BUTTERFLY RESEARCH CENTRE

PAPILIONID BUTTERFLIES OF THE INDIAN SUBCONTINENT

PETER SMETACEK

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‹‹ NOTES ON PAPILIONIDAE

1. All members of the family are fond of flowers and are especially fond of hibiscus, buddleia, lantana, horse chestnuts, thistles, etc. Both sexes visit wet sand or mud as well as dung and carrion, males in large numbers but females rarely.

2. Species that feed on Aristolochia plants in the larval stage (Birdwings, Batwings, Clubtails, Roses, Windmills and Bhutan Glories) are unpalatable to birds. Citrus feeding members (Mormons, Redbreasts, Spangles, Peacocks, Helens, Ravens, the Chinese Swallowtail and the Lime Butterfly) are avoided by birds and presumably unpalatable, too. (The Spangle, the Common Peacock and the Common Mormon proved to be unacceptable in varying degrees to wild birds). Cinnamon feeding members (Mimes, Swordtails, Bluebottles, Jays, Zebras) are palatable to birds. The palatability of Umbellifer feeding members (Common Yellow Swallowtail and Southern Swallowtail) has not been tested, nor have any Snow Apollos.

3. Members of this family are usually found at the same altitude and in the vicinity of their larval food plants. Thus, in the western Himalaya, Batwings, Windmills and Birdwings are found at higher elevation than in the eastern Himalaya, since no species of the hostplant, Aristolochia is found at low elevation in the west.

4. Some species such as the Mimes, Sixbar Swordtail and Spectacle Swordtail have a single annual generation, others like the Common Mormon and Lime are on the wing throughout the year. Some Snow Apollos (the Common Blue Apollo) are known to hibernate as adults.

5. No member of this family on the subcontinent has been proved to be “Endangered” or ‘Threatened”. The unit of conservation of an insect in nature is a breeding population in its habitat, not the individual. Sufficient habitats for all species covered in this book are extant in protected areas on the subcontinent and, in the case of the Snow Apollos, there are vast, inaccessible tracts in the high Himalaya. Ludlow’s Bhutan Glory is known from two localities, but that does not mean that it is restricted to these two localities, merely that no one has looked for it in other suitable areas.

The inclusion of many species in the Schedules of the Indian Wildlife (Protection) Act 1972 is without scientific basis and depends upon the status assigned by Brig. WH Evans in his 1932 book based upon his personal observations. The point is that he was not assigning threatened or vulnerable statuses, but merely stating how often a butterfly was likely to be met, whether Rare, Very Rare or Common. Everything that he stated was “Very Rare” was assigned to Schedule 1, giving it (unjustifiably) the same status as the tiger and rhinoceros. Similarly, “Rare” butterflies were assigned to Schedule 2, in what is a purely paper exercise.

6. Some species migrate in southern India, but there is little information available about this phenomenon at present.

7. Snow Apollos are very variable individually and are quite common. Characters given for distinguishing them may not cover all potential variations and except for a few distinctive species like the Regal Apollo, their identity should be confirmed with experts.

8. Species marked with an asterisk (*) belong to families not included in this book.

« **1. Common Clubtail** *Losaria coon*

Distinctive Features: The club-shaped tails on the hindwing and the narrow forewings immediately distinguish this species. Hindwing tails are black on both surfaces.

Inhabits forests at low elevation from Assam to Indonesia.

6. Common Rose

2. Andaman Clubtail: note red tipped hindwing tails.

2. Andaman Clubtail underside

Common Clubtail upperside (above) and underside (below): note black hindwing tails. Also note that part of the forewing in the photo below is missing.

« **2. Andaman Clubtail** *Losaria rhodifer*

12 to 14 cm. Body red. Hindwing tail red-tipped on both surfaces. Underside with large red markings.Forewings narrow. Female usually with paler red markings than the male.

Restricted to the Andaman Islands.

6. Common Rose

1. Common Clubtail upperside (above) and underside (below): note black hindwing tails.

27. Andaman Mormon female

Andaman Clubtail upperside (above) mating pair showing underside (below: male to the left, female right)

Andaman Clubtail male upperside (left) and female underside (right): note the broader wings of female

« **3. Crimson Rose** *Pachliopta hector*

9 – 11 cm. Sexes similar, but female with dull crimson spots on the hindwing. Never any white marks on the hindwing. The **red body** in combination with the wing pattern is distinctive. Mimicked by the *romulus* form of the Common Mormon, which has a black body.

Endemic to the Indian peninsula and Sri Lanka, as far north as Bangladesh. Straggler on Andaman Is. Low elevation forests and scrubland. Flight slow. Distasteful to birds.

43. Common Mormon female form *romulus*

43. Common Mormon female form *romulus* (note black abdomen)

4. Ceylon Rose

Crimson Rose male (above) and female (below)

Crimson Rose (note red abdomen)

« **4. Ceylon Rose** *Pachliopta jophon*

The extensive white areas on the fore and hindwings are singular. No other Sri Lankan butterfly has extensive white markings on the fore and hindwings.

Endemic to lowland evergreen forest in Sri Lanka. Flight slow. Distasteful to birds.

6. Common Rose

6. Common Rose

5. Malabar Rose

40. Red Helen

Ceylon Rose upperside (above) and underside (below): note extensive white markings on forewing

« **5. Malabar Rose** *Pachliopta pandiyana*

10 – 13 cm. Sexes similar. The white patch on the hindwing is larger than in the Common Rose..

Endemic to low elevation, evergreen forest in the Western Ghats south from Goa. Distasteful to birds.

4. Ceylon Rose

6. Common Rose underside

43. Common Mormon female

40. Red Helen

Malabar Rose female upperside

Malabar Rose female underside

« **6. Common Rose** *Pachliopta aristolochiae*

8 – 10 cm. Sexes similar. Male with narrower forewings. The red body is distinctive. There are 5 or less separate white spots on hindwing.

Pakistan through India, Sri Lanka to Taiwan, Malaysia and SE Asia. Common from low elevation to 1500m. Avoids dense forests; common in scrubland and open areas. Distasteful to birds.

5. Malabar Rose

43. Common Mormon

40. Red Helen

Common Rose typical form

Common Rose male (above) and female (below)

Common Rose form *diphilus* male underside

« **7. Common Birdwing** *Troides helena*

14 to 17cm. Both sexes without dark suffusion on outer half of upper hindwing. Male usually with a spot at the bottom of under hindwing (red arrow). Female with a series of black spots of variable size on hindwing. The female form *eumagos* has forewings like the male

Nepal to NE India and SE Asia. Common at low elevation in open country and forests. Distasteful to birds.

Common Birdwing male underside showing distinctive black spot on underside of hindwing (left) and lack of black suffusion on upperside hindwing (right)

8. Southern Birdwing female

10. Golden Birdwing male (above) and female (below)

Common Birdwing male (above) and female (below)

Common Birdwing female form *eumagos* with black forewings (Pulao Ubin)

Common Birdwing female (Singapore)

« **8. Southern Birdwing** *Troides minos*

14 – 19 cm. Male with plain yellow hind wings with a broad black border. Female with a series of large dark spots across the hind wing. Singular in peninsular India.

Western Ghats from Maharashtra southwards. Common at low elevation in humid forests. Distasteful to birds.

10. Golden Birdwing male

9. Sri Lankan Birdwing male (above) and female (below)

9. Sri Lankan Birdwing (female)

Southern Birdwing male upperside

Southern Birdwing male (left) and female (right and below)

Southern Birdwing female upperside

« **9. Sri Lankan Birdwing** *Troides darsius*

14 to 17 cm. The base of the hindwing is black on both surfaces. Female with reduced yellow area on the hindwing.

Common at low elevation, ascending to 1000m elevation. Prefers forest. The National Butterfly of Sri Lanka.

8. Southern Birdwing male

8. Southern Birdwing male

8. **Southern Birdwing** female

Sri Lankan Birdwing female underside

Sri Lankan Birdwing female faded

Sri Lankan Birdwing male upperside (above) and underside (below)

Sri Lankan Birdwing female (below)

« **10. Golden Birdwing** *Troides aeacus*

15 to 17 cm. Both sexes differ on the upperside from the **Common Birdwing** and the **Southern Birdwing** in having dark suffusion on the yellow outer half of the hindwing, lacking in the **Common Birdwing** (red arrow below).

Himalayan, between 1200 to 2750m in the west Himalaya, also on the plains in Assam; to Taiwan and SE Asia.

7. Common Birdwing male underside (left) usually has a black spot (red arrow) and upperside (right) lacks the dark suffusion (red arrow 1).

7. Common Birdwing female (above and below) lacks dark suffusion on outer half of the upperside hindwing and the black mark at the base of hindwing.

Golden Birdwing male (above) and female (below)

Golden Birdwing male underside (left) and female underside (right)

Golden Birdwing female underside has black mark near base of wing (vertical arrow left) and dark suffusion on outer part of upperside hindwing (horizontal arrow right)

« **11. Lesser Batwing**
Atrophaneura aidoneus

10 – 12 cm. Sides of head and body pinkish, (not red as in the Common Batwing). The Lesser Batwing male has a white scent fold edged with pink along inner edge of hindwing, which is usually not visible (black in the Common Batwing male).The Lesser Batwing female has a plain dark forewing and hindwing, unlike the Common Batwing female, which has a pale area on lower half of the forewing; both sexes of the Lesser Batwing have a uniform shade on the hindwing.

Himalaya to Vietnam. A forest insect, from low elevation to 2500m. Fond of flowers.

12. **Common Batwing male**


12. Common Batwing female


Lesser Batwing abdomen is pinkish


Lesser Batwing female underside

Lesser Batwing male (above) with white scent fold on hindwing (below left) and female (below right)

« **12. Common Batwing**
Atrophaneura varuna

9 to 13 cm. Sides of head red. Underside of body red, not pinkish as in the Lesser Batwing. Fold along inner edge of hindwing black and fringed with hair in males. Female with a pale area at bottom of upperside forewing. Both sexes with the hindwing cell darker than the rest of the wing.

In old females, the body fades to pinkish and the darker inner half of the hindwings is useful in distinguishing from Lesser Batwing females.

Nepal to NE India, Vietnam and Malaysia, usually at low elevation. A forest insect.

11. Lesser Batwing male: note pinkish abdomen

29. Redbreast

11. Lesser Batwing female

Common Batwing male showing red abdomen(above) and showing black scent fold on hindwing upperside (below left) and **Lesser Batwing** male showing white scent fold on hindwing upperside (below right)

Common Batwing female

« **13. Rose Windmill** *Byasa latreillei*

11 to 13 cm. Sexes similar. The edge of the wing below the hindwing tail is fringed with black. There is no red at the base of the wings.

Occurs from Afghanistan to NE Vietnam. A hill insect, fond of flowers. Not found away from forests.

28. Tailed Redbreast

14. De Niceville's Windmill

16. Common Windmill

17. Great Windmill

Rose Windmill ssp. *latreillei* (Bhutan) upperside (above) and underside ssp. *kabrua* (Arunachal Pradesh)(below)

Rose Windmill ssp. *kabrua* (left) and **De Niceville's Windmill** (right) showing fringe

« **14. De Niceville's Windmill**
Byasa polla

11 to 13 cm. Sexes similar. The edge of the wing below the hindwing tail is fringed with red in this species, and is black in the Rose Windmill.

A forest insect, found below 1200 m elevation in NE India.

28. Tailed Redbreast

16. Common Windmill

17. Great Windmill

13. Rose Windmill

De Niceville's Windmill male (above and below)

De Niceville's Windmill hindwing upperside (left) and underside (right) showing distinctive red fringe.

« **15. Nevill's Windmill** *Byasa nevilli*

10 to 12 cm. Sexes similar. Body red with black marks. Hindwing tail never with any red mark on both surfaces. The size and presence of the spots on the hindwing is variable, with one form lacking all markings.

Assam to Myanmar and western China. A forest insect.

13. Rose Windmill

17. Great Windmill

16. Common Windmill

17. Great Windmill subspecies *ravana* showing red tipped tail

Neville's Windmill male upperside (above) and underside (below)

« **16. Common Windmill** *Byasa polyeuctes*

11 to 14 cm. Sexes similar. Hindwing with one large, angular quadrate white spot, with or without a white streak below it. There may be more pale spots on the hindwing.

Murree in Pakistan to Taiwan, Vietnam and Thailand. Flight slow, fond of flowers.

29. Redbreast female

17. Great Windmill

17. Great Windmill

13. Rose Windmill

Common Windmill upperside (above) and underside (below)

Common Windmill (left: female and centre: male) showing variation; **Great Windmill** subspecies *ravana* **wet season form** (right) all uppersides

« **17. Great Windmill** *Byasa dasarada*

10 to 14 cm. Sexes similar. Very variable, but large white spot on hindwing with angles always rounded. Tail red tipped on one or both surfaces. Subspecies *ravana* usually with a white patch above the large white spot on hindwing.

The possibility that the subspecies *dasarada* and *ravana* are good species requires examination.

Common in forests above 1200m elevation in the west Himalaya, descends to the plains in Assam. To China, Thailand and Vietnam.

16. **Common Windmill** upperside

15. Neville's Windmill underside

Great Windmill subspecies *ravana* female variation

Great Windmill subspecies *dasarada*

Great Windmill subspecies *ravana* upperside Wet Season Form male (above left) Dry Season Form female (above right) and underside (below)

« **18. Black Windmill** *Byasa crassipes*

11 to 12 cm. Sexes similar. Body red.Upperside without markings, underside with red spots. Hindwing tail stubby.

Occurs in forest from 600 to 1000m from Arunachal Pradesh through Manipur to N. Vietnam.

29. Redbreast male upperside (above) and underside (below)

31. Yellow Crested Spangle

19. Chinese Windmill male upperside showing red spot on hindwing

19. Chinese Windmill female underside showing black hindwing tail

Black Windmill upperside (above) and underside (below)

« **19. Chinese Windmill** *Byasa plutonius*

10 to 12 cm. Body red. Hindwing tail longer than the Black Windmill and unmarked black. Male darker than female. No white markings on either surface. In the subspecies *tytleri* from Manipur, the red spots on the upperside hindwing of the male are replaced by black spots.

Forests between 1800 to 3700m from Nepal to NE India, Myanmar and China. Fond of flowers.

18. Black Windmill upperside (above) and underside (below): note red tipped hindwing tail.

Chinese Windmill female subspecies *tytleri* underside showing distinctive black tail

Chinese Windmill subspecies *pembertoni* male (above) and female (below)

Chinese Windmill subspecies *tytleri* upperside male (left) and female (right)

« **20. Tawny Mime** *Papilio agestor*

8.3 to 12 cm. Sexes similar. The bright chestnut area on the hindwing and the white spotted black abdomen distinguish this species. The subspecies *govindra* is greyer, with a darker chestnut area on the hindwing and a complete row of white spots on it. These spots may be entirely absent in some individuals of subspecies *agestor*.

On the wing in spring. Forests up to 2400m elevation in the Himalaya and NE India, to southern China and Malaysia. A forest insect, fond of flowers. It exactly mimics the Chestnut Tiger in appearance and behavior.

***Chestnut Tiger** *Parantica sita* **(abdomen yellow)**

***Chestnut Tiger** male underside

Tawny Mime subspecies *govindra*

Tawny Mime subspecies *agestor* male (above)

Tawny Mime subspecies *govindra* male (above left) female (above right) and underside (below)

« **21. Lesser Mime** *Papilio epycides*

7 to 9 cm. Sexes similar. A prominent yellow spot at the bottom of hindwing on both surfaces. The groundcolour varies from pale to dark.

Nepal to Vietnam. A single spring brood, ascending to 1200m elevation.

***Chocolate Tiger** *Parantica melaneus*

20. Tawny Mime

67. Great Zebra

***Circe** *Hestinalis nama*

Lesser Mime upperside (above) and underside (below)

« **22. Blue-Striped Mime** *Papilio slateri*

8 to 10 cm. The small size and the yellow spot at the bottom of the hindwing distinguishes this from other butterflies.

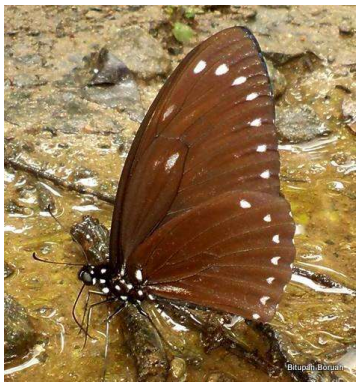
On the wing in spring at low elevation from Sikkim eastwards to Vietnam and Sumatra. A Batesian mimic of the Blue Crows (*Euploea* spp.).

Blue Striped Mime (above and below): note the prominent yellow spot at the bottom of the hindwing.

***Blue Striped Palmfly** *Elymnias malelas*

***Courtesan female** *Euripus nyctelius*

***Double branded Blue Crow** *Euploea sylvester*



23. Great Mime

« **23. Great Mime** *Papilio paradoxa*

12 to 15 cm. Sexes similar. The large size and the slightly angular forewing apex distinguishes this from its models: typical form mimics Blue Crows (*Euploea*); form *danisepa* mimics the Magpie Crow (*Euploea radamanthus*). Note how the forewing apex is unmarked, while in the models, the apex is rounded and the pale spots are very near the apex.

Assam to the Philippines and Indonesia. Inhabits forests at low elevation.

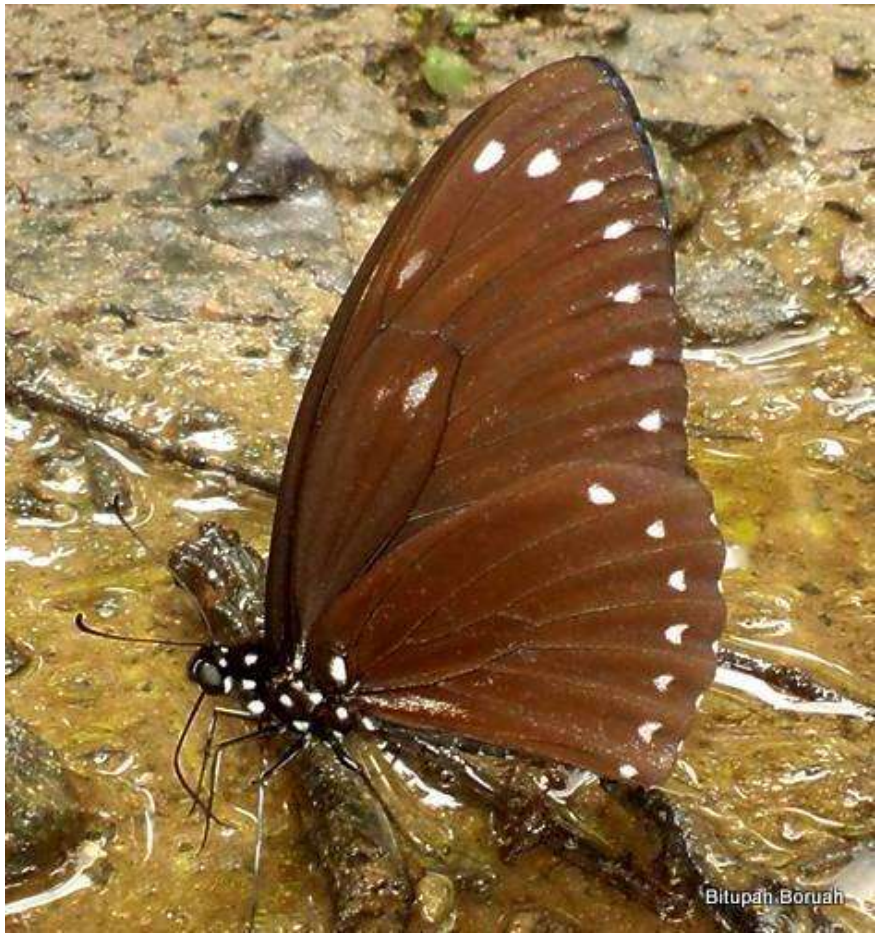
Great Mime upperside (above) and underside (below)


Great Mime form *danisepa* upperside


***Magpie Crow** *Euploea radamanthus*


***Double Branded Crow** *Euploea sylvester*


Striped Crow (Euploea mulciber***)**



« **24. Common Mime** *Papilio clytia*

9 – 10 cm; sexes similar. 5 forms: brown forms *clytia, panope and commixtus* resemble Crows (*Euploea*) and white form *dissimilis* and NE Indian, darker form *dissimillima* resemble Blue Tiger (*Tirumala limniace*), but all forms have a **small yellow spot** at bottom of upperside hindwing and a **row of yellow spots** on underside hindwing. Sri Lankan subspecies *lankeswara* with reduced white spots on forewing; its white form *dissimila* resembles *dissimilis*; subspecies *flavolimbatus* with yellow spots on upperside.

Throughout India and Sri Lanka except arid parts, to 2750 m in the Himalaya; to the Philippines and Indonesia. Flight powerful.

38. Malabar Raven

***Common Crow** *Euploea core*

***Blue Tiger** *Tirumala limniace*

Common Mime ssp. *lankeswara* (Sri Lanka)

Common Mime form *clytia* upperside

Common Mime form *dissimilis* upperside

Form *clytia* underside

Form *dissimilis* underside

SUBSPECIES AND FORMS OF THE COMMON MIME

form *lanata*

form *commixtus* male upperside

form *panope* female

form *papone* upperside female (Meghalaya)

ssp. *flavolimbatus* female

Female **form** *dissimilis*

female **form** *dissimillima*

ssp. *flavolimbatus* male upperside and underside (Andaman Is.)

« **25. Blue Mormon** *Papilio polymnestor*

12 – 15 cm; sexes similar. The blue on the upperside makes this a unique butterfly on the Indian mainland and Sri Lanka. There may be a red mark at the base of the forewing upperside.

Endemic to Peninsular India and Sri Lanka. Common at low elevation in gardens and forests.

26. Great Mormon female

26. Great Mormon

30. Spangle

Blue Mormon female upperside

Blue Mormon upperside

Blue Mormon underside

« **26. Great Mormon** *Papilio memnon*

12-15 cm. 1 male and 3 female forms. All forms with base of wings red on the underside. Female form *agenor* similar to *distantianus* but lacks tails and has a black abdomen.

Nepal to NE India and SE Asia.. Inhabits forests at low elevation.

Great Mormon female form *butlerianus*

Great Mormon form *distantianus*

30. Spangle

Great Mormon male

Great Mormon female form *butlerianus*

Great Mormon female form *distantianus* and female form *memnon* with tails

Great Mormon female variation of form *memnon* underside (left) and upperside (right)

« **27. Andaman Mormon** *Papilio mayo*

12 to 15 cm. Male unique, female distinguished from the **Andaman Clubtail** which it mimics, by the red marks at the base of the wings and the yellow abdomen.

Endemic to the Andaman Islands.

26. Great Mormon female (above and below)

2. Andaman Clubtail female upperside (above) and male underside (below)

Andaman Mormon male upperside

Andaman Mormon male upperside (left) and underside (right)

Andaman Mormon female upperside (left) and underside (right)

« **28. Tailed Redbreast** *Papilio bootes*

11 to 12 cm. sexes similar; individually variable. distinguished by the red patch at the base of the underside hindwing; tailed.

Forests at 1600 to 2600m elevation from Uttarakhand to NE India and N. Vietnam.

Tailed Redbreast underside

13. Rose Windmill

14. De Niceville's Windmill

29. Redbreast female

Tailed Redbreast upperside (above) and undersides (below)

« **29. Redbreast** *Papilio alcmenor*

11 to 13 cm. Typical male upperside black; form *leucocelis* with white patch on forewing. Female with broad hindwing tail.

Forests at low and moderate elevation from Uttarakhand to NE India and Vietnam.

30. Spangle

Redbreast male form *leucocelis*

12. Common Batwing female

28. Tailed Redbreast

Redbreast male (above and below right); female (below left and bottom; note black body)

« **30. Spangle** *Papilio protenor*

10 to 13 cm. Body black, underside with no red at base of wings. Male with white streak at base of upperside hindwing. Female with greater area of red at the bottom of hindwing.

Along the Himalaya from Kashmir to NE India, China and Japan, ascending to 2750m.

26. Great Mormon

29. Redbreast

31. Yellow Crested Spangle

Spangle male upperside

Spangle female underside (above); male upperside (below left) and female upperside (below right)

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« **31. Yellow-crested Spangle**
Papilio elephenor

11 to 13 cm. Sexes similar, but female lacks the three black stripes on forewing (red arrows below). The yellow head and yellow stripe along the side of the abdomen distinguishes this subspecies. No red at base of wings on underside.

A rather rare butterfly, known to occur in isolated pockets of lowland forest from Darjeeling to Assam and Manipur. Reported from several locations in Bangladesh, but there is no supporting evidence.

30. Spangle (above and below)

26. Great Mormon

29. Redbreast male

Yellow Crested Spangle upperside (above); red arrows show male's wooly stripes, lacking in females.

Yellow-crested Spangle underside: note yellow head and yellow abdominal stripe.

« **32. Common Peacock** *Papilio bianor*

9 – 13 cm; upper hindwing blue patch not connected to inner margin by a sharply defined, thin green line (red arrow). Forewing green band broad, diffused (red circle). Male with two wooly black streaks on upper forewing (red arrow).

Distribution: Himalaya and N.E. India to China, Taiwan and SE Asia. Voted the most beautiful Indian butterfly. Distasteful to birds.

33. Paris Peacock

34. Blue Peacock

Common Peacock ssp. *gladiator* showing distinctive blue lunules on hindwing (red arrow).

Common Peacock male (above) and female (below)

Common Peacock showing distinctive features (read description above)

« **33. Paris Peacock** *Papilio paris*

9 – 14 cm; sexes similar. Green band on upper forewing narrow, may be almost absent. The blue patch on upper hindwing connected to the inner margin by a sharply defined green band.

Western Ghats south of Maharashtra; Himalaya from Kumaon eastwards to Indonesia. Ascends to 1500 m in the Himalaya, to the top of the south Indian hills.

32. Common Peacock showing distinctive markings

Paris Peacock showing distinctive markings

36. Common Banded Peacock

Paris Peacock subspecies *paris* upperside

Paris Peacock subspecies *tamilana* upperside (above and below)

« **34. Blue Peacock** *Papilio arcturus*

11 to 13 cm. Sexes similar. Hindwing with reduced blue area and prominent red spots in the middle of wing.

Pakistan along the Himalaya to Vietnam, above 1200m elevation.

32. Common Peacock

33. Paris Peacock (above and below)

35. Krishna Peacock

Blue Peacock upperside (above)

32.Common Peacock ssp. *polyctor* showing variation of blue patch

33. Paris Peacock ssp. *tamilana* (left) and **Blue Peacock** (right)

« **35. Krishna Peacock** *Papilio krishna*

12 to 13 cm. The sharply defined yellowish band across the upperside forewing and underside hindwing is distinctive.

Nepal to Vietnam and China. A montane species.

32. Common Peacock

33. Paris Peacock

34. Blue Peacock

36. Common Banded Peacock

Krishna Peacock upperside (above and below) and underside (bottom)

« **36. Common Banded Peacock**
Papilio crino

8 -10 cm; sexes similar. Narrow, sharply defined peacock green bands across both wings.

Distribution: Sri Lanka. In open forests across drier parts of peninsular India south of Orissa and Karnataka.

33. Paris Peacock

35. Krishna Peacock

37. Malabar Banded Peacock upperside (above) and underside (below)

Common Banded Peacock upperside (above) and underside (below)

« **37. Malabar Banded Peacock**
Papilio buddha

9 to 10 cm. The broad green band is unique in India. Hindwing with an orange/yellow spot at apex. Underside with a straight border between the inner dark and outer pale areas.

Endemic to the Western Ghats south of Goa. Occurs in dense forest at the base of the hills. The very similar Emerald Swallowtail *Papilio palinurus*, known from Myanmar to Indonesia, has been reported from the Chittagong area in Bangladesh and might be found as far west as W. Bengal.

36. Common Banded Peacock upperside (above, note lack of orange spot on hindwing) and underside (below)

Malabar Banded Peacock upperside (above and below showing orange spot on hindwing) and underside (bottom)

‹‹ The Common Peacock has the second red mark from bottom usually as a crescent or as an almost complete ring (top right specimen); it is also a crescent in the southern subspecies of the Paris Peacock (red arrow below).In the Paris Peacock subspecies *paris* from the Himalaya and NE India, it is in the form of an oval ring; this ring is larger in the Blue Peacock. In addition, the Blue Peacock has dark streaks in the forewing cell (red arrow), which none of the other Peacocks have.

Common Peacock ssp. *polyctor* has reduced pale area on the forewing compared to the subspecies *ganesa* and *gladiator*.

33. Paris Peacock subspecies *tamilana*: note second red mark from bottom is not a ring. Endemic to S India.

35. Krishna Peacock is unique with a pale band across the hindwing.

UNDERSIDES OF PEACOCK BUTTERFLIES

32. Common Peacock ssp. *ganesa* above (left and right) ssp. *polyctor* (below left) ssp. *gladiator* (below right)

33. Paris Peacock subspecies *paris*: note inner half of forewing is unmarked black.

34. Blue Peacock: note distinctive black lines on forewing (red arrow)

« **38. Malabar Raven** *Papilio dravidarum*

8 – 10 cm; Similar to form *clytia* of the Common Mime but lacks all yellow marks. Distinguished from the Common Crow by the arrow-head shaped white marks on the hindwing. The white spot in the middle of the forewing may be absent.

Endemic to S. India. Low elevation evergreen forest along the Western Ghats from Goa southwards.

***Common Crow** *Euploea core*

24. Common Mime f. *clytia*

39. Common Raven

Malabar Raven male (above) female (below) and underside (bottom)

« **39. Common Raven** *Papilio castor*

10 to 13 cm. Tailless. Male with white patch on hindwing, female with extensive white area on hindwing. The white crescents on the hindwing of female are distinctive.

Nepal to Taiwan and SE Asia.

41. Yellow Helen upperside

***Common Crow** *(Euploea core)*

41. Yellow Helen

Common Raven ssp *castor* **female**

Common Raven subspecies *castor* male (above) and female (below)

Common Raven subspecies *castor* male underside

« **40. Red Helen** *Papilio helenus*

11 – 13 cm; sexes similar. The row of **red spots** with the **large white patch** on the underside hindwing is distinctive.

Sri Lanka; Western Ghats south of Gujarat; Himalaya from Uttarakhand eastwards to SE Asia and Japan. Common at low elevation in forests.

43. Common Mormon

41. Yellow Helen

Red Helen male ssp *helenus* (above and ssp. *mooreanu*s (below)

Red Helen female ssp *helenus* upperside (above) and underside (below)

« **41. Yellow Helen** *Papilio nephelus*

11.5 – 13 cm; Underside with **a row of yellow spots**. No red spot on upperside hindwing.

Nepal and Orissa to Taiwan and Sundaland. Common in dense forest at low elevation.

40.Red Helen male

40. Red Helen

42. Blue Helen

43. Common Mormon

Yellow Helen upperside male (above) and female (below)

Yellow Helen underside

« **42. Blue Helen** *Papilio prexaspes*

10.5 to 11.5 cm. On the underside hindwing there is a row of blue crescents between the white and red marks.

In India, only found in the Andaman Islands. S Myanmar to Borneo and Indo-China.

40. Red Helen (above and below)

41. Yellow Helen (above and below)

Blue Helen subspecies *prexaspes* (Singapore) (above)

Blue Helen subspecies *andamanicus* upperside (above) and underside (below)

« **43. Common Mormon** *Papilio polytes*

9 – 10 cm; 1 male and 3 female forms: *cyrus* looks like the male (both sometimes with red spots on the upperside hindwing); *stichius* resembles the 6. **Common Rose**; *romulus* resembles 3. **Crimson Rose**. All forms distinguished by having a black body.

Throughout India and Sri Lanka, to 1600m elevation. Pakistan to Okinawa, the Philippines and Indonesia.

6. Common Rose

Common Mormon female form *stichius*

Common Mormon male

Common Mormon male (left) and female form *cyrus* (right)

Common Mormon female form *stichius*

Common Mormon female form *stichius* variation

3. Crimson Rose upperside (above) and underside (below)

Common Mormon female form *romulus* upperside (above) and underside (below): note black abdomen.

Common Mormon form *romulus* aberration

«

« **44. Malabar Banded Swallowtail** *Papilio liomedon*

9 to 10 cm. Sexes similar but male with the outer half of the forewing densely hairy. No similar species in Peninsular India. The nearly identical Banded Swallowtail (*Papilio demolion*) occurs from Myanmar to Sundaland, with a closely related species in Sulawesi.

The Malabar Banded Swallowtail is endemic to the mountains of southern India from North Kanara in Karnataka south to the hills of Kerala. Occurs at the foot of the hills.

Malabar Banded Swallowtail upperside (above) and underside (below)

« **45. Lime Butterfly** *Papilio demoleus*

8 – 10 cm; sexes similar. A **singular species** in India. The yellow groundcolour darkens with age.

Throughout Pakistan, India and Sri Lanka, ascending to 1600 m in the Himalaya. The distribution extends from Arabia to Australia.

44. Malabar Banded Swallowtail

Lime with darker groundcolour

48. Yellow Swallowtail

Lime Butterfly upperside (above) and underside (below)

« **46. Chinese Swallowtail** *Papilio xuthus*

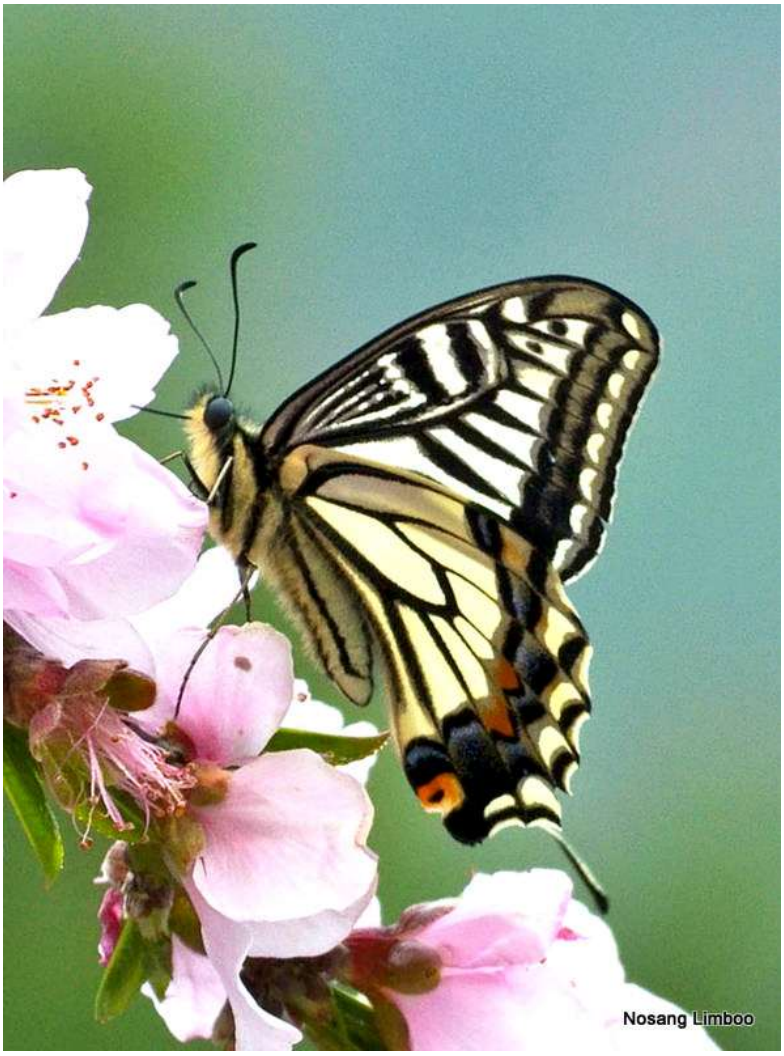
7.5 to 9 cm.Sexes similar. The forewing cell with black streaks (red arrow) on upperside and underside, not uniformly dark as in the **48. Common Yellow Swallowtail** or unmarked as in the **47. Southern Swallowtail**.

Discovered in Arunachal Pradesh in Walong in 2014 by Nosang Limboo. These photographs represent the only record of this butterfly from India. Occurs from India to Korea, Japan and N. Vietnam.

47. Southern Swallowtail

48. Yellow Swallowtail (above and below)

46. Chinese Swallowtail upperside (above) and underside (below)



« **47. Southern Swallowtail**
Papilio alexanor

7.5 to 9 cm. Sexes similar. Antnnae prominently yellow tipped. The black band across the middle of the underside hindwing distinguishes this species.

The subspecies *hazarajatica* Wyatt, 1961 is found in Baluchistan, including Quetta. To southern Europe and Uzbekistan.

46. Chinese Swallowtail

48. Yellow Swallowtail (above and below)

Southern Swallowtail underside (France)

Southern Swallowtail underside (Iran)(above) and upperside (France) (below)

« **48. Yellow Swallowtail** *Papilio machaon*

7.5 to 9 cm. Sexes similar. Upperside with base of forewing dark. In Ladakh above 4500m, the subspecies *ladakensis* lacks tails on the hindwing. The subspecies sikkimensis has the red spot on the hindwing tornus separated from the blue lunule by a black line.High elevation populations along the rest of the range have shorter tails than low elevation populations.

Europe to Russia, Baluchistan. Throughout the Himalaya and NE India from 1200m to over 4500 m elevation. Found on meadows, never within forests.

46. Chinese Swallowtail has black streaks at base of forewing (red arrow) (above and below)

47. Southern Swallowtail has a black band across middle of hindwing.

Common Yellow Swallowtail ssp. *asiatica* (above and below)

Common Yellow Swallowtail ssp. *ladakensis* (left) and *sikkimensis* (right)

Common Yellow Swallowtail ssp. *sikkimensis* showing black line separating red spot and blue lunule.

« **49. Sixbar Swordtail** *Graphium eurous*

6 to 7 cm. Underside hindwing with complete row of yellow spots. Subspecies *caschmirensis* with the fourth black bar from base of forewing and the black line above tornus shorter than in subspecies *sikkima*.

Single spring brood. Inhabits forests between 600 and 3000 meters from Kashmir east to Vietnam, China and Taiwan. Flight at times very similar to large Cabbage White (*Pieris brassicae*)

50. Spectacle Swordtail showing distinctive 'spectacle' mark, which is a complete chain of yellow spots in the **Sixbar Swordtail**

51. Fourbar Swordtail

52. Spot Swordtail

Sixbar Swordtail subspecies *caschmirensis* upperside (above)

Sixbar Swordtail ssp *caschmirensis* underside (left) and ssp. *sikkima* (right)

Spectacle Swordtail upperside ssp *garhwalica* (left) and **Sixbar Swordtail** upperside ssp *caschmirensis* (right): note 'spectacle' mark on hindwing showing through to upperside.

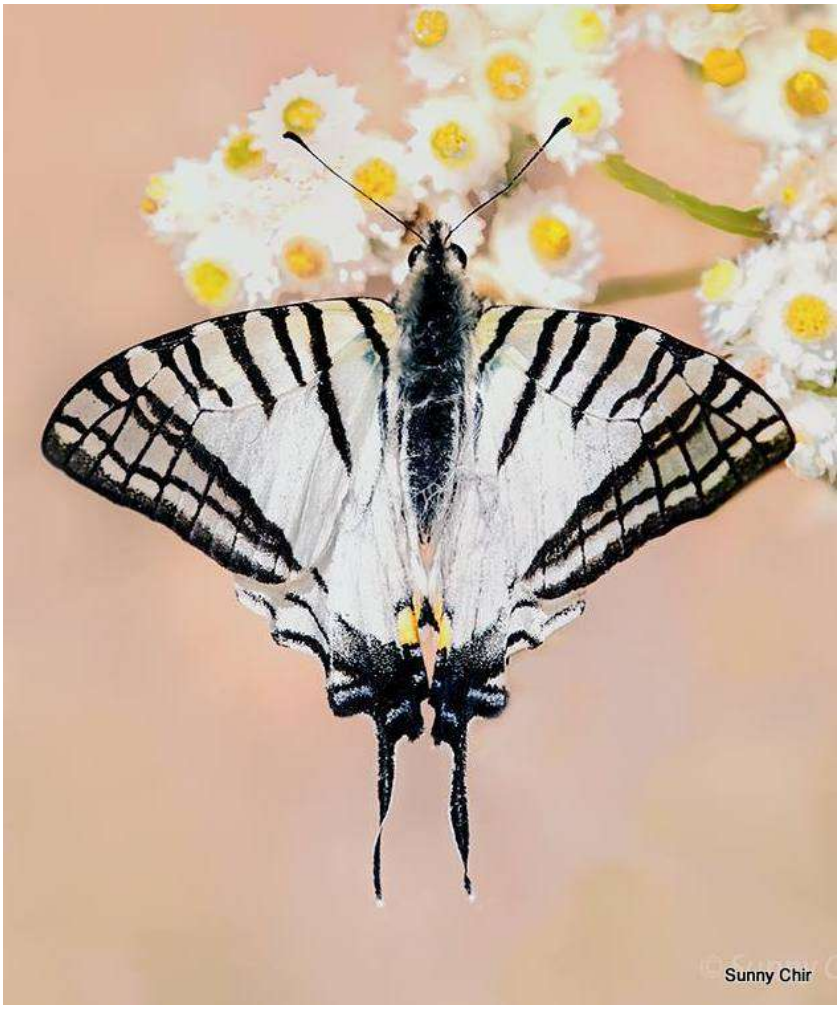
« **50. Spectacle Swordtail**
Graphium mandarinus

6.5 to 7.5 cm. Sexes similar. Upperside indistinguishable from the 49. Sixbar Swordtail. Underside distinguished by the 'spectacle mark' (red arrow) on the hindwing. This is a chain of yellow spots in the Sixbar Swordtail.

Forests above 1500 m from Garhwal to NE India, China and Indo-China. Found in company of the Sixbar Swordtail.

Spectacle Swordtail showing distinctive 'spectacle' mark

49. Sixbar Swordtail (above and below)



Spectacle Swordtail subspecies *kimurai* (Thailand)

Spectacle Swordtail ssp. *paphus* underside

« **51. Fourbar Swordtail**
Graphium agetes

7.5 to 9 cm. Sexes similar. No similar species in the Indian subcontinent.

Occurs at low elevation from Sikkim to NE India and Indonesia.

49.Sixbar Swordtail

54. Fivebar Swordtail upperside (above) and underside (below)

52. Spot Swordtail

Fourbar Swordtail upperside (above) and underside (below)

« **52. Spot Swordtail** *Graphium nomius*

7.5 – 9 cm; sexes similar. Upperside and underside with a row of pale round spots on the dark border of the forewing. This is in the form of a chain in the **Chain Swordtail (**red arrow).

Dry deciduous forests on eastern side of the Western Ghats and on Deccan plateau; at low elevation along the Himalaya from Himachal Pradesh to NE India and Vietnam. Sri Lanka.

53. Chain Swordtail

52. Spot Swordtail subspecies *swinhoei* upperside (above) and underside (below)(black marks broader than ssp. *nomius*)

Spot Swordtail subspecies *nomius* upperside

Spot Swordtail subspecies *nomius* underside

« **53. Chain Swordtail** *Graphium aristeus*

7 to 8 cm. Sexes similar. The row of pale spots on the forewing is in the form of a chain (red arrow below) on both surfaces of the wing.

Occurs at low elevation from Sikkim to NE India and eastwards to Australia.

Chain Swordtail showing 'chain'

52. Spot Swordtail upperside (above) and underside (below)

Chain Swordtail upperside (above) and underside (below)

« **54. Fivebar Swordtail** *Graphium antiphates*

8 – 9.5 cm; sexes similar. The green area on underside is unique on the Indian mainland. In subspecies *pompilius* and *ceylonicus*, the black border does not usually unite with the black band (red arrow), as they often do in subspecies *alcibiades*.

Distribution: Sri Lanka; Western Ghats south of Goa; Himalaya east of Nepal to Indonesia. Occurs in forests at low elevation.

Fivebar Swordtail ssp. *pompilius*

Fivebar Swordtail ssp *alcibiades* (above and below)

55. Andaman Swordtail

Fivebar Swordtail subspecies *pompilius* upperside

Fivebar Swordtail subspecies *pompilius* underside

« **55. Andaman Swordtail**
Graphium epaminondas

8 to 9 cm. Sexes similar. Differs from the Fivebar Swordtail in the second black bar from base of forewing extending across the wing (1 red arrow below) and the grey area on hindwing extending from the apex to the bottom of the wing (2 red arrow below).

Endemic to the Andaman Islands.

Andaman Swordtail spring form upperside (above); underside (below)

\Andaman Swordtail

54. Fivebar Swordtail upperside (above) and underside (below)

« **56. Glassy Bluebottle** *Graphium cloanthus*

8.5 to 9.5 cm. With a tail on hindwing. The pale areas are translucent.

Pakistan along the Himalaya to NE India and China, from 400 m to 2750 m.

51. Fourbar Swordtail

59. Southern Bluebottle

57. Common Bluebottle

60. Common Jay

Glassy Bluebottle upperside (above) and underside (below)

« **57. Common Bluebottle**
Graphium sarpedon

8 – 9 cm; sexes similar. On the forewing, the black border is **unmarked**. Hindwing without the projection of the Cryptic Bluebottle and Southern Bluebottle (red arrow below)

Common in humid forest along the Himalaya from Kashmir to Japan and Indonesia. It ascends to 2750m elevation.

59. Southern Bluebottle

58. Cryptic Bluebottle (holotype)

Common Bluebottle subspecies *sirkari* spring form

Common Bluebottle upperside

Common Bluebottle underside spring form (left) summer form (right)

Common Bluebottle subspecies *sirkari* **holotype**: upperside (left) and underside (right)

« **58. Cryptic Bluebottle**
Graphium adonarensis

Sexes similar. Hindwing tail produced; distinguished from the **Common Bluebottle** with certainty by features of the genitalia.

Assam (Nowgong), Meghalaya to China and Indonesia.

57. Common Bluebottle ssp *sirkari* **Holotype** upperside (above) and underside (below)

57. Common Bluebottle spring form underside

Cryptic Bluebottle subspecies *septentrionicolus* **Holotype** upperside (above) and underside (below)

« **59. Southern Bluebottle**
Graphium teredon

8 to 9 cm. Sexes similar. Blue band across both wings narrower than the **Common Bluebottle**. Hindwing with a projection (red arrow), which is not present in the **Common Bluebottle**.

Gujarat southwards to Sri Lanka. Flight swift, skipping.

Southern Bluebottle

57. Common Bluebottle ssp *sirkari* Holotype

58. Cryptic Bluebottle ssp *septentrionicolus* **Holotype**

Southern Bluebottle

Southern Bluebottle underside

« **60. Common Jay** *Graphium doson*

7- 8 cm; sexes similar. On the hindwing, the short black bar (red arrow) never joins the black band from the base.

Distribution: Common in forested areas of moderate to heavy rainfall over most of India and Sri Lanka, including Gangetic plain. Only at low elevation. Flight rapid, jerky. Fond of flowers and wet mud.

Common Jay showing distinction

61. Scarce Jay (above) and 62. Great Jay (below)

Common Jay upperside (above) and underside (below)

« **61. Scarce Jay** *Graphium albociliatis*

Abdomen black above. The black bar on underside of hindwing joins the basal stripe, unlike the Common Jay (red arrow below). Upperside forewing with one pale spot at forewing tornus, unlike Great Jay, which has two (red circle below)

Assam to Myanmar and Laos, ascending to 1000 m elevation in forested hills.

60. Common Jay

62. Great Jay showing distinctive pair of pale spots at tornus (red circle); note pale abdomen, which is dark in **Scarce Jay**.

62. Great Jay underside

Scarce Jay upperside (above) and underside (below)

« **62. Great Jay** *Graphium eurypylus*

7.5 to 9 cm. Sexes similar. Top of abdomen grey (see photo of Great Jay at bottom of this page). Two spots on upperside forewing tornus (red circle). Black bar joins basal band on underside hindwing, unlike **60. Common Jay** (red arrow).

Andaman Is.; Sikkim to Australia. At low elevation.

60. Common Jay

61. Scarce Jay (above)

63. Veined Jay (above)

Great Jay showing distinctive pale abdomen, which is dark in the **Scarce Jay**

Great Jay (upperside showing grey abdomen) and two spots near forewing tornus (circled in red) and underside (below: note top of abdomen is grey)

« **63. Veined Jay** *Graphium chironides*

Distinctive Features: 7.5 – 10 cm. Underside with chrome yellow spots. Upperside forewing with broader pale marks than other Jays.

Nepal to SE Asia. Found at low elevation.

60. Common Jay

61. Scarce Jay

62. Great Jay

Veined Jay upperside (above) and underside (below)

« **64. Spotted Jay** *Graphium arycles*

7 to 8 cm. Similar to 65. Tailed Jay but lacks tails on hindwing. Underside pattern and colour is unique.

Manipur, Nagaland and Mizoram to Indonesia. Found from low elevation to 1500 m in forests.

63. Veined Jay (above and below)

65. Tailed Jay upperside (above) and underside (below)

Spotted Jay upperside (above) and underside (below) (Specimen from Thailand)

« **65. Tailed Jay** *Graphium agamemnon*

8.5 – 10 cm; sexes similar. Hindwing with a tail. Spots on wings bright green. South Nicobar subspecies *pulo* male lacks tail on hindwing.

Occurs in humid forests all over India and Sri Lanka to Australia, ascending the Himalaya to 1500m. Common at low elevation.

64. Spotted Jay upperside (above) and underside (below)

Tailed Jay ssp *agamemnon* (hindwing tails short)

Tailed Jay ssp. *menides* upperside (above) and underside (below)

« **66. Lesser Zebra** *Graphium macareus*

8 to 10 cm. Sexes similar, female with broader white stripes. Yellow spot at bottom of hindwing is very small, obscure.

Nepal to NE India, the Philippines and Indonesia. Mimics distasteful Danaine models like the **Chocolate Tiger** (*Parantica melaneus*).

67. Great Zebra above and below

***Chocolate Tiger** *Parantica melaneus*

***Circe** *Hestinalis nama*

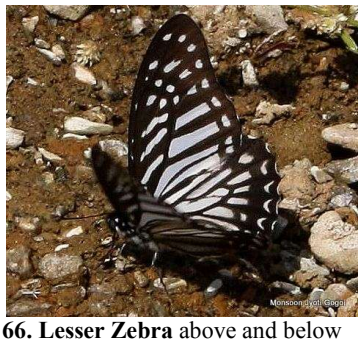
Lesser Zebra ssp. *lioneli* **male above and below**

« **67. Great Zebra** *Graphium xenocles*

8.5 – 12 cm. Sexes similar in ssp. *phrontis* (Sikkim); female darker than male in ssp. *xenocles* (Assam). Yellow spot at bottom of hindwing prominent and distinctive.

Uttarakhand to NE India, Vietnam and China.

21. Lesser Mime



66. Lesser Zebra above and below

68. Spotted Zebra

***Yellow Kaiser** *Penthema lisarda:* no yellow spot on hindwing

Great Zebra ssp. *phrontis* **upperside (above); ssp.** *xenocles* **female (below)**

Great Zebra underside

« **68. Spotted Zebra** *Graphium megarus*

6.5 to 9 cm. Sexes similar. Distinguished from other Zebras by the markings on the outer half of the hindwing, which are in the form of two rows of spots, not streaks. The forewing cell has the pale streaks almost absent on both surfaces, while another subspecies (*megapenthes* from Myanmar to Indo china and the Malay Peninsula) have these pale markings well developed (below).

Occurs from Assam and Arunachal Pradesh to China and Indonesia.

67. Great Zebra ssp. *xenocles* female: note pale stripes on hindwing, not spots.

Spotted Zebra subspecies *megapenthes* (Thailand): spots in forewing cell prominent.

Spotted Zebra subspecies *megarus* (Assam) above

Spotted Zebra subspecies *megarus* (above and below)

« **69. White Dragontail**
Lamproptera curius

4 to 5 cm. Sexes similar. Band across upperside white, not greenish. Black bar across middle of forewing expanding towards its upper end.Outer part of forewing transparent.

Assam to Indonesia and Palawan. Forests at low elevation, ascending to 1200 m.

70. Green Dragontail upperside (above) and underside (below)

White Dragontail upperside (above) and underside (below)

« **70. Green Dragontail**
Lamproptera meges

4 to 5.5 cm. Band across upperside pale green, not white. The black band bordering it of even width throughout its length.

Assam to the Philippines and Indonesia at low elevation. Prefers humid forest.

69. White Dragontail (above and below)

Green Dragontail subspecies *indistincta* (above), ssp *virescens* (Thailand) (below)

« **71. Brown Gorgon** *Meandrusa lachinus*

10.5 to 11.5 cm. Male upperside plain brown with obscure yellow spots along the edge of both wings. Female as illustrated. No similar species.

Uttarakhand to Vietnam. Inhabits dense forests from low elevation to over 2000 m.

Brown Gorgon male ssp *lachinus*

72. Yellow Gorgon

Brown Gorgon female subspecies *aribbas* (Myanmar) (above) and ssp. *lachinus* male (below)

« **72. Yellow Gorgon** *Meandrusa payeni*

11 to 13 cm. Sexes similar. A unique butterfly.

Sikkim to Malaysia, in dense forest at 800 to 1000 m elevation.

71. Brown Gorgon

Yellow Gorgon at water

Yellow Gorgon upperside (above) and underside (below)

« **73. Kaiser-i-Hind** *Teinopalpus imperialis*

9 to 12 cm. Male with a yellow area on upperside hindwing and 1 tail; female is larger, lacks the yellow area on hindwing and has 2 tails. No similar species in India.

Kathmandu Valley to China and N Vietnam. Dense forest around 2000 m elevation. On the wing in August.

Kaiser-i-Hind male (above and below) and female (bottom)

« **74. Bhutan Glory** *Bhutanitis lidderdalii*

9 to 11 cm. Sexes similar. 4 tails on hindwing. A distinctive yellow border at bottom of hindwing.

Sikkim to Yunnan. Flight slow, floating at times. Dense forests above 2000 meters elevation. On the wing in October, Females look similar to **13. to 19. Windmills** in flight.

75. Ludlow's Bhutan Glory upperside (above) and underside (below): note three tails on hindwing

Bhutan Glory underside hindwing has 4 tails on the yellow area.

Bhutan Glory underside

Bhutan Glory (above and below), female (bottom).

« **75. Ludlow's Bhutan Glory**
Bhutanitis ludlowi

Sexes similar. Hindwing with three tails, not four as in the Bhutan Glory.

Known from the Trashiyangtse Valley (eastern Bhutan) and Eaglenest Sanctuary in western Arunachal Pradesh. The National Butterfly of Bhutan.

74. Bhutan Glory underside hindwing showing 4 tails beyond yellow area.

74. Bhutan Glory (above and below)

Ludlow's Bhutan Glory (above and below)

« **76. Desert Apollo** *Hypermnestra helios*

4.5 to 5.5 cm. Sexes similar but female has an additional black spot in the middle of the lower half of the forewing. Immediately distinguished from *Parnassius* by the antennae, which end in a flattened bulb, not tapering and rounded.

Pakistan (Baluchistan: Quetta to Nushki road, 1650m); to Iran and Uzbekistan.

77. Scarce Red Apollo

78. Common Red Apollo

95. Common Blue Apollo

78. Common Red Apollo antennae

Desert Apollo antennae

Desert Apollo female upperside (above and below)

Desert Apollo underside

« **77**. **Scarce Red Apollo**
Parnassius (*Parnassius*) *actius*

6 cm. Veins 4 and 5 on hindwing originate close together in this species, further apart in the **Common Red Apollo** (red arrow). Generally with less dark suffusion on the wings than the **Common Red Apollo** and the **Keeled Apollo**. Underside hindwing with a reduced red area at base compared with the **Common Red Apollo**.

India, Pakistan, Afghanistan, China to Kazakhstan.

78. Common Red Apollo ssp *gyaella* upperside (above) and underside (below)

80. Large Keeled Apollo

Scarce Red Apollo (Kyrgyzstan)

Scarce Red Apollo male ssp. *lahulensis* upperside (above) and underside (below)

Showing the origin of veins 4 and 5 in the **Common Red Apollo** (left, red arrow) and **Scarce Red Apollo** (right)

« **78. Common Red Apollo**
Parnassius (*Parnassius*) *epaphus*

4 – 6.5 cm. Superficially indistinguishable from the **Keeled Apollo** except by the pouch on fertilized females, which is not 'keeled' and the antennae, which are prominently black and white in this species and less so in the **Keeled Apollo**. The upperside forewing has less dark suffusion that the Keeled Apollo. Slight difference in male genitalia (see under **Keeled Apollo**).

Above 3800m elevation in the Himalaya from Pakistan to E. Himalaya, China. Prefers dry rocky hillsides. The butterfly is quite common in some years. It crawls under flat stones to spend the night.


77. Scarce Red Apollo underside


79. Keeled Apollo


95. Common Blue Apollo

Common Red Apollo (above and below)


Showing separate origin of veins 4 and 5 on hindwing (red arrow)(left) and chequered antennae (right)

« **79. Keeled Apollo** *Parnassius* (*Parnassius*) *jacquemontii*

5.5 to 7.5 cm. Sexes similar. Antennae not as prominently chequered as the **Common Red Apollo**. Base of upperside forewing dark, as also the area above the large red spot on forewing. Red spots on hindwing often white centered, which is never so in the **Common Red Apollo**.

Himalaya to Afghanistan, Uzbekistan and Kyrgyzstan above 3000m elevation.

77. Scarce Red Apollo

78. Common Red Apollo upperside (above) and underside (below)

Antennae of **Common Red Apollo**

Antennae of Keeled Apollo

Keeled Apollo subspecies *jacquemontii* (Himachal Pradesh)

Keeled Apollo subspecies *kangraensis* upperside (above) and underside (below) (Ladakh)

« **80. Large Keeled Apollo**
Parnassius (*Parnassius*)
tianschanicus

7 to 8 cm. Sexes similar. Antennae chequered black and white. The large size and rounded forewings (red circle) are distinctive. The upper red spot on hindwing usually of the same size as the lower one (red arrows), both spots larger than on other similar species. Fertilized females have a distinctive keel shaped pouch on the underside of the abdomen tip.

Chitral, Gilgit, 3000 to 4000m. China to Uzbekistan, Kyrgyzstan and Kazakhstan.

77. Scarce Red Apollo

78. Common Red Apollo

79. Keeled Apollo

87. Scarce Banded Apollo

Large Keeled Apollo (Kyrgyzstan: Naryn Mts.)

« **81. Regal Apollo** *Parnassius* (*Kailasius*) *charltonius*

8 to 9 cm. Large. Sexes similar. The large red spot on the hindwing and five blue and black spots along the edge of the hindwing are distinctive. Forewing without any red spots.

Pakistan to Uttarakhand and Nepal; China to Uzbekistan. Above 3200 m.

82. Fortuitous Apollo

88. Greater Banded Apollo

Regal Apollo ssp. *otto*

Regal Apollo underside

Regal Apollo ssp. *corporaali* (Ladakh: Hemis)

Regal Apollo ssp. *flaugeri* male (above) and female (below)

« **82. Fortuitous Apollo**
Parnassius (*Kailasius*) *inopinatus*

8 to 8.3 cm. Large. Very little dark scaling on the upperside hindwing. Hindwing with four prominent blue and black marks along bottom edge of hindwing.

Afghanistan, ?Pakistan.

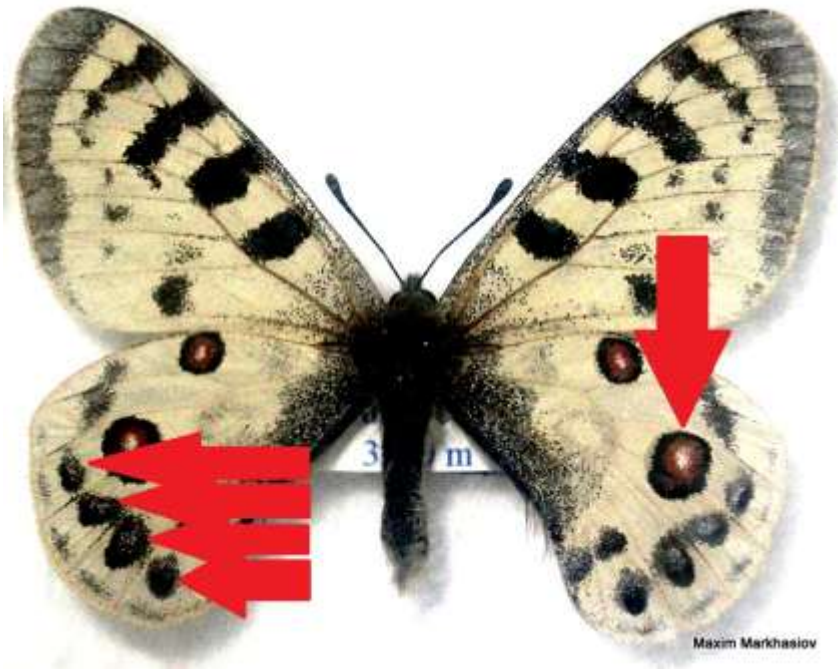
81. Regal Apollo ssp *corporaali*

81. Regal Apollo ssp. *flaugeri*

83. Stately Apollo

84. Noble Apollo

Fortutious Apollo (Afghanistan)



Fortuitous Apollo showing four blue and black marks on left hindwing (horizontal red arrows) and moderate sized black ringed red spot on right hindwing (vertical red arrow), which is larger in the **Regal Apollo** and smaller in the **Stately Apollo**.

« **83. Stately Apollo** *Parnassius* (*Kailasius*) *loxias*

8 cm. Large. The red spot in the middle of the hindwing is very small, often smaller than the red spot at the top of the hindwing. Five blue and black marks along the edge of the hindwing, the upper four usually on a dark background.

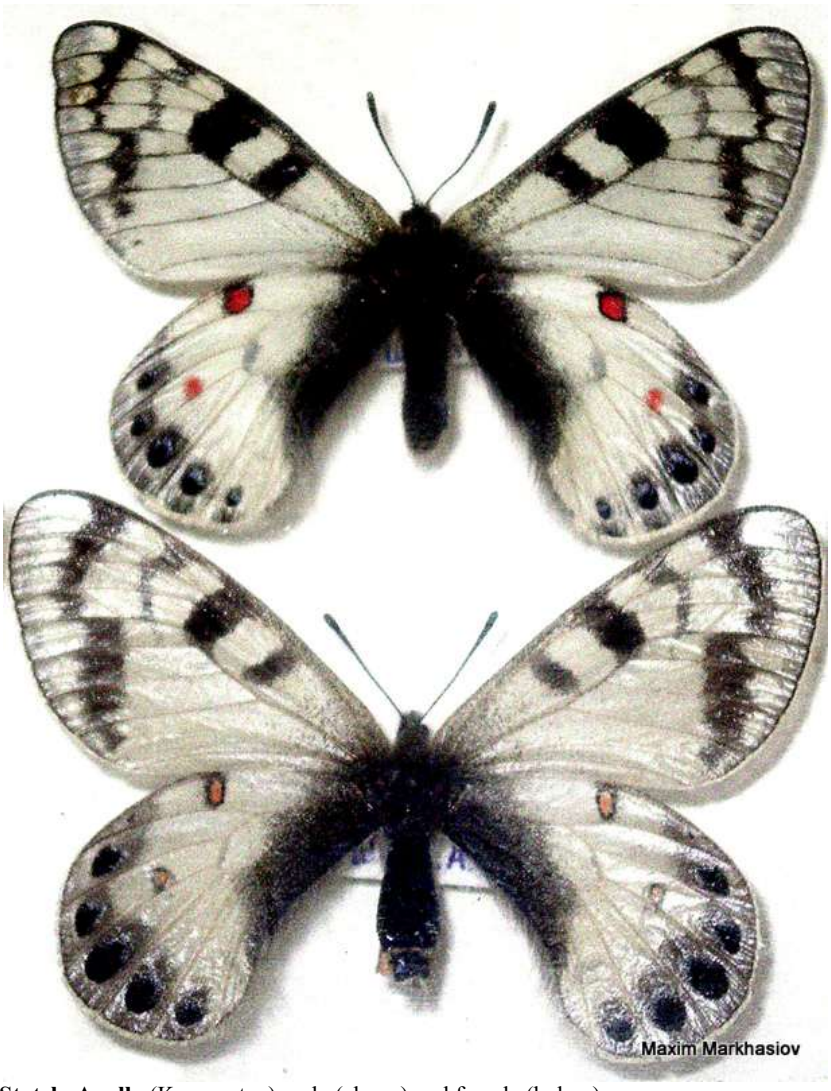
?NE Pakistan; China, Kyrgyzstan.

81. Regal Apollo ssp *otto*

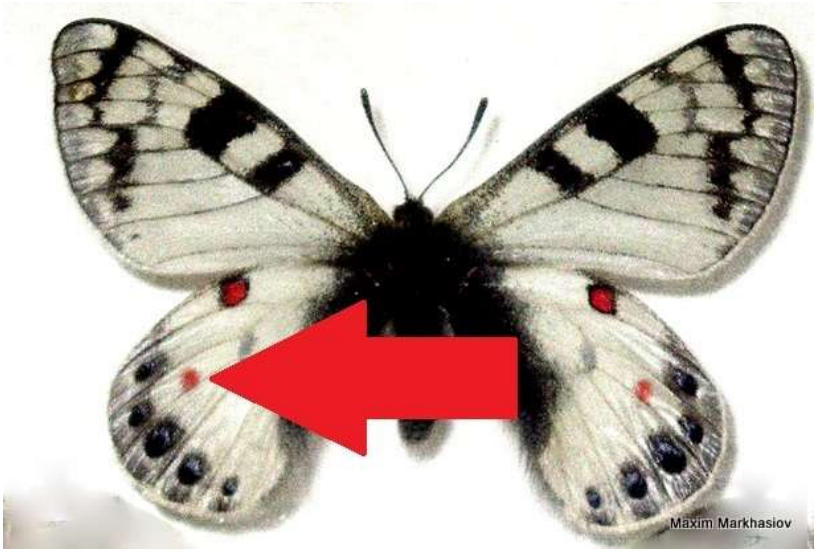
81. Regal Apollo ssp *flaugeri*

82. Fortuitous Apollo

84. Noble Apollo



Stately Apollo (Kyrgyzstan) male (above) and female (below)



Stately Apollo showing red spot in middle of wing (red arrow) which is smaller than the black ringed red spot at the top of the hindwing.

« **84. Noble Apollo** *Parnassius* (*Kailasius*) *augustus*

8 to 9 cm. The large size and two blue and black spots on the hindwing (red arrows), the black band joining the red spot on the hindwing to the trnus (red triangle), yellowish groundcolour and the red spot at the base of the upperside hindwing immediately distinguish this species from the **85. Dusky Apollo and the 92. Grand Apollo**, which also occurs in the E Himalaya.

On the border between India and Tibet in Sikkim, 5500 m.

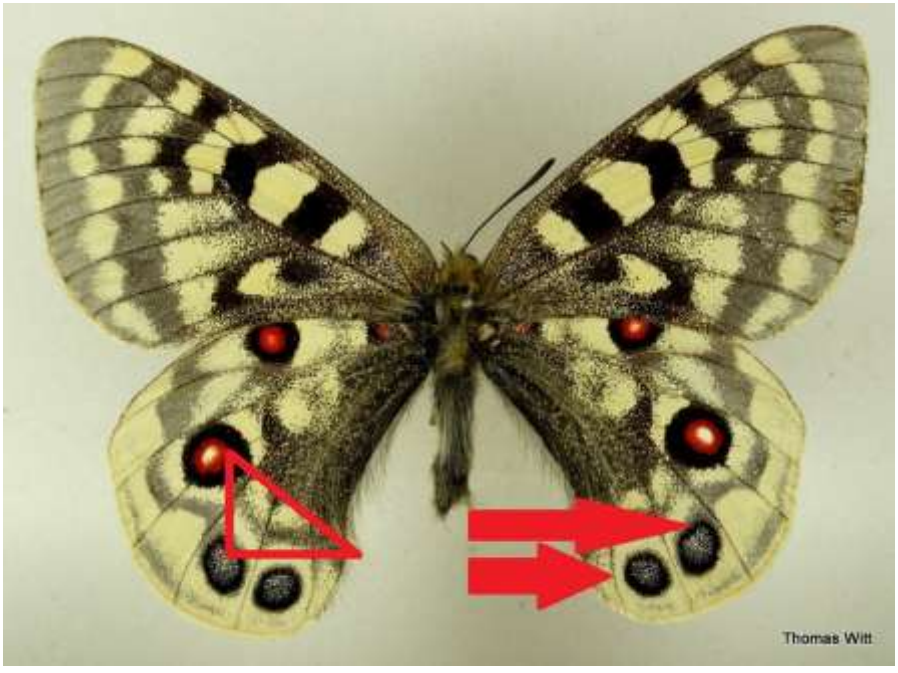
80. Large Keeled Apollo

85. Dusky Apollo

92. Grand Apollo

81. Regal Apollo

Noble Apollo upperside (above and below)



« **85. Dusky Apollo** *Parnassius* (*Kailasius*) *acdestis*

6.6 to 7.4 cm Medium sized, usually with the entire hindwing cell suffused with dark scales. The blue and black spots along the edge of the hindwing usually on a pale background, unlike the **Greater and Lesser Banded Apollos**.

Bhutan, China, India, Nepal, above 4300 m.

77. Scarce Red Apollo

78. Common Red Apollo

87. Scarce Banded Apollo

92. Grand Apollo

Dusky Apollo ssp *marki* underside

Dusky Apollo ssp. *rupshuana*

Dusky Apollo ssp. *laurentii* (above) and ssp *marki* (W Nepal: below)

« **86. Karakoram Banded Apollo**
Parnassius (*Koramius*)
(*staudingeri*) *hunza*

7 cm. Underside no red spot at base of hindwing. Upperside rarely with red markings, usually these are reduced to dark spots.

Pakistan (Chitral) and India (Pakistan Occupied Kashmir: Hunza; Baltistan 5000 m)

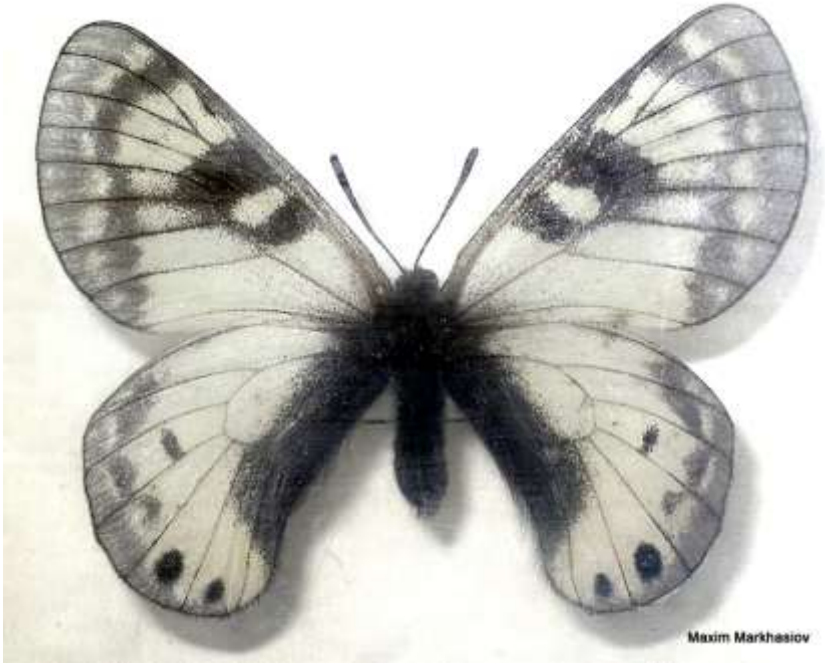
89. Lesser Banded Apollo

90. Himalayan Banded Apollo

93. Royal Apollo

94. Hannyngton's Apollo

Pamir Banded Apollo *Parnassius staudingeri* (Tien Shan)



Karakoram Banded Apollo upperside

Pamir Banded Apollo *Parnassius staudingeri* (ex-USSR, Gissar mts)

« **87. Scarce Banded Apollo**
Parnassius (*Koramius*)
(*staudingeri*) *mamaievi*

7 cm. Groundcolour white, not yellowish. Hindwing with two blue and black spots near bottom edge of hindwing, the remaining spots obsolete. Forewing never with red spots.

India : (Pakistan Occupied Kashmir: Gilgit; Baltistan; Karakoram Pass) to Jammu & Kashmir (Ladakh: Chalsi, 4600 to 5000 m; Zanskar)

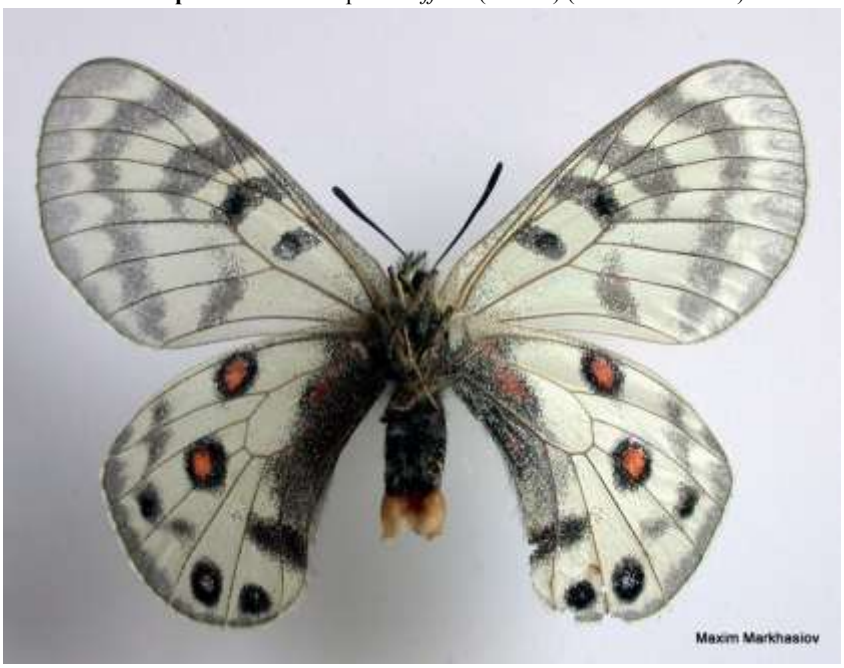
88. Greater Banded Apollo

89. Lesser Banded Apollo

92. Grand Apollo

Pamir Banded Apollo *Parnassius staudingeri* Tien-Shan

Scarce Banded Apollo female subspecies *affinis* (Deosai) (above and below)



90. Himalayan Banded Apollo female upperside (left) and underside (right)

« **88. Greater Banded Apollo**
Parnassius (*Koramius*) *stenosemus*

6.4 to 6.8 cm. Hindwing generally with a large red spot and a smaller one near apex, which may be absent. Forewing with the dark band (red arrow below) well developed. Hindwing dark border narrow (red arrow below), restricted to the wing edge unlike **Lesser Banded Apollo**, where it is broad and encompasses the row of blue and black spots.

India (Ladakh to Uttarakhand), Pakistan(Chilas, Astor). 3800 to 5000 m.

89. Lesser Banded Apollo

90. Himalayan Banded Apollo

Greater Banded Apollo

Greater Banded Apollo underside

Greater Banded Apollo subspecies *nadiae*

Greater Banded Apollo subspecies *nadiae* (above and below)

« **89. Lesser Banded Apollo**
Parnassius (*Koramius*) *stoliczkanus*

5.2 to 6 cm. Sexes similar. Distinguished by having a reduced dark band across the middle of the upperside forewing (red arrow below) and a wider dark border to the upperside hindwing (red arrow below) than the **Greater Banded Apollo**.

India, Nepal, Pakistan. 4050 to 5000 m.

88. Greater Banded Apollo (above and below)

88. Greater Banded Apollo underside

90. Himalayan Banded Apollo

Lesser Banded Apollo ssp. *tenuis* (above) and *parangensis* (below and bottom)

Lesser Banded Apollo ssp *parangensis* underside: note dark hindwing border

« **90. Himalayan Banded Apollo**
Parnassius (*Koramius*)
kumaonensis

4.8 mm to 5.2 cm. The subspecies *kumaonensis* has a black ringed red spot at the upper edge of the hindwing, not visible in the sketch below. The subspecies *nobuko* differs from the Lesser Banded Apollo which occurs with it in Nepal in having two red spots in the middle and upper part of the hindwing,and no red tornal hindwing mark, unlike the Lesser Banded Apollo which has a single large red spot in the middle of the hind wing and a prominent red tornal mark on the hindwing.

Uttarakhand; W. Nepal (4500 m).

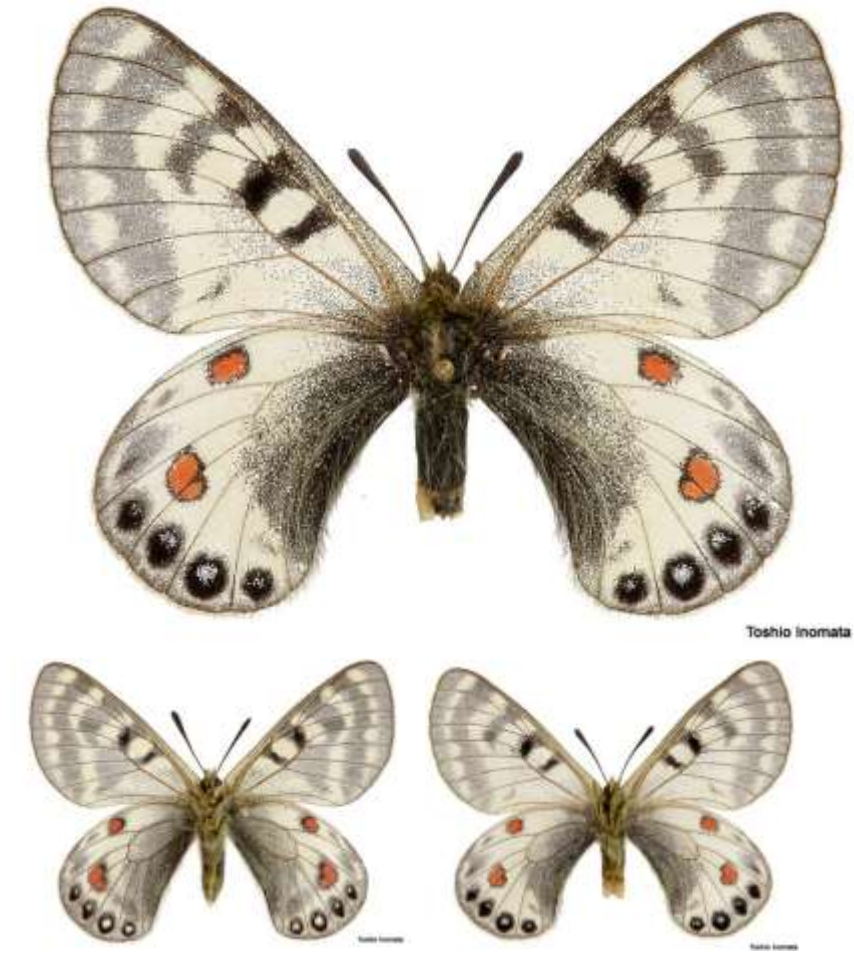
86. Karakoram Banded Apollo

89. Lesser Banded Apollo

Himalayan Banded Apollo ssp. *nandadevinensis* (sketch)

Himalayan Banded Apollo ssp. *kumaonensis* (sketch)

Himalayan Banded Apollo ssp. *nobuko* male (above) female (below)



Himalayan Banded Apollo underside, male (left) and female (right)

« **91.Varnished Apollo** *Parnassius* (*Tadumia*) *acco*

4 to 6.5 cm. The small size and the red spot at the base of the upperside hindwing distinguish this from the larger **78. Common Red Apollo** and the similarly small **96. Black Edged Apollo**.

The underside of the wings has a varnished appearance.

Pakistan to the eastern Himalaya and China above 4500 m.

78. Common Red Apollo

96. Black Edged Apollo (above and below)

Varnished Apollo ssp *tagalangi*

Varnished Apollo ssp. *tagalangi* (above and below)

Varnished Apollo (S. Tibet 5300 m)

« **92. Grand Apollo** *Parnassius* (*Tadumia*) *cephalus*

6.6 to 7.6 cm. Smaller than the **Regal Apollo** and **Noble Apollo**. The **Regal Apollo** has four black ringed blue spots along the hindwing edge; the **Grand Apollo** has two. The **Noble Apollo** has the large red spot on the hindwing joined to the hindwing tornus by a narrow dusky band (red triangle), which is lacking in the **Grand Apollo**. Some specimens of the Grand Apollo lack all red markings.

China, Nepal (Dhaulagiri- Mustang; Mooting, 4460 - 5400m).

81. Regal Apollo

84. Noble Apollo

85. Dusky Apollo

87. Scarce Banded Apollo

Grand Apollo subspecies *horii*

Grand Apollo ssp. *ares* **COTYPE** (China: Kansu: sud-Datungsche Berge, 4000 – 4500 m): note border of forewing uniformly black (red circle below)

« **93. Royal Apollo** *Parnassius* (*Tadumia*) *maharaja*

7 cm. Sexes similar. Markings indistinct, no red colour. Base of forewing not darkened. Larger than **94. Hannyngton's Apollo** and the hindwing is edged with black.

China, India. 5300 to 5900m.

86. Karakoram Banded Apollo

90. Himalayan Banded Apollo

94. Hannyngton's Apollo

95. Common Blue Apollo

96. Black Edged Apollo

Royal Apollo ssp. *maharaja* (above and below)

Royal Apollo showing distinctive dark mark on forewing.

« **94. Hannyngton's Apollo**
Parnassius (*Tadumia*) *hunnyngtoni*

4 to 4.5 cm. Small. Sexes similar. Female with pendulous white pouch. No red markings. Hindwing margin white (red arrow).

China; Tibet (Chumbi Valley to northern face of Mt Everest: Rongbuk, 5000m), so it is likely that this species occurs along the Tibetan border with Nepal and India in the trans-Himalayan zone.

The smallest member of the Papilionidae family in the world.

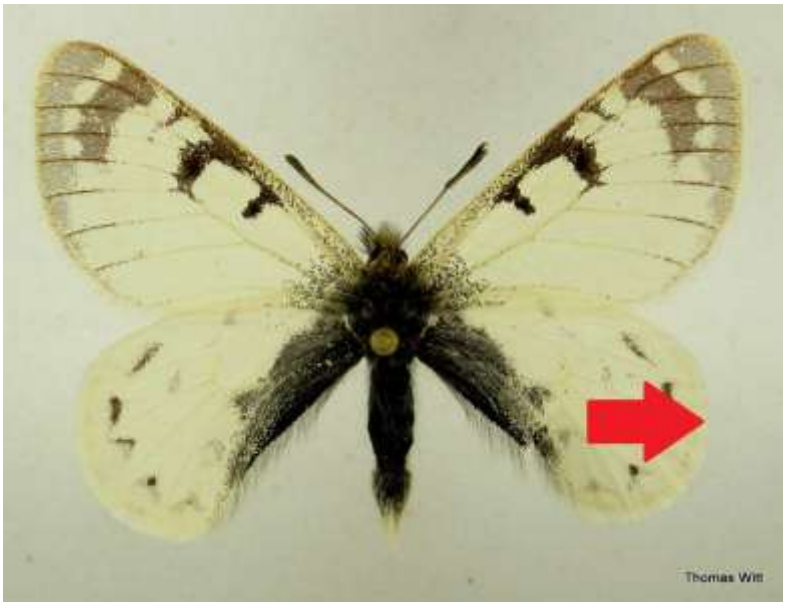
90. Himalayan Banded Apollo

91. Varnished Apollo

93. Royal Apollo

96. Black Edged Apollo

Hannyngton's Apollo upperside ssp. *lilliput*



« **95. Common Blue Apollo**
Parnassius (*Lingamius*) *hardwickii*

5 to 6.5 cm. Sexes similar. The row of blue and black rings with white centres along the hindwing is distinctive. Hindwing cell never completely dusky. Some individuals with no red marks on the wings. Very variable.

Pakistan to the eastern Himalaya including Bhutan; China.

Common Blue Apollo showing the female's yellow pouch at the end of the abdomen.

85. Dusky Apollo

78. Common Red Apollo

91. Varnished Apollo

96. Black-Edged Apollo

Common Blue Apollo uppersides (above)

Common Blue Apollo undersides (above)

« **96. Black-Edged Apollo**
Parnassius (*Kreizbergia*) *simo*

4.5 to 5.5 cm. Small. Sexes similar. Distinguished from the **91. Varnished Apollo** by the black edge to the forewing and the lack of a red spot near the base of the upperside hindwing. The pouch of the female is black.

Pakistan to the E Himalaya, Bhutan, China. Found around 4900 m elevation.

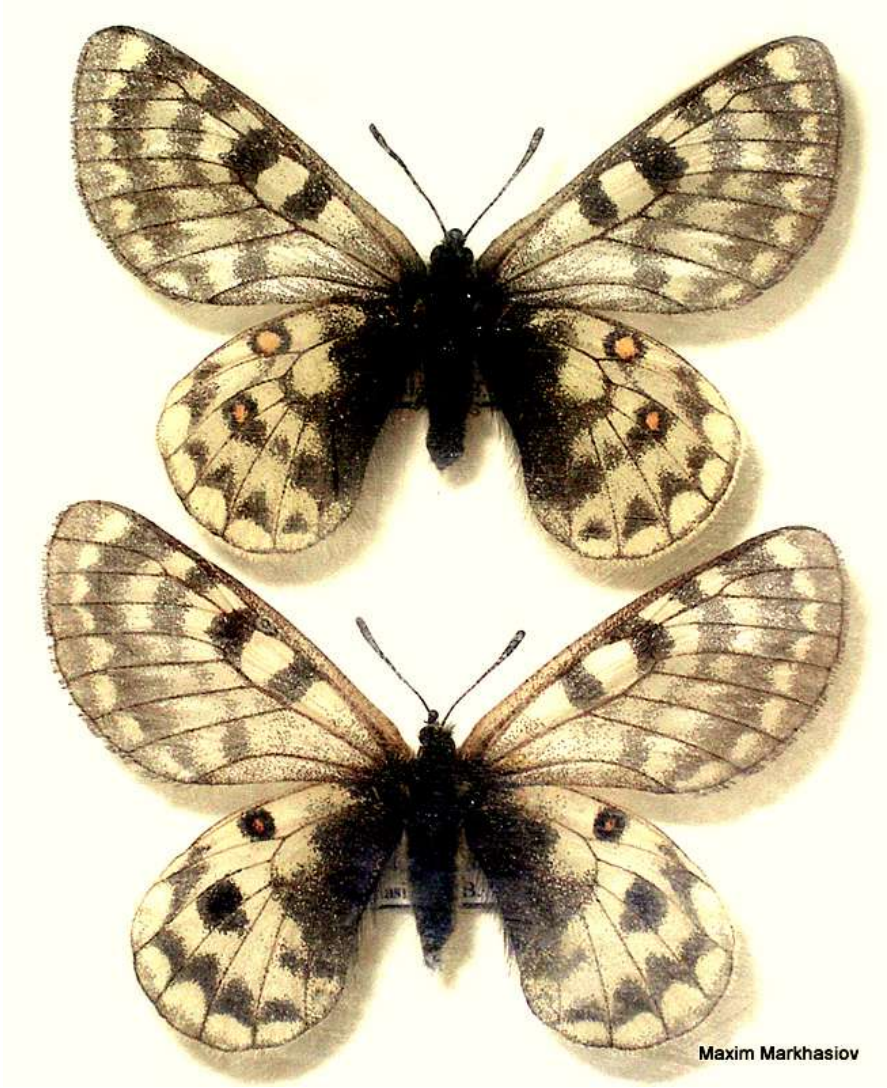
78. Common Red Apollo

91. Varnished Apollo

94. Hannyngton's Apollo

Black-Edged Apollo ssp. *zarraensis*

Black-Edged Apollo mating (Ladakh: Konmaru La, 4900 m)



Black Edged Apollo ssp. *ganymedes*

‹‹ LIST OF PAPILIONIDAE OF THE INDIAN SUBCONTINENT

Family PAPILIONIDAE

Subfamily Papilioninae

Tribe Troidini

(1) Genus *Losaria* Moore, 1902

1. *Losaria coon* (Fabricius, 1793)

i. *L. c. cacharensis* (Butler, 1885) – Assam, Meghalaya, Bangladesh.

ii. *sambilanga* (Doherty, 1886) – Nicobar Is.

2. *Losaria rhodifer* (Butler, 1876) – Andaman Is.

(2) *Pachliopta* Reakirt, 1865

3. *Pachliopta hector* (Linnaeus, 1758) – Peninsular India to W. Bengal. Visitor to Bangladesh. Straggler on the Andamans. One record in 1949 from Uttarakhand.

4. *Pachliopta jophon* (Gray, 1852) – Sri Lanka.

5. *Pachliopta pandiyana* (Moore, 1881) – Western Ghats south of Goa.

6. *Pachliopta aristolochiae* (Fabricius, 1775)

i. *P. a. ceylonicus* (Moore 1881) – Sri Lanka.

ii. *P. a. aristolochiae* (Fabricius, 1775) – Pakistan. Throughout India. Nepal, Bangladesh, Bhutan at low elevation..

iii. *P. a. sawi* (Evans, 1932) – Car Nicobar Is.

iv. *P. a. goniopeltis* (Rothschild, 1938) – Andaman Is.

v. *P. a. camorta* (Moore, 1877) - Central Nicobar Is.

vi. *P. a. kondulana* (Evans, 1932) - South Nicobar is.

(3) Genus *Troides* Hübner, 1819

7. *Troides helena* (Linnaeus, 1758)

i. *T. h. cerberus* (C. & R. Felder, 1865) – Nepal to Arunachal Pradesh, Assam, Meghalaya, Nagaland, Manipur, Orissa, Mizoram, Sikkim, Tripura, W. Bengal. Bangladesh, Bhutan .

ii. *T. h. heliconoides* (Moore, 1877) - Andaman Is.

iii. *T. h. ferrari* Tytler, 1926 - South Nicobar Is.

8. *Troides minos* (Cramer, 1779) - Western Ghats south of Maharashtra.

9. *Troides darsius* (Gray, 1852) – Sri Lanka.

10. *Troides aeacus* (C. & R. Felder, 1860)

i. *T. a. aeacus* (C. & R. Felder, 1860) - Arunachal Pradesh, Assam, Nagaland, Manipur, Meghalaya, Mizoram, Tripura, Sikkim, Uttarakhand, W. Bengal. Bangladesh; Bhutan; Nepal.

(4) Genus *Atrophaneura* Reakirt, 1865

11. *Atrophaneura aidoneus* (Doubleday, 1845) - Arunachal Pradesh, Assam, Manipur, Meghalaya, Nagaland, Sikkim, Tripura, Uttarakhand. Nepal; Bhutan.

12. *Atrophaneura varuna* (White, 1842)

i. *A. v. astorion* (Westwood, 1842) - Arunachal Pradesh, Assam, Manipur, Meghalaya, Nagaland, Sikkim, Tripura, Uttarakhand, W. Bengal. Nepal, Bhutan, Bangladesh.

(5) Genus *Byasa* Moore, 1882

13. *Byasa latreillei* (Donovan, 1826)

i. *B. l. latreillei* (Donovan, 1826) - ?Himachal Pradesh, ?Jammu & Kashmir, Sikkim, Uttarakhand, W. Bengal. Nepal; Bhutan. (The species occurs in Afghanistan, so perhaps there are undiscovered populations in Pakistan).

ii. *B. l. kabrua* (Tytler, 1915) - Arunachal Pradesh, Assam, Manipur, Meghalaya, Nagaland.

14. *Byasa polla* (de Nicéville, 1897) - Arunachal Pradesh, Nagaland, Manipur. Bhutan.

15. *Byasa nevilli* (Wood-Mason, 1882) – Assam (Silchar), ?Meghalaya.

16. *Byasa polyeuctes* (Doubleday, 1842)

i. *B. p. polyeuctes* (Doubleday, 1842) - Arunachal Pradesh, Assam, Manipur, Meghalaya,

‹‹ Mizoram, Nagaland, Sikkim, W. Bengal. Bhutan.

i *B. p. letincius* (Fruhstorfer, 1908) – Pakistan; Himachal Pradesh, Jammu & Kashmir, Uttarakhand, Nepal.

17. *Byasa dasarada* (Moore, 1858)

i. *B. d. dasarada* (Moore, 1858) - Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, W. Bengal. Nepal, Bhutan.

ii. *B. d. ravana* (Moore, 1858) - Himachal Pradesh, Jammu & Kashmir, Sikkim, Uttarakhand. Nepal.

18. *Byasa crassipes* (Oberthür, 1893) – Arunachal Pradesh, Manipur.

19. *Byasa plutonius* (Oberthür, 1876)

i. *B. p. pembertoni* Moore, 1902 - ?Arunachal Pradesh, Sikkim, W. Bengal. Nepal, Bhutan.

ii. *B. p. tytleri* Evans, 1923 - Manipur, Nagaland.

Tribe Papilionini

(1) Genus *Papilio* Linnaeus, 1758

20. *Papilio agestor* Gray, 1831

i. *P. a. govindra* Moore, 1864 – Pakistan; Himachal Pradesh, Jammu & Kashmir, Uttarakhand. Nepal.

ii. *P. a. agestor* Gray, 1831 - Arunachal Pradesh, Manipur, Meghalaya, Nagaland, Sikkim, W. Bengal. Nepal, Bhutan.

21. *Papilio epycides* Hewitson, 1864

i. *P. e. epycides* Hewitson, 1864 - Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, W. Bengal. Nepal, Bhutan.

22. *Papilio slateri* Hewitson, 1859

i. *P. s. slateri* Hewitson, 1859 - Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, W. Bengal. Bhutan, Bangladesh.

23. *Papilio paradoxa* (Zincken, 1831)

i. *P. p. telearchus* Hewitson, 1852 - Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland. Bhutan, Bangladesh.

24. *Papilio clytia* Linnaeus, 1758

i. *P. c. lankeswara* (Moore, 1879) – Sri Lanka.

ii. *P. c. clytia* Linnaeus, 1758 - Throughout Pakistan, Nepal, Bhutan, Bangladesh, India except Jammu & Kashmir, Punjab and Rajasthan, below 2750 m elevation.

iii. *P. c. flavolimbatus* Oberthür, 1879 - Andaman Islands.

25. *Papilio polymnestor* Cramer, 1775

i. *P. p. parinda* (Moore, 1881) – Sri Lanka.

ii. *P. p. polymnestor* Cramer, 1775 - Peninsular India as far north as W. Bengal and Bangladesh, to Madhya Pradesh and Gujarat. Nepal.

26. *Papilio memnon* Linnaeus, 1758

i. *P. m. agenor* Linnaeus, 1758 - Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, South Nicobar Islands, Tripura, W. Bengal. Bhutan, Bangladesh and Nepal.

27. *Papilio mayo* Atkinson, 1874 - Andaman Islands.

28. *Papilio bootes* Westwood, 1842

i. *P. b. bootes* Westwood, 1842 – Meghalaya.

ii. *P. b. mixta* Tytler, 1915 - Manipur, Nagaland.

iii. *P. b. janaka* Moore, 1857 - Arunachal Pradesh, Assam, Sikkim, Uttarakand, W. Bengal. Nepal, Bhutan.

29. *Papilio alcmenor* C. & R. Felder, 1865

i. *P. a. alcmenor* C. & R. Felder, 1865 - Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Uttarakhand, W. Bengal. Bhutan, Nepal, Bangladesh.

30. *Papilio protenor* Cramer, 1775

i. *P. p. euprotenor* Fruhstorfer, 1908 - Arunachal Pradesh, Assam, Himachal Pradesh, Jammu & Kashmir, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Uttarakhand, W. Bengal. Nepal, Bhutan. ? Bangladesh.

‹‹ 31. *Papilio elephenor* Doubleday, 1845 - Assam. Bangladesh (type locality "Sylhet").

32. *Papilio bianor* Cramer, 1777

i. *P. b. polyctor* Boisduval, 1836 – Pakistan; Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

ii. *P. b. ganesa* Moore, 1842 - Arunachal Pradesh, Assam, Sikkim, W. Bengal. Nepal, Bhutan.

iii. *P. b. gladiator* Fruhstorfer, 1902 - Manipur, Meghalaya. Bangladesh.

33. *Papilio paris* Linnaeus, 1758

i. *P. p. paris* Linnaeus, 1758 - Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Orissa, Sikkim, Uttarakhand, W. Bengal. Nepal, Bhutan, Bangladesh.

ii. *P. p. tamilana* Moore, 1881 - Western Ghats as far north as Maharashtra.

34. *Papilio arcturus* Westwood, 1842

i. *P. a. arcturus* Westwood, 1842 - Arunachal Pradesh, Manipur, Meghalaya, Nagaland, Sikkim, W. Bengal. Nepal, Bhutan.

ii. *P. a. arius* Rothschild, 1908 – Pakistan; Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

35. *Papilio krishna* Moore, 1858

i. *P. k. krishna* Moore, 1858 - Arunachal Pradesh, Sikkim, W. Bengal. Nepal, Bhutan.

ii. *P. k. manipuri* Tytler, 1939 – Manipur.

36. *Papilio crino* Fabricius, 1793 – Sri Lanka, Peninsular India as far north as W Bengal.

37. *Papilio buddha* Westwood, 1872 - Western Ghats as far north as Goa.

38. *Papilio dravidarum* Wood-Mason, 1880 - Western Ghats as far north as Goa.

39. *Papilio castor* Westwood, 1842

i. *P. c. castor* Westwood, 1842 - Assam, Manipur, Meghalaya, Mizoram, Nagaland.

ii. *P. c. polias* Jordan, 1909 - Arunachal Pradesh, Sikkim, W. Bengal. Nepal, Bhutan, Bangladesh.

40. *Papilio helenus* Linnaeus, 1758

i. *P. h. helenus* Linnaeus, 1758 - Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Uttarakhand, W. Bengal. Nepal. Bhutan, Bangladesh.

ii. *P. h. moooreanus* Rothschild, 1895 – Sri Lanka.

iii. *P. h. daksha* Hampson, 1889 - Western Ghats south of Gujarat.

41. *Papilio nephelus* Boisduval, 1836

i. *P. n. chaon* Westwood, 1844 - Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Orissa, Sikkim, Tripura, W. Bengal. Nepal, Bhutan, Bangladesh.

42. *Papilio prexaspes* C. & R. Felder, 1865

i. *P. p. andamanicus* Rothschild, 1908 - Andaman Islands.

43. *Papilio polytes* Linnaeus, 1758

i. *P. p. romulus* Cramer, 1775 - Throughout Sri Lanka, Nepal, Bhutan, Bangladesh, Pakistan and mainland India below 2000 m elevation.

ii. *P. p. stichioides* Evans, 1912 - Andaman Islands.

iii. *P. p. nikobarus* C. Felder, 1863 - Nicobar Islands.

44. *Papilio liomedon* Moore, 1875 - Western Ghats as far north as Goa

45. *Papilio demoleus* Linnaeus, 1758

i. *P. d. demoleus* Linnaeus, 1758 - Throughout Sri Lanka, Pakistan, Nepal, Bhutan, Bangladesh and India below 2000 m elevation.

46. *Papilio xuthus* Linnaeus, 1767 – Arunachal Pradesh.

47. *Papilio alexanor* Esper, 1799

i. *P. a. hazarajatica* Wyatt, 1961 – Baluchistan.

48. *Papilio machaon* Linnaeus, 1758

i. *P. m. asiatica* Ménétriès, 1855 – Pakistan, Himachal Pradesh, Jammu & Kashmir, Uttarakhand. Nepal.

ii. *P. m. ladakensis* Moore, 1884 - Jammu & Kashmir (at high altitude in Ladakh).

‹‹ iii. *P. m. verityi* Fruhstorfer, 1907 - Arunachal Pradesh, Manipur, Meghalaya, Nagaland.

iv. *P. m. hookeri* Gaonkar, 1999 – Bhutan, Sikkim, W. Bengal (high altitude).

Tribe Leptocircini

(1) Genus *Graphium* Scopoli, 1777

49. *Graphium eurous* (Leech, 1893)

i. *G. e. caschmirensis* Rothschild, 1895 - Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

ii. *G. e. sikkimica* Heron, 1899 - Arunachal Pradesh, ?Manipur, Meghalaya, ?Nagaland, Sikkim, W. Bengal. Nepal, Bhutan.

50. *Graphium mandarinus* (Oberthür, 1879)

i. *G. m. garhwalica* (Katayama, 1988) - Uttarakhand. Nepal.

ii. *G. m. paphus* (de Nicéville, 1886) - Arunachal Pradesh, Sikkim, W. Bengal. Nepal east of Annapurna massif. Bhutan.

51. *Graphium agetes* (Westwood, 1843)

i. *G. a. agetes* (Westwood, 1843) - Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, W. Bengal. Bhutan, Bangladesh.

52. *Graphium nomius* (Esper, 1799)

i. *G. n. nomius* (Esper, 1799) – Sri Lanka. Delhi, Rajasthan, Sikkim, Uttarakhand, Uttar Pradesh, Bihar, throughout drier parts of Southern India to W. Bengal. Nepal;Bhutan Bangladesh.

ii. *G. n. swinhoei* (Moore, 1878) - Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland.

53. *Graphium aristeus* (Stoll, 1781)

i. *G. a. anticrates* (Doubleday, 1846) - Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, W. Bengal, Bhutan, Bangladesh.

54. *Graphium antiphates* (Cramer, 1775)

i. *G. a. ceylonicus* (Eimer, 1889) – Sri Lanka.

ii. *G. a. alcibiades* (Fabricius, 1787) - Western Ghats as far north as Goa

iii. *G. a. pompilius* (Fabricius, 1787) - Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, W. Bengal. Nepal; Bhutan and Bangladesh.

55. *Graphium epaminondas* (Oberthür, 1789) - Andaman Islands.

56. *Graphium cloanthus* (Westwood. 1841)

i. *G. c. cloanthus* (Westwood, 1841) - Throughout the Himalaya and N.E. India. Bhutan, Nepal.

57. *Graphium sarpedon* Linnaeus, 1758

i. *G. s. sirkari* Page & Treadaway, 2013 - Throughout the Himalaya and N.E. India. Nepal, Bhutan, Bangladesh.

58. *G. teredon* (C. & R. Felder, 1864) – Sri Lanka. W. Ghats as far north as Gujarat; ?Madhya Pradesh.

59. *Graphium adonarensis* (Rothschild, 1896)

i. *G. a. septentrionicolus* Page & Treadaway, 2013 – Meghalaya.

60. *Graphium doson* (C. & R. Felder, 1864)

i. *G. d. doson* (C. & R. Felder, 1864) – Sri Lanka.

ii. *G. d. axionides* (Page & Treadaway, 2014) - along the Himalaya from Uttarakhand to Arunachal Pradesh and N.E. India. ?Delhi. Nepal, Bhutan, Bang;adesh.

iii. *G. d. eleius* (Fruhstorfer, 1907) - S. India to W. Bengal.

61. *Graphium albociliatis* (Fruhstorfer, 1901) - Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland.

62. *Graphium eurypylus* (Linnaeus, 1758)

i. *G. e. acheron* (Moore, 1885) - Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, W. Bengal. Bangladesh, Bhutan.

ii. *G. e. macronius* (Jordan, 1909) - Andaman Islands.

63. *Graphium chironides* (Honrath, 1884)

i. *G. c. chironides* (Honrath, 1884) - Arunachal Pradesh, Assam, Manipur, Meghalaya,

‹‹ Mizoram, Nagaland, Sikkim, W. Bengal. Nepal, Bhutan, Bangladesh.

64. *Graphium arycles* (Boisduval, 1836)

i. *G. a. occidentalis* Page & Treadaway, 2014 – Mizoram, Manipur, Nagaland.

65. *Graphium agamemnon* (Linnaeus, 1758)

i. *G. a. agamemnon* (Linnaeus, 1758) - Himalaya from Uttarakhand to Arunachal Pradesh, N.E. India.

ii. *G. a. menides* (Fruhstorfer, 1904) – Sri Lanka, S. India to W. Bengal and Bangladesh.

iii. *G. a. andamana* (Lathy, 1907) - Andaman Islands.

iv. *G. a. decoratus* (Rothschild, 1895) - Car and Central Nicobar Islands.

v. *G. a. pulo* (Evans, 1932) - S Nicobar Islands.

66. *Graphium macareus* (Godart, 1819)

i. *G. m. indicus* (Rothschild, 1895) – Nepal, Sikkim, W. Bengal, Bhutan.

ii. *G. m. lioneli* (Fruhstorfer, 1902) - Arunachal Pradesh, Assam, Manipur, Meghalaya, Nagaland. Bangladesh.

67. *Graphium xenocles* (Doubleday, 1842)

i. *G. x. xenocles* (Doubleday, 1842) - Sikkim, Uttarakhand, W. Bengal. Nepal.

ii. *G. x. phrontis* (de Nicéville, 1897) - Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland. Bangladesh.

68. *Graphium megarus* (Westwood, 1844)

i. *G. m. megarus* (Westwood, 1844) - Arunachal Pradesh, Assam, Manipur, Meghalaya, Nagaland.

(2) Genus *Lamproptera* Gray, 1832

69. *Lamproptera curius* (Fabricius, 1787)

i. *L. c. curius* (Fabricius, 1787) - Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland. Bangladesh.

70. *Lamproptera meges* (Zinken, 1831)

i. *L. m. virescens* (Butler, 1870) - Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland.

Tribe Teinopalpini

(1) Genus *Meandrusa* Moore, 1888

71. *Meandrusa lachinus* (Fruhstorfer, 1902)

i. *M. l. lachinus* (Fruhstorfer, 1902) - Arunachal Pradesh, Manipur, Meghalaya, Nagaland, Sikkim, Uttarakhand, W. Bengal. Nepal, Bhutan.

72. *Meandrusa payeni* (Boisduval, 1836)

i. *M. p. evan* (Doubleday, 1845) - Arunachal Pradesh, Assam, Manipur, Meghalaya, Nagaland, Sikkim, W. Bengal.

(2) Genus *Teinopalpus* Hope, 1843

73. *Teinopalpus imperialis* Hope, 1843

i. *T. i. imperialis* Hope, 1843 - Assam, Manipur, Meghalaya.

ii. *T. i. himalaicus* Rothschild, 1898 – Nepal, Arunachal Pradesh, Sikkim, W. Bengal. Bhutan.

Subfamily Parnassiinae

Tribe Zerynthiini

(1) Genus *Bhutanitis* Atkinson, 1873

74. *Bhutanitis lidderdalii* Atkinson, 1873

i. *B. l. lidderdalii* Atkinson, 1873 - Arunachal Pradesh, Manipur, Meghalaya, Nagaland, Sikkim, W. Bengal. Bhutan.

75. *Bhutanitis ludlowi* Gabriel, 1942 – Bhutan, western Arunachal Pradesh.

Tribe Parnassiini

(1) Genus Hypermnestra Menetries, 1846

76. *Hypermnestra helios* Nickerl

‹‹ i. *H. h. balucha* Moore, 1906 – Baluchistan.

(2) Genus *Parnassius* Latreille, 1804

77. *Parnassius* (*Parnassius*) *actius* Eversmann, 1843

i. *P. a. catilina* Eisner & Peschke, 1934 – ?Pakistan (Dardistan (Doubounni Mts.- location unknown))

ii. *P. a. lahulensis* Weiss, 1990 – Himachal Pradesh (Baralacha Pass, 5300 m)

iii. *P. a. sulla* Bryk & Eisner, 1934 – Pakistan (Chitral: Baroghil pass); Afghanistan (Faizabad).

iv. *P. a. yelyangi* Bang-Haas, 1934 – Jammu & Kashmir (Zanskar: Yelyang Pass)

78. *Parnassius* (*Parnassius*) *epaphus* Oberthur, 1879

i. *P. e. bashahricus* Bang-Haas, 1915 – Himachal Pradesh (Bashahr: Stargyusa, 5000 m)

ii. *P. e. boschmai* Eisner, 1964 – Nepal (Khumbu 4000 m)

iii. *P. e. capdevillei* Epstein, 1979 – Nepal (Charkhabot, near Dangarjong, 4300 – 4400 m)

iv. *P. e. epicus* Bryk & Eisner, 1934 – Pakistan (Doubounni Mts. ?location unknown)

v. *P. e. gyaella* Eisner, 1932 – Jammu & Kashmir (Ladakh: Tagalang Pass, 5000m)

vi. *P. e. hinducucica* Bang-Haas, 1934 – Pakistan (Chitral, 6100m)

vii. *P. e. puella* Bryk, 1935 – Jammu & Kashmir (Ladakh)

viii. *P. e. puer* Bryk & Eisner, 1932 – Himachal Pradesh (Rohtang Pass, 4050 m)

ix. *P. e. rienki* Eisner & Weiss, 1990 – Jammu & Kashmir (Ladakh: Pensi La, 4400 – 4600 m)

x. *P. e. robertsi* Epstein, 1979 – Nepal (Muktinath, 4800 m)

xi. *P. e. sculptor* Bryk & Eisner, 1939 – Pakistan Occupied Kashmir (Karakorum: Masherbrum, 5000 m)

79. *Parnassius* (*Parnassius*) *jacquemontii* Boisduval, 1836

i. *P. j. baroghila* Tytler, 1926 – Pakistan : (Chitral: Baroghil Pass; Yarkhun)

ii. *P. j. himalayensis* Elwes, 1886 – Himachal Pradesh (Lahaul, 3775 – 4925 m)

iii. *P. j. hunzaica* Tytler, 1926 – Pakistan Occupied Kashmir (Hunza: Mishar)

iv. *P. j. jacquemontii* Boisduval, 1836 – Type locality, "Himalaya", exact locality unknown.

v. *P. j. kangraensis* Bryk & Eisner, 1912 – Himachal Pradesh (Kangra: Rohtang Pass, 4050 m)

vi. *P. j. rhodius* Honrath, 1882 – Jammu & Kashmir (Ladakh)

vii. *P. j. shandura* Tytler, 1926 – Pakistan (Chitral: Shandur Pass)

80. *Parnassius* (*Parnassius*) *tianschanicus* Oberthur

i. *P. t. binghami* Bryk, 1934 – Pakistan (Chitral, 3600 m)

ii. *P. t. gilgitensis* Bang-Haas, 1932 – Pakistan (Chitral); Pakistan Occupied Kashmir (Gilgit, 3000- 4000 m)

81. *P.* (*Kailasus*) *charltonius* Gray , 1852

i. *P. c. amabilis* Bryk & Eisner, 1932 – Himachal Pradesh (Rohtang Pass).

ii. *P. c. basharianus* Eisner, 1969 – Himachal Pradesh (Bashahr)

iii. *P. c. bryki* Haude, 1912 – Uttarakhand (Nilang Pass, 5000m)

iv. *P. c. charltonius* Gray, 1852. ? W. Nepal.

v. *P. c. corporaali* Bryk, 1935 – Jammu & Kashmir (N. Ladakh).

vi. *P. c. deckerti* Verity, 1907 – Jammu & Kashmir.

vii. *P. c. ducalis* Boullet & Le Cerf, 1912 – Pakistan (Chitral)

viii. *P. c. eisnerianus* Bryk, 1931 – Jammu & Kashmir (Rupshu, Ladakh)

ix. *P. c. ella* Bryk, 1931 – Pakistan Occupied Kashmir (Baltistan: Deosai)

x. *P. c. flaugeri* Eisner, 1978 – Pakistan (Kohistan)

xi. *P. c. gehleni* Bryk, 1935 – Himachal Pradesh (Spiti)

xii. *P. c. occidentalis* Bryk, 1912 – Pakistan (Chitral)

‹‹ xiii. *P. c. otto* Bryk & Eisner, 1932 – Jammu & Kashmir (Tagalang Pass, Ladakh 5000 m)

xiv. *P. c. robertjan*, Eisner, 1959 – Pakistan (Baroghil Pass, Chitral)

xv. *P. c. sakai* Eisner, 1978 – Pakistan Occupied Kashmir (Mt Kolahoi, 3800m)

xvi. *P. c. serenissimus* Bryk, 1932 – Jammu & Kashmir (Pir Panjal).

82. *Parnassius* (*Kailasius*) *inopinatus* Kotzsch, 1940 – Pakistan (Kurram Agency; Hindu Kush).

83. *Parnassius* (*Kailasius*) *loxias* Pungeler, 1901

i. *P. l. raskemensis* Avinoff, 1915 – ? NE Pakistan/Pakistan Occupied Kashmir (Khunjrat and Gilgit)..

84. *Parnassius* (*Kailasius*) (*imperator*) *augustus* Fruhstorfer, 1903 – Sikkim (border with Tibet, 5,900m)

85. *Parnassius* (*Kailasius*) *acdestis* Grum-Grshimailo, 1891

i. *P. a. horikatsuhikoi* Shinkai, 1997- Nepal (Gokyo, Khumbu)

ii. *P. a. ladakensis* Avinoff, 1916- Jammu & Kashmir (Shera-La, Ladakh)

iii. *P. a. lampidius* Fruhstorfer, 1903- Sikkim

iv. *P. a. laurentii* Epstein, 1979 – Nepal (Sangda, 4300m)

v. *P. a. lucifer* Bryk, 1932 – Sikkim (Gyamtshona 5400m)

vi. *P. a. marki* Epstein, 1979 – Nepal (Thorong La, 4800m)

vii. *P. a. pundit* Avinoff, 1922 – Bhutan, Sikkim.

vii. *P. a. rupshuana* Avinoff, 1916 – Jammu & Kashmir (Tagalang La, 5575 – 5900m)

viii. *P. a. takedai* Mikami & Sakaibara, 1988 – Jammu & Kashmir (Nima Ling, Zanskar, Ladakh)

ix. *P. a. whitei* Bingham, 1907 – Sikkim.

86. *Parnassius* (*Koramius*) (*staudingeri*) *hunza* Grum-Grshimailo, 1888

i. *P. h. chitralicus* Verity, 1907 – Pakistan (Chitral)

ii. *P. h. hunza* Grum-Grshimailo, 1888 – Pakistan Occupied Kashmir (Hunza)

iii. *P. h. shigarensis* Bang-Haas, 1935 – Pakistan Occupied Kashmir (Baltoro, Baltistan, 5000m)

iv. *P. h. tytlerianus* Bryk & Eisner, 1932 - Pakistan (Yasin, Chitral)

87. *Parnassius* (*Koramius*) (*staudingeri*) *mamaievi* Bang-Haas, 1915

i. *P. m. affinis* Peschke & Eisner, 1934 – Pakistan Occupied Kashmir (Gilgit, 4500m; Deosai)

ii. *P. m. mamaievi* Bang-Haas, 1915 – Pakistan Occupied Kashmir (Karakoram Pass); Jammu & Kashmir ("Schamm": southern Ladakh).

iii. *P. m. workmani* Avinoff, 1916 – Pakistan Occupied Kashmir (Saltoro Glacier, Baltistan)

88. *Parnassius* (*Koramius*) *stenosemus* Honrath, 1890

i. *P. s. divinus* Bryk & Eisner, 1931 – Jammu & Kashmir (Rupshu, Ladakh)

ii. *P. s. mulkilensis* Inaoka & Ogawa, 1992 – Himachal Pradesh (Lahaul)

iii. *P. s. nadiae* Weiss & Michel, 1992 – Jammu & Kashmir (Ladakh: Nun-Kun)

iv. *P. s. pensi* Eisner & Weiss, 1990- Jammu & Kashmir (Zanskar, Ladakh)

v. *P. s. rileyi* Tytler, 1926 – Pakistan Occupied Kashmir (Chilas: Farsat Pass, 4100 m; Astor: Rupal Valley)

vi. *P. s. stenosemus* Honrath, 1890 – Himachal Pradesh (Kuti Pass, 5100 m)

89. *Parnassius* (*Koramius*) *stoliczkanus* Felder & Felder, 1865

i. *P. s. atkinsoni* Moore, 1902 – Jammu & Kashmir (Ladakh)

ii. *P. s. beate* Eisner, 1939 – Pakistan Occupied Kashmir (Baltistan; Shigar; "Koum-Noun"); Jammu & Kashmir (Ladakh: near Chalsi, Leh; Putu-La; Kargil)

‹‹ iii. *P. s. davidi* Eisner, 1971 –Pakistan Occupied Kashmir (Baltistan, Deosai)

iv. *P. s. florenciae* Tytler, 1926 – Uttarakhand, 4900m.

v. *P. s. gracilis* Bryk & Eisner, 1932 – Himachal Pradesh (Rohtang Pass, 4050 m)

vi. *P. s. harutai* Omoto & Kawasaki, 1998 – W. Nepal (Mahakali)

vii. *P. s. nicevillei* Avinoff, 1916 – Pakistan Occupied Kashmir (Burzil Pass, Gilgit)

viii. *P. s. parangensis* Eisner, 1939 – Himachal Pradesh (Parang Pass, 4600 m; Baralacha Pass, Spiti)

ix. *P. s. spitiensis* Bang-Haas, 1927 – Himachal Pradesh (Spiti: Poo, 5000 m)

x. *P. s. stoliczkanus* Felder & Felder, 1865 – Jammu & Kashmir (Ladakh)

xi. *P. s. tenuis* Bryk & Eisner, 1932 – Jammu & Kashmir (Ladakh: Tagalang Pass, 5000 m)

xii. *P. s. thomas* Eisner, 1939 – Pakistan Occupied Kashmir (Sasser Pass, Karakoram; Sa Songa, Chang-Chenmo Range)

xiii. *P. s. zanskarica* Bang-Haas, 1935 – Jammu & Kashmir (Zanskar: Nira, 4500m)

xiv. *P. s. zogilaica* Tytler, 1926 – Jammu & Kashmir (Zoji La, 3450 m) (status uncertain: may possibly be better placed under *P. stenosemus*)

90. *Parnassius* (*Koramius*) *kumaonensis* Riley, 1926

i. *P. k. kumaonensis* Riley, 1926 – Uttarakhand (Shillung, 3900 - 4100m)

ii. *P. k. nandadevinensis* Weiss, 1990 – Uttarakhand (Nanda Devi Sanctuary, 4200 – 4500 m) (known from a single specimen, so perhaps merely a variation, not a valid taxon)

P. k. nobuko Ohya, 1996 – W. Nepal (Mahakali, 4500m)

91. *Parnassius* (*Tadumia*) *acco* Gray, 1853

i. *P a. baltorana* Bang-Haas, 1937 – Pakistan Occupied Kashmir (Baltistan)

ii. *P. a. hampsoni* Avinoff, 1916 – Pakistan Occupied Kashmir (Karakoram)

iii. *P. a. krausei* Bryk, 1940 – Sikkim (Gayokang: Gayamtsona Lake)

iv. *P. a. pundjabensis* Bang-Haas, 1927 – Himachal Pradesh (Spiti: NW of Poo, 5000 m)

v. *P. a. tagalangi* Bang-Haas, 1927 – Jammu & Kashmir (Ladakh: Tagalang Pass, 5000 m)

vi. *P. a. transhimalayensis* Eisner, 1938 – Jammu & Kashmir (Ladakh: Demchok)

92. *Parnassius* (*Tadumia*) *cephalus* Grum-Grshimailo, 1891

i. *P. c. horii* Ohshima, 1985 – Nepal (Mustang, 4800 - 5400 m; Dhaulagiri, 4460 m)

93. *Parnassius* (*Tadumia*) *maharaja* Avinoff, 1916

i. *P. m. erici* Hanus, Hanus & Manon, 1988 – Jammu & Kashmir (Ladakh: Komaru La, 5300 m)

ii. *P. m. maharaja* Avinoff, 1916 – Jammu & Kashmir (Ladakh: Tagalang Pass, 5950 m; seen by Avinoff on Depsang plateau, 17000')

94. *Parnassius* (*Tadumia*) *hunnyngtoni* Avinoff, 1916

i. *P. h. lilliput* Bryk, 1932 – N. face of Mt Everest, Rongbuk, 5000 m.

95. *Parnassius* (*Lingamius*) *hardwickii* Gray, 1831 – Pakistan Occupied Kashmir (Baltistan) to Arunachal Pradesh from 2000 to over 5250 m elevation. Himachal Pradesh (also in the outer range at Narkanda and Kufri).

96. *Parnassius* (*Kreizbergia*) *simo* Gray, 1853

i. *P. s. acconus* Fruhstorfer, 1903 – Sikkim (5575 – 6233 m)

ii. *P. s. chenrezi* Wyatt, 1960 Jammu & Kashmir (Ludarwas Ganj, Sonamarg, 4300 m)

iii. *P. s. colosseus* Bang-Haas, 1935 – Pakistan Occupied Kashmir (Baltistan: Baltoro, 4500- 5000 m)

iv. *P. s. ganymedes* Bryk & Eisner, 1932 – Pakistan Occupied Kashmir (Bura-Deosai, Baltistan, 3500 m)

v. *P. s. kangchenus* Omoto & Kawasaki, 1998 – Nepal (Mechi: near Lhonek, 4550 m)

vi. *P. s. kangruensis* Eisner & Weiss, 1990 – Jammu & Kashmir (Ladakh: Stok Kangri, 5200 – 5600 m)

‹‹ vii. *P. s. kanoi* Omoto & Kawasaki, 1998 – Nepal (Khumbu: Gokyo Peak, 5000 - 53000 m)

viii. *P. s. lanaki* Bryk & Eisner, 1932 – Jammu & Kashmir (Ladakh: Tagalang Pass, 5000 m)

ix. *P. s. lorimeri* Tytler, 1926 – Pakistan Occupied Kashmir (Gilgit, 4600 m)

x. *P. s. peteri* Bang-Haas, 1927 – Himachal Pradesh (Bashahr: Shipki Pass)

xi. *P. s. saserensis* Bang-Haas, 1937 – Pakistan Occupied Kashmir (Karakorum: Saser Pass, 5000 m)

xii. *P. s. zarraensis* Bang-Haas, 1935 – Jammu & Kashmir (Ladakh: Tagalang Pass, Zarra, 5000 m)

MEANINGS OF BUTTERFLY NAMES

English names for almost all the species included in this book were coined by Brigadier WH Evans in his book, The Identification of Indian Butterflies (2nd edition), published in 1932. He often used distinctive features of the butterfly in coining the name.

acco means 'heated sand', referring to the habitat of these butterflies at high elevation.

acconus means, 'similar to (*Parnassius*) *acco*'.

acdestis was a personage in Ancient Greek mythology.

acheron was the river of the underworld in Ancient Greek mythology.

actius was a name of the Greek god Apollo.

adonarensis means, 'originating in Adonar'.

aeacus and *minos* were sons of the Greek god Zeus.

affinis is a Latin word meaning, 'allied to'.

agamemnon was the son of king Atreus in Greek mythology.

agenor was a king of Tyre who lived more than 4000 years ago. The name mean, 'one who loves valour'.

agestor is derived from the Latin gestor, a person who manages another's affairs; agestor would be a person who does not manage another's affairs, but looks to his own benefit. This refers to this butterfly benefitting from mimicking the Chestnut Tiger, without bringing any apparent benefit to that species.

agetes is a name assigned to the Greek god Zeus by the poet Pindar.

aidoneus was the brother of the Greek god Zeus.

albociliatis (albus = white; cilia = hair-like structure)refers to the fringe of white hair-like scales along the outer edge of the wings of this species.

alcibiades was a general from Athens in ancient Greece.

alcmenor was a minor personage in Greek mythology.

alexanor was a son of Machaon in Greek mythology.

amabilis means 'lovable' in Latin.

andamana refers to the Andaman Islands.

andamanicus refers to the fact that the butterfly is found in the Andaman Islands.

anticrates (of Epidaurus), winner of a stadion race at the Olympics in 600 BCE, referring to the swift flight of the butterfly.

antiphates was one of the Greek warriors who hid in the Trojan horse.

Apollo was a Greek and Roman god, son of Zeus, who lived on Mount Parnassus in Greece.

arcturus is the fourth brightest star in the Northern hemisphere, referring to the iridescent colours of the butterfly.

aristeus, a son of the god Apollo in Greek mythology.

aristolochiae draws attention to the fact that the larvae of this butterfly feed on leaves of *Aristolochia* climbers.

arius was a Christian presbyter of Alexandria who lived in the third and fourth centuries CE.

asiatica means 'of Asia' referring to the distribution of the subspecies of this widespread butterfly.

astorion means star in Greek.

atkinsoni honours W.S. Atkinson, whose collection of Indian butterflies contained many new species.

atrophaneura comprises two words, Atropha + neura means vestigial nerve, referring, of course, to the fact that these butterflies lack the hindwing tail of their cousins the Windmills (Byasa).

augustus is a Latin word meaning 'noble'.

axionides means, 'like axion'. *G. doson axion* is one of the subspecies of the Common Jay. Axion was a son of king Priam of Troy.

‹‹ *baltorana* refers to the Baltoro glacier in Baltistan, Pakistan Occupied Kashmir.

balucha refers to Baluchistan, where this butterfly is found.

baroghila refers to the Baroghil Pass in Chitral.

bashahricus refers to the fact that this butterfly occurs in the erstwhile state of Bashahr in Himachal Pradesh.

basharianus refers to the erstwhile state of Bashahr in Himachal Pradesh.

Batwing draws attention to the unmarked black wings of these butterflies, which remind one of bats.

beate is a given name meaning 'happy'.

Bhutan Glory refers to the fact that originally these butterflies were only known from Bhutan.

bhutanitis means, 'pertaining to Bhutan'.

bianor was the son of Hercules, a personage in Greek mythology.

binghami commemorates Charles T. Bingham (1848 to 1908), a British entomologist.

Birdwing is a direct English translation of Ornithoptera (bird + wing) which was used to describe some members of this genus. The members came to be known as Birdwings (Vogelfalter or Bird-butterflies in German) so it was natural that Evans used Birdwing for the Indian species, although they are included in the genus *Troides*.

Bluebottle refers to the large blue flies of the same name, whose swift flight and inquisitiveness resembles the habits of these butterflies.

bootes is a Greek name referring to one of several personalities. The two 'o's are pronounced separately, not as in "boots".

boschmai is named for Hilbrand Boschma (1893 – 1976), a Dutch zoologist.

bryki honours F. Bryk, a German entomologist.

buddha, the title of Gautam, founder of Buddhism.

byasa is better known as the sage Ved-Vyas, who wrote the Mahabharat.

cacharensis The suffix "ensis" means, "originating from", so "cacharensis" means "originating from Cachar"

camorta is an island in the Nicobar group.

capdevillei was named in honour of the French entomologist, Pierre Capdeville (1908 to 1980).

caschmirensis means, 'originating in Kashmir'.

castor was a son of Zeus in Greek mythology.

catilina was a Roman senator of the 1st century.

cephalus was a personage in Greek mythology, the husband of Procris.

cerberus was a hellhound in Greek mythology.

chaon was the founder of one of the fourteen tribes of Epirus in ancient Greece.

charltonius, in memory of Major Charlton, who collected butterflies in Ladakh and Tibet.

chenrezi is the Tibetan Avalokiteshwar.

chironides means, 'like chiron'. Chironides is a replacement name for *Graphium chiron*. In Greek mythology, Chiron was a centaur.

chitralicus refers to Chitral, in Pakistan.

cloanthus was a chief from Troy, who won a boat race in Virgil's Aeneid.

Clubtails were so named because of the club-like tails on the hindwing.

clytia is a Greek name which refers to several personalities in mythology. It is not certain which personality Linnaeus had in mind when he named the butterfly.

colloseus is derived from a Greek word meaning, 'larger than life'.

coon is short for raccoon, a North American mammal.

corporaali honours J.B. Corporaal (1880 – 1962), a Dutch entomologist who worked in Sumatra.

crassipes means 'thick foot'.

crino was one of the consorts of Danaus in Greek mythology.

curius was probably intended to refer to the strange shape of the White Dragontail.

daksha was a son of Brahma in Hindu mythology.

dasarada probably refers to Dasarath, the father of Lord Ram of the Ramayan.

deckerti honours H. Deckert, a German entomologist.

decoratus draws attention to the fact that the underside of this subspecies is prettier than other subspecies.

‹‹ *demoleus* was a Greek warrior killed by Aenias in Virgil's Aeneid.

divinus means 'divine' in Latin.

doson in Greek means 'who will give' and usually refers to someone who promises many things but fails to keep those promises.

Dragontail refers to the remarkably long tails on the hindwings of these butterflies, which to a fanciful imagination resemble the tail of a dragon.

dravidarum refers to the Sanskrit word dravid, currently used to refer to a body of languages spoken in parts of southern and western India.

ducalis, Latin for 'relating to a duke'.

eisneranus honours Kurt Eisner (1890 to 1981), a German entomologist.

eleius was a son of the Greek god Poseidon.

elephenor was a character in Homer's Iliad, who killed his grandfather and was subsequently exiled.

ella is a given name.

epaminondas was an aristocrat of Thebes who lived during the 4th century CE.

epaphus was a son of Zeus.

epicus a Latin word meaning 'epic'.

epicydes was a leader of ancient Carthage, described as a traitor of great dexterity, referring to the butterfly's ability to mimic distasteful species.

euprotenor means, 'the true protenor'.

eurous means 'lucky' from the Old French word, 'eure'.

eurypylus was a Greek who led the army of Thessaly against Troy to recover Helen.

evan is a Welsh name, but it is not certain in whose honour the butterfly was named. Evan means 'young' in Welsh.

ferrari is named after Chief Comissioner M.L. Ferrar, of the Andaman Islands and Brig. Evans' host during his visit to the islands.

Fivebar refers to the five black bars across the forewing of this species, counting from the base.

flaugeri probably honours Norbert Flauger, a Venezuelan entomologist.

flavolimbatus means yellow edged.

florenciae is a girl's given name (Florence or Florencia)

Fourbar refers to the four black bars across the forewings of this species, counting from the base of the wings.

ganesa is the son of Lord Shiv in the Hindu pantheon.

ganymedes was a Trojan in Greek mythology.

garhwalica means, 'of Garhwal'.

gehleni honours the German entomologist B. Gehlen.

gilgitensis means, 'originating in Gilgit'.

gladiator is the name for an ancient Roman combatant armed with a short sword (gladius).

Gorgons were dreadful looking creatures of Greek mythology, whose gaze could turn one to stone. The name was probably applied to the butterflies since their striking shape and beauty can transfix a viewer.

govindra was probably 'Govinda" mis-spelt. Govind is one of the names of lord Vishnu of the Hindu pantheon.

gracilis means 'slender' in Latin.

graphium, from the Greek word, grapheion, a paintbrush or a pencil, probably referring to the hair along the inner edge of the hindwing.

hampsoni honours Sir G.F. Hampson (1860 to 1936), a British entomologist.

hardwickii honours Major General Thomas Hardwicke (1756 to 1835), a British soldier and naturalist.

harutai commemorates Toshiro Haruta (1922 – 1996), a Japanese entomologist.

hazarajatica refers to Hazarajat, a mountainous region in Afghanistan.

*hecto*r was a hero of Troy who fought against the Greeks.

Helen refers to Helen of Troy, whose elopement caused the Trojan War.

helenus was the son of Priam, king of Troy in Greek mythology.

heliconoides refers to Mt Helicon in Greece, the suffix "oides" meaning "resembling".

helios was the personification of the sun in Greek mythology.

himalaicus, refers to the Himalaya.

himalayensis means, 'originating in the Himalaya'.

‹‹ *hinducucica* refers to the Hindu Kush Mountains.

hookeri is named after the British botanist, J.D. Hooker (1817 to 1911).

hunnyngtoni honours F. Hannyngton (notice the misspelt name) (1874 to 1919), a British civil servant and amateur lepidopterist.

hunza refers to a part of Pakistan Occupied Kashmir.

hunzaica means, 'of Hunza'.

hypermnestra was the daughter of Danaus in Greek mythology.

imperator, a Latin word meaning 'emperor'.

imperialis, Latin for 'of the empire'.

indicus means, 'of India'.

inopinatus means 'unexpected, or fortuitous'.

jacquemontii was named in honour of the French naturalist, Victor Jacquemont (1801 to 1832).

janaka refers to Janak, father of Sita. Sita was wife of Lord Ram of the Ramayan.

Jay refers to the European Jay, whose wing feathers match the colour and pattern on the wings of these butterflies; in addition, both birds and butterflies share the same inquisitive habits.

jophon was a brother of a ruler of Athens in Ancient Greece.

kabrua refers to Kabru Peak in Manipur.

kailasius refers to Mt Kailas in Tibet.

Kaiser-i-Hind was a title coined for Queen Victoria when she became Empress of India.

kangchenus is a Latin version of Kangchen (gold), referring to Mount Kanchenjunga, near which the subspecies occurs.

kangraensis means 'originating in Kangra'.

kangruensis means 'originating in Stok Kangri peak in Ladakh'.

kondulana refers to the island of Kondulas in the southern Nicobar group.

krishna is considered an avatar of Lord Vishnu.

kumaonensis means, 'originating in Kumaon, Uttarakhand'.

lachinus, a 6th century Irish saint.

ladakensis means, 'originating in Ladakh'.

lahulensis means 'originating in Lahaul, Himachal Pradesh'.

lampidius was a Roman prefect in the 6th century.

lamproptera combines the Greek words *lampro* (= shiny) and *pteron* (=wing).

lanaki means, 'of Lanak'.

lankeswara means lord of Sri Lanka, a reference to Ravan of the Ramayan.

latreillei is named after the French zoologist, P.A. Latreille (1762 to 1833).

lidderdalii commemorates Dr Lidderdale, who made a collection of butterflies in the Darjeeling and Bhutan area, which was subsequently acquired by the British Museum, London.

lilliput refers to something small, in a reference to the country of that name in the book Gulliver's Travels by J. Swift.

Lime refers to the fact that the larvae of this butterfly feed on the leaves of lime.

lingamius is derived from the Sanskrit word 'lingam', an object of veneration.

liomedon is an anagram of Demolion, a Trojan mentioned by Homer in the Iliad. *Papilio demolion* is a very similar butterfly found from Myanmar southwards.

lioneli is named in honour of Lionel de Niceville (1852 to 1901), a famous lepidopterist.

lorimeri honours Colonel David L.R. Lorimer, who was the Political Agent for Gilgit from 1920 to 1924.

losaria is a Philippine surname.

loxias was a surname of the Greek god Apollo.

lucifer refers to the Morning Star, but later referred to the Devil before his Fall in Christian mythology.

ludlowi is named in honour of Frank Ludlow (1885 – 1972), who led an expedition to Bhutan in 1933 and discovered this butterfly.

macareus was the son of the Greek god, Helios.

machaon was the son of Asclepius, the Greek god of medicine and himself a skilled practitioner. He led a Greek army against Troy in Homer's Iliad.

macronius was a Roman philosopher.

‹‹ *maharaja* is a title of an Indian king.

mamaievi honours M. Mamaieff (Mamaiev), an enthusiastic sportsman who accompanied Andrey Avinoff to Ladakh in 1912.

mandarinus refers to Chinese magistrates, called mandarins.

manipuri refers to Manipur, the area inhabited by the butterfly.

marki honours Mark Epstein, who participated in the expedition to Nepal when this butterfly was discovered.

mayo was named after Richard Bourke, Lord Mayo, the assassinated Viceroy of India, the year after his murder.

meandrusa: A meander or **meandros** is a decorative border constructed from a continuous line, shaped into a repeated motif, probably referring to the shape of the hindwing of the Yellow Gorgon.

megarus was a son of the Greek god Zeus.

meges was a Greek king who led his people in the Trojan War.

memnon was an Ethiopian king in ancient Greek mythology.

menides is a Greek name, but it is uncertain to which person the author, Hans Frühstorfer, was referring when he named the butterfly.

Mime refers to the mimicry of Danaine butterflies practiced by these butterflies.

minos and *aeacu*s were sons of the Greek god Zeus.

mixta is Latin for 'having been mixed'.

Mormons were an American sect who permitted polygamy, referring to the fact that some species have several female forms.

mulkilensis means, 'originating in Mulkil".

nadiae is named for a lady whose given name was Nadia.

nandadevinensis means, 'originating in Nanda Devi (Sanctuary), Uttarakhand'.

nephelus perhaps derived from the Greek name, Nepheli, meaning charming.

nevilli is named in honour of G. Nevill, who first recorded the species in the List of the Diurnal Species of Lepidoptera in the Indian Museum, Calcutta, in 1871 as an unnamed new species.

nicevillei honours Lionel de Niceville (1852 – 1901), who worked extensively on Asian Lepidoptera.

nikobarus refers to the presence of the butterfly in the Nicobar Islands.

nobuko honours a Japanese entomologist.

nomius, a son of the god Apollo in Greek mythology.

occidentalis is Latin for 'westerly'.

otto is a given name.

pandiyana refers to the Pandaya dynasty which ruled Tamil Nadu for centuries.

paphus is a child of Pygmalion in Greek mythology. The word means 'foamy'.

papilio was the generic name for all butterflies named by Carl Linnaeus, which means 'butterfly' in Latin.

paradoxa, a Latin word, refers to a puzzle, for both forms of this butterfly perfectly mimic unrelated, distasteful butterflies.

parangensis means 'originating in the Parang Pass, Himachal Pradesh'.

paris was a prince of Troy, who sparked the Trojan War by eloping with Helen, queen of Sparta.

parnassius is a Latin word meaning 'from Mount Parnassus', a sacred mountain in Greece.

payeni is named for M. Auguste A. J. Payen (1785 – 1853), of Brussels, who collected butterflies in Indonesia and Sulawesi.

Peacock refers to the iridescent green and blue colours on the wings of these butterflies, reminiscent of a peacock's colours.

pembertoni refers to Major R.B. Pemberton, who collected the first two specimens on his Mission to Bhutan in 1837 - 38.

phrontis was the grandson of King Aeëtes of Colchis in Greek mythology.

plutonius means "pertaining to Pluto', the Greek ruler of the Underworld.

polias means 'of the city' in Greek, usually applied to Goddess Athena, guardian of the city of Athens.

polla refers to the male member in Spanish.

polyctor was one of the Myrmidons, which comprised the Greek army led by Achilles to bring back Helen from Troy.

‹‹ *polyeuctes* was a Roman saint who lived in the 3rd century.

polymnestor was the king of Thrace in ancient Greek mythology.

polytes was a son of king Priam of Troy.

pompilius or Numa Pompilius was the second king of Rome.

prexaspes was a Persian nobleman and companion of Kambyses, second Emperor of Persia.

protenor was a minor personage in Greek mythology, who was killed by Hypseus.

puella means 'young girl' in Latin.

puer means 'boy' in Latin.

pulo means 'island' in Indonesia.

pundit refers to a caste of Hindus.

pundjabensis means, 'originating in Punjab'; the state of Himachal Pradesh was a part of Punjab.

raskemensis means, 'originating in Raskem'.

ravana refers to Ravan, the Sri Lankan king in the Ramayan.

Ravens are large black birds, related to crows.

Redbreast refers to the red marks at the base of the wings and on the thorax of these butterflies.

rhodifer refers to the distinctive red tipped hindwing tails of this butterfly.

rhodius is derived from the Greek word rhodon (= rose), referring to the large red spots on the wings.

rienki was named in honour of Dr Rienk de Jong, a Dutch entomologist.

rileyi is named in honour of N.D. Riley (1890 to 1979), a British entomologist who listed butterflies collected during the Mount Everest expedition in 1921.

robertjan is a given name, probably Robert Jan.

robertsi was named in honour of Lt Col. James Roberts of Kathmandu, who ran a travel company there.

romulus was a descendent of the Greek god Zeus, and founded the city of Rome along with his brother Remus.

Roses were named because of the rose coloured bodies and wing markings.

rupshuana refers to Rupshu, a part of Ladakh.

Sakai honours S. Sakai, a Japanese entomologist who worked extensively on Central Asian butterflies.

sambilanga probably refers to the Indonesian village of that name

sarpedon was a son of the Greek god Zeus.

saserensis means 'originating in the Saser pass, Karakoram'.

septentrionicolus means inhabitant of the north, since this is the northern population of this species.

serenissimus means serene, and formed a part of the title of the German Emperor under the Holy Roman Empire. The name also referred to a comic figure, the butt of several jokes regarding the aristocracy.

shandura refers to the Shandur pass in Chitral.

shigarensis means, 'originating in the Shigar valley, Baltistan'.

sikkimica means, 'of Sikkim'.

simo, a Spanish form of the given name Simon.

sirkari named after SC Sircar, who collected insects in Shillong, Meghalaya.

Sixbar refers to the six black bars across the forewings of this butterfly, beginning at the base of the wings.

slateri was named for someone called Slater by Boisduval in a manuscript, but Hewitson is treated as the author since he published the name.

Spangle refers to the glittering blue scales scattered on the hindwings of these butterflies.

spitiensis means, 'originating in Spiti, Himachal Pradesh'.

staudingeri honours Otto Staudinger (1830 to 1900), a German entomologist.

stenosemus comprises two Latin words, steno, meaning narrow and semus, meaning imperfection. It combines to mean that this species is difficult to distinguish from its close relatives.

stichoides means 'resembling stichius', which is a female form of *P. polytes*. Stichius was a Greek commander during the Trojan War.

stoliczkanus honours Ferdinand Stoliczka (1838 to 1874) a Moravian naturalist who worked in India.

sulla was a Roman general and statesman.

‹‹ Swallowtail refers to the 'tail' on the hindwing of these butterflies, which in the Yellow Swallowtail (*Papilio machaon*) resembles the tail of the Swallow (*Hirundo rustica*).

swinhoei is named after the British lepidopterist, Colonel C. Swinhoe (1838 to 1923).

Swordtail draws attention to the hindwing tails of these butterflies, which resemble swords.

tagalangi refers to the Tagalang pass, Ladakh.

takedai honours the Japanese entomologist Takeda.

tamilana means 'relating to Tamil', indicating the locality where this butterfly is found.

teinopalpus from the Greek word 'teino' (= to stretch) and palpus, the sensory appendages on either side of the proboscis, which are elongated in this genus.

telearchus was a title taken by the Greek general Epaminondas when he served as a street magistrate in the city of Leuktra.

tenuis, a Latin word meaning 'weak'.

teredon, an ancient Persian city devoted to the god Nabu.

tianschanicus refers to the Tian Shan Mountains of Central Asia.

transhimalayensis means 'originating in the trans-Himalaya'.

troides means a resident of the ancient city of Troy. "*Troides helena*" means Helen of Troy.

tytleri refers to General Sir H.C. Tytler, who collected butterflies extensively in Manipur during 1913.

tytlerianus honours Major General H.C. Tytler, who worked extensively on Indian butterflies.

varuna is a powerful Hindu god.

verityi is named after R. Verity (1883 to 1959), an Italian entomologist.

virescens is derived from the Latin word for 'green', referring to the greenish band across the wings.

Windmill refers to the shape of these butterflies when they are pinned, like the vanes of a windmill.

workmani honours Dr and Mrs Bullock Workman, who met Andrey Avinoff in 1912 at Sonamarg, Kashmir.

xenocles of Messenia was an athlete who won the stadion race in the ninth Ancient Olympic Games in 744 BC. This probably refers to the powerful flight of the butterfly.

xuthus was a son of Hellen in Greek mythology.

yelyangi means 'of Yelyang'.

zanskarica means 'of Zanskar' in Ladakh, Jammu and Kashmir.

zarraensis means 'originating in Zarra', a small place near the Tagalang Pass, Ladakh.

Zebra refers to the black and white markings on these butterflies, reminiscent of the markings on the mammal of the same name.

zogilaica means, 'of the Zoji La, Kashmir".

NOTES:

1. *Byasa latreillei* Donovan is known from Uttarakhand eastwards to Indo-China. There is a population in Afghanistan known from two male specimens from near Jalalabad (described as *B. latreillei afghana* (Howarth & Povolny, 1973)) so it is likely that undiscovered populations exist between the known populations in the western Himalaya and Pakistan.

2. Larsen (2004) includes a record of *Papilio palinurus* Fabricius, 1787 from Bangladesh (Chittagong area) based on wings obtained there by Danish birdwatchers. This might be a straggler and would be an addition to the fauna of the Indian subcontinent, but until its distribution is better understood, it is not included in the systematic section of this book.

3. *Iphiclides podalirius* Linnaeus, 1758 has been reported by Collins & Morris (1985) from Pakistan and India but we were unable to confirm the record. Therefore, it has been dropped from the list until further evidence of its presence in the region is available.

SELECTED REFERENCES

Collins, N.M, and M.G. Morris. 1985. Threatened swallowtail butterflies of the world. The IUCN Red Data Book. IUCN, Gland and Cambridge.

Cotton, A., Fric, Z.F., Smith, C., Smetacek, P. 2013. Subspecies Catalogue of the Butterflies of India (Papilionidae). Bionotes 15(1): 5 – 8.

Evans, W.H. 1932. The identification of Indian butterflies. Bombay Natural History Society, Bombay. X + 454 pp., 32 pl.

Häuser, C. L., Holstein, J. & Steiner, A. (2005): The Global Butterfly Information System. **http://www.globis.insects-online.de** Last updated 05.02.2014

‹‹ Larsen, T. 2004. Butterflies of Bangladesh – an annotated checklist. IUCN, Bangladesh. 158 pp., 8 pl.

Limboo, N.M. (in press). *Papilio xuthus* Linnaeus (Lepidoptera: Papilionidae) – a new butterfly record for India. Journal of the Bombay Natural History Society.

Racheli, T. & Cotton, A. (2009 - 2010) Guide to the butterflies of the Palearctic Region Papilionidae Part 1 & Part 2. Omnes Artes, Milano. 69 pp; 86 pp.

Rose, K. & Weiss, J-C. 2011. The Parnassiinae of the World. Part 5. Goecke & Evers, Keltern. Pp 401 – 520.

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THE END