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A REPORT ON THE PIERID BUTTERFLIES (LEPIDOPTERA : INSECTA) FROM INDRA GANDHI NATIONAL PARK AND WILDLIFE SANCTUARY, TAMILNADU

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INTRODUCTION

Indira Gandhi Wildlife Sanctuary and National Park (formerly known as the Anamalai Wildlife Sanctuary) lies in the Coimbatore District of Tamil Nadu from 10°12½′ to 11°07′N latitude and 76°00′ to 77°56½′E longitude at the southern part of the Nilgiri Biosphere Reserve in the Anamalai Hills. Altitude ranges from 340m to 2,510m and annual rainfall varies between 800 mm to 4500 mm. The climate is moderately warm almost throughout the year and fairly cold during the winter months of November and December (Sekar and Ganesan, 2003).

Indira Gandhi Wildlife Sanctuary and National Park is one of the hot spots of biodiversity in the Western Ghats covering 958 sq. kms. Indira Gandhi Wildlife Sanctuary and National Park is a significant segment of the Western Ghats, which possesses many endemic species and is a unique ecological tract rich in biodiversity. The IGWLS, declared as a Wildlife Sanctuary in 1976, falls within three taluks of the Coimbatore District namely Pollachi, Valparai (Valpaarai) and Udumalpet with six territorial ranges–Pollachi, Valparai, Ulandy (Top Slip), Manamboly, Udumalpet and Amaravathi. The forest tract of the Anamalais exhibits a wide diversity in terrain, elevation and climate thus supporting diverse vegetation with striking differences–from luxuriant tropical evergreen forest to thorn forest and scrub jungles.

Indira Gandhi Wildlife Sanctuary and National Park is an Indomalayan Malabar Rainforest and the Tropical Humid biome comprises primarily of wet evergreen, sub-tropical evergreen, moist deciduous, dry deciduous, semi-evergreen and montane-shola grasslands. The terrain here is thickly wooded hills, plateaus, deep valleys and rolling grasslands. Both southwest and northeast monsoons occur here. The area is drained by several perennial and semi-perennial river systems like the Kallar and Sholaiar rivers and contains man-made reservoirs such as Aliar and Thirumurthy. The main geological formations in the area are horneblende-biotite and garnetiferous biotite gneissus, charnockites and plagiodase porphyry dykes. Soil on the slopes consists of sandy loam. The unique ecological tract has an undulating topography and climate variations which support a wide variety of flora and fauna. The floral diversity is enormously rich as the terrain offers a wide range of natural parameters like topography, climate, temperature, rainfall etc. The floral wealth is estimated to be over 2000 species of which about 400 and odd species are of prime medicinal value. Top Slip's outstanding rainforest patches hold a number of South Indian endemic butterflies.

Butterflies belong to the order Lepidoptera, from either of the superfamilies Hesperioidea (the skippers) or Papilionoidea (all other butterflies).

India has a rich butterfly fauna comprising 1501 species out of 16, 823 species recorded from all over the world (Gaonkar, 1996). Of the various butterfly habitats found in India, the Western Ghats is one of the most diversified areas containing a wide variety of

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species due to the typical ecoclimatic and geographic features.

The Indira Gandhi Wildlife Sanctuary and National Park is now recognized as a biodiversity hotspot due to the incredible richness of flora and fauna it supports. For example, the Indira Gandhi Wildlife Sanctuary and National Park is home to 315 species (http://www.discoverwild.in/butterflies.htm) of butterfly; nearly 95% of Western Ghat's butterflies and one five of Indian's butterflies fauna. Of these 315 species, most of the species are endemic. However, this diversity is extremely threatened and the conservation of the forest is essential if we are to preserve it.

The Pieridae are members of the Superfamily Papilionoidea, the true butterflies. Worldwide in distribution, most species are found in the tropics. Adults have medium to small wings that are white, yellow, or orange, with some black or red, and many have hidden ultraviolet patterns that are used in courtship. Species with more than one generation usually have distinct seasonal variation in appearance. The sexes usually differ, often in the pattern or number of the black markings. Adults of all species visit flowers for nectar, and adults of both sexes have three pairs of walking legs. Males patrol in search of receptive mates, and females lay columnar eggs on leaves, buds, and stems. The larvae (caterpillars) of some of these species feed on brassicas, and are agricultural pests. Males of many species involve in gregarious mud-puddling. Of the 1051 species of pierids occurring in the world, 81 species in 21 genera are found in India.

The family Pieridae has four subfamilies, of which the whites and the yellows are well represented in India.

Kingdom	ANIMALIA
Phylum	ARTHROPODA
Class	INSECTA
Order	LEPIDOPTERA
Suborder	DITRYSIA
Superfamily	PAPILIONOIDEA
Family	PIERIDAE
Subfamilies	DISMORPHIINAE
	PSEUDOPONTIINAE
	PIERINAE
	COLIADINAE

- Dismorphiinae (6 genera of Neotropical butterflies and one genus Leptidae in the palearctic region but not occurring in India).
- Pseudopontiinae (A single species in tropical West Africa).
- Pierinae or the Whites.
- Coliadinae or the Yellow.

In the present study, 26 species belonging to 14 genera under family Pieridae have been recorded.

Keywords : *Butterflies, Pieridae, Indira Gandhi National Park and Wildlife Sanctuary, Biodiversity hot spot.*

METHODOLOGY

The study was carried out in 2005 to 2006, by sampling butterflies in different sites from Indira Gandhi Wildlife Sanctuary and National Park. Different types of habitats were sampled. Butterflies were monitored in different seasons by hand net. Samplings were carried out every day, by collecting adults on a fixed transect of 200 meters within the investigated sites, following Pollard (1977) and Pollard and Yates (1993) methodology. In the present study, the "catch and release" method was used : the collected adults were identified in field and released at the end of the sampling, with the exception of some uncertain species, which were collected and identified in laboratory. Samplings were carried out in sunny conditions at fixed time, walking on a fixed trajectory and observing both sides of the transect.

Status : Status of these species has been given as per IUCN 2006, CITES 2007 and Indian Wild Life (Protection) Act, 1972. The recorded species in not listed in the above three catogories, then general remarks were put under the status head according to number of sighting during the study.

SYSTEMATIC ACCOUNT

Family PIERIDAE DUPONCHEL, 1844

1844. Pieridae, Duponchel, *Cat. Meth. Lepi. Eur.*, p.23.

Diagnostic characters : Fore wing with veins R_2 and R_1 usually from the cell, rarely is R_2 absent; R_3 usually present; R_5 usually coincident with R_4 and stalked with R_3, M_1 usually stalked with them; M_2 usually from above middle of cell; 1a not forked at the base. Hind wing with veins 3A and 1A + 2A present,

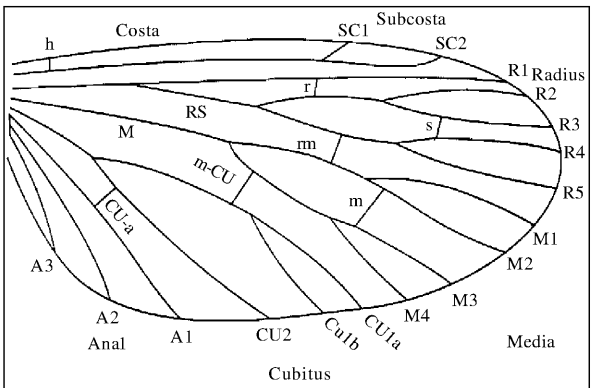
the inner area broad, with athe margin channelled to receive the abdomen; precostal absent or reduced in some genera. Both wings with cell closed; discocellular (udc)usually absent on the fore wing.

The venation is more variable in the fore wing, development having proceeded by an upward movement of the vains, resulting in the fusion and apparent loss of some; the more primitive forms have veins R_5, R_4, R_3, R_2 and R_1 all present. In Baltia vein M_2 has moved up, leaving only one discocellular (idc) present. The position of veins 7+8 and 9 is variable, these two veins being sometimes very short and forming a minute fork at the apex of the wing in Leptosia vein R_3 has disappeared, in Delias vein R_2 is missing, whilst in Colias vein R_2 is stalked with R_3. Generally, however, veins R_2 and R_1 are more stable than the three preceding veins.

Antennae of variable length, the club more or less ovate (abrupt), or short and thickened (incrassate) gradualy to the apex.

Legs fully developed, claws bifid; paronychium absent in Colias and Baltia; pulvillus absent in Gonepteryx, Colias, and Baltia.

Scent organs are found in the males of many genera, *e.g.,* brands (Colias), plume-scales (Delias, Pieris), abdominal brushes (Appias).



Longitudinal veins and cross veins

CLASSIFICATION

The pieridae were formerly treted as a subfamily of the papilionidae, but they differ considerably from these. The family is included by some with the Nymphaline forms under the superfamily Nymphaloidae, but they differ in several ways from these, especially in the fully developed fore legs.

The family has been divided into four subfamilies comprising 63 genera. In the Indian area only the subfamillies Pierinae and Coliadinae occur, with 22 genera.

The Pierids are to be found in all parts of the world where butterflies can live, in the far Arctic and hihg mountain areas, and in desert areas as well as in tropical forests.

Most of the twenty two Indian genera are striclty Indo-Malayan, none being peculiar to the Indian area; six are Palaearctic, and two (Colotis and Anapheis) are to be regarded as African.

Key to the Subfamilies

1. Hind wing with well developed precostal vein, curved distad, Palpi always hairy ..... Pierinae
2. Hind wing with Precostal vein absent or very short and directed basad, Palpi usually not hairy .... Coliadinae

Subfamily PIERINAE SWAINS, 1840

1840. Pierinae, Swainson, *Cab. Cycl.*

Diagnostic characters : Hind wing with a well-developed precostal vein which is directed distad. Fore wing with R_2 to Sc veins, Palpi with segments 1 and 2 furnished with hair or bristles below. This subfamily may be divided into two groups : (a) fore wing with vein M_1 given off from R_5; (b) fore wing with vein M_1 from the upper angle of the cell or just above it. This latter group was treated by Aurivillius as a distinct subfamily.

Key to the genera of Pierinae

A. Fore wing with veins R_5 and R_4 coincident

1. Fore wing with vein R_2 from the cell .... *Delias Hubn.*

– Fore wing with vein R_2 absent 2

2. Fore wing with vein R_3 absent ..... *Leptosia hub.*

– Fore wing with vein R_3 present, stalked with R_5+ R_4 3

3. Fore wing with costa serrate ..... *Prioneris Wall*

– Fore wing with costa not serrate 4

4. Fore wing with vein R_1 anastomosing with Sc .... *Belenois Hubn.*

– Fore wing with vein M_1 given off nearer the cell than to fork of R_5 + R_4 and R_3 5

5. Fore wing with vein R_3 emitted from $R_5 + R_4$ very close to the apex, the stalk long..... *Pieris Schr.*
– Fore wing with vein R_3 emitted from $R_5 + R_4$ further from the apex, the stalk shorter 6
6. ♂ with a tuft of hair arising between the 7th and 8th abdominal segments ..... *Appias Hubn.*
– ♂ without hair-pensils on the abdomen 7
7. Pulpus with 3rd segment slender, as long as the 2nd. Fore wing with vein M_1 from the stem of $R_5 + R_4$ and R_3, nearlymid-way between fork and end of cell, and not nearer apex of cell than is vein R_2 ..... *Cepora Billb.*
– Pulpus with 3rd segment short and oval. Fore wing with vein M_1 from the stem of $R_5 + R_4$ and R_3, nearer the cell than to the fork, and nearer apex of cell than is vein R_2 ..... *Ixias Hubn.*
8. Fore wing with vein M_1 from the upper angle of cell *Colotis Hubn.*
— Fore wing with vein M_1 from the junction of *ude* and *mde*, *ude* very short..... *Hebomoia Hubn.*

B. Fore wing with veins $R_5 + R_4$ separate

9. Fore wing with vein M_1 from upper angle of cell .. .. *Pareronia Bingham*

Subfamily COLIADINAE AURIVILLIUS, 1910

1910. Coliadinae, Aurivillius, In Seitz, *Macrolep.*, xiii, p.63.

Diagnostic characters : Wing coloration usually yellow or orange. Fore wing with vein M_1 always emitted from R_5; $R_5 + R_4$ coincident. Hind wing with the precostal vein greatly reduced or absent. Body robust. Palpus with third segment very short; underside of palpus smoothly scaled or rarely clothed with bristles and hairs; antennal club gradual, a raised line present.

Key to the genera of Coliadinae

1. Hind wing with precostal vein absent or obsolete 2
– Hind wing with precostal vein thick and rather short ..... *Catopsilia Hubn.*
2. Fore wing with vein R_2 from the stem of $R_5 + R_4$ and R_3 ..... *Colias Fabr.*
– Fore wing with vein R_2 and R_1 from the cell, M_1 from the stem of $R_5 + R_4$ and R_3 3
3. Hind wing with Precostal vein absent or very greatly reduced ..... *Eurema Hubner*

1. ***Delias eucharis*** (Drury, 1773), Common Jezebel

1773. *Papilio eucharis*, Drury, *Illustr. Nat. Hist.*, i.
1857. *Pieris eucharis*, Horsfield & Moore, *Cat. Lep. Ins. Mus.* E.i.C., i, p. 80.
1881. *Delias eucharis*, Moore, *Lep. Ceylon*, i, p. 140.
1904. *Piccarda eucharis*, Moore, *Lep. Indica*, vi, p.175.
1907. *Delias eucharis*, Bingham, *Fauna Brit. Ind., Butterflies*, ii, p. 141.

Material examined : Sethumadai, 1 ex. 23.xii. 2005. Top slip, 2 exs. 26.Xii.2005. Aliyar dam, 2 ex., 01.i.2006. Sholaiyar, 2exs. 04.i.2006. Thirumurtinagar, 2 exs. 09.iv.2006. Amaravathi Nagar, 2 exs., 15.iv.2006. Top slip, 1 ex. 28.xi.2006.

Larval Host Plants : The larvae of the *D. eucharis* feed on *Loranthus* sp.

Distribution : It is found in all over India (except the desert tracts), Sri Lanka and North Burma, North Myanmar and Thailand. The butterfly may be found wherever there are trees, even in towns and cities, flying high among the trees and visiting flowers.

Status : Common.

2. ***Leptosia nina*** (Fabricius, 1793), Psyche

1781. *Papilio xiphia,* Fabricius, *Spec. Ins.*, ii, p. 43.
1793. *Papilio nina*, Fabricius, *Ent. Syst.*, ii, p. 194.
1881. *Nychitona xiphia*, Moore, *Lep. Ceylon.* i, p. 118.
1898. *Leptosia xiphia*, Mackinnon & de Niceville, *J. Bomb. Nat. Hist. Soc.*, xi, p. 585.

Material examined : Sethumadai, 2 exs., 23.xii.2005, Mannam, 1 ex. 24.xii. 2005. Top slip, 1 ex., 27.xii.2005. Iyarpadi, Valparai, 2 exs., 03.i.2006. Upper canal, 2 exs., 05.iv.2006. Thirumurtinagar, 1 ex., 09.iv.2006. Upper Aliyar, 1 ex. 02.xii.2006.

Larval Host Plants : The larval food plant are *Capparis heyneana* and *Crataeva religiosa* and *Cleome visiana.*

Distribution : In India all the part of Southern India, Sri Lanka, Myanmar and Australia.

Status : Common

3. ***Prioneris sita*** (C. & R. Felder, 1865), **Painted Sawtooth**

1865. *Pieris sita*, C. & R. Felder, *Reise Navara, Lep.*, ii, p. 161.
1881. *Prioneris sita*, Moore, *Lep. Ceylon.* i, p. 141.

Material examined : Top slip, 2 exs., 26.xii.2005. Kozhikamukki, IGNP & WLS, 1 ex. 28.xii.2005. Upper

canal, 2 exs. 05.iv.2006. Upper Aliyar, 1 ex. 07.iv.2006. Kottore, 1 ex. 03.xii.2006.

Larval Host Plants : The larvae feeds capers.

Distribution : In India all the part of Southern India, Mumbai (Western Ghats) and Sri Lanka.

Status : Very common.

4. ***Belenois aurota*** (Fabricius, 1793), Brown-veined white or Caper White or Pioneer

1793. *Papilio aurota*, Fabricius, *Ent. Sys*., iii, p. 197.
1932. *Anapheis aurota*, Hemming, *Trans. Ent. Soc. Lond*., p. 283.
1886. *Belenois auriginea*, Butler, *Proc. Zool. Soc. Lond*., p. 374.

Material examined : Sethumadai, 2 exs., 23.xii.2005, Top slip, 1 ex., 27.xii.2005. Blandy Valley, Valparai, 3 exs., 06.I.2006. Thirumurtinagar, 1 ex., 09.iv.2006. Amaravathi nagar, 1 ex., 15.iv.2006. Top Slip, 1 ex. 29.xi.2006.

Larval Host Plants : The larval host plants of these butterflies are *Capparis leoides*, *C. herbacea*, *C. spinosa*, *C. sepiaria*, *C. fphylla*, *C. heyneana*, *C. galeata*, *Maerua triphylla*, *M. crassifolia*, *M. arenaria*, *Boscia senegalensis*, *B. albitrunca* and *Cadaba indica.*

Distribution : All the part of India, Sri Lanka, Pakistan, Afghanistan, Baluchistan, Arabia, SAF, Tropical Afria.

Status : Very common.

5. ***Pieris canidia*** (Sparrman, 1768), **Indian Cabbage White**

1768. *Papilio canidia,* Sparrman, *Aman. Acad*., vii, 504.

Material Observed : Sarkarpathi, 2 exs., 23.xii.2005. Blandy Valley, 1 ex., 06.I.2006. Upper canal, 2 exs., 05.iv.2006. Thirumurtinagar, 2 exs., 09.iv.2006. Attakatti, 2 ex. 23.xi.2006.

Larval Host Plants : The larval host plants of these butterflies are *Cardamine flexuosa*, *C. scutata*, *Lepidium virginicum, Raphanus acnthiformis, Brassica alboglabra, Cleome gynandra, C. spinosa*, *Alstonia scholaris*, *Arabis hirsuta*, *A. stelleri* and *Rorippa indica.*

Distribution : In India it is found in Nilgiri hills, Palni hills, Kerala, Himalaya, Assam and Tibet China and Burma.

Status : Common.

6. ***Appias indra*** (Moore, 1857), Plain Puffin

1857. *Pieris indra,* Moore, *Cat. Lep. Mus*. E.I.C., i, p.103.
1867. *Tachyris indra,* Wallace, *Trans. Ent. Soc. Lond*., iv, p. 381.
1887. *Hyposcritia indra*, Wood-Mason & de Niceville, *J. As. Soc. Beng*., ii, p. 372.
1907. *Applias indra*, Bingham, *Fauna Brit. Ind*., Butterflies, ii, p. 205.

Material examined : Varakaliyar, 2 exs., 28.xii.2005. Solaiyar, 1 ex. 04.i.2006. Upper canal, 2 exs., 05.iv.2006. Sholaiar Nagar, 1 ex. 08.iv.2006. Top Slip, 1 ex. 28.xi.2006.

Larval Host Plants : The larvae feed on the leaves of *Crataeva religiosa* and *Capparis sepiaria.*

Distribution : It is distibuted to South India and Assam, Sri Lanka, Nepal and Myanmar.

Status : Generally common and not threatened.

7. ***Appias libythea*** (Fabricius, 1775), **Striped Albatross**

1775. *Papilio libythea*, Fabricius, *Sys. Ent*., p. 471.
1881. *Appias libythea*, Moore, *Lep. Ceylon*. i, p. 134.

Material examined : Varakaliyar, 1 ex., 28.xii.2005. Anapady, 2 exs., 29.xii.2005. Thirumurtinagar, 2 exs., 09.iv.2006. Top Slip, 1 ex. 29.xi.2006.

Larval Host Plants : The larvae feed on the leaves of *Crataeva religiosa, Capparis separia*, *C. roxburghii*, *C. horrida.*

Distribution : This butterflies commonly avilable in India including Nicobar Islands, Sri Lanka and Myanmar.

Status : Generally common and not threatened.

8. ***Appias albina*** (Boisduval, 1836), Common **Albatross or White Albatross**

1836. *Pieris albina*, Boisduval, *Spec. Gen*., p. 480.

Material examined : Mannam, 1 ex. 24.xii.2005. Varakaliyar, 1 exs, 28.xii.2005. Solaiyar, 1 ex. 04.i.2005. Upper canal, 1 exs., 05.iv.2006. Thirumurtinagar, 2 exs., 09.iv.2006. Manampalli, 1 ex. 23.xi.2005.

Larval Host Plants : The larvae feed on the leaves of *Drypetes oblongitalia*, *D. venusta* and *D. rexbughii.*

Distribution : It is distributed to South India and to Sikkim, Sri Lanka, Burma and Australia.

Status : Generally common.

9. ***Cepora nerissa*** (Fabricius, 1775), Common Gull

1775. *Papilio nerissa*, Fabricius, *Sys. Ent*., p. 471.

1775. *Papilio coronis*, Cramer, *Pap. Exot.*, p. 69.
1886. *Huphina nerissa*, Doherty, *J. As. Soc. Beng.*, p. 135.
1867. *Pieris copia*, Wallace, *Trans. Ent. Soc. Lon.*, p. 340.

Material examined : Upper Aliyar, 1 exs, 31.xii.2005. Korangumudi, 1 exs., 04.i.2005. Sholaiar Nagar, 1ex. 08.iv.2006. Thirumurtinagar, 2 exs., 09.iv.2006. Amaravathi nagar, 1 ex., 15.iv.2006.

Larval Host Plants : The larvae feed on the leaves of *Capparis* spp.

Distribution : It is found in South India, Himalayas, Nepal, Sikkim, Bengal, Bhutan, Sri Lanka and Burma.

Status : Generally common.

10. ***Ixias pyrene*** (Linnaeus, 1764),
Yellow Orange Tip

1764. *Papilio pytene*, Linnaeus, *Mus. Lud. Ulr.* p. 241.

Material examined : Sethumadai, Pollachi, 1 ex., 23.xii.2005. Varakaliyar, 1 ex, 28.xii.2005. Upper canal, 1 exs., 05.iv.2006. Sholaiar Nagar, 1ex. 08.iv.2006. Thirumurtinagar, 2 exs., 09.iv.2006. Attakatti, 1 ex. 24.xi.2006.

Larval Host Plants : The larvae feed on the leaves of *Capparis sepiaria* and *C. religiosa.*

Distribution : These butterflies are commonly available in South India, Bengal, Himalayas, Assam, Myanmar and Sri Lanka.

Status : Generally common.

11. ***Ixias marianne*** (Cramer, 1779),
White Orange Tip

1779. *Papilio marianne*, Cramer, *Pap. Exot.*, p. 41.
1865. *Thestias Marianne*, Moore, *Proc. Zool. Soc. Lon.*, p. 491.
1871. *Ixias Marianne*, Butler, *Lep. Exot.*, p. 253.
1877. *Ixias agnivena*, Moore, *Ann. Mag. Nat. Hist.*, p. 50.
1883. *Ixias depalpura*, Butler, *Proc. Zool. Soc. Lond.*, p. 153.
1885. *Ixias meridionalis*, Swinhoe, *Proc. Zool. Soc. Lond.*, p. 140.
1885. *Ixias cumballa*, Swinhoe, *Proc. Zool. Soc. Lond*, p. 141.

Material examined : Sarkarpathi, 1 ex. 23.xii.2005. Attakatti, 1 ex. 31.xii.2005. Upper canal, 1 exs., 05.iv.2006. Sholaiar Nagar, 1ex. 08.iv.2006. Amaravathi nagar, 1 ex., 15.iv.2006. Upper Aliyar, 1 ex. 02.xii.2006.

Larval Host Plants : The larvae feed on the leaves of *Capparis sepiaria, C. divaricata, C. aphylla and C. grandis.*

Distribution : It is found in South India, Punjab, Bengal and Sri Lanka.

Status : Generally common.

12. ***Colotis amata*** (Fabricius, 1775),
Small Salmon Arab

1779. *Papilio amata*, Fabricius, *Syst. Ent.*, p. 476.
1829. *Pontia dynamene*, Klug, *Symb. Phys.*, p. 6.
1907. *Colotis amata*, Bingham, *Fauna Brit. Ind.*, Butterflies, p. 261.

Material examined : Mannam, 1 ex. 24.xii.2005. Water Falls, 1 ex. 1.i.2006. Sholaiar Nagar, 1ex. 08.iv.2006. Amaravathi nagar, 1 ex., 15.iv.2006. Vengolimalai, 2 exs. 29.xi.2006.

Larval Host Plants : The larvae feed on the leaves of *Salvadora persica.*

Distribution : It is commonly available in India, AF, Swaziland, Zululand, Transyall, Botswana, South West Africa, Rhodesia and Sri Lanka.

Status : Generally common.

13. ***Colotis etrida*** (Boisduval, 1836), Small
Orange-Tip or Little Orange-Tip

1836. *Anthocharis setida*, Boisduval, *Spec. Gen. Lep.*, p. 576.
1857. *Callosune etrida*, Moore, *Cat. Lep. Mus.* E.I.C., p. 69.
1870. *Teracolus etrida*, Butler, *Cist. Ent.*, i, p. 726.
1907. *Colotis etrida*, Bingham, *Fauna Brit. Ind.*, Butterflies, ii, p. 270.

Material examined : Samanampathi, 1 ex. 25.xii.2005. Nadumalai, 3.i.2005. Upper canal, 1 exs., 05.iv.2006. Thirumurtinagar, 2 exs., 09.iv.2006. Top slip, 1 ex. 29.xi.2006.

Larval Host Plants : The larvae feed on the leaves of Cadaba indica.

Distribution : It is commonly avilable in South India to Himalays and Sri Lanka.

Status : Generally common.

14. ***Colotis danae*** (Fabricius, 1775), Crimson-Tip

1775. *Papilio danae*, Fabricius, *Syst. Ent.*, p. 476.
1781. *Papilio eborea*, Stoll, *Uitl. Kapellen*, iv, p. 121.
1857. *Callosune danae*, Moore, *Cat. Lep. Mus.* E.I.C, p. 69.
1876. *Teracolus danaa*, Butler, *Proc. Zool. Soc. Lond.*, p. 157.
1907. *Colotis danae*, Bingham, *Fauna Brit. Ind.*, Butterflies, ii, p. 271.

Material examined : Varakaliyar, 1 exs, 28.xii.2005. Thirumorthymalai, 1 ex. 2.i.2005. Upper canal, 1 exs.,

05.iv.2006. Sholaiar Nagar, 1ex. 08.iv.2006. Thirumurtinagar, 2 exs., 09.iv.2006. Amaravathi nagar, 1 ex., 15.iv.2006.

Larval Host Plants : The larvae feed on the leaves of *Cadaba indica*, *Capparis sepiaria, C. divaricata* and *Maerua arenaria.*

Distribution : It is commonly avilable in South India to Madhya Pradesh, and Sri Lanka, Ethiopia and AF

Status : Generally common.

15. ***Colotis fausta*** (Olivier, 1804),
Large Salmon Arab

1804. *Papilio fausta, Olivier, Voi. L'Emp. Othoman. Atl.*, p. 4.
1857. *Idmais fausta*, Moore, *Cat. Lep. Mus.* E.I.C, p. 68.
1876. *Teracolus fausta*, Butler, *Proc. Zool. Soc. Lond.*, p. 409.
1907. *Colotis fausta*, Bingham, *Fauna Brit. Ind.*, Butterflies, ii, p. 266.

Material examined : Kozhikamukki, 1ex. 28.xii.2005. Varakaliyar, 1 exs, 28.xii.2005. Vellimalai, 1 ex. 5.i.2006. Upper canal, 1 exs., 05.iv.2006. Sholaiar Nagar, 1ex. 08.iv.2006. Thirumurtinagar, 2 exs., 09.iv.2006.

Larval Host Plants : The larvae feed on the leaves of *Capparis herbacea.*

Distribution : It is distributed to South India, West India, and Sri Lanka, Lebanon, Baluchistan and Syria.

Status : Generally common.

16. ***Hebomoia glaucippe*** (Linnaeus, 1758),
Great Orange Tip

1758. *Papilio glaucippe, Linnaeus, Syst. Nat.p.* 469.
1865. *Hebomoia glaucippe,* Moore, *Proc. Zool. Soc. Lond.*, p. 759.

Material examined : Vasudevar shoal, 1 ex. 27.xii.2005. Thirumorthymalai, 1ex. 2.i.2005. Upper canal, 1 exs., 05.iv.2006. Sholaiar Nagar, 1ex. 08.iv.2006. Amaravathi nagar, 1 ex., 15.iv.2006.

Larval Host Plants : The larvae feed on the leaves of *Capparis moonii* and *Crateva religiosa.*

Distribution : It is commonly available in South India, Assam, Sri Lanka, Nepal to Myanmar, Japan and Australia.

Status : Generally common.

17. ***Pareronia ceylonica*** (C. & R. Felder, 1865),
Dark Wanderer

1865. *Eronia ceylanica*, C. & R. Felder, Reise Fregatte Novara, *Lep. Rhop.* P. 191.
1881. *Nepheronia ceylanica*, Moore, *Lep. Ceylon*, i, p. 138.
1907. *Pareronia pingasa*, Bingham, *Fauna Brit. Ind.*, Butterflies, ii, p. 280.

Material examined : Annapari river, 1 ex. 23.xii.2005. Peruvaripallam, 1 ex. 26.xii.2005. Upper canal, 1 exs., 05.iv.2006. Sholaiar Nagar, 1 ex. 08.iv.2006. Thirumurtinagar, 2 exs., 09.iv.2006.

Larval Host Plants : The larvae feed on the leaves of *Capparis heyneana.*

Distribution : It is distributed to Southern Western Ghats, and Sri Lanka.

Status : Rare.

18. ***Pareronia valeria*** (Cramer, 1776),
Common Wanderer

1776. *Papilio valeria*, Cramer, *Uitl. Kapellen*, p. 133.

Material examined : Sethumadai, 1 ex. 23.xii.2005. Varakaliyar, 1 exs, 28.xii.2005. Upper canal, 1 exs., 05.iv.2006. Sholaiar Nagar, 1 ex. 08.iv.2006. Amaravathi nagar, 1 ex., 15.iv.2006. Attakatti, 1 ex. 24.xi.2005.

Larval Host Plants : The larvae feed on the leaves of *Capparis heyneana, C. rheedii* and *C. zeylanica.*

Distribution : It is distributed over India to Myanmar and other parts of the Orinental region.

Status : Generally common.

19. ***Catopsilia pomona*** (Fabricius, 1775), Common Emigrant or Lemon Emigrant or Lemon Emigrant

1776. *Papilio pomona*, Fabricius, *Syst. Ent.*, p. 479.
1907. *Catopsilia Pomona*, Rober, *Fauna Palaearctica*, I, p. 60.
1775. Papilio crocale, Cramer, *Uitl. Kapellen*, p. 87.
1777. *Papilio jugurtha,* Cramer, *Uitl. Kapellen* 2 : 138.
1779. *Papilio nigropunctatus* Goeze, *Ent. Beytrage* 3(1) : 185.
1779. *Papilio catilla,* Cramer, *Uitl. Kapellen* 3 : 63.
1781. *Papilio hilaria,* Stoll, *Uitl. Kapellen* 4 : 95.
1792. *Papilio lalage,* Herbst, *Natursyst. Ins., Schmett.* 5 : 163.
1793. *Papilio alcmeone,* Fabricius, *Ent. Syst.* 3 (1) : 193.
1798. *Papilio titania,* Fabricius, *Ent. Syst.* (Suppl.) : 428.
1819. *Colias jugurthina,* Godart, *Ency. meth.* (2) : 96.
1832. *Callidryas endeer,* Boisduval, *Voyage de Découvertes de l'Astrolabe,p.* 63.
1867. *Callidryas phlegeus,* Wallace, *Trans. ent. Soc. Lond. P.* 401.
1885. *Catopsilia heera,* Swinhoe, *Proc. zool. Soc. Lond.* (1) : 140.

Material examined : Sarkarpathi, 1 ex. 23.xii. 2005. Kozhikamukki, 1 exs, 26.xii.2005. Sholaiar Nagar, 1ex. 08.iv.2006. Thirumurtinagar, 2 exs., 09.iv.2006. Amaravathi nagar, 1 ex., 15.iv.2006.

Larval Host Plants : The larvae feed on the leaves of *Butea monosperma*, *Cassia fistula*, *Bauhinia racemosa*, *Pterocarpus indicus*, *Senna alata* and *Sesbania* sps.

Distribution : It is distibuted to India, Myanmar, Sri Lanka, Malaya, New Guinea and Australia.

Status : Generally common.

20. ***Catopsilia pyranthe*** (Linnaeus, 1758),
Common Mottled Emigrant

1758. *Papilio pyranthe*, Linnaeus, *Syst. Nat.*, p. 469.
1857. *Catopsilia pyranthe,* Moore, *Cat. Lep. Mus.*, E.I.C., p. 56.
1881. *Catopsilia pyranthe*, Moore, *Lep. Ceylon*, p. 124.

Material examined : Ambulivasudevar, 1 ex. 29.xii.205. Varakaliyar, 1 exs, 28.xii.2005. Upper canal, 1 exs., 05.iv.2006. Thirumurtinagar, 2 exs., 09.iv.2006. Amaravathi nagar, 1 ex., 15.iv.2006. Upper Aliyar, 1 ex. 03.xii.2006.

Larval Host Plants : The larvae feed on the leaves of Cassia. *fistula*, *C. alata*, *C. brewsteri*, *C. javanica*, , *C. auriculata,Senna alata*, *Crotalaria* spp. *Ormocarpum cochinchinense*, *Seshania* spp and *Colocasia* sps.

Distribution : It is distributed in India, Myanmar, Sri Lanka and Australia.

Status : Generally common.

21. ***Colias nilgiriensis*** C. & R. Felder, 1859,
Common Nilgiri Clouded Yellow

1859. *Colias nilgiriensis*, C. & R. Felder, *Wien. Ent. Mon.*, p. 395.

Material examined : Navamalai, 1 ex. 30.xii.2005. Blandy Valley, 1 ex. 6.i.2006. Upper canal, 1 exs., 05.iv.2006. Sholaiar Nagar, 1 ex. 08.iv.2006. Amaravathi nagar, 1 ex., 15.iv.2006.

Larval Host Plants : The larvae feed on the leaves of *Parochetus communis*.

Distribution : It is emdemic to the higher reache of the Southern Western Ghats.

Status : Rare.

22. ***Eurema brigitta*** (Stoll, 1780),
Common Small Grass Yellow

1780. *Papilio brigitta*, Stoll, *Uitl. Kapellen*, p. 82.
1893. *Maiva sulphurea*, Gross-Smith & Kirby, *Rhop. Exot.*, p. 21.

Material examined : Mamman, 1 ex. 24.xii.2005. Varakaliyar, 1 exs, 28.xii.2005. Upper canal, 1 exs., 05.iv.2006. Amaravathi nagar, 1 ex., 15.iv.2006.

Larval Host Plants : The larvae feed on the leaves of *Hypericum aethiopicum* and *Cassia mimosoides*.

Distribution : It is distributed to India, Australia, Tropical Africa and South Africa.

Status : Generally common.

23. ***Eurema laeta*** (Boisduval, 1836),
Spotless Grass Yellow

1836. *Terias laeta*, Boisduval, *Hist. Nat. Ins., Spec. gen. lipid.*, p. 674.
1857. *Terias venata*, Moore, *Cat. Lep. Ins. Mus. East India Coy.* P. 65.

Material examined : Thambampathi, 1 ex. 25.xii.2005. Karian shoal, 2 exs. 27.xii.2005. Varakaliyar, 1 exs, 28.xii.2005. Upper canal, 1 exs., 05.iv.2006. Sholaiar Nagar, 1ex. 08.iv.2006. Thirumurtinagar, 2 exs., 09.iv.2006.

Larval Host Plants : The larvae feed on the leaves of *Cassia mimosoides*.

Distribution : It is distributed to India, Australia, Sri Lanka, Myanmar, Japan and China.

Status : Generally very common.

24. ***Eurema andersoni*** (Moore, 1886),
One-Spot Grass Yellow

1886. *Terias andersoni*, Moore, *J. Linn. Soc. Lond., Zool.*, p. 47.

Material examined : Sarkarpathi, 1 ex. 23.xii.2005. Upper Aliyar, 1 ex. 31.xii.2005. Upper canal, 1 exs., 05.iv.2006. Thirumurtinagar, 2 exs., 09.iv.2006. Amaravathi nagar, 1 ex., 15.iv.2006.

Larval Host Plants : The larvae feed on the leaves of *Cassia mimosoides*.

Distribution : It is distributed to South India, Sikkim–Assam, Sri Lanka, Myanmar.

Status : Rare.

25. *Eurema hecabe* (Linnaeus, 1758),
Common Grass Yellow

1758. *Papilio hecabe*, Linnaeus, *Syst. Nat.*, p. 470.

1764. *Papilio hecabe*, Linnaeus, *Mus. Lud. Ulr.*, p. 249.
1764. *Papilio luzoniensis*, Linnaeus, *Mus. Lud. Ulr.*, p. 249.
1790. *Papilio chrysopterus*, Gmelin, *Syst. Nat.*, p. 2261.

Material examined : Sethumadai, 1 ex. 23.xii.2005. Sholaiyar Nagar, 1 ex. 4.i.2006. Upper canal, 1 exs., 05.iv.2006. Sholaiar Nagar, 1 ex. 08.iv.2006. Thirumurtinagar, 2 exs., 09.iv.2006. Top Slip, 2 exs. 29.xi.2006.

Larval Host Plants : The larvae feed on the leaves of Cassia, Wagatea, Acacia, Serbania, Caesalpinia and Albizzia, etc.

Distribution : It is distributed to India, South Africa and Australia.

Status : Generally common.

26. ***Eurema blanda*** (Boisduval, 1836),

Three-spot Grass Yellow

1836. *Terias blanda*, Boisduval, *Hist. nt. Ins., Spec. Gen. Lepid.*, p. 672.

Material examined : Varakaliyar, 1 exs, 28.xii.2005. Korangumudi, 1 ex. 04.i.2005. Upper canal, 1 exs., 05.iv.2006. Thirumurtinagar, 2 exs., 09.iv.2006. Amaravathi nagar, 1 ex., 15.iv.2006. Attakatti, 1 ex. 23.xi.2006.

Larval Host Plants : The larvae feed on the leaves of *Wagatea spicata* and *Delonix regia.*

Distribution :

It is distributed to Southern India to Sikkim, Assam, Myanmar, Japan and Sri Lanka.

Status : Generally common.

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