

**Flutter by
Butterfly
Floating flower
in the sky
Kiss me with your
Petal wings
Whisper secrets
Tell of spring**

□ Author Unknown

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World of Indian butterflies!!!!
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Dear All,

I would like to wish a very happy new year 2007 to all the readers. I got to know that the Butterfly India Meet- 2006 at Arunachal Pradesh went well and am awaiting a report on the same. The 2006 October danainae butterfly migration recorded a very low number of migratory butterflies. I observed this migration at BR Hills, Bangalore, Mysore, Virajapet, and Krishnagiri and I am not sure about other locations. If any of you have seen/documentated any danaid migration this time, please contact me. The migration from Western Ghats is going to start in the month of March, so please try to document or inform me, if you see the migration.

Continuing with the topic of migration, we completed our waterfowl census for the year 2007 in Mysore, Mandya and Chamrajnagar districts of Karnataka. We were lucky to witness Avocets, Graylag Goose, Montagu's Harrier, Greater Spotted Eagles, Bar Headed Geese, Comb Ducks, Gulls, Terns, Wigeons, Pochards, and the other regular ones. Few photos of this census are attached at the end.

I once again request amateur butterfly fliers not to restrict butterfly watching to photography or making checklists. As we are losing species every day, it becomes our duty to document the existing species properly and to work towards their conservation.

Happy insecting,
Kishen Das, Editor

Dr. Torben B. Larsen – An Introduction

Dr. Torben B. Larsen is an eminent Danish entomologist who has written numerous book and scientific paper on the butterflies of the Middle East, Arabia, and Africa, as well as India and Bangladesh. During the past twenty years he has contributed a bi-monthly column of light-hearted “Hazards of butterfly collecting” to the *Entomologists' Record and Journal of Variation* in the United Kingdom. You have already seen his “Fossil on a pin”. He has agreed to share some of these with this Newsletter. He spent most of his childhood in India and it was in Old Delhi in 1951 that he decided to devote a significant slice of his life to the study of butterflies. The first “Hazard” tells us how this happened.

Hazards of butterfly collecting: The birth of a lepidopterist - Delhi, 1951

I find the question: ‘How did you become interested in butterflies?’ to be second only to ‘How long does a butterfly live?’

The answer to the second question is fairly involved, people often believing it to be only a single day, and blissfully forgetting that a butterfly also has the stages of egg, larva, and pupa. But it is a good entry-point for popularizing butterflies in general. Many unlucky butterflies will be eaten by predators even before they have dried their wings after emerging from the pupa – but others live for weeks or even months. Species that hibernate as adults may well live up to six months or more.

The answer to the first question is easier. Three butterflies are directly responsible. The first was in 1950, when I was six years old, and living in Greece, where my father was working for the United Nations on emergency relief. A six-month stint in the Dachau and Neuengamme concentration camps had overridden his lack of academic qualifications. He had been a competent amateur botanist in Denmark – though all these Mediterranean plants stumped him, he had a general interest in natural history which he imparted to me. I was sent back to Denmark to start my academic career shortly after the episode yet to be told, holding a jam jar with a live sea-horse, during a two day journey on an RAF DC-3. Sad to say, it did not like the Danish winter, and soon expired. But 20 classmates saw it; most have probably never seen a live sea-horse since.

Just before leaving for school in Denmark, a huge butterfly entered our bathroom. My father caught it, and pickled it in alcohol. ‘This is the only two-tailed swallowtail I have ever heard of,’ he declared. The sight of this monster butterfly in its jar of alcohol etched itself in my memory. But it was almost 12 years before I pinned it down. It was obviously the two-tailed pasha, *Charaxes jasius* Linné. Funny thing, though ... it does not seem to be in the Athens area today. Well, it was there in 1950!

A year later we moved to India, to lodge at the Swiss Hotel in Old Delhi, which had become a kind of a UN compound (several director-generals to be of UN agencies earned their spurs while living there). The hotel lawn was full of the lovely little blue pansy (*Junonia orithya* Linné), and I wanted to catch it. An old tennis racquet was fixed up as a butterfly net - it was a *Slazenger* (I distinctly remember this) with white plastic covering the shaft - I used for years. I got my *Junonia*, as well as the wonderful peacock pansy (*Junonia almana* Linné); hotel lawns are now prime habitat for both.

But I set my sights higher. On the other side of the road was a rambling park, the Qudtsia Gardens (now prettied up and with lots of people). There were two problems, though: On my mother's orders, I could only go with an *ayah* (child-minder), and I could only go wearing a pith-helmet (*topee* - the kind of contraption that Tim Piggot-Smith wore in 'Jewel in the Crown', that deeply masochistic TV series on the last days of British Empire in India). I had my first rebellion against authority - make that, perhaps, my first fully conscious rebellion. It was only half successful, but victory was still sweet. The *ayah* stayed, the hat went (I have never worn a hat since, except for two years in the Danish Army). There were many butterflies in the park, but the first two days one of the best eluded me. It was a large white butterfly, winding its way slowly through the crowns of the tallest trees. On the third visit (I had hoped the *ayah* was getting bored, but no such luck - the supervision order was still in place) I finally got it on *Lantana* flowers. It was the common jezebel (*Delias eucharis* Linné - still one of the most beautiful butterflies I know. It is much larger than the large cabbage white; the upperside is unexceptionally white, but the underside is spectacular. The veins are black; most of the underside is deep yellow, with huge submarginal spots of the most exquisite crimson.

So thank you two-tailed pasha, blue pansy, and common jezebel for forcing me to become first a collector and then a student of butterflies. A most interesting and pleasant fate!

LARSEN, T.B. 2004. *Hazards of butterfly collecting*. Cravitz Printing, UK - 250pp.
First published as: 300 LARSEN, T. B. 1999. Hazards of butterfly collecting - The birth of an entomologist. *Entomologists' Record and Journal of Variation*, 111:242-244. (Written in Manila, June 1999)



The grainy sky in the background is the last large swarm of locusts ever to reach Delhi in 1952. The photo is from the Delhi Ridge, which is still a piece of savannah in good condition, right in the middle of town. I remember with - too great - pleasure the complete panic of my mother when she realized that her beloved pot-plants were in the flight path!

BEHAVIOUR, STATUS AND DISTRIBUTION STUDY OF THE BUTTERFLY, TRAVANCORE EVENING BROWN-*PARATIRRHŌEA MARSHALLI* (SATYRIDAE, NYMPHALIDAE), AT PONMUDI HILLS, ARIPPA RESERVE FOREST AND SHENDURNEY WILDLIFE SANCTUARY IN THE SOUTHERN WESTERN GHATS, KERALA, INDIA

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INTRODUCTION

Travancore Evening Brown (*Paratirrhoea marshalli*, Satyridae, Nymphalidae), a butterfly endemic to Western Ghats, is considered as one of the most rare (Evans 1932) and interesting butterflies in the Indian subcontinent and perhaps the world over as well. It has an extremely local habitat (Wynter Blyth 1957). The Travancore Evening Brown has been very rare ever since it was first discovered in 1870 by F.H. Ferguson in Ashambu Hills, in the southern tip of Western Ghats. The behaviour, status and distribution of this endemic species is little known.

Since April 2005, we have been conducting a field study of this butterfly in the selected forest regions of southern Western Ghats.

STUDY AREA

Our study concentrates at Ponmudi Hills in the Kerala part of Ashambu Hills, Umayar, Dharbhakulam and Kattilappara forest regions of Shendurney Wildlife Sanctuary (Kollam District, Kerala) and Arippa Reserve Forest in Kulathupuzha (bordering Kollam and Thiruvananthapuram Districts of Kerala).

PERIOD OF STUDY AND METHOD

The study began on 9th April 2005 and is still going on. In study days, we spent 3 hours in the morning and 2 hours in the evening in the selected patches watching the behaviour and taking count of the individual butterflies seen. We conducted field studies in all seasons in our study areas except Shendurney Wildlife Sanctuary due to lack of accessibility. Occasional field trips held at Shendurney Wildlife Sanctuary during our study period were significant in spotting the species.

FIELD IDENTIFICATION AND BEHAVIOUR

The behaviour of female and male butterflies was entirely different. The fresh males were very fast and hard to chase. Their upper colour, when it flashed through the reed thickets, resembled an Oakblue species (but more violet tint outshining the blue). In UNF, the faint bluish colour suffused with brown colour. This colour was prominent in fresh specimens and it was faint in older specimen.

The females had dark coffee-brown bar/thick line from the tornus of hind wing to the apex of the forewing. Creamy whitish spots in a row on Hind wing are easily seen (transparent) when it sits on opposite sunlight.

Both male and female have a sharp-edged tail. This is the characteristic identification mark of Travancore Evening Brown distinguishing it from other Evening Brown species seen in this region. The triangular shape of the forewing also helps to identify this species from Great, Dark and Common Evening Brown.

The flying pattern of Travancore Evening Brown is very different from other Evening Browns. Its wing beats are not so fast but it can fly or spend more time in the air compared to its kin.

The Travancore Evening Brown never jerks during its flight like Great, Dark and Common Evening Browns. We can identify this endemic butterfly from its flight pattern also.

Individual butterflies keep its own territory. It flew within this limit. No territory dispute observed. When disturbed it flew fast and escaped to higher elevations in the territory. The male spend most of the time in higher perches. This is the primary cause of lesser records of occurrence of male compared to the presence of female. Occasionally the male perched on dry leaves at ground near the stem of reeds and shoots. Female always keep low or medium perches. It flies parallel to the forest floor up to 2 to 3 feet from the ground level. Its favourite perching places are dry leaf bed, dry reed leaves, reed brakes, stem, underside of leaves and small rocks. We observed a female butterfly fond of perching on moss- or fungi-covered small rocks in the undergrowth of Dharbhakulam forest region of Shendurney Wildlife Sanctuary. According to Wynter Blyth (1957), "It has slow and easy flight and is on the wing in the evening, during dull weather and on drizzling days". But we observed it to be very active in bright sunny days in their territories.

STATUS AND DISTRIBUTION

In our one-year field study, the occurrence of adult butterfly is observed high in the months of March and April. Rest of the months, it was low or nil. Nine sightings were recorded during the study period. The presence of female is greater than the male butterflies. The elevation of perch may be the reason for

diminishing number of male than female. In Kallar forests we observed Travancore Evening Brown in three different reed patches. At Arippa Reserve Forest, we observed this species in one reed patch of myristica swamps. Travancore Evening Brown was sighted in three different localities, namely, Umayar, Dharbhakulam and Kattippara in Shendurney Wildlife Sanctuary.

All our observations of this endemic species were recorded from reed thickets or riverine reed bed except one sighting at Dharbhakulam where we observed a female Travancore Evening Brown in a different habitat. The habitat of this region is tropical evergreen forest. The undergrowth was sloppy with plenty of small moss covered rocks and thick secondary growth.

The highest occurrence of Travancore Evening Brown was recorded at Ponmudi-Kallar forests (Table 1) when 5 individuals were sighted on 28th March 2006. Low presence was recorded at Arippa Reserve Forests. The adult butterflies are more frequent in the months of March, April and May.

Table 1: Highest occurrence of Travancore Evening Brown in the study area

Study Area	Date of occurrence	Highest Count	Remarks
Ponmudi-Kallar	28 th March 2006	5	3 females and 2 males
Shendurney WLS	9 th April 2005	2	1 male and 1 female
Arippa RF	20 th April 2005	1	1 female

THREATS

In our field study we found that Travancore Evening Brown's favourite hunting ground is reed forests. They are fond of reed shade and dry leaf bed of reeds. The highest occurrence of this endemic species we recorded was at a degraded reed patch at Kallar. This habitat is highly under threat due to extensive tourism activities. The undergrowth are cleared and destroyed by the tourists who visit Ponmudi Hills and Kallar forests. Even under these threats, still the presence of Travancore Evening Brown is fortunately high in these reed patches. On one occasion, we observed a female butterfly just 5 ft away from the Kallar-Ponmudi road that has a heavy traffic in tourist season. Indiscriminate sand mining was also observed in the small streams in this location. This also causes severe damage and depletion to the habitat of this endemic species. The cutting and clearing of reed thickets also cause threat to this endemic species of Western Ghats.

ACKNOWLEDGEMENT

We are thankful to Mr. Nibu Jacob, Mr. S.S. Anoop, Mr. K. Harikumar, Mr. M. Praveen, Mr. A.K. Shivakumar, Mr. S. Rohit, Mr. S.S. Anooj and Mr. R. Murukesh for full-hearted field support and encouragement for conducting this one-year field study. We acknowledge the constant moral support of Mr. Krushnamegh kunte, author of 'Butterflies of Peninsular India,' through his inspiring emails. We are grateful to Mr.C.Susheelkumar and Mr.Nibu Jacob, who critically going through the manuscript.

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Butterfly Gardening:

By Kishen Das and Adavanne Shivaprakash, Mysore

Need for a Garden - We are rapidly losing greenery in the name of development. With the diminution of greenery, butterflies, birds and all wildlife is fast disappearing. The ensuant to this is a complete imbalance of the eco-system and extinction of many species. Although we cannot completely undo the ill effects of urbanization and development, we can at least try to reduce its effects by planting endemic trees and plants

at our place that supports the local wildlife. This will make sure that at least the common species will not go on to the verge of extinction.

Importance of Butterflies – Butterflies, as every one knows are very good pollinators. Apart from this, they play a very important role in the food chain as insects, birds, small mammals and reptiles extensively feed on butterflies. They also increase the aesthetic beauty of your place and provide a means to relax yourself.

Butterfly Gardening - Creating a Butterfly Garden is not a Herculean task. All you need is a list of local host and nectar plants and a little place to plant them. Creating and restoring butterfly habitats will ensure that your family gets first hand experience in gardening. They can also enjoy the butterflies and birds that get allured by these plants.

It is ideal to have a large location where you can re-create the natural habitat for birds and butterflies. But considering the soaring rates of the lands and flats in the present day, it is almost impossible to get a place or even think about gardening. With whatever free space you have, you can use it intelligently to create a garden of your own. Following are some of the important things that you need to take care of –

Host and Nectar Plants – This is the most important aspect of butterfly gardening. Every butterfly species has a specific set of host plants on which its caterpillar feed. So by looking at the butterfly diversity of a place, it's possible to predict the floral diversity and vice versa. Whatever the host and nectar plants you select, make sure that it is indigenous. At the end of this article I have listed out some of the very common host and nectar plants.

Minerals and Water – Butterflies do need minerals, which they get from mud patches, soil, carcasses, salt, manure, rotten fruits and vegetables, tree sap etc. You can place a small sand box in your garden, which contains wet soil along with few rotten fruits and salt. This will definitely entice the species, which regularly mud-puddle. Mud-puddling is the activity during which the adult butterflies intake the minerals and salts from the mud.

Shelter from Wind and Heavy Rains – Since butterflies happen to be fragile, delicate creatures, they cannot survive in the winds and heavy rains. So it's absolutely necessary to have a few sheltering places. A thicket of shrubs and hedges can serve as a sheltering place. Some of these shrubs and hedges can also be host plants.

Place to Bask – Butterflies are cold blooded by nature and hence dependent on external climatic conditions to maintain their body temperature. Typically you can see many of the butterflies basking in the sunlight. So it's necessary to have few places in your garden that have good exposure to the sun. Some of the butterflies love basking on rocks. Adding few large stones is just fine.

No Pesticides, Insecticides and Inorganic Farming – Just make sure that you don't use pesticides and insecticides. The very purpose of butterfly gardening will be lost if you use insecticides. Also make sure you don't use chemicals to increase the fertility of the soil. This also affects the macro habitats of insects.

Let the caterpillars grow – It's a natural tendency to prune the branches having the caterpillars, pupae and eggs. Please don't do this. Although some of the caterpillars might look little scary and weird, they are completely harmless. Just observe the caterpillars and see how they metamorphise into a lovely butterfly.

Observation and Recording – Once you see a bunch of eggs or caterpillars on a plant, you can start recording following things –

- Number of days before the eggs hatch.
- Changes in the color and activities of the Caterpillar between each Instar.
- Total time period of the caterpillar stage
- Time period within the Pupa
- Natural Predators Etc.

If you are not comfortable doing all these things, its ok. You can just visually enjoy the different life stages of a butterfly.

Shifting the Caterpillar and Pupa: You can shift the caterpillar to a safer place, if you think it's not safe on the host plant or if you closely want to observe its development. You can keep the caterpillar in a big box, which is properly aerated. Every day you have to provide the fresh leaves from the host plant and you need to take out the faecal matter and clean the box to avoid microbial infection and predators. Make sure that you keep few sticks slanted, so that the caterpillar can construct the pupa.

It's also possible to shift the pupa to a safer place, as they are more prone to attack by microbial infection and wasps. For doing this you have to be extra-cautious not to damage the pupa or change its alignment. Both will result in the death of the butterfly. Also make sure that, when you shift the pupa to a safer place, the place should not be too hot or too cold. This affects the development of the butterfly within the pupa and results in either the death or the aberration of the adult butterfly.

Photography: Early morning is the best time for butterfly photography. This is the time when most of the butterflies bask in the sun. The other advantage is that the sunlight will not be too harsh, so you can take photos with right exposures. If it's a digital camera it has to be at least 4 Mega Pixels and if you have a SLR, it is necessary to buy a macro lens.

Just after the pupation the adult butterfly takes few minutes to dry its wings. This is the time when it will be most vulnerable, as it cannot fly. And this is also the right time to take photos, as you will get plenty of time to experiment with your subject. Make sure that you don't touch this fellow, otherwise its wings will get crumpled and it can never fly. Usually the pupation takes place in the early morning.

Patience - You set up your butterfly garden and you don't see any butterflies. In this case, please don't get upset!!! Its not like, the moment you create the butterfly garden, all the butterflies near your place will get this information through SMS or E-mail!!! Just have patience and wait. Whenever an impregnated female butterfly flies near your place, there will be more chances of it finding a host plant in your garden than the neighboring places. So having a garden just increases the chances and will not sure ensure the presence of butterflies. So till the females lay eggs you cannot see any activity of caterpillars on the host plants. Some of the caterpillars live inside the leaves, fruits, flower buds and ant nests, so although the caterpillars are there, you might never see them!!! Anyway there will always be adult butterflies and insects visiting the nectar plants.

Contact - If you have any queries or doubts contact

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Below is the list of Host and Nectar plants that you can try depending on the space you have in your garden and availability of the plants near your place-

Sl. No..	Plant species	Nectar	Larval/ Host
1	Abrus precatorius	✓	✓
2	Abutilon indicum	✓	
3	Acacia spp	✓	✓
5	Achyranthes aspera		✓
6	Aegle marmelos		✓
7	Albizzia spp	✓	✓
8	Althernathera spp	✓	

9	<i>Alysicarpus vaginalis</i>		✓
10	<i>Amaranthus viridis</i>		✓
11	<i>Ammania baccifera</i>	✓	
12	<i>Anacardium occidentale</i>		✓
13	<i>Anona squamosa</i>		✓
14	<i>Areca catechu</i>		✓
15	<i>Argemone mexicana</i>	✓	
16	<i>Aristolochia</i> spp		✓
17	<i>Aslepias curassavica</i>	✓	✓
18	<i>Azima tetraacantha</i>	✓	
19	<i>Barleria</i> spp	✓	✓
20	Beans variety	✓	✓
21	<i>Bidens</i> spp	✓	
22	<i>Blumea</i> spp	✓	✓
23	<i>Boerhavia diffusa</i>	✓	
24	<i>Bombax ceiba</i>	✓	✓
25	<i>Borreria</i> spp	✓	
26	<i>Brassica nigra</i>	✓	
27	<i>Bryphyllum</i> spp		✓
28	<i>Butea monosperma</i>	✓	✓
29	<i>Byttneria herbacea</i>	✓	
30	<i>Cadaba fruticosa</i>	✓	✓
31	<i>Caesalpinia</i> spp	✓	✓
32	<i>Calamus</i> spp		✓
33	<i>Calotropis</i> spp		✓
34	<i>Capparis</i> spp	✓	✓
35	<i>Caryota urens</i>		✓
36	<i>Cassia</i> spp	✓	✓
37	<i>Celosia argentia</i>	✓	
38	<i>Ceropegia</i> spp		✓
39	<i>Chloroxylon swietania</i>		✓
40	<i>Cinnamomum</i> spp		✓
41	<i>Cipadess baccifera</i>	✓	
42	<i>Citrus</i> spp	✓	✓
43	<i>Cleome viscosa</i>	✓	
44	<i>Clerodendrum</i> spp	✓	✓
45	<i>Cocos nucifera</i>		✓
46	<i>Combretum albidum</i>		✓
47	<i>Corchorus</i> spp		✓
48	<i>Cosmos</i>	✓	
49	<i>Crotalaria</i> spp	✓	✓
50	<i>Croton banplandium</i>	✓	
51	<i>Cryptolepis buchananii</i>		✓
52	<i>Cucurbitaceae</i>	✓	
53	<i>Curcuma</i> spp		✓
54	<i>Cycas</i> spp	✓	
55	<i>Cynanchum</i> spp		✓
56	<i>Cynotis</i> spp	✓	

57	Daemia extensa	✓	
58	Dendrophthae falcata		✓
59	Derris scandens	✓	
60	Desmodium spp	✓	
61	Duranta spp	✓	
62	Evolvulus alsinoides	✓	
63	Ficus spp		✓
64	Flacourtia indiacae	✓	✓
65	Gliricidia glabra	✓	
66	Gmelina asiatica	✓	
67	Grams and beans	✓	✓
68	Grangea maderaspatna	✓	
69	Grasses and Bamboos	✓	✓
70	Grewia spp	✓	✓
71	Gymnosporia spp	✓	
72	Heliotropium spp	✓	✓
73	Hemidesmus indicus		✓
74	Hibiscus spp	✓	
75	Holarrhena pubescens	✓	✓
76	Hybanthus ennesperums	✓	
77	Hygrophyla auriculata	✓	✓
78	Hyptis spp	✓	
79	Ichnocarpus frutescens	✓	✓
80	Impatiens spp	✓	
81	Indigofera spp	✓	
82	Ixora spp	✓	✓
83	Jasminum spp	✓	
84	Jatropha spp	✓	
85	Justicia spp	✓	
86	Kalanchoe spp		✓
87	Lagascea mollis	✓	
88	Lantana camara	✓	✓
89	Leucas spp	✓	
90	Mangifera indica	✓	✓
91	Marigold	✓	
92	Michalea champaca		✓
93	Miliusa spp	✓	✓
94	Murraya koenigi		✓
95	Naringi crenulata	✓	✓
96	Nerium spp		✓
97	Oryza sativa		✓
98	Oxalis corniculata	✓	✓
99	Parthenium hysterophorus	✓	
100	Passiflora spp	✓	✓
101	Phoenix spp		✓
102	Phyla nodiflora	✓	
103	Pitteclobium dulce		✓
104	Plumbago spp	✓	✓

105	POACEAE FAMILY	✓	✓
106	Polyalthia longifolia	✓	✓
107	Pongamia pinnata	✓	✓
108	Portulaca oleracea	✓	✓
109	Pumica granatum	✓	✓
110	Quisqualis indica	✓	✓
111	Randia spp	✓	
112	Rhynchosia spp	✓	
113	Ricinus cummiuns	✓	✓
114	Saraca indicum	✓	✓
115	Sesbania spp	✓	✓
116	Sida spp	✓	✓
117	Strebulus aspera		✓
118	Syndrella nodiflora	✓	
119	Syzygium spp	✓	
120	Tephrosia spp	✓	✓
121	Terminalia spp		✓
122	Tinospora cordifolia	✓	
123	Todalia asiatica	✓	✓
124	Tragia spp		✓
125	Trichodesma indicum	✓	
126	Tridax procumbens	✓	
127	Triumfetta spp	✓	✓
128	Tylophora spp		✓
129	Urena lobata	✓	
130	Vicoa spp	✓	
131	Vigna spp	✓	✓
132	Vinca rosea	✓	
133	Vitex negundo	✓	
134	Waltheria spp	✓	✓
135	Wattakaka volubilis		✓
136	Zea spp	✓	✓
137	Ziziphus spp	✓	✓
138	Zornia gibbosa	✓	✓

Butterfly Identification – Emigrants

Text and Photographs

Kishen Das

Mysore

Word: “Emigrant”

Noun:

- 1) Someone who leaves one country to settle in another

Species: There are two species of emigrants, namely Common Emigrant (Catopsilia Pomona) and Mottled Emigrant (Catopsilia pyranthe).

Identification: Emigrants are easy to identify because of their white coloration and the wing shape. If you are not good at butterfly watching, there is a possibility of confusing albatrosses for emigrants.

Mottled Emigrant (50mm-70mm)
 (*Catopsilia pyranthe*)



MALE



FEMALE



Mottled emigrants ,mating

Mottled Emigrants(*Catopsilia pyranthe*) got their name from the “mottles” that are present on their wings. Mottles are nothing but black streaks that are present on the underside of wings. Males are greenish while females are pale yellow. Females have broader black border on the upper side of their forewings. In case of males border will be relatively narrower. Male Mottled Emigrants will have cell spot, that will be missing in male Common Emigrants.



Male Mottled emigrant

Male Common Emigrant

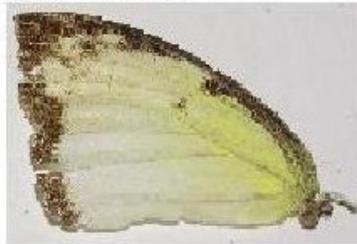
Common Emigrants (*Catopsilia pomona*) look very similar to that of Mottled Emigrants except for the mottles. Females have broader black border with a cell spot on their upper forewing. Males have narrower border without a cell spot. Albatrosses are much more whitish and their forewings will be pointed.



Male Common Emigrant (55mm - 80mm)



Male UPF



Female UPF



Female Common Emigrants



Common Albatross(*Appias albina*) Striped Albatross(*Appias libythea*)

Host Plants: *Cassia* spp., *Butea frondosa*, *Bauhinia racemosa*, *Sesbania bispinosa*.

Behavior: As the name suggests, this species keeps moving from one place to another. Emigrants become very active once there is enough sunshine. They are fast fliers and they can be seen flying till the sunset. At dusk they usually settle down beneath the leaves and are easily approachable when they are resting. Since they breed through out the year, their courtship and mating activities can be observed frequently. Emigrants form huge mud-puddling congregations more commonly during summer.

What you can do? Since emigrants breed through out the year, it would be interesting to follow their breeding cycle and also to find out their preference of host plants.

Inauguration of Bannerghatta Butterfly Park

Source: http://www.atree.org/bfp_inaug.html

The Bannerghatta Butterfly Park was inaugurated on 25 November 2006 by Honorable Union Minister for Science, Technology, and Earth Sciences Sri. Kapil Sibal and Honorable Minister for Forest, Ecology and Environment, Government of Karnataka Sri. Chennigappa.

The Butterfly Park is located near the Bannerghatta National Park on the outskirts of Bangalore. It is spread over an area of 7.5 acres and includes a 'butterfly trail' in a five acre garden and a three-domed structure covering 10,490 sq ft that includes a 'butterfly conservatory', museum and curio shop.

The project is funded by the Department of Biotechnology New Delhi and is a joint initiative of the Zoo Authority Karnataka, University of Agricultural Sciences, Bangalore and Ashoka Trust for Research in Ecology and Environment (ATREE), Bangalore. Sri Kapil Sibal highlighted this aspect in his inaugural speech saying that the Park is an excellent example of joint collaboration between diverse institutions.

There was a butterfly release ceremony which added charm to the inaugural function. About 15-17 species of butterflies are present in the Butterfly Conservatory in Dome 1. The other attractions are a museum with kiosk and live size posters with details on butterflies in Dome 2, and an Interpretation Centre in Dome 3. The landscape around the Park is also made butterfly friendly.

The prizes for the school-level Butterfly Painting competition were given away by Forest Minister Sri. Chennigappa and ATREE Director Dr. Ravi Chellam. Children from various schools in and around Bangalore participated in the event. Delhi Public School which has a Butterfly Garden on their school premises also participated actively.

ATREE looks forward to more interaction programs and workshops through the Outreach and Education program at the Bannerghatta Butterfly Park in the coming years.

**Water Fowl Census - 2007 , Mysore, Mandya, and Chamrajnagar Districts , Karnataka
- Photos by Kishen Das**



