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A Field Guide to some

FLORA & FAUNA

of the Kaigangan Satoyama Landscape of Brgy. Tungao,
Butuan City, Mindanao Island, Philippines

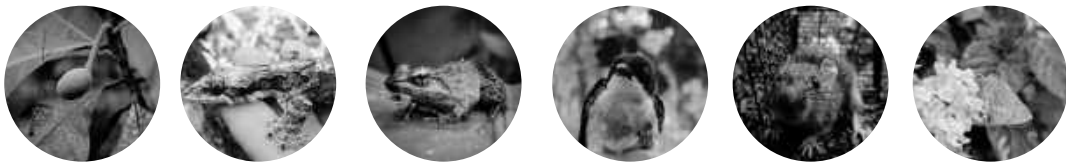


**Jess H. Jumawan
Jeco Jed J. Ruales
Anne Frances V. Buhay
Inocencio E. Buot, Jr.**

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Inocencio E. Buot, Jr.

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FOREWORD

Satoyama landscapes showcase the potential of human societies to co-exist with natural environments, emphasizing the possibility for a sustainable interconnectedness between the two. Recently, there has been growing recognition of the value of Satoyama landscapes as models for sustainable land management and conservation efforts globally.

One of the distinctive features of Satoyama landscapes is the high level of biodiversity they support. The interaction between human land use and natural ecosystems creates a variety of habitats that can foster diverse plant and animal species.

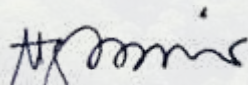
Meanwhile, Butuan City, which is an urban area in Agusan del Norte is among those areas in southern Philippines that are vulnerable to climate change. It sits below the sea level thus making it highly susceptible to flooding. However, the presence of close interactions between the people and nature in the area, mosaic of villages, and the mixes of forests, farmlands, grasslands, ponds, streams, and irrigation canals make the area a Satoyama landscape where a diverse floral and faunal species thrive amidst several socio-cultural activities.

Thus, to ensure the conservation of biodiversity and/or efficient resource management in the area, a manual that can guide conservationists, ecologists, biologists, and/or resource managers is needed. It is against this backdrop that this field guide to some flora and fauna in the area is developed. As it contains floral and faunal species' descriptions, uses, endemism, distribution, ecological role, and conservation status, this guide could be a useful tool for those individuals engaged in the conservation and management of these resources in the area. The guide can also serve as educational tool,

FOREWORD

offering information about the characteristics, behavior, habitat, and distribution of various species. It is a valuable resource for students, educators, and anyone interested in expanding their knowledge of the Satoyama landscape. Furthermore, this guide can be an essential reference for biodiversity monitoring, integrated environmental management, climate change mitigation, policy recommendations, and community-based livelihood programs that capitalize on biodiversity. The authors are commendable in coming up with this material, which in one way or another can help maintain the sustainable co-existence of human societies and natural environments.

The use of this field guide can be empirically grounded as this material is one of the outputs of the research program of the Faculty of Management and Development Studies, University of the Philippines Open University on the blending of multimedia approach and Satoyama-Satoumi principles for building climate smart communities. The research program was funded by the Emerging Interdisciplinary Research (EIDR) research fund facility of the University of the Philippines System through the Office of the Vice-President for Academic Affairs and conducted in collaboration with the Institute of Biological Sciences, University of the Philippines Los Banos and Caraga State University.



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and Program Leader, Blending of Multimedia
Approach and Satoyama-Satoumi Principles
for Building Climate Smart Communities



PREFACE

Satoyama, a Japanese term, describes landscape patchwork incorporating various land uses such as rice fields, agricultural expanses, cultivated and regenerating forests, open grasslands, irrigation ponds, canals, and inhabited regions. An illustrative example of a Satoyama Landscape in Butuan City is Barangay Tungao, once densely forested with high-quality lumber trees like narra, mahogany, and lauan. The area also boasted an abundance of hardwood species, including antipolo, almaciga, benguet pines, toog, teak, bagtikan, molave, and various wild fruit trees. Beyond their visual appeal, Satoyama landscapes play a crucial role in biodiversity conservation and sustainable resource management. These areas showcase the delicate equilibrium between human activities and natural ecosystems, serving as habitats for diverse plant and animal species contributing to overall environmental resilience. Frameworks like this one are specifically designed to promote the conservation and sustainable use of natural resources in rural landscapes. Moreover, the engagement of local communities is a central aspect of Satoyama, aiming to encourage community participation in decision-making processes related to conservation, resource management, habitat restoration, and the promotion of environmentally friendly agricultural methods.

This guidebook is a culmination of the collective efforts of the collaborative research project of the University of the Philippines Los Baños, University of the Philippines Open University, and of course the Caraga State University, under the research program “Blending of Multimedia Approach and Satoyama-Satoumi Principles for Building Climate Smart Communities of the Emerging Interdisciplinary Research (EIDR-bSmart).” This field guide is

PREFACE

dedicated to the flora and fauna of the Satoyama landscape in Butuan City by providing detailed descriptions of floral species, including information on their uses, endemism, distribution, and conservation status. For faunal species, the guide offers descriptions, details on endemism, ecological roles, distribution, and conservation status. The aim is to deepen the understanding of local communities regarding biodiversity, thereby increasing awareness about the significance of terrestrial biodiversity in the region. The information presented in the field guide can be valuable to a range of stakeholders, including researchers, conservationists, educators, and the local community. It serves as a tool for identifying key species, assessing their ecological roles, understanding their current conservation status, and formulating strategies for the protection and preservation of these species. Additionally, the guide can be integrated into educational programs and community outreach initiatives within Butuan City. Its utility extends to future biodiversity research, particularly focusing on satoyama-satoumi initiatives in the neighboring communities within the Caraga Region.



ENGR. NOEL M. AJOC

Regional Director
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- To the Department of Environment and Natural Resources (DENR) Caraga Region for issuing the gratuitous permit (DENR-GP No. R13-2021-22) to conduct flora and fauna assessment in Brgy. Tungao.
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INTRODUCTION

SATOYAMA is a term from Japan that describes landscapes characterized by subsistence agriculture and secondary forests (Fukamachi et al., 2001; Takeuchi, 2003). It is sustained through the interactions between humans and nature (Takeuchi, 2010; Buot et al., 2013). In the Philippines, these are landscapes featuring subsistence farms and forestlands, recognized as muyong, lakon, komunal, or pinugo in northern Luzon, and as bundok or gubat in Tagalog regions, and bukid, lasang, or bungtod among Cebuano-speaking communities (Buot and Okitsu 1997, 1998; Buot and Osumi, 2004; Buot 2007; Buot 2008a, 2008b; Buot 2009; Buot et al. 2013; Buot 2014b; Buot et al. 2020; Buot and Buhay, 2022). It is a mosaic of landscapes consisting of varied land uses such as rice fields, agricultural land, cultivated and regenerating forests, open grasslands, irrigation ponds, canals, and inhabited areas.

The Satoyama Framework is one such platform developed specifically to promote the conservation and sustainable use of natural resources in rural landscapes (Ishizawa, 2018; Buot 2014a). It recognizes the importance of local communities in maintaining these landscapes and emphasizes the need for collaborative approaches that accommodate various stakeholders' interests (Buot 2014a; Buot and Buhay 2022). The implementation of a framework in the conservation and management of a cultural landscape such as the Ifugao Rice Terraces can promote sustainability and resiliency (Buot et al. 2013; Buot and Rabena, 2020; Buot et al., 2020). Frameworks enable stakeholders to take holistic action to preservation efforts across ecological, social, and economic dimensions.

Amidst the escalating challenges and problems such as deforestation, resource scarcity, and soil degradation, satoyama management practices are being employed as part of initiatives to restore the ecosystem services from satoyama landscapes. This is done by applying traditional methods and cultural practices and integrating them with modern approaches (Buot et al. 2013).

The hope for the Satoyama Landscapes in Butuan is to enhance the harmonious interaction between nature and the local community. This encompasses not only fostering economic development but also ensuring the sustainable utilization of natural resources.

STUDY SITE DESCRIPTION

The biodiversity assessment was conducted in selected areas in Kaigangan Satoyama Landscape of Barangay Tungao, Butuan City, Agusan del Norte. Barangay Tungao lies in the southern part of Butuan City with an approximate total land area of 15,700.64 hectares and about 13,000 hectares have potential land area for agriculture & agroforestry. The following vegetation types in Barangay Tungao, Butuan City were: **agroforest area**, characterized by secondary forest and mixed agroforestry; **agroecosystem** and **grassland area**, dominated with grasses, shrubs. and agricultural crops; and **riparian**, consist of native and exotic plants and tree species .

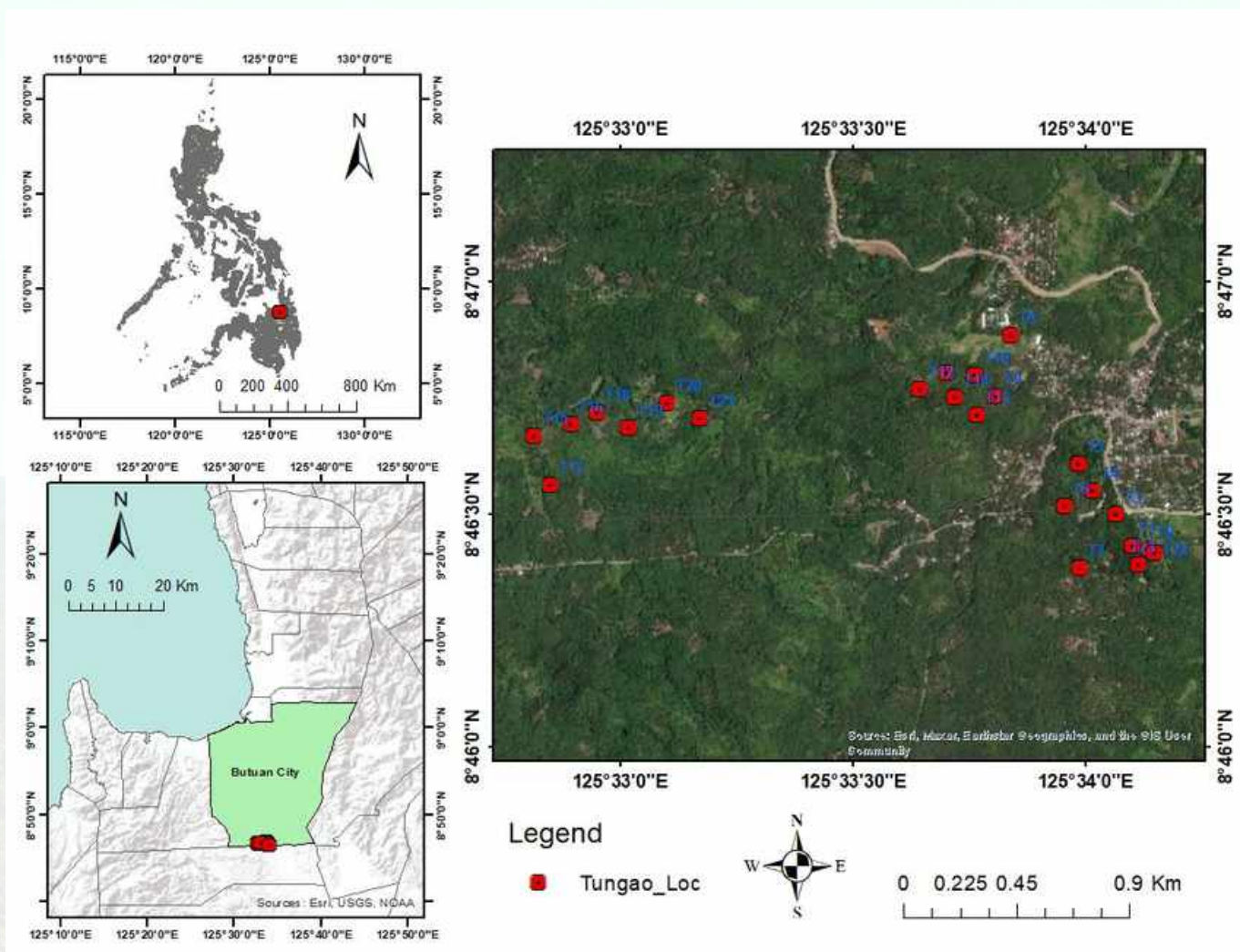
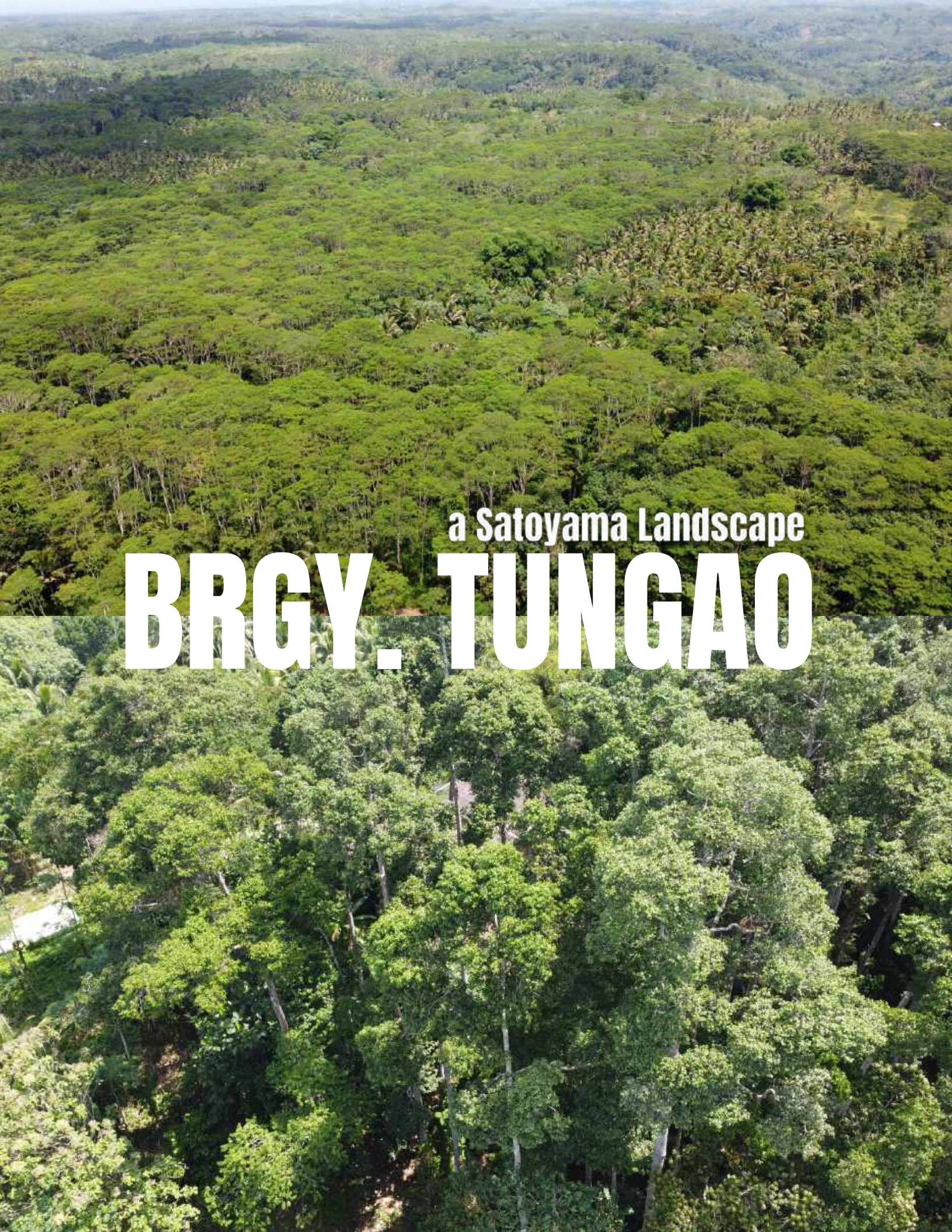


Figure 1. Location map of the study area and sampling plots in Barangay Tungao, Butuan City – a satoyama landscape.

An aerial photograph of a vast, dense tropical forest. The canopy is a mix of various shades of green, indicating different tree species and heights. In the lower-left corner, a small, light-colored clearing or path is visible. The overall scene is a lush, continuous expanse of forest. Overlaid on the center-right of the image is the text 'a Satoyama Landscape' in a smaller, white, sans-serif font, and below it, 'BRGY. TUNGAO' in a much larger, bold, white, sans-serif font.

a Satoyama Landscape

BRGY. TUNGAO



Drone shots by: Jabez Joshua M. Flores, PhD



HOW TO USE THIS BOOK

The field guide aims to enable the reader to identify some plants found in Kaigangan Satoyama of Brgy. Tungao, Butuan City - a socioecological landscape.

This field guide book includes plant information such as spot characters and economic uses as well as information on the conservation status and current distribution.

Flora Guide

Legend:

- A** **Group**
indicates what group that the species belongs
- B** **Non-Active Icons**
- C** **Active Icon**
the highlighted icon determines that the species below belongs to the said group
- D** **Image of the species**
- E** **Label of the Figures**
describes the characters of the figures
- F** **Family**
a taxonomic group of one or more genera
- G** **Scientific Name**
Taxonomic name of an organism that consists of the genus and species.

- H** **Local Name**
Name existing in or belonging to a specific area
- I** **Synonym**
alternate and redundant name of the plant species.
- J** **Spot Characters**
Allows for quick scanning and species verification
- K** **Uses**
Contains information on ethnobotanical application of the species
- L** **Endemism**
described in this field guide as category of species occurrence whether it is endemic, native, naturalized, or cultivated
- M** **Distribution**
Provides range and species distribution
- N** **Conservation Status**
this refers to the status of the species based on the IUCN Red List (2022).

HOW TO USE THIS BOOK

C
B
A


FLORA

D

E

F

G

H

J

K

L

M

N



A leaves and fruit
 B Fruit

Family: Moraceae

Scientific Name: *Artocarpus odoratissimus* Blanco

Local Name: Marang

Synonym: *Artocarpus mutabilis* Becc., *Artocarpus tarap* Becc.

Description: A big tree that has an elliptic to obovate large leaves. The fruits are subglobose, meaning they have a roughly spherical shape, turning from green to yellowish-brown as they ripen. Fruits have rigid, hairy protuberances, each around 1 cm long. For each fruit contains many seeds and every seeds are surrounded by white juicy pulp.

Uses: The fruit is edible. The fruit flesh is juicy, aromatic and has a sweet-flavored taste.

Endemism: **Non-Endemic**

Distribution: Naturalized in the Philippines (Basilian, Mindanao, and Mindoro) and Native in Borneo (Pelser et al. 2011).

Conservation Status:

NE

DD

LC

NT

VU

EN

CR

EW

EX

HOW TO USE THIS BOOK

The field guide aims to enable the reader to identify some animals found in Kaigangan Satoyama of Brgy. Tungao, Butuan City - a socioecological landscape.

This field guide book includes animal information such as description of characters as well as information such as conservation status and ecological importance.

Fauna Guide

Legend:

- | | |
|---|---|
| A Group
indicates what group that the species belongs | H Local Name
name existing in or belonging to a specific area |
| B Non-Active Icons | I Spot Characters
allows for quick scanning and species verification |
| C Active Icon
the highlighted icon determines that the species below belongs to the said group | J Uses
contains information on ethnobotanical application of the species |
| D Image of the species | K Endemism
described in this field guide as category of species occurrence whether it is endemic, native, naturalized, or cultivated |
| E Label of the Figures
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| F Family
a taxonomic group of one or more genera | M Conservation Status
this refers to the status of the species based on the IUCN Red List (2022). |
| G Scientific Name
taxonomic name of an organism that consists of the genus and species. | |

HOW TO USE THIS BOOK

C
B
A



AMPHIBIANS



A dorsal view



B lateral view

Family: Dicroglossidae

Scientific Name: *Limnonectes cf. magnus* (Stejneger, 1910)

Common Name: Mindanao Fanged Frog

Description: A large-bodied frog with muscular legs and have a huge head. Mostly observed in aquatic ecosystems.

Ecological Role: Play an important role in the ecosystem as prey and predator. They help in controlling insect population and serve as prey for larger animals.

Endemism: **Mindanao Faunal Regional Endemic** (Sanguila et al. 2016)

Distribution: Widely distributed all throughout the Mindanao faunal region including Basilan, Biliran, Bohol, Camiguin Sur, Dinagat, Leyte, Mindanao, Samar (Diesmos et al. 2015; Sanguila et al. 2016; Pitogo et al. 2021)

Conservation Status: (IUCN 2023-1)

NE

DD

LC

NT

VU

EN

CR

EW

EX

DEFINITION OF TERMS

Amphibians

These are groups of cold-blooded vertebrates including frogs, toads, salamanders, newts, and caecilians that can live both on lands and water.

Arthropods

These are invertebrate animals that possess an exoskeleton.

Birds

These are a group of warm-blooded vertebrates, characterized by having a wings, feathers, and toothless beaked jaws.

Conservation Status

a category assigned to a species to reflect its risk of extinction

Critically Endangered (CR)

This category is used to classify species that experienced an extraordinarily rapid and severe decline in its population, often exceeding 80 to 90 percent over the previous 10 years or three generations, whichever is shorter (IUCN, 2001).

Data Deficient (DD)

This category is used to classify species for which there is inadequate information to assess their extinction risk based on distribution and population status (IUCN, 2001)

Endangered (EN)

This category is used to classify species that are at an extremely high risk of extinction. This is typically due to very rapid population declines, often ranging from 50 to more than 70 percent, over the previous 10 years or three generations, whichever is shorter (IUCN, 2001).

Endemic

species that is found only in that particular area.

Endemism

condition of being endemic, or restricted in geographical distribution to an area or specific region.

Fauna

All animal forms present in a particular region.

Flora

All plant forms present in a particular region.

Introduced

a species that has been intentionally or unintentionally transported by humans to a region outside its natural range.

DEFINITION OF TERMS

Landscape

A mosaic of forests, grassland, shrubland and terrestrial ecosystems.

Least Concern (LC)

A category containing species that are pervasive and abundant after careful assessment. This means that species are not threatened to extinction (IUCN, 2001).

Native

A species that have originated and evolved in a local area over a long period of time.

Near Threatened (NT)

Close to qualifying or is likely to qualify for a threatened category in the near future, but does not qualify for Critically Endangered (IUCN, 2001).

Not Evaluated (NE)

A category used to indicate that a species has not yet been assessed by the International Union for Conservation of Nature (IUCN, 2001).

Non-Volant Mammals

These are group of small mammals that are incapable of flying.

Reptiles

These are group of cold-blooded vertebrates, covered in special skin made up of scales, bony plates, or a combination of both that can live both in lands and in water.

Satoyama

A Japanese term that describes a landscape where human-ecosystem interaction has resulted in increased biodiversity and productivity (Mizuta and Vlachopoulou, 2017)

Vulnerable (VU)

This category is used to classify species that are at very high risk of extinction. The species has experienced a significant and rapid decline in its population (IUCN, 2001).

METHODOLOGY

FLORA



10 x 10 Plots (Trees and Mature Individuals)

5 x 5 Plots (Shrubs or Sapling Layers)

1 x 1 Plots (Herbs or Seedling Layers)

AMPHIBIANS



Search and Capture

Visual Encounter

REPTILES



Search and Capture

Pitfall Trap

Visual Encounter

BIRDS



Mist Netting

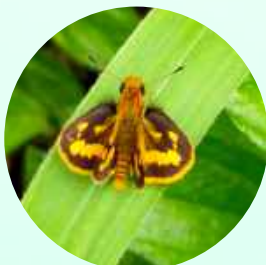
Bird Watching

NON-VOLANT
MAMMALS



Box Trapping

ARTHROPODS

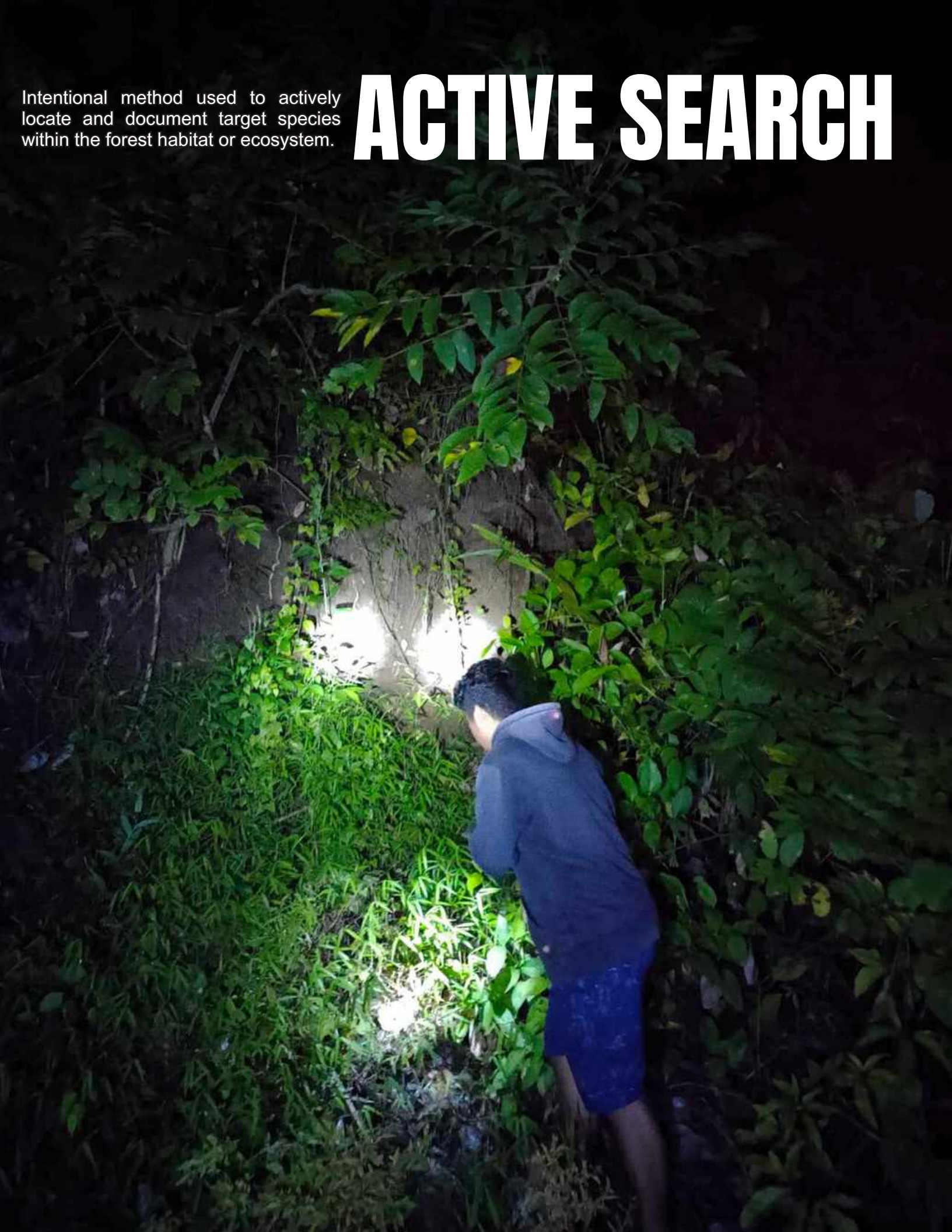


Insect Net Sweeping

Transect Walk

Intentional method used to actively locate and document target species within the forest habitat or ecosystem.

ACTIVE SEARCH





BOX TRAPPING

Metal traps were set along the transect in 5-10 m intervals for capturing small to medium-sized animals, baits such as coconut meat or peanut butter are used.



A total of 2km transect line were established along the forest ecosystem. Laid on the forest floor, to make sure the points or plots are evenly distributed.

TRANSECT WALK

MIST NETTING

Mist nets were set along possible flyways or near feeding trees



Plastic containers were buried with the brim lower or about the same level as the ground. Spaced 5 meters apart and the trap is covered with natural roofing material, a drift fence may be added

PITFALL TRAP





Handheld net were used to capture insects flying or hovering over foliage

INSECT NET SWEEPING



Plots of 10x10 m were established along the transect line to identify the species and measure diameter, height and other parameters

QUADRAT SAMPLING







FLORA

FLORA SPECIES LIST

Anacardiaceae

- *Dracontomelon dao* (Blanco) Merr. & Rolfe

Annonaceae

- *Annona muricata* L.

Araceae

- *Homalomena philippinensis* Engl.

Araucariaceae

- *Agathis philippinensis* Warb.

Arecaceae

- *Caryota cumingii* Lodd. ex Mart.
- *Cocos nucifera* L.

Bignoniaceae

- *Spathodea campanulata* P.Beauv.

Burseraceae

- *Canarium ovatum* Engl. in DC.

Costaceae

- *Hellenia speciosa* (J.Koenig) S.R.Dutta

Dipterocarpaceae

- *Shorea contorta* S.Vidal

Ebenaceae

- *Diospyros blancoi* A. DC.

Euphorbiaceae

- *Aleurites moluccanus* (L.) Willd.
- *Hevea brasiliensis* (Willd. ex A.Juss.) Müll.Arg.

Fabaceae

- *Acacia mangium* Willd
- *Pterocarpus indicus* Willd.
- *Sindora supa* Merr.

Lamiaceae

- *Clerodendrum intermedium* Cham.
- *Gmelina arborea* Roxb. ex Sm. in Rees
- *Tectona grandis* L.f.
- *Vitex parviflora* A.Juss.

Lecythidaceae

- *Petersianthus quadrialatus* (Merr.) Merr.

Lythraceae

- *Lagerstroemia speciosa* DC.

Malvaceae

- *Theobroma cacao* L.

Marantaceae

- *Donax canniformis* (G.Forst.) K.Schum.

Melastomataceae

- *Melastoma malabathricum* L.

Meliaceae

- *Lansium domesticum* Corrêa
- *Melia azedarach* L.
- *Sandoricum koetjape* (Burm.f.) Merr.
- *Swietenia macrophylla* King

Moraceae

- *Artocarpus camansi* Blanco
- *Artocarpus heterophyllus* Lam.
- *Artocarpus odoratissimus* Blanco
- *Ficus botryocarpa* Miq.
- *Ficus nota* (Blanco) Merr
- *Ficus odorata* (Blanco) Merr.
- *Ficus pseudopalma* Blanco
- *Ficus septica* Burm.f.

Myrtaceae

- *Psidium guajava* L.

Nephrolepidaceae

- *Nephrolepis cordifolia* (L.) C.Presl.

Piperaceae

- *Piper aduncum* L.

Rubiaceae

- *Morinda citrifolia* L.
- *Nauclea orientalis* (L.) L.

Sapotaceae

- *Chrysophyllum cainito* L.

Selaginellaceae

- *Selaginella delicatula* (Desv.) Alston

Sterculiaceae

- *Sterculia foetida* L.

Thelypteridaceae

- *Strophocaulon unitum* (L.) S.E.Fawc. & A.R.Sm.

Vitaceae

- *Leea aculeata* Blume ex Spreng.

Verbenaceae

- *Stachytarpheta jamaicensis* (L.) Vahl



Family: Anacardiaceae

Scientific Name: *Dracontomelon dao* (Blanco) Merr. & Rolfe

Local Name: Dao

Synonym: *Comeurya cumingiana* Baill., *Dracontomelon brachyphyllum* Ridl., *Dracontomelon cumingianum* Baill., *Dracontomelon edule* (Blanco) Skeels, *Dracontomelon lamiyo* Merrill, *Dracontomelon laxum* Schum., *Dracontomelon mangiferum* Bl., *Dracontomelon mangiferum* var. *puberulum* (Miq.) Engl., *Dracontomelon mangiferum* var. *pubescens* Koord. & Val.

Description: Tall tree, reaching up to 45(-55) meters in height, with a branchless trunk extending up to 20(-25) meters and a diameter of up to 100(-150) cm. It features narrow buttresses up to 6 meters high, and the bark has an irregularly scaly surface in greyish-brown with brown or greenish patches, while the inner bark is pink or red.

Uses: The tree is used for firewood and timber such as for veneers, furniture, plywood, interior trim and light frame (Orwa et al. 2009).

Endemism: Native

Distribution: Andaman Isls, Bangladesh, Bismarck Arch, Borneo, Cambodia, China, India, Java, Laos, Lesser Sunda Isls, Malay Peninsula, Moluccas, Myanmar, New Guinea, Nicobar Isls, Philippines, Solomon Isls, Sulawesi, Sumatra, Thailand, Vietnam (Pelser et al. 2011).

Conservation Status:
(IUCN 2023-1)

NE

DD

LC

NT

VU

EN

CR

EW

EX



A leaves



B inflorescence

Family: Annonaceae

Scientific Name: *Annona muricata* L.

Local Name: Guyabano, Soursop

Synonym: *Annona bonplandiana* Kunth, *Annona cearaensis* Barb.Rodr., *Annona macrocarpa* Wercklé, *Annona mexicana* Lodd., *Annona mexicana* Lodd. ex G.Don, 1830, *Annona muricata* f. *mirabilis* R.E.Fr., *Annona muricata* subsp. *borinquensis* Morales, *Annona muricata* subsp. *borinquensis* Morales ex Urb., *Annona muricata* subsp. *mirabilis* R.E.Fr., *Annona muricata* var. *borinquensis* Morales, *Annona muricata* var. *borinquensis* Morales ex Urb., *Annona portoricensis* M.Gómez, *Guanabanus muricatus* (L.) M.Gómez

Description: A shrub to small tree with large and spiky fruit which has a green outer skin. The flesh of the fruit is white and fibrous. Flower yellow green color in a triangle-conical shape.

Uses: Various parts, including the leaves, seeds, and fruit, have been traditionally used in folk medicine for their potential health benefits. For example, the fruit is used for the treatment of arthritis, nervous disorders, and diarrhea (Wélé et al. 2004).

Endemism: Cultivated

Distribution: C America, Caribbean. Cultivated in the Philippines (Pelser et al. 2011).

Conservation Status:
(IUCN 2023-1)

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EX



A habit



B spathe

Family: Araceae

Scientific Name: *Homalomena philippinensis* Engl.

Local Name: Payau

Synonym: *Homalomena rubescens* subsp. *latifolia* Engl., *Homalomena rubescens* var. *latifolia* Engl.

Description: A perennial plant that produces clusters of large, heart-shaped leaves from an underground corm. Spathe is greenish,

Uses: This plant is traditionally used in herbal medicine in treating colds, body aches, headache, fever, tonsillitis, impotence and sterility, hemorrhoids, rheumatism, cuts and wounds, and to facilitate labor and delivery (Dapar et al. 2020)

Endemism: Native

Distribution: Taiwan, Philippines: Basilan Bataan, Biliran, Leyte, Albay, Bataan, Benguet, Cagayan, Camarines Norte, Ifugao, Isabela, La Union, Laguna, NCR, Pampanga, Pangasinan, Quezon, Rizal, Sorsogon, Tarlac, Zambales, Agusan del Norte, Davao de Oro, Lanao del Sur, Zamboanga Sibugay, Mindoro, Negros, Palawan, Panay, Polillo, Samar. (Pelser et al. 2011)

Conservation Status:
(IUCN 2023-1)



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A habit



B trunk

Family: Araucariaceae

Scientific Name: *Agathis philippinensis* Warb.

Local Name: Almaciga

Synonym: No synonyms accounted for this name

Description: The tree has green, leathery leaves that are arranged oppositely. The leaves are broad, generally oval-shaped, but sometimes with a narrower portion from the middle to the tip. The bark of the almaciga tree is described as gray and smooth. When cut, the tree oozes a white liquid material known as "resin."

Uses: The tree is utilized and harvested for its timber and resin. This resin is a key characteristic of the almaciga and contributes to its economic importance. Resin is often collected for various uses, such as in traditional medicine, crafts, and industry.

Endemism: **Native**

Distribution: Philippines (Babuyan Isls, Cebu, Bukidnon, Davao del Sur), Moluccas, Sulawesi (Pelser et al. 2011).

Conservation Status:
(IUCN 2023-1)

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EX



A foliage



B foliage and fruit

Family: Arecaceae

Scientific Name: *Caryota cumingii* Lodd. ex Mart.

Local Name: Pugahan

Synonym: *Caryota blancoi* Hook.f., *Caryota cumingii* Lodd., *Caryota merrillii* Becc.

Description: The leaves are large and uniquely shaped, resembling fishtails. The leaves are deeply divided, giving them a feathery appearance.

Uses: Local communities utilize different parts of the palm for various purposes. The tree is harvested from the wild for its edible bud and the pith in its stem (Tropical Plants Database 2024).

Endemism: **Philippine Endemic**

Distribution: Balabac, Guimaras, Apayao, Bataan, Ifugao, Ilocos Norte, La Union, Laguna, NCR, Nueva Ecija, Nueva Vizcaya, Pangasinan, Quezon, Rizal, Zambales, MIndoro, Negros, Palawan, Panay, Samar, Tawi-Tawi (Pelser et al. 2011).

Conservation Status:
(IUCN 2023-1)

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Family: Arecaceae
Scientific Name: *Cocos nucifera* L.
Local Name: Niyog

Synonym: *Calappa nucifera* (L.) Kuntze, *Cocos indica* Royle, *Cocos mamillaris* Blanco, *Cocos nana* Griff., *Cocos nucifera* f. *palmyrensis* Becc., *Cocos nucifera* subsp. *synphylica* Becc., *Cocos nucifera* var. *alangan* Blume, *Cocos nucifera* var. *alba* Blume, *Cocos nucifera* var. *angustifolia* Hassk., *Cocos nucifera* var. *aurea* Anon., *Cocos nucifera* var. *austera* Blume, *Cocos nucifera* var. *bego* Blume, *Cocos nucifera* var. *buri* Blume, *Cocos nucifera* var. *calimbahin* Blume, *Cocos nucifera* var. *capuliformis* Blume, *Cocos nucifera* var. *cistiformis* Blume, *Cocos nucifera* var. *como* Blume, *Cocos nucifera* var. *crassissima* Blume, *Cocos nucifera* var. *delicata* Blume, *Cocos nucifera* var. *eburnea* Blume, *Cocos nucifera* var. *edulis* Blume, *Cocos nucifera* var. *elongata* Blume, *Cocos nucifera* var. *fibrosa* Blume, *Cocos nucifera* var. *fragilis* Blume, *Cocos nucifera* var. *humilis* Blume, *Cocos nucifera* var. *iners* Blume, *Cocos nucifera* var. *javanica* G.V.Narayana, *Cocos nucifera* var. *laetevirens* Blume, *Cocos nucifera* var. *lansiformis* Blume, *Cocos nucifera* var. *lolog* Blume, *Cocos nucifera* var. *machaeroides* Blume, *Cocos nucifera* var. *macrocarpa* Blume, *Cocos nucifera* var. *maldivica* Blume, *Cocos nucifera* var. *mamillaris* (Blanco) Blume, *Cocos nucifera* var. *microcarpa* Hassk., *Cocos nucifera* var. *microcarpa* Hassk. ex F.W.T.Hunger, *Cocos nucifera* var. *nana* (Griff.) G.V.Narayana, *Cocos nucifera* var. *osseae* Blume, *Cocos nucifera* var. *palmyrensis* (Becc.) Becc., *Cocos nucifera* var. *palmyrensis* (Becc.) Pignotti & Baldini, 2020, *Cocos nucifera* var. *pinang* Blume, *Cocos nucifera* var. *pretiosa* Blume, *Cocos nucifera* var. *pruniformis* Blume, *Cocos nucifera* var. *pumila* Hassk., *Cocos nucifera* var. *regia* Blume, *Cocos nucifera* var. *rubescens* Hassk., *Cocos nucifera* var. *rutile* Blume, *Cocos nucifera* var. *saccharina* Blume, *Cocos nucifera* var. *sapida* Blume, *Cocos nucifera* var. *spicata* K.C.Jacob, *Cocos nucifera* var. *stuppea* Blume, *Cocos nucifera* var. *suavis* Blume, *Cocos nucifera* var. *subamara* Blume, *Cocos nucifera* var. *subcandida* Blume, *Cocos nucifera* var. *synphylica* Becc., *Cocos nucifera* var. *tabogog* Blume, *Cocos nucifera* var. *tamisan* Blume, *Cocos nucifera* var. *tenuissima* Blume, *Cocos nucifera* var. *viridis* Blume, *Cocos nucifera* var. *viridis* Hassk., *Diplothemium henryanum* F.Br., *Palma cocos* Mill.

Description: A large, palm-like tree with a single trunk and pinnate leaves. This tree is known for its tall, slender appearance and the characteristic arrangement of its leaves. The coconut consists of a hard, woody shell surrounding the seed, which is the edible part

Uses: The coconut fruit can be used as food, water, oil, medicine, and other products. The fibers from the coconut husk, known as coir, are traditionally used to make ropes and nets. This plant species is also utilized for timber and products.

Endemism: Native

Distribution: Australia, Bismarck Arch, Moluccas, New Guinea, Pacific Ocean, Philippines: Ifugao, Laguna, NCR, Rizal, Mindoro, Palawan, Samar, Sulu Archipelago, Tawi-Tawi, Solomon Isls. (Pelser et al. 2011).

Conservation Status:
(IUCN 2022-2)

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EX



A leaf



B inflorescence

Family: Bignoniaceae

Scientific Name: *Spathodea campanulata* P.Beauv.

Local Name: African Tulip

Synonym: *Bignonia tulipifera* Schum., *Spathodea tulipifera* (Schum.) G.Don

Description: The flowers have a tulip-like shape, with a flaring, bell-shaped corolla, typically range from orange to red in color. The leaves are compound and arranged in pairs opposite each other along the stem.

Uses: Traditionally, it is reported to have potential medicinal properties for the treatment of various ailments including fever, dysentery, constipation, malaria, stomach ulcers, wounds, diabetes, and urethritis (WAHP 2013; Padhy 2021). It is also used as natural dye (Lokesh and Swamy 2013).

Endemism: Naturalized in the Philippines

Distribution: Africa (Pelser et al. 2011).

Conservation Status:
(IUCN 2023-1)

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EX



A leaves

B leaves and fruits

Family: Burseraceae

Scientific Name: *Canarium ovatum* Engl. in DC.

Local Name: Pili, Pilinut

Synonym: *Canarium pachyphyllum* G.Perkins, *Canarium melioides* Elmer

Description: A medium to large evergreen tree with a straight trunk. Leaves are arranged spirally with persistent stipules. The leaflets are elliptical and pointed. The fruit is a drupe, ovoid to ellipsoid shape, and the seed inside is the edible pili nut.

Uses: Edible Fruits. Used in various culinary applications, it can be eaten raw, roasted, or candied. Pili nut oil is also extracted for cooking. The wood, rich in resin, also utilized as firewood.

Endemism: **Philippine Endemic**

Distribution: Catanduanes, Leyte, Albay, Cagayan, Camarines, Camarines Sur, Laguna, NCR, Quezon, Sorsogon, Agusan del Norte, Bukidnon, Davao del Sur, Surigao, Polillo, Samar, Semirara (Pelser et al. 2011) .

Conservation Status:
(IUCN 2023-1)

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Family: Costaceae

Scientific Name: *Hellenia speciosa* (J.Koenig) S.R.Dutta

Local Name: Crepe ginger

Synonym: *Amomum arboreum* Lour., *Amomum hirsutum* Lam., *Banksea speciosa* J.Koenig, *Cardamomum arboreum* (Lour.) Kuntze, *Cheilocostus potierae* (F.Muell.) M.G.Harr. & Zich, *Cheilocostus speciosus* (J.Koenig) C.D.Specht, *Costus angustifolius* Ker Gawl., *Costus angustifolius* KerGawl., *Costus argyrophyllus* Wall., *Costus crispiflorus* Stokes, *Costus foeniculaceus* Noronha, *Costus formosanus* (Nakai) S.S.Ying, *Costus formosanus* Nakai, *Costus glaber* (K.Schum.) Merr., *Costus glabratus* Rchb., *Costus hirsutus* Blume, *Costus lamingtonii* F.M.Bailey, *Costus loureiroi* Horan., *Costus nipalensis* Roscoe, *Costus potierae* F.Muell., *Costus sericeus* Blume, *Costus speciosus* (J.Koenig) Sm., *Costus speciosus* subsp. *angustifolius* Ker Gawl., *Costus speciosus* subsp. *argyrophyllus* Wall., *Costus speciosus* subsp. *argyrophyllus* Wall. ex Baker, *Costus speciosus* subsp. *dilnavaziae* M.R.Almeida & S.M.Almeida, *Costus speciosus* subsp. *formosanus* (Nakai) S.S.Ying, *Costus speciosus* subsp. *glaber* K.Schum., *Costus speciosus* subsp. *hirsutus* (Blume) K.Schum., *Costus speciosus* subsp. *sericeus* (Blume) K.Schum., *Costus speciosus* var. *angustifolius* Ker Gawl., *Costus speciosus* var. *angustifolius* KerGawl., *Costus speciosus* var. *argyrophyllus* Wall., *Costus speciosus* var. *argyrophyllus* Wall. ex Baker, *Costus speciosus* var. *dilnavaziae* M.R.Almeida & S.M.Almeida, *Costus speciosus* var. *formosanus* (Nakai) S.S.Ying, *Costus speciosus* var. *glaber* K.Schum., *Costus speciosus* var. *hirsutus* (Blume) K.Schum., *Costus speciosus* var. *hirsutus* Blume, *Costus speciosus* var. *leocalyx* Nakai, *Costus speciosus* var. *nipalensis* (Roscoe) Baker, *Costus speciosus* var. *sericeus* (Blume) K.Schum., *Costus spicatus* subsp. *pubescens* Griseb., *Costus spicatus* var. *pubescens* Griseb., *Costus vaginalis* Salisb., *Hellenia grandiflora* Retz., *Hellenia speciosa* (J.Koenig) Govaerts, 2013, *Hellenia speciosa* var. *dilnavaziae* (M.R.Almeida & S.M.Almeida) S.R.Dutta, *Hellenia speciosa* var. *dilnavazii* S.R.Dutta, *Kaempferia speciosa* (J.Koenig) Thunb., *Planera speciosa* (J.Koenig) Giseke, *Pyxa speciosa* (J.Koenig) M.R.Almeida, *Pyxa speciosa* var. *dilnavaziae* (M.R.Almeida & S.M.Almeida) M.R.Almeida, *Tsiana speciosa* (J.Koenig) J.F.Gmel.

Description: It is a herbaceous perennial plant with large dark green leaves arranged on the stalk in a spiral.

Uses: This plant species is used in treating conditions with a burning sensation, constipation, leprosy, worm infection, skin diseases, fever, asthma, bronchitis, inflammations and anaemia (Tropical Plants Database, 2024)

Endemism: Native

Distribution: Andaman Isls, Australia, Bangladesh, Bismarck Arch, Borneo, Cambodia, China, India, Java, Laos, Lesser Sunda Isls, Malay Peninsula, Moluccas, Myanmar, Nepal, New Guinea, Nicobar Isls, Philippines, Solomon Isls, Sri Lanka, Sulawesi, Sumatra, Taiwan, Thailand, Vietnam (Pelser et al. 2011).

Conservation Status:
(IUCN 2023-1)

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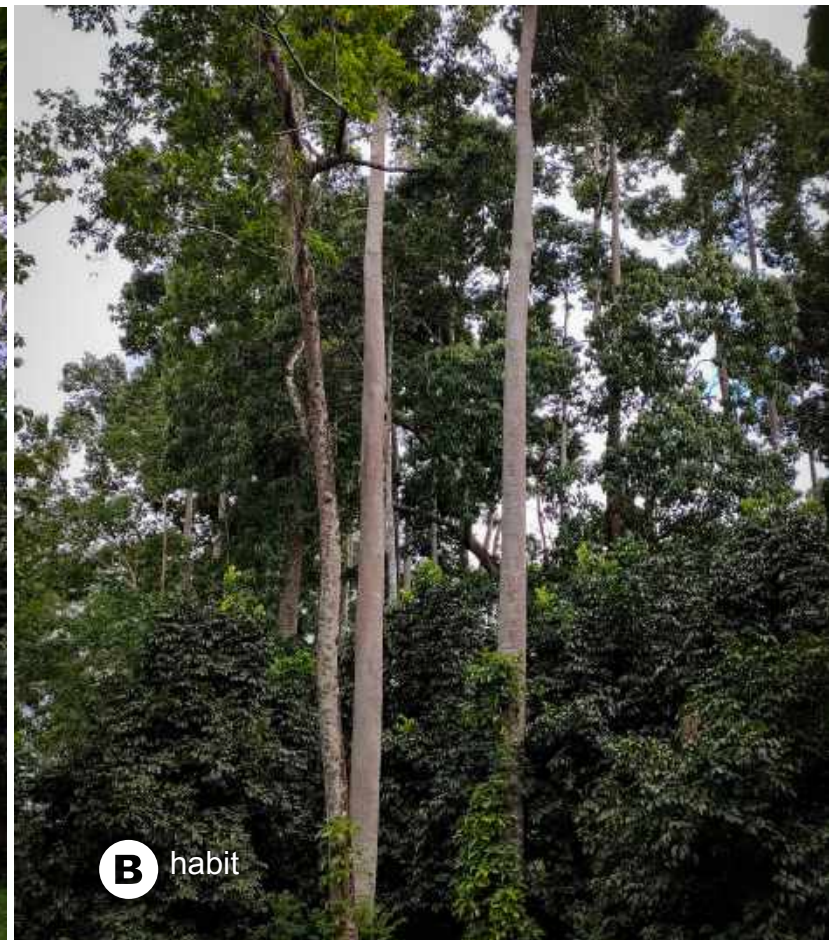
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EX



A habit

B habit

Family: Dipterocarpaceae

Scientific Name: *Shorea contorta* S.Vidal

Local Name: White Lauan

Synonym: *Pentacme contorta* (Vidal) Merr. & Rolfe

Description: A large tree with flat crown, irregular, and open. Leaves are simple, ovate in shape, and alternate phyllotaxy. The flowers are ovoid and lanceolate. The fruit is nut which is enclosed by two long wings.

Uses: Timber generally for construction, veneer, hardboard and plywood, cabinet and furniture making (de Guzman et al. 1986)

Endemism: **Philippine Endemic**

Distribution: Babuyan Isls, Basilan, Calayan, Leyte, Abra, Albay, Aurora, Bataan, Benguet, Cagayan, Camarines, Ilocos Norte, Isabela, Laguna, Nueva Ecija, Pangasinan, Quezon, Rizal, Sorsogon, Tarlac, Marinduque, Masbate, Agusan, Bukidnon, Davao Del Sur, Lanao, Lanao Del Norte, Misamis Occidental, Zamboanga, Zamboanga Sibugay, Zamboanga Del Sur, Mindoro, Negros, Polillo, Samar, Sibuyan, Sulu Archipelago.

Conservation Status:
(IUCN 2023-1)

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EX



A habit



B fruits

Family: Ebenaceae

Scientific Name: *Diospyros blancoi* A. DC.

Local Name: Kamagong/Mabolo

Synonym: *Cavanillea mabolo* (Roxb. ex Lindl.) Hiern, *Cavanillea mabolo* Lam., 1794, *Cavanillea mabolo* Poir., *Cavanillea philippensis* Desr., *Cavanillea philippinensis* Desr., *Diospyros discolor* Willd., *Diospyros durionoides* Bakh., *Diospyros mabola* Roxb., 1814, *Diospyros mabolo* (Poir.) Roxb., *Diospyros mabolo* (Poir.) Roxb. ex Lindl., *Diospyros mabolo* Roxb. ex J.V.Thomps., *Diospyros malacapai* A.DC., *Diospyros merrillii* Elmer, *Diospyros philippensis* (Desr.) Gürke, *Diospyros philippensis* (Desr.) M.R.Almeida, 2001, *Diospyros utilis* Hemsl., *Embryopteris discolor* (Willd.) G.Don, *Mabola edulis* Raf.

Description: Leaves alternate, oblong in shape, with rounded base and pointed tip. The upper surface is dark-green and shiny, while the lower surface is silvery and hairy. Its fruits are fleshy berries that are round or slightly flattened on one side with a reddish brown velvet skin.

Uses: Edible Fruits

Endemism: Native

Distribution: Borneo and Philippines (BATAN, CAMOTES, CATANDUANES, GUIMARAS, LEYTE, LUZON: Albay, Aurora, Bataan, Bulacan, Cagayan, Camarines, Camarines Sur, Laguna, NCR, Pampanga, Quezon, Rizal, Sorsogon, Zambales, MALAPACKUN, MINDANAO: Agusan del Norte, Davao Oriental, Surigao, MINDORO, PALAWAN, PANAY, SAMAR (Pelser et al. 2011).

Conservation Status:
(IUCN 2023-1)



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Family: Euphorbiaceae

Scientific Name: *Aleurites moluccanus* (L.) Willd.

Local Name: Lumbang, candlenut tree

Synonym: *Aleurites ambinux* Pers., *Aleurites angustifolius* Vieill., *Aleurites angustifolius* Vieill. ex Guill., *Aleurites commutatus* Geiseler, *Aleurites cordifolius* (Gaertn.) Steud., *Aleurites integrifolius* Vieill., *Aleurites integrifolius* Vieill. ex Guill., *Aleurites javanicus* Gand., *Aleurites lanceolatus* Blanco, *Aleurites lobatus* Blanco, *Aleurites moluccana* subsp. *aulanii* O.Deg. & I.Deg., *Aleurites moluccana* subsp. *floccosa* Airy Shaw, *Aleurites moluccana* subsp. *katoi* O.Deg., I.Deg. & Stone, *Aleurites moluccana* subsp. *remyi* (Sherff) Stone, *Aleurites moluccana* subsp. *serotina* O.Deg. & Sherff, *Aleurites moluccana* var. *katoi* O.Deg., I.Deg. & B.C.Stone, *Aleurites moluccanus* var. *aulanii* O.Deg. & I.Deg., *Aleurites moluccanus* var. *floccosus* Airy Shaw, *Aleurites moluccanus* var. *floccosus* Airy Shaw, *Aleurites moluccanus* var. *katoi* O.Deg., I.Deg. & B.S.Stone, *Aleurites moluccanus* var. *remyi* (Sherff) B.C.Stone, *Aleurites moluccanus* var. *serotinus* O.Deg. & Sherff, *Aleurites pentaphyllus* Benth., *Aleurites pentaphyllus* Wall., *Aleurites pentaphyllus* Wall. ex Langeron, *Aleurites remyi* Sherff, *Aleurites trilobus* J.R.Forst. & G.Forst., *Camirum moluccanum* (L.) Kuntze, *Camirum cordifolium* Gaertn., *Camirum moluccanum* (L.) Kuntze, *Camirum oleosum* Reinw., *Camirum oleosum* Reinw. ex Blume, *Camirum oleosum* Reinw. ex Müll.Arg., *Dryandra oleifera* Lam., *Jatropha moluccana* L., *Juglans camirum* Lour., *Juglans camirum* Lour., *Mallotus moluccanus* (L.) Müll.Arg., *Mallotus moluccanus* subsp. *genuinus* Müll.Arg., *Manihot moluccana* (L.) Crantz, *Ricinus dicoccus* Roxb., *Rottlera moluccana* (L.) Scheff., *Telopea perspicua* Sol., *Telopea perspicua* Sol. ex Seem.

Description: The tree has large, heart-shaped leaves that are dark green in color. The leaves are green, simple, arranged alternately along the branches. The fruit is a round, green to brownish indehiscent globose drupe, typically about the size of a walnut.

Uses: Commonly used as a key ingredient in various dishes. Used in folk medicine in treating fever, asthma, hepatitis, gastric ulcer and inflammatory process (Quintão et al. 2019).

Endemism: Native

Distribution: Borneo, China, India, Java, Lesser Sunda Isls, Malay Peninsula, Moluccas, New Guinea, New Zealand, Pacific Ocean, Philippines, Sulawesi, Sumatra, Thailand. Cavite, Laguna, NCR, Nueva Ecija, Rizal, Davao del Sur, Lanao del Sur, Palawan (Pelser et al. 2011).

Conservation Status:
(IUCN 2023-1)

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EX



A habit

B leaves

Family: Euphorbiaceae

Scientific Name: *Hevea brasiliensis* (Willd. ex A.Juss.) Müll.Arg.

Local Name: Rubber Tree

Synonym: *Hevea brasiliensis* f. *acreana* (Ule) Ducke; *Hevea brasiliensis* f. *angustifolia* (Ule ex Huber) Ule; *Hevea brasiliensis* f. *latifolia* (Ule ex Huber) Ule; *Hevea brasiliensis* f. *randiana* Ducke; *Hevea brasiliensis* var. *acreana* Ule; *Hevea brasiliensis* var. *angustifolia* Ule ex Huber; *Hevea brasiliensis* var. *janeirensis* Pax; *Hevea brasiliensis* var. *latifolia* Ule ex Huber; *Hevea brasiliensis* var. *randiana* Pax; *Hevea brasiliensis* var. *stylosa* Huber; *Hevea granthamii* Bartlett; *Hevea janeirensis* Müll.Arg.; *Hevea randiana* Huber; *Hevea sieberi* Warb.; *Siphonia brasiliensis* Willd. ex A.Juss. ; *Siphonia janeirensis* (Müll.Arg.) O.F.Cook ; *Siphonia ridleyana* O.F.Cook

Description: A fast growing, medium to tall tree with deep tap-roots. The trunk is smooth and straight with a grayish bark. Leaves alternate or subopposite at apex of shoot with long petioles. Leaflets elliptic or obovate in shape.

Uses: Commercial source of rubber, timber, and fuelwood.

Endemism: Introduced

Distribution: Introduced to the Philippines in the early part of the 20th century (Pelser et al. 2011).

Conservation Status:
(IUCN 2023-1)

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Family: Fabaceae

Scientific Name: *Acacia mangium* Willd

Local Name: Mangium

Synonym: *Acacia glaucescens* Kaneh. & Hatus., *Acacia holosericea* A.Cunn., *Acacia holosericea* var. *glabrata* C.T.White, *Acacia mangium* var. *mangium*, *Mangium montanum* Rumph., *Racosperma mangium* (Willd.) Pedley.

Description: A medium to large-sized tree with straight trunk with grayish-brown bark. The compound leaves are bipinnate, with each leaf has numerous small, oblong leaflets.

Uses: Known for its rapid growth, making it valuable for timber production. Commercial source for wood, firewood, charcoal, construction material (Koutika and Richardson 2019).

Endemism: Naturalized

Distribution: Australia, Moluccas, New Guinea. Introduced and naturalized in the Philippines as a reforestation crop (Pelser et al. 2011).

Conservation Status:
(IUCN 2023-1)

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A leaves

B trunk

Family: Fabaceae

Scientific Name: *Pterocarpus indicus* Willd.

Local Name: Narra

Synonym: *Echinodiscus echinatus* (Pers.) Miq., *Lingoum echinatum* (Pers.) Kuntze, *Lingoum indicum* Kuntze, *Lingoum rubrum* Rumph., *Lingoum saxatile* Rumph., *Lingoum wallichii* Pierre, *Malaparius flavus* (Lour.) Miq., *Pterocarpus blancoi* Merr., *Pterocarpus carolinensis* Kaneh., *Pterocarpus casteelsii* var. *ealaensis* Hauman, *Pterocarpus echinatus* Pers., *Pterocarpus flavus* Lour., *Pterocarpus indicus* f. *echinatus* (Pers.) Rojo, *Pterocarpus klemmei* Merr., *Pterocarpus luteus* Poir., *Pterocarpus obtusatus* Miq., *Pterocarpus pallidus* Blanco, *Pterocarpus papuana* F.Muell., *Pterocarpus pubescens* Merr., *Pterocarpus santalinus* Blanco, *Pterocarpus saxatilis* Backer, *Pterocarpus wallichii* Wight & Arn., *Pterocarpus zollingeri* Miq.

Description: A large deciduous tree with a compound leaves, consist of smaller leaflets. Inflorescence form panicles or raceme and resemble small pea flowers with "banner and keel" petals. It has a bright yellow or yellow-orange flowers. Fruits disc-shaped and can be dispersed by the wind.

Uses: Timber, medicine for malaria

Endemism: Native

Distribution: Brunei Darussalam; Cambodia; China (Guangdong, Yunnan); Guam; India; Indonesia (Jawa, Kalimantan, Lesser Sunda Is., Maluku, Sulawesi, Sumatera); Japan (Nansei-shoto); Lao People's Democratic Republic; Malaysia (Peninsular Malaysia, Sabah, Sarawak); Micronesia, Federated States of ; Myanmar (Myanmar (mainland)); Northern Mariana Islands; Palau; Papua New Guinea (Papua New Guinea (main island group), North Solomons, Bismarck Archipelago); Philippines; Singapore; Solomon Islands; Taiwan, Province of China; Thailand; Timor-Leste; Vanuatu.

Conservation Status:
(IUCN 2023-1)

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EX



A leaf



B phyllotaxy

Family: Fabaceae

Scientific Name: *Sindora supa* Merr.

Local Name: Supa

Synonym: *Sindora wallichii* Fern.-Vill., *Sindora wallichii* S.Vidal, *Sindora wallichii* var. *intermedia* Fern.-Vill

Description: A deciduous tree with straight and regular bole, and without buttresses. The leaves are pinnate, glabrous, and elliptic.

Uses: Utilized for timber. Oil extract for skin disease treatment.

Endemism: **Philippine Endemic**

Distribution: Albay, Aurora, Camarines, Isabela, Laguna, NCR, Nueva Ecija, Quezon, Masbate Cotabato, Mindoro (Pelser et al. 2011).

Conservation Status:
(IUCN 2023-1)

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EX



A phyllotaxy



B inflorescence

Family: Lamiaceae

Scientific Name: *Clerodendrum intermedium* Cham.

Local Name: Kasopangil

Synonym: *Clerodendrum illustre* N.E.Br., *Clerodendrum puberulum* Merr., *Volkameria casopanguil* Blanco, *Volkameria cassopangil* Blanco

Description: This plant is an erect, branched, shrubby, or half-woody species. The leaves are ovate, with a pointed tip, heart-shaped base, and shallowly toothed margins. The flowers display a bright red color and are slender, arranged in terminal panicles in the upper axil of leaves.

Uses: The plant is harvested from the wild for local use as a medicine. It is often grown as an ornamental.

Endemism: Native

Distribution: Borneo, India, Philippines, Sri Lanka, Sulawesi, Sumatra, Taiwan, Thailand (Pelser et al. 2011).

Conservation Status:
(IUCN 2023-1)

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EX



A habit



B trunk

Family: Lamiaceae

Scientific Name: *Gmelina arborea* Roxb. ex Sm. in Rees

Local Name: Gmelina

Synonym: *Gmelina rheedei* Hook., *Gmelina arborea* var. *canescens* Haines, *Gmelina arborea* f. *dentata* Moldenke, *Gmelina arborea* var. *glaucescens* C.B. Clarke, *Gmelina oblongifolia* Roxb., *Gmelina sinuata* Link, *Premna arborea* Roth

Description: Tall and a fast-growing tree with a wide-spreading crown providing ample shade. The bark is smooth in shades of pale grey, white, or reddish-brown, and a lenticellate surface.

Uses: Utilized as fuel and timber. Also, the whole plant is used in medicine such as astrigent, improves digestion, heart, fever, useful for burning sensation, and skin diseases (Warrier et al. 2020).

Endemism: Naturalized

Distribution: China, India, Myanmar, Pakistan, Sri Lanka, Thailand, Vietnam (Pelser et al. 2011).

Conservation Status:
(IUCN 2023-1)

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Family: Lamiaceae

Scientific Name: *Tectona grandis* L.f.

Local Name: Teak

Synonym: *Jatus grandis* (L.f.) Kuntze, *Tectona grandis* f. *abludens* Koord. & Valetton, *Tectona grandis* f. *canescens* Moldenke, *Tectona grandis* f. *pilosula* Moldenke, *Tectona grandis* f. *punctata* Moldenke, *Tectona grandis* f. *tomentella* Moldenke, *Tectona theca* Lour., *Theka grandis* (L.f.) Lam.

Description: A large and deciduous tree with an open, wide spreading crown. Large, simple leaves which are elliptic to ovate. Flowers are small and pinkish-white. Fruit is a drupe and contains up to 4 seeds. It is pale yellow in colour.

Uses: Timber & Products

Endemism: Naturalized

Distribution: Native to the tropics of southern Asiatic and Malaysia, especially abundant in the mixed forests of India, Burma, Thailand, and Malaya (Pelser et al. 2011).

Conservation Status:
(IUCN 2023-1)

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EX



A leaves



B phyllotaxy

Family: Lamiaceae

Scientific Name: *Vitex parviflora* A.Juss.

Local Name: Molave

Synonym: *Vitex altissima* Blanco, *Vitex cofassus* var. *timorensis* Hallier f., *Vitex geniculata* Blanco, *Vitex glaberrima* Zipp., *Vitex glaberrima* Zipp. ex Span., *Vitex glandulosa* H.J.Lam, *Vitex latifolia* Blanco, *Vitex leucoxylon* Span., *Vitex leucoxylon* Span. ex Miq., *Vitex littoralis* Decne., *Vitex parviflora* f. *sterilis* H.J.Lam, *Vitex parviflora* f. *sterilis* H.J.Lam ex Moldenke, *Vitex parviflora* var. *puberulenta* Moldenke, *Vitex timoriensis* Walp.

Description: Can be shrubs or trees. The leaves are opposite and digitately palmately compound, typically consist of 3-8 foliolate, rarely unifoliate leaflets. Inflorescence occurs in axillary or terminal dichasial cymes. Fruit is drupaceous (having a fleshy fruit with a hard endocarp).

Uses: Utilized as fuelwood, and for construction work that requires strength and durability

Endemism: Native

Distribution: Lesser Sunda Isls, Moluccas, Philippines (Pelser et al. 2011).

Conservation Status:
(IUCN 2023-1)

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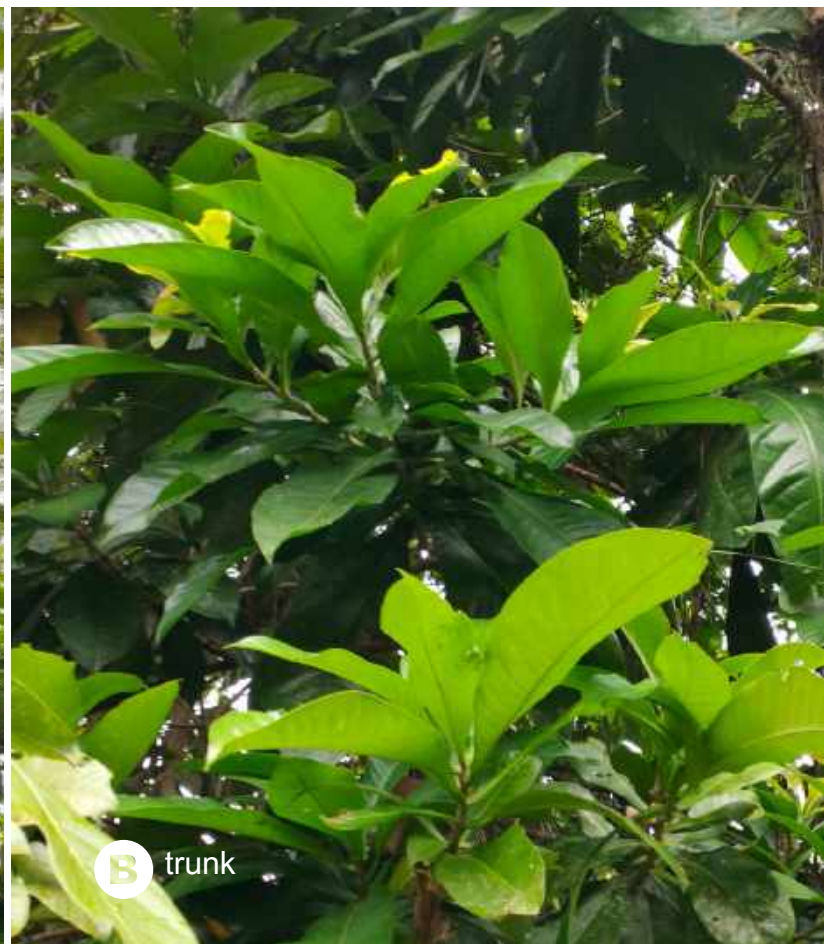
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EX



A habit



B trunk

Family: Lecythidaceae

Scientific Name: *Petersianthus quadrialatus* (Merr.) Merr.

Local Name: Toog

Synonym: *Combretodendron quadrialatum* (Merr.) Merr., 1936, *Combretodendron quadrialatum* (Merr.) R.Knuth, *Terminalia quadrialata* Merr.

Description: A medium-sized to fairly large tree with straight trunk, cylindrical, and branchless. The leaves are simple, alternate, and spirally arranged.

Uses: Skin rash remedy, seeds as snack, timber, fuel, source of veneer and plywood

Endemism: Philippine Endemic

Distribution: Dinagat, Laguna, Sorsogon, Masbate, Agusan, Surigao, Samar (Pelser et al. 2011).

Conservation Status:

(IUCN 2023-1)

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Family: Lythraceae

Scientific Name: *Lagerstroemia speciosa* DC.

Local Name: Banaba

Synonym: *Lagerstroemia indica* L.

Description: The tree is deciduous with smooth and grayish bark. The flowers are papery-wrinkled and crepe-like, with colors ranging from lilac and pink to purple.

Uses: Used as herb and spice. It is also utilized for timber. This plant is traditionally used in herbal medicine.

Endemism: Native

Distribution: Borneo, Cambodia, China, India, Java, Laos, Lesser Sunda Isls, Malay Peninsula, Moluccas, Myanmar, Philippines, Sulawesi, Sumatra, Thailand, Vietnam (Pelsner et al. 2011).

Conservation Status:
(IUCN 2023-1)

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EX



A leaves

B fruit

Family: Malvaceae

Scientific Name: *Theobroma cacao* L.

Local Name: Cacao

Synonym: *Cacao minar* Gaertn., *Theobroma cacao* L., *Theobroma kalagua* De Wild., *Theobroma kalagua* DeWild., *Theobroma pentogona* Bernoulli, *Theobroma saltzmanniana* Bernoulli, *Theobroma sativa* var. *leucosperma* A.Chev., *Theobroma sativa* var. *melanosperma* A.Chev.

Description: A small tree that bears small flowers on the trunks and lower main branches of the trees. The fruit is called a cacao pod which is ovoid in shape, long and wide, and yellow to orange when ripe.

Uses: Cocoa beans are the seeds from the cacao fruit. These beans are the primary source of cocoa butter and powder, which are necessary ingredients in the production of chocolate.

Endemism: Cultivated

Distribution: C America. Widely cultivated at low and medium elevations in the Philippines (Pelser et al. 2011).

Conservation Status:
(IUCN 2023-1)



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EX



A leaf



B inflorescence

Family: Marantaceae

Scientific Name: *Donax canniformis* (G.Forst.) K.Schum.

Local Name: Banban

Synonym: *Actoplanes canniformis* (G.Forst.) K.Schum., *Actoplanes grandis* (Miq.) K.Schum., *Actoplanes ridleyi* K.Schum., *Arundastrum canniforme* (G.Forst.) Kuntze, *Arundastrum grande* (Miq.) Kuntze, *Clinogyne canniformis* (G.Forst.) K.Schum., *Clinogyne dichotoma* (Roxb.) Salisb., *Clinogyne dichotoma* Salisb. ex Benth., *Clinogyne grandis* (Miq.) Benth. & Hook.f., *Clinogyne grandis* (Miq.) Benth. ex Baker, *Donax arundastrum* Lour., *Donax arundinastrum* Lour., *Donax gracilis* K.Schum., *Donax grandis* (Miq.) Ridl., *Donax parviflora* Ridl., *Ilythuria canniformis* (G.Forst.) Raf., *Maranta arundastrum* (Lour.) M.R.Almeida, *Maranta arundinacea* Blanco, *Maranta dichotoma* (Roxb.) Wall., *Maranta dichotoma* D.Dietr., *Maranta grandis* Miq., *Maranta tonchat* Blume, *Phrynium canniforme* (G.Forst.) Körn., *Phrynium canniforme* (G.Forst.) Schrank, *Phrynium dichotomum* Roxb., *Thalia canniformis* G.Forst.

Description: A shrub with hard, upright woody stems that resemble smooth bamboo stem. Its flowers are faint pinkish-white color.

Uses: This species is cultivated as an ornamental plant due to its attractive foliage. Its plant parts are also medicinally useful.

Endemism: Native

Distribution: Andaman Isls, Bismarck Arch, Borneo, Cambodia, Java, Lesser Sunda Isls, Malay Peninsula, Moluccas, Myanmar, New Guinea, Nicobar Isls, Pacific Ocean, Philippines, Solomon Isls, Sulawesi, Sumatra, Taiwan, Thailand, Vietnam (Pelser et al. 2011).

Conservation Status:
(IUCN 2023-1)



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A habit

B inflorescence

Family: Melastomataceae

Scientific Name: *Melastoma malabathricum* L.

Local Name: Malatungao

Synonym: *Melastoma baumianum* Naudin, *Melastoma malabathricum* var. *javanum* Bakh.f., *Melastoma normale* var. *divergens* Craib, *Melastoma osbeckioides* Guill., *Melastoma polyanthum* var. *linearifolium* Bakh.f., *Melastoma polyanthum* var. *mollissimum* Bakh.f., *Melastoma polyanthum* var. *pulleana* Mansf., *Melastoma sylvaticum* var. *permultiflorum* Bakh.f., *Melastoma trachyphyllum* var. *ochraceum* Bakh.f., *Melastoma triflorum* Naudin

Description: A shrub or small tree with red stems that are scabrous, and densely covered with minute, rigid, ciliate scales. Leaves opposite and narrowly elliptical or oblong-elliptical. Flowers are light to dark magenta-pink .

Uses: Possess various medicinal values to treat various types of ailments and diseases including diarrhoea, hemorrhoids, cuts and wounds, infection during confinement, toothache, and stomachache (Mohd et al. 2012).

Endemism: Native

Distribution: Babuyan Isls, Balabac, Basilan, Batan, Batan De Albay, Biliran, Bohol, Bucas Grande, Busuanga, Camiguin, Camiguin De Babuyan, Catanduanes, Cebu, Culion, Guimaras, Jolo, Leyte, Abra, Albay, Apayao, Aurora, Bataan, Benguet, Bulacan, Cagayan, Camarines Norte, Camarines Sur, Cavite, Ifugao, Ilocos Norte, Ilocos Sur, Isabel, Kalinga, Laguna, Mountain Province, Nueva Vizcaya, Pampanga, Pangasinan, Quezon, Sorsogon, Zambales, Agusan Del Norte, Bukidnon, Davao, Davao Oriental, Davao Del Sur, Lanao Del Sur, Surigao, Zamboanga, Zamboanga Sibugay, Zamboanga Del Norte, Mindoro, Negros, Palawan, Panay, Polillo, Samar, Sibuyan (Pelser et al. 2011).

Conservation Status:
(IUCN 2023-1)



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Family: Meliaceae

Scientific Name: *Lansium domesticum* Corrêa

Local Name: Lanzones, Langsat

Synonym: *Lansium domesticum* Corrêa

Description: It is erect, short-trunked, slender or spreading, with red-brown or yellow-brown, furrowed bark. The fruit can be elliptical, ovoid or round that are borne in clusters similar to grapes.

Uses: It is utilized as traditional medicine for eye inflammation, ulcers, diarrhea, dysentery, fever, worms, insect bites, scorpion stings and malaria and used also as mosquito repellent, skin moisturizer, and whitening agent (Abdallah et al. 2022).

Endemism: Native

Distribution: Borneo, Java, Malay Peninsula, Moluccas, New Guinea, Philippines, Sulawesi, Sumatra, Thailand (Pelser et al. 2011).

Conservation Status:
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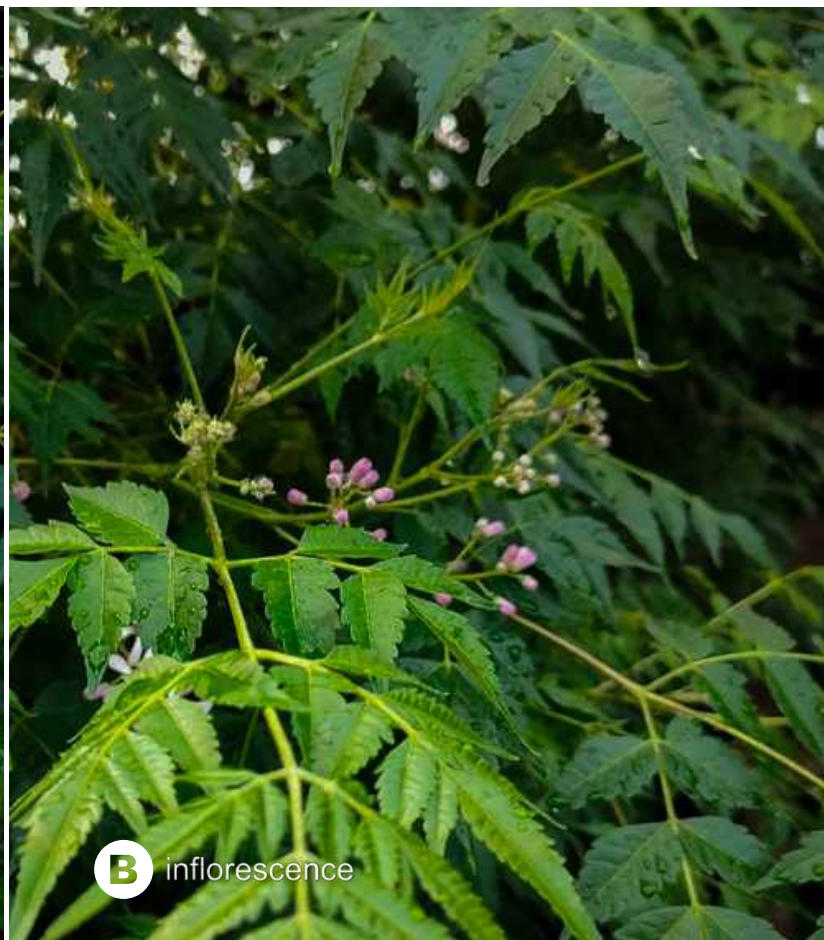
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A habit

B inflorescence

Family: Meliaceae

Scientific Name: *Melia azedarach* L.

Local Name: Bagalunga

Synonym: *Azedara speciosa* Raf., *Azedarach deleteria* Medik., *Azedarach sempervirens* var. *glabrior* (C.DC.) Kuntze, *Azedarach vulgaris* M.Gómez, *Melia azedarach* var. *glabrior* C.DC.

Description: A medium-sized tree with a rounded crown. Leaves are compound with lance-shaped leaflets, alternate with long petioles. Flowers are fragrant and small with five pale purple or lilac petals. Fruit is a drupe, marble-sized, yellow when mature.

Uses: Timber and raw material for furniture construction. Seed oil is used as antiseptic for sores and ulcers; rheumatism and skin diseases such as ringworm and scabies (Khan et al. 2011)

Endemism: Native

Distribution: Cagayan de Sulu, Cebu, Guimaras, GuimarasAurora, Batangas, Benguet, Bulacan, Camarines, Ifugao, Ilocos Norte, La Union, Laguna, NCR, Nueva Vizcaya, Quezon, Rizal, Surigao, Zamboanga del Norte, Mindoro, Negros, Olango, Panay, Samar (Pelser et al. 2011).

Conservation Status:
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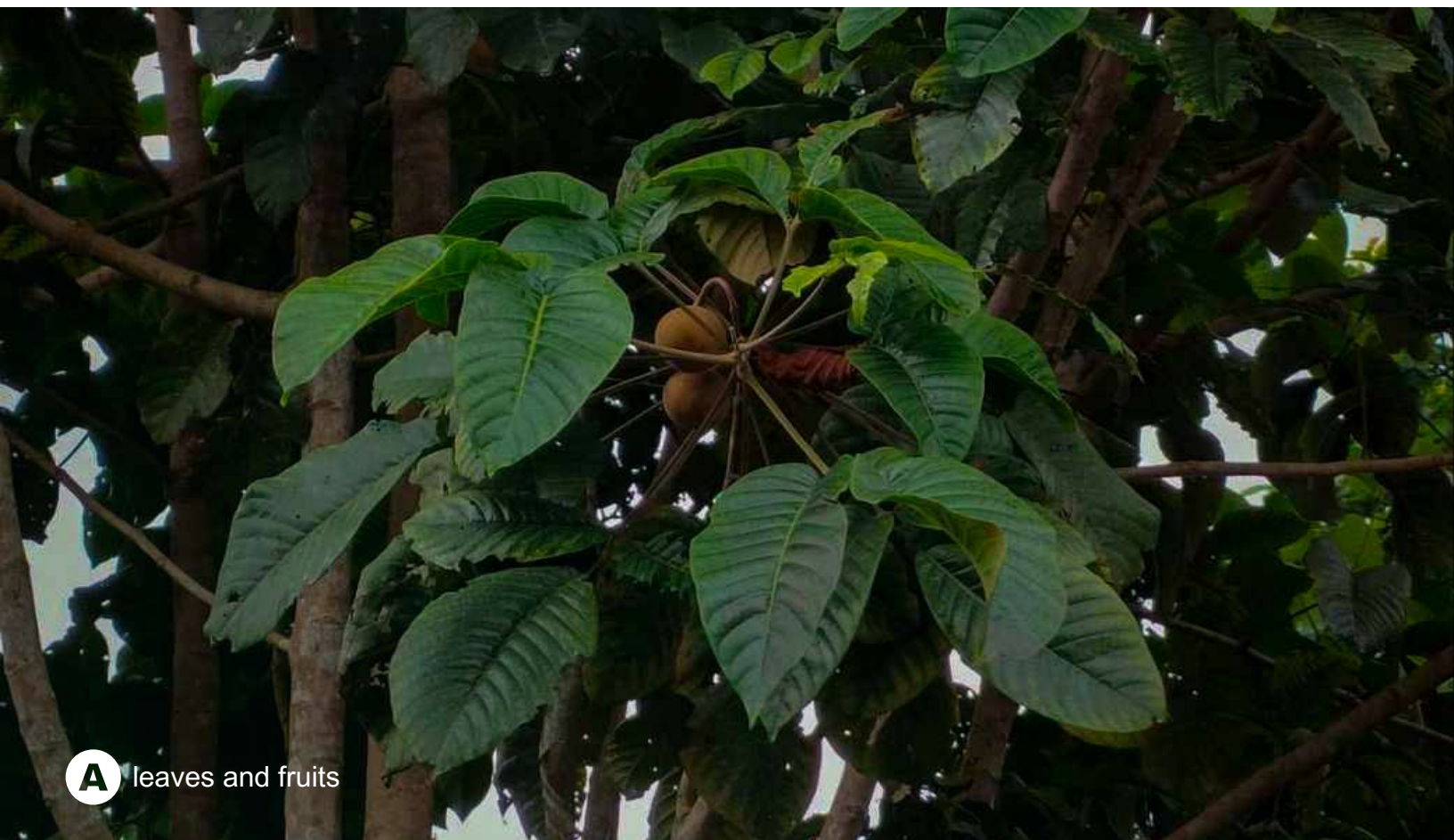
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A leaves and fruits

Family: Meliaceae

Scientific Name: *Sandoricum koetjape* (Burm.f.) Merr.

Local Name: Santol

Synonym: *Melia koetjape* Burm.f.

Description: It is a large evergreen tree with straight trunk and low branches. Leaves long-stalked, with 3 leaflets each leaf that are elliptic to oblong-ovate with pointed tips and rounded bases. The fruit is spherical or oval, and its size can range from small to large, depending on the variety. The skin is thin and can be yellow or brown.

Uses: In traditional medicine, various parts of the santol tree have been used to treat ailments such as such as leaf decoctions for diarrhea and fever, bark poultice for ringworm and roots mixed with vinegar and water for diarrhea and dysentery (Flora Fauna Web 2023). The whitish pulp of the fruit is consumed raw or made into marmalade, candy and fermented beverages.

Endemism: Native

Distribution: Borneo, Java, Lesser Sunda Isls, Malay Peninsula, Moluccas, New Guinea, Philippines, Sulawesi, Sumatra (Pelser et al. 2011)

Conservation Status:
(IUCN 2023-1)

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EX



A habit



B leaves

Family: Meliaceae

Scientific Name: *Swietenia macrophylla* King

Local Name: Mahogany

Synonym: *Swietenia belizensis* Lundell, *Swietenia candollei* Pittier, *Swietenia krukovii* Gleason, *Swietenia macrophylla* var. *marabaensis* Ledoux & Lobato, *Swietenia tesomannii* Harms, *Swietenia tessmannii* Harms

Description: The bark of young trees is smooth and grey, but becomes dark brown and grey, ridged and flaky when trees mature. Leaves are simple pinnate compound and asymmetric. The fruits are dry hard woody capsules.

Uses: Used for furniture and woodworking industries due to the quality of its timber (Lemes et al. 2003). Widely used in folk medicine to treat various diseases and illnesses (Moghadamtousi et al. 2013).

Endemism: Introduced

Distribution: Naturalized in secondary forest throughout the Philippines (Pelser et al. 2011).

Conservation Status:
(IUCN 2023-1)

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EX



A habit



B leaves

Family: Moraceae

Scientific Name: *Artocarpus camansi* Blanco

Local Name: Kamansi, Kolo

Synonym: *Artocarpus altilis* var. *seminifer* (Duss), *Artocarpus incisifolius* var. *seminifer* Stokes; *Artocarpus incisus* var. *muricatus* Becc., *Artocarpus incisus* var. *seminifer* (Stokes) Duss

Description: Moderately fast-growing, evergreen tree with a single stem, reaching a height of 10-15 meters or more and a trunk diameter of 1 meter or larger. The tree develops buttresses at the base, and its roots spread and grow on or slightly below the surface. The entire tree contains sticky, white, milky latex. The leaves are alternate and large. The fruit is large, fleshy syncarp, oval or ovoid in shape; while the skin is dull green to green-yellow when ripe with a spiny texture.

Uses: The fruits are nutritious and consumed when immature; fed to pigs and other livestock; and used as fuel and timber (Orwa et al. 2009).

Endemism: Naturalized

Distribution: Moluccas, New Guinea. Not native in the Philippines (Pelser et al. 2011).

Conservation Status:
(IUCN 2023-1)

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A habit

B leaves

Family: Moraceae

Scientific Name: *Artocarpus heterophyllus* Lam.

Local Name: Langka, Nangka, Jackfruit

Synonym: *Artocarpus brasiliensis* Gómez, *Artocarpus brasiliensis* Ortega, *Artocarpus grandis* Linden, *Artocarpus grandis* Linden ex Cazzuola & Nencioni, *Artocarpus integra*, *Artocarpus integrifolia* var. *glabra* Stokes, *Artocarpus integrifolius* var. *glaber* Stokes, *Artocarpus integrifolius* var. *heterophylla* (Lam.) Pers., *Artocarpus jaca* Lam., *Artocarpus maximus* Blanco, *Artocarpus nanca* Noronha, *Artocarpus philippensis* Lam., *Polyphema jaca* (Lam.) Lour., *Sitodium cauliflorum* Gaertn.

Description: Leaves are alternately arranged, leathery, and elliptic-oblong to obovate shape. Fruit have a spiky outer rind, green to greenish-yellow when ripe, fleshy and sweet, hanging on short stalks from the main stem or from large branches in old trees.

Uses: Used in a variety of culinary traditions, especially in tropical areas. Because of its fibrous texture, the immature, unripe fruit can be utilized in vegetarian and vegan recipes in place of meat. It is said to treat a number of illnesses as well.

Endemism: Naturalized

Distribution: India. Naturalized in the Philippines (Pelser et al. 2011).

Conservation Status:
(IUCN 2023-1)



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A leaves and fruit



B Fruit

Family: Moraceae

Scientific Name: *Artocarpus odoratissimus* Blanco

Local Name: Marang

Synonym: *Artocarpus mutabilis* Becc., *Artocarpus tarap* Becc.

Description: A big tree that has an elliptic to obovate large leaves. The fruits are subglobose, meaning they have a roughly spherical shape, turning from green to yellowish-brown as they ripen. Fruits have rigid and hairy protuberances. For each fruit contains many seeds and every seeds are surrounded by white juicy pulp.

Uses: The fruit is edible. The fruit flesh is juicy, aromatic and has a sweet-flavored taste.

Endemism: Naturalized

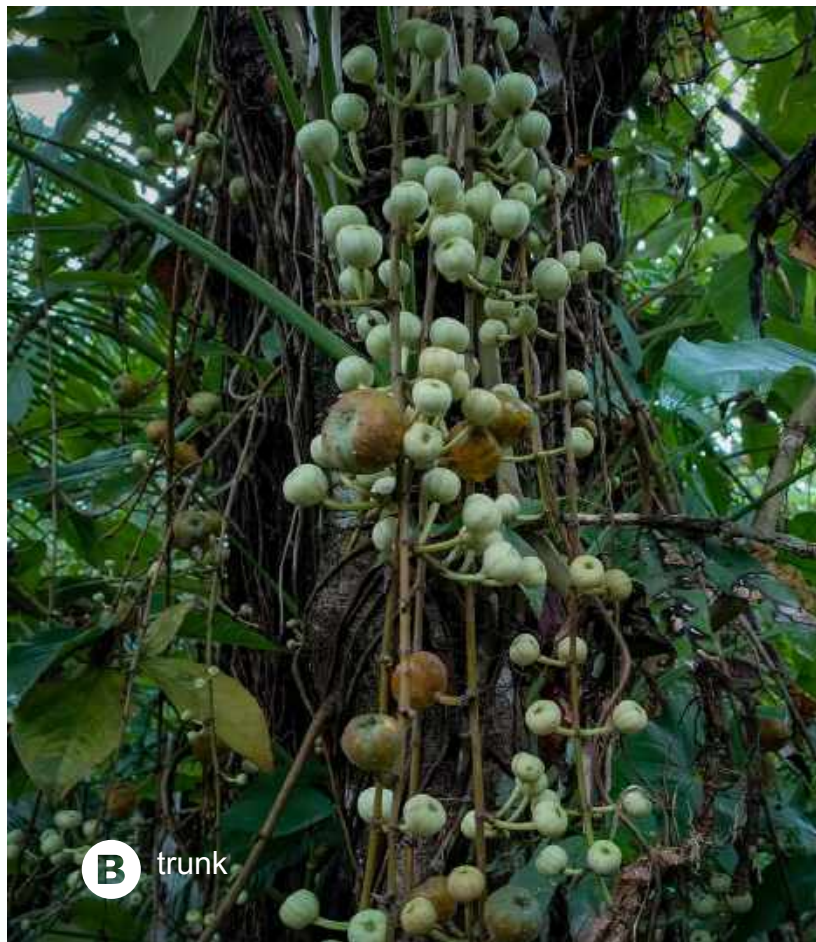
Distribution: Naturalized in the Philippines (Basilian, Mindanao, and Mindoro) and Native in Borneo (Pelser et al. 2011).

Conservation Status:
(IUCN 2023-1)





A habit



B trunk

Family: Moraceae

Scientific Name: *Ficus botryocarpa* Miq.

Local Name: Daing-daing

Synonym: *Ficus botryocarpa* var. *albidoramea* (Elmer) Corner, *Ficus mindorensis* Merr.

Description: A small tree with woody trunk, monopodial branching, and round, brown appearance. Leaves alternate arrangement and oblong, elongated in shape. Figs are cauliflorous (producing fruit from their main stems), green that will have a yellowish-white spots when ripe. Cluster of figs (synconia) has short pedicels. These structures are attached to the peduncles.

Uses: Traditional medicine: the roots are used for fever, headache, diabetes, and post-partum care (Dapar et al. 2020)

Endemism: Native

Distribution: Basilan, Biliran, Bohol, Leyte, Bataan, Batangas, Benguet, Cagayan, Ifugao, Isabela, Laguna, Pampanga, Pangasinan, Quezon, Rizal, Sorsogon, Zambales, Agusan del Norte, Bukidnon, Davao, Davao Oriental, Davao del Sur, Surigao, Surigao del Norte, Zamboanga del Sur, Mindoro, Palawan, Panay, Samar, Siargao, Tawi-Tawi (Pelser et al. 2011).

Conservation Status:



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Family: Moraceae

Scientific Name: *Ficus nota* (Blanco) Merr

Local Name: Tibig

Synonym: *Ficus aspera* var. *nota* Blanco, *Ficus scabra* Blanco

Description: An erect, spreading, dioecious perennial tree. Leaves are oblong to elliptic-obovate in shape. The figs are fleshy, subglobose in shape, and green in color.

Uses: Food, medicine for fever, muscle pain, decoction for urinary infection, treats asthma and cough, treatment of fever, relieve muscle pain, hypertension, and diabetes (Ragasa et al. 2014)

Endemism: Native

Distribution: Borneo, Philippines (Biliran, Bucas Grande, Culion, Leyte, Luzon: Bataan, Benguet, Cavite, Ifugao, Ilocos Norte, Ilocos Sur, Isabela, Laguna, NCR, Nueva Vizcaya, Pampanga, Pangasinan, Quezon, Rizal, Sorsogon, Zambales, Mindanao: Davao Del Sur, Surigao, Zamboanga Sibugay, Mindoro, Negros, Palawan, Panay, Polillo, Samar) (Pelser et al. 2011).

Conservation Status:
(IUCN 2023-1)

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A phyllotaxy



B fruit

Family: Moraceae

Scientific Name: *Ficus odorata* (Blanco) Merr.

Local Name: Pakiling

Synonym: *Ficus arenata* Elmer, *Ficus hispida* var. *odorata* Blanco

Description: A small tree with young hispidous and greenish branchlets. The leaves are simple, oblong or broadly ovate, and alternate.

Uses: It is utilized for several ailments which include diabetes, cancer, tumor, allergy, asthma, and diarrhea (Herrera et al. 2010).

Endemism: Philippine Endemic

Distribution: Batanes, Bohol, Leyte, Bataan, Bulacan, Laguna, Rizal, Zambales, Agusan del Norte, Bukidnon, Cotabato, Davao del Sur, Lanao del Norte, Negros, Panay, Polillo, Samar (Pelser et al. 2011).

Conservation Status:
(IUCN 2023-1)

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A habit



B leaves and fruit

Family: Moraceae

Scientific Name: *Ficus pseudopalma* Blanco

Local Name: Niyog-niyogan

Synonym: *Ficus blancoi* Elmer.

Description: A small, usually unbranched or sparingly branched shrub or tree that can grow up to 8 metres tall. The fruit is a dark green fig that grows in pairs, each fruit just over an inch long.

Uses: The plant is harvested from the wild for local use as a food and medicine.

Endemism: **Philippine Endemic**

Distribution: Alabat, Batan de Albay, Camotes, Dinagat, Guimaras, Leyte, Albay, Bataan, Benguet, Camarines Norte, Camarines Sur, Ifugao, Isabela, Laguna, Mountain Province, Pangasinan, Quezon, Rizal, Sorsogon, Zambales, Agusan, Agusan Del Norte, Bukidnon, Davao, Mindoro, Negros, Olango, Panay, Samar, Semirara, Sibuyan (Pelser et al. 2011).

Conservation Status:
(IUCN 2023-1)



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EX



A habit

B leaves and fruit

Family: Moraceae

Scientific Name: *Ficus septica* Burm.f.

Local Name: Hauli

Synonym: *Covellia leucantotoma* (Poir.) Miq., *Covellia leucantotoma* (Poir.) Miq., *Covellia leucopleura* (Blume) Miq., *Covellia radiata* (Decne.) Miq., *Covellia rapiformis* (Roxb.) Miq., *Covellia stictocarpa* Miq., *Covellia venosa* (Willd.) Miq., *Cystogyne leucosticta* (Spreng.) Gasp., *Ficus brunnea* Merr., *Ficus casearia* F.Muell., *Ficus casearia* F.Muell. ex Benth., *Ficus didymophylla* Warb., *Ficus eburnea* W.Bull., *Ficus geminifolia* Miq., *Ficus hauilii* Blanco, *Ficus kaukauensis* Hayata, *Ficus laccifera* Blanco, *Ficus laxiramea* Elmer, *Ficus leucantotoma* Poir., *Ficus leucopleura* Blume, *Ficus leucosticta* Spreng., *Ficus leucotoma* Roem. & Schult., *Ficus linearis* Merr., *Ficus oldhamii* Hance, *Ficus paludosa* Perr., *Ficus philippense* Hérincq, *Ficus radiata* Decne., *Ficus rapiformis* Roxb., *Ficus septica* var. *cauliflora* Corner, *Ficus septica* var. *salicifolia* Corner, *Ficus stictocarpa* (Miq.) Miq., *Ficus venosa* Willd., *Ficus verrucosa* Vahl

Description: A shrub or tree, frequently featuring drooping branches, with the potential to reach heights between 3 to 25 meters. The leaves are symmetric and elliptic to oblong. Figs are depressed-globose to ellipsoid and green color with whitish to yellowish dots when mature.

Uses: Medicines to cure herpes, wounds; source of latex; treats headache, antirheumatic, cure for colds, fever and bacterial diseases (Senty and Mohammad 2023). Exudate is used as a topical treatment for cutaneous ulcers (Deli et al. 2022).

Endemism: Native

Distribution: Australia, Bismarck Arch, Borneo, China, India, Java, Lesser Sunda Isls, Malay Peninsula, Moluccas, New Guinea, Pacific Ocean, Philippines, Ryukyu Isls, Solomon Isls, Sulawesi, Sumatra, Taiwan (Pelser et al. 2011).

Conservation Status:
(IUCN 2023-1)

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Family: Myrtaceae
Scientific Name: *Psidium guajava* L.
Local Name: Bayabas, Guava

Synonym: *Guaiaua pyriformis* Gaertn., *Guajava pumila* (Vahl) Kuntze, *Guajava pyrifera* (L.) Kuntze, *Myrtus guajava* (L.) Kuntze, *Myrtus guajava* subsp. *pyrifera*, *Myrtus guajava* var. *pyrifera* (L.) Kuntze, *Psidium angustifolium* Lam., *Psidium aromaticum* Blanco, *Psidium chodatianum* Barb.Rodr., *Psidium crispum* Barb.Rodr., *Psidium cujavillus* Burm.fil., *Psidium cujavus* L., *Psidium ellipticum* Barb.Rodr., *Psidium fragrans* Macfad., *Psidium globosum* Larrañaga, *Psidium guajava* f. *cujavillus* (Burm.f.) O.Deg. & I.Deg., *Psidium guajava* subsp. *cujavillum*, *Psidium guajava* subsp. *minor*, *Psidium guajava* var. *cujavillum* (Burm.fil.) Krug & Urb., *Psidium guajava* var. *guajava*, *Psidium guajava* var. *minor* Mattos, *Psidium guajava* var. *pumilum*, *Psidium guava* Griseb., *Psidium igatemyense* Barb.Rodr., *Psidium igatemyensis* Barb.Rodr., *Psidium intermedium* Zipp., *Psidium intermedium* Zipp. ex Blume, *Psidium longifolium* Schumach., *Psidium pomiferum* L., *Psidium pomiferum* var. *spidissimum* (Jacq.) DC., *Psidium prostratum* O.Berg, *Psidium pumilum* Vahl, *Psidium pumilum* subsp. *guadalupense*, *Psidium pumilum* var. *guadalupense* DC., *Psidium pumilum* var. *intermedium* Blume, *Psidium pumilum* var. *rufescens* Blume, *Psidium pyrifera* L., *Psidium pyrifera* subsp. *glabrum*, *Psidium pyrifera* var. *glabrum* Benth., *Psidium spidissimum* Jacq., *Psidium subcrenatum* Barb.Rodr., *Psidium vulgare* Rich., *Syzygium ellipticum* K.Schum. & Lauterb.

Description: An evergreen shrub like tree with a wide spreading network of branches. The leaves are clear green in color, wide and have prominent veins. The fruit has a pear like shape and green to yellow color in ripen condition.

Uses: Traditional medicine that is used in the treatment of diarrhea, dysentery, gastroenteritis, hypertension, diabetes, caries and pain relief and for improvement in locomotors coordination (Naseer et al. 2018).

Endemism: Naturalized

Distribution: Introduced from tropical America, thoroughly naturalized throughout the Philippines(Pelser et al. 2011).

Conservation Status:
(IUCN 2023-1)

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EX



A habit



B sori

Family: Nephrolepidaceae

Scientific Name: *Nephrolepis cordifolia* (L.) C.Presl.

Local Name: Bayabang, Common Sword Fern

Synonym: *Aspidium cordifolium* (L.) Sw., *Nephrodium cordifolium* (L.) Baker, *Nephrolepis cordifolia* (L.) C. Presl., *Polypodium cordifolium* L.

Description: A terrestrial or epiphytic fern. Rhizomes are densely clothed with brownish scales, with fleshy, egg-shaped tubers. Fronds are pinnate with many leaflets or pinnae. Sori numerous, produced between the leaflet midvein and margin.

Uses: Food and traditional medicine for cold, cough, diarrhea, skin diseases, and liver disorder (Dhiman, 1998).

Endemism: Native

Distribution: Australia, Bangladesh, Bhutan, Borneo, Cambodia, China, India, Indian Ocean, Japan, Java, Korea, Laos, Lesser Sunda Isls, Malay Peninsula, Myanmar, Nepal, New Caledonia, Pacific Ocean, Philippines, Ryukyu Isls, Sri Lanka, Sulawesi, Taiwan, Thailand, Tibet, Vietnam (Pelser et al. 2011).

Conservation Status:
(IUCN 2023-1)



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A habit

B leaves

Family: Piperaceae

Scientific Name: *Piper aduncum* L.

Local Name: Buyo

Synonym: *Artanthe adunca* (L.) Miq. ; *Steffensia adunca* (L.) Kunth

Description: A shrubby plant with slender stems and a lance-shaped leaves. Its fruit is a small drupe with black seeds.

Uses: Traditional medicine used as antiseptic, for wound healing, diarrhea, and anti-inflammatory (Thao et al. 2016); animal feed; fuel and food.

Endemism: Introduced

Distribution: C & S America. Introduced in the Philippines (Cotabato, Davao del Sur, Zamboanga del Sur, Panay) (Pelser et al. 2011).

Conservation Status:
(IUCN 2023-1)

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Family: Rubiaceae
Scientific Name: *Morinda citrifolia* L.
Local Name: Noni

Synonym: *Morinda aspera* Wight & Arn., *Morinda citrifolia* f. *potteri* (O.Deg.) H.St.John, *Morinda citrifolia* subsp. *elliptica* Hook.f., *Morinda citrifolia* subsp. *potteri* (O.Deg.) H.St.John, *Morinda citrifolia* var. *citrifolia*, *Morinda citrifolia* var. *potteri* O.Deg., *Morinda coreia* subsp. *stenophylla* (Spreng.) Chandrab., *Morinda ligulata* Blanco, *Morinda littoralis* Blanco, *Morinda macrophylla* Desf., *Morinda mudia* Buch.-Ham., *Morinda multiflora* Roxb., *Morinda nodosa* Buch.-Ham., *Morinda pubescens* var. *aspera* (Wight & Arn.) M.Gangop., *Morinda quadrangularis* G.Don, *Morinda teysmanniana* Miq., *Morinda tinctoria* Noronha, *Morinda tinctoria* subsp. *aspera* (Wight & Arn.) Hook.f., *Morinda tinctoria* subsp. *multiflora* (Roxb.) Hook.f., *Morinda tinctoria* var. *aspera* (Wight & Arn.) Hook.f., *Morinda tinctoria* var. *multiflora* (Roxb.) Hook.f., *Morinda zollingeriana* Miq., *Platanocephalus orientalis* Crantz, *Samama citrifolia* (L.) Kuntze, *Sarcocephalus leichhardtii* F.Muell.

Description: A small evergreen tree or shrub. Flower white, small, perfect, ovoid to globose heads. Leaves opposite, pinnately veined and glossy. Blades membranous, elliptic to elliptic-ovate. Fruit lumpy, potato-shaped, and are yellowish white in color.

Uses: High valued food and medicinal source; used as hedge or fence

Endemism: Native

Distribution: Andaman Isls, Australia, Bangladesh, Bismarck Arch, Borneo, Cambodia, China, India, Indian Ocean, Java, Lesser Sunda Isls, Malay Peninsula, Moluccas, Myanmar, New Guinea, Nicobar Isls, Pacific Ocean, Philippines, Ryukyu Isls, Solomon Isls, Sri Lanka, Sulawesi, Sumatra, Taiwan, Thailand, Vietnam(Pelser et al. 2011).

Conservation Status:
(IUCN 2022-2)



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A habit

B leaves and fruits

Family: Rubiaceae

Scientific Name: *Nauclea orientalis* (L.) L.

Local Name: Bangkal

Synonym: *Adina orientalis* (L.) Lindeman, *Bancalus orientalis* (L.) Kuntze, *Cephalanthus orientalis* L., *Sarcocephalus orientalis* (L.) Merr.

Description: A medium-sized to large tree that produces small fragrant flowers that are white to yellowish in color. The fruits are fleshy and irregularly shaped. The leaves are glossy green and opposite in arrangement.

Uses: Timber, medicine for abdominal pain, animal bites and wounds (Orwa et al.2009).

Endemism: Native

Distribution: Australia, Bismarck Arch, Borneo, Cambodia, Java, Lesser Sunda Isls, Moluccas, Myanmar, New Guinea, Philippines, Solomon Isls, Sri Lanka, Sulawesi, Sumatra, Thailand (Pelser et al. 2011).

Conservation Status:
(IUCN 2023-1)

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A habit



B fruit

Family: Sapotaceae

Scientific Name: *Chrysophyllum cainito* L.

Local Name: Caimito/Star apple

Synonym: *Cainito pomiferum* Tussac, *Chrysophyllum bonplandii* Klotzsch, *Chrysophyllum bonplandii* Klotzsch ex Miq., *Chrysophyllum caeruleum* Jacq., *Chrysophyllum cainito* Maza, 1890, *Chrysophyllum cainito* var. *caeruleum* Jacq., *Chrysophyllum cainito* var. *caeruleum* L., *Chrysophyllum cainito* var. *jamaicense* (Jacq.) Bois, *Chrysophyllum cainito* var. *jamaicense* Jacq., *Chrysophyllum cainito* var. *jamaicense* L., *Chrysophyllum cainito* var. *martinicense* Pierre ex Duss, *Chrysophyllum cainito* var. *martinicense* Pierre, 1904, *Chrysophyllum cainito* var. *pomiferum* (Tussac) Pierre, *Chrysophyllum cainito* var. *portoricense* A.DC., *Chrysophyllum cainito* var. *portoricense* L., *Chrysophyllum cainito* var. *typicum* Stehlé, *Chrysophyllum jamaicense* Jacq., *Chrysophyllum maliforme* L., *Chrysophyllum monopyrenum* Spreng., *Chrysophyllum ottonis* Klotzsch, *Chrysophyllum ottonis* Klotzsch ex Miq., *Chrysophyllum sericeum* Salisb.

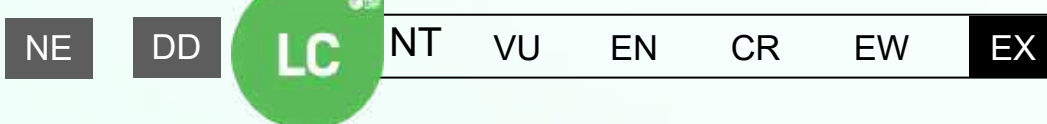
Description: Leaves simple, oval to oblong in shape and alternate in arrangement. The fruit is round to oval in shape, and its color ranges from green to purple.

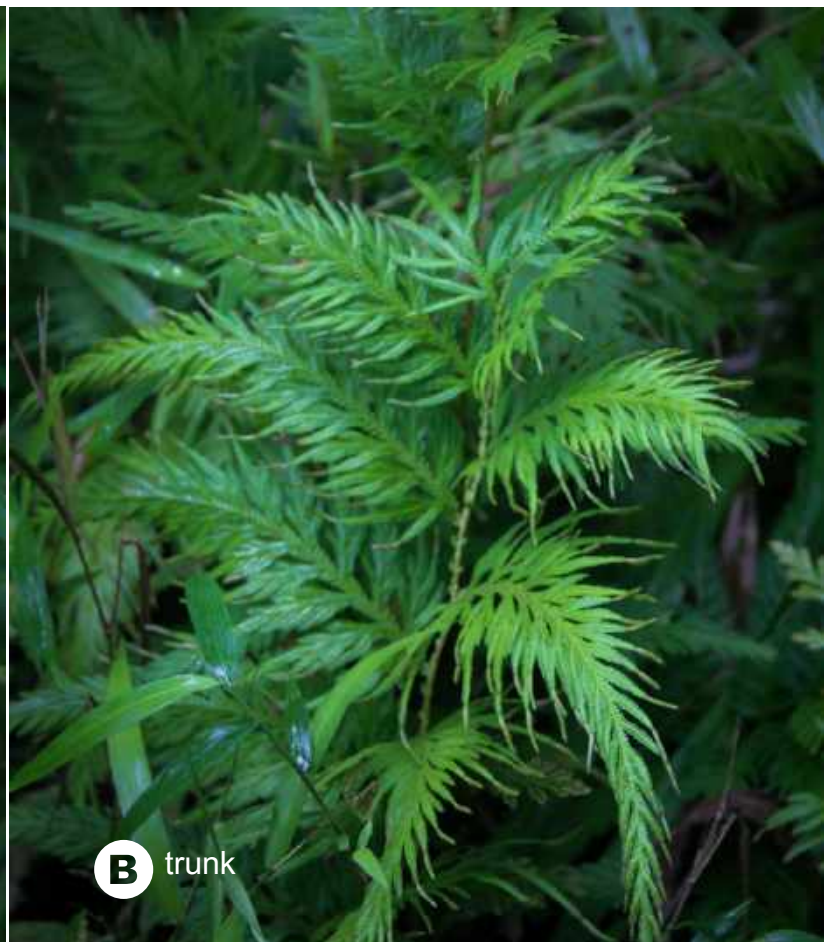
Uses: In traditional medicine in some cultures, various parts of the star apple tree, including the leaves and bark, have been used for their potential medicinal properties.

Endemism: Cultivated

Distribution: C America, Caribbean. Cultivated in the Philippines (Pelser et al. 2011).

Conservation Status:
(IUCN 2023-1)





A habit

B trunk

Family: Selaginellaceae

Scientific Name: *Selaginella delicatula* (Desv.) Alston

Local Name: Mediterranean clubmoss

Synonym: *Lycopodioides delicatula* (Desv. ex Poir.) H.S.Kung, *Lycopodioides flaccida* (Bory) Kuntze, *Lycopodium canaliculatum* L., *Lycopodium chinense* Lodd., *Lycopodium crassicaule* Hook. & Grev., *Lycopodium curvatum* Dalzell, *Lycopodium delicatulum* Desv., *Lycopodium delicatulum* Desv. ex Poir., *Lycopodium flaccidum* Bory, *Lycopodium mucronatum* Hornem., *Lycopodium ovalifolium* Desv., *Lycopodium ovalifolium* Desv. ex Poir., *Lycopodium pouzolizianum* Gaudich., *Selaginella canaliculata* (L.) Baker, *Selaginella canaliculata* Chittend., *Selaginella chinensis* Lodd., *Selaginella chinensis* Lodd. ex Kuntze, *Selaginella crassicaulis* (Hook. & Grev.) Spring, *Selaginella davaoensis* Hieron., *Selaginella flaccida* (Bory) Spring, *Selaginella ouvardii* Schönborn, *Selaginella ovalifolia* (Desv.) Spring, *Selaginella pouzoliziana* (Gaudich.) Spring, *Selaginella pouzoliziana* f. *angustiramosa* Alderw., *Selaginella pouzoliziana* f. *punctata* (Hieron.) Alderw., *Selaginella pouzoliziana* var. *brevifolia* Hieron., *Selaginella pouzoliziana* var. *philippinensis* Hieron., *Selaginella pouzoliziana* var. *punctata* Hieron., *Selaginella punctata* A.Braun, *Selaginella punctata* A.Braun ex Hieron., *Selaginella simulans* Alderw.

Description: A terrestrial herb that grows primarily in the wet tropical biome.

Uses: Traditional medicine used for promoting blood circulation, regulating menstruation, and heat-clearing and detoxifying (Song et al. 1999).

Endemism: **Native**

Distribution: India and China to New Guinea, Philippines (Basilan, Batan, Batanes, Bohol, Catanduanes, Cebu, Leyte, Luzon: Abra, Albay, Apayao, Aurora, Bataan, Batangas, Benguet, Cagayan, Camarines Norte, Camarines Sur, Ifugao, Ilocos Norte, Kalinga, Laguna, Mountain Province, Nueva Vizcaya, Pampanga, Quezon, Rizal, Sorsogon, Zambales, Mindanao: Agusan Del Norte, Davao, Davao Del Sur, Lanao, Lanao Del Sur, Maguindanao Del Sur, Mindoro, Palau, Sabtang, Samar) (Pelser et al. 2011).

Conservation Status:



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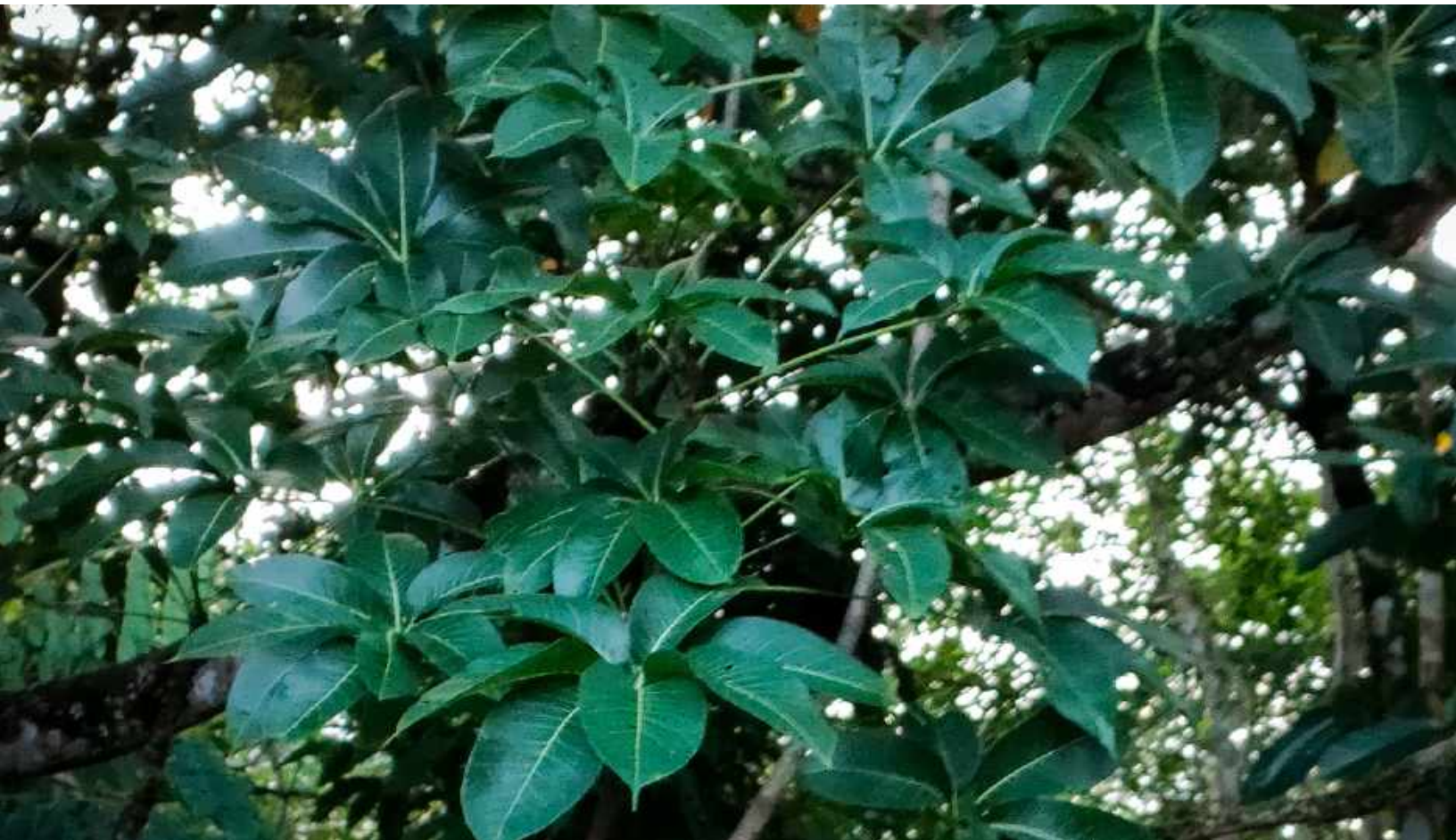
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Family: Sterculiaceae

Scientific Name: *Sterculia foetida* L.

Local Name: Kelumpang

Synonym: *Clompanus foetida* (L.) Kuntze, *Sterculia mexicana* var. *guianensis* Sagot, *Sterculia polyphylla* R.Br.

Description: A large, straight, deciduous tree with smooth bark. The leaves are crowded at the ends of branchlets, digitate, with 7-9 leaflets. Leaflets are elliptical or elliptic-lanceolate.

Uses: Used as traditional medicine including leaves and bark. Used as aperient, diaphoretic, diuretic and also used in the treatment of rheumatism, obesity, gonorrhoea, and skin diseases (Kavitha et al. 2015).

Endemism: Native

Distribution: Africa to India through Malesia to Australia. Philippines (Apulit, Balabac, Culion, Dinagat, Abra, Bataan, Bulacan, Cagayan, Cavite, Ilocos Norte, Laguna, NCR, Nueva Vizcaya, Quezon, Rizal, Tarlac, Marinduque, Mindoro, Palawan, Panay, Sibuyan, Tablas (Pelser et al. 2011).

Conservation Status:
(IUCN 2023-1)



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EX



A habit

B sori

Family: Thelypteridaceae

Scientific Name: *Strophocaulon unitum* (L.) S.E.Fawc. & A.R.Sm.

Local Name: no associated local name

Synonym: *Sphaerostephanos unitus* (L.) Holttum, *Cyclosorus unitus* (L.) Ching, *Polypodium unitum* L., *Sphaerostephanos unitus* var. *mucronatus* (Christ) Holttum

Description: A medium to large terrestrial plant, forming colonies in open sites. Obong-lanceolate laminae with 21-38 pairs of pinnae. Pinnae sessile to short-petiolulate, pinna bases truncate or broadly cuneate, sometimes slightly dilated and the margins are dentate. Sori medial; indusia sparsely hairy.

Uses: The uses of this species is not documented

Endemism: **Native**

Distribution: Africa, Australia, Borneo, India, Indian Ocean, Lesser Sunda Isls, Madagascar, Malay Peninsula, Moluccas, Myanmar, New Guinea, Pacific Ocean, Philippines, Singapore, Solomon Isls, Sri Lanka, Sulawesi, Sumatra, Thailand, Vietnam (Pelsner et al. 2011).

Conservation Status:
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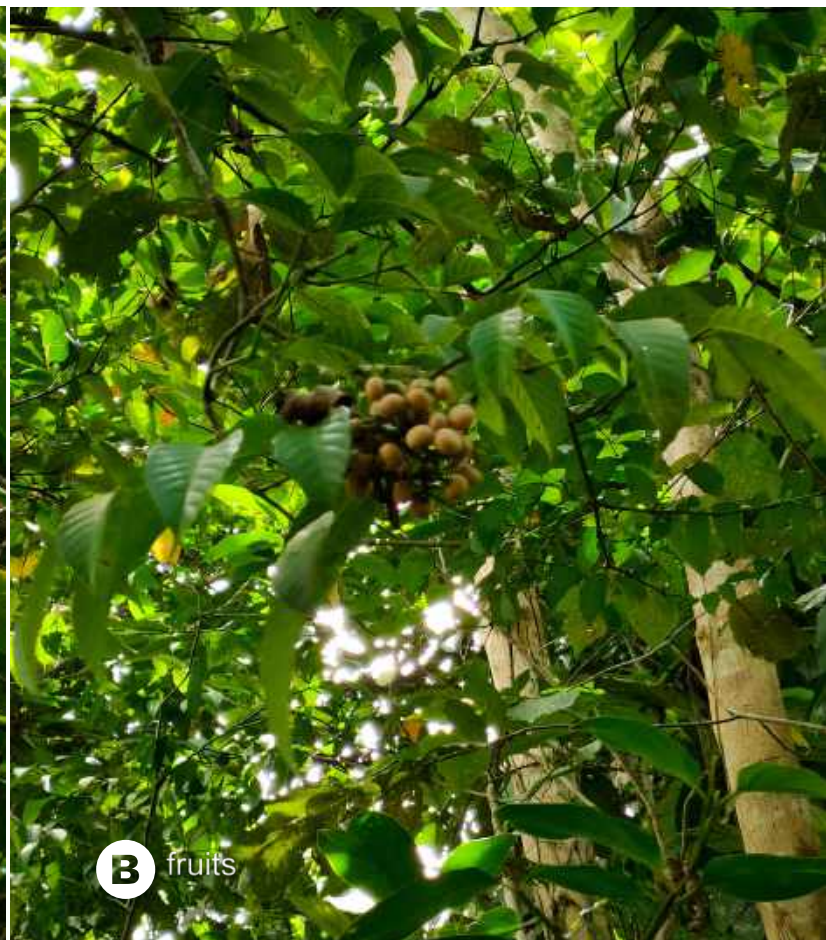
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A habit

B fruits

Family: Vitaceae

Scientific Name: *Leea aculeata* Blume ex Spreng.

Local Name: Mali-mali

Synonym: *Frutex aquosus* mas Rumph.; *Leea aculeata* (Blanco) Blanco; *Leea aculeata* var. *moluccana* Miq.; *Leea sandakanensis* Ridl.; *Leea serrulata* Miq.; *Ticorea aculeata* Blanco

Description: A spiny shrub or small tree with stems that are armed with spines. Leaves are smooth and either trifoliate or pinnate compound. The leaflets are oblong to subelliptic in shape. Flowers are white-yellow-pink while the fruits are rounded and red.

Uses: The leaves of this plant are used to treat skin infections (Putra et al. 2000).

Endemism: Native

Distribution: Borneo, Java, Moluccas, New Guinea, Philippines, Sulawesi, Sumatra (Pelser et al. 2011).

Conservation Status:
(IUCN 2023-1)



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A habit

B inflorescence

Family: Verbenaceae

Scientific Name: *Stachytarpheta jamaicensis* (L.) Vahl

Local Name: Kandi-kandilaan, Blue Snakeweed

Synonym: *Abena jamaicensis* (L.) Hitchc., *Cymburus urticifolius* Salisb., *Stachytarpheta bogoriensis* Zoll. & Moritz, *Stachytarpheta indica* var. *jamaicensis* (L.) Razi, *Stachytarpheta jamaicensis* f. *albiflora* S.S.Ying, *Stachytarpheta jamaicensis* f. *atrocaerulea* Moldenke, *Stachytarpheta jamaicensis* f. *atrocoerulea* Moldenke, *Stachytarpheta jamaicensis* f. *monstrosa* Moldenke, *Stachytarpheta jamaicensis* var. *longifolia* Hiern, *Stachytarpheta pilosiuscula* Kunth, *Troximon elatum* Greene, 1887, *Valerianoides jamaicense*, *Valerianoides jamaicense* (L.) Medik., *Valerianoides jamaicense* (L.) Medik. ex Kuntze, *Valerianoides jamaicense* f. *glabrum* Kuntze, *Valerianoides jamaicense* f. *strigosum* Kuntze, *Valerianoides jamaicense* var. *angustifolium* Kuntze, *Valerianoides jamaicense* var. *linearifolium* Kuntze, *Valerianoides jamaicense* var. *spathulatum* Kuntze, *Valerianoides jamaicensis* (L.) Kuntze, *Valerianoides jamaicensis* (L.) Medik., *Valerianoides jamaicensis* f. *glabra* Kuntze, *Valerianoides jamaicensis* f. *strigosa* Kuntze, *Valerianoides jamaicensis* var. *angustifolia* Kuntze, *Valerianoides jamaicensis* var. *spathulata* Kuntze, *Verbena americana* Mill., *Verbena jamaicensis* L., *Verbena pilosiuscula* (Kunth) Endl., *Vermicularia decurrens* Moench, *Zappania jamaicensis* (L.) Lam.

Description: A woody erect shrub that has a long prominent spike inflorescences. The leaves are opposite in arrangement and elliptic to ovate in shape. flowers blue to purple color.

Uses: Traditional and folk medicine which cure for allergies and respiratory conditions, fever, cough, cold, constipation, digestive complications, and dysentery and promotes menstruation (Liew and Yong 2016)

Endemism: Naturalized

Distribution: Neotropics. Widely distributed in the warmer regions of the world (Pelser et al. 2011).

Conservation Status:
(IUCN 2023-1)

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FAUNA



FAUNA SPECIES LIST

AMPHIBIANS

- *Limnonectes cf. magnus* (Stejneger, 1910)
- *Kalophrynus sinensis* Peters 1867
- *Fejervarya vittigera* (Wiegmann, 1834)
- *Kaloula pulchra* (Gray, 1831)
- *Occidozyga laevis* (Gunther, 1858)
- *Polypedates leucomystax* (Gravenhorst, 1829)
- *Platymantis dorsalis* (Duméril, 1853)
- *Pulchrana grandocula* (Taylor 1920)
- *Rhinella marina* (Linnaeus 1758)
- *Hoplobatrachus rugulosus* (Wiegmann, 1834)
- *Pelobatrachus stejnegeri* (Taylor, 1920)

REPTILES

- *Draco bimaculatus* (Günther, 1864)
- *Varanus cumingi* Martin, 1839
- *Hydrosaurus pustulatus* Eschscholtz, 1829
- *Ptychozoon intermedium* Taylor, 1915
- *Cyrtodactylus agusanensis* (Taylor, 1915)
- *Gonocephalus interruptus* (Boulenger, 1885)
- *Hemidactylus frenatus* (Duméril & Bibron 1836)
- *Pinoyscincus abdictus* (Brown & Alcalá, 1980)
- *Tropidophorus misaminius* Stejneger, 1910
- *Eutropis multicarinata* (Gray, 1845)
- *Eutropis multifasciata* (Kuhl, 1820)
- *Brachymeles orientalis* Brown & Rabor, 1967
- *Lycodon capucinus* (Boie, 1827)
- *Oxyrhabdium modestum* (DUMÉRIL, 1853)
- *Chrysopelea paradisi* Boie, 1827
- *Dendrelaphis marenae* Vogel & Van Rooijen, 2008
- *Trimeresurus flavomaculatus* (Gray, 1842)
- *Naja samarensis* Peters, 1861
- *Coelognathus erythrurus* (Duméril, Bibron & Duméril 1854)
- *Cuora philippinensis* (Blanck et al. 2023)

NON-VOLANT MAMMALS

- *Bullimus bagobus* Mearns, 1905
- *Rattus exulans* (Peale, 1848)
- *Rattus tanezumi* (Temminck, 1845)
- *Rattus everetti* (Günther, 1879)
- *Rattus argentiventer* (Robinson & Kloss, 1916)

BIRDS

- *Dicaeum australe* (Hermann, 1783)
- *Todiramphus chloris* (Boddaert, P 1783)
- *Pycnonotus goiavier* (Scopoli, GA 1786)
- *Loriculus philippensis* (Müller & Pls 1776)
- *Caprimulgus affinis*, Thomas Horsfield, 1821
- *Passer montanus* (Linnaeus, C 1758)
- *Aplonis panayensis* (Scopoli, 1786)
- *Phapitreron leucotis* (Temminck, 1823)
- *Cinnyris jugularis* (Linnaeus, 1766)

ARTHROPODS

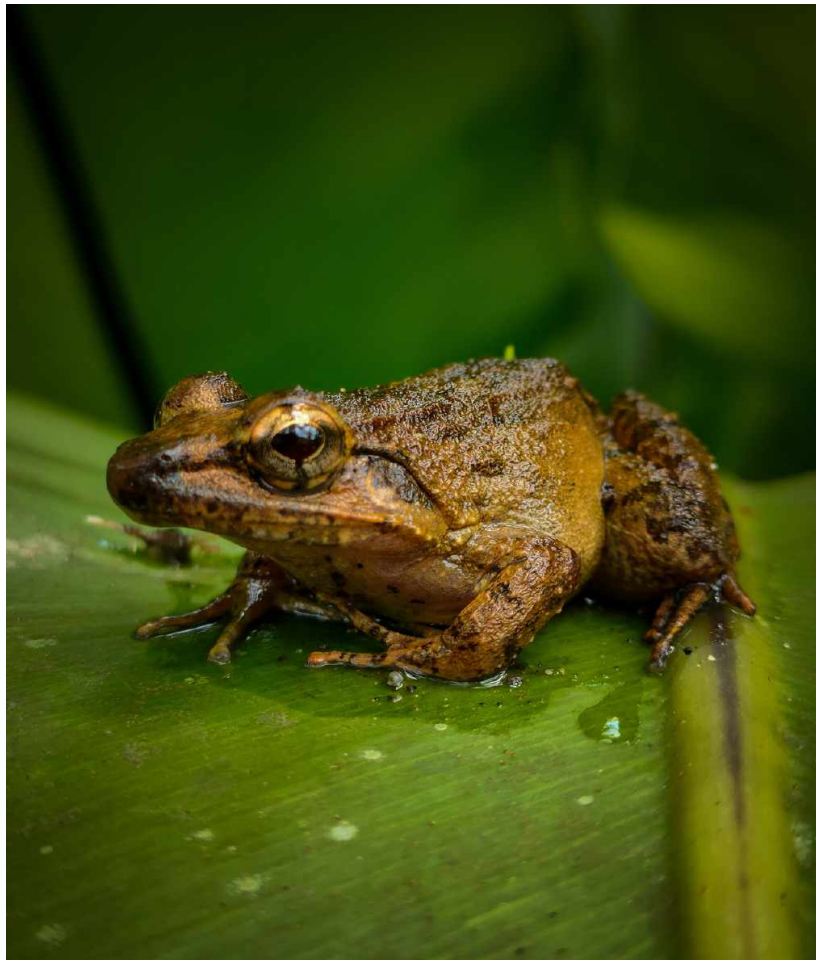
- *Ypthima sempera chaboras* Fruhstorfer, 1911
- *Junonia atlites atlites* Linnaeus 1758
- *Junonia hedonia ida* Cramer 1775
- *Mycalesis igoleta* FELDER & FELDER 1863
- *Taractrocera luzonensis luzonensis* Staudinger 1889
- *Orsotriaena medus medus* Fabricius, 1775
- *Mycalesis janardana micromede* Fruhstorfer 1900
- *Amathusia phidippus pollicaris* Butler, 1870
- *Paipalephorus* sp.
- *Rhinocypha colorata* Hagen, 1869 ♂
- *Rhinocypha colorata* Hagen, 1869 ♀
- *Ypthima stelleri stelleri* Eschscholtz, 1821
- *Hypolimnas bolina philippensis* Butler, 1874
- *Leptosia nina terentia* Fruhstorfer, 1910
- *Appias olferna peducaea* Fruhstorfer, 1910
- *Melanitis leda leda* Linnaeus 1758
- *Pareronia boebersi trinobantes* Fruhstorfer, 1911
- *Ptychandra lorquini platani* Semper, 1892
- *Menelaides polytes ledebouria* Eschscholtz, 1821
- *Vestalis melania* (Selys, 1873)
- *Zyxomma obtusum* Albarda, 1881
- *Orthetrum testaceum* (Burmeister, 1839)
- *Diplacodes trivialis* Rambur, 1842 ♀
- *Diplacodes trivialis* Rambur, 1842 ♂



AMPHIBIANS



AMPHIBIANS



Family: Dicroglossidae

Scientific Name: *Limnonectes cf. magnus* (Stejneger, 1910)

Common Name: Mindanao Fanged Frog

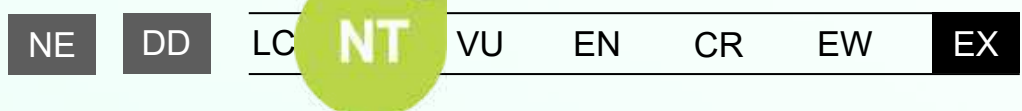
Description: A large-bodied frog with muscular legs and have a huge head. Mostly observed in aquatic ecosystems.

Ecological Role: Play an important role in the ecosystem as prey and predator. They help in controlling insect population and serve as prey for larger animals.

Endemism: **Mindanao Faunal Regional Endemic** (Sanguila et al. 2016)

Distribution: Widely distributed all throughout the Mindanao faunal region including Basilan, Biliran, Bohol, Camiguin Sur, Dinagat, Leyte, Mindanao, Samar (Diesmos et al. 2015; Sanguila et al. 2016; Pitogo et al. 2021)

Conservation Status:
(IUCN 2023-1)



AMPHIBIANS



Family: Microhylidae

Scientific Name: *Kalophrynus sinensis* Peters 1867

Common Name: Philippine Sticky Frog

Description: This endemic species is characterized by a cross pattern on its back and possesses a defense mechanism involving the secretion of sticky mucilage when threatened.

Ecological Role: Play an important role in the ecosystem as prey and predator. They help in controlling insect population and serve as prey for larger animals.

Endemism: Philippine Endemic

Distribution: Basilan, Bohol, Camiguin Sur, Cullion, Dinagat, Leyte, Mindanao, Samar (Diesmos et al. 2015).

Conservation Status:
(IUCN 2023-1)

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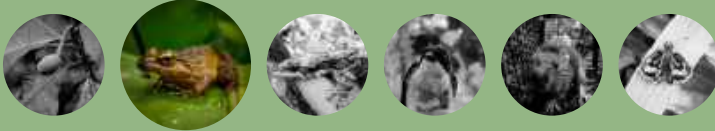
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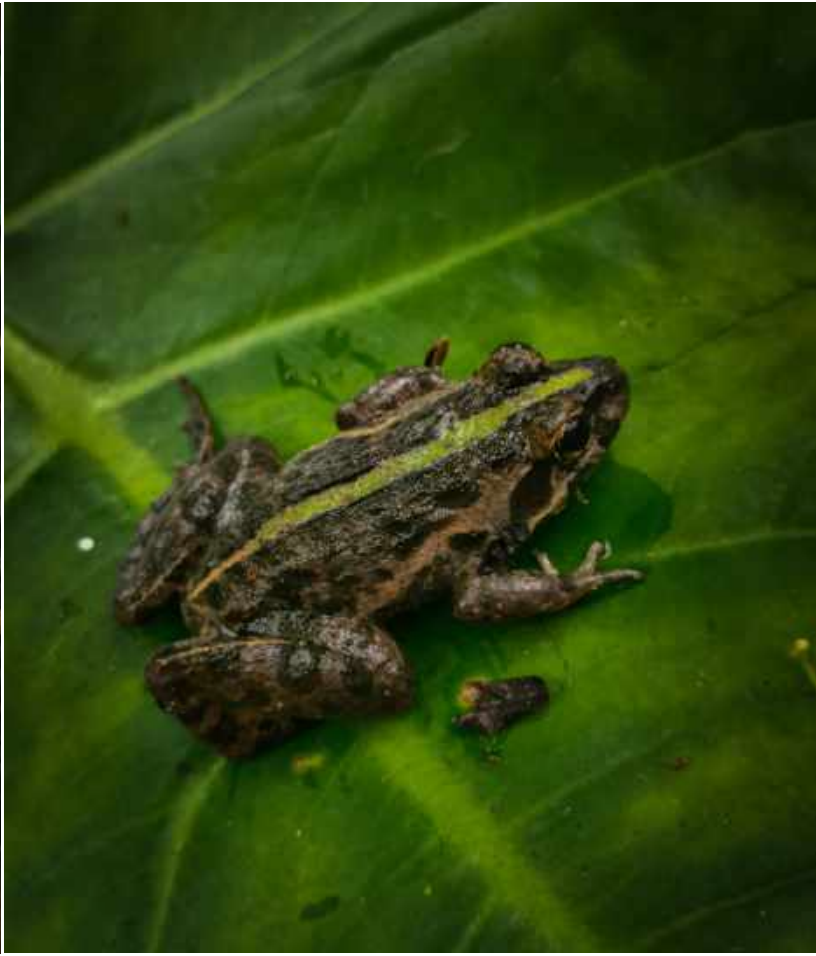
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EX



AMPHIBIANS



Family: Dicroglossidae

Scientific Name: *Fejervarya vittigera* (Wiegmann, 1834)

Common Name: Luzon Wart Frog

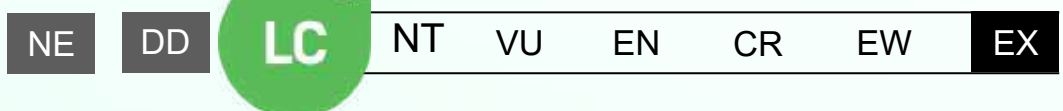
Description: Can be easily identified at a distance by its loud “honking” advertisement call (Sanguila et al. 2016). This species can be observed in disturbed habitats with standing water.

Ecological Role: Play an important role in the ecosystem as prey and predator. They help in controlling insect population and serve as prey for larger animals.

Endemism: Philippine Endemic

Distribution: Widespread in the Philippines including Bohol, Cagraray, Caluya, Camiguin Sur, Cebu, Cocomo, Dinagat, Guimaras, Leyte, Lubang, Luzon, Marinduque, Masbate, Mindanao, Mindoro, Negros, Palawan, Pan de Azucar, Panay, Polillo, Romblon Island Group (Diesmos et al. 2015).

Conservation Status:
(IUCN 2023-1)



AMPHIBIANS



Family: Microhylidae

Scientific Name: *Kaloula pulchra* (Gray, 1831)

Common Name: The Banded Bullfrog

Description: The body is stocky with two light brown dorsolateral bands. The head is small and short with rounded snout. When threatened, the frog will inflate itself for protection.

Ecological Role: The introduction and spread of invasive species can have detrimental effects on local ecosystems, displacing native species, altering habitats, and potentially causing ecological imbalances.

Endemism: Introduced - Invasive Alien Species (IAS)

Distribution: Native to India, Bangladesh, Thailand, Myanmar, Vietnam, China, Cambodia, Singapore, Sumatra, Borneo, and Sulawesi. Introduced becoming widespread in the Philippines including Boracay, Cebu, Luzon, Leyte, Mindanao, Mindoro, Negros, Palawan, and Samar (Venturina et al. 2023)

Conservation Status:
(IUCN 2023-1)

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EX



AMPHIBIANS



Family: Dicroglossidae

Scientific Name: *Occidozyga laevis* (Gunther, 1858)

Common Name: Common puddle frog

Description: This species has small head with orbits situated on the dorsal surface and with a short snout. The body is stocky and muscular, with a muscular and short legs. Individuals show color variation, some are solid gray or brown.

Ecological Role: Play an important role in the ecosystem as prey and predator. They help in controlling insect population and serve as prey for larger animals.

Endemism: **Native**

Distribution: Philippines (islands of Alabat, Balabac, Batan, Bohol, Bonoan, Busuanga, Cagraray, Calagnan, Calauit, Camaguin-Sur, Catanduanes, Cebu, Coron, Dinagat, Guimaras, Inampulugan, Leyte, Lubang, Luzon, Marinduque, Masbates, Mindanao, Mindoro, Negros, Palawan, Panay, Polillo, Romblon Island group, Samar, Sicogon, Subayan, and Sulu Archipelago).

Conservation Status:
(IUCN 2023-1)

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EX

AMPHIBIANS



Family: Rhacophoridae

Scientific Name: *Polypedates leucomystax* (Gravenhorst, 1829)

Common Name: Common Tree Frog

Description: Can be observed in disturbed habitats mostly seen perching on shrubs, bamboos, and leaves. It has a small to medium body with four dorsal lines running from the head, tapering towards the posterior end.

Ecological Role: Play an important role in the ecosystem as prey and predator. They help in controlling insect population and serve as prey for larger animals.

Endemism: Native

Distribution: Native. Widespread in the Philippines (Diesmos et al. 2015; Sanguila et al. 2016)

Conservation Status:
(IUCN 2023-1)

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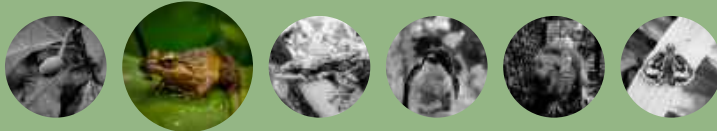
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AMPHIBIANS



Family: Ceratobatrachidae

Scientific Name: *Platymantis dorsalis* (Duméril, 1853)

Common Name: Dumeril's wrinkled ground frog

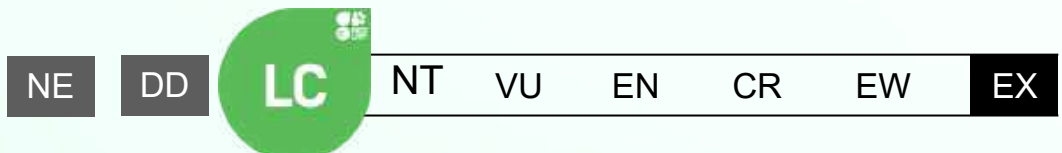
Description: Different color patterns and variations among individuals; individuals with shades of either brown, red, or orange as their dominant color. Can be documented among rocks, leaf litters and rotting leaves on the forest floor and along trails and dry stream beds (Siler et al., 2012; Plaza and Sanguila, 2015)

Ecological Role: Play an important role in the ecosystem as prey and predator. They help in controlling insect population and serve as prey for larger animals.

Endemism: **Philippine Endemic**

Distribution: Widespread throughout Luzon and Western Visayas (Diesmos et al. 2015).

Conservation Status:
(IUCN 2023-1)



AMPHIBIANS



Family: Ranidae

Scientific Name: *Pulchrana grandocula* (Taylor 1920)

Common Name: Mindanao Striped Stream Frog

Description: The presence of polymorphism in the species. Most individuals exhibit a blotched dorsal pattern. Rarely, individuals may have a dotted dorsal pattern.

Ecological Role: Play an important role in the ecosystem as prey and predator. They help in controlling insect population and serve as prey for larger animals.

Endemism: Mindanao faunal region endemic

Distribution: Basilan, Biliran, Bohol, Camiguin Sur, Dinagat Leyte, Mindanao, and Samar (Diesmos et al., 2015).

Conservation Status:
(IUCN 2023-1)

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EX



AMPHIBIANS



leaves and curved fruit



leaves and fruit

Family: Bufonidae

Scientific Name: *Rhinella marina* (Linnaeus 1758)

Common Name: Cane Toad

Description: Contain a huge paratoid glands. This species is commonly abundant around human settlements, agricultural plantations, rice fields, and highly disturbed areas.

Ecological Role: The introduction of this non-native species in the Philippines pose a threat to our native species.

Endemism: **Introduced - Invasive Alien Species (IAS)**

Distribution: Native to Central and South America. Introduced and has now become widespread in the Philippines including Alabat, Bohol, Calayan, Catanduanes, Cebu, Cocomo, Dinagat, Gigantes Norte, Leyte, Lubang, Marinduque, Masbate, Mindoro, Negros, Palawan, Panay, Polillo, Romblon Island Group, Sicogon, Samar, Ticao, Verde (Diesmos et al. 2015; Sanguila et al. 2016; Meneses et al. 2022; Venturina et al. 2023;)

Conservation Status:
(IUCN 2023-1)

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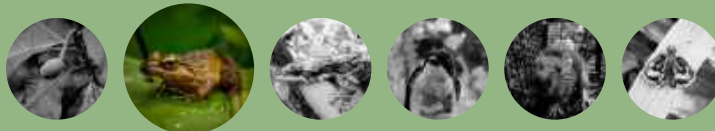
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EX

AMPHIBIANS



Family: Dicroglossidae

Scientific Name: *Hoplobatrachus rugulosus* (Wiegmann, 1834)

Common Name: Chinese Edible Frog

Description: A large-sized frog species that is commonly observed in rice paddies and heavily disturbed agricultural areas (McLeod et al. 2011; Brown et al. 2012)

Ecological Role: The introduction and spread of invasive species can have detrimental effects on local ecosystems, displacing native species, altering habitats, and potentially causing ecological imbalances.

Endemism: Introduced - Invasive Alien Species (IAS)

Distribution: Native throughout China and Southeast Asia. Introduced in the Philippines, making it as an Invasive Alien Species (IAS) in the country (Diesmos et al., 2006)

Conservation Status:
(IUCN 2023-1)

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EX



AMPHIBIANS



Family: Megophryidae

Scientific Name: *Megophrys stejnegeri* (Taylor, 1920)

Common Name: Mindanao Horned Frog

Description: small to medium-sized, with an oblong, flattened body, dorsolateral eye placement, oval-shaped round pupils, and a dark brown line extending to the eye.

Ecological Role: ecological balance by consuming most of the insects found in Mindanao, it will also consume snails, spiders, worms, and occasionally frogs that are smaller than itself.

Endemism: Mindanao Faunal Region Endemic

Distribution: Basilan, Biliran, Bohol, Dinagat, Leyte, Samar, and Mindanao islands, Philippines.

Conservation Status:
(IUCN 2023-1)

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REPTILES



REPTILES



A dorsal view



B dorsal patagium

Family: Agamidae

Scientific Name: *Draco bimaculatus* (Günther, 1864)

Common Name: Two-spotted Flying Lizard

Description: Patagium present, which are used for flight. With black tympanum and white-centred spot between the tympanum and the corner of the mouth

Ecological Role: This species is generally an insectivore, feeding mostly on small ants and termites. This help controls the population of insects.

Endemism: **Philippine Endemic**

Distribution: Basilan, Bohol, Dinagat, Jolo, Lapac, Leyte, Lugus, Mindanao, Ponson, Samar, Sanga Sanga, Siargao, Tawitawi, Zamboanga, Siasi, Agusan (Uetz et al. 2023)

Conservation Status:
(IUCN 2022-2)

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EX



Family: Varanidae

Scientific Name: *Varanus cumingi* Martin, 1839

Common Name: Mindanao Monitor Lizard

Description: With intensive yellow color pattern of the body and head as compared to other *Varanus* species. It is commonly observed in forest, marine intertidal, and agricultural areas.

Ecological Role: It controls the population of its prey such as rodents, birds, and other small vertebrate species. This species also acts as scavengers

Endemism: Mindanao Faunal Regional Endemic

Distribution: Widespread in Mindanao

Conservation Status:
(IUCN 2022-2)

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EX



REPTILES



Family: Agamidae

Scientific Name: *Hydrosaurus pustulatus* Eschscholtz, 1829

Common Name: Philippine Sailfin Lizard

Description: Known for their distinctive appearance. They have a laterally compressed body, a long tail, and large, sail-like crests on their back.

Ecological Role: Philippine sailfin lizards are omnivores, consuming both plant matter (leaves and fruits) as well as insects and crustaceans.

Endemism: **Philippine Endemic**

Distribution: Polillo, Mindoro, Negros, Dinagat, Mindanao, Panay, Bohol, Cebu, Sibuyan, Camiguin Sur (Uetz et al. 2021)

Conservation Status:
(IUCN 2022-2)

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EX



Family: Gekkonidae

Scientific Name: *Ptychozoon intermedium* Taylor, 1915

Common Name: Intermediate Flying Gecko

Description: Olive gray above with touches of bluish and brown coloration, resembling tree bark. Flattened bodies and large, webbed skin flaps on their limbs and tail.

Ecological Role: Play an important role in the ecosystem as prey and predator. Helps control populations and prevents overpopulation of certain species.

Endemism: **Philippine Endemic**

Distribution: Mindanao, Leyte, Dinagat, Maripipi (Uetz et al. 2023)

Conservation Status:
(IUCN 2022-2)

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REPTILES



Family: Gekkonidae

Scientific Name: *Cyrtodactylus agusanensis* (Taylor, 1915)

Common Name: Mindanao Bow-fingered Gecko

Description: The color above is grayish white with 4 or 5 enlarged, irregular, dark black-brown crossbands. The tail is annulated with broad black rings and narrow white interspaces.

Ecological Role: Play an important role in the ecosystem as prey and predator. Helps control populations and prevents overpopulation of certain species.

Endemism: **Philippine Endemic**

Distribution: Mindanao, Leyte, Dinagat (Uetz et al. 2023)

Conservation Status:
(IUCN 2022-2)

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EX



Family: Agamidae

Scientific Name: *Gonocephalus interruptus* (Boulenger, 1885)

Common Name: Boulenger's Forest Dragon

Description: The body coloration of this species can vary, but it often includes shades of brown, green, or a combination.

Ecological Role: Play an important role in the ecosystem as prey and predator. Helps control populations and prevents overpopulation of certain species.

Endemism: **Philippine Endemic**

Distribution: Mindanao, Mindoro, Danguan, Aninuan, Puerto Galera (Uetz et al. 2023)

Conservation Status:
(IUCN 2022-2)

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REPTILES



A leaves and curved fruit

Family: Gekkonidae

Scientific Name: *Hemidactylus frenatus* (Duméril & Bibron 1836)

Common Name: Common House Gecko

Description: The tail has a somewhat cylindrical shape and features a line of small spines along both the top and sides. The back is smooth with minor raised bumps. Its coloration tends to be a subdued brown or gray, possibly with darker or lighter streaks. During nighttime, it may appear white or light gray. The underside is somewhat whitish in color.

Ecological Role: In the Philippines, geckos hold a significant role within the local food chain. They consume insects and small invertebrates, thereby aiding in the regulation of these populations. Conversely, geckos themselves become targets for larger predators like snakes and birds of prey. Geckos' presence within the ecosystem contributes to sustaining a delicate equilibrium among various species, which is fundamental for a thriving and healthy environment.

Endemism: **Native**

Distribution: Native to Southeast Asia; originated from countries such as India, Malaysia, and Thailand, they have now expanded to other regions such as Africa, Australia, and the Americas

Conservation Status:

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EX



Family: Scincidae

Scientific Name: *Pinoyscincus abdictus* (Brown & Alcala, 1980)

Common Name: Mindanao Forest Skink

Description: This species has a distinct dark brown pattern, often observed in a wide variety of habitats, such as second growth forests, riparian areas, agricultural areas, and montane forests.

Ecological Role: Play an important role in the ecosystem as prey and predator. Helps control populations and prevents overpopulation of certain species.

Endemism: **Philippine Endemic**

Distribution: Mindanao, Camiguin, Bohol (Uetz et. 2023)

Conservation Status:

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EX



REPTILES



Family: Scincidae

Scientific Name: *Tropidophorus misaminius* Stejneger, 1910

Common Name: Misamis Waterside Skink

Description: The body of this species is covered with pointed scales or the scales are strongly keeled. It is often observed in moist soil under rotting logs or between the rocks of streambeds or out in the open on the forest floor.

Ecological Role: Play an important role in the ecosystem as prey and predator. Helps control populations and prevents overpopulation of certain species.

Endemism: **Mindanao Endemic**

Distribution: Basilan, Camiguin, Mindanao (Uetz et al. 2023)

Conservation Status:

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EX



Family: Scincidae

Scientific Name: *Eutropis multicarinata* (Gray, 1845)

Common Name: Philippine Mabuya

Description: The body size is medium, measuring 61-72 mm in adults. The interparietal is large, with parietals not touching or sometimes fused to the nuchal. There are 34-39 paravertebral scales. The total number of subdigital lamellae on all five toes of one foot ranges from 74 to 80. The ventral scales have 24-29 rows. Midbody scales have 30-33 rows. Dorsal and lateral body scales have moderately defined keels, numbering between 5 and 10. The lower eyelid is covered in scales. There are 4-5 supraciliaries. The prefrontals are either separated or in contact. Two primary temporal scales are present. The dorsal and lateral body surfaces exhibit a relatively uniform bronze and dark brown coloration without prominent light stripes (Barley et al. 2020).

Ecological Role: Generally, these species are insectivores, they have a voracious appetite for a variety of insects and invertebrates. This dietary preference makes them efficient pest managers, contributing to the control of insect populations in their environments. This helps in reducing the numbers of potentially damaging insects in plants and crops.

Endemism: **Philippine Endemic**

Distribution: Occur syntopically on Mindanao, Agusan del Sur, Samar, Camiguin Sur and Dinagat Island, and assumed that the Leyte populations were representative of true *E. multicarinata*.

Conservation Status:

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EX



REPTILES



Family: Scincidae

Scientific Name: *Eutropis multifasciata* (Kuhl, 1820)

Common Name: Common Sun Skink

Description: The scales on its back are smooth and glossy, while those on its belly are slightly keeled. This species is known for its unique coloration, which features a brown body with several dark brown or black stripes running from its head to its tail. Juveniles have a brighter coloration, with orange or reddish-brown stripes.

Ecological Role: Play an important role in the ecosystem as prey and predator. They help in controlling insect population and serve as prey for larger animals.

Endemism: **Non-Endemic**

Distribution: Western landmasses of the Indo-Australian archipelago, southwest Asian and north-ward into Indochina. Occurs throughout the Philippines (Sanguila et al. 2016)

Conservation Status:

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Family: Scincidae

Scientific Name: *Brachymeles orientalis* Brown & Rabor, 1967

Common Name: Southern Burrowing Skink

Description: semifossorial and typically found in dry, rotting material inside or underneath decaying logs or in loose soil, forest floor detritus, and leaf litter of lowland forest.

Ecological Role: Maintains insect populations, seed dispersal

Endemism: **Philippine Endemic**

Distribution: Bohol, Mindanao, Samar, Leyte, Dinagat, Camiguin Sur islands

Conservation Status:

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EX



REPTILES



Family: Colubridae

Scientific Name: *Lycodon capucinus* (Boie, 1827)

Common Name: Common Wolf Snake

Description: A non-venomous snake having a slender body with smooth scales. The color is brown or purplish-brown above, with more or less distinct fine white or yellow reticulations. This species has a whitish blotch on the occiput as in aulicus.

Ecological Role: Feeds on small vertebrates such as geckos, skinks, and other small snakes. Play an important role in the ecosystem as prey and predator.

Endemism: **Native**

Distribution: Bantayan, Cebu, Cuyo, Leyte, Luzon Masbate, Mindanao, Mindoro, Negros, Palawan, Panay, Samar, Camiguin Sur (Uetz et al. 2023)

Conservation Status:

NE

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EX



Family: Lamprophiidae

Scientific Name: *Oxyrhabdium modestum* (DUMÉRIL, 1853)

Common Name: Philippine Shrub Snake

Description: A non-venomous snake with cylindrical body with a small to medium in length. Tail cylindrical. Head elongated and slightly distinct from neck. Snout is acuminate. Scales on the dorsal part are smooth without apical pits while ventrals are rounded.

Ecological Role: Snakes are important predators, helping control populations and prevents overpopulation of certain species.

Endemism: **Mindanao PAIC faunal region**

Distribution: Basilan, Bohol, Dinagat, Leyte, Mindanao, Negros, Samar, and Camiguin Sur (Uetz et al. 2023)

Conservation Status:

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EX



REPTILES



Family: Colubridae

Scientific Name: *Chrysopelea paradisi* Boie, 1827

Common Name: Paradise Tree Snake

Description: A mildly venomous snake having a distinctive appearance with a slender, elongated body and a relatively long tail. It is brightly colored, often featuring shades of green, yellow, and black. One of the most remarkable features of this species is its ability to glide.

Ecological Role: Play an important role in the ecosystem as prey and predator. Prey for animals mainly of small vertebrates, such as lizards and frogs.

Endemism: **Native**

Distribution: Distributed in Southeastern Asia and East Indies, including the Philippines (Sulu Archipelago, Negros Oriental, Panay, Luzon, Cebu, Agusan del Norte, Dinagat Island) (Wallach et al. 2015; Uetz et al. 2023)

Conservation Status:

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EX



Family: Colubridae

Scientific Name: *Dendrelaphis marenae* Vogel & Van Rooijen, 2008

Common Name: Maren's Bronzeback

Description: A non-venomous snake. Head is elongated, distinct from neck. Golden brown dorsal body while ventral yellowish green in ventral part. The vertebral scales hexagonal and enlarged.

Ecological Role: Often preying on frogs. They are ecologically important for being part of the food cycle in a particular ecosystem.

Endemism: **Native**

Distribution: Philippines (Balabac, Bantayan, Basilan, Bohol, Busuanga, Calauit , Camiguin, Candaraman, Catanduanes, Cebu, Culion, Kalotkot, Leyte, Luzon, Masbate, Mindanao, Mindoro, Negros, Palawan, Polillo, Samar, Siquijor, Siargao, Sulu-Archipel, Panay); Indonesia (Sulawesi), (Uetz et al. 2023).

Conservation Status:
(IUCN 2022-2)

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EX



REPTILES



Family: Viperidae

Scientific Name: *Trimeresurus flavomaculatus* (Gray, 1842)

Common Name: Philippine Pit Viper

Description: This snake is highly venomous. Have a triangular-shaped head with a distinctive color pattern in forest or vegetation near rivers or dry stream beds in forested areas.

Ecological Role: Often preying on frogs and small mammals. They are ecologically important for being part of the food cycle in a particular ecosystem.

Endemism: **Philippine Endemic**

Distribution: Luzon, Camiguin, Jolo, Polillo, Bataan, and Mindanao (Uetz et al. 2023).

Conservation Status:
(IUCN 2022-2)

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Family: Elapidae

Scientific Name: *Naja samarensis* Peters, 1861

Common Name: Samar Cobra/Southern Philippine Cobra

Description: A highly venomous snake, having black body scales and yellow interstitial skin. Like other cobras, it has the ability to raise the front part of its body and spread its hood as a defensive display. The sides of its hood are also yellow.

Ecological Role: It controls the population of its prey such as rodents, birds, and other small vertebrate species including the invasive cane toads.

Endemism: Mindanao biogeographic region endemic

Distribution: Islands of Mindanao (Agusan del Norte, Bukidnon, Davao del Sur, Lanao, Misamis Occidental, South Cotabato, Zamboanga City), Bohol, Samar, Leyte, Dinagat, and Camiguin Sur islands (Leviton et al. 2014; Uetz et al. 2023).

Conservation Status:
(IUCN 2022-2)

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REPTILES



Family: Colubridae

Scientific Name: *Coelognathus erythrurus erythrurus* (Duméril, Bibron & Duméril, 1854)

Common Name: Reddish Rat Snake

Description: A non-venomous snake. The distinguishing feature of this snake is its red or reddish-brown tail. The rest of the body typically has a bronze or olive-brown coloration.

Ecological Role: It controls the population of its prey such as invasive rodents, and other small vertebrate species.

Endemism: **Native**

Distribution: Java, Indonesia, but also reported on various islands of the Mindanao PAIC including Mindanao, Camiguin Sur, Samar, and Dinagat (Sanguila et al. 2016)

Conservation Status:
(IUCN 2022-2)

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Family: Geoemydidae

Scientific Name: *Cuora philippinensis* (Blanck et al. 2023)

Common Name: Philippine Box Turtle

Description: Reported as new Philippine endemic turtle based on the recent taxonomic revision of the *Cuora amboinensis* complex (Blanck et al. 2023). Inhabits on forest edges, agricultural areas, and streams in secondary and disturbed forest (Sanguila et al. 2016).

Ecological Role: Important in the ecosystem through its contribution to plant seed germination and dispersal.

Endemism: **Philippine Endemic**

Distribution: Philippines generally except Palawan and the Sulu Archipelago.

Conservation Status:
(IUCN 2022-2)

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BIRDS





Family: Dicaeidae

Scientific Name: *Dicaeum australe* (Hermann, 1783)

Common Name: Red-keeled Flowerpecker

Description: Head and upperparts are black and glossed blue. Chin and throat are white while breasts and belly are grey, with scarlet stripe down middle.

Ecological Role: This bird species play crucial roles in maintaining the balance of ecosystems by providing various ecological services. Feed on flowering and fruiting trees.

Endemism: **Philippine Endemic**

Distribution: Philippines except islands from Mindoro S to Palawan, and E to Sibuyan, Panay and Negros (Cheke and Mann 2020).

Conservation Status:
(IUCN 2022-2)

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Family: Alcedinidae

Scientific Name: *Todiramphus chloris* (Boddaert, P 1783)

Common Name: White-Collared Kingfisher

Description: Varies from blue to green above while the underparts can be white or buff. There is a white collar around the neck, giving the bird its name. Some races have a white or buff stripe over the eye while others have a white spot between the eye and bill.

Ecological Role: Opportunistic generalist carnivores feed on a wide range of prey depending on their location and availability of food resources.

Endemism: **Non-Endemic**

Distribution: From the Arabian Gulf and Red Sea throughout southern and south-eastern Asia, Indonesia, New Guinea, northern Australia, Vanuatu, Fiji, Tonga, Samoa and the Solomon Islands.

Conservation Status:
(IUCN 2022-2)

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Family: Pycnonotidae

Scientific Name: *Pycnonotus goiavier* (Scopoli, GA 1786)

Common Name: Yellow-Vented Bulbul

Description: It has a brownish-olive plumage on its upperparts and a yellow vent (lower part of the bird's body). This species has a distinctive black crown and face with a white nape (back of the neck)

Ecological Role: This species is omnivorous and also feeds on insects, spiders, and other invertebrates, hence, important in controlling insect populations.

Endemism: **Non-Endemic**

Distribution: Peninsular Malaysia, Sumatra (including Riau and Lingga Archipelagos, Bangka, Belitung), Java (including Kangean Is), Bali, Lombok and Sumbawa (Fishpool et al. 2020).

Conservation Status:
(IUCN 2022-2)

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Family: Psittaculidae

Scientific Name: *Loriculus philippensis* (Müller & Pls 1776)

Common Name: Philippine hanging parrot

Description: They have a distinctive bright green plumage, with a red patch on their forehead and blue streaks on their wings.

Ecological Role: Their diet primarily consists of fruits, flowers, nectar, and seeds. Important seed dispersers and pollinators.

Endemism: **Philippine Endemic**

Distribution: Philippines including Luzon and adjacent islands (Polillo, Marinduque, Banton and Catanduanes), Mindoro, Sibuyan, Tablas, Romblon, Masbate, Ticao, Panay, Guimaras, Negros, Cebu, Samar, Biliran, Leyte, Bohol, Siquijor, Mindanao and adjacent islands (except Camiguin Sur), and Basilan (Collar and Kirwan 2023).

Conservation Status:
(IUCN 2022-2)

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Family: Caprimulgidae

Scientific Name: *Caprimulgus affinis*, Thomas Horsfield, 1821

Common Name: Savanna nightjar

Description: Its upperparts display a brownish-grey, vermiculated pattern with light brown speckles, while the underparts are brown and have bars.

Ecological Role: This species feeds on flying insects and other invertebrates, hence, important in controlling insect populations.

Endemism: **Non-Endemic**

Distribution: Mindanao, Sulu Archipelago.

Conservation Status:
(IUCN 2022-2)

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Family: Passeridae

Scientific Name: *Passer montanus* (Linnaeus, C 1758)

Common Name: Eurasian Tree Sparrow

Description: This species have a brownish-gray crown, a chestnut-brown patch on the back of the head, and a black spot on each cheek. The underparts are pale gray, and there is a black patch on the throat

Ecological Role: Primarily feed on seeds, grains, and other plant matter. Important seed disperser.

Endemism: **Non-Endemic**

Distribution: The Eurasian Tree Sparrow has a vast distribution across Eurasia. Its range extends from Western Europe and Asia to Southeast Asia.

Conservation Status:
(IUCN 2022-2)

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Family: Sturnidae

Scientific Name: *Aplonis panayensis* (Scopoli, 1786)

Common Name: Asian Glossy Starling

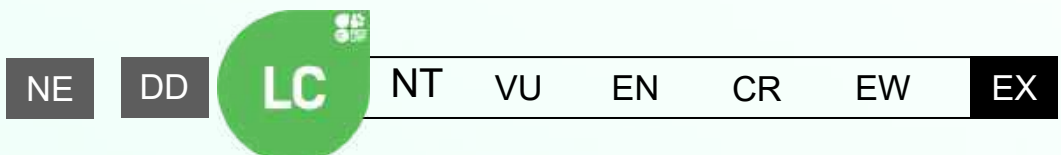
Description: A medium-sized bird with bright red eyes. Adult birds have glossy, iridescent plumage with a metallic sheen that can range from dark green to bluish-black.

Ecological Role: Omnivore bird. Primarily a fruit-eating bird, mango, papaya, banana, insects, and beetles. Important seed disperser and important in controlling insect populations.

Endemism: **Native**

Distribution: Bangladesh, Brunei, India, Indonesia, Malaysia, Myanmar, the Philippines, Singapore, Taiwan (introduced) and Thailand.

Conservation Status:
(IUCN 2022-2)





Family: Columbidae

Scientific Name: *Phapitreron leucotis* (Temminck, 1823)

Common Name: White-eared Brown Dove

Description: A medium-sized dove with a predominant brown plumage with a distinct white patch on its ear coverts, which gives it the name "White-eared."

Ecological Role: Primarily a fruit-eating bird and seeds which is important seed disperser.

Endemism: **Philippine Endemic**

Distribution: Philippines in forest and edge from the lowlands to the lower mountains.

Conservation Status:
(IUCN 2022-2)

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Family: Nectariniidae

Scientific Name: *Cinnyris jugularis* (Linnaeus, 1766)

Common Name: Olive-backed Sunbird

Description: They have long curved bills, a plain olive back, a yellow belly, and white tail edges that are flared out in flight.

Ecological Role: Feed on nectar, using their specialized long, curved bills to extract it from flowers. Important as polinator.

Endemism: **Native**

Distribution: Australia, Brunei Darussalam, Cambodia, China, India, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, Papua New Guinea, Philippines, Singapore, Solomon Islands, Thailand, and Vietnam (IUCN 2022-2)

Conservation Status:
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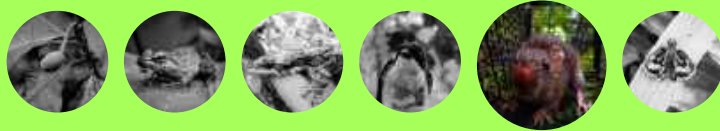
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EX

Small Non-Volant Mammals





NON-VOLANT



Family: Muridae

Scientific Name: *Bullimus bagobus* Mearns, 1905

Common Name: Mindanao Bullimus

Description: It has a dark brown fur on the dorsal side and has a pale silvery brown on the ventral side. It has a shorter tail than the combined head and body length, the tail usually dark brown in color with some individuals having white on the posterior end.

Ecological Role: They are omnivores which help in seed dispersal. They also help in controlling population of its prey such as invertebrates

Endemism: **Philippine Endemic**

Distribution: Mindanao PAIC Endemic

Conservation Status:

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Family: Muridae

Scientific Name: *Rattus exulans* (Peale, 1848)

Common Name: Polynesian Rat

Description: A small rat with a slender body, pointed snout, large ears and relatively delicate feet. The fur color can vary, but it is generally brown or gray with whitish belly.

Ecological Role: They are omnivores, they feed on leaf plants, grasses, fruits, seeds, and animal matter.

Endemism: Introduced

Distribution: Distributed from Southeast Asia and New Guinea through the Pacific.

Conservation Status:

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NON-VOLANT



Family: Muridae

Scientific Name: *Rattus tanezumi* (Temminck, 1845)

Common Name: Asian House Rat

Description: A medium-sized rodent that has a variable fur color on the dorsal side from dark brown to gray. The tail of this species is noteworthy for being either the same length as the head and body or even longer.

Ecological Role: An alien invasive species and opportunistic omnivore, considered to be serious pests of rice.

Endemism: Introduced

Distribution: Distributed across a broad range in Eastern, Southern, and Southeastern Asia, with its presence documented in countries such as Bangladesh, Bhutan, Cambodia, China, the Cocos (Keeling) Islands, Fiji, India, Indonesia, Japan, North Korea, South Korea, Laos, Malaysia, Myanmar, Nepal, the Philippines, Taiwan, Thailand, and Vietnam.

Conservation Status:
(IUCN 2022-2)

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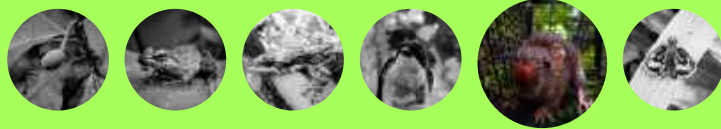
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Family: Muridae

Scientific Name: *Rattus everetti* (Günther, 1879)

Common Name: Common Philippine Forest Rat

Description: It has a dark brown dorsal fur and a long black guard hairs. Usually it has a white ventral fur, with orange and yellow. It has a longer tail as compared to the combined length of the head and body.

Ecological Role: They are omnivores which help in seed dispersal, They also help in controlling population of its prey such as invertebrates

Endemism: **Philippine Endemic**

Distribution: Widespread in the Philippines excluding Palawan faunal region, Sulu and Batanes/Babuyan Island groups, and Greater Negros-Panay

Conservation Status:

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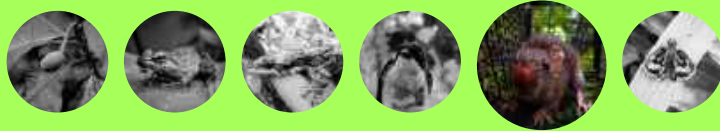
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NON-VOLANT



Family: Muridae

Scientific Name: *Rattus argentiventer* (Robinson & Kloss, 1916)

Common Name: Ricefield Rat

Description: A medium-sized rodent with a relatively robust body. The fur color can vary, but it is generally brown or grayish-brown on the upperparts and lighter on the underparts. Ears are relatively long and rounded.

Ecological Role: Rice-field rat is omnivorous, consisting of a variety of foods such as grains, seeds, fruits, insects, and small vertebrates. rice-field rat can have significant impacts on agriculture, especially in rice-growing regions, where it may cause damage to crops.

Endemism: Native

Distribution: Brunei Darussalam, Cambodia, Indonesia, Lao People's Democratic Republic, Malaysia, Philippines, Singapore, Thailand, Timor-Leste, Viet Nam (IUCN 2022-02)

Conservation Status:

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EX

ARTHROPODS





ARTHROPODS



Family: Nymphalidae

Scientific Name: *Ypthima sempera chaboras* Fruhstorfer, 1911

Common Name: Common Three Ring

Description: Its wings have a brown color with three (3) circular rings from which its common name was derived. The forewing length measures 15-19mm and the width measures 9-12mm. The hindwing length measures 11-15mm and the width measures 10-14mm. The thorax has 5-6mm long, the abdomen measures 4-6mm, the body length measures 11-19mm, and the antennae measure 6mm.

Ecological Role: Essential pollinators, seed dispersers and herbivores in the various ecosystem types.

Endemism: **Philippine Endemic**

Distribution: Camiguin de Min, Basilan, Dinagat, Mindanao, Sarangani

Conservation Status:
(IUCN 2022-2)



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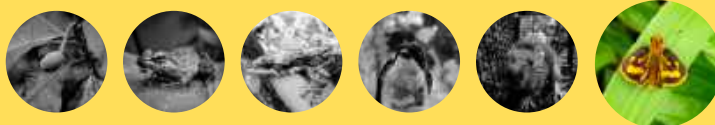
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Family: Nymphalidae

Scientific Name: *Junonia atlites atlites* Linnaeus 1758

Common Name: Grey Pansy

Description: Pale lavender brown wings. Its forewing length measures 29mm and the forewing width measures 19mm. The hindwing length measurement of 23mm and the width measures 22mm. The thorax has 8mm long, the abdomen measures 10 mm, the body length measures 19mm, and the antennae measures 13mm.

Ecological Role: Butterflies are essential pollinators, seed dispersers and herbivores in the various ecosystem types.

Endemism: Non-endemic

Distribution: Philippines generally

Conservation Status:
(IUCN 2022-2)



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EX



ARTHROPODS



Family: Nymphalidae

Scientific Name: *Junonia hedonia ida* Cramer 1775

Common Name: Brown Pansy/Browm Soldier

Description: Low-flying species and frequently basks with its wings open. This species has dark reddish-brown wings. The forewing length and width measure 31mm and 22mm, respectively. The hindwing has a series of reddish ocelli with a length of 27mm and a width of 26mm. The thorax measure 8mm, the abdomen 10mm, the body length 20mm, and the antennae 14mm.

Ecological Role: Butterflies are essential pollinators, seed dispersers and herbivores in the various ecosystem types.

Endemism: **Non-endemic**

Distribution: Philippines generally

Conservation Status:
(IUCN 2022-2)



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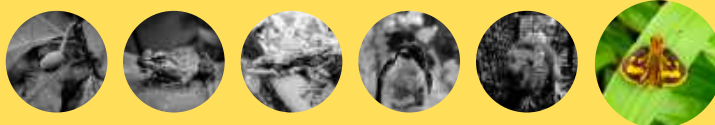
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Family: Nymphalidae

Scientific Name: *Mycalesis igoleta* FELDER & FELDER 1863

Common Name: no common name

Description: A common butterfly species observed in coconut plantations. This is the second reported occurrence in Mindanao and the first in Agusan del Norte. The wings have a dark brown color with a series of circular rings in the hindwing.

Ecological Role: Butterflies are essential pollinators, seed dispersers and herbivores in the various ecosystem types.

Endemism: **Philippine Endemic**

Distribution: Alabat, Babuyan, Leyte, Luzon, Marinduque, Samar, Davao Clty, and Butuan City.

Conservation Status:
(IUCN 2022-2)



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ARTHROPODS



Family: Hesperiidae

Scientific Name: *Taractrocera luzonensis luzonensis* Staudinger 1889

Common Name: Luzon Grass Dart

Description: They fold their wings vertically while feeding and keep them spread out, with the forewings and hind wings at distinct angles when at rest. Because the upper wing surfaces have markings that differ significantly from the underside, these varied postures frequently create the illusion that I am observing distinct species.

Ecological Role: Essential pollinators, seed dispersers and herbivores in the various ecosystem types.

Endemism: **Non-Endemic**

Distribution: Balabac, Basilan Cebu, Dinagat, Leyte, Luzon, Mapun, Marinduque, Masbate, Mdo, Mindoro, Negros, Palawan, Panay, Samar, Sibuyan

Conservation Status:
(IUCN 2022-2)



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Family: Nymphalidae

Scientific Name: *Orsotriaena medus medus* Fabricius, 1775

Common Name: Dark Grass Brown/Medus Brown

Description: This medium-sized butterfly, have a dark brown above color with a thin marginal pale border. It has a five eyespots on the underside of the wings and the upper hindwing have a thin submarginal line.

Ecological Role: Butterflies are essential pollinators, seed dispersers and herbivores in the various ecosystem types.

Endemism: **Non-endemic**

Distribution: Philippines generally

Conservation Status:
(IUCN 2022-2)



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ARTHROPODS



Family: Nymphalidae

Scientific Name: *Mycalesis janardana micromede* Fruhstorfer 1900

Common Name: Janardana Bushbrown

Description: A medium-sized butterfly with a dark brown wing color and can be identified by the number of spots.

Ecological Role: Butterflies are essential pollinators, seed dispersers and herbivores in the various ecosystem types.

Endemism: **Non-endemic**

Distribution: Basilan, Mindanao, and Sarangani.

Conservation Status:
(IUCN 2022-2)



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Family: Nymphalidae

Scientific Name: *Amathusia phidippus pollicaris* Butler, 1870

Common Name: Palmking

Description: A large-sized butterfly having a pale brown, with the following transverse pale lilac-white bands crossing both forewing and hindwing.

Ecological Role: Butterflies are essential pollinators, seed dispersers and herbivores in the various ecosystem types.

Endemism: **Non-endemic**

Distribution: Philippines excluding Balabac, Bongao, Mapun, Negros, Sangs sanga, Sibuto, Tawi tawi

Conservation Status:
(IUCN 2022-2)



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EX



ARTHROPODS



Family: Curculionidae

Scientific Name: *Paipalephorus* sp.

Common Name: No recorded common name

Description: With white waxy from its cuticle.

Ecological Role: No record yet

Endemism: No record yet

Distribution: No record yet, however, this is often found in disturbed areas including agricultural and near cities.

Conservation Status:
(IUCN 2022-2)



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EX



Family: Chlorocyphidae

Scientific Name: *Rhinocypha colorata* Hagen, 1869 ♂

Common Name: Philippine jewel damselfly

Description: The picture above is a male Philippine jewel damselfly. Males have a distinct blue color on its thorax or abdomen.

Ecological Role: They are good indicators of freshwater ecosystem health. Important as herbivores, pollinators, seed dispersers, detritivores, and predators, thereby contributing to the core biological foundation of all terrestrial ecosystems.

Endemism: **Philippine Endemic**

Distribution: Philippines mostly in streams of forest that has been disturbed and in secondary growth forest.

Conservation Status:
(IUCN 2022-2)

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EX



ARTHROPODS



Family: Chlorocyphidae

Scientific Name: *Rhinocypha colorata* Hagen, 1869 ♀

Common Name: Philippine jewel damselfly

Description: The picture above is a female Philippine jewel damselfly. Males have a distinct yellow to yellow-green color on its thorax or abdomen.

Ecological Role: They are good indicators of freshwater ecosystem health. Important as herbivores, pollinators, seed dispersers, detritivores, and predators, thereby contributing to the core biological foundation of all terrestrial ecosystems

Endemism: **Philippine Endemic**

Distribution: Philippines mostly in streams of forest that has been disturbed and in secondary growth forest.

Conservation Status:
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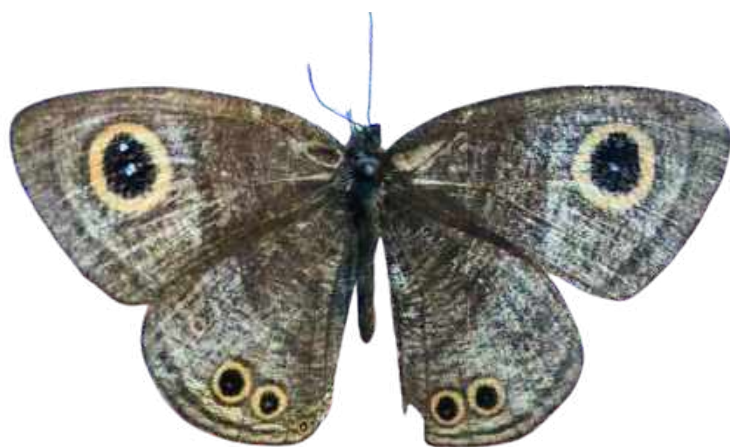
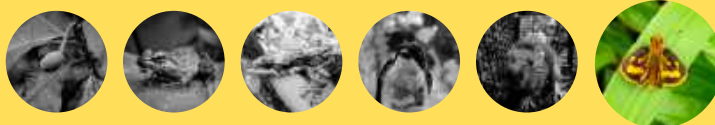
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A dorsal view



B ventral view

Family: Nymphalidae

Scientific Name: *Ypthima stelleri stelleri* Eschscholtz, 1821

Common Name: Common Five Ring

Description: Its wings have a brown coloration with 5 five circular rings from which its common name was derived. The forewing length measures 15mm and the width measures 12-14mm. The hindwing length measures 25 mm and the width measures 26 mm. The thorax has 4mm long, the abdomen measures 5mm, the body length measures 10mm, and the antennae measures 5mm.

Ecological Role: Essential pollinators, seed dispersers and herbivores in the various ecosystem types.

Endemism: **Philippine Endemic**

Distribution: Babuyan, Basilan, Bohol, Cebu, Camiguin de Min, Camotes, Dinagat, Jolo, Luzon, Leyte, Marinduque, Mindoro, Mindanao, Negros, Panay, Panaon, Romblon, Samar, Siargao

Conservation Status:
(IUCN 2022-2)



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ARTHROPODS



A dorsal view



B ventral view

Family: Nymphalidae

Scientific Name: *Hypolimnys bolina philippensis* Butler, 1874

Common Name: Common Eggfly

Description: The species is black-bodied with a body length of 20mm. The dorsal forewings and hindwings have an iridescent blue-purple patch broadly centered with white spots. The forewing length ranged from 33-38mm; the forewing width ranged from 24-27mm; the hindwing length ranged from 29-30mm; the hindwing width ranged from 26-29mm. Thorax measures 10-12mm, while the abdomen measures 11-12mm. The antennae ranged from 15-17 mm.

Ecological Role: Essential pollinators, seed dispersers and herbivores in the various ecosystem types.

Endemicity: **Non-Endemic**

Distribution: Philippines excluding Batanes, Bongao, Jolo, Sanga Sanga, Sibutu, Tawi-Tawi.

Conservation Status:
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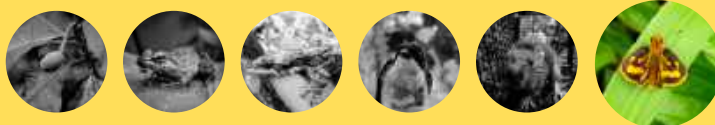
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A dorsal view

B ventral view

Family: Pieridae

Scientific Name: *Leptosia nina terentia* Fruhstorter, 1910

Common Name: The Psyche

Description: a small butterfly with black-spot mainly on white background in the upper forewing. This butterfly species typically flies low, close to the ground, and rarely leaves the ground level.

Ecological Role: Essential pollinators, seed dispersers and herbivores in the various ecosystem types.

Endemism: **Non-Endemic**

Distribution: Basilan, Bohol, Calamian, Cebu, Cuyo, Dinagat, Mindoro, Mindanao, Palawan, Panay, Samar, Sarangani, Negros

Conservation Status:
(IUCN 2022-2)



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ARTHROPODS



A dorsal view



B ventral view

Family: Pieridae

Scientific Name: *Appias olferna peducaea* Fruhstorfer, 1910

Common Name: Striped Albatross

Description: *A. olferna peducaea* is a fast-flying butterfly species. Its wings have a white coloration with black borders on the forewing. The forewing length measures 24mm and the width measures 15mm. The hindwing length measures 24mm and the width measures 23mm. The thorax size is 6mm, the abdomen size is 9mm, and the body length is 17mm. The antennae measure 11mm.

Ecological Role: Essential pollinators, seed dispersers and herbivores in the various ecosystem types.

Endemism: Non-Endemic

Distribution: Bohol, Cebu, Jolo, Luzon, Marinduque, Mindoro, Mindanao, Negros, Palawan

Conservation Status:
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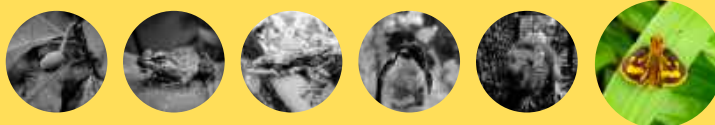
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A dorsal view



B ventral view

Family: Nymphalidae

Scientific Name: *Melanitis leda leda* Linnaeus 1758

Common Name: Common Evening Brown

Description: Its wings have a brown coloration with small eye-spot patterns. The forewing length measures 34 mm and the width measures 25 mm. The hindwing length measures 25 mm and the width measures 26 mm. The thorax size is 10 mm and the abdomen size is 9 mm, and a body length of 19 mm. The antennae measure 13 mm.

Ecological Role: Butterflies are essential pollinators, seed dispersers and herbivores in the various ecosystem types.

Endemism: Non-Endemic

Distribution: Philippines generally

Conservation Status:
(IUCN 2022-2)



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ARTHROPODS



A dorsal view



B ventral view

Family: Nymphalidae

Scientific Name: *Pareronia boebera trinobantes* Fruhstorfer, 1911

Common Name: Pierine Butterfly

Description: The dorsal wingspan has a black and blue coloration pattern. The forewing length measures 37mm, while the forewing width measures 24mm. Hindwing length and width measured 26mm and 27mm, respectively. The thorax size is 9mm and the abdomen size is 17mm, having a body length of 30mm. Antennae with a length measurement of 17-18mm.

Ecological Role: Butterflies are essential pollinators, seed dispersers and herbivores in the various ecosystem types.

Endemism: **Philippine Endemic**

Distribution: Leyte, Samar, and Mindanao

Conservation Status:
(IUCN 2022-2)



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A dorsal view



B ventral view

Family: Nymphalidae

Scientific Name: *Ptychandra lorquinii plateni* Semper, 1892

Common Name: Lorquin's Satyr Butterfly

Description: A rare Mindanao endemic species observed along the trail in a riparian patch in Brgy. Tungao. The dorsal forewings and hindwings have an iridescent blue color. The forewing length measures 26 mm and the width measures 22 mm. The hindwing length measures 21 mm and the width measures 19 mm. The thorax size is 7 mm and the abdomen size is 9 mm, having a body length of 21 mm. The antennae measure 14 mm.

Ecological Role: Butterflies are essential pollinators, seed dispersers and herbivores in the various ecosystem types.

Endemism: Mindanao Endemic

Distribution: Siargao, Davao Oriental, Sarangani, and Butuan City.

Conservation Status:
(IUCN 2022-2)



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ARTHROPODS



A dorsal view



B ventral view

Family: Papilionidae

Scientific Name: *Menelaides polytes ledebouria* Eschscholtz, 1821

Common Name: Common Mormon

Description: A fast flying species. The forewings have a dark black color with a series of white spots. The forewing length measures 48-50mm with a width of 35-37mm. The hindwing has a similar color to the forewing, but the series of white spots were more elongated. The hindwings measures 28mm and the hindwing width measures 31-32mm. The thorax size is 9-11mm and the abdomen size is 13-15mm, with a body length of 23-27mm. The antennae ranged from 16-18mm.

Ecological Role: Butterflies are essential pollinators, seed dispersers and herbivores in the various ecosystem types.

Endemism: **Non-Endemic**

Distribution: Philippines excluding Batanes, Bongao, Sanga Sanga, Sibuto, Tawi-Tawi.

Conservation Status:
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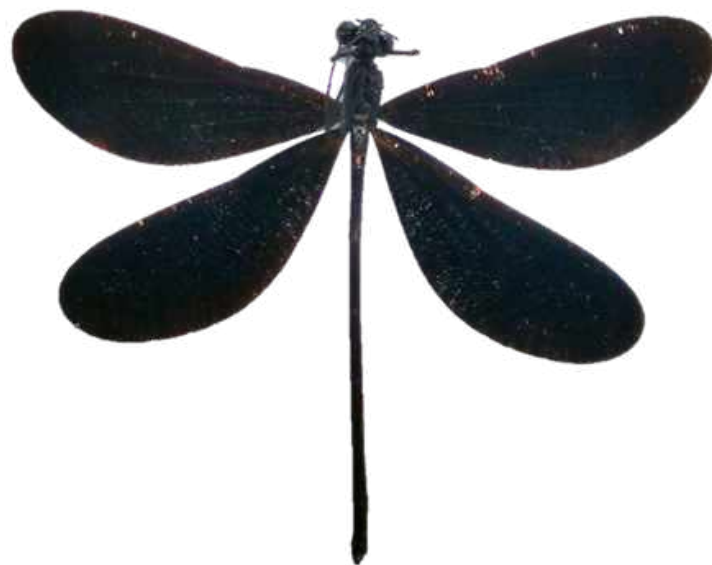
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A dorsal view



B ventral view

Family: Calopterygidae

Scientific Name: *Vestalis melania* (Selys, 1873)

Common Name: Metallis Damselfly

Description: This damselfly species has a very unique color, having a shimmering blue color.

Ecological Role: They are good indicators of freshwater ecosystem health. Important as herbivores, pollinators, seed dispersers, detritivores, and predators, thereby contributing to the core biological foundation of all terrestrial ecosystems.

Endemism: **Philippine Endemic**

Distribution: Widely distributed in the country, except in Palawan (Villanueva 2009).

Conservation Status:
(IUCN 2022-2)



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ARTHROPODS



A dorsal view



B ventral view

Family: Calopterygidae

Scientific Name: *Vestalis melania* (Selys, 1873)

Common Name: Metallis Damselfly

Description: This damselfly species has a very unique color, having a shimmery blue color.

Ecological Role: They are good indicators of freshwater ecosystem health. Important as herbivores, pollinators, seed dispersers, detritivores, and predators, thereby contributing to the core biological foundation of all terrestrial ecosystems.

Endemism: Philippine Endemic

Distribution: Widely distributed in the country, except in Palawan (Villanueva 2009).

Conservation Status:
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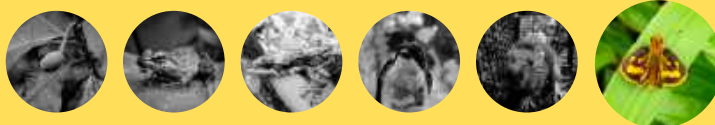
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A dorsal view



B ventral view

Family: Libellulidae

Scientific Name: *Zyxomma obtusum* Albarda, 1881

Common Name: White Duskdater

Description: It is easy to identify the mature male since its wings and body are nearly totally white. The female and immatures are similar in all respects except for their darker color.

Ecological Role: They are good indicators of freshwater ecosystem health. Important as herbivores, pollinators, seed dispersers, detritivores, and predators, thereby contributing to the core biological foundation of an ecosystems.

Endemism: **Non-Endemic**

Distribution: Brunei Darussalam; India (Nicobar Is.); Indonesia (Sulawesi, Papua); Indonesia (Sumatera, Bali, Jawa, Kalimantan, Lesser Sunda Is., Maluku); Japan (Nansei-shoto); Malaysia (Peninsular Malaysia, Sarawak, Sabah); Philippines; Singapore; Taiwan, Province of China (Taiwan, Province of China (main island)); Thailand; Timor-Leste; Viet Nam

Conservation Status:
(IUCN 2022-2)

NE DD **LC** NT VU EN CR EW EX



ARTHROPODS



A dorsal view



B ventral view

Family: Libellulidae

Scientific Name: *Orthetrum testaceum* (Burmeister, 1839)

Common Name: Scarlet Skimmer

Description: This species have an orange-brown thorax and red abdomen. Eyes are light brownish grey. Presence of an amber patch at the base of the hindwing.

Ecological Role: They are good indicators of freshwater ecosystem health. Important as herbivores, pollinators, seed dispersers, detritivores, and predators, thereby contributing to the core biological foundation of an ecosystems.

Endemism: Native

Distribution: Brunei Darussalam; India (Sikkim, Maharashtra, Orissa, Arunachal Pradesh); Indonesia (Sulawesi, Kalimantan, Lesser Sunda Is., Sumatera, Bali, Jawa); Malaysia (Sarawak, Peninsular Malaysia, Sabah); Myanmar; Philippines; Singapore; Thailand; Timor-Leste.

Conservation Status:
(IUCN 2022-2)

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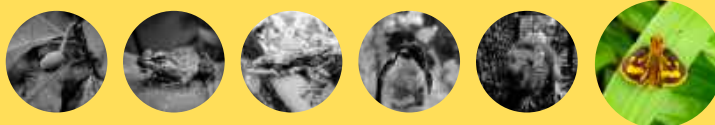
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A dorsal view



B ventral view

Family: Libellulidae

Scientific Name: *Diplacodes trivialis* Rambur, 1842 ♀

Common Name: Ground Skimmer

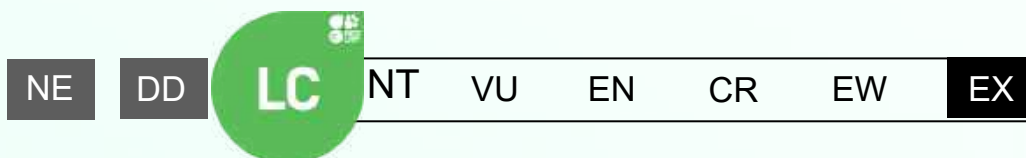
Description: This is a female ground skimmer. This species of dragonfly is usually small with transparent wings. Females can be identified by its yellowish color with black markings on the tail, eyes are green with red.

Ecological Role: They are good indicators of freshwater ecosystem health. Important as herbivores, pollinators, seed dispersers, detritivores, and predators, thereby contributing to the core biological foundation of an ecosystems.

Endemism: **Non-Endemic**

Distribution: Australia; Bangladesh; Brunei Darussalam; Cambodia; China ; Fiji; Hong Kong; India; Indonesia; Japan; Lao People's Democratic Republic; Malaysia; Micronesia, Federated States of; Myanmar; Nepal; Papua New Guinea; Philippines; Seychelles; Singapore; Solomon Islands; Solomon Islands (South Solomons); Sri Lanka; Taiwan, Province of China; Thailand; Timor-Leste; Vanuatu; Viet Nam

Conservation Status:
(IUCN 2022-2)





ARTHROPODS



A dorsal view



B ventral view

Family: Libellulidae

Scientific Name: *Diplacodes trivialis* Rambur, 1842 ♂

Common Name: Ground Skimmer

Description: This is a male ground skimmer. This species of dragonfly is usually small with transparent wings. Males can be identified by its powdery blue color, black segments, and white caudal appendages.

Ecological Role: They are good indicators of freshwater ecosystem health. Important as herbivores, pollinators, seed dispersers, detritivores, and predators, thereby contributing to the core biological foundation of an ecosystems.

Endemism: **Non-Endemic**

Distribution: Australia; Bangladesh; Brunei Darussalam; Cambodia; China ; Fiji; Hong Kong; India; Indonesia; Japan; Lao People's Democratic Republic; Malaysia ; Micronesia, Federated States of ; Myanmar; Nepal; Papua New Guinea; Philippines; Seychelles; Singapore; Solomon Islands; Solomon Islands (South Solomons); Sri Lanka; Taiwan, Province of China; Thailand; Timor-Leste; Vanuatu; Viet Nam

Conservation Status:
(IUCN 2022-2)

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THREATS AND CONSERVATION PLAN

Tungao satoyama landscape has high vulnerability to climate-related hazards, particularly flooding, as evidenced by images captured in 2023 (Figure 2). According to the residents of Barangay Tungao, illegal logging activities are widespread in the area. They also highlighted the insufficient waste management practices within the barangay, with some residents resorting to dumping garbage near the Agusan River or directly into the waterway. Furthermore, there are reports indicating the utilization of threatened species, such as monitor lizards (bayawak) and pythons (sawa), as alternative food sources. Additionally, there is evidence of forest and mangrove areas being converted into agricultural land or for aquaculture purposes.



Figure 2. Threats found in Tungao satoyama landscape: (a) flooding, (b) illegal logging, (c) improper waste management, (d) pollution. Credits to the rightful owners of the photos

These raise serious concerns. There is a need to heighten awareness about the importance of biodiversity to every life on earth, particularly, humans. Emphasizing the critical role of biodiversity to every facet of human life would raise conservation concerns even among the lowliest in the village. Perhaps we can duplicate what the CONserve Kaigangan program (kaigangan.uplb.edu.ph) of the University of the Philippines Los Baños in collaboration with the Samar State University and Eastern Samar State University along with local People's Organizations, Basaranan nga Organisasyon han San Isidro Samar (BOSIS) and Tourguide and Boat Operators for River Protection and Environmental Development (TORPEDO) (Buot et al. 2023; Buot et al., 2022; Villanueva et al. 2022; Obena et al 2021, Villanueva et al. 2021, Tolentino et al. 2020, Fernandez et al. 2020; Hernandez et al., 2022; Villanueva et al., 2021a; Villanueva et al., 2021b; Villanueva et al., 2021c; Madera et al., 2021; Tolentino et al., 2020; Fernandez et al., 2020). We can start identifying the top 10 or top 20 plants for priority conservation in Tungao satoyama landscape, using the localized conservation priority index or LCPI (Buot et al. 2024a, 2024b) Needless to say, local policy plays a pivotal role in formalizing and institutionalizing efforts to conserve biodiversity. Establishing robust policies ensures that conservation efforts are not only sustained but also effectively implemented.

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