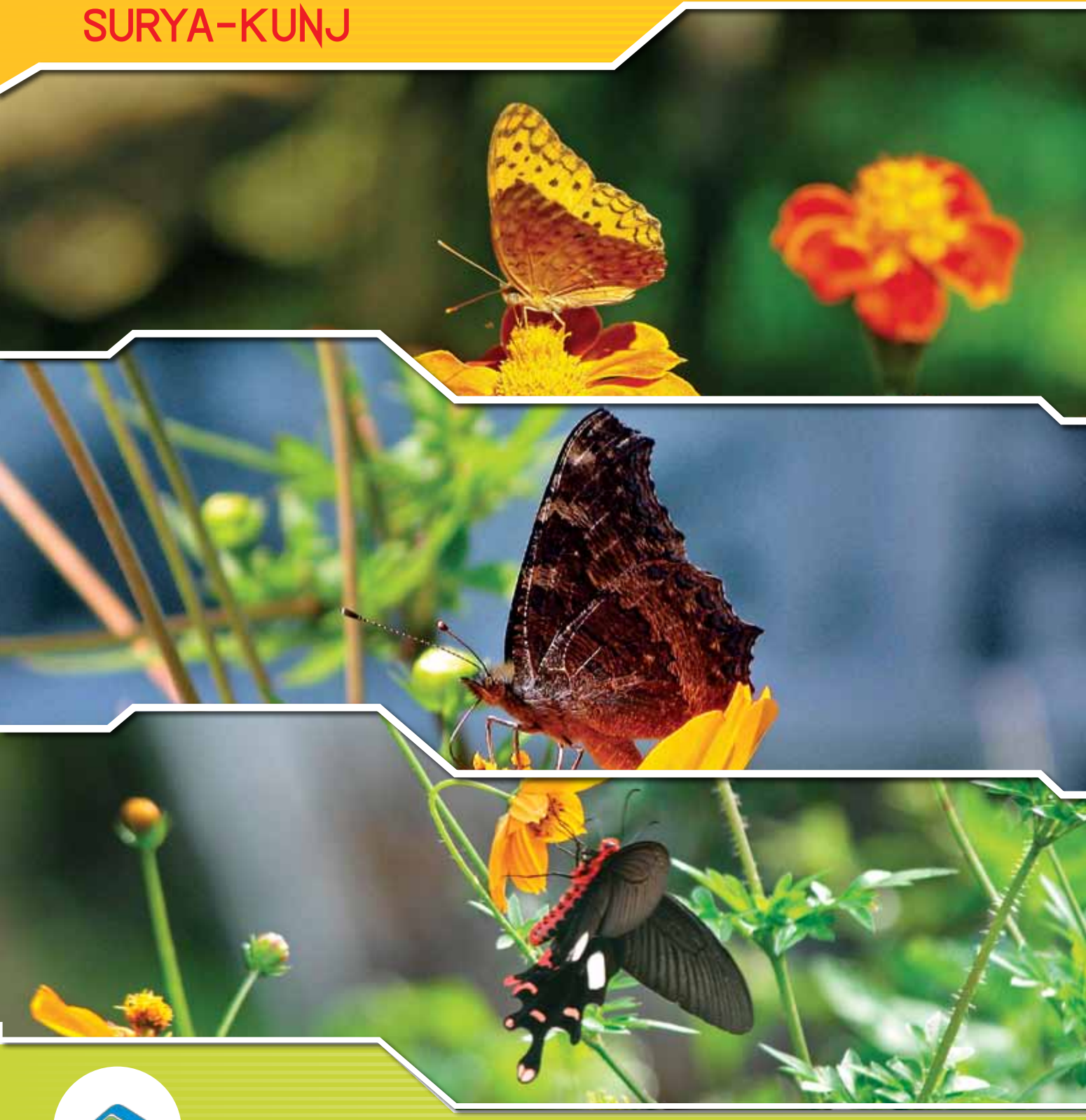
Diversity of Butterflies in SURYA-KUNJ



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DIVERSITY OF BUTTERFLIES IN SURYA-KUNJ

(Contribution to Nature Interpretation and Learning)

I

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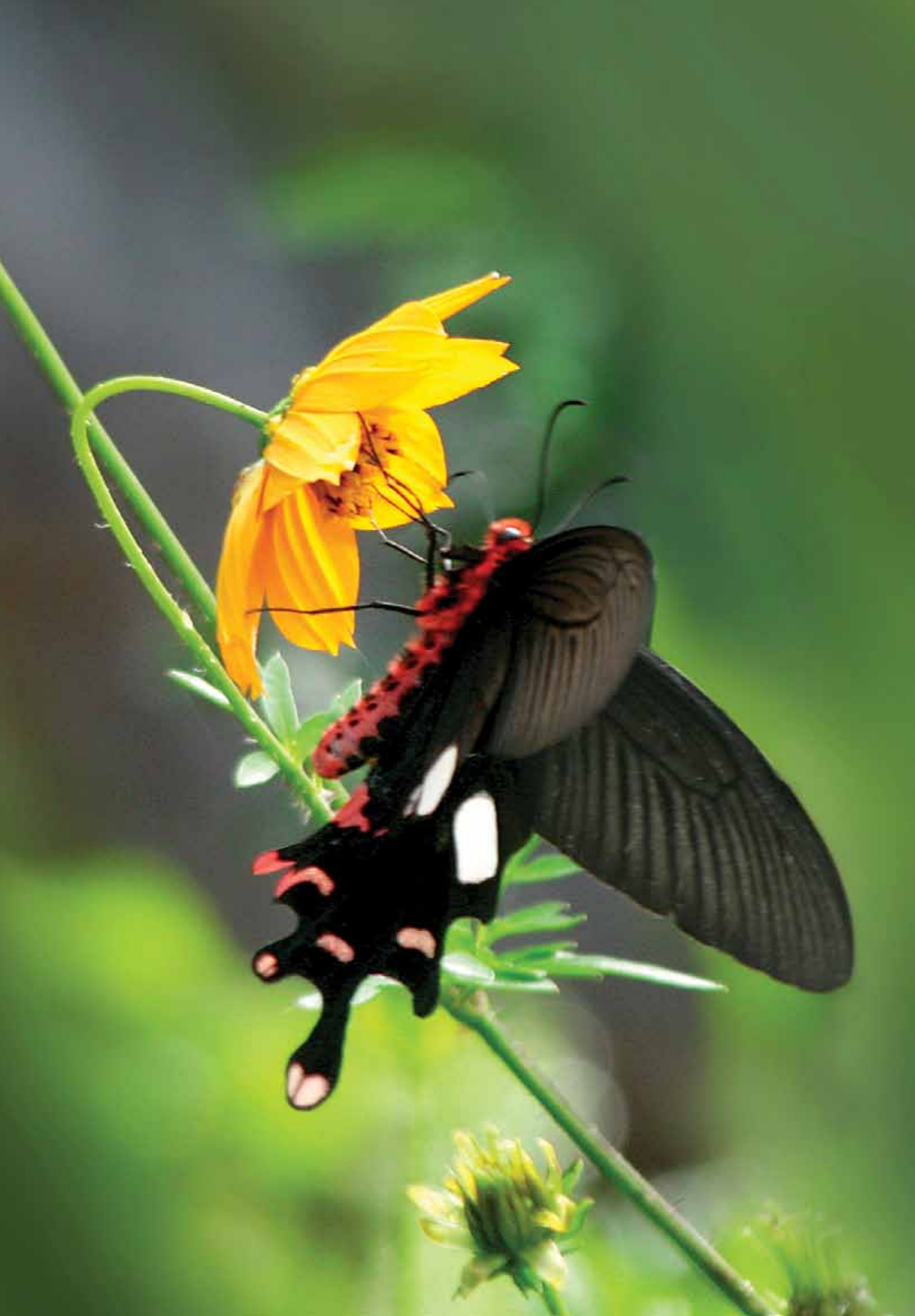
Acknowledgements

This information booklet is an outcome of years of collection and surveys, mainly in *Surya-Kunj* ex-situ conservation site of the Institute and the adjacent areas. Various R & D projects, like, Global Pollination Project (GPP); GBP - Earthwatch project and various other projects which were linked directly with activities of *Surya-Kunj* contributed significantly towards compilation of information and subsequent preparation of the booklet. We profoundly acknowledge this contribution.

Financial support for publication of booklet under National Mission on Himalayan Studies (NMHS) is gratefully acknowledged. The assistance and motivation provided by Peter Smetachek of Butterfly Research Centre, Bhimtal and Dr. L. M. S. Palni (former Director of the Institute) during the progression of information compilation is sincerely thanked.

The auspices of the Ministry of Environment, Forest and Climate Change (MoEF & CC) is gratefully acknowledged for being extremely supportive and inspiring all through this work. More importantly, we would like to place on record our appreciations for the lively atmosphere provided and enthusiasm expressed by school children during Nature Camps at *Surya-Kunj*, and critical comments by the Researchers of the Institute remained most effective motivation for this compilation.



DIRECTOR'S FOREWORD

Butterflies with their bright colours and diversity of forms have remained object of attraction and source of inspiration to mankind all through the history. They are conspicuous and fascinating creatures found distributed across the zoo-geographical regions and occupying wide range of habitats from deserts to high mountains covered with permanent snow. Butterflies are revered in culture and societies across the globe. They are perhaps the most sought after creatures by the children and their study in wilderness forms one of the favourite activities for the naturalists/ecologists.

This booklet, first in the series of information booklets, adds to the knowledge base on '*Surya-Kunj*' Nature Interpretation and Learning site of the Institute, at Kosi-Katarmal, Almora (Uttarakhand). The site, over the years, has turned into a perfect habitat niche for numerous faunal species, including butterflies.

The booklet has been designed as a simple identification guide with basic information on their identification characters, nativity, affinities, distribution range, and their refuge requirements, so that it could be easily understood by diverse stakeholders, in particular the school childrens and other visitors of '*Surya-Kunj*'.

The information pertains to more than hundred species of butterflies recorded during different times of the year from diverse forms of habitats within the '*Surya-Kunj*' and adjacent areas. The change in species numbers (60 species in 2008) of butterflies reflects the improvement in habitat condition that favours richness of butterflies. The diversity of species is likely to improve further with upcoming of new plant species in the site. The readers of this booklet and visitors in the '*Surya-Kunj*' may like to indicate any new species of butterfly they come across in the site for inclusion in the future booklets.

The team which compiled the information for this booklet, in particular Dr. Ravindra K. Joshi, deserves appreciation for a pioneering effort in bringing out a simple but well researched booklet which will enable the visitors of '*Surya-Kunj*' to appreciate nature that surrounds us but most often we remain totally unaware of this beautiful group of creatures. I wish to place on record my sincere thanks and appreciation to my predecessors Dr. L. M. S. Palni and Dr. U. Dhar for providing guidance and necessary support for activities in '*Surya-Kunj*'. Also, thanks are due to Mr. Peter Smetachek of Butterfly Research Centre, Bhimtal for his inputs during finalization of this booklet.

March, 2016

(**P. P. Dhyani)**

PREFACE

The Himalaya is home to a highly diverse community of life forms, ranging from the smallest flowering plants known to mystical creatures like the *Yeti*. With over a thousand butterfly species, it is one of the best places on earth to visit to see them. If one lives here, well, that is as close to heaven as one will ever get!

It is heartening to see the growing interest in these little creatures. Digital photography has greatly reduced the need to take specimens while studying butterflies. However, the final word is based on specimens, so until these creatures are much better known, the importance of voucher specimens cannot be underestimated.

Butterflies differ from other targets of conservation like mammals, birds, reptiles and amphibians in producing a vast number of young. Most female butterflies lay over 50 eggs each, and the average is usually considered to be 200 eggs each.

Thus, taking some specimens for scientific study has never posed a threat to populations. The real danger is habitat destruction. This is progressing at an alarming rate in the Himalaya. Given the fact that one cannot protect what one does not know about, it is of vital importance to document Himalayan biodiversity as well as possible, so that appropriate measures for protecting can be taken in time.

The GBPIHED is making a valiant effort in this direction and it is hoped that this will be the precursor of many such conservation areas, where biodiversity can be protected and studied by researchers and students.

March, 2016

Peter Smetachek
Butterfly Research Centre
Bhimtal
Uttarakhand, India

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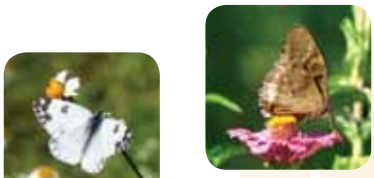


Diversity of
Butterflies






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The Butterflies

Butterflies and moths are members of the order Lepidoptera, meaning "scale wing". The wings of these insects are covered with microscopic scales, which are iridescent and brightly coloured. It is one of the most species rich orders in the class Insecta, encompassing moths and the three super families of butterflies, skipper butterflies, and moth butterflies. It is estimated that globally this order has more than 180,000 species in 128 families and 47 super families. The butterflies have a special place in the insect world. They are beautiful, elusive and fascinating. The synonyms used for butterflies include 'flying feathers' or 'flying jewels' which reflects their delicate but attractive habits. The influence of these creatures on many cultures and civilizations is very strong. In ancient Greek, same word 'psyche' was used for soul and butterfly. And, it is believed that human soul travels to the heaven just as a butterfly flies. Similarly, in India names of some butterflies indicate the strong influence of Hindu culture such as *Durga* and *Saraswati.* Butterflies are usually appreciated very differently to their close relatives, the insects, due to its magnificent colours and associated cheerfulness. Also, they do not bite or sting because they do not have the necessary mouth parts. These features are not true for the other relatives, like wasps, bees, grasshoppers and mosquitoes. Such characteristics make butterflies a model of innocence among all other relatives of the group.

The insects

The insects belong to the largest phylum of the animal kingdom, the Arthropoda. The Crustacea (lobsters, crabs and wood lice), the Arachnids (spiders, scorpions, mites and harvestmen) and the Centipede-like insects (millipedes and centipedes) are also included in this group. They form by far the largest and most richly diverse group in the animal kingdom. No less than 70% of the over 1 million species described till date are insects. The main features that all these generally small animals have in common are 6 legs, 1 pair of antennae and a segmented body with head, thorax and an abdomen. The insects are subdivided in to orders on the basis of their wing features. Some of these orders include Coleoptera (beetles), Hymenoptera (bees, wasps and ants), Orthoptera (grasshoppers and crickets) and the Lepidoptera (butterflies and moths).




Butterflies and Moths

Butterflies and moths are classified under order Lepidoptera, which forms the order with the second largest number of species after coleoptera. Till now, no less than 16, 000 species of Lepidoptera have been described. Lepidoptera have always been distinguished in to butterflies and moths. The distinction is made on the basis of the shape of the antennae. The Lepidoptera with threadlike antennae ending in a small knot are butterflies. The Lepidoptera with differently shaped antennae, for example threadlike pectinate or feathery, are all classified as moths. Most butterflies are brightly coloured and active during the daytime, while moths have dull colours and are active at night. This, however, is a rule with many exceptions. More details of differentiation between butterflies and moths are presented in the following pages.

Lepidoptera- The Importance

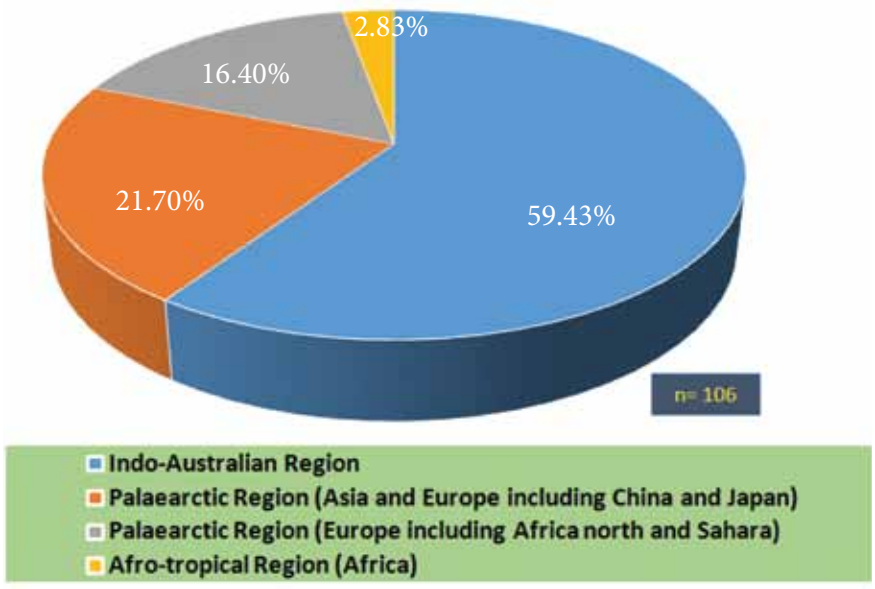
Besides providing a nutritious diet to many predators during different stages of its life cycle, butterflies and moths are important pollinators. Although are less efficient as compared to others such as bees. Similarly, their roles as agricultural pests and in silk production can not be overlooked. Moreover, their wing patterns provide the opportunity to address key issues in evolutionary-developmental biology, including the evolution of morphological innovations, constrains in evolutionary change, phenotypic plasticity, environmental influence, etc. They also have characteristics biological properties that distinguish them from all other insects (e.g. females as heterogametic sex, derived wing colour patterns, colour vision and holocentric chromosomes). Above all, butterflies could play a significant and genuine role if they are used as important tools in demonstrating remarkable diversity of nature and promoting public understanding of science through the common language of beauty.

Threats

Like most of other animal groups, populations of known many species of butterflies and moths are reported declining, partially due to loss of migratory and nectar corridors. Many species of butterflies and moths undergo some type of migration, and due to the loss of appropriate habitats and the distance of the migration routes has resulted in declining populations. Habitat loss, alteration, use of pesticides etc., are other key factors which significantly contribute in their decline. Some of the threatened species of butterflies of the Himalayan region include: Kaiser-I-Hind, Bhutan Glory, some of Apollos, Chumbi White, and Common Jezebel, etc. Considering importance of the group it is imperative to attempt to reverse this trend through various conservation efforts including community participation for habitat restoration and their increased appreciation for these beautiful creatures.

Difference between butterflies and moths

Identification parameters	Butterflies	Moths
		
Activity time	Generally diurnal, fly during the day time	Both nocturnal and diurnal (there are more species of day flying moths than all butterflies put together)
Sitting pattern	Sit with their wings closed, fully open, or partially open, over their back and generally the forewings do not cover the hind wings	While sitting their wings are spreading horizontally and the forewings partly coverings the hind wings
Antennae	The antennae are clubbed or hooked like a match stick and never covered with hair	Antennae with various shape and sizes, sometimes hairy and few of them are hooked and often tucked under the forewings
Waist	Butterflies have a distinct waist usually thinner	Moths may be bulky with less distinct waist
Larvae	Larvae are smooth, spiny or covered with bristles and always have five pair of prolegs	Larvae have tuft of hair or sometimes completely covered with hair and may have five or lesser pair of prolegs
Eggs	Eggs are usually upright, ribbed or dome shaped	Eggs are always smooth, flat or scale like



Surya-Kunj: Representation of Butterflies from different Bio-zoogeographical Region

Surya-Kunj Butterflies- Bio-Zoogeographical affinities

(Details of Bio-zoogeographical regions and possible distribution ranges are based on Lewis, 1987)

Indo- Australian Region

The Indo-Australian region encompasses two zoogeographical areas known as Oriental and Australian regions. It stretches from Pakistan and India to Australia and New Zealand. There are profound differences in the fauna of the two regions, but many butterfly species extend from the oriental to the Australian region and it is practical to consider them together. This is one of the richest parts of the world for butterflies and moths. Virtually the whole region lies within the tropics, excepting parts of Australia and New- Zealand. However, many parts are represented from tropical forest to plains, swamps and the mountains.

Indo-Australian region

Butterflies of Indo-Australian affinities: Glassy Blue Bottle, Indian Cabbage White, The Great Blackvein, The Common Jezebel, Common Emigrant, Spotless Grass Yellow, Three Spot Grass Yellow, Bright Sunbeam, The Pale Himalayan Oak Blue, The Cornelian, The White-Bordered Copper, Green Sapphire, Zebra Blue, Red Pierrot, Dark Cerulean, Punchiinello, Common Punch, Plum Judy, Common Wall, Common Evening Brown, Spotted Palm Fly, Banded-Tree Brown, Common Tree Brown, The Himalayan Five Ring, Treble Silverstripe, The Large Three Ring, Common Bush Brown, The Hybrid Argus, The Pallid Argus, The Brown Argus, Striated Satyr, Blue Admiral, Common Nawab, Popin Jay, Indian Purple Emperor, Common Castor, Common Leopard, The Indian Fritillary, The Yellow Pansy, Blue Pansy, Peacock Pansy, Grey Pansy, The Chocolate Pansy, Indian Red Admiral, Common Jester, Danaid Eggfly, Great Eggfly , Orange Staff Sergeant, Common Sergeant, Himalayan Sailer, Hill Sergeant, The Grand Duchess, Glassy Tiger, Yellow Coaster, Blue Tiger, Common Tiger, Striped Blue Crow, Common Crow, Common Beak, Club Beak, The Fulvous Pied Flat, Marbled Flat and Bush Hopper.

Palaearctic region (Asia and Europe)

The Palaearctic region is the largest of the Zoogeographic regions, extending across the northern hemisphere from Europe to China and Japan, and extending southwards to North Africa, including the Sahara. The climate of the region is mainly temperate but ranges from arctic to Subtropical. As temperature and climate are distinctly seasonal, butterflies and moths usually have a constant number of generations each year and their flight periods can be predicted with some accuracy. Butterflies and moths of the Palaearctic region are better known than those in any other parts of the world because the study of these insects first started in Europe. The fauna in parts of this region, for instance central Asia, is still poorly known.

Asia north of the Himalaya, including China and Japan

Butterflies of Palaearctic (Asia and Europe including China and Japan) affinities: Great Windmill, Common Blue Bottle, Lime Butterfly, The Spangle, Common Mormon, The Common Peacock, Paris Peacock, Hill Jezebel, Mottled Emigrant, The Himalayan Red Flash, The Sorrel Sapphire, The Pale Grass Blue, Gram Blue, Common Hedge Blue, Large Hedge Blue, Plains Cupid, Indian Cupid, The Western Courtier, Tabby, Lemon Pansy, Orange Oakleaf, Common Map and Plain Tiger.

Butterflies of Palaearctic (Europe including Africa north and Sahara) affinities: Yellow Swallowtail, Large Cabbage White, Bath White, Common Brimstone, Dark Clouded Yellow, Pale Clouded Yellow, The Common Copper, Orange-Bordered Argus, Pea Blue, The Grass Jewel, Chapmans Cupid, Hill Hedge Blue, Queen of Spain Fritillary, Painted Lady, Indian Tortoise Shell, Common Sailer and The Spotted Snow Flat.

Europe including Africa north and Sahara

Afro-tropical (Africa)

The Afro-tropical region includes the whole of Africa south of the Sahara. Madagascar is normally placed in a Zoogeographic region of its own because so many of its species occur nowhere else in the World. However, for the convenience it is included with the Afro-tropical region. The region hosts more than 2,500 described species of butterflies, and many more species of moths. The richest parts of the region are the lowland tropical rainforests, with those in West Africa having the most species. The other major habitat for Lepidoptera is grassland and savanna, which has a smaller but characteristics butterfly and moth fauna of its own.

Afrotropical (Africa)

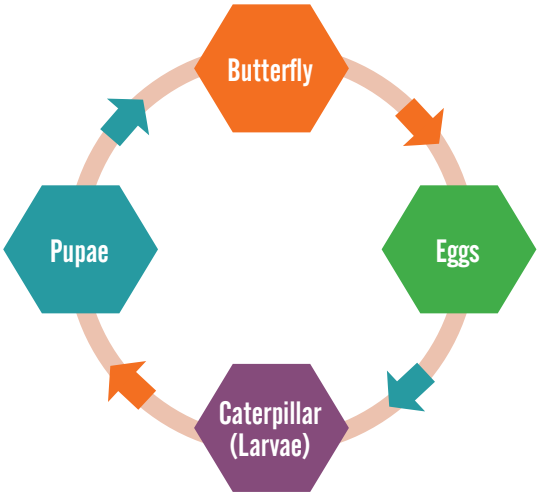
Butterflies of Afro-tropical (Africa) affinities: Pioneer, The Small Grass Yellow and Common Grass Yellow.

Life-cycle of a butterfly

The life cycle of a butterflies completes in four stages, usually the egg hatches within few day of oviposition and emerges into gregarious larva continuously feeding on young shoots of the plant. After feeding for few days and hiding itself from the predators, the fully grown larva sluggishly transforms itself into pupa, (the most vulnerable stage) intelligently camouflaging itself among the surrounding environment. After this, the pupa turns into a butterfly flying across the areas to find a suitable mate to reproduce.

Indian Cabbage White

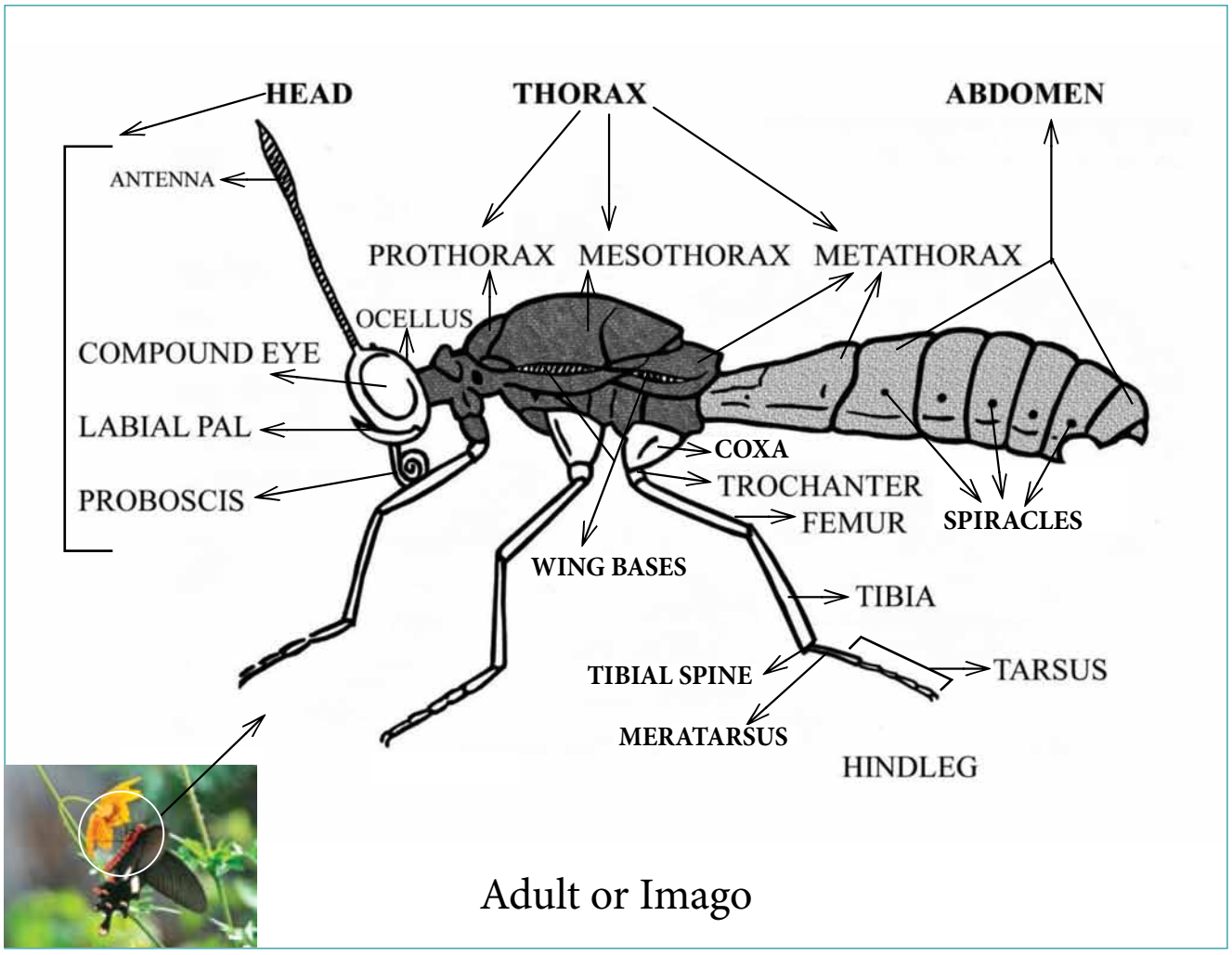
Yellow Coster

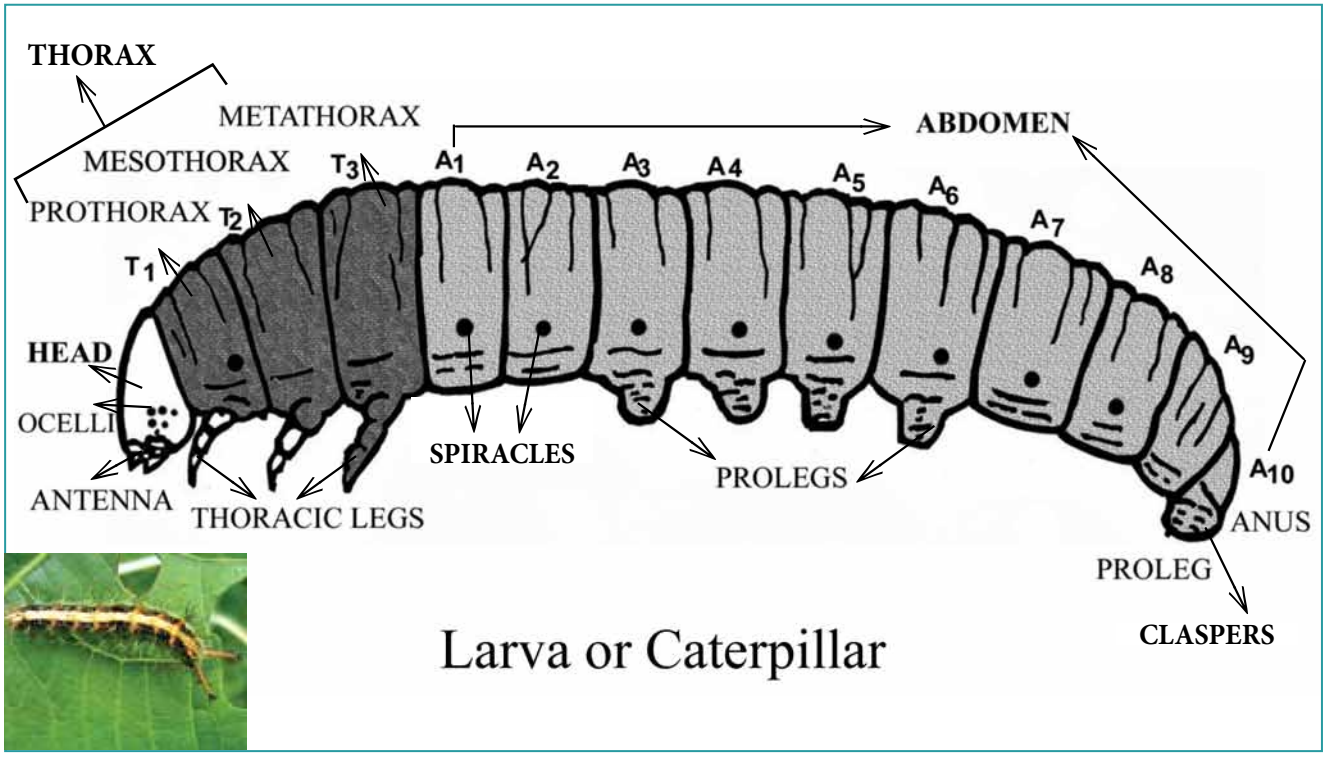


Large Cabbage White

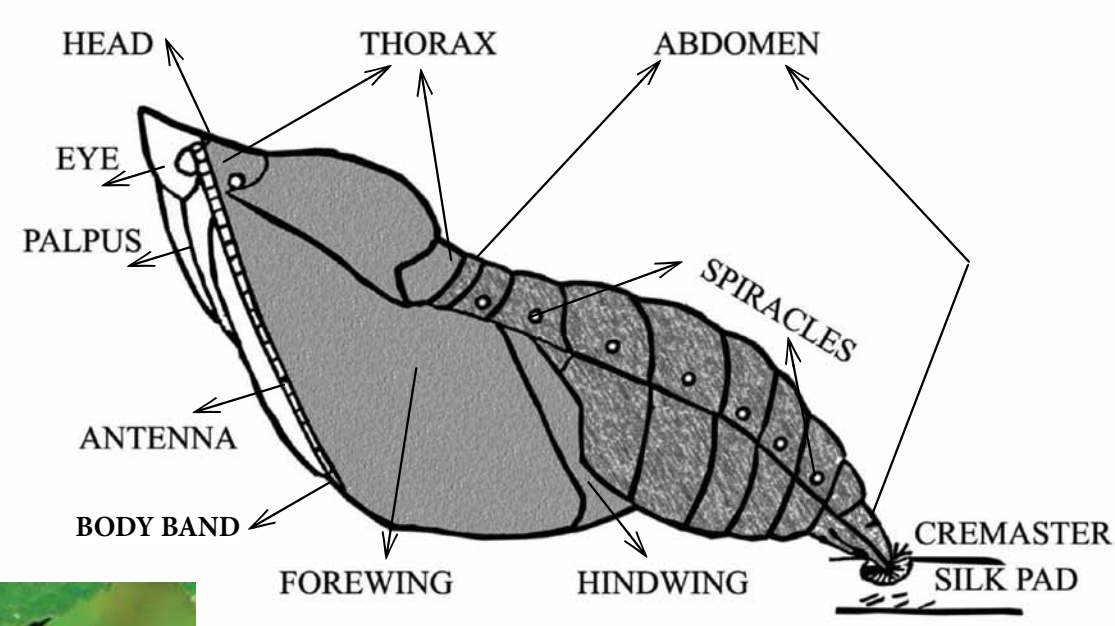
Emigrant

Pictorial representation of different stages of butterfly life

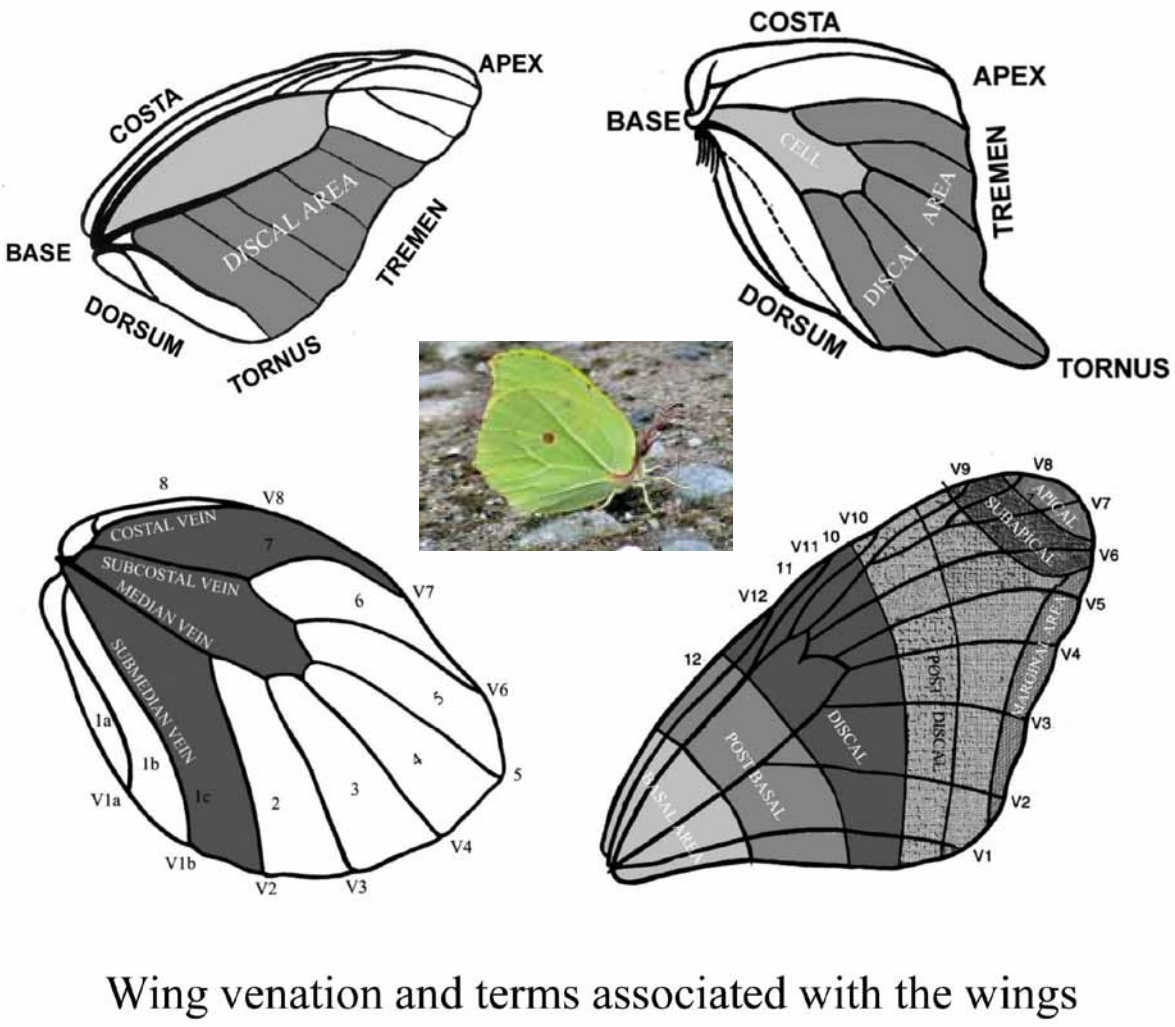




*Colours have been used only to depict different stages/parts/area/regions, etc.



Pupa or Chrysalis



Wing venation and terms associated with the wings

[Sketches modified after Haribal (1992) and Wynter-Blyth (1957)]

*Colours have been used only to depict different stages/parts/area/regions, etc.

'Surya-Kunj'- Conservation site

Realizing the need of ex-situ back-up for conservation of Himalayan biodiversity, GBPIHED initiated establishment of a functional arboretum *Surya-Kunj*' in 1992 at its Head Quarters, Kosi-Katarmal, 14 km away from district Headquarters, Almora (Uttarakhand). Spread over 71 acre area and ranging between 1100-1250 m asl, the area identified for '*Surya-Kunj*' was initially represented by highly degraded gentle slopes interspersed with pine trees and shrubs of *Berberis* and *Rubus* species. For last more than two decades, the selected site has taken a shape of a perfect conservation site through various rehabilitation mechanisms. The site is now being strengthened as Nature Interpretation and Learning Centre of the Institute, which on one hand attempts to ensure ex-situ conservation of the representative plant species (especially Rare, Endemic, and threatened ones) and on the other acts as a site for nature exposure and learning for different stakeholders. Besides this, with: (i) gradual enrichment of site, (ii) increased diversity of available food base, and (iii) enhanced protection from human intervention, the '*Surya-Kunj*' has turned into an excellent habitat for various faunal species. Among others, this site also attracts many butterfly species. Over the years the butterfly species richness in '*Surya-Kunj*' has increased considerably.

Atrophaneura dasarada (Moore)

Common name	**Great Windmill**
Distribution	Found across the Himalaya from Jammu & Kashmir to Arunachal Pradesh.
Altitudinal range	1200-2700 m
Status	Not Rare
Wing Span	100-140 mm
Identification keys	Has a series of white and red spots on upper hind wing with female having complete discal band of white spots on upper-hindwing from space 1-4. Tail red-tipped
Preferred habits /habitat	Fond of visiting flowers
Flight time	April-July
Larval Food Plants	*Aristolochia* sp.

Graphium cloanthus (Westwood)

Common name	**Glassy Blue Bottle**
Distribution	Kashmir to Burma (Myanmar)
Altitudinal range	Up to 1800 m
Status	Locally Common
Wing Span	85-95 mm
Identification keys	Long tailed black and blue butterfly with black border and pale blue central band that enters cell of upper-forewing and is wider than Common Blue bottle. Light blue colour semi-transparent, hence the name Glassy. Veins of forewing black and broad. Four pale green, semi-transparent spots on black border at termen of hindwing. Basal red spots with black centre on underside of hindwing
Preferred habits/ habitat	Visits flowers of (Horse chestnut and *Buddleia*) and wet sand, where male congregate.
Flight time	February - October
Life cycle	**Larvae:** Green, the 13th segment is transparent bluish green. Yellow subdorsal and white subapicular lines. Head is yellow- green with two tubercles, black in front and white posteriorly **Pupa:** Bright green with yellow carinae
Larval Food Plants	*Miliusa velutina, Miliusa* sp., *Michelia* sp., *Persea duthiei, P. odoratissima*

Graphium sarpedon (Linnaeus)

Common name	**Common Blue Bottle**
Distribution	Sri Lanka, South India, Kashmir-Burma (Myanmar)
Altitudinal range	Up to 2800 m
Wing Span	80-90 mm
Status	Common
Identification keys	Black butterfly with greenish-blue central band running on the inside of both wings. Band broken into forewing apex; narrow at both ends. Hindwings extended in form of short tail
Preferred habits /habitat	Restless and fast flier. Visits flowers, bird droppings, carcasses and wet ground
Flight time	March to October
Life cycle	**Larva:** Black or dark green, with spines and traverse yellow bands. Sluggish. Pupated near its feeding spot **Pupa:** Green in colour
Larval Food Plants	*Miliusa tomentosa, Polyalthia longifolia, Cinnamomum camphora, Litsea chinensis, Persea odoratissima, P. macrantha*

Papilio machaon (Linnaeus)

Common name	**Yellow Swallowtail**
Distribution	Baluchistan to Burma (Myanmar)
Altitudinal range	600 - 4,500 m
Status	Not rare
Wing Span	75- 90 mm
Identification keys	Large black butterfly with series of three creamy white spots in space 5-7. Under side of wings has series of red crescents forming row of margins
Preferred habits/ habitat	Evergreen forest, flight slow, but dashes away when disturbed. Visits flowers, congregates damp patches along with pierids. Bask in sunshine in the morning and after rain. Forewings folded back while resting, concealing white markings
Flight time	Throughout the year
Life cycle	**Larvae:** Green with velvety black rings and spotted with fulvous red. The tentacles are red in colour and emit a strong scented liquid, when alarmed by the predators and parasites like ichenumon files. **Pupa:** Green in colour with dorsal part yellowish-brown and has black tubercles with red tips. The pupa attaches itself to the twig or stem by a body band and anal pad
Larval Food Plants	*Dacus carota, Heracleum* sp., *Selenium* sp.

Princeps demoleus (Linnaeus)

Common name	**Lime Butterfly**
Distribution	Sri Lanka, India, Burma (Myanmar), Nepal
Altitudinal range	Up to 1800 m
Status	Not rare
Wing Span	80-100 mm
Identification keys	Tailless black spotted butterfly. In older individuals, yellow markings turn to almost deep orange. Upper-forewing has tornal red spot and apical black and blue spot
Preferred habits/ habitat	Open areas, gardens, and hedge-rows, often seen in mud-puddling along with other butterflies
Flight time	Throughout the year
Life cycle	**Egg:** Spherical and pale yellow in colour **Larvae:** When young is blackish with 'V' spot on the middle of the abdomen. Full grown larva is yellow-green with a greasy looking white band from segment 5 to the end. Resembles birds dropping in the earlier larval instars. It has flesh coloured osmeterium. Larva lies at the centre of the leaf **Pupa:** Green and brown with shades, if pupated against bark or in the cage. Formed generally on the underside of the leaf or on the twig or branches
Larval Food Plants	*Citrus medica, Citrus* sp., *Aegele marmelos., Glycosmis arborea, Limonia acidissima, Murraya koenigii*

Papilio protenor (Cramer)

Common name	**The Spangle**
Distribution	Kashmir to Sikkim Assam to Burma (Myanmar)
Altitudinal range	900-2800 m
Wing Span	100-140 mm
Status	Not rare
Identification keys	Male: Has black-centered red on upper-hindwing and broad red dorsal stripes on underside of hindwing Female: Has additional black centered spot in space 2
Preferred habits/ habitat	Large tailless black butterfly prefers nectar, feeding on flowers in forest openings and gardens. Flies rapidly over undergrowth and often observed mud-puddling
Flight time	April-July
Life cycle	**Larvae:** Green with a spectacle-band on the thorax, black edged band on 4th segment , two oblique bands on abdomen and anal segment is brown mixed with white. **Pupa:** Uniformly green or brown, resembles tree bark.
Larval Food Plants	*Murraya koenigii, Zanthoxylum alatum, Zanthoxylum* sp. *Citrus* spp.

Papilio polytes (Linnaeus)

Common name	**Common Mormon**
Distribution	Sri Lanka, India and Burma (Myanmar)
Altitudinal range	Up to 1,800 m
Wing Span	90- 100 mm
Status	Not rare
Identification keys	**Male:** Entirely black, with pale spots in middle of upper-hindwing, series of pale spots on margins of upper forewings and red marginal crescents on underside of the hindwing **Female:** Occurs in three forms ***cyrus,*** resembles male but has prominent red marginal crescents on underside of hindwing ***romulus,*** Mimics Crimson Rose *(P. hector)* but has bands on forewing that are not well formed and lacks black body ***stichius,*** Mimics Common Rose *(P. aristolochie)* but lacks red marking on body
Preferred habits/ habitat	Fond of visiting flowers and dung, can be seen mud puddling in damp patches, males usually perch together n a common roost in the evening and bask in morning sunshine
Flight time	Throughout the year
Life cycle	**Egg:** Spherical and pale orange in colour, opaque, shiny and smudged with pale brown **Larvae:** Rich glaucous green, slightly yellowish on the sides, head yellow, with crests on segments 4 and 5 yellow. Two tubercles on segments 2 and 13. white marking and bands on segments 7 to 10. it is a pest to *Murraya koenigii.* **Pupa:** Olive brown, with brown, green and yellow stripes and spots, abdomen milk-white.
Larval Food Plants	*Citrus* spp., *Murraya paniculata, M. koenigii, Zanthoxylum* sp., *Triphasia* sp., *Aegele marmelos, Glycosmis arborea*

Papilio polyctor (Boisduval)

Common name	**The Common Peacock**
Distribution	Chitral to Burma, West Nepal to Burma (Myanmar)
Altitudinal range	Up to 1800 m
Status	Common
Wing Span	79-130 mm
Identification keys	Tailed butterfly with dusted, pale metallic green scales and blue iridescent patch on hindwing that does not enter cell, and whose inner edge is straight but diffused. Up yo 4 red crescents present along margin on the upperside of hindwing
Preferred habits/ habitat	Fast flying butterfly that prefers open, sunny and rocky areas. Comes to flowers and water. Males often seen mud-puddling
Flight time	March to October
Life cycle	**Larvae:** Green in colour, thorax is thickened with oblique yellowish grey strips on the abdomen. A white longitudinal line above prolegs **Pupa:** Bluish green with brown markings
Larval Food Plants	*Zanthoxylum armatum, Z. acanthipodium* , *Clausena* and *Citrus* spp.

Papilio paris (Linnaeus)

Common name	**Paris Peacock**
Distribution	Found across the Himalaya from Uttarkhand to Arunachal Pradesh and central and Northeast India
Altitudinal range	Up to 2800 m
Status	Common
Wing Span	90-120mm
Identification keys	Quite similar to Common Peacock, but blue iridescent patch on hindwing large and enters cell, and its inner edge curved and sharply defined. Tornal spots on upper hind-wing
Preferred habits/ habitat	Confined to moist evergreen forests. Flies from. Usually seen along forest streams, on flowers, mud-puddling and hill topping
Flight time	March to November
Life cycle	**Eggs:** Green Becomes blothched with brown red- markings. Spherical, shiny and pitted. Laid singly **Larva:** Grass-green, speckled with yellow yellow and white and a band from 5 to 6 anal end **Pupa:** Abdomen light yellowish green, wing cases glaucous green and dorsal area light green. A broad yellow dorsal band from the cremaster to segments 4 and 5
Larval Food Plants	*Zanthoxylum ovalifolium, Z. oxyphyllum, Toddallia asiatica, Evodia* sp., *Citrus* spp.

Pieris brassicae (Linnaeus)

Common name	**Large Cabbage White**
Distribution	Baluchistan, throughout Himalaya
Altitudinal range	Up to 4,500 m
Wing Span	65- 75 mm
Status	Very Common
Identification keys	Upper-forewing black-tipped and plain white with no marking. Upper hindwing completely white Female: Under forewing has 2 black spots and under-hind wing pale yellow
Preferred habits/ habitat	Cultivated field, orchard, gardens
Flight time	Migrates from the hills to the plains in winter. Comes to flowers in open wooded and cultivated areas. Uphill migration takes place during summer (April in Northwest Himalayas) After summer migration, one generation is completed in foothills (on ornaments such as Nasturtium) and new generation undertakes ascent to higher hills
Life cycle	**Egg:** Yellow, placed singly or in group of about 15 to 20 **Larvae:** Pale green with slender yellow dorsal line and an interrupted yellow line above each foot. The head, tail and front are entirely green. The body is covered with minute black tubercles arranged in transverse rows. It feeds on the core of cabbages **Pupa:** Greenish-grey yellowish or brownish with often three sulphur lines and some parts of abdomen on the ventral side brownish and wing cases paler
Larval Food Plants	Cabbage and cauliflowers and other plants of the family *Tropaeolum majus*

Pieris canidia indica (Evans)

Common name	**Indian Cabbage White**
Distribution	South India (Nilgiris, plains and hills of Travancore and Cochin), In Himalaya (Chitral to Dawans)
Altitudinal range	Up to 4,500 m
Wing Span	45- 60mm
Status	Very Common
Identification keys	Black-and white butterfly with male having 1 black spot and female 2 black spot on forewing. Inner margin of black apex toothed on upper forewing. Underside marked with yellow on the base of costa
Preferred habits/ habitat	Flies slowly and close to the ground, Visits flowers and wet ground
Flight time	Migrates from the plains to hills during late spring (April –May) in the Himalayas and back to plains in the autumn (October-November)
Life cycle	**Egg:** Yellow, placed singly or in group of about 15 to 20. Eggs are laid on or near food plant in group. But a single egg was laid on a small Cruciferaceae plant with minute white flowers **Larvae:** Pale green with slender yellow dorsal line and an interrupted yellow line above each foot. The head, tail and front are entirely green. The body is covered with minute black tubercles arranged in transverse rows. It feeds on the core of cabbages. **Pupa:** Greenish-grey yellowish or brownish with often three sulphur lines and some parts of abdomen on the ventral side brownish and wing cases paler
Larval Food Plants	Cabbage and cauliflowers and other plants of the family *Rorippa dubia*, *Sisymbrium* sp, *Tropaeolum majus*

Anapheis aurota (Fabricius)

Common name	**Pioneer**
Distribution	Sri Lanka, India, Nepal
Altitudinal range	Up to 1,800 m
Status	Not Rare
Wing Span	40- 55 mm
Identification keys	Forewing has a broadly-streaked white apex and a bar at the cell end. Hind wing has a white spotted black border. Underside varies from white to yellow, and has black veins. Black edged spots of earthen color on the termen
Female:	The black markings are thicker and broader.
Preferred habits/ habitat	Open dry regions in the Himalayas. More common in the Shivaliks. See round the year but only seasonally in the Himalayas. Visit wet sand and flowers
Flight time	Throughout the year
Life cycle	**Egg**: White with longitudinal ribs, gradually turns orange. **Larva:** Cylindrical, greenish with broad greenish-brown suprapicular band mottled with white, green, brown and yellow blothces, body covered with short fine hairs **Pupa:** Green with all tubercles black or greyish with yellow tubercles
Larval Food Plants	*Capparis spinosa, Maerua oblongifolia*

Pontia daplidice (Linnaeus)

Common name	**Bath white**
Distribution	Europe and in North Africa, China, Siberia, Northwest Himalaya and Tibet
Altitudinal range	Up to 2800 m
Identification keys	Under –hind wing has green patches **Female:** Has a discal spot on the upper fore-wing and rows of obscure terminal and marginal spots on the upper hind wing
Preferred habits/ habitat	Irrigated agricultural land at lower elevations and grassy patches in temperate regions
Flight time	Migrates to foothills in winter and back to higher reaches in spring (May).
Larval Food Plants	*Lepidium virginicium, Sisymbrium altissimum*


“The butterfly count not months but moments, and has time enough”
-Rabindranath Tagore

Aporia agathon (Gray)

Common name	**The Great Blackvein**
Distribution	Himalayas westwards as far as Kashmir, Assam, Burma (Myanmar)
Status	Common: West of Nepal Not Common: East of Nepal
Wing Span	80-90 mm
Identification keys	White butterfly with all veins broadly blackened. Base of the wings has yellow spot. Foundin three races ***phryxe*:** Found in western Himalaya (Kashmir to Uttarakhand) has broadly blackened veins with black expanding and meeting at termen to form narrow black border. ***caphusa*:** Distributed from Mussorie to Kumaon has veins more broadly blackened than phryxe, has very broad terminal and discal bands and the upper-forewing cell is dusted with black ***agathon*:** Found from Garhwal to Arunachal Pradesh has entire basal half of upper-forewing dusted with black. Black markings broadest in *agathon*
Preferred habits/ habitat	Prefers mixed oak forests (western Himalayas) between 1200 to 3000 m. Mating occurs in oak forests during dry summer (May) in shade of undergrowth. Single brooded. Flies slowly and close to the ground,. Visits flowers (*Aesculus indica*, *Berberis* sp., Thistle) and wet ground
Flight time	March -July
Larval Food Plants	*Berberis nepalensis, B. lycium*

Delias belladona (Fabricius)

Common name	**Hill Jezebel**
Distribution	Celebes, Sunda Islands, Malaya, Thailand, southern China, Yunnan Burma across Assam hills and the Himalaya almost to the Kullu valley, Central Nepal- Sri Lanka
Altitudinal range	Up to 3000 m
Status	Not rare
Wing Span	80-100 mm
Identification keys	A large striking black butterfly with a series of pale spots on upper wings. UPH has dark yellow spot at base of costa, and yellow tornal patch and whitish dorsal area. Under hind wing black with yellow cell spot, terminal and basal yellow spots, and discal spots varying from white yellow. The race becomes darker as one goes east from western to eastern Himalayas
Preferred habits/ habitat	Found close to streams on wet land. Flowers, especially *Aesculus indica, Prunus sp. Buddlei, Lantana* and Horse-chestnut, attract males, but females are seen much less often In habits it tends to be gregarious and rather local. Though normally the flight is s low, it can be rapid and most irregular if the is disturbed
Flight time	Common from summer to post-monsoon (April-October) season in the hills. Migrate down to the foothills and the Shivaliks during winter
Life cycle	There are at least three broods in the western Himalayas and it can be caught from April –July, and soon after rains, the earliest brood being pale in markings
Larval Food Plants	*Dendrophthoe* sp., *Loranthus longifolius, Loranthus* sp.,

Delias eucharis (Drury)

Common name	**The Common Jezebel**
Distribution	Sri Lanka, South India, Kullu to Burma (Myanmar)
Altitudinal range	Up to 1800 m
Status	Common
Wing Span	66-83 mm
Identification keys	A large striking black butterfly with a series of pale spots on upper wings. UPH has dark yellow spot at base of costa, and yellow tornal patch and whitish dorsal area. Under hind wing black with yellow cell spot, terminal and basal yellow spots, and discal spots varying from white yellow. The race becomes darker as one goes east from western to eastern Himalaya
Preferred habits/ habitat	Found close to streams on wet land. Flowers, especially *Aesculus indica, Prunus* sp. *Buddlei, Lantana* and Horse-chestnut, attract males, but females are seen much less often In habits it tends to be gregarious and rather local. Though normally the flight is s low, it can be rapid and most irregular if the is disturbed
Flight time	Common from summer to post-monsoon (April-October) season in the hills. Migrate down to the foothills and the Shivaliks during winter
Life cycle	There are at least three broods in the western Himalayas and it can be caught from April –July, and soon after rains, the earliest brood being pale in markings **Egg:** Yellow flask-shaped, with longitudinal ridges. Eggs are laid in batches of 10 to 12 on the underside of a leaf, a batch of 69 has been observed on a single leaf **Larvae:** Greenish yellow-brown with white hairs. Newly hatched larva first feeds on the egg shell, then goes off to the margin of the leaf and starts feeding on it voraciously. They feed from side to side. When disturbed they drop the silken thread **Pupa:** Green with black spines and also some black blotches on abdomen and wing cases. Pupa is firmly attached with tail-pad and body band either horizontally or perpendicularly, hatching may be synchronized
Larval Food Plants	*Dendrophthoe* sp., *Loranthus longifolius, L. elasticus, Loranthus sp., Viscum* sp. *& Scurrula* sp.

Catopsilia pomana (Fabricius)

Common name	**Common Emigrant**
Distribution	India, Sri Lanka and Burma (Myanmar)
Altitudinal range	Up to 2,800 m
Wing Span	55-80 mm
Status	Common
Identification keys	Colouration and markings vary considerably in this species, from yellow to translucent greenish white. Antennae may be black or red. Underside of the wings may be unmarked or with red-ringed sliver spots in centre Female of form *catilla* has purple-brownish patches on the underside of wings
Preferred habits/ habitat	Found in all types of habitats, but prefers gardens, agricultural fields, scrub and openings of the forest. Congregates during migration on wet ground
Flight time	Throughout the year
Life cycle	**Egg:** Spindle-shaped, white and laid singly on the upper side of the leaf or on any part on the young shoot **Larvae:** Green, with dark green head and longitudinal darken strips. It generally lives on the top of the leaf when young they lie along the mid- rib of the leaves. The older ones may lie on the steam or on the underside of the leaf **Pupa:** Green in colour and attached by tail and body band. The pupa also has a defense mechanism and can produce a dull knocking sound by moving its abdominal segments from side to side
Larval Food Plants	*Bauhinia racemosa, Butea monosperma* *Cassia fistula, C. siamea, C. tora*

Catopsilia pyranthe (Linnaeus)

Common name	**Mottled Emigrant**
Distribution	Burma (Myanmar), Kullu: India
Altitudinal range	Up to 2800 m
Wing Span	50-70 mm
Status	Not rare
Identification keys	Chalky white or greenish with black apical and marginal border or upper-forewing. Undereside mottled with brown lines and red-ringed silver spots in centre of wings.Female: Black markings broader and cell spot larger on the upper-forewing
Preferred habits/ habitat	Common in urban gardens and open forest. Comes to flowers and wet ground
Flight time	Migrates to higher reaches in the Himalayas during late spring from adjoin plains
Larval Food Plants	*Cassia fistula, C. auriculata, C. tora, Butea monosperma, Bauhinia racemosa* *Sesbania bispinosa*

Gonepteryx rhamni nepalensis (Doubleday)

Common name	**Common Brimstone**
Distribution	Baluchistan to Burma, Chitral to Burma (Myanmar)
Altitudinal range	1000-45,00 m
Wing Span	60 -70mm
Status	Not rare
Identification keys	Male: yellow, while female translucent white. Both sexes have orange spot at the end-cell on both wings. Outer margin and apex of hindwing both toothed.
Preferred habits/ habitat	Comes down to foothills and valleys during extreme winter. Open areas, grassland biomes, and flowering tree and bushes.
Flight time	February –December.
Life cycle	**Egg**: White, laid singly on the UN of the leaves. **Larvae:** Green with black scales like plates on the back with whitish or pale green line on each side, the upper edge of which is shaded off into the general colour **Pupa:** Green, with several reddish dots, it is very broad in the middle and attenuated like the end of a boat
Larval Food Plants	*Rhamnus dahuricus* Ericacae: *Vaccinum* sp.

The term 'Butterfly' is derived from the butter-yellow colour of the male of this insect.

Eurema latea latea (Moore)

Common name	**Spotless Grass Yellow**
Distribution	India, Sri Lanka and Burma, Sikkim to Burma (Myanmar)
Altitudinal range	Up to 1,800 m
Wing Span	30-45mm
Status	
Identification keys	In Dry season form, apex pointed and outer margins straight. Upper forewing has black apex. Underside pale in colour and brown and pink scales and 2 straight lines running across hindwing. In wet season form, apex and termen wide and black, with inner edges rounded, while upper hind wing has a narrow border. Underside of the forewing has small black spot in cell
Preferred habits/ habitat	Forest openings and dry areas, also visit damp patches
Flight time	Round the year
Life cycle	
Larval Food Plants	*Cassia* sp.

Eurema brigitta (Cramer)

Common name	**The Small Grass Yellow**
Distribution	India, Sri Lanka and Burma (Myanmar)
Altitudinal range	Up to 1,800 m
Wing Span	30-40 mm
Status	Not rare
Identification keys	Yellow butterfly with outer margins of both wings black, black margins being broader in female. Two black spots at the cell on underside of forewing In wet season form, colours brighter
Preferred habits/ habitat	Open degraded forests, where it flies around bushes, visits damp patches in congregation
Flight time	March-April and again from September-November
Larval Food Plants	*Cassia kleinii*

Eurema blanda (Boisduval)

Common name	**Three Spot Grass Yellow**
Distribution	India, Sri Lanka and Burma (Myanmar)
Altitudinal range	Up to 1,800 m
Wing Span	40-50 mm
Status	Common
Identification keys	Three black spots in cell on underside of forewings distinctive. Rusty markings present underside of forewings in dry season forms, with apex and termen on upper forewing being broadly black
Preferred habits/ habitat	Found in forested areas, mostly moist deciduous, and often seen flying over tree and bushes, also visits wet patches
Flight time	March –May and September – November
Life cycle	**Egg:** White, when freshly laid. Usually laid in clusters of 20 to 30 on the upper side of the leaf **Larvae:** Very similar to that of *E. hecabe* . Body dark bluish green, with pale yellowish green spiracular line. Larvae are gregarious and are often attacked by hymenopterous parasites **Pupa:** Dark yellowish, with green, with top of snout yellow. Pupae are almost found invariably strung together, to the rib of a leaf
Larval Food Plants	*Caesalpinia spicata, Cassia* sp., *Delonix regia, Albizia* sp., *Pithecolobium dulce*

Eurema hecabe (Linnaeus)

Common name	**Common Grass Yellow**
Distribution	India, Sri Lanka and Burma (Myanmar)
Altitudinal range	Up to 1,800 m
Wing Span	40-50 mm
Status	Common
Identification keys	Male yellow, with apex and termen on upper –forewing and terminal border of upper-hindwing being broadly black Female: Black borders wider. Underside of forewing has two black spots in cell. Wet season form has brighter colour. Dry season form has narrower black markings on upperside and rusty markings on hindwing
Preferred habits/ habitat	One of the commonest butterflies found throughout India. Flies close to the ground. It is strong flier than any other of the group. Keeps on wing for quite some time and seen often ascending high in the air. Visits flowers of various low-growing plants. Males fond of damp patches
Life cycle	**Egg:** Spindle shaped, bluntly pointed top with longitudinal ridges. White when freshly laid, turns yellow later. Eggs are laid singly, generally on the upper side of the leaves **Larvae:** Dark green, glaucous on the sides, with a spiracular narrow white band. The larvae are gregarious and defoliated the whole leaf **Pupa:** Usually green, with dark violet dorsal line and dorsal margin of the wing also violet-grey. Wings near the abdominal end dark.
Larval Food Plants	Leguminosae: *Cassia obtustifolia, Cassia* sp., *Caesalpinia spicata, Sesbania bispinosa, Pithecolobium dulce, Acacia* sp. and *Albizia* sp.

Colias electo fieldii (Menetries)

Common name	**Dark Clouded Yellow**
Distribution	Baluchistan to Sikkim, Burma (Myanmar)
Altitudinal range	up to 4,500 m
Wing Span	54-65 mm
Status	Common
Identification keys	Upperside orange with black border Border spotless in males but ringed with orange-yellow spots in females. Large black spot on end-cell of upper-forewing. Orange patch and black border faintly visible on the underside of forewing, which also has a white-centered black disco-cellular spot
Preferred habits/ habitat	A very common butterfly through ut the Himalaya, descents as low as 200m during colder months. Found in forest clearings or in the open meadows prefers to feed on small flowers close to ground. Wings closed while resting. Visits various species of low growing flowers such as *Taraxacum officinale, Gentiana carinata, Gentiana* sp., *Primula* sp., *Caltha palustris*
Larval Food Plants	*Indigofera dosua, Medicago* sp., *Trifolium* sp.

Colias erate (Esper)

Common name	**Pale Clouded Yellow**
Distribution	Baluchistan. Himalayas from Chitral to Kumaon Hills of South India
Altitudinal range	1100 - 3,500 m
Wing Span	45-55 mm
Status	Common
Identification keys	Male pale lemon yellow, with black outer border on upper-forewing. No spots on black border in males; in females, uneven yellow spots. Distinctive black spot in disco-cellular region. Underside has two red-ringed silvery spots on cell in hindwing Form ***pallida*,** female pale green with white spots on black border of upper-forewing ***glicia***, both sexes have upper forewing spotted with ground colour
Preferred habits/ habitat	Flies fast and close to ground. Visits flowers along streams and agricultural fields (lentils, leucerne and young cereal crops)
Larval Food Plants	*Parochetus communis*

Curetis bulis (Westwood)

Common name	**Bright Sunbeam**
Distribution	Musoorie to South Burma (Myanmar)
Altitudinal range	Up to 1800 m
Wing Span	35-45mm
Status	Not rare
Identification keys	Upperside, Male bright orange with black apex and termen. Underside Silvery white. Underside forewing discal band not bordered by well-formed lunules and is straight. The band coalesces with post discal band at v6. The spot in 6 is shifted well beyond the spot in 7. Under side hindwing the discal band in 6 and 7 not in line with the bar end-cell. Female has white discal area on both the wings and no orange colour.Under-forewing band pointing to apex
Preferred habits/ habitat	Powerful flier. Territorial Male bask in the sun high on the top of the tree or a rock, while females basks low near the ground. Male visits damp and moist patches
Life cycle	**Eggs:** Hemispherical **Larva:** Protective pillilon on segment **Pupa:** Hemispherical
Larval Food Plants	*Derris indica, D. scandens, Arbus precatorius, Xylia xylocarpa, Trichilia connaroides*

Amblypodia dodonea (Moore)

Common name	**The Pale Himalayan Oakblue**
Distribution	Chitral to Kumaon
Wing Span	38-44 mm
Status	Common
Identification keys	Under-forewing discal line continuous not dislocated. Forewing termen wavy. Below, pale gloss on silky, creamy brown wings. Above pale blue. Broad black border of 4 mm. Forewing and hindwing borders broad, vein blackish.
Preferred habits/ habitat	Oak forest. Swarms in shady nallas in dry season.
Flight time	Flies in Himalaya from May-October
Larval Food Plants	*Quercus incana*

Deudoryx epijarbas (Moore)

Common name	**The Cornelian**
Distribution	Ceylon, India (except the desert tracts), Burma (Myanmar)
Altitudinal range	up to 2000 m
Status	Common to not rare
Wing Span	33-44 mm
Identification keys	Shape appears like triangle when wings are closed. Underneath dark brown with brown, white-edged discal bars. Hindwing lobe black and orange crowned. Has single tail **Male:** Upperside tawny red. Outer margins of forewings have wide black border. Black-centered orange spot on tornal lobe of upper hindwing. Female: duller and paler than male with more brown colour
Preferred habits/ habitat	The larva feeds insides various fruits, especially Pomegranate of which at times it is a serious pest. Visits flowers of *Lantana, Allium* sp.
Flight time	Flies from April-December
Larval Food Plants	*Connarus wightii, Punica granatum, Aesculus indica, Litchi chinensis, Sapindus marginatus, S. trifolioatus*

Rapala selira (Moore)

Common name	**Himalayan Red Flash**
Distribution	Chitral to Kumaon
Status	Common
Wing Span	32-34 mm
Identification keys	Above, brown with variable (usually large) orange area disc forewing (crossed by black veins in male) and broad orange marginal band hindwing
Preferred habits/ habitat	Being scare some years and abundant others. Very fond of flowers and of settling on the leaves of bushes in the sunshine and on damp sand in wooded nullahs
Flight time	Flies in April-June

Lycaena phleas (Linnaeus)

Common name	**The Common Copper**
Distribution	Baluchistan, Himalaya
Altitudinal range	300 m to 4300 m
Status	Common
Wing Span	26-34mm
Identification keys	Tailless butterfly of shining copper with black spots and greenish scales in discal area. Female brighter than male. Under hindwing grayish brown with small black spots, marginal copper band and no white band. Under fore-wing has many large black spots
Preferred habits/ habitat	Open rocky habitat, scrubs and roadsides, where it settles on flowers
Flight time	March-December
Larval Food Plants	*Rumax hastatus*

Lycaena pavana (Kollar)

Common name	**The White- Bordered Copper**
Distribution	Kashmir to Kumaon
Status	Common
Wing Span	37-40 mm
Identification keys	Under-forewing orange with many black spots. Under hindwing pale fawn grey with many white bordered black spots, white band between discal row of spots, and submarginal double row of spots. Upper-forewing of the male is reddish copper with brown border that has an irregular band of spots. Upper hindwing brown with copperish tinge in cell and basal area, and a purplish sheen along margin. In female, upper hind wing brown, with copper-orange only in discal area and cell
Preferred habits/ habitat	Keeps to grassy patches, kitchen gardens, and low level flowering plants
Flight time	March-October

Aricia agestis (Bergstrasser)

Common name	**Orange-Bordered Argus**
Distribution	Occurs in western Himalayas from J&K to Uttarkhand
Altitudinal range	700-3000 m
Status	Common
Wing Span	25-30 mm
Identification keys	Underneath, dark brown with white-ringed balck spots and white patch on under hindwing at base of discal region. Line of orange marginal spots on both wings. These spots not conspicuous in male. Female slightly larger
Preferred habits/ habitat	Open hillsides where it stays close to ground, nectar feeding on flowers
Flight time	March – October
Larval Food Plants	*Erodium bryoniifolium, E. cicutarium*

Heliophorus androcles (Doubleday & Hewitson)

Common name	**Green Sapphire**
Distribution	Kashmir to Kumaon
Altitudinal range	1300-3700 m
Status	Not rare
Wing Span	30-35 mm
Identification keys	Underneath, bright yellow with dark discal line. Tornal spot on under forewing prominent. Female on upperside dark brown with broad orange patches on both wings **Male:** brilliant metallic green-blue on upperside with orange red tornal border on the hind-wing
Preferred habits/ habitat	Prefers forest edges , openings, rocky substrate
Flight time	March-October

Heliophorus sena (Kollar)

Common name	**The Sorrel Sapphire**
Distribution	Chitral to Kumaon
Altitudinal range	600 – 2,500 m
Status	Very Common
Wing Span	28-33 mm
Identification keys	Underneath, greenish ochre with a prominent black-margined white band and broad marginal band of red crescents outlined by black, which is outlined with white line running from costa to dorsum on both wings. Male d ark shining violet with black border on upper hind wing along with black marginal crescents framed in red, Female browinsh
Preferred habits/ habitat	Forest edges, gardens, sunny, dry, rocky roadsides near its larval food plant grows
Flight time	Throughout year
Larval Food Plants	Polygonaceae: *Rumex hastatus* (Sorrel)

Syntarucus plinius (Fabricius)

Common name	**Zebra Blue**
Distribution	Sri Lanka, South India, Burma (Myanmar)
Altitudinal range	Up to 2000 m
Status	Not rare
Wing Span	22-30 mm
Identification keys	Underside of wings has zebra-like brown and white markings at right angles to costa. Male has pale violet translucent blue wings on upperside. Female has brownish upperside, with dark and, spotted white discal area
Preferred habits/ habitat	Close to ground in open, dry and rocky areas, forest and road edges. Visit flowers
Flight time	Flies throughout the year
Life cycle	**Egg:** Greenish white of typical Lycaenid shape **Larvae:** Wood- louse shaped green and with dorsal ridge of minute protuberances **Pupa:** Greenish and smooth
Larval Food Plants	*Plumbago zeylanica, Indigofera sp., Albizia lebbeck, Sesbania sericea, S. bispinosa, Mimosa sp., Dyerophytum indicum*

Talicada nyseus (Guerin-Meneville)

Common name	**Red Pierrot**
Distribution	Across peninsular India, Orissa, West Bengal and North east India
Altitudinal range	Up to 1500 m
Status	Locally Common
Wing Span	30-36 mm
Identification keys	White butterfly with broad orange-red area on lower hindwings and black markings and spots on forewing. Black spots on white area on both wings. Female has more extensive red-orange patch on hindwing than male
Preferred habits/ habitat	Recently colonized in northern parts of the Himalayas, foothills, and river valley of Uttarakhand. even in urban gardens, forest nurseries, openings, and degraded deciduous and evergreen forests. Keep low to ground on flowers
Flight time	Flies throughout the year
Life cycle	Pupa: white with black dots and fine hairs
Larval Food Plants	*Kalanchoe laciniata, K. pinnata*

Lampides bochus Stoll (Cramer)

Common name	**Dark Cerulean**
Distribution	India, Sri Lanka and Burma (Myanmar)
Altitudinal range	Up to 2,800 m
Status	Common
Wing Span	25-34 mm
Identification keys	Underneath brown with parallel white lines broken into bars. Black tornal spot semi-circled with orange on hindwing. Upperside of male dark iridescent blue, with wide black border on the forewing. Female dull blue
Preferred habits/ habitat	Flies around bushes along forest edges and shade; visits flowers
Life cycle	**Larvae:** Similar to that of *E. pandava*, but covered with minute hair and is olive-green in colour **Pupa:** Indistinguishable *from E. pandava*
Larval Food Plants	*Xylia xylocarpa* and flowers of *Butea monosperma, Crotolaria* sp., *Pongamia pinnata*

Lampides boeticus (Linnaeus)

Common name	**Pea Blue**
Distribution	India, Sri Lanka and Burma (Myanmar)
Altitudinal range	Up to 1,800 m
Status	Not rare
Wing Span	24-36 mm
Identification keys	Has distinct pale band on outer margins of wings on underside, Numerous dark brown wavy bands on underside. Hindwing tailed, with 2 tornal spots, orange-ringed with metallic silvery crown. Upperside of male violet blue, with 2 tornal spots on hindwing **Female:** Brownish, with pale silvery scales
Preferred habits/ habitat	Prefers to settle on flowers on bushes in forest openings and edges
Flight time	Flies from February –December. Migrates to higher reaches in western Himalayas during spring and back to adjoining plains during winter
Life cycle	**Larvae:** Pale green, slightly hairy on the sides, head ochreous pale brown **Pupa:** Pale yellowish- green, posterior end round, a dark dorsal line and a double subdorsal series of small black spots
Larval Food Plants	*Crotolaria striata* and various species of legumes

Pseudozizeeria maha (Kollar)

Common name	**The Pale Grass Blue**
Distribution	India (Central to North India, Sikkim) Nepal, Burma (Myanmar), Kurram and Pakistan (Baluchistan)
Altitudinal range	Up to 1,800 m
Status	Common
Wing Span	26-30 mm, **forewing length:** 10-12mm
Identification keys	Underneath pale to grayish brown with rounded black spots arranged in an arc. Male pale blue above with wide brown border on upper forewing, and narrow border on upper hind wing. Female dark brown with blue at wing base near dorsum
Preferred habits/ habitat	More common in hills. Prefers open grassy patches where it flies close to ground nectar-feeding on small flowers
Flight time	February-November
Life cycle	**Egg:** Laid singly on the UN of the leaves. **Larvae:** Green in colour. Sometimes larger caterpillars are attended by ant. Larvae eats flower buds or young leaves, with which they blend very well, and are difficult to locate. **Pupa**: Formed anywhere
Larval Food Plants	*Nelsonia* sp. and *Strobilanthes* sp., *Oxalis corniculata, Tephrosia pauciflora*

Freyeria trochilus (Freyer)

Common name	**The Grass Jewel**
Distribution	Ceylon, India, Burma (Myanmar)
Altitudinal range	Up to 1200 m
Status	Common
Wing Span	15-22 mm
Identification keys	Underside grayish brown, with 2 black spots along costa. Black spots along margins crowned with green and orange. Upperside dark brown, with 3 to 4 orange-crowned spots along termen. Female larger than male
Preferred habits/ habitat	Open dry, grassy habitats. Flies close to the ground. Settles on wet sand
Flight time	Throughout year
Larval Food Plants	*Goniogyna hirta, Indigofera* sp., *Pisum sativum, Rhynchosia minima, Vicinia* sp., *Heliotropium strigosum, H. bacciferum, Oxalis corniculata, Berberis nepalensis*

Euchrysops cnejus (Fabricius)

Common name	**Gram Blue**
Distribution	India, Sri Lanka and Burma (Myanmar)
Altitudinal range	Up to 1,800 m
Status	Not rare
Wing Span	25-33 mm
Identification keys	Tailed, underside light grey, with a line of light brown spots that are white-edged and a bar at end-cell on each wing; 2 black spots on costa and 2 orange-crowned, black tornal spots on with metallic silver centres present on hindwing. Male violet blue above with dark thin line as border. Female is brown
Preferred habits/ habitat	Commonly encountered on flowers around forest edges, open scrub and cultivation
Flight time	April-November
Life cycle	**Larvae:** Light rose in colour, covered with tiny star- topped stems, a subdorsal line and the marginal covered with light coloured longish hair, head yellow **Pupa:** Light rose coloured, covered with stiff erect hairs, a black patch on the second segment and on the centre of the thorax
Larval Food Plants	*Phaseolus trilobus, Dolichos catjang, Butea monosperma, Ougeinia dalbergioides, Paracalyx scariosa, Pisum sativum, Vigna cylindrica, V. trilobata, Accacia* sp.

Acetolepis puspa (Horsfield)

Common name	**Common Hedge Blue**
Distribution	Sri Lanka, India, Burma, India-North Burma (Myanmar)
Altitudinal range	Up to 3800 m
Status	Not rare
Wing Span	28-35 mm
Identification keys	Tailless. Underside white with black markings. The spot in space 2 oblique, directed towards bar at end-cell on under forewing. Spot in space 3 vertical. Glassy pale blue on upperside. Female has white patch at the centre of upper-forewing, lacking in male. Male shining blue with variable black margins which are broader in female
Preferred habits/ habitat	Tropical moist forests where it can be seen settling on roads, edges wet ground and vegetation along river valley
Flight time	February-December
Life cycle	**Larvae:** Woodlouse shaped, green in colour covered with minute short hair, the sides are suffused with pink. Larvae attended by ants **Pupa:** Colour varies with environment from brownish white mottled with dark brown and dark brown band from thorax to the center of the abdomen
Larval Food Plants	*Paracalyx scariose, Xylia xylocapra, Hiptage benghalensia, Schliechera oleosa. Cratoxylum ligustinum*

Celastrina hugelii (Moore)

Common name	**Large Hedge Blue**
Distribution	Kashmir- Assam
Altitudinal range	900-2800 m
Status	Not rare
Wing Span	34-50 mm
Identification keys	Faint marginal markings on underside. Outer discal band on under-forewing does not enter1b. Black spots are distinct on under hindwing. Male dark blue above while female paler withblack border and pale blue discal area
Preferred habits/ habitat	Seen on bushes, along streams and wet ground
Flight time	March-November
Larval Food Plants	*Princepia utilis*

Edales pandava (Horsfield)

Common name	**Plains Cupid**
Distribution	India, Burma (Myanmar), Andamans and Nicobars
Altitudinal range	Up to 1,800 m
Status	Not rare
Wing Span	25-35 mm
Identification keys	Discal and marginal rows of linked spots. Discal spots on forewing broken and shifted and no spot in cell on underside of forewing. Has 4 spots on hindwing base. Tornal spots in 2 crowned with orange Dry season form in western India & Himalayas has white discal bands joined to spot at end-cell to form very dark broad dark band on under hindwing. Male bright lavender blue above with a dark border and darkened veins, tornal spots in space 2 on upper-hindwing, and an entire row of marginal spots
Preferred habits/ habitat	Tropical moist deciduous forests, where it visits damp patches and flowers
Flight time	April-November
Life cycle	**Larvae:** Wood louse shaped, dark greenish with broad discal band and sides have number of faint oblique pinkish lines. Head is dark green. Larvae is attended by ants **Pupa:** Dark green with darker dorsal band
Larval Food Plants	*Xylia xylocarpa, Caesalpinia, Acacia sp.,* grams, beans *Cycas revoluta*

Everes lacturnus (Godart)

Common name	**Indian Cupid**
Distribution	All over India
Altitudinal range	Up to 2000 m
Status	Uncommon
Wing Span	22-28 mm
Identification keys	Tailed butterfly. Underside with line of faint, slightly darker spots; 2 black spot on costa of hindwing and 1 close to dorsum, and 1 dark spot in between this spot and spot on costa. Two oranges-crowned black tornal spots on hindwing. Male has dark blue upperside, with dark border on upperwing and 2 tornal spots on hindwing. Female entirely brown with pale blue discal area and black spotted tornal patch on upper-hind wing
Preferred habits/ habitat	Forest edges and openings. Settles flowers and wet ground
Larval Food Plants	*Desmodium* sp., *Trifolium* sp.

Everes argiades diporides (Chapman)

Common name	**Chapmans Cupid**
Distribution	Found across the Himalaya
Altitudinal range	1200-2800 m
Status	Uncommon
Wing Span	22-26 mm
Identification keys	Underside pale grey, with line of small black spots from forewing to hindwing. Underneath, hindwing has black spots crowned with silvery scales and powdered by patch of extensive orange along margin Male violet-blue above with dark borders Female brown with 2 oranged-ringed black tornal spots on upper-hindwing
Preferred habits/ habitat	Opening in temperate forests
Flight time	February - November

Celastrina argiolus

Common name	**Hill Hedge Blue**
Distribution	Chitral, Indian Himalaya
Altitudinal range	900-2800 m
Status	Not rare
Wing Span	25-34 mm
Identification keys	Female with white disc. Male with white disc in dry season form. The border is much broader and continued with full width to tornus of forewing in wet season form. Undersude markings are obscure in wet season form and generally smaller
Preferred habits/ habitat	Found almost everywhere, particularly near the streams and damp patches

Zemeros flegyas (Cramer)

Common name	**Punchiinello**
Distribution	Found in the Himalayas from Uttarakhand to Arunachal Pradesh and Northeast
Altitudinal range	150-2300 m
Status	Common
Wing Span	35-40
Identification keys	Upperside purplish brown, with black spots, each having a white outer edge. Under side similar but paler
Preferred habits/ habitat	Undergrowth near forest streams. Sometimes perches with wings opened. Visits flowers and wet ground
Flight time	Flies all round the year
Larval Food Plants	*Maesa chisia, M. montana, M. indica*

Dodona durga (Kollar &Redtenbacher)

Common name	**Common Punch**
Distribution	Chitral to Nepal, restricted to the Himalaya
Status	Very common
Wing Span	30-40 mm
Identification keys	Underneath hind wing has 2 small black spots near apex and tornal lobe. Tailess
Preferred habits/ habitat	Flowers on bushes in open patches, forest openings, orchards and scrub
Flight time	February -November
Larval Food Plants	Grasses, hill bamboo (*Arundinaria*), *Maesa* sp., *Myrsine semiserrata, Embelia robusta*

Abisara echerius (Stoll)

Common name	**Plum Judy**
Distribution	Ranges across India except arid regions and in the Himalaya
Altitudinal range	Up to 1200 m
Status	Not rare
Wing Span	40-55 mm
Identification keys	Maroon brown butterfly with hindwing prominently toothed at v4 Male more purple and dark. Obscure white discal and outer discal band on upperside. Wings open and form arc or cup shape rather than stay parallel to each other
Preferred habits/ habitat	Forested areas with shade and undergrowth. Moves in circular motion while perched on leaf. Feeds on bird droppings and fruits
Flight time	February-December
Larval Food Plants	*Embelia robusta, Ardisia* sp.

Pararge schakra (Kollar)

Common name	**Common Wall**
Distribution	Hind Kush eastward to the Kumaon Himalaya
Altitudinal range	Up to 3600 m
Status	Very Common
Wing Span	55-60 mm
Identification keys	Brown upperside with marginal orange band. Prominent black spot at apex visible on both sides. Upper hind wing has 4 small orange spots with black centre. Underneath, hindwing has 6 to 7 eyespots with each having a white pupil with double yellow ring. Discal line on under-forewing broken at v4 and evenly curved from costa to v5
Preferred habits/ habitat	Open, dry, sunny and rocky habitats. Flies close to ground, settling on rocks and low lying flowers
Flight time	April- November
Larval Food Plants	Grasses

Melanitis leda ismene (Cramer)

Common name	**Common Evening Brown**
Distribution	Sri Lanka, India, Burma
Altitudinal range	Up to 2000 m
Status	Very common
Wing Span	60-80 mm
Identification keys	Wet season form has two prominent black eyespots surrounded by orange patches at apex of the forewing, each with large eye pupil. Forewing prominently angled in female. Underside grey, with prominent dark striations and a series of white-pupilled eyespots, large and small Dry season form rich brown, with dark spots inwardly edged with yellow. Underside pale grey or brown, never with fine brown streaks. Eye spots reduced and obscure
Preferred habits/ habitat	Forested habitats with grass and undergrowth. Feeds on ripened fruits, tree sap and flowers. Flies low, close to ground, especially during mornings and evenings. Shows seasonal migration from hills to adjoing plains
Flight time	Throughout the year
Life cycle	**Egg:** Laid on the underside of the grass blades or rice either singly or in rows of two to seven **Larvae:** Bright yellowish grass-green and spindle shaped, with black and yellow stripes. Head is dark green with white hairs and two short spiny horns of dark vinous-red colour. Body is hairy. Larvae is very sensitive, as soon as it is touched it curls and falls down to the ground **Pupa:** Transparent green, wings veined darker and body surface smooth and shiny. The cremaster is blue. Pupa is suspended by the tail on the underside of twig or leaf, freely hanging but firm. The shape is somewhat similar to that of Danaids
Larval Food Plants	*Oryza sativa* and various grasses like *Eleusine*, *Panicum*, *Apluda*, *Sorghum*, *Zea*, *Crytococcum* sp.

Elymnias malelas (Hewitson)

Common name	**Spotted Palm fly**
Distribution	Kullu- Dawans, Sikkim-Dawans
Altitudinal range	Up to 1800 m
Status	Not rare
Wing Span	80-100 mm
Identification keys	**Male :** Upperside dark brown with forewing blue shot and mauve or bluish spots. Upper-hindwing unmarked. Underside dark brown with fait white striations **Female:** Blue shot area reduced, spot whiter. Upper-hind wing whitish, striated with dark brown and veins broad black. Underside dull brown, basal half striated, outer half evenly striated Mimics *Euploea mulciber*
Preferred habits/ habitat	Bask in sunshine with wings wide open, near water bodies
Flight time	Common from July to August up to November
Larval Food Plants	Banana

Lethe confusa (Kollar)

Common name	**Banded-Tree Brown**
Distribution	Himalayas from J& K to Aruncahl Pradesh and the Northeast
Altitudinal range	1200 to 2,800 m
Status	Common
Wing Span	50-60 mm
Identification keys	Dark brown butterfly with white oblique discal bands on both sides of the wings. Has two white apical spots on upperside of forewing, and whitish basal line on underside of both wings. Eyespots on under-hindwing in series, with apical spot on hind wing larger than the rest
Preferred habits/ habitat	Undergrowth, rocks along river beds, and refuse on ground in deciduous and evergreen forests
Flight time	February-November
Larval Food Plants	*Capillipedium* sp., *Microstegium cilliatum, Miscanthus* sp.

Lethe rohira (Fabricius)

Common name	**Common Tree Brown**
Distribution	Found all over India except arid regions of the Northwest, in the Himalayas from J&K to Arunachal Pradesh and Northeast.
Altitudinal range	Up to 3000 m
Status	Common
Wing Span	58-70 mm
Identification keys	Pale brown, with series of greyish white bands and circular eyespots underneath. Under fore-wing has V shaped white band in discal area and another in post discal area. Under hindwing has elongated and distorted eyespots in spaces 3, 4 and 5, while undistorted apical eyespot has white pupil and is much larger than eyespot in space 2. Hindwing toothed. In females, white bands continous from costa to v2 on upper-forewing
Preferred habits/ habitat	Forest openings and edges on hilly terrain, where it flies close to the ground, feeding on refuse, droppings, tree sap and ripened fruit
Flight time	March –November
Larval Food Plants	*Apluda* sp., *Capillipedium* sp., *Imperata cylindrica, Microstegium ciliatum*

Ypthima sakra nikaea (Moore)

Common name	**The Himalayan Five Ring**
Distribution	Muree to Assam and Karen Hills
Altitudinal range	900 -2,800 m
Status	Common
Wing Span	45-55 mm
Identification keys	Brown butterfly, with fine buff striations underneath. Underneath, forewing has double-pupilled eyespot. On hindwing, 2 apical eyespot joined but separated by yellow rings encircling them. Three eyespots in tornal area, with lowest being double-pupilled eyespot and very small spot just below it
Preferred habits/ habitat	Forest openings, edges, and grassy paths. Comes to flower and wet patches.
Flight time	April-October
Larval Food Plants	*Ageratum* and *Anaphalis* sp.

Zophoessa baldeva (Moore)

Common name	**Treble Silverstripe**
Distribution	Garhwal to Sikkim
Altitudinal range	900-2800 m
Status	Not rare
Wing Span	55-65 mm
Identification keys	Under fore wing, four pale straight bands, the third from the base being silver and the others pale yellow. In addition a narrow pale bar end-cell. Under hindwing with two silver straight bands and one end-cell and a row of marginal ocelli. V1 pale yellow. Pale basal marking across the cell
Preferred habits/ habitat	Shy and uncommon butterfly. Flies in forested areas and along paths and streams

Ypthima nareda (Kollar)

Common name	**The Large Three Ring**
Distribution	Kashmir to Assam and North Burma (Myanmar)
Altitudinal range	600 to 2,800 m
Status	Common
Wing Span	40-50 mm
Identification keys	Brown butterfly with fine striations and double-pupilled yellow-ringed eyespot on under-forewing. Under-hindwing has 1 large apical and 2 tornal eyespots. Upperside has 1 apical double-pupilled eyespot and 1 tornal eyespot on hindwing
Preferred habits/ habitat	Flies close to ground. Prefers forest edges and roadsides. Visits flowers
Flight time	March-November

Mycalesis perseus blasius (Fabricius)

Common name	**Common Bush brown**
Distribution	Sri Lanka, India, Burma, (Kangra to Burma (Myanmar)
Altitudinal range	Up to 1,800 m
Status	Common
Wing Span	38-55 mm
Identification keys	Dull brown above, with an eyespot on forewing in space 2, which is not ringed. Markings underneath variable with seasons. In wet season form, white lines runs across both the wings from costa (forewing) to tornus (hindwing). Marginal series of eyespots of variable sizes and with white pupils, from along wing margins and above this white line. In dry seson form, eye spots reduced to dots and white line absent
Preferred habits/ habitat	Undergrowth of forest habitats, where it is found on overripe fruit, refuse, dung, and tree sap
Flight time	Throughout the year
Life cycle	**Egg:** Yellow green, spherical, base flattened. Laid singly on the blade of grass or rice plants. **Larvae:** Green with paler green lateral stripes and a paler sub-apicular line, spiracles are white ringed with brown, head chestnut clothed with hairs **Pupa:** Blue green with slightly darker line dorsally on the abdomen, and minute black spots half way along the antenna sheath
Larval Food Plants	*Oryza* sp. and other grasses

Callerebia hybrida (Butler)

Common name	**The Hybrid Argus**
Distribution	Shimla Hills to Kumaon
Altitudinal range	900-3900 m
Status	Common
Wing Span	50-60mm
Identification keys	Dark brown upperside, rounded wings with strongly arched forewing costa, and apex with prominent double pupilled, golden-ringed eyespot. Upper-hind wing has single pupilled small eyespot. Underhindwing has dark marginal and discal lines running below do not touch 2 tornal eyespots, which are prominent and pupilled
Preferred habits/ habitat	Open sunny habitats
Flight time	April-August

Callerbia scanda (Kollar)

Common name	**The Pallid Argus**
Distribution	Kashmir to Sikkim
Altitudinal range	Up to 2800
Status	Common
Wing Span	50-60 mm
Identification keys	Pale brown, with pale outer margins. Shows white striations on under-hindwing, more prominent in wet season form. Underneath, withoout marginal band, having two tornal eyespots and above them a row of white dots
Preferred habits/ habitat	Forest trails, roadside rocks, and wet ground
Flight time	July-September
Larval Food Plants	Flowers of *Cirsium arvense* and *Calendula* sp.

Callerbia hyagriva (Moore)

Common name	**The Brown Argus**
Distribution	Kashmir- Kumaon
Altitudinal range	Up to 2800 m
Status	Not uncommon locally
Wing Span	42-46 mm
Identification keys	Above, a lighter brown . Below , prominently striated Hindwing with double ocellus in 1-2 and another in 5-6. No discal line
Preferred habits/ habitat	Flutters low about the grass between the monsoon showers, taking shelter amongst their stems when it begins to rain heavily
Flight time	On the wings towards the end of the rainy season in August and early September
Larval Food Plants	Grasses

Aulocera saraswati (Kollar)

Common name	**Striated Satyr**
Distribution	Sikkim to west Himalaya
Altitudinal range	900- 2800 m
Status	Not rare
Wing Span	60-75 mm
Identification keys	Underneath, has a very broad white discal band inwardly margined by thin brown line on grayish brown background, with five white striations. Upper forewing apical spot surrounded by 3 white spots. Upperside has discal band broken into spots and apical spot surrounded by 3 to 4 white spots, with inner spot smaller in male. Upper-hind wing with discal band reaching dorsum
Preferred habits/ habitat	Flowers and open grassy, sunny meadows. Basks with wings closed and tilted
Flight time	July - October

Kaniska canace (Linnaeus)

Common name	**Blue Admiral**
Distribution	Sri Lanka, Sikkim, Chitral, Burma (Myanmar)
Altitudinal range	900- 2800 m
Status	Not rare
Wing Span	60-75 mm
Identification keys	A blackish blue butterfly, with shining silvery blue discal band across both wings. Series of black spot on discal band across both wings. Series of black spots on discal bands, which are more prominent on upper-hindwing. Forewing apex concave along termen. Hindwing with small tail. Underside mottled with dark brown and black
Preferred habits/ habitat	Flies low, close to the ground and prefer forest openings and paths. Comes down to ground to feed on rotting fruits and tree sap. Usually seen solitary. Camouflaging with tree trunks while perched with wings closed
Flight time	March-December
Larval Food Plants	*Smilax sp. Dioscorea deltoidea*

Polyura athamas athamas (Drury)

Common name	**Common Nawab**
Distribution	India (Kullu) to Maharashtra, Andhra Pradesh up to North Burma (Myanmar), Sri Lanka
Altitudinal range	Up to 1,900 m
Status	Not rare
Wing Span	60-75 mm, **forewing length**: 34-36 mm
Identification keys	Has pale greenish yellow, very wide discal band, pale green spot on apex, and 2 sharp tails
Preferred habits/ habitat	Open wet ground close to forest streams. Perches on rocks and canopy of trees on forest edge to bask. Visits droppings, dung, and wet sand and human excreta. Flight swift
Flight time	March-November
Life cycle	**Egg:** Smooth, shiny, yellow and dome shaped, laid in a sunny spot on the upper side of the leaflet. **Larvae:** Greenish in colour with flat hexagonal head and with four horns and a set of spines. The larvae makes a bed of silk for itself on the upper side of leaf on which it is feeding or on some other nearby leaf to which it returns after feeding each time **Pupa:** Smooth yellow-green with white streaks and spots, formed under a leaf stalk or twig and hangs rigidly
Larval Food Plants	*Acacia suma, A. catechu, A. caesia, A. pennata, Adenanthera pavonia, Albizia julibrissin, A. lebbeck, A. moluccana, A. stipulata, Caesalpinia crista, C. rubra, C. sappan, C. bonducella, Pithecellobium* sp. and *Poinciana regia, Grewia* sp.

Sephisa dichroa (Kollar)

Common name	**The Western Courtier**
Distribution	Chitral to Kumaon
Altitudinal range	Up to 2800 m
Status	Not rare
Wing Span	60-75mm
Identification keys	Dark butterfly, with extensive tawny markings. Upperside has apical spots that are tawny in male but white in female. Upper-hindwing tawny with blackened veins
Preferred habits/ habitat	Openings and edges in ban oak forests. Flies over canopy and settles on oak treetops. Comes on to ground on wet patches, refuse, ripe fruit and tree sap
Flight time	April-October
Larval Food Plants	*Quercus incana* (Common Himalayan Oak), *Celtis australis*

Stibochiona nicea (Gray)

Common name	**Popin Jay**
Distribution	In western Himalaya from Kullu to Kumaon
Altitudinal range	Up to 2500 m
Status	Occasional
Wing Span	60-80 m
Identification keys	Rows of marginal black spots on upper hindwing in inwardly blue-bordered in male, but green-bordered in female
Preferred habits/ habitat	Well-wooded areas, forest glades, edges, openings, nullahs with plenty of undergrowth and water. Settles on bushes in damp patches with wings flat. Feeds on animal droppings, tree sap. On being disturbed, flies away fast and settles on undersurfaces of leaf or on tree bark, but returns to original place after some time. A few individual inhibit the same area. Courtship and mating takes place in July
Flight time	April –November

Apatura ambica (Kollar)

Common name	**Indian Purple Emperor**
Distribution	Chitral-Dawans, Kashmir-Dawans
Altitudinal range	Up to 1800 m
Status	Not rare
Wing Span	65-90 mm
Identification keys	Upeprside dark brown, white single broad white discal band across both the wings, Male beautifully shot with blue, underside silvery white with narrow reddish terminal and discal bands
Preferred habits/ habitat	Considered as handsomest of all Indian butterflies. Forest areas. Very fast and wary on wings. Both sexes settle on damp patches with their wings open. Bask high on the trees. Fond of flying near streams and nullahs. Settle on rocks in their middle. Fond of carrion, dung and bird droppings
Life cycle	**Larva:** Green, tail pointed, head with a pair of spinned tubercles, two pair of lateral spines on segment 4 and 5 **Pupa:** Greenish white covered with white powdery bloom
Larval Food Plants	*Ulmus wallichiana*

Pseudogolis wedah (Kollar)

Common name	**Tabby**
Distribution	Found across the Himalaya from Himachal to Arunchal Pradesh
Altitudinal range	Up to 2000 m
Status	Fairly Common
Wing Span	55-65 mm
Identification keys	Rich golden brown butterfly, with fine black lines and spots. Four fine dark bars in cell of both wings
Preferred habits/ habitat	Rocky and stony surfaces close to water bodies along forest edges & paths. Flies low and settles on leaves close to ground near
Flight time	April-December
Larval Food Plants	*Debregeasia bicolor*

Aridane merione (Cramer)

Common name	**Common Castor**
Distribution	Peninsular India, Kashmir to Burma (Myanmar), Sikkim to N. Burma
Altitudinal range	Up to 2,800 m
Status	Not rare
Wing Span	45-60 mm, forewing length: 25-31mm
Identification keys	Upperside reddish brown has double undulating lines which are heavily waved. Forewing deeply concave between 3 & 4. Below darker brown with purplish brown markings
Preferred habits/ habitat	Flight is typical, with slow beating of wings and intermittently sailing like sailers with jerky and irregular movements. Butterfly of wooded areas. Seen basking, generally near food plants. Often settling on leaves and low bushes with body parallel to the sun's rays. Visits rotten fruits
Life cycle	**Larvae:** Green with longitudinal dark brown line, head with a pair of branched spines and two dorsal and two lateral rows of short branched spines **Pupa:** Similar to that of the preceding species
Larval Food Plants	*Ricinus communis*, *Tragia cannabina, T. plukenetii* and *T. involucrata*

Issoria lathonia (Linnaeus)

Common name	**Queen of Spain Fritillary**
Distribution	Found in the Himalayas from J&K to Arunachal Pradesh
Altitudinal range	1200 to 5000 m
Status	Common
Wing Span	50-60
Identification keys	Tawny orange butterfly, with small black spot and dark basal area. Underneath hindwings have large silvery brown-winged post-discal spots. Forewing apex produced and termen concave
Preferred habits/ habitat	Sunny grassy slopes, forest openings, alpine meadows, and hill tops. Visits flowers
Flight time	February-December
Larval Food Plants	*Viola* sp.

Phalanta phalanta (Drury)

Common name	**The Common Leopard**
Distribution	India (including central Nicobars), Baluchistan, Sri Lanka and Burma (Myanmar)
Altitudinal range	Up to 1,800 m
Status	Not rare
Wing Span	50-60 mm, **forewing length:** 22-26 mm
Identification keys habitat	Tawny butterfly, with black spots and wavy lines with pinkish violet tinge underneath hindwing
Preferred habits/	Forest edges, gardens, polar and willow plantation, flowers and wet areas. Visits flowers particularly *Tridax* sp., *Lantana camara* etc. Has strong territorial behavior
Flight time	February –December
Life cycle	**Egg:** Laid on young shoots **Larvae:** Brown shiny, with black spines. Feeds on young leaves of *Flacourtia*. It turns green just before pupating **Pupa:** Green with rose-crimson and golden spines on the dorsal side, attached to the leaf horizontally
Larval Food Plants	*Aberia gardnerii, Flacourtia montana, F. ramontchi, Salix tetrasperma, S. pentandra, Smilax* sp., *Xylosoma longifolium, Populus deltoides*

Argyreus hyperbius hyperbius (Johanseen)

Common name	**The Indian Fritillary**
Distribution	Pakistan (Baluchistan and Chitral), India (Rajasthan-Mount Abu, Madhya Pradesh) to North Burma
Altitudinal range	Up to 2,800 m
Status	Not rare
Wing Span	70-85 mm, forewing length: 28-41 mm
Identification keys	**Male** mimics Leopard and Upperside tawny with black spots. Under hindwing base dark green and light brown or greenish brown distally. Discal silverstripes irregular and more or less broken into separate spots. Silver markings are black edged inwardly, Female mimics Plain Tiger **Female:** Apex dark blue and an apical white band
Preferred habits/ habitat	Open areas, cultivated fields, gardens Visits flowers of *Zinnia, Tagetes, Fagopyrum, Brassica*. They rest on the ground with their wings closed. Sometimes bask with their wings three-fourth open
Flight time	Through out the year
Life cycle	**Egg:** yellow with honeycomb-like marking. Domed, higher than broad. Laid generally on the underside of a leaf of the food plant or near the food plant, close to the ground
Larval Food Plants	*Antirrhinum majus* , *Viola* sp.

Precis hierta (Fabricius)

Common name	**The Yellow Pansy**
Distribution	Baluchistan, India, and Sri Lanka
Altitudinal range	Up to 2,800 m
Status	Not rare
Wing Span	40-60 mm, **forewing length**: 23-28 mm
Identification keys	Upperside yellow, with black forewing apex with yellow markings and border. Distinct oval blue patch on upper-hindwing, which is larger in male Female duller, with 2 small eyespots in spaces 2 and 5 on uppperside of both wings
Preferred habits/ habitat	Dry, stony and grassy rocky areas. Flies close to the ground and has strong territorial behavior. Visits flowers of *Tridax, Tagetes, Lantana camara,* garden flowers
Flight time	Throughout the year
Life cycle	**Larvae:** Light greenish brown, with dorsum velvety black on segment 3 and 4, double yellow line behind each black segment, all spines are black, legs dirty light brown. Head covered with minute conical yellow tubercles **Pupa:** Greyish brown-red with lighter wings, sometimes almost white
Larval Food Plants	*Hygrophila auriculata, Asteracantha longifolia, Barleria alata , B. rubra, Ruellia prostata*

Precis orythia (Linnaeus)

Common name	**Blue Pansy**
Distribution	Baluchistan, India, Central Nepal, Burma (Myanmar) and Sri Lanka
Altitudinal range	Up to 2,800 m
Status	Not rare
Wing Span	40-60 mm, **forewing length:** 21-26 mm
Identification keys	Upper hindwing brilliant blue and upper forewing velvet black, while apex pale and white bands. Pair of blue-centered red eyespots on all wings Female larger, with more prominent eyespots and more extensive black basal area than in male
Preferred habits/ habitat	Dry areas with grass along forest edges and scrub. Flies close to ground and prefers flowers of *Tagetes, Tridex, Bidens pilosa.* Visits damp patches
Flight time	Throughout the year
Life cycle	**Larvae:** Similar in shape to others of the genus, plumbeous black with orange neck, a jet black dorsal band spotted finely with white, which is surrounded by an orange ring, tubercles bordered with yellowish white. Larva lies along the stalks and stems of upright plants early in the morning. Probably feeds at night **Pupa:** Similar to others of the genus, but slaty dull grey all over, formed against the side of a stone or rock low down, sometimes on the stalk or leaf
Larval Food Plants	*Justicia micrantha, J. procumbens, Lepidagathis prostrata, Thunbergia alata, Hygrophila salicifolia, H. auriculata, Asystasia* sp. and *Pseuderanthemum* sp., *Antirrhinum* sp., *Angelonia* sp., *Buchnera* sp., *Nelsonia campestris, Sida rhombifolia, Mimosa pudica*

Precis lemonias lemonias (Linnaeus)

Common name	**Lemon Pansy**
Distribution	India, Burma (Myanmar) and Sri Lanka
Altitudinal range	Up to 2,800 m
Status	Not rare
Wing Span	45-60 mm
Identification keys	Brown butterfly with prominent peacock eyespot on each wing. Pale yellow spotting on upper-fore wing. Margins of wings on upperside bordered by 3 parallel black lines
Preferred habits/ habitat	Very bold butterfly, often seen basking, along forested tracts edges and visits various species of flowers. Comes to wet ground in dry season. Shows strong territorial behavior
Flight time	Throughout the year
Life cycle	**Larvae:** Similar to that of *Precis. iphita*. Head bilobed, body pale with deeper black dorsal line. All spines are red- yellow. Body is covered with minute whitish tubercles **Pupa:** Similar to that of *P. iphita.*
Larval Food Plants	*Hygrophila auriculata, Nelsonia campestris, Barleria prionitis, Cannabis sativa, Sida rhombifolia Justicia neesii, J. procembens, Lepidagathis cuspidatas, L. prostrata, Corchorus capsularis*

Precis almana (Linnaeus)

Common name	**Peacock Pansy**
Distribution	Sri Lanka, India, Burma (Myanmar) (Myanmar), Andaman
Altitudinal range	Up to 1800 m
Status	Not rare
Wing Span	60-65 mm
Identification keys	An orangish butterfly, with prominent peacock eyespot, 2 smaller eyespots on upper forewing, largest on hindwing. Margins of wings on upperside bordered by 3 parallel black lines. Dry season form has falcated forewing and hindwing tailed at tornus with underside giving appearance of leaf. Wet season form has rounded corners to wings and eyespots on underside
Preferred habits/ habitat	Waterside vegetation, scrub, forest edges, and gardens. Highly territorial probably to look out for females. Visits flowers of various species like *Lanatana*, *Tridex*,*Tagetes* etc. At rest sits with the wings closed
Flight time	Flies throughout the year
Life cycle	**Egg:** Laid on the underside of a leaf **Larvae:** Smoky black, orange neck, surface of the body covered with minute hair. Spines light orange with black tips **Pupa:** Greyish green with black and cream coloured markings. Pupa is formed under the leaf, stalk or stem and hangs freely and firmly fixed
Larval Food Plants	*Hygrophila auriculata, Barleria* sp., *Gloxinia* sp., *Osbeckia* sp., *Phyla nodiflora*

Precis atlites (Linnaeus)

Common name	**Grey Pansy**
Distribution	Found across India except in drier region
Altitudinal range	Up to 1500 m
Status	Locally common
Wing Span	55-65 mm
Identification keys	Grayish white butterfly, with dark brown markings and lines and row of discal spots, half back in outer- and half orange inside, or may even just reduced to rings with dots in centre on both rings
Preferred habits/ habitat	Open areas with water, like freshwater marshes, ponds, paddy field, forest openings and heavily degraded areas. Flies low, close to the ground. Common during monsoon
Flight time	Throughout the year
Life cycle	**Egg:** Barrel- shaped, green with 13 white longitudinal ridges. Otherwise surface is smooth. Laid on the grass or dead stem of a plant anywhere near its food plant **Larvae:** Velvety black with neck dull greenish. Surface of the body is covered with pure white hairs. Larvae generally found lying fully stretched perpendicular to the stem or stalk **Pupa:** Similar *Precis. almana*, but dull brown in colour
Larval Food Plants	*Hygrophila auriculata, Barleria* sp., *Gloxinia* sp., *Osbeckia* sp.

Precia iphita iphita (Cramer)

Common name	**The Chocolate Pansy**
Distribution	Sri Lanka, India, Manipur, Sikkim to Burma (Myanmar)
Altitudinal range	Up to 2,800 m
Status	Not rare
Wing Span	55-80 mm, forewing length: 26-35 mm
Identification keys	Brown butterfly, with pale outer areas. Small spots on inner margins of hindwing. Forewing apex, hind wing tornus slightly produced
Preferred habits/ habitat	Deciduous forests. Usually flies close to forest undergrowth, edges and paths. Visits flowers and damp patches. On Closed wings gives leafy appearance
Life cycle	**Egg:** Laid among the young leaves **Larvae:** Black when young and reddish brown when fully grown. Pedicles dirty yellow with brown spine. Young larva outs up some leaves together with silk and protects itself **Pupa:** Grey or dirty brownish black, with light spot on head and side of thorax. Pupa is formed near the ground on the underside of leaf, from a stick, underside of a ledge or a rock
Larval Food Plants	*Asteracantha longifolia, Justicia micrantha, Hygrophila auriculata, Carvia callosa* and *Strobilanthes callosus*

Vanessa indica indica (Herbst)

Common name	**Indian Red Admiral**
Distribution	South India (up to Maharashtra and Andhra Pradesh), Kashmir to North Burma (Myanmar) and Sri Lanka
Altitudinal range	900-3,800 m
Status	Not rare
Wing Span	55-65 mm, **forewing length:** 27-31 mm
Identification keys	Dark brown butterfly with balck upper-forewing basal area with 3 black spots on reddish discal area. Upper hindwing border reddish with black spots
Preferred habits/ habitat	Flight rapid. Forest edges, openings, banks along streams, and meadows. Settle close to the ground. Visits flowers, droppings, dung and rotten fruits
Flight time	Throughout the year
Life cycle	**Larvae:** Spiny, young larvae has reddish black spines and a pale yellow subapicualr line. At the third moult spines become pale yellow. Larvae found on nettles. They tie the leaves together and make a ball of the size of an orange, inside which they feed together, when disturbed falls down as a ball to the ground **Pupa:** Similar to that of *V. atalanta*, but darker brownish green, spines and thoracic protuberances tipped with golden bronze, wing cases are dull smoky
Larval Food Plants	*Girardinia heterophylla, G. diversifolia, Urtica parviflora, U. dioica, Boehmeria* sp.

Symbrenthia hippoclus (Cramer)

Common name	**Common Jester**
Distribution	Himalaya from Himachal to Arunachal Pradesh
Altitudinal range	900- 2800 m
Status	Common
Wing Span	45-55 mm
Identification keys	Upperside dark with tawny bands, while underside yellow with dark reddish irregular markings and thick reddish line near base of under-hindwing from apex to under-forewing
Preferred habits/ habitat	Forest nullahs and edges. Visits flowers and damp patches
Flight time	March-December
Larval Food Plants	*Debregeasia bicolor*


Metamorphosis has always been the greatest symbol of change for poets and artists. Imagine that you could be a caterpillar one moment and a butterfly the next
- Louie Schwartzberg

Cynthia cardui (Linnaeus)

Common name	**Painted Lady**
Distribution	Cosmopolitan, India, Burma (Myanmar) South India (up to Maharashtra and Andhra Pradesh)
Altitudinal range	Up to 4,500 m
Status	Common
Wing Span	55-70 mm, forewing length: 25-28 mm
Identification keys	Upperside pale orangish buff, with black spots. Forewing with black apex with 3 white conjoined spots and 4 white-sub-marginal spots
Preferred habits/ habitat	Flies strongly and swiftly in dashing and discontinuous manner throughout the year. Polyphagus insect therefore adapted to various types of terrains and habitats. Forest openings and alpine meadows. Feeds on rotten fruits and flowers
Flight time	Throughout year
Life cycle	**Egg:** Laid singly on young shoots **Larvae:** Bright yellow, smudged and spotted black, sometimes completely black, broad marginal yellow band and double yellow dorsal lines, surface velvety, dorsally covered with longish white hairs. Larvae makes a hiding place amongst young leaves by drawing together with silk **Pupa:** From green to gold or pink-brown to gold, golden colour strongly developed dorsally and on the points, fixed to a horizontal or vertical surface hanging perpendicularly down, free but firm
Larval Food Plants	*Debregeasia bicolor, D. hypoleuca, Girardinia heterophylla* , *G. diversifolia, Zornia diphylla, Z. gibbosa, Artemisia* sp., *A. vulgaris, Blumea* sp., *Gnaphalium* sp., *Tricholepis* sp., *Argemone mexicana*

Aglais cachmirensis aesis (Kollar)

Common name	**Indian Tortoise Shell**
Distribution	Chitral to Sikkim, India, and Sri Lanka
Altitudinal range	Up to 4,500 m
Status	Common
Wing Span	55-65 mm
Identification keys	Brownish butterfly, with orange, black and yellow markings. Hindwing toothed and forewing produced at v6. Hind wing with submarginal blue-centered black spots inwardly bordered brown
Preferred habits/ habitat	Commonest species of the Himalaya. Seen in all kinds of terrain, prefers open areas and flies close to the ground. Highly territorial. Congregates in large numbers on alpine meadows in late spring (May). Visits various species of flowers like *Taraxacum officinale*, *Aster sikkimensis*, *Gentiana carinata*, *Primula denticulate*, *Tagetes* sp.
Flight time	Throughout year
Life cycle	**Larva:** Yellowish, densely speckled with black and marked with yellowish spines and lines **Pupa:** Dark browinish to pinkish-brown with patches of gold
Larval Food Plants	*Urtica* sp.

Hypolimnas misippus (Linnaeus)

Common name	**Danaid Eggfly**
Distribution	India, Burma (Myanmar), Sri Lanka, Andaman & Nicobar
Altitudinal range	Up to 1800 m
Status	Not rare
Wing Span	70-85 mm
Identification keys	**Male:** Upperside black with blue shot, sharply defined white oval discal spots. Hindwing no marginal white spots **Female:** Mimics Plain Tiger *Danaus chrysippus* but margin has zigzag black and white border
Preferred habits/ habitat	Females are shy and found mostly near food plants and are difficult to see as generally sit under a leaf, slightly at higher positions Male found in open areas, forest clearings and paths. Generally sits on a prominent leaf in sunlight and keep watch on the territory
Larval Food Plants	*Portulacca oleracea*

Hypolimnas bolina (Linnaeus)

Common name	**Great Eggfly**
Distribution	India, Sri Lanka, Baluchistan, Andaman, Burma (Myanmar)
Altitudinal range	Up to 1800 m
Status	Not rare
Wing Span	70-110 mm
Identification keys	**Male:** Black winged, with white centered iridescent blue oval patch on each wing. Also has row of white marginal spots and crescents along entire wing margin from apex to tornus **Female** : Larger, lacking oval spots on each wing. Has row of prominent white spits along inner margins of both wings. Female has metallic blue markings in end- cells and spotting in discal bands of upper-forewing
Preferred habits/ habitat	Forest openings and edges, bushes, roadsides, and gardens
Flight time	Throughout the year
Life cycle	**Egg:** Spherical, grassy green, laid singly or in groups of six to seven, on the UN of very young leaves, just above the ground **Larvae:** Cylindrical and spiny black with greyish satiny marbling. Head, yellow heart shaped with long black horns, neck orange, all spines are dirty reddish yellow in colour **Pupa:** Dark brown-grey, splotched with grey wings, a dorsal row of 6 sharply conical tubercles from segments 6-11, formed on the underside of a leaf fixed by the tail, freely hanging
Larval Food Plants	*Abutilon* sp., *Hibiscus* sp., *Sida rhombifolia, Portulacca oleracea, Elatostema cuneatum, Laportea interrupta*

Kallima inachus inachus (Boisduval)

Common name	**Orange Oakleaf**
Distribution	Kashmir- Assam, Nepal-Assam
Altitudinal range	Up to 800 m
Status	Not rare
Wing Span	100-120 m
Identification keys	Upperside deep metallic blue to violet blue with orange discal band and large apex. Apex and tornus produced to form tip and base of a leaf when seen underside which resembles oakleaf when the wings are closed
Preferred habits/ habitat	Flies in undergrowth near forest edges and streams. Feeds on fallen, rotten fruits and tree sap. Show local migration from lower altitude to adjoin hills during summer
Flight time	April-October
Life cycle	**Egg:** Dome shaped, 12 longitudinal ridges dark green in colour. Laid singly on the underside of the leaf near the ground **Larva:** Head shiny black with two divergent horns, body reddish brown, body surface covered with fine hairs and flesh red-spines with black bristles. Sluggish; feeds generally early in the morning and evenings **Pupa:** Black borwn and yellowish pink; formed generally on a leaf close to the ground
Larval Food Plants	*Strobilanthes capitata, Girardinia heterophylla* and *Prunus persica*

Cyrestis thyodamas thyodamas (Boisduval)

Common name	**Common Map**
Distribution	India, Andaman, Nicobar, Burma (Myanmar), Sikkim
Altitudinal range	Up to 1800 m
Status	Not rare
Wing Span	50-60 mm
Identification keys	A semi transparent white butterfly, with fine black line markings running vertically from apex to tornus through both wings. Outline wavy on wings. Hindwing tailed and lobed. Golden brown markings along outer margins of hindwing
Preferred habits/ habitat	Prefers forested areas with water. Flies with jerky flaps and glides. Comes on to wet ground, but also prefers to settle on leaves of trees with wings spread. Visits flowers of *Buddleja*, Compositae creeper, Horse Chestnut
Flight time	Throughout the year
Life cycle	**Egg:** Highly dome-shaped, almost conical, ridged longitudinally, an aperture at the top filled with a deeply dentate flat cap like a cogged wheel. Eggs are generally laid on the underside of the young leaf **Larvae:** Spindle-shaped, with a pair of outward curved long horns on the head, a long recurved, dorsal horn on segment 6 and another on segment 12 curved forward. Larvae does not eat the egg shell. Lives on the under side of the leaf, eats the leaf from the edge onwards **Pupa:** Olivaceous brown, smooth slightly shiny
Larval Food Plants	*Ficus benghalensis, F. religiosa, F. glomerata* and other *Ficus* spp.

Neptis hylas (Linnaeus)

Common name	**Common Sailer**
Distribution	India, Sri Lanka, Burma (Myanmar)
Altitudinal range	Up to 2,800 m
Status	Not rare
Wing Span	50-60 mm
Identification keys	Black butterfly, with white markings. Costal streak in discal band on upper forewing short, and discal spot in end-cell outwardly sharp. Spots in spaces 2 and 3 not in line with spot in space in 5, but join termen below apex. Upper hind-wing discal band does not widen towards costa. Underside chestnut, with white markings sharply edged with black
Preferred habits/ habitat	Clearings in deciduous forest near water. Settles on bushes and flowers
Flight time	February-December
Life cycle	**Egg:** Laid singly on the upper side of the leaf, generally at the tip **Larvae:** Dark, covered with yellow tubercles on segment 3,4,6 and 12 of which the tubercles on 4 is double the length of the others. Larvae make a bed for itself on the tip of a midrib, gradually eating pieces of the leaf and leaving it free and hangs it by silk from its perch giving an appearance of dead leaf. The larval colour varies according to environment **Pupa:** Pearly greenish yellow, with olive-brown lines on the wing cases and shoulder. A golden suffusion on the abdomen
Larval Food Plants	*Bombax ceiba, B. malabaricum, Canavalia ensiformis, Cylista* sp., *Dalbergia sissoo, Mucuna purpurea, Spatholobus roxburghii, Vigna catjang, Paracalyx scariosa, Flemingia* sp. *Xylia dolabriformis, Corchorus* sp., *Grewia tiliaefolia, Triumfetta* sp., *Helicteres issora*

Parathyma cama (Moore)

Common name	**Orange Staff Sergeant**
Distribution	Himalaya (Mussorie)- Burma (Myanmar)
Altitudinal range	Up to 1800 m
Status	Not rare
Wing Span	60-75 mm
Identification keys	Sexes dimorphic. Upper-forewing cell streak always obscure and almost continuous; ferruginous; no white spot end cell. Upper-hindwing outer discal band obscure. Under – forewing cell-streak continuous Female upper-forewing outer discal spot in 4 smaller and just connected to the outer edge of spot 5, not a continuous even edged apical band
Preferred habits/ habitat	A butterfly of moderate rainfall areas in the hill regions. Flies in thick forest, often settles on a high prominent leaf from it takes short rapid flights. Common at low elevations
Flight time	April-October

Parathyma perius perius (Linnaeus)

Common name	**Common Sergeant**
Distribution	South India (up to Maharashtra and Andhra Pradesh), Shimla to Burma (Myanmar)
Altitudinal range	Up to 1,800 m
Status	Not rare
Wing Span	60-70 mm
Identification keys	Has prominent rows of black spots towards inner edge of white-post-discal band on underside of hindwing. Upper forewing cell streak divided in 4 parts
Preferred habits/ habitat	Prefers forest edges and openings, and roadsides. Flies fast, close to ground, and visits flowers
Flight time	February –December
Life cycle	**Larvae:** Dark yellow green, cylindrical .Three rows of red pedicelled greenish spines. Head round with 8 sharp shiny brown spines, inside this towards the front another 10 conical tubercles. Base of the abdomen and legs dark red-brown and belly greenish **Pupa:** Red-brown in colour with suffused gold on wing cases. Formed on the underside of the leaf generally very low down near the ground
Larval Food Plants	*Glochidion reticulatum, G. lanceolarium, G. velutinum*

Neptis mahendra (Moore)

Common name	**Himalayan Sailer**
Distribution	Chitral to Kumaon
Altitudinal range	1200 to 3,100 m
Status	Common
Wing Span	50-60 mm
Identification keys	Markings below, black edged, especially inner discal band underside hindwing. Underside forewing spot end cell well separated from basal streak. Upperforewing costal streak in discal band as wide as streak below it, discal spot end cell outwardly blunt and discal spots in 2 and 3 directed to just below apex. Upper hindwing discal band widens to costa. Below dark edgings to marking obscure
Preferred habits/ habitat	Commonest butterflies of northwest Himalayas. Confined to damper, hilly regions. Very local in their habits around well-watered forest nullahs, fly in chequered light and shade and gain full benefit from their pied markings. Fond of sunlight and frequently basks on leaves and rocks with wings wide open
Flight time	April-October

Parathyma opalina (Kollar)

Common name	**Hill Sergeant**
Distribution	Kashmir to Burma (Myanmar)
Altitudinal range	Up to 1,800 m
Status	Not rare
Wing Span	55-70 mm
Identification keys	Upper forewing cell streak divided into 3 parts and separated from spot beyond. Upper-forewing has spots in space, 1b to 3 directed towards termen. Underneath, has white bands separated by chestnut in between
Preferred habits/ habitat	Prefers hillside nullahs in moist temperate oak forest. Has smooth sailing flight. Egg laying observed in October in western Himalayas
Flight time	March-November
Larval Food Plants	*Berberis chitria, B. aristata. B. lycium, Mahonia nepalensis*

Euthalia patala (Kollar)

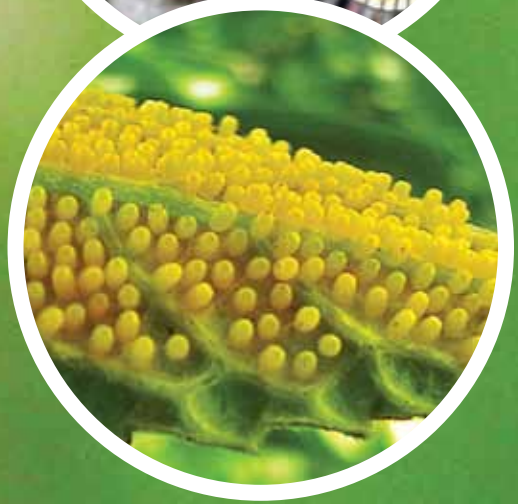
Common name	**The Grand Duchess**
Distribution	Muree to Nepal. Manipur to S. Burma (Myanmar)
Altitudinal range	1200- 2800 m
Status	Not rare Rare from Manipur to S. Burma (Myanmar)
Wing Span	80- 120 mm
Identification keys	Male and female distinguished by pale yellow colour discal band on upper-forewing in male, all white in female. Pale spot on upper-hind wing of male more extensive than female. Male smaller than female
Preferred habits/ habitat	Oak forests, with high and closed canopy under moist conditions. Comes down to feed on ground, mainly on refuse, tree gums, ripened fruit and bird droppings. Bask on oak leaves and ground. While resting on treetops, wings spread flat. When disturbed, flies away to settle higher up on tree-trunk or branch. Single brooded
Flight time	During raining season (July-August)
Larval Food Plants	*Quercus leucotrichophora* (The Common Hill Oak)

Parantica aglea (Stoll)

Common name	**Glassy Tiger**
Distribution	Sri Lanka, Kashmir- Burma (Myanmar), Eastern India
Altitudinal range	Up to 2800m
Status	Not rare
Wing Span	75-80 mm
Identification keys	Has pale bluish transparent markings on dark brown wings. Pale streak on wings, with fine dark lines in middle
Preferred habits/ habitat	Open edges along all types of forest habitats, where it flies slowly, close to undergrowth. Visits flowers (*Allium* sp., *Bidens pilosa*) and damp patches
Flight time	Throughout the year
Life cycle	**Larvae:** Blackish brown claret on the underside with three rounded yellow spots on each segment and also bluish white spots and streaks on the dorsal half, two pairs of tentacles on segment 3 and 12 of which the front ones are double the length of the hind ones **Pupa:** Yellowish green with black spots and golden dorsal, lateral and spiracular blotches
Larval Food Plants	*Tylophora carnosa, T. indica, T. tenuis, Cryptolepis buchanani, Ceropegia bulbosa, C. lawii, Calotropis* sp.

Pareba vesta (Fabricius)

Common name	**Yellow Coster**
Distribution	Kulu to Burma (Myanmar), Nepal, Assam
Altitudinal range	Up to 1,800 m
Status	Not rare
Wing Span	30-35 mm
Identification keys	Upperside yellowish with darkened veins. In female the vein are broadly darkened
Preferred habits/ habitat	Bask in sunshine, flight is weak and often sailing. They visit flowers of various species like, *Tridex, Lantana, Vitex* etc.
Life cycle	**Egg**: Yellow with longitudinal ridges; laid generally on the underside of the young leaves in groups. The underparts of egg turn black as the larva is about to hatch **Larva**: Reddish brown with minute hairs developed branched spiny tubercles when fully grown. Gregarious **Pupa:** Pinkish with black chained spots with the centre of the chain orange. White-pink patches on the dorsal side on each segment when larva is full stretched
Larval Food Plants	*Passiflora* sp., *Urtica, Pouzolzia, Debregeasia* and *Boehmeria* sp. etc.



Tirmula limniace leopardus (Butler)

Common name	**Blue Tiger**
Distribution	India, Burma (Myanmar) and Sri Lanka
Altitudinal range	Up to 1,800 m
Status	Not rare
Wing Span	90-100 mm
Identification keys	Black butterfly with pale blue markings. Cell on hindwing much paler
Preferred habits/ habitat	Prefers flowers and wet patches on the forest edges
Flight time	Flies throughout the year
Life cycle	**Egg:** Pale yellowish to white with longitudinal ridges, laid generally on the underside of the leaves or anywhere on the leaves or even near the food plant **Larvae:** Bluish white with black rings, two pairs of tentacles on segment 3 and 12 of which the front ones are longer **Pupa:** Greenish with golden spots, formed generally on the food plants, sometimes away from the food plants on the underside of leaves, free hanging
Larval Food Plants	*Asclepias curassavica, Dregea volubilis, Calotropis gigantea, C. procera, Heterostemma sp., Ageratum conyzoides, Celosia argentea, Crotolaria retusa, Heliotropium indicum, Marsdenia* sp., *Tylophora asthmatica* etc.

Danaus genutia (Cramer)

Common name	**Common Tiger**
Distribution	India, Burma (Myanmar) and Sri Lanka
Altitudinal range	Up to 1,800 m
Status	Not rare
Wing Span	70-80 mm, forewing length -41 mm
Identification keys	Tawny butterfly, with prominent blackened veins and with white apical spots on black apex of the forewing
Preferred habits/ habitat	All types of habitats. Flies low over bushes and undergrowth. Migrate to higher hills in summer
Flight time	Flies throughout the year
Life cycle	**Egg:** Laid singly on the underside of leaves **Larvae:** Velvety black, with bluish white and yellow spots and white lines, a yellow lateral band with black spiracles **Pupa:** Green with golden spots, formed on the underside of leaf or twig
Larval Food Plants	*Asclepias curassavica, Ceropegia intermedia, C. lawii, Cynanchum dalhousiae, C. liukiensis, Caralluma sp, Marsdenia tinctoria, M. tomentosa, Tylophora carnosa, T. tenuis, Raphistemma pulchellum, Stephanotis floribunda*

Danaus chrysippus (Linnaeus)

Common name	**Plain Tiger**
Distribution	India, Burma (Myanmar) and Sri Lanka
Altitudinal range	Up to 1,800 m
Status	Common
Wing Span	70-80 mm, **forewing length:** 32-39 mm
Identification keys	Chestnut orange with black borders. Apex black, with white subapical white band of linked spots. Four black discal spots on underside of the hindwing
Preferred habits/ habitat	Seen in open habitats, where it flies low close to the ground, but prefers shade in forest habitats in dry summer
Flight time	Flies throughout the year, Migrates to hills in Summer
Life cycle	**Egg** : Singly laid **Larva:** White with yellow band
Larval Food Plants	*Asclepias curassavica, Calotropis gigantea, C. procera,Caralluma* sp., *Ceropegia* sp., *Cryptolepis buchanani,, Cynanchum* sp., *Ferea indica, Tylophora* sp.

Euploea mulciber (Cramer)

Common name	**Striped Blue Crow**
Distribution	Sri Lanka, South India, Himalaya
Altitudinal range	900-2800 m
Status	Common
Wing Span	90-100 mm
Identification keys	**Male:** Glossy black above, and underside glossy purple with small pale spots. Upper hindwing unspotted, with plain dark scales in upper half and small yellow patches in the cell **Female:** Purplish glossa area on upper-forewing is reduced. The pale spots more prominent and white. Upper-hindwing prominently streaked all over with terminal white row of spots. Spots on underside of male variable
Preferred habits/ habitat	Forested tracts, where large congregations can be seen on flowering trees (*Moringa* sp.) and shrubs. Visits damp patches
Flight time	Found throughout the year in lower altitudes
Life cycle	**Larvae:** Pinkish white with yellow blotches, the segment are divided by a black line which is anteriorly bordered by a narrow transverse pink band and purple-brown strips, four pair of long fleshy tentacles which are pink at the base and black at tips **Pupa:** metallic golden-brown with a darker anterior stripe
Larval Food Plants	*Ichnocarpus sp., Nerium oleander., Oleander sp., Ficus sp. Argeria sp., Ageratum conyzoides*

Euploea core core (Cramer)

Common name	**Common Crow**
Distribution	India (Uttar Pradesh, Karnataka, Madras, Orissa) Nepal, Burma (Myanmar) and Sri Lanka
Altitudinal range	Up to 2,800 m
Wing Span	85-95 mm, **forewing length:** 40-45 mm
Identification keys	Dark velvety butterfly with 2 rows of marginal cream-coloured spots, inner row of spots being larger than outer
Preferred habits/ habitat	Forest openings and edges, where it visits flowers and wet ground
Flight time	Throughout the year
Life cycle	**Egg:** Yellow in colour **Larva:** Black and red striped with four pairs of tentacles on segment 3, 4, 6, and 12 of which tentacles of 3 are longest **Pupa:** Metallic gold turn black prior to hatching
Larval Food Plants	*Cryptolepis elegans, Cryptostegia grandiflora*, *Anodendron paniculatum, Ficus benghalensis, F. glomerata, F. indica, F. racemosa, Streblus asper, Ficus religiosa, Holarrhena antidysenterica, H. Pubescens, Ichnocarpus frutescens, I. indicus, Nerium odorum, N. oleander, Holigarna arnottiana, Tylophora indica, Ageratum conyzoides* flowers

Libythia lepita lepita (Moore)

Common name	**Common Beak**
Distribution	Kashmir to Burma (Myanmar)
Altitudinal range	900 to 2,800 m
Status	Not rare
Wing Span	40-50 mm, **forewing length:** 23 mm
Identification keys	Chocolate brown butterfly, with orangish yellow markings. Orange –yellow cell streaked notched on costal side and narrowly joined to spot beyond end-cell. Termen concave below apex
Preferred habits/ habitat	Remain around forest streams on wet ground and undergrowth
Flight time	March-October
Larval Food Plants	*Celtis australis, Gossypium herbacium, Grewia optiva*

Libythia myrrha myrrha (Godart)

Common name	**Club Beak**
Distribution	Kashmir to Burma (Myanmar)
Altitudinal range	900 - 2,800 m
Status	Not rare
Wing Span	45-55 mm
Identification keys	Similar to Common Beak, but upper-forewing cell streak long, club-shaped, and apical spots joined. Yellow band on the hind wing
Preferred habits/ habitat	Habitat close to streams and wet ground, where it perches on twigs and visits flowers on bushes
Flight time	March-November
Life cycle	**Egg:** Laid on the young leaves or shoots **Larvae:** Dark green in colour covered with minute bristles, a thin light yellow dorsal line from segment 4-12 and a narrow supra-apicular band from head to anal end. Larvae lives on the UN leaves and eats everything except for the ribs and veins. When disturbed it fall down with silk **Pupa:** Light green, top with yellow carnations, a black speck on the abdominal peak
Larval Food Plants	*Celtis tetrandra*

Coladenia dan (Fabricius)

Common name	**The Fulvous Pied Flat**
Distribution	South India, Kullu to Assam and Burma (Myanmar)
Altitudinal range	Up to 2,200 m
Status	Common
Wing Span	40-46 mm
Identification keys	Upperside dark brown mottled with rufous. Upper –forewing has semi-transparent spots, which are yellowish in males and white in females; 3 of these spots present below apex. Another series of 7 spots lies close to discal area, of which 2 spots are conjoined and lowest two are reduced to minute dots
Preferred habits/ habitat	Undergrowth close to water in forest openings and edges. Settles on bird droppings and wet mud. Has habit of flying in close circles at one place and returning to same perch
Flight time	March-November
Larval Food Plants	*Achyranthes aspera*

Tagiades menaka (Moschler)

Common name	**The Spotted Snow flat**
Distribution	Himalayas from Kashmir to Assam and Burma (Myanmar)
Altitudinal range	Up to 2000 m
Status	Not rare
Wing Span	43-55 mm
Identification keys	Dark brown butterfly, with minute spots on forewing near apex and costa, Lower part of hind wing snowy white, with large brown spots on lower margin and two black spots in white area of upper hind wing
Preferred habits/ habitat	Shade in moist patches close to water. Visits flowers and bird droppings. Flies around and often returns to same perch or settles on undersurface of the leaf
Flight time	February – October
Larval Food Plants	*Dioscorea oppositifolia and Smilax* sp.

Lobocla casyapa (Atkinson)

Common name	**Marbled flat**
Distribution	Himalaya from Kashmir to Arunachal Pradesh
Altitudinal range	Up to 2200 m
Status	Rare
Wing Span	45-55 mm
Identification keys	Underside dusted with grey scales, giving marbled effect, and carrying indistinct large dark spots. Upper-forewing dark brown with semi-transparent conjoined creamy discal spots forming band. Hindwing unmarked and chequered brown with white fringes. Forewing termen convex Form, ***liliana*** in east Himalaya darker and bigger
Preferred habits/ habitat	Forest paths and edges in moist temperate forest. Settles on eroded and wet patches, spreading wings wide open
Flight time	April-October

Ochus subvittaus (Moore)

Common name	**Bush Hopper**
Distribution	Ranges across peninsular India, West Bengal, the Northeast hills and foothills of the Himalaya (where paddy is cultivated) from Himachal to Aruncahl
Altitudinal range	Up to 1200
Status	Locally Commom
Wing Span	22-25 mm
Preferred habits/ habitat	Prefers grasslands, paddy field, hedgerows, near forest edges and openings. Flight slow and close to undergrowth. Often seen basking on paddy plants during monsoon.
Flight time	July-November, in lower western Himalayas
Larval Food Plants	*Oryzia sativa* and other grasses

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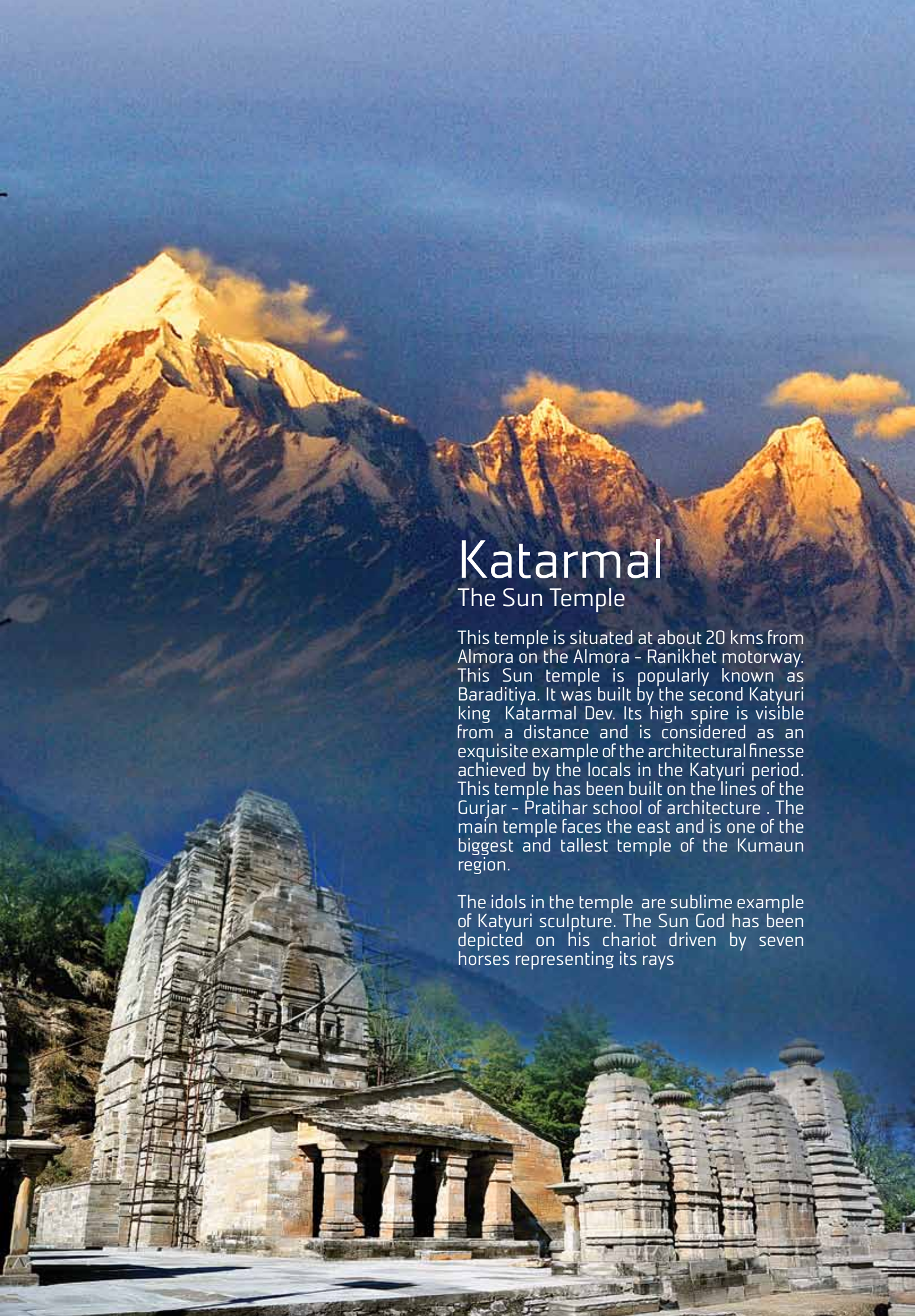
“Life is like a butterfly...
You go through changes before you become something beautiful”

-Anonymous



Katarmal

The Sun Temple

This temple is situated at about 20 kms from Almora on the Almora - Ranikhet motorway. This Sun temple is popularly known as Baraditiya. It was built by the second Katyuri king Katarmal Dev. Its high spire is visible from a distance and is considered as an exquisite example of the architectural finesse achieved by the locals in the Katyuri period. This temple has been built on the lines of the Gurjar - Pratihar school of architecture . The main temple faces the east and is one of the biggest and tallest temple of the Kumaun region.

The idols in the temple are sublime example of Katyuri sculpture. The Sun God has been depicted on his chariot driven by seven horses representing its rays

गो. ब. पन्त हिमालय पर्यावरण एवम् विकास संस्थान,
कोसी–कटारमल, अल्मोड़ा, उत्तराखण्ड, भारत

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