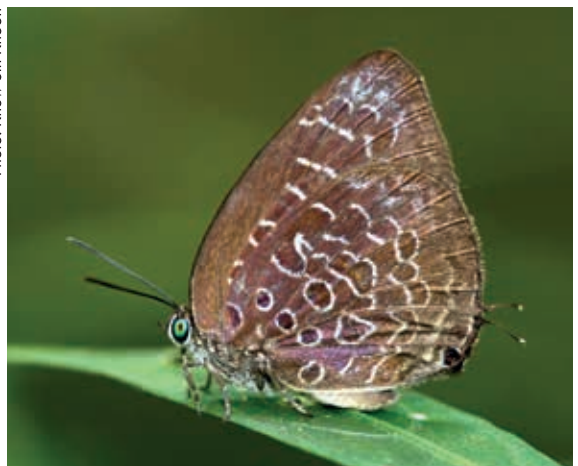
National Status: Vulnerable (VU)

Habitat and Ecology: The Malayan Oakblue is another uncommon species that is restricted to the heavily shaded forests of the Central Catchment Nature Reserves. It displays a purple sheen on its wings when viewed in a side light.

Distribution: The species is distributed from Malaysia and Singapore to the Philippines.

Threats: Loss of pristine forest habitats and its hitherto unknown caterpillar host plant.

Photo: Khew Sin Khoon



Scientific Interest and Potential Value: It is part of Singapore's biodiversity and natural heritage and further research into its biology and ecological preferences to aid its continued existence in Singapore.

Conservation Measures: Conservation of Singapore's forested reserves and further research to establish the species' caterpillar host plant for cultivation.

Scientific Name:

Arhopala silhensis adorea
(de Niceville, 1890)

Common Name:

Sylhet Oakblue

Family:

Lycaenidae (subfamily Theclinae)

National Status: Vulnerable (VU)

Habitat and Ecology: The Sylhet Oakblue was re-discovered in 2008 and is restricted to a few local sites within the Central Catchment Nature Reserve. Its life history requires the symbiotic relationship with the ant species *Polyrhachis armata*.

Distribution: The species is found from Northeast India through Myanmar, Thailand and Southeast Asia to the Philippines.

Photo: Khew Sin Khoon



Threats: Loss of pristine forested areas and availability of its caterpillar host plants.

Scientific Interest and Potential Value: An interesting subject of study would be its caterpillars myrmecophilic relationship with the *Polyrhachis* ant species.

Conservation Measures: The species requires the conservation of Singapore's pristine forested nature reserves and the cultivation of its caterpillar host plant, a species of *Syzygium* (Myrtaceae).

Scientific Name:

Arhopala aurea (Hewitson, 1862)

Common Name:

Golden Green Oakblue

Family:

Lycaenidae (subfamily Theclinae)

National Status: Endangered (EN)

Habitat and Ecology: This species is another forest-dependent butterfly and is restricted to very local sites within the Central Catchment Nature Reserves. It prefers heavily shaded forest habitat. It is one of the few *Arhopala* species in which males have a bright iridescent green upperside.

Distribution: The species' distribution appears to be mainly restricted to Malaysia and Singapore.

Threats: Loss of forest habitats and its caterpillar host plant.

Photo: Khew Sin Khoon



Scientific Interest and Potential Value: It is part of Singapore's biodiversity and natural heritage and its recent re-discovery in Singapore after many years of absence is a good justification to conserve this species amongst our butterfly fauna.

Conservation Measures: Conservation of Singapore's forested reserves and further research to establish the species' caterpillar host plant for cultivation.

Scientific Name:
Arhopala trogon (Distant, 1884)

Common Name:
Green Suffused Oakblue

Family:
Lycaenidae (subfamily Theclinae)

National Status: Endangered (EN)

Habitat and Ecology: The Green Suffused Oakblue is a forest-dependent species and its distribution is restricted to the heavily-shaded forest habitats within the Central Catchment and Bukit Timah Nature Reserves.

Distribution: The species is restricted to Malaysia and Singapore to Indonesia.

Photo: Horace Tan



Threats: Loss of pristine forest habitats and its caterpillar host plant.

Scientific Interest and Potential Value: A rare forest-dependent species that should be conserved as part of Singapore's valuable natural heritage.

Conservation Measures: Conservation of Singapore's forested reserves and further research to establish the species' caterpillar host plant for cultivation.

Scientific Name:
Arhopala ammon ammon
(Hewitson, 1862)

Common Name:
Lesser Malayan Oakblue

Family:
Lycaenidae (subfamily Theclinae)

National Status: Endangered (EN)

Habitat and Ecology: The Lesser Malayan Oakblue prefers the deep shade of pristine forested habitats and is limited to a few sites within the nature reserves of Singapore.

Distribution: The species is mainly restricted to South Thailand, Malaysia and Singapore.

Threats: Loss of forest habitats and its caterpillar host plant.

Photo: Khew Sin Khoon



Scientific Interest and Potential Value: It is part of Singapore's biodiversity and natural heritage. The species' appearance is exceedingly erratic, although it has been spotted at the Labrador Nature Reserve and further research should be conducted to understand its preferred habitats.

Conservation Measures: Conservation of Singapore's forested reserves and further research to establish the species' caterpillar host plant for cultivation.

Scientific Name:

Drupadia rufotaenia rufotaenia
(Fruhstorfer, 1912)

Common Name:

Pygmy Posy

Family:

Lycaenidae (subfamily Theclinae)

National Status: Endangered (EN)

Habitat and Ecology: The Pygmy Posy is a small butterfly that is forest dependent. In Singapore, it is limited to certain locations in the Central Catchment Nature Reserves.

Distribution: The species is distributed from Myanmar through Thailand, Malaysia and Singapore to the Philippines.

Threats: Loss of pristine forest habitats and availability of its hitherto unknown caterpillar host plant.

Photo: Khew Sin Khoon



Scientific Interest and Potential Value: An attractive butterfly species, the Pygmy Posy is part of Singapore's biodiversity and natural heritage and should be carefully studied and conserved.

Conservation Measures: Conservation of Singapore's remaining forested nature reserves and further research to ascertain the unknown caterpillar host plant for this species.

Scientific Name:

Drupadia theda thesmia
(Hewitson, 1863)

Common Name:

Dark Posy

Family:

Lycaenidae (subfamily Theclinae)

National Status: Vulnerable (VU)

Habitat and Ecology: The Dark Posy is usually seen in the shaded forest understorey of our nature reserves. It is quite widespread but remains within the sanctuary of the Central Catchment Nature Reserve and Bukit Timah Nature Reserve and surrounding nature parks.

Distribution: The species is distributed from south Myanmar across to Thailand, Malaysia, Singapore to the Philippines and Sulawesi.

Photo: Khew Sin Khoon



Threats: Loss of forest habitats and its caterpillar host plants, *Combretum sundaicum* (Combretaceae) and *Ixora congesta* (Rubiaceae).

Scientific Interest and Potential Value: The population decline of the Dark Posy over the past three decades should be of conservation interest and research should be done to ascertain this phenomenon.

Conservation Measures: Conservation of Singapore's forested reserves and further research to establish the habitats and conditions under which

this species is able to sustain a viable population in Singapore.

Scientific Name:
Horaga onyx sardonix
(Fruhstorfer, 1914)

Common Name:
Common Onyx

Family:
Lycaenidae (subfamily Theclinae)

Photo: Khew Sin Khoon



National Status: Vulnerable (VU)

Habitat and Ecology: The Common Onyx is seen most often along the nature parks of the Southern Ridges and on Pulau Ubin, but is often confused with the Ambon Onyx, which is the commoner of the two species. It flies in open areas amongst shrubbery and often seen at treetop level.

Distribution: The species is distributed from Sri Lanka to Taiwan and through Southeast Asia to New Guinea.

Threats: Loss of its preferred habitats.

Scientific Interest and Potential Value: The Common Onyx is a recent re-discovery and is part of Singapore's biodiversity and natural heritage. It should be studied further for conservation interest.

Conservation Measures: The species has been bred on the young shoots of the common tree, the Saga (*Adenanthra pavonine*) (Leguminosae), and *Guioa pubersens* (Sapindaceae). Conservation of these host plants and its preferred habitats should be studied further.

Scientific Name:
Horaga syrinx maenala
(Hewitson, 1869)

Common Name:
Ambon Onyx

Family:
Lycaenidae (subfamily Theclinae)

Photo: Khew Sin Khoon



National Status: Vulnerable (VU)

Habitat and Ecology: The Ambon Onyx is widely distributed across Singapore and has been observed from the Southern Ridges to the Central Catchment Nature Reserves.

Distribution: The species is distributed from Sikkim across Southeast Asia to New Guinea.

Threats: Loss of its preferred forest habitats and the caterpillars' host plants.

National Status: Vulnerable (VU)

Habitat and Ecology: The Ambon Onyx is widely distributed across Singapore and has been observed from the Southern Ridges to the Central Catchment Nature Reserves.

Distribution: The species is distributed from Sikkim across Southeast Asia to New Guinea.

Threats: Loss of its preferred forest habitats and the caterpillars' host plants.

Scientific Interest and Potential Value: It is part of Singapore's biodiversity and natural heritage. Its population decline over the past decade is of particular concern and interest.

Conservation Measures: Conservation of the species' preferred habitats and caterpillar host plants, *Citrus* spp. (Rutaceae) and *Ixora javanica* (Rubiaceae).

Scientific Name:
Pratapa deva relata
(Distant, 1884)

Common Name:
White Royal

Family:
Lycaenidae (subfamily Theclinae)

National Status: Endangered (EN)

Habitat and Ecology: The White Royal is one of a number of Lycaenidae species that depend solely on the existence of parasitic and hemiparasitic host plants for its early stages. The species is seen across the island where its caterpillar host plants are found, but it is rare.

Distribution: The species is restricted to Malaysia and Singapore to Indonesia.

Threats: Loss of its preferred habitats and availability of its caterpillar host plant, *Scurrula ferruginea* (Loranthaceae).

Photo: Khew Sin Khoon



Scientific Interest and Potential Value: A recent re-discovery in 2007, the White Royal is of scientific interest as one of several species of rare Lycaenidae whose caterpillars feed on Mistletoes.

Conservation Measures: This species' conservation is critically dependent on the availability of its parasitic caterpillar host plant, The Rusty Mistletoe (*Scurrula ferruginea*) (Loranthaceae). Parks management should be careful in not removing these parasitic plants from the vegetation within our parks, gardens and nature reserves.

Scientific Name:

Rachana jalindra burbona
(Hewitson, 1878)

Common Name:

Banded Royal

Family:

Lycaenidae (subfamily Theclinae)

National Status: Vulnerable (VU)

Habitat and Ecology: The Banded Royal can be found across the island in both urban and forested habitats but is rare. It is another species of Lycaenidae that depends solely on the parasitic host plant for its survival.

Distribution: The species is distributed from India across to Thailand, Malaysia and Singapore to the Philippines.

Threats: Loss of its caterpillar host plant, a hemiparasitic plant, *Macrosolen cochinchinensis* (Loranthaceae).

Photo: Khew Sin Khoon



Scientific Interest and Potential Value: Although widespread in distribution in Singapore, its decline and potential extirpation is critically dependent on the availability of its hemiparasitic caterpillar host plant. The ecology of this Mistletoe should be studied for better knowledge of how to maintain this 'unwanted' plant.

Conservation Measures: This species' conservation is critically dependent on the availability of its hemiparasitic caterpillar host plant, The Common Chinese Mistletoe (*Macrosolen cochinchinensis*) (Loranthaceae).

Scientific Name:

Neocheritra amrita amrita
(C & R Felder, 1860)

Common Name:

Grand Imperial

Family:

Lycaenidae (subfamily Theclinae)

National Status: Critically Endangered (CR)

Habitat and Ecology: The Grand Imperial is restricted in its distribution to very limited areas within the Central Catchment Nature Reserves and around the Nee Soon Swamp Forest. It is a forest-dependent species and stays within the nature reserves. A population has also been observed on Pulau Tekong in the early 2000's.

Distribution: The species is distributed from South Myanmar, South Thailand, Malaysia, Singapore and Borneo.

Photo: Khew Sin Khoon



Threats: Loss of pristine forest habitats and availability of its hitherto unknown caterpillar host plant.

Scientific Interest and Potential Value: A spectacular butterfly with long tails and attractive colours, the Grand Imperial is a part of Singapore's butterfly biodiversity and is of great scientific interest.

Conservation Measures: Conservation of Singapore's remaining forested nature reserves and further research to ascertain the unknown caterpillar host plant for this species.

Scientific Name:

Pseudotajuria donatana donatana
(de Niceville, 1889)

Common Name:

Golden Royal

Family:

Lycaenidae (subfamily Theclinae)

National Status: Vulnerable (VU)

Habitat and Ecology: The Golden Royal is rare but widely distributed across forest habitats and also nature parks. In recent years, it has been regularly observed in the Southern Ridges Parks.

Distribution: The species is distributed from South Thailand, Malaysia and Singapore to the Philippines.

Threats: Loss of its caterpillar host plant, the Oval Leafed Mistletoe (*Viscum ovalifolium*) (Santalaceae).

Photo: Khew Sin Khoon



Scientific Interest and Potential Value: Although widespread in distribution in Singapore, its decline and potential extirpation is critically dependent on the management of its parasitic caterpillar host plant.

Conservation Measures: This species' conservation is critically dependent on the sensitive management of its parasitic caterpillar host plant, Oval Leafed Mistletoe (*Viscum ovalifolium*) (Santalaceae).

Scientific Name:

Ancema blanka blanka
(de Niceville, 1894)

Common Name:

Silver Royal

Family:

Lycaenidae (subfamily Theclinae)

National Status: Vulnerable (VU)

Habitat and Ecology: The Silver Royal is widely distributed across various habitats but is most often observed at the Southern Ridges Parks. It is largely a treetop dweller but descends to the forested areas to feed or oviposit on its caterpillar host plant.

Distribution: The species is distributed from India to Thailand, Malaysia, Singapore and Borneo.

Photo: Khew Sin Khoon



Threats: Loss of its caterpillar host plant, the Oval Leafed Mistletoe (*Viscum ovalifolium*) (Santalaceae).

Scientific Interest and Potential Value: Although widespread in distribution in Singapore, its decline and potential extirpation is critically dependent on the management of its parasitic caterpillar host plant.

Conservation Measures: This species' conservation is critically dependent on the sensitive management of its parasitic caterpillar host plant, Oval Leafed Mistletoe (*Viscum ovalifolium*) (Santalaceae).

Scientific Name:

Virachola kessuma deliochus
(Hewitson, 1874)

Common Name:

Pitcher Blue

Family:

Lycaenidae (subfamily Theclinae)

National Status: Endangered (EN)

Habitat and Ecology: The Pitcher Blue is widely distributed in Singapore from forested nature reserves to nature parks but requires the presence of pitcher plants for its sustainable existence.

Distribution: The species is distributed from South Thailand, Malaysia and Singapore to the Philippines.

Threats: Loss of its caterpillar host plant, the Pitcher Plants *Nepenthes gracilis* and *Nepenthes rafflesiana* (Nepenthaceae).

Photo: Khew Sin Khoon



Scientific Interest and Potential Value: The species is of scientific interest in that its early stages depend on the seed pods of Pitcher Plants for its continued existence.

Conservation Measures: This species' conservation is critically dependent on the availability of its caterpillar host plants, *Nepenthes gracilis* and *Nepenthes rafflesiana* (Nepenthaceae).

Scientific Name:

Celaenorrhinus asmara asmara
(Butler, 1879)

Common Name:

White Banded Flat

Family:

Hesperiidae (subfamily Pyrginae)

National Status: Critically Endangered (EN)

Habitat and Ecology: The White Banded Flat is a recent re-discovery and has been observed at a very local site on Pulau Ubin. Subsequent sightings of this species have also been only on Pulau Ubin thus far.

Distribution: The species is distributed from Thailand to Malaysia, Singapore and Indonesia.

Photo: Khew Sin Khoon



Threats: Loss of its caterpillar host plants, currently recorded beyond Singapore as *Clerodendron chinense* (Lamiaceae), *Justicia gendarussa* (Acanthaceae) and *Jasminum nervosum* (Oleaceae).

Scientific Interest and Potential Value: This species has been sighted only on Pulau Ubin and it is important to establish the viability of the colony and whether its caterpillar host plants are available for its continued existence in Singapore.

Conservation Measures: It is critical to conserve the area on Pulau Ubin which the species can be found with minimal development interventions. Its caterpillar host

plants, recorded from other countries, should also be ascertained and conserved on Pulau Ubin.

Scientific Name:
Halpe ormenes vilasina
(Fruhstorfer, 1911)

Common Name:
Dark Banded Ace

Family:
Hesperiidae (subfamily Hesperinae)

National Status: Vulnerable (VU)

Habitat and Ecology: The Dark Banded Ace frequents forested habitats in the nature reserves of Singapore. It prefers to stay close to bamboo thickets and where its caterpillar host plants are found.

Distribution: The species is distributed from Myanmar, Thailand, Malaysia, Singapore, Sumatra, Java, Borneo and Palawan.

Threats: Loss of pristine forest habitats and availability of its caterpillar host plant, *Bambusa vulgaris* 'Wamin' (Poaceae).



Photo: Khew Sin Khoon

Scientific Interest and Potential Value: This species, whose caterpillars feed on various species of bamboo is of particular interest and further research should be conducted to ascertain the species' continued survival in Singapore.

Conservation Measures: Conservation of forested areas within the nature reserves and nature parks and the cultivation of its preferred bamboo species that its caterpillars feed on.

Scientific Name:
Plastingia pellationia
(Fruhstorfer, 1909)

Common Name:
Yellow Chequered Lancer

Family:
Hesperiidae (subfamily Hesperinae)

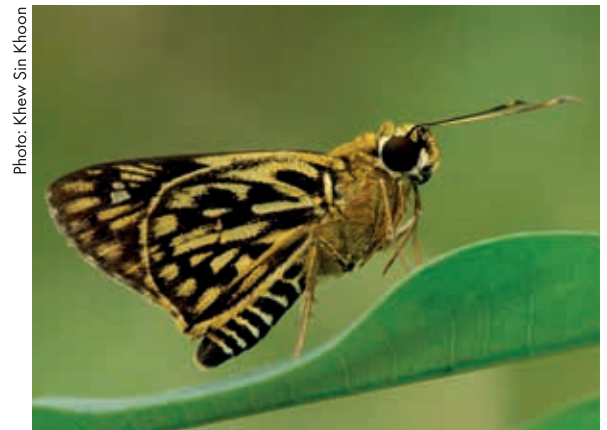


Photo: Khew Sin Khoon

National Status: Vulnerable (VU)

Habitat and Ecology: This species is a forest-dependent butterfly that prefers heavily-shaded forested areas within the Central Catchment and Bukit Timah Nature Reserves.

Distribution: The species is distributed from Northeast India to Thailand, Malaysia, Singapore to Indonesia, the Philippines and Sulawesi.

Threats: Loss of pristine forest habitats and its hitherto unknown caterpillar host plant.

Scientific Interest and Potential Value: It is part of Singapore's indigenous biological heritage and of general educational value and interest to researchers and nature enthusiasts.

Conservation Measures: The conservation of Singapore's pristine forests and its caterpillar host plant should be ascertained for cultivation in its preferred habitats.

Scientific Name:
Pemara pugnans (de Niceville, 1891)

Common Name:
Pugnacious Lancer

Family:
Hesperiidae (subfamily Hesperinae)

National Status: Vulnerable (VU)

Habitat and Ecology: The Pugnacious Lancer frequents the forested nature reserves and the forest edges of Singapore's nature parks.

Distribution: The species is distributed from South Myanmar to Thailand, Malaysia and Singapore.

Threats: Loss of pristine forest habitats and its hitherto unknown caterpillar host plant.

Photo: Khew Sin Khoon



Scientific Interest and Potential Value: The species is part of Singapore's indigenous biological heritage and of general educational value and interest to researchers and nature enthusiasts.

Conservation Measures: The conservation of Singapore's pristine forests and its caterpillar host plant should be ascertained for cultivation in its preferred habitats.

Scientific Name:
Gangara lebadea lebadea
(Hewitson, 1868)

Common Name:
Banded Redeye

Family:
Hesperiidae (subfamily Hesperinae)

Photo: Low Jian Kai



National Status: Endangered (EN)

Habitat and Ecology: The Banded Redeye is a forest-dependent species that is restricted to the shaded forest understorey of the Central Catchment and Bukit Timah Nature Reserves.

Distribution: The species is distributed from India and Sri Lanka to Thailand, Malaysia, Singapore and the Philippines and Sulawesi.

Threats: Loss of pristine forest habitats and its hitherto unknown caterpillar host plant.

Scientific Interest and Potential Value: Although it is limited in its range within Singapore's forested nature reserves, its decline and potential extirpation is critically dependent on the discovery and management of its caterpillar host plant.

Conservation Measures: The conservation of Singapore's pristine forests and its caterpillar host plant should be ascertained for cultivation in its preferred habitats.

Scientific Name:

Taractrocera ardonia lamia
(Evans, 1934)

Common Name:

Spotted Grass Dart

Family:

Hesperiidae (subfamily Hesperinae)

National Status: Vulnerable (VU)

Habitat and Ecology: The Spotted Grass Dart is a tiny skipper butterfly and was a recent re-discovery in Singapore. It is very restricted to a few sites within the Central Catchment Nature Reserves.

Distribution: The species is distributed from Malaysia, Singapore to Borneo and Sulawesi.

Threats: Loss of pristine forest habitats and its hitherto unknown caterpillar host plant.

Scientific Interest and Potential Value: Its rediscovery and recent decline in population in its preferred sites is of concern. Further research to establish its caterpillar host plant should be carried out to ensure the species' continued existence in Singapore.

Conservation Measures: The conservation of Singapore's pristine forests and its caterpillar host plant should be ascertained for cultivation in its preferred habitats.

Photo: Khew Sin Khoo



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