GLIMPSES OF NATURE

SHOWCASING BIODIVERSITY AT NTPC KAHALGAON

Prepared by

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KAHALGAON

Foreword by Head of Project

The natural world around us is not just a source of inspiration and beauty but also a foundation for resilience, sustainability, and responsible industrial development. This coffee table book captures the unique biodiversity and ecological richness surrounding NTPC Kahalgaon Super Thermal Power Station, highlighting the harmony that can exist between power generation and environmental stewardship.

This coffee table book is a reflection of that commitment. It beautifully captures the rich flora and fauna found in and around our project site, offering a rare glimpse into the diverse biodiversity that coexists with our operational landscape. Through vibrant visuals and insightful documentation, the book highlights how ecological integrity and industrial growth can go hand-in-hand when approached with care and consciousness.

The biodiversity documented here—from birds and butterflies to native grasses and trees—reminds us of the interdependence between our operations and the natural world. These ecosystems offer critical services: supporting pollinators, maintaining water quality, and enriching the local microclimate. Their preservation is not only essential for nature but also for the sustainability of our work.

I commend the teams and experts who contributed to this initiative. This book is not just a record—it is an invitation to see our environment with fresh eyes, to celebrate its richness, and to strengthen our resolve toward responsible and sustainable operations.

श्री रबिन्द्र पटेल
Shri. Rabindra Patel
Head of Project
NTPC Kahalgaon STPS

Message from GM (O&M)

NTPC Kahalgaon is not only a Powerhouse of energy but also a vibrant cradle of biodiversity. Nestled amidst greenery, wetlands and open landscapes, the thermal power plant is home to a remarkable variety of plant and animal life—ranging from native grasses and herbs to butterflies, birds, and other wildlife that flourish within our operational boundaries.

This Coffee Table Book on the "Beneath the smoke: Discovering biodiversity at Kahalgaon" brings forth this natural wealth in a captivating and creative format. It offers a window into the ecosystems that thrive silently yet significantly around us—reminding the quiet harmony that co-exists between industrial progress and nature's resilience. The presence of such biodiversity within a functioning thermal power station is no coincidence. It is the commitment of people of NTPC, Kahalgaon that enables us in preserving the flora and fauna that coexists around us. It reflects our sustained efforts in maintaining green belts, protecting water bodies, and promoting environmentally responsible practices. These interventions not only ensure operational stability but also create ecological habitats that support life in all its richness.

This book is more than just a documentation. It is a celebration of our co-existence with nature. It inspires us to notice the unnoticed—to pause, appreciate, and preserve what surrounds us every day. For the curious reader, the nature enthusiast, or even the seasoned ecologist, these pages offer both wonder and insight.

I extend my heartfelt appreciation to the team who undertook this initiative and brought it to life. May this book serve as a gentle reminder that sustainability starts at home—and here at NTPC Kahalgaon, nature is indeed at home.

Manoranjan Parida
General Manager – Operation & Maintenance
NTPC, Kahalgaon

ABOUT NTPC KAHALGAON

Tucked away on the serene right bank of the River Ganges, just 5 km southeast of Kahalgaon town in Bihar's Bhagalpur district, lies the NTPC Kahalgaon Super Thermal Power Station (KhSTPS)—a coal-based powerhouse that energizes the Northern, Eastern, and Western power grids of India. As one of Bihar's largest and most vital thermal power stations in terms of installed capacity, NTPC Kahalgaon stands as a pillar of progress, committed not only to energy security but also to environmental harmony.

What sets NTPC Kahalgaon apart is its unique landscape—a perfect blend of industry and ecology. Surrounded by villages like Baisa, Kushapur, Gopalpur, Banshipur, and Ogri, the project is set amidst the fertile Gangetic plains, where the land nurtures a stunning diversity of flora and fauna.

Within and around the project area, a mosaic of microhabitats—from the lush greenery of township to the transformed grasslands of the ash dykes, seasonal wetlands, man-made ponds, and the life-giving flow of the sacred Ganga—create a sanctuary for an exceptional variety of life forms. These diverse habitats support an intricate web of biodiversity, including birds, mammals, reptiles, amphibians, insects, and an array of native plant species, each occupying its unique ecological niche. This richness of life is sustained by the township's carefully nurtured green spaces and the coexistence of natural and managed landscapes.

This harmonious interplay of industry and ecology is a true reflection of NTPC Kahalgaon's vision—to go beyond power generation and foster a greener, better tomorrow. With every ecological initiative, NTPC Kahalgaon continues to lead by example, embedding biodiversity conservation at the heart of its operations, and reaffirming its commitment to sustainable and responsible growth.

PROLOGUE

Nestled along the right bank of the sacred River Ganga, NTPC Kahalgaon is more than a symbol of India's energy strength—it is also a thriving sanctuary of life. This coffee table book is a tribute to the remarkable biodiversity that flourishes within and around this industrial landscape, where nature and development co-exist in quiet harmony.

It forms part of a larger biodiversity assessment project undertaken to document and understand the ecological wealth of the area. Through meticulous field surveys, habitat studies, and species documentation, the project unveiled a landscape brimming with life—life that flourishes amidst the fertile Gangetic plains, nourished by the river's timeless flow. Drawing from the report findings, this coffee table book has been created to present these treasures in a format that is both informative and visually engaging.

The pages ahead invite you to explore the rich tapestry of flora and fauna that define this region. 273 species of flora—from towering canopy-forming trees to delicate herbs that create microhabitats for other organisms—and 166 species of fauna, including mammals, birds, herpetofauna, butterflies, and other invertebrates. Several of these species are important indicators of ecological health, reflecting the integrity and resilience of the local ecosystem.

But this is not just a book of beauty—it is a story of stewardship. Through plantation drives, habitat restoration, and awareness campaigns involving employees and school children, NTPC Kahalgaon continues to invest in conservation-led growth. These efforts reflect a deeper commitment to protecting the environment, not as a separate mission, but as an essential part of how the organization operates.

We hope this book inspires not only appreciation for the natural world that surrounds us, but also a renewed commitment to preserving it—for today, and for generations to come.

कहलगाँव

KAHALGAON

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FLOURISHING FLORA OF KAHALGAON

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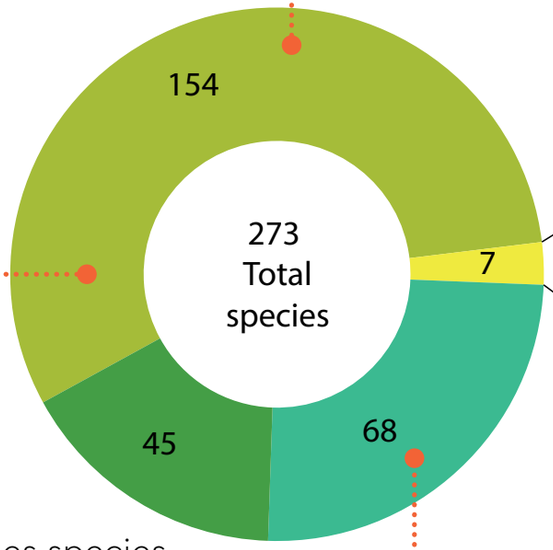
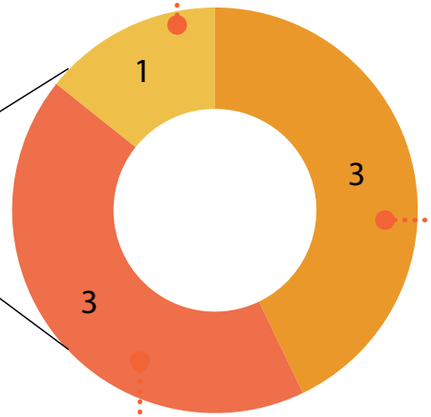
68 Trees species





1 Lichen species

3 Fungi species

3 Pteridophyte species

The floral diversity study was conducted at the NTPC Kahalgaon Super Thermal Power Station, situated in Bhagalpur district, Bihar. The study area included a mix of natural and semi-natural habitats within and around the thermal plant. Various microhabitats were sampled to reflect ecological heterogeneity, including Agricultural land, Settlement, Tree cover, Grassland (including Ash dyke), and Waterbody. This wide range of habitat types played a key role in supporting diverse plant species and life forms.

A total of 273 species were recorded during the assessment, spread across 230 genera and 81 families. The majority of these belonged to angiosperms, which were divided into dicots (210 species) and monocots (53 species). Other groups present included pteridophytes (5 species), bryophytes (2 species), and gymnosperms (1 species). This taxonomic spread highlights a healthy mix of higher and lower plant forms within the NTPC Kahalgaon landscape.

The study captured a diverse array of plant life forms, showcasing the structural complexity of the vegetation. These included 134 terrestrial herbs, 61 trees, 25 shrubs, 15 climbers, 20 undershrubs, 3 aquatic herbs, 2 fungi, and 6 palm species. The dominance of herbs followed by woody plants (trees and shrubs) indicates the presence of both early successional and mature habitat types, contributing to vertical layering and functional diversity of the landscape.

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BARGAD, (BANYAN TREE)

Family: Moraceae

Scientific name: *Ficus benghalensis*

IUCN Status: Not Evaluated

Extent: Native

Location: NTPC Kahalgaon Township

Special Features: A keystone species that supports a wide range of birds, mammals, and insects by providing food, shelter, and nesting sites; its year-round fruiting sustains wildlife even during scarce seasons, playing a crucial role in maintaining ecological balance.

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SAPTAPARNI (BLACKBOARD TREE)

Family: Apocynaceae

Scientific Name: *Alstonia scholaris*

IUCN Status: Least Concern

Extent: Native

Location: NTPC Kahalgaon Township

Special Features: Plays a vital role in supporting urban and natural biodiversity by providing shelter and nesting sites for birds and insects. Its fragrant flowers attract a wide range of pollinators, enhancing local pollination networks. Additionally, it acts as a natural air purifier, helping improve air quality and microclimate stability in its surroundings.

FISH TAIL PALM

Family: Arecaceae

Scientific Name: *Caryota urens*

IUCN Status: Not Evaluated

Extent: Native

Location: NTPC Kahalgaon township

Special Features: The fish tail palm nurtures both nature and people — its sap is tapped for sweet beverages and its fruit is a food source, while the tree provides habitats for birds and insects, enhancing biodiversity and supporting local economies with its versatile uses.

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GULMOHAR

Family: Fabaceae

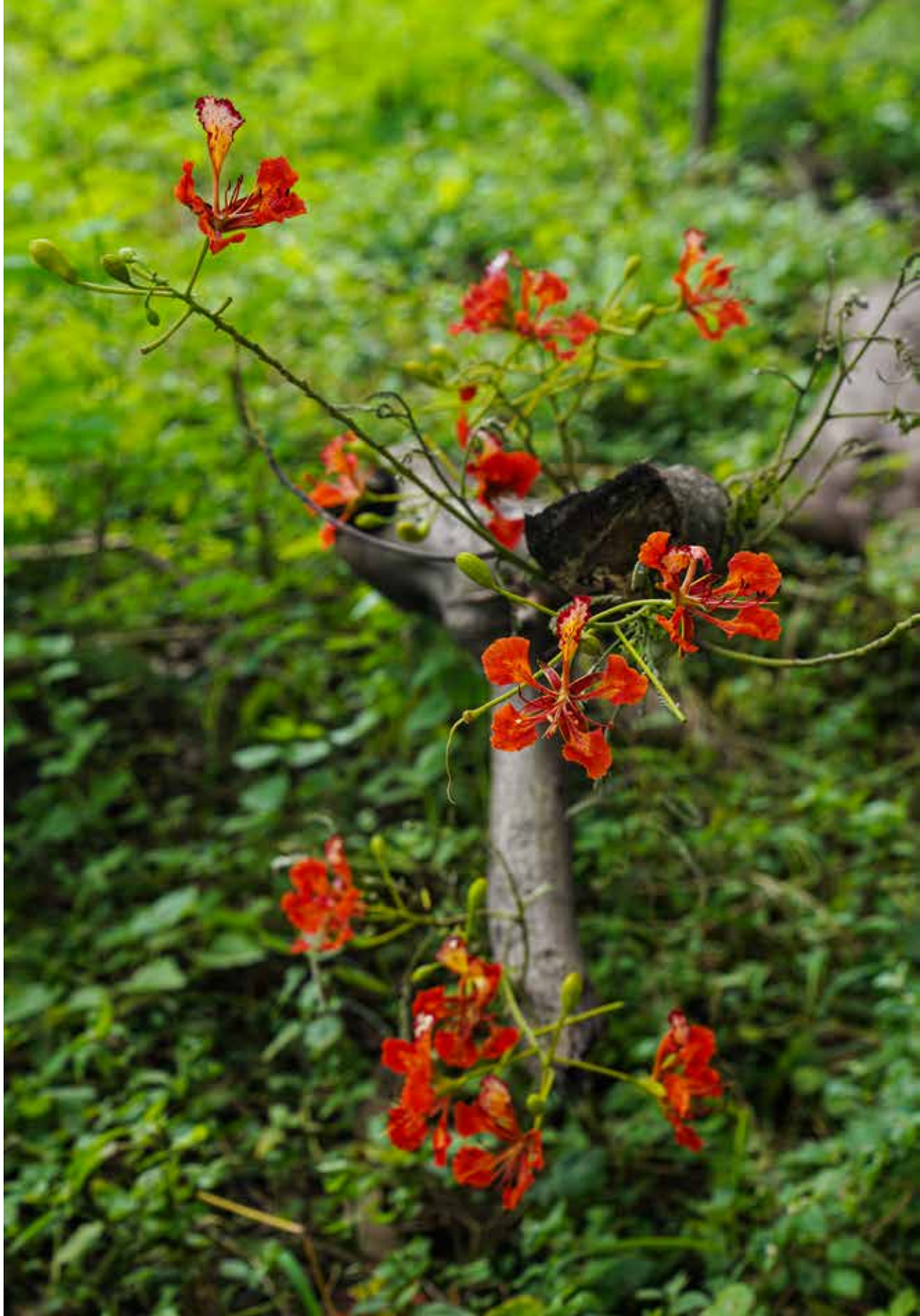
Scientific Name: *Delonix regia*

IUCN Status: Least Concern

Extent: Non-native

Location: NTPC Kahalgaon Thermal Plant

Special Features: The flame tree bursts into vibrant bloom, attracting a host of pollinators and birds while offering cooling shade to humans and wildlife alike; its striking beauty, coupled with its role in soil enrichment, makes it a cornerstone of both urban and natural landscapes.



KADAM

Family Name: Rubiaceae

Scientific Name: *Neolamarckia cadamba*

IUCN Status: Not Evaluated

Extent: Native

Location: NTPC Township Chhat ghat

Special Features: The kadamba tree is a thriving source of nourishment and shelter, supporting a variety of wildlife, including birds, insects, and mammals. Its fragrant flowers attract pollinators such as bees and butterflies, while its dense foliage provides shade and nesting sites for numerous species. With its fast growth, the tree plays an essential role in reforestation and habitat restoration.

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PEEPAL

Family: Moraceae

Scientific Name: *Ficus religiosa*

IUCN Status: Not Evaluated

Extent: Native

Location: NTPC Township, Shopping complex area

Special Features: The sacred fig is a vital ecological hub, supporting a diverse array of species. Its branches provide nesting sites for birds like pigeons and mynas, while its figs serve as food for various mammals, including monkeys and bats. The tree also sustains a wide range of insects, contributing to pollination and biodiversity, while holding deep cultural and spiritual significance.

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TADI (TODDY PALM)

Family: Arecaceae

Scientific Name: *Borassus flabellifer*

IUCN Status: Least Concern

Extent: Native

Location: Maheshamunda Village, Kahalgaon

Special Features: It stands as a lifeline for both wildlife and humans — offering nectar to bees, fruits to birds and mammals, and traditional food, fibre, and shelter to rural communities; it binds ecosystems and livelihoods together in a single resilient thread.

ROYAL PALM

Family: Arecaceae

Scientific Name: *Roystonea regia*

IUCN Status: Least Concerned

Extent: Native

Location: NTPC Township Nursery

Special Features: The royal palm is an iconic species known for its towering stature and elegant fronds, offering a vital habitat for a variety of birds and insects. Its fruit provides nourishment for wildlife, while the tree's presence in urban and rural landscapes enhances aesthetic value, supports biodiversity, and contributes to microclimate regulation.

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AAM (MANGO)

Family: Anacardiaceae

Scientific Name: *Mangifera indica*

IUCN Status: Threatened

Extent: Native

Location: NTPC Township Helipad area

Special Features: The mango tree is not only a beloved fruit-bearing species but also a crucial ecological asset. Its flowers attract bees and other pollinators, while its dense canopy offers shelter to birds and mammals. The fruits provide a food source for a variety of wildlife, enhancing biodiversity and supporting local communities through its cultivation.

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SAGVAAN (TEAK)

Family: Limiaceae

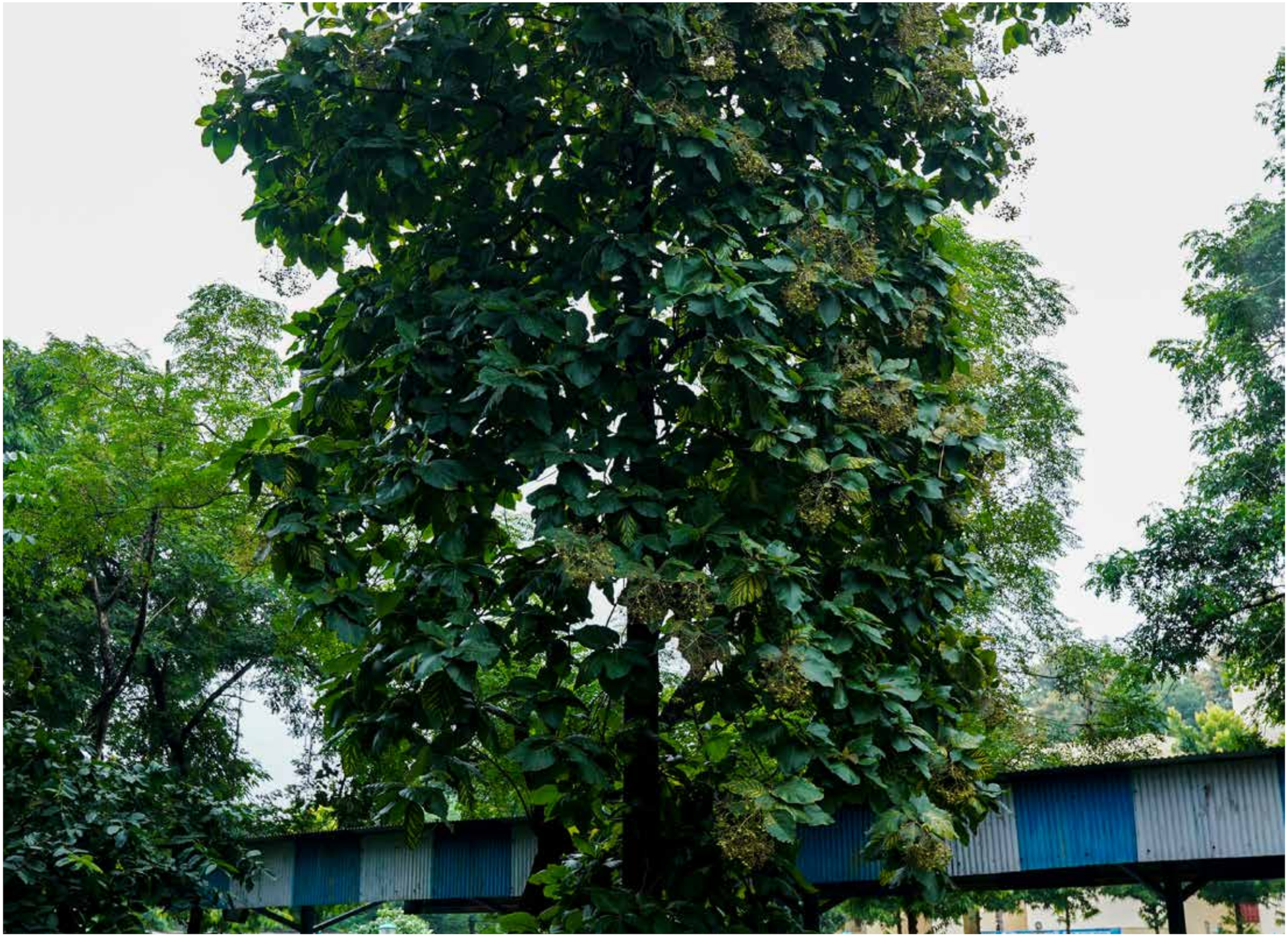
Scientific Name: *Tectona grandis*

IUCN Status: Not Evaluated

Extent: Native

Location: NTPC Township

Special Features: The teak tree is a powerhouse of ecological and economic importance, offering habitat to numerous birds, insects, and mammals. Its dense canopy provides shelter, while its flowers attract pollinators like bees. Teak's wood is highly valued, but the tree also contributes to soil conservation, watershed management, and biodiversity enhancement.



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SAFED-AK (APPLE OF SODOM)

Family: Apocynaceae

Scientific Name: *Calotropis procera*

IUCN Status: Not Evaluated

Extent: Native

Location: Ash Dyke, NTPC Kahalgaon

Habit: Shrub

Special Features: *Calotropis procera* is attributed for its drought resistance, facilitated by its waxy, grey-green leaves and milky latex which reduces water loss and deters herbivory. The plant plays a significant ecological role in soil stabilization and reclamation of degraded lands.

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DADMARI (CANDLE BUSH)

Family: Fabaceae

Scientific Name: *Senna alata*

IUCN Status: Not Evaluated

Extent: Exotic

Habit: Shrub

Location: Main thermal plant (water canal area), NTPC Kahalgaon

Special Features: *Senna alata* is valued for its antifungal properties—particularly in treating skin diseases such as ringworm due to the presence of chrysophanic acid in its leaves and sap.

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SARPAGANDHA (INDIAN SNAKEROOT)

Family: Apocynaceae

Scientific Name: *Rauvolfia serpentina*

IUCN Status: Not Evaluated

Extent: Native

Habit: Undershrub

Location: Township area, NTPC Kahalgaon

Special Features: As a native understorey plant, *Rauvolfia serpentina* helps maintain soil moisture and prevents erosion, contributing to overall forest health. Its small flowers attract pollinators such as bees and butterflies, supporting local biodiversity.

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RATANJOTI (BELLYACHE BUSH)

Family: Euphorbiaceae
Scientific Name: *Jatropha gossypifolia*
IUCN Status: Not Evaluated
Extent: Non-native
Habit: Shrub
Location: Township area, NTPC Kahalgaon
Special Features: *Jatropha gossypifolia* plays an important ecological role in dry and degraded landscapes. This hardy shrub helps in soil stabilization and erosion control due to its extensive root system. Often found in arid zones, where it contributes to vegetation cover and supports insect biodiversity through its nectar-rich flowers. Despite its toxicity, it serves as a pioneer species in restoring disturbed soils, making it valuable for ecological rehabilitation efforts.


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LAL JHAO (DESERT TAMARISK)

Family: Tamaricaceae
Scientific Name: *Tamarix dioica*
IUCN Status: Not Evaluated
Extent: Native
Habit: Shrub
Location: Ash Dyke, NTPC Kahalgaon
Special Features: *Tamarix dioica* is a hardy shrub well-adapted to saline and arid conditions. Ecologically, it plays a crucial role in stabilizing loose and nutrient-poor soils, making it especially valuable in disturbed landscapes. Its extensive root system binds soil particles effectively, reducing erosion and controlling dust dispersion caused by wind. This native species also contributes to the ecological resilience of degraded sites by supporting microhabitats and acting as a pioneer plant in harsh environments.

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KATKARI (STICKY NIGHTSHADE)

Family: Solanaceae
Scientific Name: *Solanum sisymbriifolium*
IUCN Status: Not Evaluated
Extent: Non-native
Habit: Herb
Location: Ash Dyke, NTPC Kahalgaon
Special Features: *Solanum sisymbriifolium* plays an important ecological role in supporting insect biodiversity, especially pollinators like bees and beetles. Its deep root system helps improve soil structure and retain moisture, making it valuable in degraded or dry areas. Often found along field margins and wastelands, it also contributes to natural weed suppression due to its dense growth.

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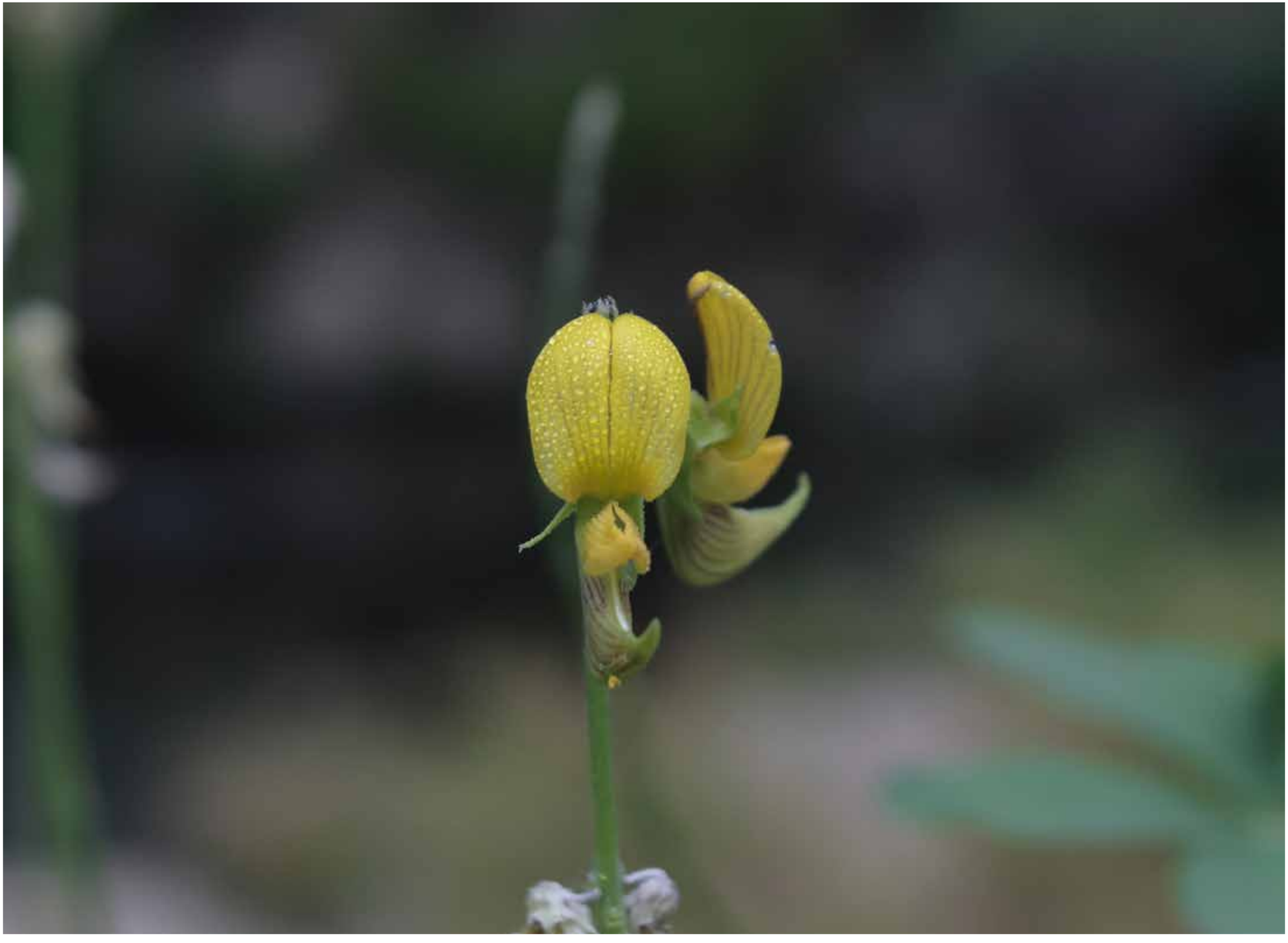
SENSAN (RATTLEPOD)

Family: Fabaceae
Scientific Name: *Crotalaria pallida*
IUCN Status: Not Evaluated
Extent: Non-native
Habit: Shrub
Location: Ash Dyke, NTPC Kahalgaon
Special Features: *Crotalaria pallida* improves soil fertility, especially in degraded or marginal lands. In India, *Crotalaria pallida* is also valued for its potential role in erosion control and as green manure.



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VAN BASUTI (WHITE VELD VIOLET)

Family: Acanthaceae
Scientific Name: *Ruellia prostrata* Poir.
Extent: Native
IUCN Status: Least Concern
Habit: Shrub
Special Features: *Ruellia prostrata* forms a lush, spreading carpet that anchors the soil and curbs erosion. Its vibrant blooms lure pollinators, enriching local biodiversity. Resilient and adaptive, it flourishes in barren soils, making it a natural choice for ecological restoration and landscape revival.

MASTARU

Family: Asteraceae
Scientific Name: *Grangea maderaspatana* (L.) Desf.
Extent: Native
IUCN Status: Least Concern
Habit: Herb
Special Features: It plays a vital role in stabilizing moist soils, supporting wetland health, and offering ground cover that suppresses invasive weeds. Its yellow, daisy-like flowers attract a range of pollinators, enhancing local biodiversity. A symbol of quiet persistence, this native herb contributes to the ecological balance of semi-aquatic and disturbed habitats.

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SAGOVANI (TRELLIS VINE)

Family: Apocynaceae
Scientific Name: *Pergularia daemia* (Forssk.) Chiov.
Extent: Native
IUCN Status: Least Concern
Habit: Herb
Special Features: A vigorous, twining herb that thrives in arid and disturbed habitats, weaving through landscapes while anchoring soil with its fibrous roots. A natural colonizer, it plays a key role in regenerating degraded ecosystems with grace and resilience.

SURYAVARTI

Family: Euphorbiaceae
Scientific Name: *Chrozophora rottleri* (Geiseler) Spreng.
Extent: Native
IUCN Status: Not Evaluated
Habit: Undershrub
Special Features: A resilient pioneer species that thrives in arid, nutrient-depleted soils, aiding in land regeneration and erosion control through its deep-rooted system. The plant yields a natural dye and holds traditional medicinal value, making it a species of both environmental and cultural significance.

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KURO (SMALL HOUNDS TONGUE)

Family: Boraginaceae
Scientific Name: *Cynoglossum lanceolatum* Forssk.
Habit: Herb
Extent: Native
IUCN Status: Least Concern
Special Features: A hardy herb that flourishes in dry, open habitats and disturbed soils. It plays a significant role in soil stabilization and supports insect biodiversity through its nectar-rich flowers. It is traditionally known for its medicinal properties, especially in folk remedies for wounds and inflammation.

HATHISUNDH (INDIAN HELIOTROPE)

Family: Boraginaceae
Scientific Name: *Heliatropium indicum* L.
Extent: Native
IUCN Status: Not Evaluated
Habit: Herb
Special Features: Commonly known as Indian heliotrope, it is a resilient herb often found in disturbed soils and open habitats. A standout feature is its coiled, scorpiod cyme inflorescence—a distinctive spiral of tiny purple-blue flowers that gradually uncurl as they bloom.

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BAGHANULLA (CREEPING CADLE PLANT)

Family: Commelinaceae
Scientific Name: *Cyanotis axillaris* (L.) D.Don ex Sweet
Extent: Native
IUCN Status: Least Concern
Habit: Herb
Special Features: It is a low-growing, spreading herb known for its striking violet-blue flowers and lush foliage. It acts as a natural groundcover, helping to bind soil and prevent erosion. The plant features succulent, hairy leaves and dense clusters of axillary blooms, lending both texture and resilience to the landscape. It is also used in folk medicine and fodder.

KANSURA (DEWFLOWER)

Family: Commelinaceae
Scientific Name: *Murdannia nodiflora* (L.) Brenan
Extent: Native
IUCN Status: Not Evaluated
Habit: Herb
Special Features: It is a delicate, spreading herb known for its soft, grass-like foliage and dainty bluish-purple flowers. This herb has the ability to thrive in both aquatic margins and dry ground, showcasing exceptional adaptability across habitats. Additionally, it blooms prolifically during the monsoon, creating vibrant floral carpets that enhance aesthetic and ecological value in natural landscapes.

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HURHUR (WILD-DOG MUSTARD)

Family: Cleomaceae
Scientific Name: *Cleome viscosa* L.
Extent: Native
IUCN Status: Not Evaluated
Habit: Herb
Special Features: It is a hardy annual herb with a distinctive strong aroma and sticky, glandular hairs that deter herbivores and pests. A notable special feature is its viscid (sticky) foliage and seedpods, which help it thrive in arid and disturbed soils. Its seeds have traditional uses in Ayurvedic medicine and as a natural pesticide.

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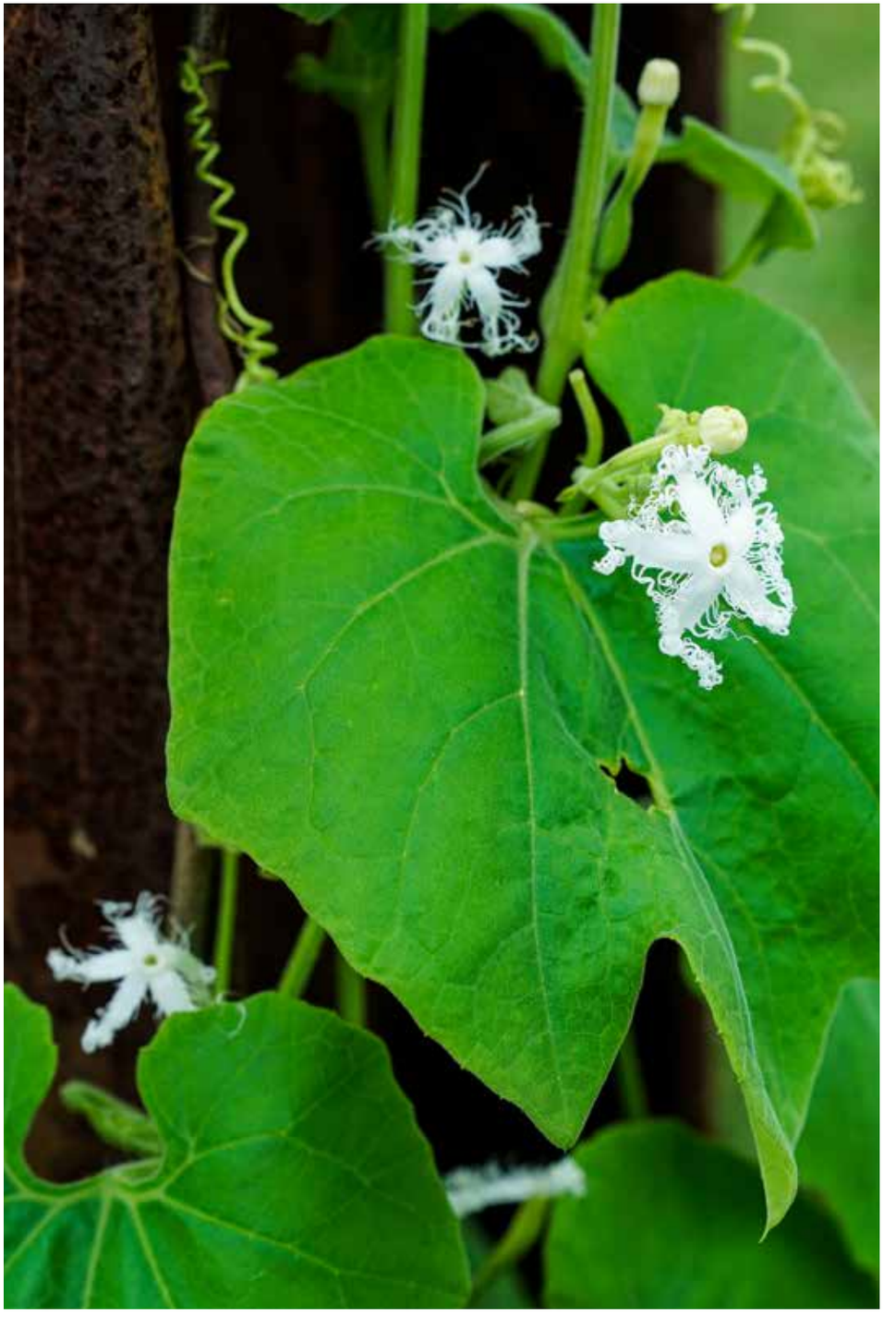
PARWAL (WILD SNAKE GOURD)

Family: Cucurbitaceae
Scientific Name: *Trichosanthes cucumerina* L.
Extent: Native
IUCN Status: Not Evaluated
Habit: Herb
Special Features: Its most distinctive feature is its ornate, lace-like white flowers that bloom at night—designed to attract nocturnal pollinators like moths. In addition to its unique floral beauty, the plant holds medicinal value and is widely used as a nutritious vegetable.



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KATKARANJ (FEVER NUT)

Family: Fabaceae
Scientific Name: *Guilandina bonduc* L.
Extent: Native
Habit: Shrub
IUCN Status: Least Concern

Special Features: The Fabaceae family is renowned for its unique ability to fix atmospheric nitrogen through symbiotic root nodules, enriching soil fertility and supporting sustainable ecosystems. The species ***Guilandina bonduc***, ***Senna italica, Senna occidentalis***, and ***Indigofera cordifolia*** exemplify this trait, thriving in nutrient-poor and degraded soils. These plants also exhibit compound leaves, prominent stipules, and legume-type seed pods, all hallmark traits of the family. Their ecological roles include soil improvement, erosion control, and support for pollinators, while several species offer traditional medicinal and cultural uses, highlighting the family's multifunctional value.

SANAI (ELAND PEA)

Scientific Name: *Senna italica* Mill.
Extent: Native
Habit: Herb
IUCN Status: Not Evaluated

KASUNDI (COFFEE SENNA)

Scientific name: *Senna occidentalis* (L.) Link
Extent: Non-native
Habit: Shrub
IUCN Status: Not Evaluated

GOKHRU

Scientific Name: *Indigofera cordifolia* B.Heyne ex Roth
Extent: Native
IUCN Status: Not Evaluated
Habit: Shrub

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Family: Lamiaceae
Special Features: A special feature of the family Lamiaceae (commonly known as the mint family) is the presence of aromatic oils stored in glandular trichomes, which give its members their distinctive fragrance and medicinal properties. Plants in the Lamiaceae family possess specialized oil glands (glandular trichomes) on their leaves, stems, and flowers. These oils have culinary, medicinal, and cosmetic uses and are commonly extracted from herbs like basil ***(Ocimum basilicum)***, rosemary ***(Salvia Rosmarinus)***, and lavender (*Lavandula* sp.).

TULSI (BASIL)

Scientific Name: *Ocimum basilicum* L.
Extent: Native
Habit: Shrub
IUCN Status: Not Evaluated

JANGLI PUDINA (AMERICAN MINT)

Scientific Name: *Mesosphaerum suaveolens* (L.) Kuntze
Extent: Non-native
IUCN Status: Least Concern
Habit: Herb

BAN JASSON (SWAMP HIBISCUS)

Family: Malvaceae
Scientific Name: *Hibiscus diversifolius* Jacq.
Extent: Native
IUCN Status: Not Evaluated
Habit: Shrub
Special Features: Found along wetlands, riverbanks, and disturbed soils. Its distinctive feature lies in its deeply lobed, variable leaves (hence the name diversifolius) and bright yellow flowers with a deep maroon centre. It aids in soil stabilization along water edges and supports pollinator diversity, making it both visually striking and functionally important in moist, semi-wild habitats.

BURBAK

Family: Malvaceae
Scientific Name: *Triumfetta rhomboidea* Jacq.
Extent: Native
IUCN Status: Not Evaluated
Habit: Herb
Special Features: A hardy shrub found in open fields, and wastelands. Its sticky, burr-like fruits covered with hooked spines easily cling to animal fur and clothing—an effective seed dispersal strategy. The plant is also valued for its fibrous bark, traditionally used in rope-making.

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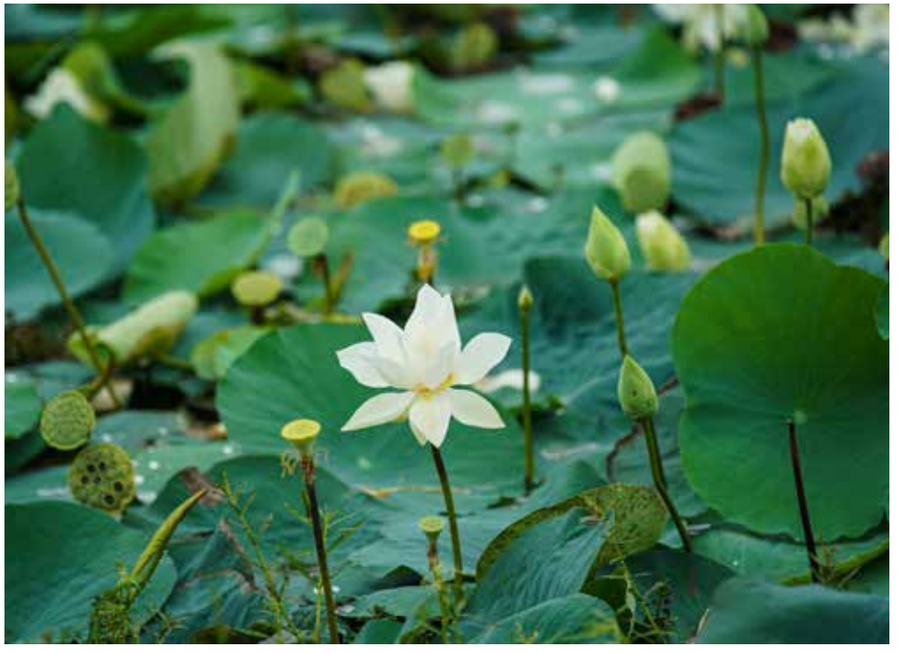

KAMAL (WHITE LOTUS)

Family: Nelumbonaceae
Scientific Name: *Nelumbo nucifera* Gaertn.
Extent: Native
IUCN Status: Not Evaluated
Habit: Aquatic herb
Special Features: The sacred Indian lotus, is a symbol of purity and resilience, revered across cultures for its spiritual and medicinal value. It plays a vital role in purifying water bodies, reducing evaporation, and supporting aquatic biodiversity. Its edible seeds and rhizomes are used in traditional cuisine and healing systems, while its flowers, known for their self-cleaning "lotus effect," inspire both science and art. Rooted in muddy waters yet blooming unblemished, the lotus beautifully embodies nature's elegance and endurance.

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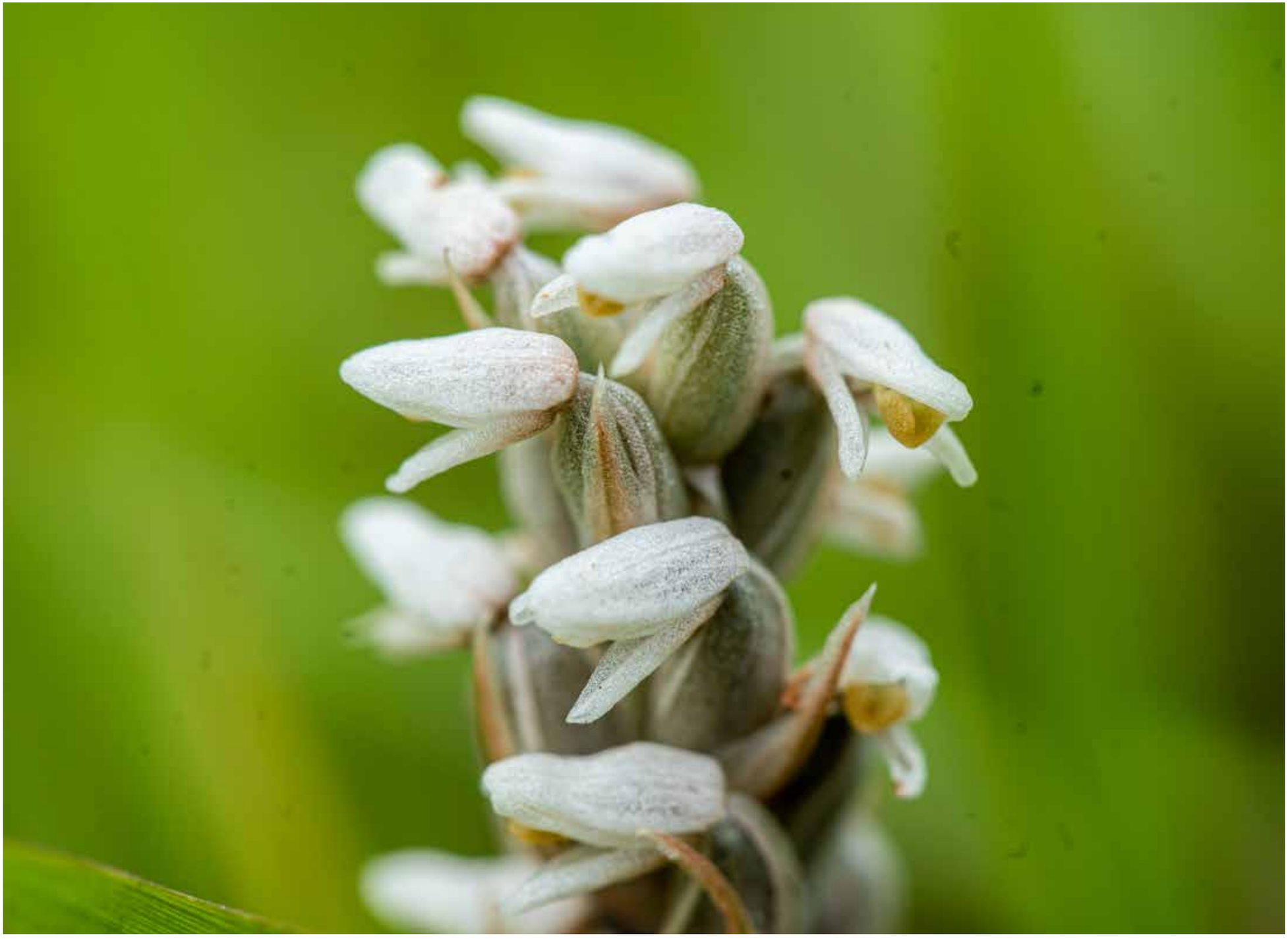
BAN VANRAJ (SOLDIER ORCHID)

Family: Orchidaceae
Scientific Name: *Zeuxine strateumatica* (L.) Schltr.
Extent: Native
IUCN Status: Least Concern
Habit: Herb
Special Features: Commonly known as the soldier orchid, it is a delicate terrestrial orchid that thrives in compacted, nutrient-poor soils, often appearing in lawns, gardens, and disturbed areas after rainfall. Its upright, spirally arranged flower spikes resemble soldiers in formation—hence the name. With tiny white to pale-yellow blooms, it quietly enhances groundcover diversity and supports small pollinators. Modest yet resilient, this orchid brings subtle beauty and ecological balance to overlooked urban and semi-natural spaces.



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LATKERA

Family: Onagraceae
Scientific Name: *Ludwigia perennis* L.
Extent: Native
IUCN Status: Least Concern
Habit: Herb
Special Features: A semi-aquatic herb commonly found along the edges of wetlands, ponds, and marshes, plays a vital role in maintaining aquatic ecosystem health. Its spreading growth helps stabilize soil, prevent erosion, and reduce nutrient runoff into water bodies. Its ability to thrive in both wet and seasonally dry conditions makes it an important species for wetland restoration and ecological resilience in dynamic habitats.

NEELKAMAL GHAAS (PICKEREL WEED)

Family: Pontedericeae
Scientific Name: *Pontederia vaginalis* Burm.f.
Extent: Native
IUCN Status: Not Evaluated
Habit: Herb
Special Features: Commonly known as heartleaf pickerelweed, it is a striking aquatic plant found in shallow wetlands, marshes, and rice paddies. Its most distinctive feature is its glossy, heart-shaped leaves and vibrant violet-blue flower spikes, which attract a variety of pollinators and aquatic insects. It plays a key role in water purification, sediment stabilization, and habitat creation for small aquatic organisms.

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KANS GHASS (WILD CANE)

Family: Poaceae
Scientific Name: *Saccharum spontaneum* L.
Extent: Native
IUCN Status: Least Concern
Habit: Herb
Special Features: Commonly known as wild sugarcane or kans grass, it is a tall, tufted grass that thrives in floodplains, riverbanks, and degraded lands. It helps in soil stabilization, especially in loose or erosion-prone areas like ash dykes, by forming dense root mats. It is a pioneer species, capable of colonizing barren or disturbed soils, aiding in ecological succession. Its tall flowering plumes also provide habitat and cover for small wildlife, while contributing to local biodiversity.

MACHHIYARI GHAAS- INDIAN KNOTGRASS

Family: Polygonaceae
Scientific Name: *Polygonum plebeium* R.Br.
Extent: Native
IUCN Status: Least Concern
Habit: Herb
Special Features: A low-growing, mat-forming herb found in moist soils, riverbanks, and paddy fields. Its special feature is its ability to thrive in seasonally waterlogged and compacted soils, making it an important soil binder in wetland and agricultural landscapes. It supports microbial activity and soil aeration, while also serving as a food source for grazing animals.

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JANGLI PODINA (BUSHY MAT GRASS)

Family: Verbenaceae
Scientific Name: *Lippia alba* (Mill.) N.E.Br. ex Britton & P.Wilson
Extent: Non-native
IUCN Status: Not Evaluated
Habit: Shrub
Special Features: A fragrant shrub valued for its medicinal, ecological, and aromatic properties. Its special feature is its strongly scented leaves, rich in essential oils like citral and linalool, making it widely used in traditional medicine, teas, and natural remedies for stress, colds, and digestion. it supports pollinators with its small, nectar-rich flowers and contributes to soil stabilization in semi-arid and disturbed areas.

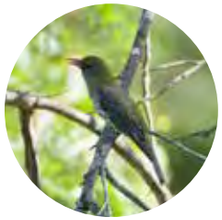
RAMCHANA (WILD VINE)

Family: Vitaceae
Scientific Name: *Causonis trifolia* (L.) Mabb. & J.Wen
Extent: Native
IUCN Status: Least Concern
Habit: Climber
Special Features: A fast-growing, tendril-bearing climber found in hedgerows, and disturbed areas. Its distinctive trifoliate leaves and bluish-black berries make it easily recognizable. It provides cover and food for birds and insects, while its vigorous growth helps in soil retention and slope stabilization. Traditionally, parts of the plant are used in folk medicine for their anti-inflammatory and digestive properties.

THRIVING FAUNA OF KAHALGAON

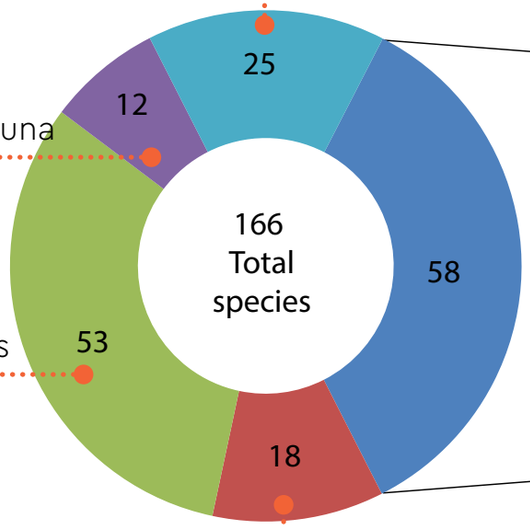
25 Fish species

12 Herpetofauna

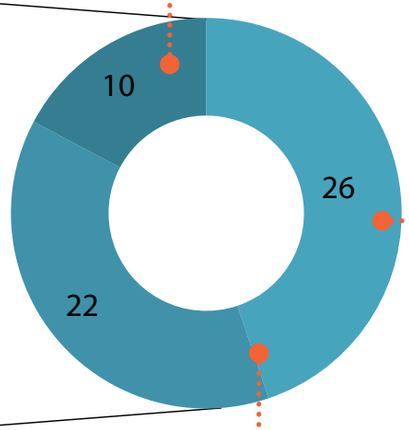


53 Avian species

18 Mammalian species



10 Dragonfly and damsel species



26 Other Invertebrates

22 Butterfly species

The assessment of faunal diversity around the NTPC project landscape reflects a rich and vibrant ecosystem shaped by varied habitat types. Multiple habitats were sampled to obtain a holistic overview of faunal presence, including open grasslands, agricultural fields, and the banks and ghats of Ganga River. These diverse habitats provide essential resources and ecological niches that support a wide range of faunal species.

A total of 166 faunal species were documented during the study, comprising 18 mammalian species, 53 avian species, 10 reptiles, 3 amphibians, 25 fish, and 58 invertebrates, including 22 species of butterflies, 10 dragonflies and damselflies species, and 18 other insects' species, along with representatives from crustaceans, mollusks, and annelids. During the survey, one Endangered species and three Near Threatened species were recorded under the IUCN Red List. Additionally, 123 species are classified as Least Concern, while 39 have not yet been evaluated for their conservation status. Under the Wildlife Protection Act (WPA), 7 species protected under Schedule I, 73 under Schedule II, with a few species also listed under Schedules III to V were recorded.

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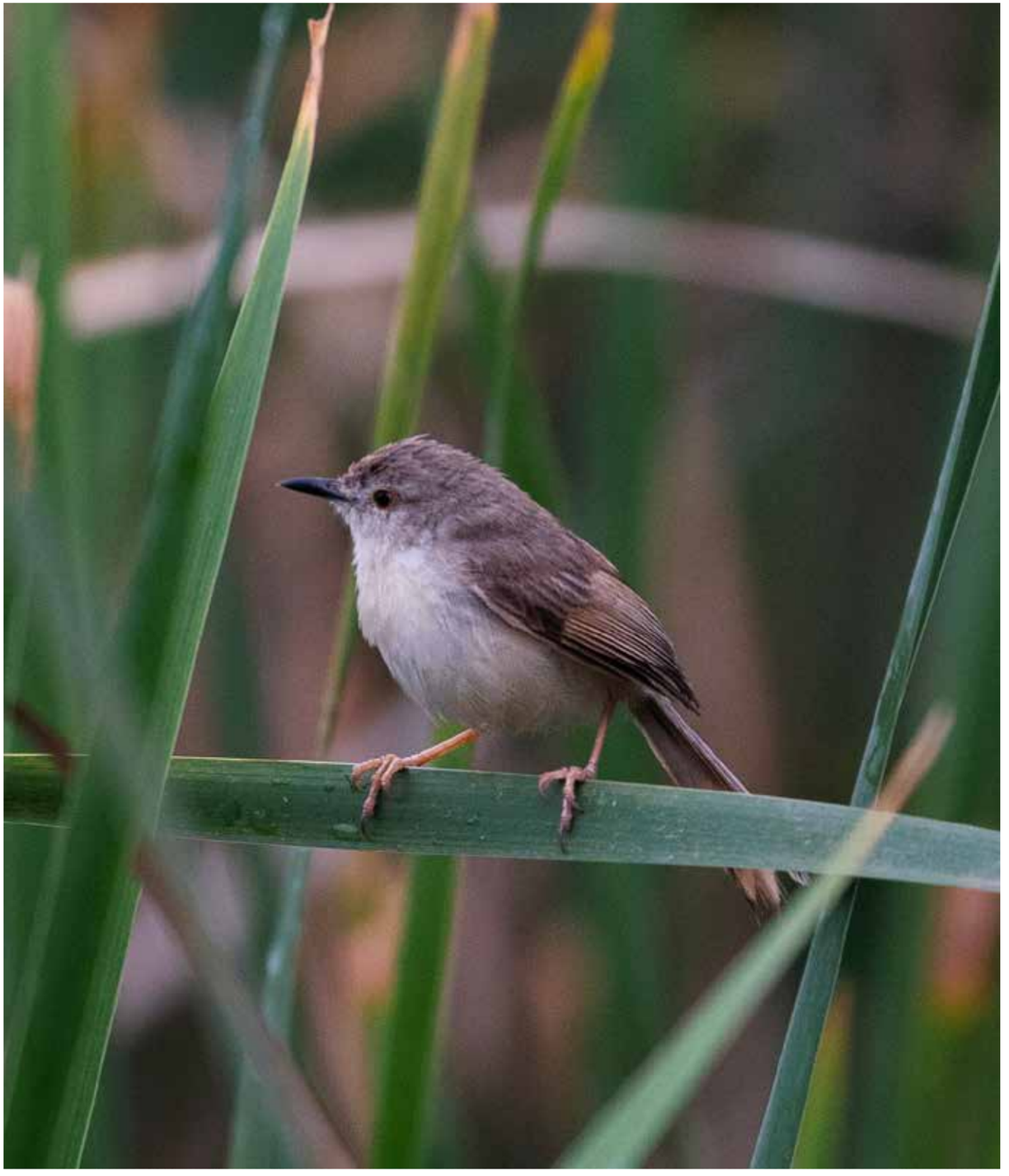
SAWAI (PLAIN PRINIA)

Family: Cisticolidae
Scientific Name: *Prinia inornata*
Extent: Native (Resident)
IUCN Status: Least Concern
Special Features: A tireless insect hunter, this petite warbler flits through grass tussocks and shrubs, helping naturally reduce pest populations. Its rhythmic calls and active presence mark vibrant, healthy scrublands.



TITHARI (RED WATTLED LAPWING)

Family: Chradriidae
Scientific Name: *Vanellus indicus*
Extent: Native (resident)
IUCN Status: Least Concern
Special Features: A sentinel of the dry grasslands, it nests on bare ground and vigilantly cares for its chicks, indicating the health of open landscapes. Its insectivorous diet helps maintain grub and beetle populations, ensuring balanced grassland ecosystems.

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CHITKABRI FAKTA (SPOTTED DOVE)

Family: Columbidae
Scientific Name: *Spilopelia chinensis*
Extent: Native (resident)
IUCN Status: Least Concern
Special Features: A graceful emblem of urban resilience, this dove has adapted remarkably to human-altered landscapes. Its droppings help disperse seeds of urban flora, subtly reshaping vegetation patterns and promoting green urban pockets.

TOTA (ROSE-RINGED PARAKEET)

Family: Columbidae
Scientific Name: *Psittacula krameri*
Extent: Native (resident)
IUCN Status: Least Concern
Special Features: Gliding across forest canopies, this pigeon is a dedicated seed disperser, ensuring regeneration of fruiting trees across wide regions. It often feeds in flocks, spotlighting the seasonal rhythms of native forests as fruit ripens. Its feeding habits support keystone plant species like figs, which are foundational to tropical food webs.

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NEELKANTH (INDIAN ROLLER)

Family: Coraciidae
Scientific Name: *Coracias benghalensis*
Extent: Native (resident)
IUCN Status: Least Concern
Special Features: Beloved for its dazzling aerobatic display and named for its remarkable "rolling" or somersaulting flight manoeuvres performed by males during the breeding season. The roller preys on grasshoppers and small snakes, keeping pest numbers in check. In Indian lore, its sighting is considered auspicious, greeting the arrival of monsoons.

MAHALAT (RUFOUS TREEPIE)

Family: Corvidae
Scientific Name: *Dendrocitta vagabunda*
Extent: Native (Resident)
IUCN Status: Least Concern
Special Features: Clever and omnivorous, it eats insects, fruits, and carrion, aiding in forest clean-up and seed-spreading. Its intelligence is evident in its habit of following human activity to scavenge, earning it a place in cultural lore.

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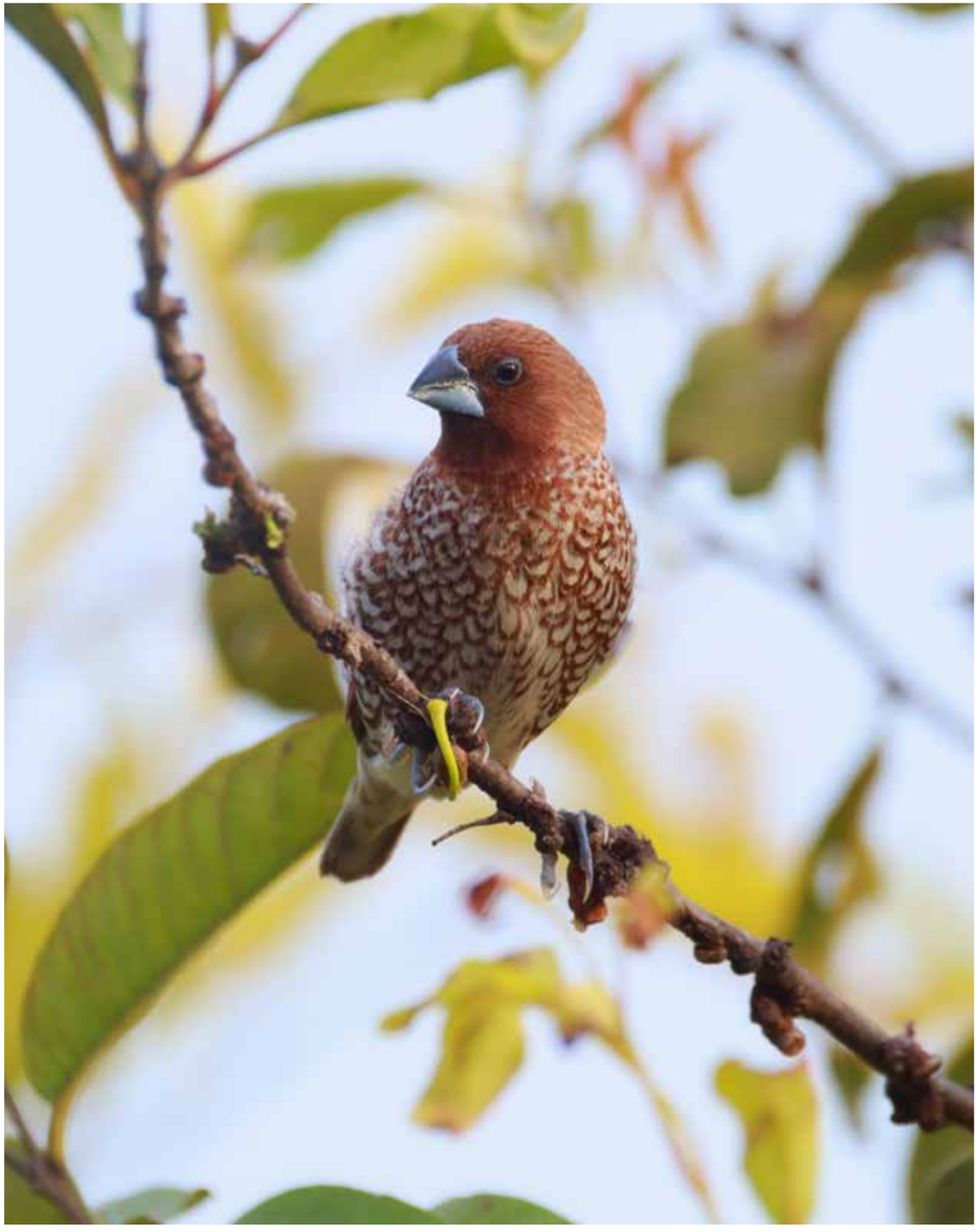
ASIAN KOEL

Family: Cuculidae
Scientific Name: *Eudynamys scolopaceus*
Extent: Native (resident)
IUCN Status: Least Concern
Special Features: This melodious koel is a master brood parasite, nestling its eggs in the nests of other species. it plays a unique role in avian behavioural ecology and is a seasonal herald of monsoons.

SCALY BREASTED MUNIA

Family: Estrildidae
Scientific Name: *Lonchura punctulata*
Extent: Native (Resident)
IUCN Status: Least Concern
Special Features: Flocking in dense flocks, this finch thrives on grass seeds, helping contain weeds in agricultural settings. Its sociable nature is a charming indicator of healthy crop margins.



SAAT BEHNE (JUNGLE BABBLER)

Family: Leiothrichidae
Scientific Name: *Argya striata*
Extent: Native (resident)
IUCN Status: Least Concern
Special Features: Renowned for their "seven sisters" social groups, these chatty birds forage cooperatively, flushing out insects from leaf litter. Their group dynamics and collective alarm calls make them key sentinels of forest and garden environments.

DHAIYAL (ORIENTAL MAGPIE ROBIN)

Family: Muscicapidae
Scientific Name: *Copsychus saularis*
Extent: Native (resident)
IUCN Status: Least Concern
Special Features: The Oriental Magpie-Robin is renowned for its rich, melodious, and varied song, often heard during the early morning and breeding seasons. This vocal adaptability allows them to thrive in urban gardens, agricultural landscapes, and forest edges.

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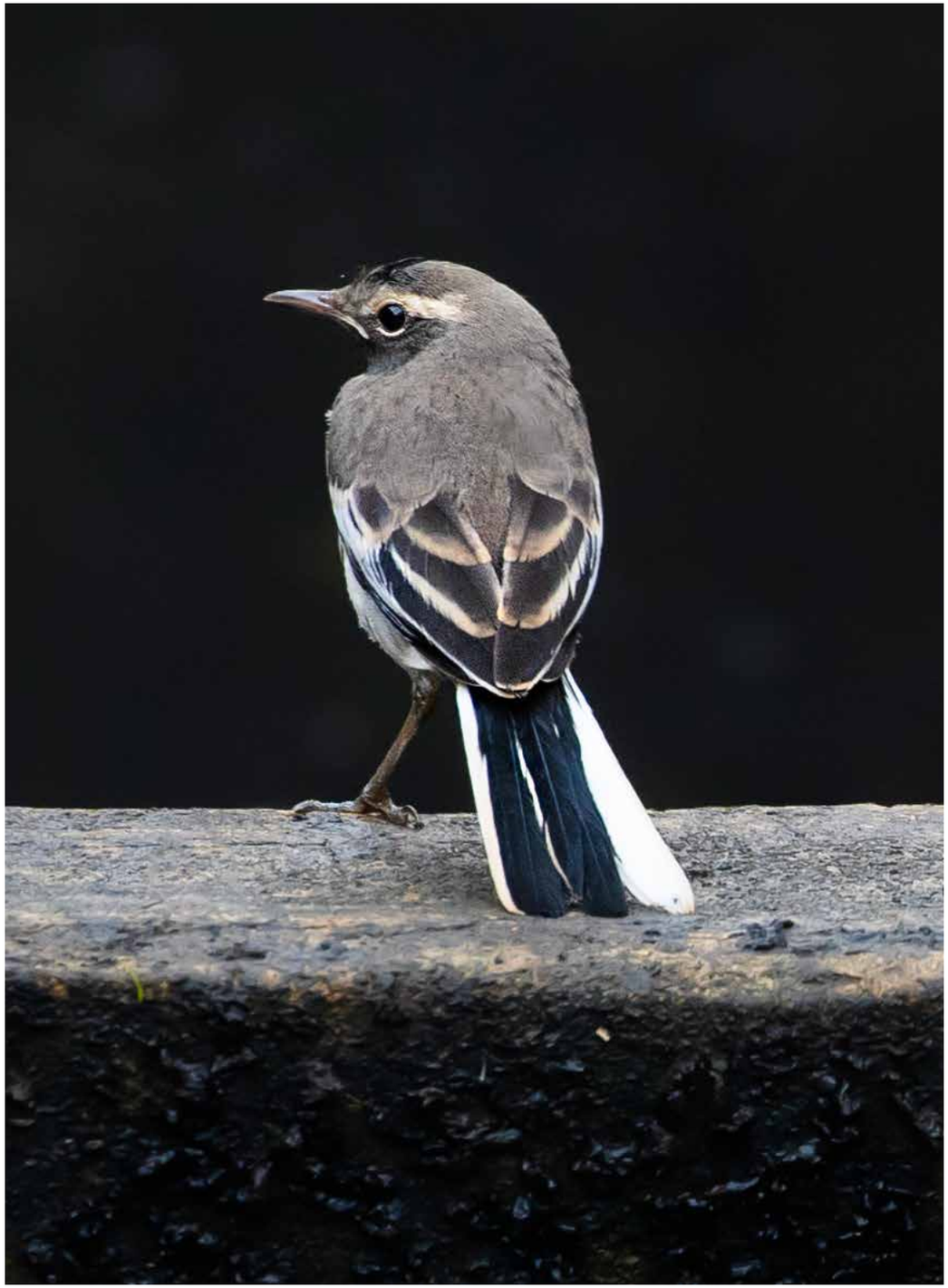
CHARCHARI (PADDY FIELD PIPIT)

Family: Motacillidae
Scientific Name: *Anthus rufulus*
Extent: Native (resident)
IUCN Status: Least Concern
Special Features: A discreet yet vital presence in agricultural lands relying heavily on camouflage and stealth to avoid predation. This species is highly adapted to agricultural landscapes, making it an important part of the farmland bird community, often indicating healthy ground vegetation and invertebrate populations.

KHANJAN (WHITE BROWED WAGTAIL)

Family: Motacillidae
Scientific Name: *Motacilla maderaspatensis*
Extent: Native (Resident)
IUCN Status: Least Concern
Special Features: Often seen along stream edges, this wagtail's presence signals clean, oxygenated water. Its distinctive tail-wagging behaviour is both charming and indicative of ecological vibrancy in freshwater zones.



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BASA (BROWN HEADED BARBET)

Family: Megalaimidae
Scientific Name: *Psilopogon zeylanicus*
Extent: Native (Resident)
IUCN Status: Least Concern
Special Features: A loud and conspicuous resident of urban parks and wooded areas, the brown-headed barbet plays a vital role in seed dispersal, especially of native fruiting trees like figs and mangoes. Its distinctive repetitive 'kutroo-kutroo' call, often heard more than seen, marks its presence in cityscapes and forests alike. By excavating tree cavities for nesting, it also supports secondary cavity-nesting species, contributing to overall urban biodiversity.

SHAKKARKHORA (PURPLE SUNBIRD)

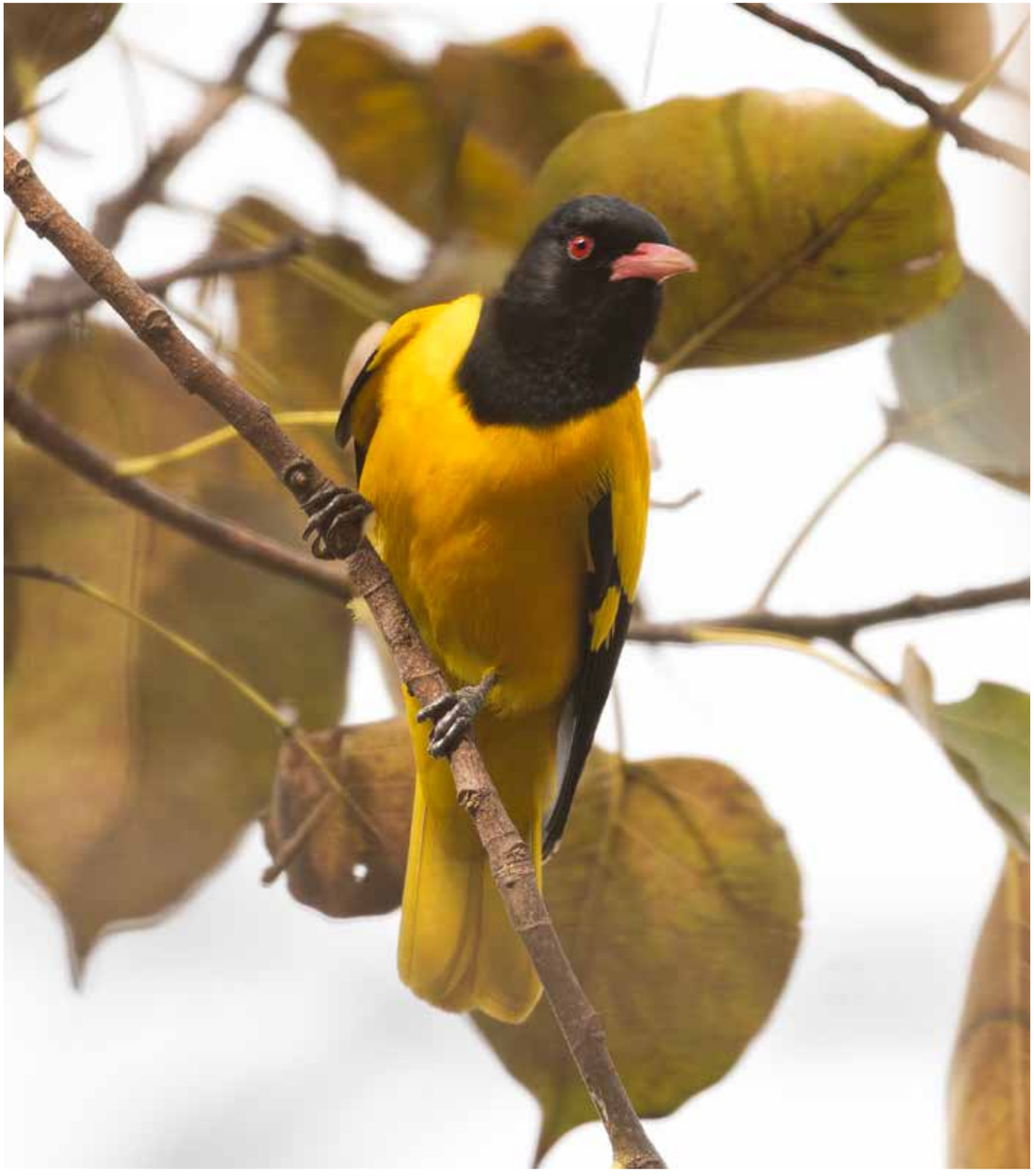
Family: Nectariniidae
Scientific Name: *Cinnyris asiaticus*
Extent: Native (resident)
IUCN Status: Least Concern
Special Feature: Flitting with iridescent flair, the male's glittering plumage and acrobatic nectar feeding make it a vital pollinator. Its presence across diverse habitats highlights its role as a resilient pollinator amid increasing urbanization and habitat fragmentation.

PEELAK (INDIAN GOLDEN ORIOLE)

Family: Oriolidae
Scientific Name: *Oriolus kundoo*
Extent: Native (Partial migrant)
IUCN Status: Least Concern
Special Features: Often elusive in dense foliage, this oriole's lush green plumage camouflages it, but its fruit-heavy diet services forest regeneration. A dazzling yellow songbird, known for its melodious, flute-like calls and elusive nature. Plays a key role in insect control and seed dispersal. Its seasonal migrations and camouflage skills make it a symbol of transition and tropical forest health.

TOPIDAR PEELAK (BLACK-HOODED ORIOLE)

Family: Oriolidae
Scientific Name: *Oriolus xanthornus*
Extent: Native (Resident)
IUCN Status: Least Concern
Special Features: Striking in appearance with a jet-black hood and golden body, this oriole frequents forest edges and groves. It is an important disperser of figs and other native fruits, helping sustain the trophic dynamics of forest canopies. Its rich, whistling call and acrobatic foraging make it a charismatic species of South Asian woodlands.



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GAURAIYA (HOUSE SPARROW)

Family: Passeridae
Scientific Name: *Passer domesticus*
Extent: Native (Resident)
IUCN Status: Least Concern
Special Features: The house sparrow has evolved to live almost entirely alongside human habitation, relying on buildings, rooftops, and crevices for nesting rather than natural habitats like forests or cliffs. It also serves as an ecological indicator, especially in urban ecosystems—declining sparrow populations have been linked to habitat degradation, air pollution, and changes in building architecture.

TEETAR (GREY FRANCOLIN)

Family: Phasianidae
Scientific Name: *Ortygornis pondicerianus*
Extent: Native (Resident)
IUCN Status: Least Concern
Special Features: Grey francolins are known for their loud, rhythmic "kek-kek-kek" calls, often delivered in duets between pairs. These calls serve not just for mate communication but also as auditory markers of territory, warning rival groups to stay away. As a ground-nesting and ground-foraging bird, its strong vigilance and alarm calls also help alert other fauna in shared habitats to potential threats.

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LAL-GAL BULBUL (RED WHISKERED)

Family: Pycnonotidae
Scientific Name: *Pycnonotus jocosus*
Extent: Native (Resident)
IUCN Status: Least Concern
Special Features: Sporting a crimson cheek patch, this bulbul not only adds colour but also disperses fruit seeds widely, influencing ornamental and wild vegetation. In several parts of India and Southeast Asia, the red-whiskered bulbul holds cultural and symbolic value.

KALA BULBUL (RED VENTED)

Family: Pycnonotidae
Scientific Name: *Pycnonotus cafer*
Extent: Native (Resident)
IUCN Status: Least Concern
Special Features: A vocal and adaptable species, it thrives in diverse habitats—from city parks to scrublands—helping with pest control and seed dispersal. Occasionally, it also pollinates flowers while sipping nectar.

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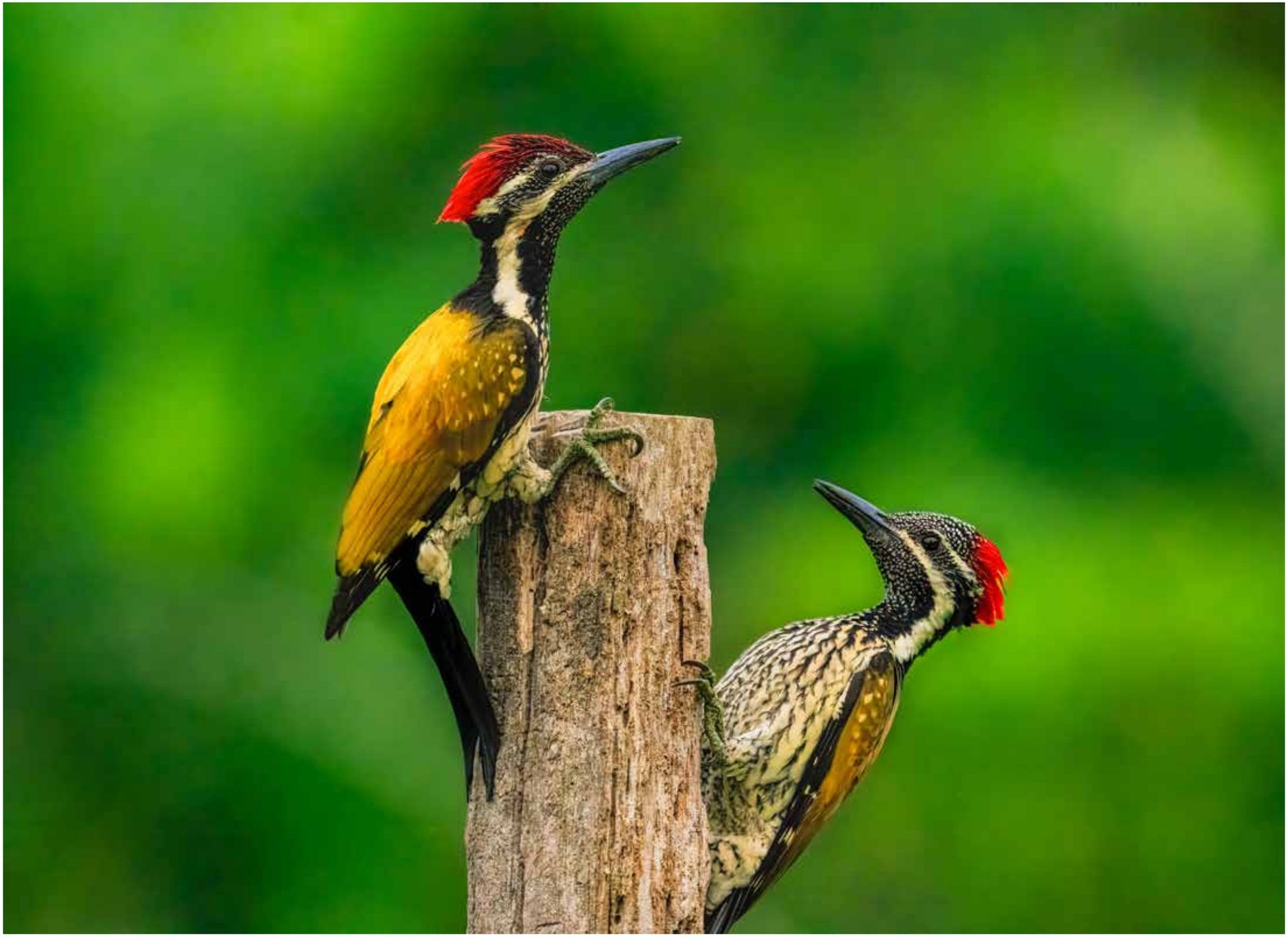
KATHPHORWA (BLACK RUMPED FLAMEBACK)

Family: Picidae
Scientific Name: *Dinopium benghalense*
Extent: Native (Resident)
IUCN Status: Not Evaluated
Special Features: Black-rumped flamebacks are generally monogamous, with both male and female participating in nest excavation, incubation, and chick-rearing. This species is highly adaptable and is frequently found in urban gardens, groves, parks, and even near human settlements.



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KAVADI MAINA (ASIAN PIED STARLING)

Family: Sturnidae
Scientific Name: *Sturnus contra*
Extent: Native (Resident)
IUCN Status: Not Evaluated
Special Features: The special feature of the Asian pied starling lies in its behavioural traits. Known for its distinctive vocalizations, these birds are adept mimics, capable of imitating a variety of sounds including other bird calls and even human noises. This ability not only aids in communication but also plays a role in their social interactions and territorial defense strategies.

BAMANI MYNA (BRAHMINY STARLING)

Family: Sturnidae
Scientific Name: *Sturnia pagodarum*
Extent: Native (Resident)
IUCN Status: Least Concern
Special Features: Known for its soft, warbling, and musical calls, the brahminy starling has a diverse vocal range used in communication, courtship, and territory defense. By feeding on fruits and berries, the brahminy starling contributes to seed dispersal, aiding in forest regeneration and biodiversity maintenance, especially in semi-arid and dry deciduous ecosystems.

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PANVA (ORIENTAL DARTER)

Family: Anhingidae
Scientific Name: *Anhinga melanogaster*
Extent: Native (Resident)
IUCN Status: Least Concern
Special Features: The oriental darter hunts fish by swimming underwater with its body submerged and only the slender neck above water, resembling a snake—hence the name "snakebird." It uses a rapid, harpoon-like thrust of its long, flexible neck to spear fish with its sharp, pointed bill.

GHONGHIL (ASIAN OPENBILL)

Family: Ciconiidae
Scientific Name: *Anastomus oscitans*
Extent: Native (resident)
IUCN Status: Least Concern
Special Features: With its distinctive beak perfectly designed to extract snails, this stork plays a crucial role in controlling mollusk populations in wetlands and rice paddies. Its foraging behaviour contributes to the ecological equilibrium of aquatic habitats, particularly during the monsoon season.

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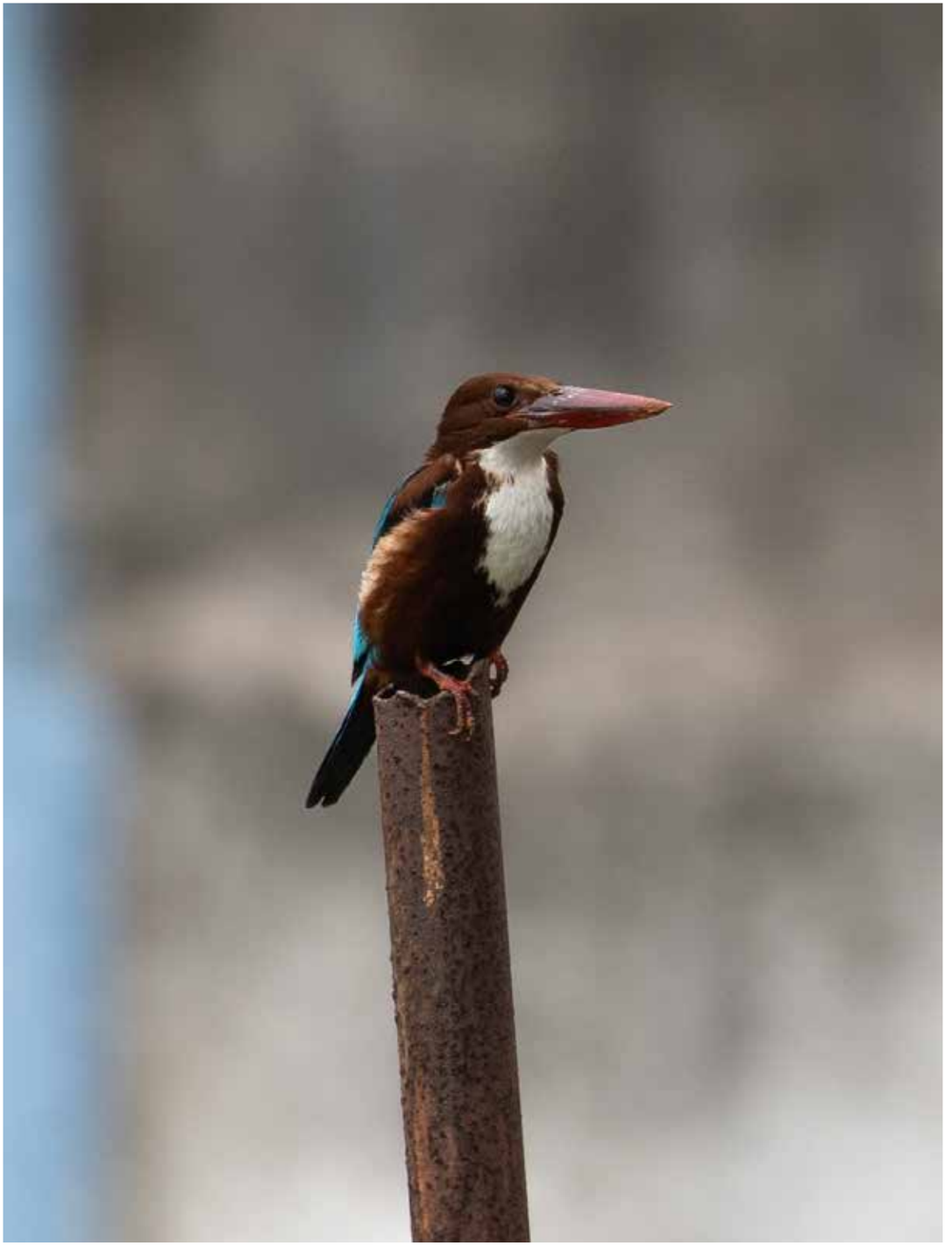
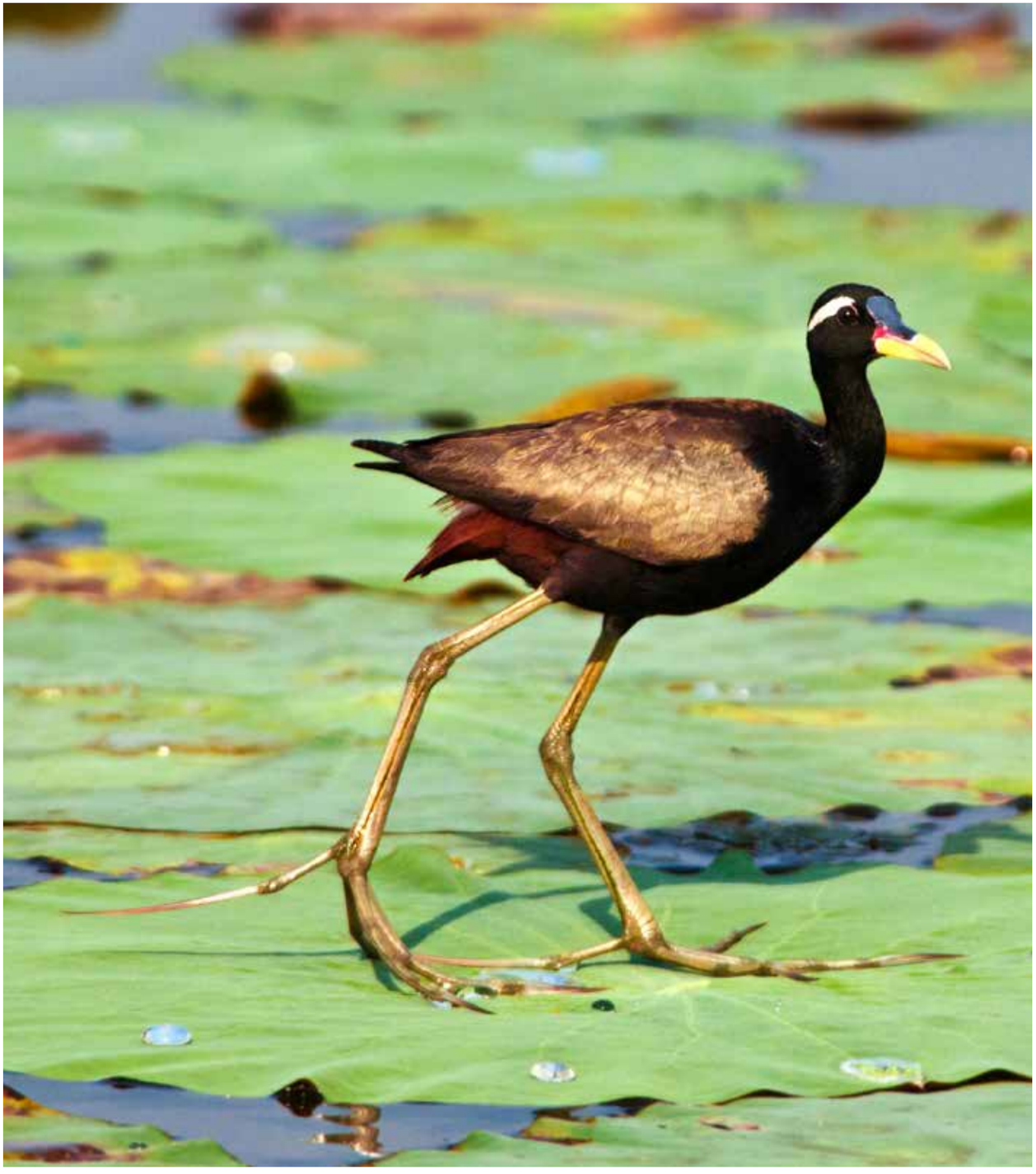
KILKILA (WHITE THROATED KINGFISHER)

Family: Halcyoninae
Scientific Name: *Halcyon smyrnensis*
Extent: Native (resident)
IUCN Status: Least Concern
Special Features: A striking hunter, this kingfisher hunts not just fish but also terrestrial insects and small reptiles, making it a natural ally for farmers. It is highly adaptable to non-aquatic environments, frequently found in farmlands, urban gardens, dry scrublands, and even near human dwellings. Its distinctive loud, metallic calls are used to defend territory and attract mates, often heard before the bird is seen, enhancing its role as an auditory presence in local biodiversity.



KATOI (BRONZE WINGED JACANA)

Family: Jacanidae
Scientific Name: *Metopidius indicus*
Extent: Native (resident)
IUCN Status: Least Concern
Special Features: With its extraordinary elongated toes, this "Jesus bird" walks effortlessly on floating vegetation, maintaining the balance of aquatic plant systems. Its ground-nesting habits also provide insight into wetland health and water levels.



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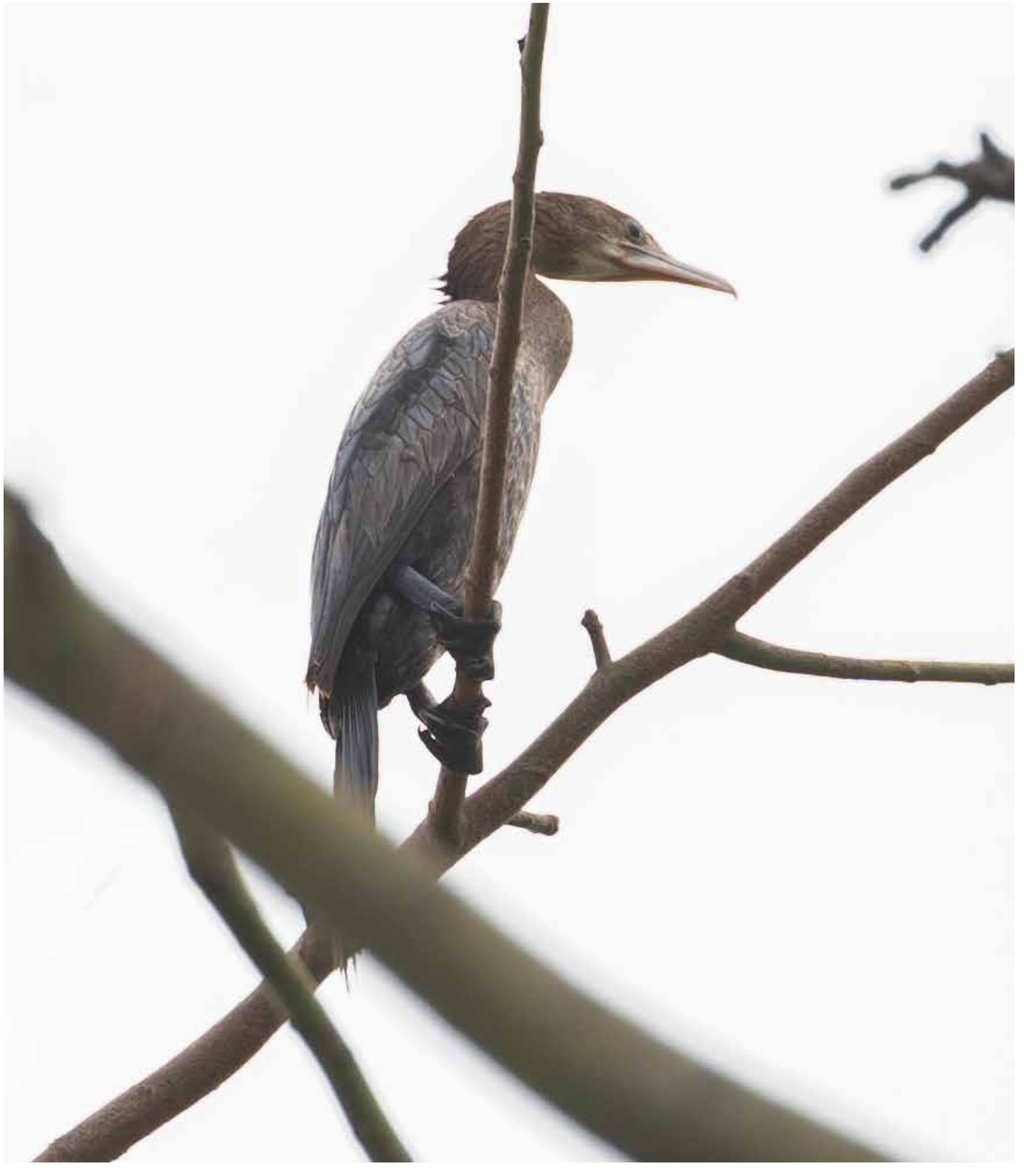
PANAKAUA (INDIAN CORMORANT)

Family: Phalacrocoracidae
Scientific Name: *Phalacrocorax fuscicollis*
Extent: Native (Resident)
IUCN Status: Least Concern
Special Features: The Indian cormorant is a proficient diver, using its powerful webbed feet to chase and catch fish underwater with remarkable agility and speed. This social hunting strategy increases their foraging success and reflects an advanced level of cooperative behaviour uncommon in many bird species.



KALA BAJA (RED NAPED IBIS)

Family: Threskiornithidae
Scientific Name: *Pseudibis papillosa*
Extent: Native (Resident)
IUCN Status: Least Concern
Special Features: The black-headed ibis shows remarkable foraging versatility, feeding in wetlands, agricultural fields, garbage dumps, and even dry fields. Due to its dependency on wetlands and semi-aquatic habitats, the black-headed ibis is often considered an indicator species for wetland ecosystem integrity.

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MAMMALS

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GANGES RIVER DOLPHIN

Family: Platanistidae
Scientific Name: *Platinista gangetica*
Extent: Native-resident
IUCN Status: Endangered
Special Features: The Ganges river dolphin is functionally blind—its eyes lack lenses—making it virtually incapable of forming visual images. To survive and navigate in the murky, sediment-rich waters of the Ganga and Brahmaputra river systems, it uses highly sophisticated echolocation to detect prey, obstacles, and navigate complex river habitats. This adaptation makes it an important indicator species for the health of large river ecosystems.

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JANGLI KHARGOSH (BLACK-NAPED HARE)

Family: Leporidae
Scientific Name: *Lepus nigricollis*
Extent: Native-resident
IUCN Status: Least Concern
Special Features: This hare is primarily crepuscular, meaning it is most active during dawn and dusk, which helps it avoid extreme daytime heat and potential predators. Its behavioural flexibility makes it a resilient species amid growing human encroachment, often serving as prey for a variety of carnivores, thus supporting local food webs.

NEVLAA (INDIAN GREY MONGOOSE)

Family: Herpestidae
Scientific name: *Urva edwardsii*
Extent: Native-resident
IUCN Status: Least Concern
Special Features: The Indian grey mongoose is renowned for its fearless and strategic snake-fighting behaviour, which involves quick reflexes, precise strikes to the head, and repeated dodging. This behaviour has earned it a mythological and symbolic status in Indian folklore, often representing bravery, intelligence, and protection.

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GHILHARI (THREE-STRIPED SQUIRREL)

Family: Sciuridae
Scientific Name: *Funambulus palmarum*
Extent: Native-resident
IUCN Status: Least Concern
Special Features: The presence of Indian palm squirrels in gardens, markets, and households demonstrates its ecological adaptability and positive human-wildlife interaction. It also contributes to seed dispersal and helps in maintaining urban biodiversity.

SIYAR (GOLDEN JACKAL)

Family: Canidae
Scientific Name: *Canis aureus*
Extent: Native-resident
IUCN Status: Least Concern
Special Features: The golden jackal is an opportunistic omnivore and scavenger, capable of surviving on a wide range of food sources—from small mammals and birds to fruits, garbage, and carrion. It plays a crucial role in ecosystem functioning by helping control rodent populations and acting as a natural cleaner through scavenging.

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HANUMAN LANGUR (NORTHERN PLAINS GREY LANGUR)

Family: Cercopithecidae
Scientific Name: *Semnopithecus entellus*
Extent: Native-resident
IUCN Status: Least Concern
Special Features: This langur species is revered in Hindu mythology, often associated with the deity Lord Hanuman, leading to widespread protection and tolerance by local communities. Its sacred status reduces persecution and enhances its long-term survival in anthropogenic landscapes, unlike many other primate species facing human-wildlife conflict.

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HERPETOFAUNA

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KARAIT (COMMON KRAIT)

Family: Elapidae
Scientific Name: *Bungarus caeruleus*
Extent: Native-resident
IUCN Status: Not Evaluated
Special Features: The common krait is highly nocturnal and non-aggressive during the day, often hiding in crevices, rodent burrows, or under debris, which makes its presence largely unnoticed in both rural and semi-urban habitats. It is one of the "Big Four" snakes responsible for the majority of snakebite deaths in India, making it a species of immense medical and public health relevance.

NAAG (INDIAN COBRA)

Family: Elapidae
Scientific Name: *Naja naja*
Extent: Native-resident
IUCN Status: Least Concern
Special Features: The Indian cobra is deeply embedded in Hindu mythology, where it is associated with deities like Lord Shiva (who wears a cobra around his neck) and Vishnu (resting on the serpent Shesha). This cultural status has led to a complex human-snake relationship—protective in some contexts, yet prone to conflict in others.

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PANI SAP (RAINBOW MUD SNAKE)

Family: Homalopsidae
Scientific Name: *Enhydris enhydris*
Extent: Native-resident
IUCN Status: Least Concern
Special Features: The rainbow water snake is well adapted to living in rice paddies, marshes, ponds, and slow-moving freshwater bodies, where it actively hunts fish, amphibians, and invertebrates. Its presence often indicates a relatively healthy and functioning wetland ecosystem, making it useful in ecological assessments of freshwater habitats.

GHODA-PACHAD (ORIENTAL RAT SNAKE)

Family: Colubridae
Scientific Name: *Ptyas mucosus*
Extent: Native-resident
IUCN Status: Least Concern
Special Features: The oriental rat snake often mimics the hood-raising behaviour of the Indian cobra when threatened, despite being non-venomous. This bluff display deters predators and humans by creating the illusion of danger. This behavioural mimicry not only provides protection but also reflects an evolved survival strategy in predator-rich environments.

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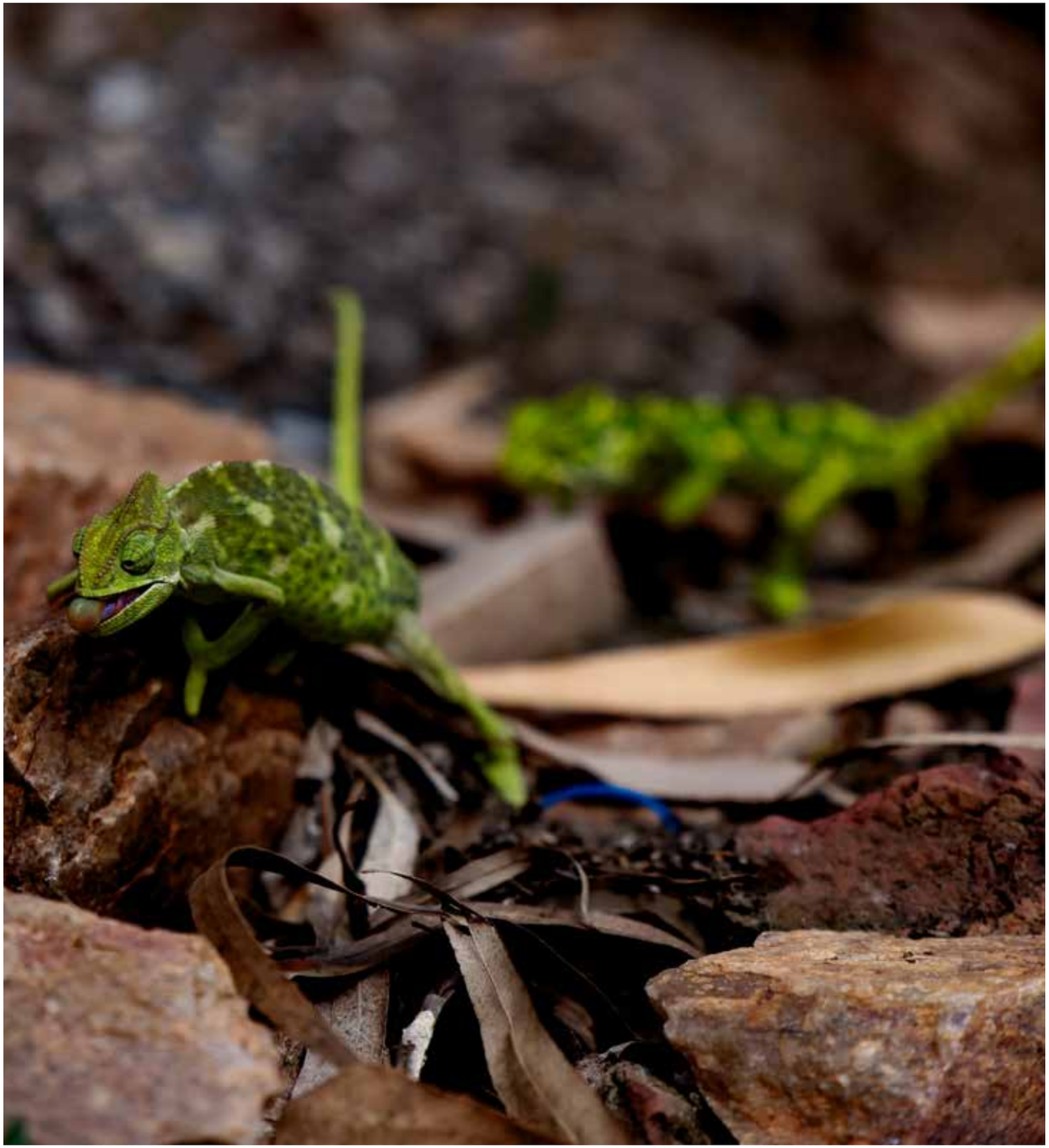
CHHIPKALI (COMMON GARDEN LIZARD)

Family: Agamidae
Scientific Name: *Calotes versicolor*
Extent: Native-resident
IUCN Status: Least Concern
Special Features:The common garden lizard is highly adaptable to diverse and disturbed habitats, often thriving in proximity to human settlements where insect populations are abundant. This behavioural flexibility allows it to play an important role in natural pest control, feeding on a wide range of insects and arthropods.

GIRGIT (CHAMELEON)

Family: Chamaeleonidae
Scientific Name: *Chamaeleo zeylanicus*
Extent: Native-resident
IUCN Status: Least Concern
Special Features: Chameleons can move their eyes independently, giving them a 360-degree field of view and allowing them to focus on two different objects simultaneously. This combination of visual precision and motor control is rare among vertebrates and is critical for survival in their arboreal habitats, where stealth and accuracy are essential.



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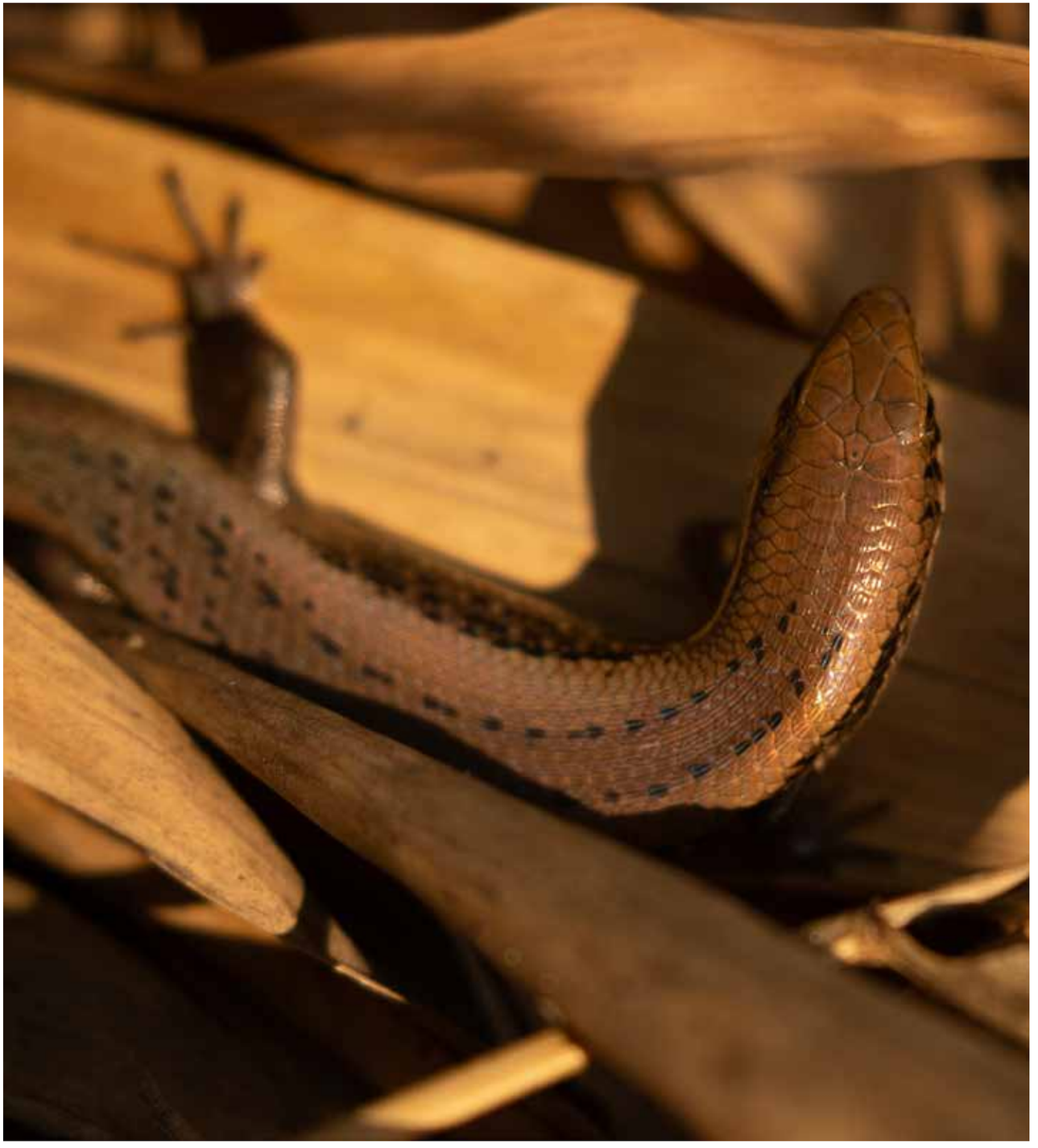
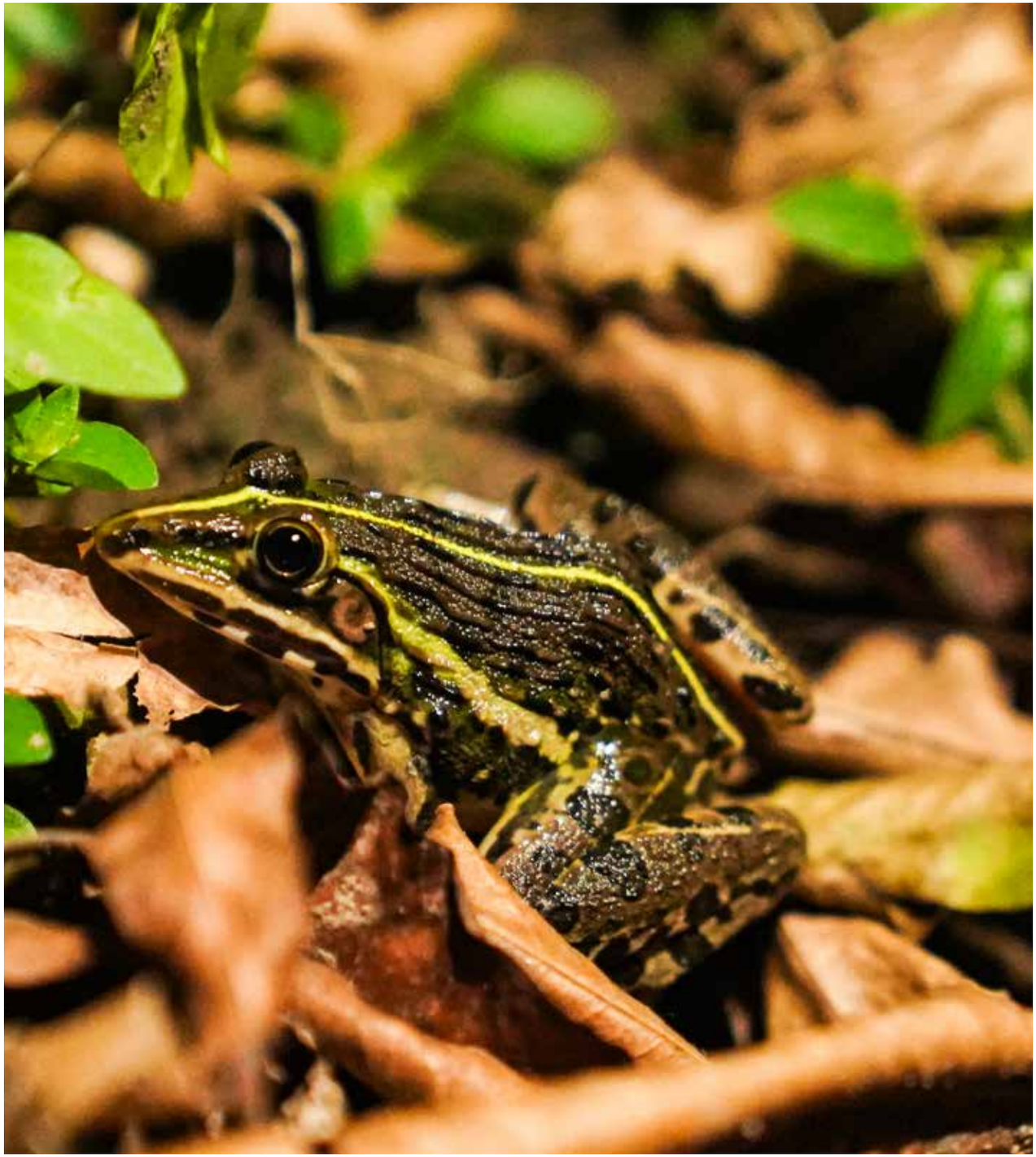
DIDIYA (SKINK LIZARD)

Family: Scincidae
Scientifc Name: *Eutropis* sp.
Extent: Native-resident
IUCN status: Least Concern
Special Features: Its smooth, shiny scales and burrowing behaviour help it conserve heat and moisture, while its presence indicates a healthy microhabitat with intact leaf litter and soil systems. A key component of the forest floor ecosystem, it aids in controlling insect populations and contributes to soil aeration.



KOLA BANGH (INDIAN BULL FROG)

Family: Dicroglossidae
Scientific Name: *Hoplobatrachus tigerinus*
Extent: Native-resident
IUCN Status: Least Concern
Special Features: The Indian bullfrog exhibits extreme dietary opportunism, feeding not only on insects but also on small birds, reptiles, amphibians, and even mammals, making it one of the few amphibians with such a wide trophic niche. This adaptability makes it a key species for studying predator-prey dynamics, ecological resilience, and the consequences of amphibian invasions.



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(INDUS VALLEY TOAD)

Family: Bufonidae
Scientific Name: *Duttaphrynus stomaticus*
Extent: Non-native
IUCN Status: Least Concern
Special Features: Toads demonstrate an extraordinary ability to return to the exact same breeding pond each year, even if they have travelled considerable distances and encountered obstacles. Such site fidelity makes them vulnerable to habitat fragmentation and road mortality, especially during breeding migrations.

DHAUNSA (ASIAN COMMON TOAD)

Family: Bufonidae
Scientific Name: *Duttaphrynus melanostictus*
Extent: Native-resident
IUCN Status: Least Concern
Special Features: The common toad secretes bufotoxins from glands behind its eyes (parotoid glands), which deter most predators due to their unpleasant taste and mild toxicity. Its presence is beneficial in agricultural landscapes, reducing reliance on chemical pesticides.

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BUTTERFLY, DRAGONFLY AND DAMSELFLIES

NEEL CHIMI (PEA BLUE)

Family: Lycaenidae
Scientific Name: *Lampides boeticus*
Extent: Non-native-resident
IUCN Status: Least Concern
Special Features: The larvae of the pea blue butterfly secrete sugary substances that attract and appease ants, which in turn protect the caterpillars from predators and parasites. This ant-caterpillar relationship is a fascinating example of symbiosis in insect ecology and is important for studies on evolutionary mutualism and insect communication.

FHIKI NEELU (PALE GRASS BLUE)

Family: Lycaenidae
Scientific Name: *Pseudozizeeria maha*
Extent: Native-resident
IUCN Status: Not Evaluated
Special Features: A tiny yet widespread butterfly found in grasslands, gardens, and open fields. Its delicate blue wings and fluttering flight make it a charming presence in natural landscapes. Ecologically, it serves as an important pollinator of small flowering herbs and a sensitive bioindicator of environmental health. The species' close association with host plants like Oxalis and Alysicarpus also helps maintain plant diversity in grassland ecosystems.

COMMON BLUE

Family: Lycaenidae
Scientific Name: *Polyommatus icarus*
Extent: Native-resident
IUCN Status: Not Evaluated
Special Features: During its larval stage, the common blue engages in facultative myrmecophily, where caterpillars secrete sugary fluids to attract ants, which offer protection in return—though the relationship is not essential for survival, it enhances fitness in certain environments.

DHOOSAR PRABHA (SLATE FLASH)

Family: Lycaenidae
Scientific Name: *Rapala manea*
Extent: Native-resident
IUCN Status: Not Evaluated
Special Features: The larvae of the slate flash engage in mutualistic interactions with ants, secreting sweet substances that attract ants, which in return protect the larvae from predators and parasitoids. The species exemplifies multi-species interaction, serving as a model for studying symbiotic relationships and behavioural ecology in tropical butterfly species.

KRISHNA KAMALINI (TAWNY COSTER)

Family: Nymphalidae
Scientific Name: *Acarea Terpsicore*
Extent: Native-resident
IUCN Status: Not Evaluated
Special Features: The tawny coster accumulates toxic compounds (such as cyanogenic glycosides) from its host plants, mainly in the Passifloraceae family, rendering it unpalatable to predators. The tawny coster is often used as a model species in mimicry and ecological research.

NIMBU MANDALA (LEMON PANSY)

Family: Nymphalidae
Scientific Name: *Junonia lemonias*
Extent: Native-resident
IUCN Status: Not Evaluated
Special Features: A medium-sized butterfly known for its eye-catching eye spots and lemon-brown wings, which help deter predators. Commonly found in open fields, gardens, and scrublands, it is highly territorial and active during sunny hours. As a pollinator of various wild and cultivated plants, it contributes to plant reproduction and floral diversity. Its adaptability to urban and rural landscapes makes it a resilient indicator of habitat quality and an engaging species for butterfly enthusiasts and citizen science efforts.

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DHOOSAR MANDALA (GREY PANSY)

Family: Nymphalidae
Sceintific Name: *Junonia atlites*
Extent: Native
IUCN Status: Least Concern
Special Features: The grey pansy is a graceful butterfly distinguished by its pale grey wings adorned with striking eye spots that act as a defense mechanism against predators. Found in gardens, grasslands, and forest edges, it is an active pollinator and plays a role in maintaining plant diversity. Its ability to thrive in both natural and semi-urban habitats makes it an important bioindicator of ecosystem stability.

NEEL CHANDRA (GREAT EGGFLY)

Family: Nymphalidae
Scientific Name: *Hypolimnas bolina*
Extent: Native-resident
IUCN Status: Not Evaluated
Special Features: The female great eggfly exhibits Batesian mimicry, imitating the wing patterns of toxic butterflies like the plain tiger ***(Danaus chrysippus)***, which predators avoid due to their unpalatability. This mimicry-based survival tactic makes the great eggfly an important subject in evolutionary biology, predator-prey dynamics, and mimicry theory.

KORI VISHALI (PLAIN TIGER)

Family: Nymphalidae
Scientific Name: *Danaus chrysippus*
Extent: Native-resident
IUCN Status: Not evaluated
Special Features: The plain tiger feeds on milkweed plants (Asclepiadaceae), which contain cardiac glycosides. These toxins are sequestered in the butterfly's body, making it distasteful and toxic to predators, particularly birds. This species plays a vital role in ecological and evolutionary research, particularly in understanding predator-prey relationships and mimicry evolution.

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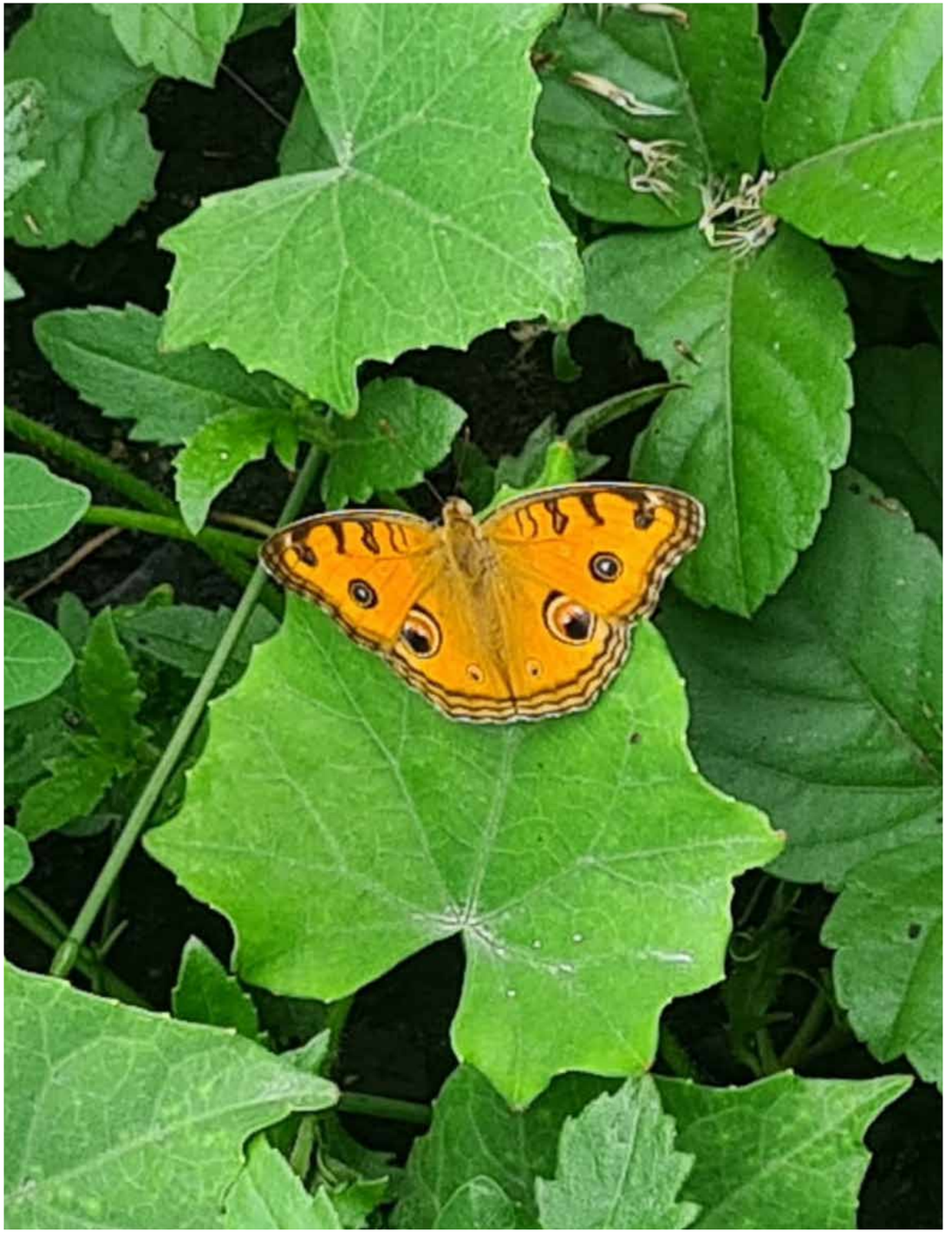
NARANGI MANDALA (PEACOCK PANSY)

Family: Nymphalidae
Sceintific Name: *Junonia almana*
Extent: Native
IUCN Status: Least Concern
Special Features: One of the most vibrant butterfly in the Pansy group, easily recognized by its bold eye spots and rich orange wings that resemble a peacock's plumage. These dramatic patterns serve as a defensive display to confuse predators. It exhibits seasonal dimorphism, changing its wing pattern between wet and dry seasons—a fascinating adaptation to varying environments.



TRINASUR (SMALL BRANDED SWIFT)

Family: Hesperiidae
Scientific Name: *Pelopidas mathias*
Extent: Native-resident
IUCN Status: Least Concern
Special Features: A fast-flying skipper butterfly recognized by its stout body, dull brown wings, and a distinctive white spot on the hindwing. Found in grasslands, agricultural fields, and urban green spaces, it is an important pollinator of ground-level and herbaceous plants. The caterpillars feed on grasses and millets, making this species ecologically significant in agro-ecosystems.

GEOMETRICAN

Family: Erebidae
Sceintific Name: *Grammodes geometrica*
Extent: Native
IUCN Status: Least Concern
Special Features: A nocturnal moth easily identified by its bold, geometric wing patterns in shades of brown and cream. Active during the night, it plays a subtle yet crucial role as a pollinator of night-blooming plants. The moth's striking camouflage also serves as a defense against predators, making it a fascinating example of form and function in nature.

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TEJAS (ROUNDED PIERROT)

Family: Lycaenidae
Sceintific Name: *Tarucus nara*
Extent: Native
IUCN Status: Least Concern
Special Features: A petite and elegant butterfly easily recognized by its black-and-white zebra-like stripes on the underside of its wings. Found in scrublands, dry grasslands, and open woodlands, it is an active pollinator of small wildflowers. Its larvae feed on *Ziziphus* species and engage in a mutualistic relationship with ants, which protect them in exchange for sugary secretions.

CHITRADHARA (COMMON JAY)

Family: Papilionidae
Sceintific Name: *Graphium doson*
Extent: Native
IUCN Status: Least Concern
Special Features: A stunning swallowtail butterfly known for its vibrant blue and black mosaic wing pattern and swift, erratic flight Its caterpillars feed on species of Annona and Polyalthia, contributing to the natural control of host plant growth. The common Jay's restless movement and striking coloration not only captivate observers but also serve as effective defence against predators.

COROMANDEL MARSH DART

Family: Coenagrionidae
Scientific Name: *Ceriagrion coromandelianum*
Extent: Native-resident
IUCN Status: Least Concern
Special Features: This damselfly exhibits an unusual ability to breed in a wide range of aquatic environments, such as rice fields, irrigation canals, garden ponds, and even dirty roadside drains. Due to its wide distribution and tolerance, it is often used as a baseline species in urban wetland biodiversity assessments.

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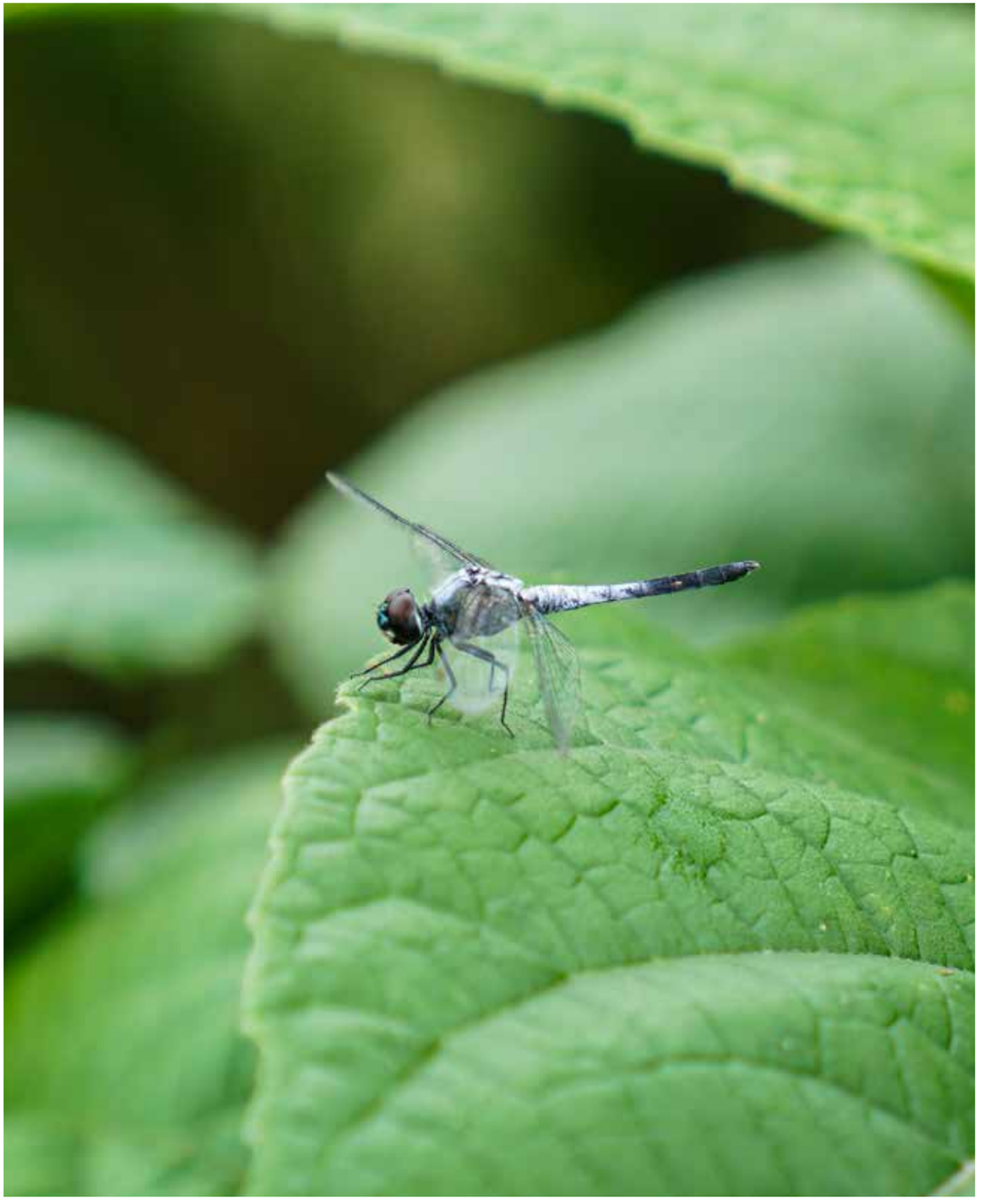
LITTLE BLUE MARSH HAWK

Family: Libellulidae
Scientific Name: *Brachydiplax sobrina*
Extent: Native-resident
IUCN Status: Least Concern
Special Features: It is one of the few dragonfly species that readily colonizes ephemeral water bodies, such as puddles and ditches, which often lack fish predators. The species plays a role in controlling mosquito populations due to its predatory nature at both larval and adult stages.



WANDERING MIDGET

Family: Coenagrionidae
Scientific Name: *Agriocnemis pygmaea*
Extent: Native-resident
IUCN Status: Least Concern
Special Features: one of the smallest damselflies in the world, often overlooked due to its tiny size and delicate build. Found near ponds, marshes, and rice fields, it plays an important role in controlling mosquito populations and other small insects, making it a natural biocontrol agent. Its presence is an indicator of good freshwater quality and a balanced aquatic ecosystem. Despite its size, it contributes significantly to wetland biodiversity and ecological stability.

CHALKY PERCHER

Family: Libellulidae
Scientific Name: *Diplacodes trivialis*
Extent: Native-resident
IUCN Status: Least Concern
Special Features: A swift and agile hunter, it helps control mosquito and gnat populations, making it an important contributor to natural pest regulation. Its adaptability to varied habitats makes it a strong indicator of ecological resilience.

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PIED PADDY SKIMMER

Family: Libellulidae
Scientific Name: *Neurothemis tullia*
Extent: Native-resident
IUCN Status: Least Concern
Special Features:This species is commonly found in rice fields, marshy lands, and irrigation canals, making it highly adapted to seasonal water regimes created by agricultural cycles.

RED VEINED DARTER

Family: Libellulidae
Scientific Name: *Sympetrum fonscolombii*
Extent: Native-resident
IUCN Status: Unknown
Special Features: Known for its nomadic behaviour, often appearing suddenly in newly formed ponds, flooded fields, or temporary wetlands—sometimes hundreds of kilometres from its original location. Its movement patterns make it a key species for studying range expansion and climate-related dispersal.

WANDERING GLIDER

Family: Libellulidae
Scientific Name: *Pantala flavescens*
Extent: Native-resident
IUCN Status: Least Concern
Special Features: Capable of transoceanic migrations, including crossing the Indian Ocean from India to East Africa—a journey of over 3,500 km. It is the only known insect to regularly make multi-generational migratory circuits across continents, comparable to birds and butterflies like the Monarch.

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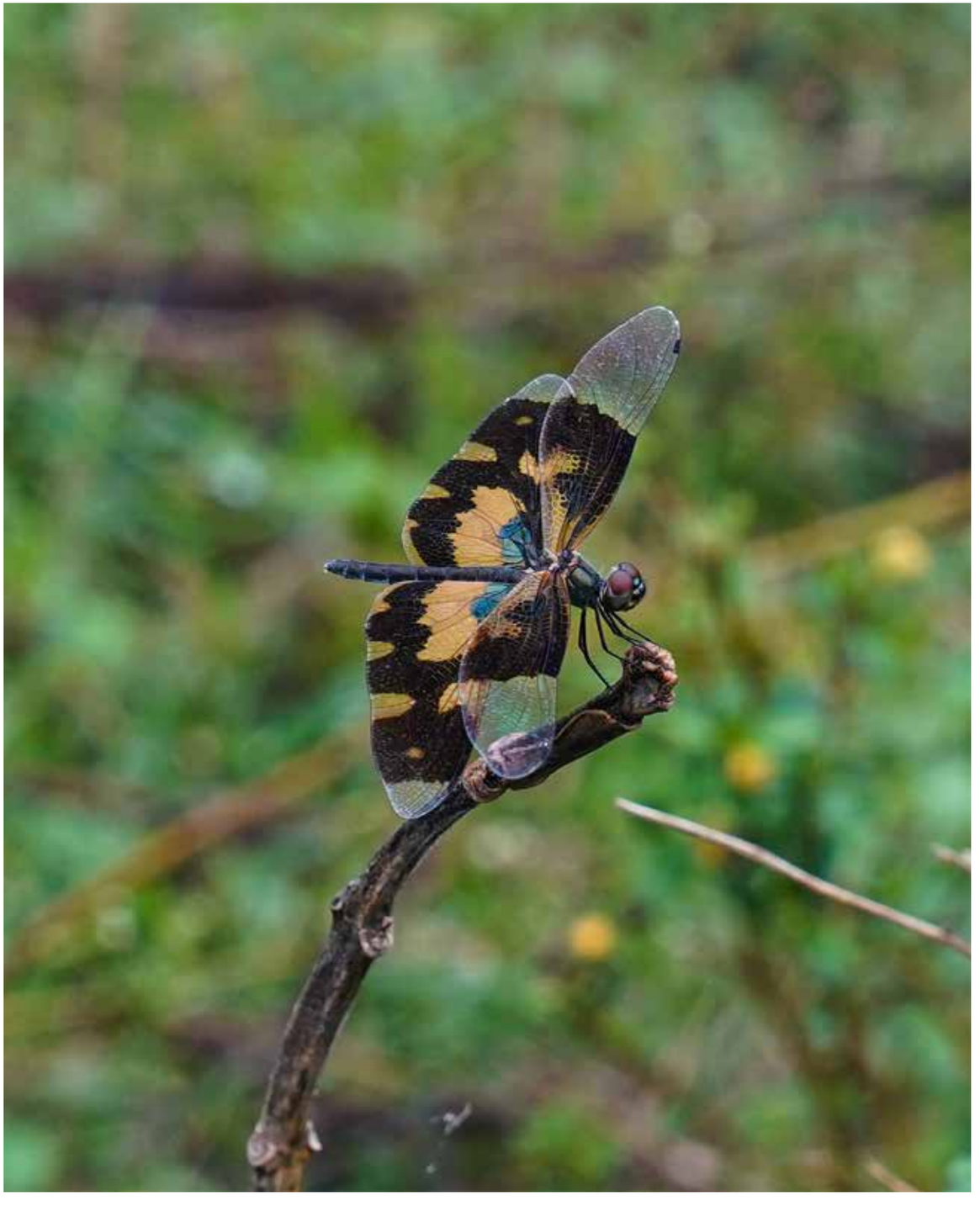
COMMON PICTURE WING

Family: Libellulidae
Scientific Name: *Rhyothemis variegata*
Extent: Native-resident
IUCN Status: Least Concern
Special Features: It exhibits a fluttery, erratic flight that is not just for movement but serves a territorial and mating display function. Its flight and visual signalling behaviour make it a valuable species for studying insect communication and sexual selection in odonates.



SCARLET DRAGONFLY

Family: Libellulidae
Scientific Name: *Crocothemis erythraea*
Extent: Non-native-resident
IUCN Status: Least Concern
Special Features: The scarlet dragonfly displays behavioural thermoregulation, often seen perching on hot rocks or vegetation under direct sunlight to maintain optimal body temperature. Its resilience to high temperatures makes it a bioindicator for climate variability and a model for studying the impacts of warming climates on freshwater invertebrates.

SCARLET SKIMMER

Family: Libellulidae
Scientific Name: *Crocothemis servilia*
Extent: Non-native-resident
IUCN Status: Least Concern
Special Features: The scarlet skimmer is highly tolerant of urbanization and water quality degradation, often found breeding in garden ponds, rice paddies, roadside ditches, and even artificial containers. Its presence in a wide variety of habitats makes it an indicator of habitat generalization and useful for studying insect adaptation in changing ecosystems.

COMMON SANDDRAGON

Family: Gomphidae
Scientific Name: *Progomphus obscurus*
Extent: Non-native-resident
IUCN Status: Least Concern
Special Features: The common sanddragon is highly selective in its habitat, preferring sandy or gravelly substrates in streams and rivers—habitats that are typically sensitive to pollution and sedimentation. Their presence signals low levels of organic pollution and sediment disruption, aiding in freshwater quality assessments.

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OTHER LIFE FORMS

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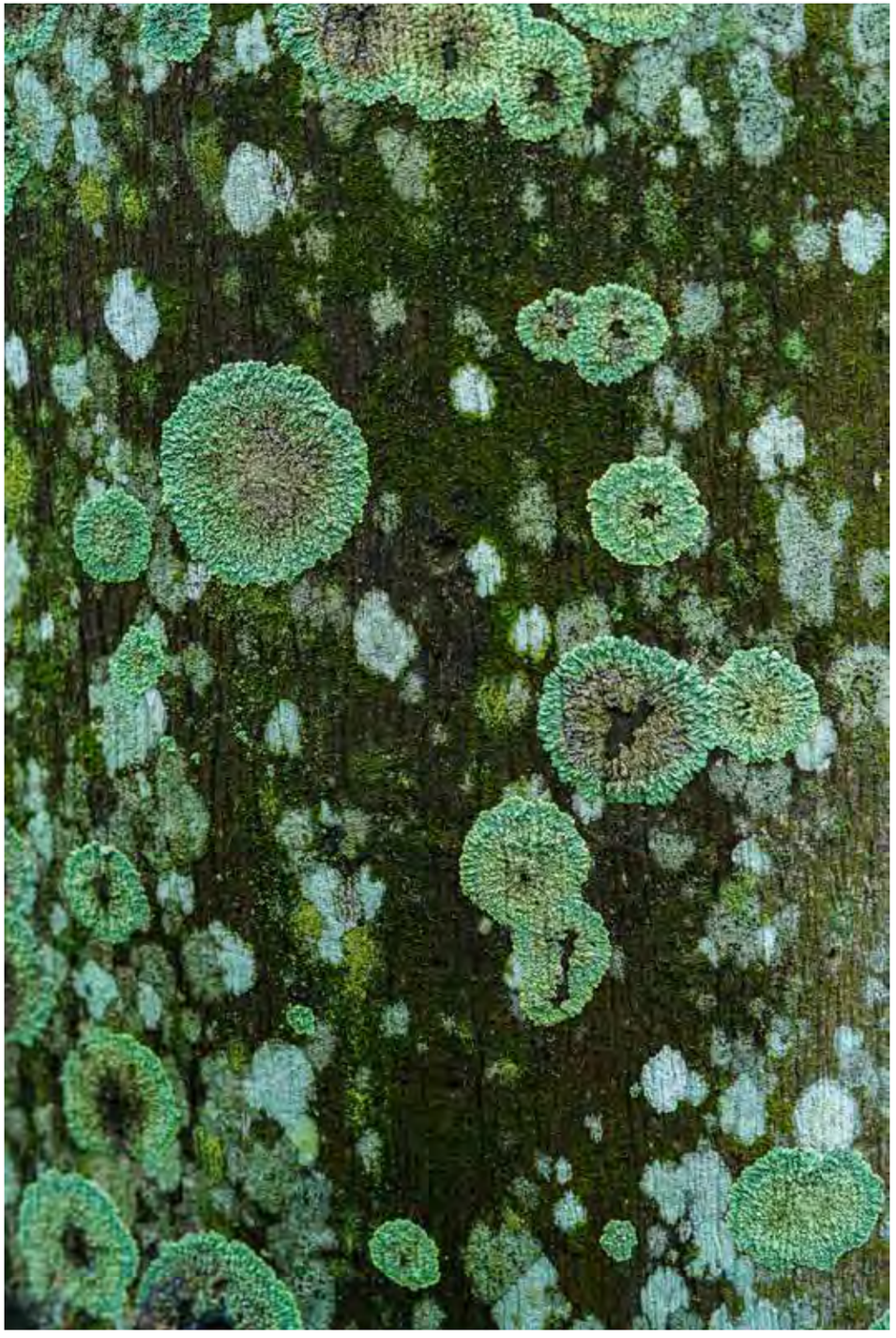
CRUSTOSE LICHEN

Crustose lichens form thin, tightly-adhering crusts on rocks, bark, and soil, often appearing as colourful patches. Their most striking feature is their extreme resilience—they can survive in some of the harshest environments on Earth. As pioneer species, they initiate ecological succession by breaking down substrates and enriching them, paving the way for other life forms. They are also valuable bioindicators of air quality, being highly sensitive to pollution.



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WOOD DECAY FUNGI

Family: Xylariaceae
Scientific name: *Xylaria subescharoidea*
IUCN Status: Least Concern
Special Features: *Xylaria subescharoidea* is a wood-decay fungus with distinctive club-shaped fruiting bodies. It plays a vital ecological role as a decomposer, recycling nutrients from dead wood and enriching soil health. Its presence at NTPC Kahalgaon reflects the often-overlooked fungal diversity that sustains ecosystem balance.

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COMMON LIVERWORT

BRYOPHYTES
Family: Marchantiaceae
Scientific Name: *Marchantia* sp.
Special Features: A primitive, non-vascular plant known for its unique thalloid body structure and ability to thrive in moist, shaded environments. It plays a crucial ecological role in soil formation and moisture retention, especially in early successional habitats. A natural pioneer, it can colonize bare rocks and disturbed soils, helping stabilize them.

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WATER FERN

PTERIODOPHYTE
Family: Salviniaceae
Scientific Name: *Azolla filiculoides*
Special Features: A tiny floating aquatic fern with an extraordinary ability to fix atmospheric nitrogen through its symbiotic relationship with the cyanobacterium ***(Anabaena azollae)***. This makes it a natural biofertilizer, especially valued in rice paddies. Its rapid growth also helps in controlling mosquito populations by covering water surfaces and preventing mosquito breeding. Additionally, it plays a role in carbon sequestration and water purification, making it ecologically significant in both natural wetlands and agricultural systems.

MARSH FERN

Family: Thelypteridaceae
Scientific Name: *Thelypteris palustris*
Special Features: It thrives in wetlands, marshes, and riparian zones, making it an important indicator of healthy freshwater ecosystems. Its deep green, arching fronds help in soil stabilization and erosion control along water margins. This fern contributes to habitat structure for various invertebrates and plays a subtle role in nutrient cycling within swampy habitats. Its presence often reflects good hydrological and ecological balance in wetland areas.

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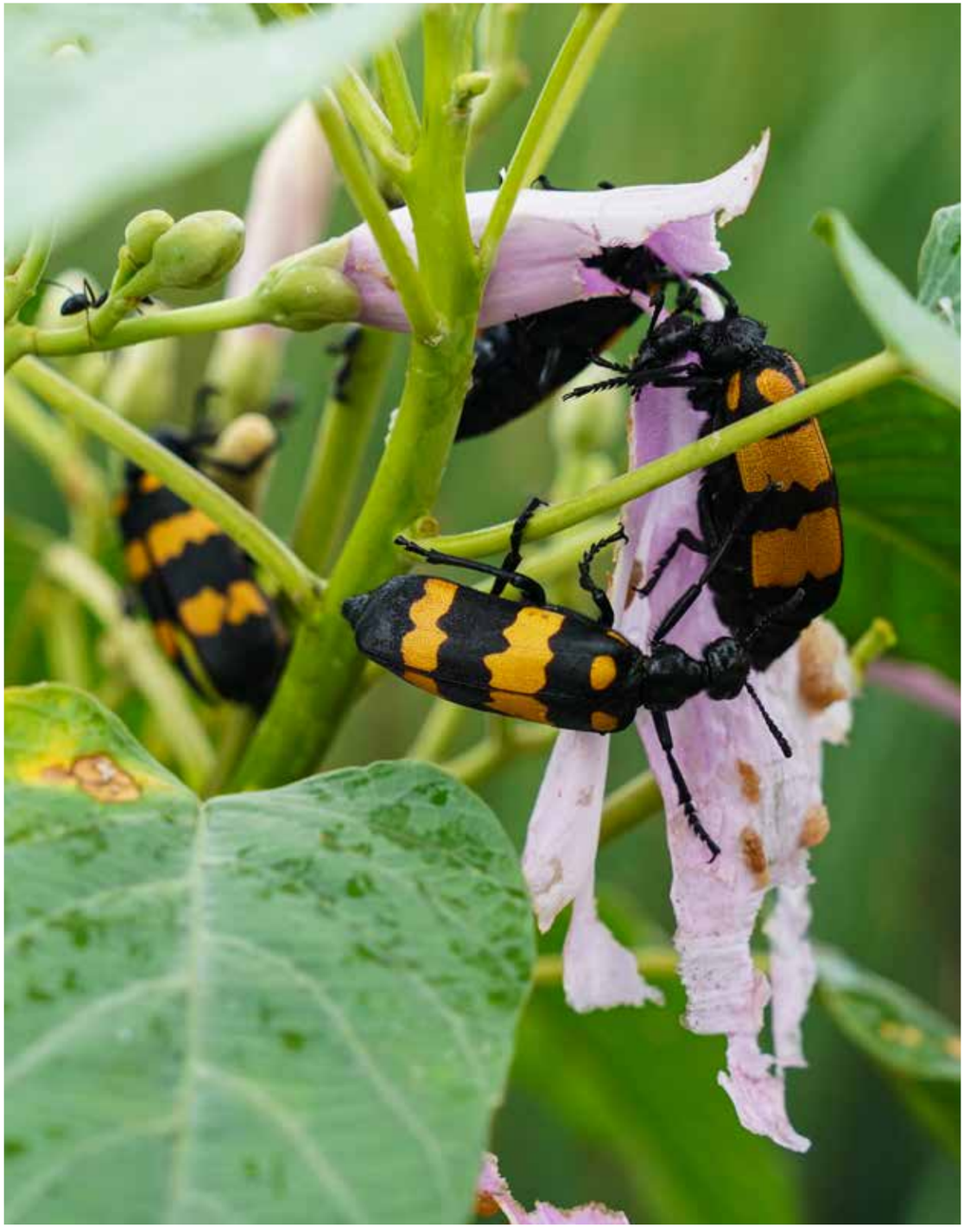
JHARANA CHEENTI (BLISTER BEETLE)

Family: Meloidae
Scientific Name: *Hycleus phaleratus*
Extent: Native
IUCN Status: Least Concern
Special Features: Known for its striking colouration and its defence mechanism—secretion of cantharidin, a toxic compound that causes blistering on contact, deterring predators. Ecologically, the larvae of this species are beneficial predators of crop pests like grasshopper eggs, making them valuable in natural pest control.



AAM TANA KEET (MANGO STEM BORER)

Family: Cerambycidae
Scientific Name: *Batocera rufomaculata*
Extent: Native
IUCN Status: Least Concern
Special Features: A large, eye-catching longhorn beetle known for its distinctive reddish spots and long antennae. While its larvae are considered pests—boring into the wood of fruit trees like mango, fig, and guava—this species also plays an ecological role in the decomposition and nutrient recycling of aging or weakened trees. Its presence often signals tree stress or declining tree health, making it an important species for monitoring orchard ecosystem dynamics.

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BHEDIYA MAKDEE (SPOTTED WOLF SPIDER)

Family: Lycosidae
Scientific Name: *Pardosa amentata*
Extent: Native
IUCN Status: Least Concern
Special Features: It is a fast-moving ground-dwelling wolf spider commonly found in grasslands, forest floors, and agricultural fields. Unlike web-building spiders, it is an active predator, using speed and agility to hunt down insects—making it a natural ally in biological pest control. With excellent vision and maternal care, females carry their egg sacs and later the young ones on their backs, a rare behaviour in spiders that highlights their complex parental instincts(depicted in the photograph). Their presence signals a balanced ground-level ecosystem with minimal pesticide use.

TITLI MAKDI (GRASS LYNX SPIDER)

Family: Oxyopidae
Scientific Name: *Oxyopes javanus*
Extent: Native
IUCN Status: Least Concern
Special Features: A nimble and sharp-eyed lynx spider known for its spiny legs and agile hunting skills. Its excellent vision and quick reflexes enable it to thrive in open, sunlit habitats like farm edges and grassy patches. Widely regarded as a biocontrol agent, its presence supports sustainable agriculture by reducing the need for chemical pesticides.

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KURLI KEKDA (FRESHWATER CRAB)

Family: Gecarcinucidae
Scientific Name: *Barytelphusa cunicularis*
Extent: Native
IUCN Status: Least Concern
Special Features: It plays a vital role in maintaining aquatic ecosystem health by feeding on decaying organic matter and helping in nutrient recycling. Known for digging small burrows along muddy banks, it also contributes to soil aeration and microhabitat creation for other organisms. Additionally, this species holds cultural and economic value in many rural communities, where it is harvested for food.

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STEWARDSHIP IN ACTION

At NTPC Kahalgaon, environmental conservation is not just a responsibility—it is a way of life. The township and plant area regularly witness plantation drives, bringing lush greenery to both the plant's vicinity and community spaces such as schools and university campuses. These efforts not only restore habitats but also create living classrooms for young minds.

Awareness is nurtured from an early age. NTPC Kahalgaon actively engages with students through competitions, workshops, and programmes on water conservation, tree plantation, and environmental stewardship. By instilling these values in the next generation, they plant the seeds of long-term change.

The belief that "change begins at home" is central to NTPC Kahalgaon's approach. Employees and their families are encouraged to participate in conservation activities, making sustainability a shared mission.

The following pages capture a glimpse of these ongoing efforts—a testament to NTPC Kahalgaon's commitment to harmonizing industry with nature, today and for the future.

PLANTATION DRIVE WITHIN NTPC KAHALGAON PREMISES

Employees participating in plantation activities and awareness drives to enhance green cover and biodiversity of their campus as part of World Environment Day.

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GREEN INITIATIVE IN EDUCATIONAL INSTITUTIONS

Tree planting and awareness campaigns at local school campuses focusing on the topics like stopping plastic pollution, lifestyle for environment promote environmental awareness among students and channelling the innovative young minds via drawing competition and tree planting towards protecting and conserving the environment.

PLANTATION ACTIVITIES IN EDUCATIONAL INSTITUTES

NTPC not only focuses on enhancing its green cover but also encourages surrounding institutes to plant native species to enhance the biodiversity of the area.
Large-scale plantation was carried out at Tilka Majhi Bhagalpur University (TMBU) Campus. Plantation of 5000 saplings in campus as part of World Environment Day theme Land Restoration, Desertification and Drought Resilience.

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COMMUNITY OUTREACH

NTPC Kahalgaon believes in growing in harmony with the communities around its operations. In addition to leading environmental conservation drives and implementing state-of-the-art technologies to minimize environmental impact, the plant integrates community well-being into its core values.
Under its Corporate Social Responsibility (CSR) initiatives, NTPC Kahalgaon focuses on improving health, generating sustainable livelihoods, and promoting gender equality. Over the years, the company has organized health camps, conducted health awareness workshops, distributed sewing machines to support women's income generation, and provided school kits to children, contributing to their education and overall development.

Workshop on "Health, hygiene & first aid awareness and cardiopulmonary resuscitation"

Distributing sewing machines as part of women empowerment

Distributing school and stationery kits to school kids

Organizing health camp and free surgery workshop for people suffering from cataract

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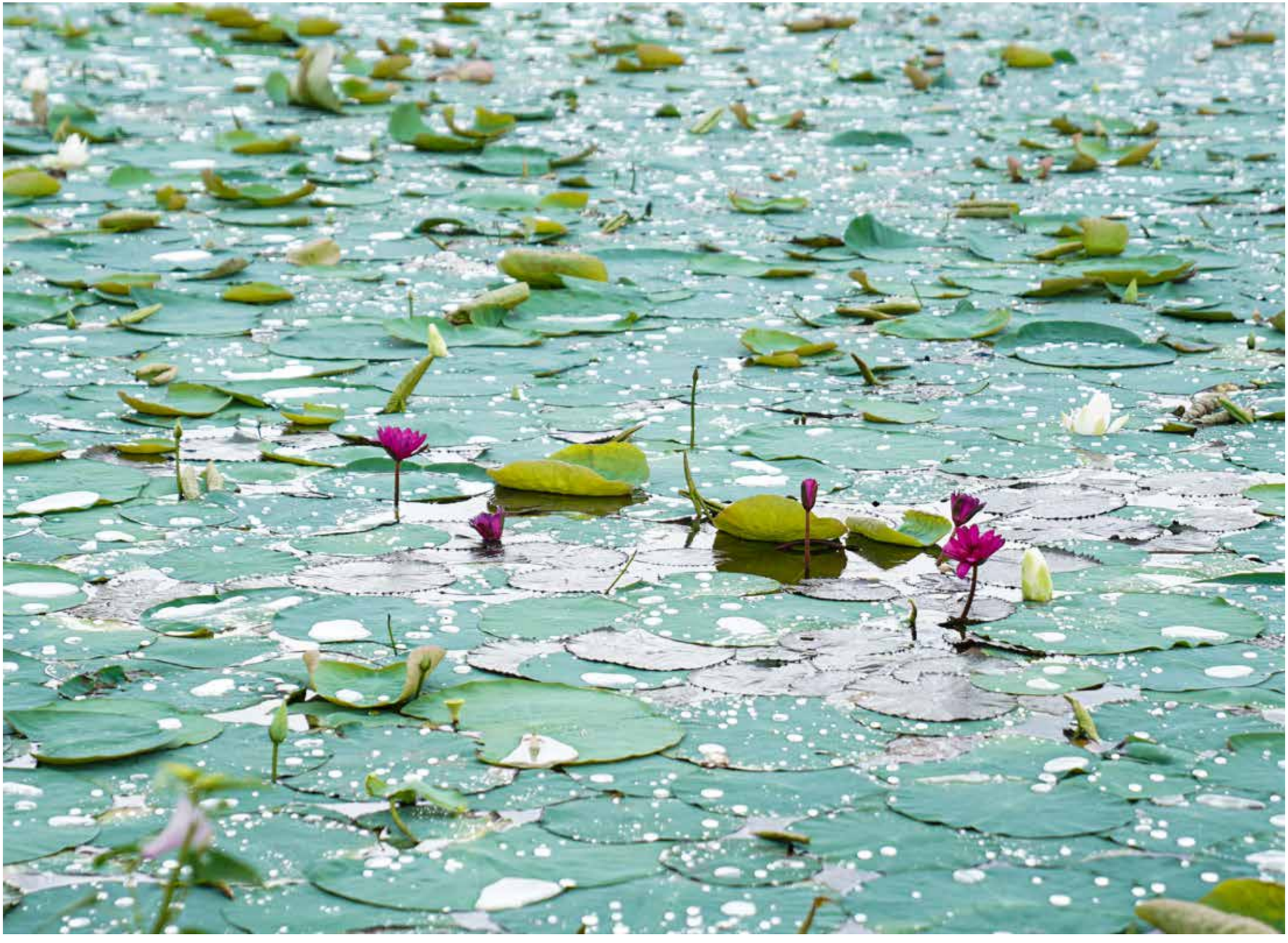

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