

NOTES ON THE BUTTTERFLIES OF KHAO YAI NATIONAL PARK – PART I

by

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SUMMARY

An attempt has been made to sample the butterflies found at the Khao Yai National Park between August 12, 1962, and January 17, 1965. This study has resulted in the collection of 117 species belonging to 62 genera of the families *Papilionidae*, *Pieridae*, *Danaidae*, *Satyridae*, *Nymphalidae*, *Libytheidae*, *Riodinidae*, *Lycaenidae*, and *Hesperiidae*.

The annotated list of species includes the areas within the park where each particular species was taken, the months of occurrence, its particular habits, and the other different species that have been taken with it. In addition, this study indicates that probably the best months for general collecting in the park are those of January, March, July, and October.

INTRODUCTION

The purpose of this paper is to give an idea of some of the butterflies which can be found at Khao Yai National Park¹ during the various months and seasons of the year and under what conditions these species may be taken by the interested collector or seen by the interested observer.

This study is based on the sixteen field collecting trips between August 12, 1962, and January 17, 1965. An attempt was made to collect during all months and all seasons of the year. In addition, all areas which are accessible by car or by cleared path have been sampled at least once. Butterflies were collected in the various grassy areas, brushy areas, woody areas, streams, and falls areas following the lazy flow of the Lam Takrong River as it meanders through the

1. For information about the location of the park and general information see Cumberlege, P.F. and V.M.S., (1963).

park from Wang Champi in the northwest to Heo Sai in the northeast. An attempt was also made to sample the butterflies on Khao Khieow up to an elevation of 3,000 feet, but only one collecting trip proved possible, due to government regulation defining the hill as a security area.

In order to get an idea of the occurrence and overlap of species between the main areas of the park and the southeastern side of the Sankambeng range, a single sample was taken at the Nang Rong Falls of Nakorn Nayok on February 21, 1965, yielding the following species :

Atrophaneura aristolochiae asteris (ROTHSCHILD) (2)²

Papilio nephelus raya CORBET (5)

Papilio helenus helenus L. (6)

Papilio memnon agenor L. (8)

Graphium antiphates itamputi (BUTLER) (11)

Graphium sarpedon luctatius (FRUHSTORFER) (14)

Graphium dosan evemonides (HONRATH) (15)

Graphium agamemnon agamemnon (L.) (16)

Lamproptera curius curius (FABRICIUS) (18)

+ + + +

Appias albina albina (BOISDUVAL) (24)

Hebomoia glaucippe aturia FRUHSTORFER (25)

Catopsilia pomona pomona (FABRICIUS) (28)

Eurema hecabe contubernalis (MOORE) (29)

+ + + +

Danaus genutia intermedia (MOORE) (31)

Danaus hamata septentrionis (BUTLER) (37)

Euploea core godartii LUCAS (38)

Euploea mulciber mulciber (CRAMER) (41)

Euploea diocletianus diocletianus (FABRICIUS) (43)

+ + + +

Precis atlites atlites (L.) (62)

Precis almana javana (C. FELDER) (64)

2. Figures in parentheses correspond with the serial numbers in the annotated list of species.

Cyrestis nivea nivalis (C. & R. FELDER) (70)

Prthenos sylvia lilacinus BUTLER (84)

+ + + +

Libythea myrrha hecura FRUHSTORFER (96)

A large amount of material still awaits determination. The results of further studies will be published in the future papers in this series.

Vegetative Habitats In the Park : Grouped By Areas

In general, the vegetation in the park falls into four main categories, as defined by CUMBERLEGE & CUMBERLEGE (1963), in their article on the orchids of Khao Yai, as follows:

- 1) "Lower deciduous and bamboo jungle with limestone outcrops, containing *Azelia xylocarpa*, *Pterocarpus macrocarpus*, *Lagerstroemia calyculata*, *Dipterocarpus* species and some bananas. (450-650 m.)
- 2) Old clearings, covered with *Imperata cylindrica* grass and having a few isolated trees. (650-850 m.)
- 3) Lower hill evergreen jungle with sandy loam and sandstone outcrops, containing lianas and ferns and some bamboo, *Dipterocarpus gracilis*, *D. turbinatus*, *Shorea sericeiflora*, *Hopea odorata*, *Cedela toona* and *Aquilaria agallocha*. (650-900 m.)
- 4) Upper evergreen jungle containing some conifers: *Dacrydium elatum* and *Podocarpus nerifolia*, *P. imbricatus* and *P. blumei*, some oak and chestnut, mosses and lichens. (900-1400 m.)"

However, in relation to butterflies, an additional breakdown in vegetative habitats is needed, based on each particular area where species were taken. Thus, an attempt is made to describe the location of each particular area, as well as give an idea of the type or types of vegetation found there, and finally to note into which of the above general vegetative groups, that particular area falls.

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- Area A: Small Falls** – located about half-way up the main ascent to the park, on the right-hand side of the road. This falls almost always has water coming over it, and therefore attracts a variety of species, the number and kinds of which, depend on the time of day and the season of the year. The falls itself is found just back from the road at the base of a steep cliff in the side of the hill. Vegetation around the immediate area of the falls is sparse, but the hill behind it is covered by bamboo brakes, high grasses, wild banana, and a few scattered deciduous tree. Elevation of Area A: approximately 600 m. (CUMBERLEGE 1).
- Area B: Large Culvert Under Road** – located about three-quarters of the way up the main ascent to the park, on the right-hand side of the road. When the park was first made accessible by road, this spot attracted many Papilios and Euploeas, as well as a fair representation of other genera. Since that time, however, this area has become quite overgrown with various types of herbaceous and small woody plants, so that now, about the only time to collect here, is during the rainy season. Elevation of Area B: 650 m. (CUMBERLEGE 1).
- Area C: Viewpoint** – located at a large bend in the main ascent to the park, on the left-hand side of the road, just before you reach the top of the initial climb. The vegetation found here is mostly composed of deciduous trees, mixed with high grasses and wild bananas. This area is frequented by both tiger and elephant, and therefore offers ideal dung collecting; also, several kilometers on toward camp from this point, is a place where elephants frequently cross the road. This spot also offers good dung collecting at certain times. (CUMBERLEGE 1).
- Area D: Wang Champi** – located about half-way between Viewpoint and the camp bungalow site, at approximately kilometer 35. This area includes three general types of vegetation: grassland, mixed with occasional deciduous trees, to be found along the edges of the parking space in this area; mixed woodland grasses, ferns, lianas, and evergreen trees, to be found on

both sides of the path to the Wang Champi falls; and the lush, evergreen type of jungle vegetation to be found on both sides of the stream. (CUMBERLEGE 2 and 3).

- Area E: Elephant Walk** -- located between kilometer 36.5 and the Forestry Office at the barrier and steel bridge. This path runs from the wooded area found to the left of the steel bridge (if one is driving out of the park), past the forestry officer's new house on the left, and along a more or less over-grown path near the left-hand bank of the Lam Takrong River (a distance of about 1 kilometer). It then crosses the Lam Takrong and joins the main road at about kilometer 36.5, just a little over 1 kilometer before the Wang Champi turnoff. This area includes two types of vegetation. That which is found along the path itself, which includes wild bananas, mixed high grasses, some ferns, and various types of wild-flowers; and the more or less dense undergrowth found along the stream bed itself--mixed bamboos, rattan, large tree ferns, some mosses, and various types of evergreen trees. (CUMBERLEGE 3).
- Area F: Gaeng Keao Waterfall--Forestry Hill Bridge** -- located just inside the barrier, and up the first small road to the left after entering this part of the park. Actually, this area includes both sides of the falls, as well as the falls itself, the path running along the left bank of the Lam Takrong River (going from the falls), and on both sides of the Forestry Hill Bridge. Vegetation in this general area includes rattan, bamboo, tree ferns, lianas, a variety of evergreen trees, and varying degrees of undergrowth, plus the various types of plants to be found in the falls area and along the stream banks. (CUMBERLEGE 2 and 3).
- Area G: Camp Grasslands** -- located within the confines of the camp bungalow area, and includes the large hill of red laterite behind the main camp, the dam and lake area, and a wet culvert area found at the edge of the camp clearing, on the road to Heo Suwat. The vegetation here is mostly lalang

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(*Imperata cylindrica*) with few scattered clumps of evergreen trees, mixed with lianas and some ferns. The immediate area around the lake offers several types of sedges and rushes, as well as various other types of marsh grasses and plants. A similar situation exists below the camp area on the other side of camp, in the region of the camp pump house. Here, the beginning of a small stream is found, which has helped to make several swampy areas on either side of it. (CUMBERLEGE 2).

- Area H: Gaeng Sanguan** – located just off the road to Heo Suwat, at about kilometer 43. This area includes the meeting point of two smaller streams with the Lam Takrong River, the area around the pump house, and the path leading across a little bridge and meandering along the right bank of the river. It also includes a small section of road, just this side of the path to Gaeng Sanguan, where smashed fruit from several tall trees here, has attracted a variety of species at one time or another. Gaeng Sanguan is found at the edge of a clearing, which is covered by lalang and scattered clumps of deciduous trees, but the majority of the vegetation in this area is composed of high tree ferns, rattan, some mosses, bamboo, wood grasses, club mosses, and mixed evergreen trees, in a varying degree of undergrowth. (CUMBERLEGE 2 and 3).
- Area I: Woody Culvert** – located at about kilometer 46 on the road to Heo Suwat, and includes the woody area just before the turnoff going to Heo Tap Kabung, and the culvert which runs under the road just at the edge of the woods. The vegetation here includes that found around the culvert—marsh grasses, some bamboo, a few rattan, mixed evergreen trees, and various types of wild herbaceous plants; and running along either side of the road, one finds a varying degree of low underbrush, plus some wood grasses, and several types of evergreen trees. (CUMBERLEGE 2 and 3).
- Area J: Pa Gluaymai** – located about a kilometer from the Heo Suwat road, by walking along a path which begins just after the

kilometer 46 point. Vegetation in this area is generally composed of bamboo brakes along the river approach to the falls, while in the immediate area of the falls themselves, there is to be found an abundance of mosses, ferns, orchids, various types of the club mosses, sporadic patches of lush wood grasses, and a variety of wild flowers, as well as a number of large evergreen trees and shrubs—and this growth is especially prolific during the rainy season. (CUMBERLEGE 3).

Area K: Steep Incline – located at approximately kilometer 47.5 on the way to Heo Suwat, at a point where the road makes a sharp, steep turn to the left and goes down a steep grade. Just above the bottom of this grade, on the left-hand side of the road ascent, is a mud seepage area, and a spot where a small underground spring makes its way into the world by forming a trickle of water coming out of the rock facing. Except the areas immediately surrounding this water source, and those found up on the bank above the road and in the rocky ravine below it, this spot is rather sparse in vegetation. The rest of the area is clothed with mixed evergreen trees, lianas, and such; the vegetation of the spring source is composed of a few mosses and small ferns, plus several types of herbaceous plants—depending of course, on the season of the year. (CUMBERLEGE 3).

Area L: Heo Suwat – located at approximately kilometer 48.5, and includes grasslands on both sides of the falls, the upper and lower reaches of the falls themselves, and a rocky, pothole area found about 10 minutes walk back upstream. This general area includes three vegetative types: the cleared area approaching Heo Suwat—covered by lalang and a few scattered evergreen trees; the lianas, mosses, ferns, orchids, club mosses, and tall evergreen trees found in the immediate areas of the falls; and the type of vegetation found in the aforementioned area back upstream. This is a most unusual section, for although the vegetation here is similiar to that found in the area of the falls, it seems more dense and lush.

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The river bed at this point is mostly covered by a thick layer of rock, over which the water flows. This rocky section gives one the impression of being walked on by elephants when the rock was still in a somewhat liquid state, and now has the appearance of a mass of potholes, interspersed with pools of clear water and small sand bars. It is at about this point in the course of the river, that a small stream empties into the Lam Takrong. (CUMBERLEGE 3).

Area M: Heo Sai -- located at about kilometer 49, at the very end of the road -- beyond the turnoff to go to Heo Suwat. Included within this general area is a muddy spot found just before the parking area for Heo Sai. The vegetation is generally composed of bamboo brakes in the area of the path approach to the falls, plus thick masses of evergreen trees and varying degrees of undergrowth, with ferns, mosses, and such found in the areas of dampness. During the rainy season the vegetation in the falls area itself exceeds all expectation.

Area N: Khao Khicow -- this single collecting spot is located just before the first hairpin turn on the ascent to the top of the hill, and includes an area about a quarter mile along the road. The elevation here is about 1000 meters. Vegetation in the immediate vicinity is rather sparse but along the banks of the road are many large evergreen trees, plus a varying degree of undergrowth. (CUMBERLEGE 4).

Methods of Collecting

A majority of the species were collected on the wing but a good number were also taken on mud, wet sand, mashed fruit, human and animal excrement, and on several types of plants. No attempt was made to bait butterflies, as the means of transportation in the park available at times of collecting, did not guarantee a return to those places another time on the following days. It should be mentioned, however, that locations where specimens were once taken (for example, on wet sand) have proved to be regular visiting spots for those species taken there, time after time, and year after year.

All species in this study have been classified according to the nomenclature as set down by CORBET & PENDLEBURY (1956). However, a great deal of assistance was gained from MARSH's Hong Kong Butterflies (1960), as this text contains actual size color photographs (reproductions) of the butterflies in his collection which includes many of the specimens found at the Khao Yai National Park. Equally valuable was WYNTER-BLYTH's Butterflies of the Indian Region (1957), as this text discusses species taken at the altitudes not normally covered by CORBET & PENDLEBURY and offers good color and black and white photographs of most of the butterflies described therein.

On the material discussed in this paper, only four specimens could not be classified to genus and species according to CORBET & PENDLEBURY. These included *Elymnias malelas* (HEWITSON), *Elymnias vasudeva* MOORE, *Limenitis dudu* WESTWOOD, and *Idrusia euploeoides*, form *nyctelius* DOUBLEDAY, which were found in WYNTER-BLYTH (1957).

ANNOTATED LIST OF SPECIES

Each entry in this list includes the areas in the park where that species was taken, the months of its occurrence, its habits—if taken other than in flight—and, if collected with other species, the annotated list numbers of those species, in that order.

Family PAPILIONIDAE

1. *Traides helena cerberus* (C. & R. FELDER) (Common Birdwing)
(D-I-L); (Mar.-Aug.-Dec.); (settled on high weeds).
2. *Atrophaneura aristolochiae asteris* (ROTHSCHILD) (Common Rose)
(D-E-I-L); (Jan.-Feb.-Mar.-Apr.-Aug.-Nov.-Dec.); (settled on high weeds).
3. *Chilasa slateri perses* (DE NICEVILLE) (Blue-Striped Mime)
(L); (Jan.-Mar.).
4. *Papilio demoleus malayanus* WALLACE (Lime)
(F-G-H); (Mar.-May-July-Aug.-Sept.); (on marigolds and zinnias); (on marigolds and zinnias with this species—7,28,31,34,35, 43).

5. *Papilio nephelus raya* CORBET (Black and White Helen)
(B-H-I-J-K-L-M); (Mar.-May-July-Aug.-Sept.); (likes to fly back
and forth along the edges of road and along culverts—taken on
mud seepage,—6, 10, 13, 14, 15, 18, 33, 34, 37, 41, 43, 70, 96).
6. *Papilio helenus helenus* L. (Red Helen)
(B-E-H-I-L-M); (Feb.-Mar.-Apr.-May-July-Aug.-Oct.-Nov.);
(taken on mud); (on mud with this species—5, 10, 14, 15, 18, 37, 41,
43, 70, 80, 102, 117, 119).
7. *Papilio polytes romulus* CRAMER (Common Mormon)
(C-E-F-G-H-J-K-); (Apr.-July-Aug.-Sept.-Oct.-Nov.); (on zinnias
and marigolds); (on zinnias and marigolds with this species—4, 28,
31, 43).
8. *Papilio memnon agenor* L. (male) (Great Mormon)
(B-L); (Mar.-Apr.-July-Aug.).
9. *Papilio memnon agenor* (L.) f. *distantianus* ROTHSCHILD (female)
(E); (Mar.). (Great Mormon)
10. *Papilio paris* L. (Paris Peacock)
(B-C-E-F-H-I-K-L-M); (Jan.-Feb.-Mar.-Apr.-May-July-Aug.-
Sept.-Oct.-Nov.); (on mud and wet sand); (on mud with this
species—5, 6, 14, 15, 16, 18, 33, 37, 41, 42, 43, 70, 96, 102, 117, 119);
(on wet sand with this species—14, 16, 29, 70, 96, 103).
11. *Graphium antiphates itanputi* (BUTLER) (Fivebar Swordtail)
(L); (Feb.-Mar.).
12. *Graphium agetes iponus* (FRUHSTORFER) (Fourbar Swordtail)
(E-L); (Jan.-Dec.); (taken on a wet sock).
13. *Graphium aristeus hermocrates* (C. & R. FELDER) (Unknown)
(L); (Mar.); (taken on wet moss and on mud); (on mud with this
species—5, 14, 34).
14. *Graphium sarpedon luctatius* (FRUHSTORFER) (Common Bluebottle)
(B-E-G-H-I-K-L-M); (Jan.-Feb.-Mar.-May-July-Aug.-Sept.-
Oct.-Nov.); (taken on mud, wet moss, and wet sand); (taken on
wet sand with this species—10, 16, 29, 70, 96, 103); (taken on mud
with this species—5, 6, 10, 13, 18, 33, 34, 41, 42, 43, 70, 96, 117, 119).

15. *Graphium doson evemonides* (HONRATH) (Common Jay)
(B-H-L-M); (Mar.-May-Aug.-Oct.); (taken on mud, squashed fruit, and on wet sand); (on mud with this species—5, 6, 10, 18, 37, 41, 43, 70); (on fruit with this species—75, 83, 88, 94).
16. *Graphium agamemnon agememnon* (L.) (Tailed Jay)
(B-D-G-I-K-L-M); (Feb.-Mar.-May-July-Aug.-Sept.-Oct.); (taken on mud and wet sand); (on mud with this species—5, 6, 10, 14, 15, 16, 18, 37, 41, 42, 43, 70); (on wet sand with this species—10, 14, 15, 17, 29, 70, 96, 97, 103).
17. *Graphium delessertii delessertii* (GUÉRIN-MÉNEVILLE) (Malayan Zebra) (L); (Mar.-May); (taken on moist sand); (on wet sand with this species—15, 16, 97).
18. *Lamproptera curius curius* (FABRICIUS) (White Dragontail)
(B-D-E-G-H-I-K-L-M); (Jan.-Mar.-May-July-Aug.-Sept.-Oct.-Nov.-Dec.); taken on mud, wild nettle, and wet sand); (on mud with this species—5, 6, 10, 14, 15, 16, 29, 37, 41, 42, 43, 70, 102, 103, 117, 119).

Family PIERIDAE

19. *Leptosia nina malayana* FRUHSTORFER (Psyche)
(D-G-E-L); (Jan.-Feb.-Mar.-Oct.-Dec.-); (on weeds and mud); (on mud with this species—97).
20. *Delias aglaja parthenope* (WALLACE) (Red Base Jezebel)
(E-G); (Mar.-Nov.).
21. *Delias descombesi eranthos* FRUHSTORFER (Red Spot Jezebel)
(D-F-G); (Apr.-Nov.-Dec.).
22. *Appias lyncida vasava* FRUHSTORFER (Chocolate Albatross)
(C-E-L); (Jan.-Feb.-Mar.-Apr.-May-July).
23. *Appias libythea olferna* SWINHOE (Striped Albatross)
(E); (Mar.).
24. *Appias albina albina* (BOISDUVAL) (Common Albatross)
(C-D-G-J-L); (Jan.-Mar.-Apr.-May-July-Nov.); (on marigolds and zinnias and on wet sand).

This species was seen migrating in a more or less northwest direction, downstream along the Lam Takrong river during the latter part of July, in the L area.

25. *Hebomoia glaucippe aturia* FRUHSTORFER (Great Orange Tip)
(G-H-L); (Feb.-Mar.-July-Aug.); (on wet sand).
26. *Valeria valeria lutescens* (BUTLER) (Common Wanderer)
(L); (Feb.).
27. *Catopsilia pyranthe pyranthe* (L.) (Mottled Emigrant)
(E-G-H-J-L); (Mar.-May-July-Aug.).

This species was seen migrating in approximately a northwest direction, downstream, along the Lam Takrong river during the latter part of the month of March, in the L area.

28. *Catopsilis pomona pomona* (FABRICIUS) (Lemon Emigrant)
(B-C-F-G-H-L); (Jan.-Mar.-Apr.-July-Aug.-Oct.-Nov.-Dec.); (on marigolds); (on marigolds with this species—4, 7, 31, 43).
29. *Eurema hecabe contubernalis* (MOORE) (Common Grass Yellow)
(C-D-E-G-H-L); (Jan.-Feb.-Mar.-May-July-Aug.-Nov.-Dec.); (taken on marigolds and zinnias, on mud, on wild ageratum³ and on wet sand); (on mud with this species—13, 103); (on wet sand with this species—10, 14, 16, 70, 96, 103); (on wild ageratum with this species—31, 33, 43, 49, 91, 102).

Family DANAIIDAE

30. *Danaus chrysippus alcippoides* (MOORE) (Plain Tiger)
(L); (July).
31. *Danaus genutia intermedia* (MOORE) (Common Tiger)
(B-C-D-E-G-H-L); (Jan.-Mar.-May-July-Oct.-Nov.-Dec.); (taken on zinnias, on wild ageratum, on wild grasses); (on zinnias with this species—4, 7, 28, 43); (on wild ageratum with this species—29, 33, 37, 43, 91, 102).
32. *Danaus melanippus hegesippus* (CRAMER) (Black-Veined Tiger)
(L); (Feb.-Mar.).
33. *Danaus aspasia aspasia* (FABRICIUS) (Yellow Glassy Tiger)
(C-D-G-K-L); (Jan.-Feb.-Mar.-May-July-Oct.-Nov.); (taken on zinnias, on wild ageratum, and on mud); (on mud with this species—10, 14, 43, 96); (on wild ageratum with this species—29, 31, 37, 43, 91, 102).

³ Common Malayan Wildflowers, p. 24.

34. *Danaus melaneus sinopian* (FRUHSTORFER) (Chocolate Tiger)
(E-G-H-I-L-N); (Jan.-Feb.-Mar.-May-Aug.-Sept.-Oct.-Nov.);
(taken on zinnias wet sand, on marigolds, and on wet moss); (on
zinnias and marigolds with this species-4, 35); (on wet moss
with this species-5, 13, 14).
35. *Danaus sita ethologa* (SWINHOE) (Large Chocolate Tiger)
(C-D-E-F-G-H-I-L-N); (Jan.-Feb.-Mar.-May-Aug.-Sept.-Nov.);
(taken on zinnias); (on zinnias with this species-4, 34).
36. *Danaus aglea melanoides* (MOORE) (Glassy Tiger)
(D-H-L); (Jan.-Feb.-Mar.-Apr.-July-Nov.).
37. *Danaus hamata septentrionis* (BUTLER) (Dark Blue Glassy Tiger)
(B-C-D-E-G-H-I-L-M-N); (Jan.-Mar.-May-July-Aug.-Oct.-Nov.-
Dec.); (taken on mud and wild ageratum); (on mud with this
species-5, 6, 10, 15, 18, 41, 43, 70, 78, 96); (on wild ageratum
with this species-29, 31, 33, 43, 91, 102).
38. *Euploea core godartii* Lucas (Common Indian Crow)
(F-H-L); (Jan.-Mar.-July).
39. *Euploea doubledayi evalida* (SWINHOE) (Unknown)
(G-M); (May-Oct.); (taken on mud).
40. *Euploea algea menetriesii* C. & R. FELDER (Unknown)
(D); (Jan.-Dec.).
41. *Euploea mulciber mulciber* (CRAMER) (Striped Blue Crow)
(C-D-E-F-G-H-I-J-L-M); (Jan.-Feb.-Mar.-May-July-Aug.-Oct.-
Nov.); (taken on mud tree fern, and on wet rock); (on mud
with this species-5, 6, 10, 14, 15, 16, 18, 37, 42, 43, 70).
42. *Euploea sylvester harrisii* C. & R. FELDER (Double-Branded Crow)
(D-I-L); (Feb.-Mar.-May); (taken on mud); (on mud with this
species-10, 14, 16, 18, 41).
43. *Euploea diocletianus diocletianus* (FABRICIUS) (Magpie Crow)
(C-D-E-G-H-I-L-M-N); (Jan.-Feb.-Mar.-May-July-Aug.-Oct.-
Nov.); (taken on excrement, mud, zinnias, wild grasses, and on
wild ageratum); (on excrement with this species-5, 6, 15, 18,
37, 41, 70, 80); (on wild ageratum with this species-29, 31, 33,
37, 91, 102); (on mud with this species-10, 14, 33, 96).

Family SATYRIDAE

44. *Ypthima baldus newboldi* DISTANT (Common Five-ring)
(D-E-G-H-I-K-L); (Jan.-Feb.-Aug.-Oct.-Nov.-Dec.); (on mud).
45. *Lethe eurapa malaya* CORBET (Bamboo Tree-Brown)
(E-L); (Oct.-Nov.).
46. *Lethe confusa enima* FRUHSTORFER (Banded Tree-Brown)
(E-F-G-H-L); (Feb.-Mar.-July-Aug.-Nov.).
47. *Mycalesis mineus macromalayana* FRUHSTORFER
(G-I); (Aug.). (Dark Brand Bush Brown)
48. *Mycalesis anaxias bisaltia* FRUHSTORFER (White-bar Bush Brown)
(J); (July).
49. *Orsotriaena medus cinerea* (BUTLER) (Nigger)
(D-E-F-G-H-I-L); (Jan.-Feb.-Mar.-May-July-Aug.-Dec.); (taken
on wild grasses).
50. *Melanitis leda leda* (L.) (Common Evening Brown)
(D-E-H-J-L-M); (Mar.-Apr.-Nov.-Dec.).
51. *Melanitis phedima abdullae* DISTANT (Dark Evening Brown)
(G-M); (July-Nov.).
52. *Elymnias hypermnestra beatrice* FRUHSTORFER (Common Palmfly)
(D-E-F-H-L-M); (Jan.-Feb.-Mar.-Apr.-July-Dec.); (on wild
banana).
53. *Elymnias hypermnestra tinctoria* MOORE (Common Palmfly)
(F-H-L); (Feb.-July-Aug.).
54. *Elymnias malelas* (HEWITSON) (Spotted Palmfly)
(H); (Aug.).
55. *Elymnias vasudeva* MOORE (Jezebel Palmfly)
(L); (Mar.).

Family NYMPHALIDAE

56. *Ariadne ariadne ariadne* (L.) (Angled Castor)
(B-C-D-E-G-H-I-L-M); (Jan.-Feb.-Mar.-May-July-Aug.-Oct.-
Nov.-Dec.); (taken on high grasses).
57. *Cupha erymanthis lotis* (SULZER) (Rustic)
(F-L); (Feb.-July).

58. *Vindula arsinoe erotella* (BUTLER) (Cruiser)
(C-E-G-L); (Jan.-Mar.-Aug.-Nov.).
59. *Cirrochroa tyche rotundata* BUTLER (Common Yeoman)
(A-B-C-D-F-G-J-K-L); (Jan.-Feb.-Mar.-May-July-Aug.-Oct.-
Nov.); (taken on mud).
60. *Terinos clarissa malayana* FRUHSTORFER (Unknown)
(I-L); (Mar.-Aug.).
61. *Precis iphita horsfieldi* (MOORE) (Chocolate soldier)
(D-E-I); (Jan.-Mar.-Aug.-Nov.).
62. *Precis atlites atlites* (L.) (Grey Pansy)
(D-E-F-I-L); (Jan.-Feb.-Mar.).
63. *Precis lemonias lemonias* (L.) (Lemon Pansy)
(E-G-H-K-L); (Jan.-Feb.-Aug.-Oct.-Nov.).
64. *Precis almana javana* (DISTANT) (Peacock Pansy)
(B-D-E-F-G-I-L); (Jan.-Feb.-Mar.-Aug.-Dec.).
65. *Precis arithya wallacei* (C. & R. FELDER) (Blue Pansy)
(G); (Mar.).
66. *Symbrenthia hippoclus lucinus* FRUHSTORFER (Common Jester)
(C-D-L); (Jan.-Nov.-Dec.).
67. *Symbrenthia hypselis sinis* NICÉVILLE (Himalayan Jester)
(D); (Dec.).
68. *Doleschallia bisaltide pratipa* C. & R. FELDER (Autumn Leaf)
(F-G-L); (Feb.-Mar.-July); (taken on wild banana).
69. *Kallima paralekta amplirufa* FRUHSTORFER (Indian Leaf)
(M); (Aug.).
70. *Cyrestis nivea nivalis* (C. & R. FELDER) (Straight Line Map-wing)
(D-E-I-L-M); (Jan.-Feb.-Mar.-May-Aug.-Nov.); (taken on
mud, wet rock, and wet sand); (on wet sand with this species—
10, 14, 16, 29, 96, 103); (on mud with this species—5, 6, 10, 14,
15, 18, 37, 41, 43, 102, 117, 119).
71. *Neptis hordonia hordonia* (STOLL) (Common Lascar)
(G-H); (Aug.-Oct.).
72. *Neptis paraka paraka* BUTLER (Perak Lascar)
(H); (Aug.).

73. *Neptis hylas mamaja* BUTLER (Common Sailor)
(B-C-D-E-G-H-L-M); (Jan.-Feb.-Mar.-July-Aug.-Oct.-Nov.-Dec.).
74. *Neptis soma gononata* BUTLER (Sullied Sailor)
(B-C-E-G-H-I-J-L); (Jan.-Feb.-Apr.-May-Aug.-Oct.-Nov.).
75. *Parathyma pravara helma* (FRUHSTORFER) (Lance Sergeant)
(B-C-E-H-J-L); (Jan.-Feb.-Mar.-July-Aug.-Oct.-Nov.-Dec.);
(taken on squashed fruit and on mud); (on fruit with this species—15, 83, 86, 88).
76. *Parathyma perius perius* L. (Common Sergeant)
(G-H); (July-Aug.-Oct.); (taken on squashed fruit); (on fruit with this species—79, 80, 83).
77. *Parathyma selenophora amharina* (MOORE) (Staff Sergeant)
(B-C-L); (Jan.-Feb.-Nov.).
78. *Parathyma ranga malaya* (PENDLEBURY) (Black-Veined Sergeant)
(D-G-L); (Feb.-Aug.-Dec.); (taken on mud, wild flowers, and wet rock); (on mud with this species—37, 96); (on wet rock with this species—108).
79. *Parathyma asura idita* (MOORE) (Studded Sergeant)
(E-H); (Aug.-Nov.); (on squashed fruit); (on squashed fruit with this species—76, 80, 83).
80. *Moduza procris milonia* (FRUHSTORFER) (Commander)
(B-C-G-H-I-J-K-L); (Jan.-Feb.-Mar.-Apr.-May-July-Aug.-Oct.-Nov.); (taken on excrement, on squashed fruit, on nettles, mud, elephant dung and on wet rocks); (on excrement with this species—43, 81); (on fruit with this species—76, 79, 91); (on mud with this species—6); (on wet rocks with this species—111).
81. *Limenitis daraxa theoda* (FRUHSTORFER) (Green Commodore)
(H); (Oct.); (taken on excrement); (on excrement with this species—80).
82. *Limenitis dudu* WESTWOOD (White Commodore)
(A); (Nov.).
83. *Lebadea martha malayana* FRUHSTORFER (Knight)
(D-E-H-I-L); (Feb.-Mar.-Aug.-Oct.-Dec.); (taken on squashed fruit); (on squashed fruit with this species—76, 79, 80).

84. *Parthenos sylvia lilacinus* BUTLER (Clipper)
(I-L); (May-July).
85. *Euthalia lepidea matala* (FRUHSTORFER) (Grey Count)
(D-G-J-L); (Feb.-Mar.-Apr.-May-July-Aug.).
86. *Euthalia aconthea gurda* (FRUHSTORFER) (Baron)
(G-H-I); (Feb.-May-Oct.); (taken on squashed fruit); (on fruit
with this species—15, 75, 83, 88).
87. *Euthalia mahadeva zichrina* FRUHSTORFER (Unknown)
(H); (Mar.).
88. *Euthalia lubentina indica* FRUHSTORFER (Gaudy Baron)
(H); (Oct.); (taken on squashed fruit); (on fruit with this
species—15, 75, 83, 86).
89. *Apatura parisatis siamensis* FRUHSTORFER (Black Prince)
(B-K-L); (Jan.-Feb.-Mar.-July); (taken on mud); (on mud
with this species—96, 97, 113).
90. *Apatura ambica siamensis* FRUHSTORFER (Indian Purple Emperor)
(L.); (Mar.).
91. *Idrusia nyctelius euploeoides* (C. & R. FELDER) (Courtesan)
(G-H); (Aug.); (male).
92. *Idrusia nyctelius euploeoides* (C. & R. FELDER) f. *euploeoides* (C.
and R. Felder); (Courtesan)
(female); (taken on wild ageratum); (on wild ageratum with this
species—29, 31, 33, 37, 43, 102).
93. *Idrusia euploeoides*, f. *nycteluis* DOUBLEDAY⁴ (Courtesan)
(H); (Aug.); (female).
94. *Polyura athamas samatha* (MOORE) (Common Nawab)
(B); (Jan.).
95. *Charaxes polyxena crepax* FRUHSTORFER (Tawny Rajah)
(G-L); (Mar.-Oct.-Nov.).

Family LIBYTHEIDAE

96. *Libythea myrrha kecura* FRUHSTORFER (Club Beak)
(G-H-L); (Jan.-Feb.-Mar.-Aug.-Oct.); (taken on mud and wet
sand); (on mud with this species—10, 14, 33, 37, 43, 78, 89, 97);
(on wet sand with this species—10, 14, 16, 29, 70, 103).

4. This is the form that mimics *Euploea algea* or *Euploea eyndhovii*.

97. *Libythea narina rohini* MARSHALL (White-Spotted Beak)
(D-E-F-J-L); (Jan.-Feb.-Mar.-Apr.-July); (on mud and wet sand); (on mud with this species—19, 96); (on wet sand with this species—15, 16, 17).

Family RIODINIDAE

98. *Zemeros flegyas albipunctata* BUTLER (Punchinello)
(L); (May).
99. *Abisara savitri savitri* C. & R. FELDER (Malay Tailed Judy)
(M); (Dec.).
100. *Abisara geza niya* FRUHSTORFER (Unknown)
(D); (Dec.).
101. *Taxila haquinus haquinus* (FABRICIUS) (Harlequin)
(L); (May).

Family LYCAENIDAE

102. *Castalius roxus pathus* FRUHSTORFER (Straight Pierrot)
(C-E-H-I-J); (May-July-Aug.-Nov.); (on mud and wild ageratum); (on mud with this species—6, 10, 14, 18, 70, 117, 119).
103. *Castalius rosimon rosimon* (FABRICIUS) (Common Pierrot)
(D-G-H-L-M); (Jan.-Mar.-May-July-Aug.-Dec.); (on mud and wet sand); (on wet sand with this species—10, 14, 16, 29, 70, 96); (on mud with this species—18, 29).
104. *Megisba malaya velina* FRUHSTORFER (Malayan)
(E); (Nov.); (taken on wild ageratum).
105. *Jamides celena aelianus* (FABRICIUS) (Common Caerulean)
(D-F); (Jan.-July).
106. *Heliophorus epicles indicus* (FRUHSTORFER) (Purple Sapphire)
(D-E-F-G-H-L); (Jan.-Feb.-Mar.-Aug.-Dec.); (taken on grass).
107. *Spindasis syama terana* (FRUHSTORFER) (Club Silverline)
(G-H-I); (July-Aug.).
108. *Cheritra freja frigga* FRUHSTORFER (Common Imperial)
(L); (Feb.); (on wet rock); (on wet rock with this species—78).
109. *Marmessus theda thesmia* (HEWITSON) (Dark Posy)
(K); (Oct.).

110. *Hypolycaena erlus teatus* FRUHSTORFER (Common Tit)
(C); (Nov.).
111. *Zeltus amasa maximilianus* FRUHSTORFER (Fluffy Tit)
(E-L); (Mar.-Nov.); (taken on wild ageratum and wet rock);
(on wet rock with this species-80).

Family HESPERIIDAE

112. *Bibasis sena uniformis* (ELWES & EDWARDS) (Orange-tail Awl)
(E); (Nov.); (taken on wild flowers).
113. *Hasora schoenherri chuza* (HEWITSON) (Yellow Banded Awl)
(K); (Mar.); (on mud); (on mud with this species--89).
114. *Badamia exclamationis* (FABRICIUS) (Brown Awl)
(J-L); (July); (taken on wet rock).
115. *Choaspes hemixanthus* (Indian Awlking)
(E); (Mar.).
116. *Tagiades litigiosa litigiosa* MÖSCHLER (Water Snow Flat)
(E); (Nov.).
117. *Notocrypta paralysos varians* (PLÖTZ) (Banded Demon)
(D-E-I-L); (Jan.-Feb.-Aug.); (taken on wet sand and mud);
(on mud with this species-6, 10, 14, 18, 70, 102, 119).
118. *Notocrypta curvifascia corinda* EVANS (Restricted Demon)
(E); (Nov.).
119. *Udaspes folus* (CRAMER) (Grass Demon)
(I); (Aug.); (taken on mud); (on mud with this species-6, 10,
14, 18, 70, 102, 117).

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