

THE BUTTERFLIES OF THE NILGIRI MOUNTAINS OF SOUTHERN INDIA (LEPIDOPTERA : RHOPALOCERA)¹

TORBEN B. LARSEN²

[Continued from Vol. 84(2): 316]

SATYRINAE

MELANITINI

151. *Melanitis leda leda* Drury

The COMMON EVENING BROWN is one of the few truly ubiquitous butterflies and it may be found literally anywhere in the Nilgiris, albeit in very fluctuating numbers. The two seasonal forms are very different indeed (see Brakefield & Larsen 1984 for a discussion on seasonal variation in this and other species). In a place like Delhi with strong and temporally well-defined dry and wet seasons, the wet season form occurs during the wet season and is immediately replaced by a large dry season brood at the end of the monsoon. The camouflaged dry season form seems to carry the entire population through the long dry and cold winter and spring. Because of the great ecological variation in the Nilgiris matters appear less clear cut. From the time I arrived in April till I left in October I nearly only saw dry season specimens which appeared to be quiescent. As time went by they became fewer and fewer as well as increasingly worn. During the wet months of July to September very few were seen and at no time was any mass wet season brood in evidence, though occasional wet season specimens were met with among the few remaining, battered dry season ones.

Any hope that I had of a consistent pattern was rudely dissipated, but long term records on the seasonal forms of this butterfly from anywhere in India are still highly desirable. All the Evening Browns are fond of rotting fruits, but they visit flowers only occasionally. I have only once seen large numbers of this species at Lantana during an early morning in Delhi park. The range covers all of Africa, southern Arabia, the Oriental region, the Papuan subregion, and the Pacific as far as the Bismarck Islands. Many remote ocean islands have populations of this butterfly.

152. *Melanitis zitenius gokala* Moore

The GREAT EVENING BROWN is larger than the two other South Indian species, the costa of the forewings is more rounded, and the apical markings of the forewing upperside generally more luxuriant than in *M. leda*. Small dry season specimens may be confused on casual inspection, but hardly in set specimens side by side. I have not found the species at all common in the Nilgiris except on one occasion on the Nadgani Ghat in September 1986, when I saw more than a dozen specimens. Wynter-Blyth reports that it is sometimes common on the Coonoor Ghat and at Kallar where I have not seen it, but his records are from December and January when I was not in the area. The wet season form never has the large underside eye-spots so prominent in *M. leda*. The distribution covers

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² Snoghoj alle 29C, 2770 Kastrup, Denmark.

South India, then from Kumaon east to Indo-China and the Greater Sunda Islands.

153. **Melanitis phedima varaha** Moore

The DARK EVENING BROWN is much darker than the other two, so much so that this is enough to tell them apart. The apical eye spots lack the orange of the two other species. It is a somewhat scarce species of lowland forest, there being records from Kallar, Mukkali and various points on the Nadgani Ghat. My field notes show a specimen from near Kotagiri in 1958 but this is exceptional. It may occur in the subtropical forests, and I found it quite common in such a habitat on the Biligiriranga Mountains in August, 1986, even occasionally in moist-deciduous forest. It is very difficult to catch since it usually frequents bamboo thickets. Its habits do not differ much from those of *M. leda*, though I have no records of its coming to light. The distribution covers Sri Lanka, South India, Pachmarhi (in a rather special subspecies where the forewing apex is broadly yellow), and from Jammu east to the Philippines and Sumatra.

ELYMNIINI

154. **Elymnias hypermnestra caudata** Butler

The COMMON PALMFLY is usually rather scarce in the Nilgiris, though occasionally it may be common in late September/October in the plantations at Kallar where it feeds on the coconut and areca palms that are among the main crops. I have also taken it at Kallar in June and small numbers on the Nadgani Ghat at various times. The butterflies do not fly much spontaneously and often have to be beaten out of the palms. Sexual dimorphism is very strong, the female being a very credible mimic of the two common Danaiids, *Danaus genutia* and *D. chrysippus*. How credible will only be apparent to those that have

actually seen it in nature since the likeness in cabinet specimens is much less. The species is found in Sri Lanka, in South India, then from about Dehra Dun to the Philippines, Borneo and the Lesser Sunda Islands. In the Philippines, Malaysia, Sumatra and Borneo the female is not mimetic and looks like the male.

LETHINI

155. **Lethe europa ragalva** Fruhstorfer

The BAMBOO TREEBROWN is not rare in the Nilgiris though it is somewhat local and unpredictable in occurrence. It is usually found in lowland forest where bamboo abounds, but it will colonise rice growing areas where clumps of bamboo are left. Even when bamboo is present it will not be found in the drier formations such as the Masinagudi area. All the *Lethe* are very wary and difficult to catch, not least just when you want to be certain of the identification of a given specimen. This is a great nuisance since the three species are not identifiable with absolute certainty in the field. Their habits are somewhat skulking in dense bamboo, but they will come to damp patches, rotting fruit and fresh cowpats, though they never lose their shyness. They can also be trapped in traps baited with rotten crab, perhaps the best way of obtaining a good series. Occasionally they are attracted to lights in the late evening. It is absent from Sri Lanka, found in much of India and extending to most of the Oriental region.

156. **Lethe drypetis todara** Moore

I have not found the TAMIL TREEBROWN nearly as common as imputed by Wynter-Blyth, having seen it chiefly in bamboo infested moist-deciduous forest in the Wynaad. It comes freely to foul substances and I have caught five specimens at the same time on fresh leopard droppings. When not engaged in

such pursuits the species is very difficult to get at, the flight being very erratic. I have taken some also on the lower parts of the Nadgani Ghat, and I found it common in moist-deciduous forest in the Biligiriranga Mountains. A specimen taken back to Kotagiri for photography escaped and was immediately snapped up and consumed by my resident White Spotted Fantail Flycatcher (*Rhipidura albicollis*). The species is endemic to Sri Lanka and South India.

157. ***Lethe rohria neelgheriensis***

Guérin-Ménéville

The COMMON TREEBROWN is more of a hill insect than the two other South Indian *Lethe* and it is somewhat weaker on the wing. It shares the habit of coming to various foul substances and sugary material. During my childhood we had a flourishing colony at Spring Cottage in Kotagiri, but during 1986 I found it only in the Biligiriranga Mountains, where it was common in subtropical evergreen and moist-deciduous forest near the Honametti Estate. The range covers Sri Lanka, South India, suitable spots on the Indian peninsula, then east to China and Bali, for some odd reason wholly bypassing Malaysia.

MYCALESINI

The genus ***Mycalesis***

The Bushbrowns of the genus *Mycalesis* form a large and difficult complex which is in need of revision. Three of the Nilgiri species are easily identified: *M. anaxias* with its prominent white bar, *M. adolphe* with the thin red ring about the forewing eye-spot, and the little, ever happy looking, *M. patnia*. The remainder are very similar species which can be difficult to identify even with the help of the male genitalia. I had hoped to be able to give a fairly good account of their characte-

ristics and distribution, but in the event I found them rather scarce and have insufficient comparative material. The notes given under each of the species refer to the wet season forms. The dry season form have reduced underside eye-spots and are more variable, thus being even more difficult to identify. Females, especially single specimens, are impossible to be certain of. For the species numbered 159 to 164 it is also likely that the taxonomy will need changing. It is based largely on Evans (1932) and Wynter-Blyth (1944, 1957). I do, however, believe that the number of species is correct. Talbot, FAUNA OF BRITISH INDIA, links the taxa *orcha* and *subdita* as subspecies of *M. visala*. On both morphological and distributional grounds I do not find this an attractive solution.

158. ***Mycalesis anaxias anaxias*** Hewitson

The WHITE BAR BUSHBROWN is one of the few species that is especially linked to the middle heights subtropical evergreen forests, rarely being found in the tropical zone and only occasionally in the montane forests. I have not found it at all common and neither did Hampson. Wynter-Blyth's optimistic assessment must be based on a few exceptionally vigorous colonies in his immediate area. I have only seen a few specimens on the upper reaches of the Nadgani Ghat, near Devala, in a bit of relict forest near Naduvattam, and at Law's Falls below Coonoor. The species hardly ever emerges from dense forest. It is found in South India and then recurs from Nepal to Indo-China and Malaysia, generally as a montane or submontane species.

159. ***Mycalesis perseus typhlus*** Fruhstorfer

The COMMON BUSHBROWN male can usually be recognised by the brand on the underside forewing tornus which is very small and black. On the hindwing underside the eye-spot in

space 3 is usually out of line with the others tornal eye-spots, a condition slightly approached in some other species. It is one of the most common Indian species, but I have not seen many in the Nilgiris, having taken a few certain specimens at Kallar and at Nadgani. It shares its habits with the other species, flying mostly in shady, grassy places in wooded country. It may be frustratingly difficult to capture since it often flies inside bushes. The *Mycalesis* hardly ever visit flowers but they will come to rotting fruit. The species is found in Sri Lanka and most of India to at least Malaysia.

160. *Mycalesis mineus polydecta* Cramer

The DARK-BRAND BUSHBROWN in South India is readily recognisable by having a short under forewing brand that is a much lighter brown than the jet black of the preceding species. The remaining four species all have long brands extending to the white discal line. I have definite specimens from the wetter parts only, at Nadgani and Mukkali, but elsewhere it is quite common also in the drier zones. However, Wynter-Blyth also remarks that it seems strangely scarce in the Nilgiris area. The range covers Sri Lanka, most of India, then to the Philippines, Taiwan, Sulawesi and Malaysia.

161. *Mycalesis subdita* Moore

The TAMIL BUSHBROWN is the first of the long branded species and is generally not too hard to distinguish from the others. It tends to be quite large and well marked. It usually has a well-developed ocellus also in space 1 of the forewing underside, connected with that of space 2 as a double ocellus. Other species may have such an ocellus, but it is rarely strongly developed and only in extreme wet season forms. I have found this species common at Kallar but otherwise did not see it. It is endemic to peninsular India.

162. *Mycalesis igilia* Fruhstorfer

The SMALL LONG-BRAND BUSHBROWN is usually easily identified because its under forewing brand is very long, extending clearly beyond the white discal line. As a result the white discal line is often angled towards the tornus at vein 1b. It is often very common indeed in the bamboo jungles of the Nilgiri Wynaad but seems to be found nowhere else in the area. It is a narrowly endemic species to the Wynaad type vegetation in the Nilgiris, Coorg and the area in between. This may indicate that it is specially adapted to the moist-deciduous forest types where monocotyledons are much in evidence. Its specific status is without doubt. *M. mercea* Evans from Pachmarhi is possibly a subspecies of *M. igilia*.

163. *Mycalesis visala visala* Moore

The LONG-BRAND BUSHBROWN has a long brand, which goes beyond the discal line as in the preceding species. It is otherwise very like *M. subdita* above, though the ocellus in space 1 is usually absent and never prominent. Indeed the latter species is often listed as subspecies of *M. visala* but both are South Indian and my impression is that *M. subdita* is a good species. However, I did not catch the present species in the Nilgiris from where it is recorded by previous authors. The two do seem to be sympatric and not to represent seasonal forms of the same species. *M. visala* is found from South and Central India to Indo-China and Malaysia.

164. *Mycalesis khasia orcha* Evans

The PALE-BRAND BUSHBROWN has a long light yellow brand that is lighter than in the otherwise similar *M. subdita*. The brand does not go beyond the white discal line as in the two preceding species. It is another species that seems to be found mainly in the moist-deciduous type of forest. I have not found it

in the Nilgiris but found it plentiful in the Biligiriranga Mountains. It is reputed to be particularly common at the close of the monsoon in the Nilgiri Wynaad. The range covers South India and Assam/Burma, but the taxonomy of the long-branded species of *Mycalesis* needs further work. However, the presence of four long-branded species in southern India seems certain, whatever their ultimate taxonomic destinations.

165. *Mycalesis adolphe* Guérin-Ménéville

The RED EYE BUSHBROWN is restricted to the higher levels of the Nilgiris and the area around Coorg. It is rare at Coorg but common in the Nilgiris above 1900 m in the typical montane *sholas*. Seasonal variation is very marked. The dry season form was very common around Kotagiri in April 1986, gradually becoming scarcer. From late August onwards, in a year of bad rains, the wet season form started to appear. I suspect there are only two annual broods as was also suggested by Hampson, though Wynter-Blyth disagrees with this view. Generally it is found only in dense evergreen forest, sometimes playing along forest paths but often fairly passive. South of the Nilgiris the species is replaced by the Red Disc Bushbrown *Mycalesis oculus* Marshall which has the same habits. This situation matches that of *Ypthima chenui* and *Y. ypthimoides*. These two pairs are the only examples of vicariance north and south of the Palghat Gap among butterflies.

166. *Mycalesis patnia junonia* Butler

The GLAD EYE BUSHBROWN is endemic to South India and Sri Lanka where it is often very common in the tropical and subtropical evergreen forest, occasionally being found also in heavy deciduous forests, but very rarely colonising disturbed areas. The flight is low and stumbling and much weaker than the

other members of the genus. The *Mycalesis* rarely if ever visit flowers, but some are fond of rotting fruit, and occasionally *M. patnia* can be seen on fallen berries and fruits in large numbers. In October 1986 I saw a specimen passing through my Kotagiri garden at 1900 m in a straight line following the main migration, at the time towards the SW. The nearest locality where I have seen the species is miles away and some 400 m lower, but could it really have been migrant?

167. *Orsotrioena medus mandata* Moore

The NIGGER is a fairly common butterfly in the wetter low-level forests, occasionally being found in drier conditions. In behaviour it is very like the *Mycalesis* and it is, indeed, often found with one or more of these. It differs in having only three major eye spots on the underside. Sometimes the species is abundant at Kallar during the monsoon. The degree of seasonal variation is so strong that I included it in a review of this topic (Brakefield & Larsen 1984). I have only seen wet season forms in the Nilgiris, but Hampson mentions the dry season form from the western slopes. The genus is monobasic and the single species is found from Sri Lanka to Australia.

168. *Zipoetis sait* Hewitson

The TAMIL CATSEYE is a most interesting butterfly, limited to the wettest lowland forests of the Western Ghats system. Wynter-Blyth's record of a specimen from the lower parts of the Coonoor Ghat is most unusual. Mostly it is found on the western slopes where bamboo is prevalent and most records are from the Nadgani Ghat area. Even here the species is quite rare though this is perhaps in part because of its retiring habits and unwillingness to fly spontaneously. Despite the fact that its unique colour pattern makes it highly conspicuous when on the wing, I have only seen it

six or seven times, never more than two on any given day. I have also seen it once at Mukkali at the approaches to Silent Valley. It comes to fallen fruit and probably systematic 'sugaring' would be the best way of getting a good series. I certainly know from experience that chasing it through dense jungle with a butterfly net is a very poor way of procuring specimens. It is endemic to South India.

YPTHIMINI

169. *Ypthima asterope mahratta* Moore

The COMMON THREERING is decidedly rare in the Nilgiri area though it is far from difficult to identify and often the only member of the genus where found. It is limited to the drier lowland habitats such as thorn forest, but will be found also in the mixed deciduous forest and agricultural land. I am very surprised that Wynter-Blyth should have recorded it from the Nadgani Ghat area and almost certainly it would have been on cleared land. Sometimes it flies with *Ypthima ceylonica*. It is the only one of the genus to be Palaetropical, occurring from Burma and India (not Sri Lanka) through Arabia to the eastern Mediterranean and much of Africa. Specimens from both Lebanon and Yemen have a haploid chromosome number of $n=16$ and it would be very interesting to know whether it is the same in India. The common northern species, *Y. inica* is entirely absent.

170. *Ypthima ceylonica* Hewitson

The CEYLON FOURRING is endemic to South India and Sri Lanka where it is often abundant. In the Nilgiris it seems to be exclusively a species of the southern slopes, mainly confined to open forests at low levels, but penetrating the subtropical zone. In autumn of 1957 I found a thriving colony near my school

at Kotagiri (1900 m) which must be more exceptional. It is a much more frequent visitor to flowers than are most of the *Ypthima*. At Kallar, where the species is usually very common, a small polygonaceous weed proved particularly attractive in addition to the usual *Tridax*. There is some confusion over the specific status of *Y. ceylonica* and *Y. huebneri*, the modern trend being towards considering the latter to be a subspecies of the former. I cannot agree with such a view. The two are often sympatric on the southern slopes of the Nilgiris without intermediates occurring. I have seen them flying together on a permanent basis at Glenburn, just above Kallar and in several localities in the Biligiriranga Mountains. The apical eye spot of *Y. ceylonica* is consistently larger than that of *Y. huebneri* which species also displays strong seasonal variation that is almost absent in *Y. ceylonica*. Shirozu & Shima (1979) also maintain the two as distinct species.

171. *Ypthima huebneri huebneri* Kirby

The COMMON FOURRING is common mainly in the evergreen forests of the tropical and subtropical zones, but it is also found in the deciduous formations. It often flies with *Ypthima ceylonica* and as argued under that species I have no doubt that they are quite distinct. *Y. huebneri* is much weaker on the wing than *Y. baldus*, a species with which it often shares its habitat. It only rarely visits flowers and never comes to water, fallen fruit or foul substances. It does not occur in Sri Lanka but is found through most of India, extending to Indo-China and Malaysia.

172. *Ypthima avanta striata* Hampson

The Nilgiri form of the JEWEL FOURRING was described by Hampson as a distinct species, later to be combined with *Y. avanta*. It has also been recorded under the specific

name of *Y. lisandra*, but I follow Shirozu & Shima (1979) in accepting the former as a distinct species. The almost uniform dark brown upperside with hardly a trace of apical eye spots on the forewings will serve to distinguish it from the other South Indian members of the genus. Hampson recorded it as common on the southern slopes at 3000 ft in August, December and January. Wynter-Blyth failed to find it, and I have but a single male from the Burnside Estate, 1400 m (29.vi). It certainly does not seem to be common today. The distribution covers Sri Lanka, South and parts of peninsular India to Madhya Pradesh, then from Jammu to Burma, with *Y. lisandra* further east.

173. ***Ypthima baldus madrasa*** Evans

The COMMON FIVERING is often abundant in the wetter forests of the tropical and subtropical zones, including parts of the mixed deciduous forest. The flight is stronger than that of most members of the genus. It is a more frequent visitor to flowers than is *Y. huebneri* with which it often flies. It often basks in the sun with the wings three-fourths open. It is found through most of India and then east to Japan and Sundaland. Its absence from Sri Lanka is curious.

174. ***Ypthima chenui*** Guérin-Ménéville

The NILGIRI FOURRING is the largest South Indian member of the genus and is characterised by the presence of some marked chestnut bands on the hindwing underside, the outer of which fully encompasses the marginal eye spots. It endemic to the highest mountains north of the Palghat gap, being replaced by *Y. ypthimoides* to the south. Hampson records that both are present in the Annamalai Hills but I have not seen able to verify this. Wynter-Blyth records the species as being common in open country on the plateau proper from

February to April, while Hampson said it had four broods on high, rocky brown. From my childhood I remember that it was common at various points near Kotagiri where I never saw it during 1986. On 5.x I finally found it again at Avalanche, mainly where rocks broke through the verdant grass.

175. ***Ypthima philomela tabella*** Marshall & de Nicéville

The BABY FIVERING is a small species which in the Nilgiri area is wholly limited to the Nilgiri Wynaad where it was reputed to be common by earlier authors. I have entirely failed to find during visits in May, June, July and September. The species is also found in North Burma, and according to Shirozu & Shima (1979) it extends from there to Vietnam, Malaysia, Sumatra, Java, Bali and Sulawesi. Other authors would maintain that the species should be split into several.

AMATHUSIINAE

176. ***Discophora lepida lepida*** Moore

The SOUTHERN DUFFER is the only South Indian representative of the subfamily Amathusiinae. It is found only in the wettest lowland evergreen forest where bamboo is present and it is rare to very rare, though in part this is due to very retiring habits. Additionally it is only spontaneously on the wing during dawn and dusk, except in the case of ovipositing females. The best way of securing specimens is through baiting with rotten fruit or fermenting toddy. Hampson saw but one on the western slopes, Wynter-Blyth took a few at jaggery bait at Kallar, and I took a fine female at the bottom of Nadgani Ghat which was ovipositing on bamboo on a dull day. It is worth recalling that a fine female was caught about fifty years ago inside the cordite factory at Aravankadu, 1000 m higher and a dozen

kilometres from the nearest suitable habitat. A distinct subspecies flies in Sri Lanka and other members of the genus are found from the Himalaya east to most of the Oriental region.

NYMPHAINAE

NYMPHALINAE

177. *Byblia ilithyia* Drury

The JOKER is a dry zone butterfly of Afro-tropical origin most likely to be found in broken country and along hedgerows on the plains surrounding the Nilgiris but even here it appears to be local. Many years ago I collected a good series somewhere between Gudalur and Gundlupet. The species has some migratory capacity and will sometimes be met with on the plateau. Wynter-Blyth collected a specimen at Ketti (24.ix.1942) and I have one from Kotagiri from September 1955. They probably follow the autumn migrations. The species is found in Sri Lanka, in the drier parts of the Deccan, but not in northwestern India. The African population ranges throughout the drier parts of Africa and in Southwest Arabia as far east as Dhofar. There is no geographical subspeciation within this vast range and a Nilgiri specimen cannot be told from a Nigerian one. This is a classical Sudano-Deccanian distribution pattern.

178. *Ariadne ariadne indica* Moore

The ANGLED CASTOR is not rare and may be found anywhere in the Nilgiris though the following species is usually the more common of the two. It is migratory and this is doubtless one of the reasons for its wide distribution, eclectic choice of habitat, and somewhat unpredictable occurrence. It is often found flying in and out about stands of the larval food plants, especially *Ricinus communis* and

species of *Tragia*. Care must be taken with the latter plant which has extremely unpleasant stinging properties. Flowers, sap exudations and sugary substances are also attractive. The genus is found in both Africa and Asia; the species is found practically throughout the Oriental region.

179. *Ariadne merione merione* Cramer

The distribution, ecology and bionomics of the COMMON CASTOR are almost identical with those of *Ariadne ariadne* and the two are often found together at the same time, sharing the same food plant. It would be interesting to study closely what, if any, mechanisms exist to minimise direct competition between them. Apart from *Colotis danae* and *C. eucharis* I cannot offhand recollect any species pair that are so similar in all respects. I have bred the species on *Ricinus* in Delhi. The larvae are very variable and the pupa is trimorphic in green, brown and grey. The range of the species covers most of the Oriental region.

ARGYNNINI

180. *Cupha erymanthis maja* Fruhstorfer

The RUSTIC is a common butterfly in the Nilgiris, being centred on the subtropical evergreen forests and the upper regions of the tropical zone. It is, however, not uncommon in parts of the evergreen tropical zone, in mixed deciduous forest and on the plateau, at least at certain times of the year. The males fly restlessly through the dense forests in search of females. The latter fly deep inside the forest investigating potential food plants with a degree of patience that usually outlasted mine, though I wanted to breed the species whose pupa is reputed to be a thing of great beauty. The few times I saw an egg laid it was on plants that were very small and that I could not identify. Both sexes come to flowers and the male very

occasionally to damp patches. It is found in South India and Sri Lanka, recurring from about Musoorie east to most of the Oriental region.

181. **Phalanta phalantha phalantha** Drury
(*Atella phalantha*)

The LEOPARD BUTTERFLY is fairly common in the Nilgiris, but unpredictable in timing, frequency and distribution, probably at least in part because it is a strongly migratory species. From time to time it may be met with anywhere from the Bhavanisagar subdesert to the Nadgani rainforests and from the foot of the Ghats to the highest peaks. The species is very fond of flowers and on 9.vi.1986 I saw hundreds at damp patches along a small river near Masinagudi. Relatively small numbers participated in both the May and October migrations of 1986. In the subtropical forests around Glenburn the larval food plant was a *Salix* that grew along river beds. The range covers the whole of Africa, southwestern Arabia and the entire Oriental region.

182. **Cirrochroa thais thais** Fabricius

The TAMIL YEOMAN is endemic to South India and Sri Lanka but is closely related to a number of Oriental species in the genus. It is a common butterfly in all types of evergreen forest and on the plateau it is often seen wandering across agricultural lands in a somewhat haphazard manner. My childhood field notes from 1958 say that 'it seems to be migrating in spring', but I did not see directional movements of the species in 1986. Often large numbers are found flying in and out of a low forest tree, presumably the larval food plant, often settling on the underside of leaves. Both sexes come readily to flowers, the males occasionally to water. The wings are very delicate and often break in the net which is also the case in *Cupha erymanthis*.

183. **Vindula erota saloma** Swinhoe
(*Cynthia erota*)

The magnificent CRUISER is not rare in evergreen forests at low and middle levels. The golden orange of the male and the copper sheen of the female are both splendid in their own way. Males often bask at a vantage point from which they make brief sorties. At such times the only way to catch them is with a very long handled net. However, they often visit Lantana in the early mornings and are then easily netted. They visit damp patches occasionally and may be caught on carnivore droppings, especially those of the otter. Gordon Thompson had one coming in a trap baited with rotten crab at Nadgani, unusual, I think, among the *Argynnis* group. The Cruiser occurs in Sri Lanka and South India, then from Nepal east to Malaysia, Borneo, Sulawesi and Sunda-land. Other species of the genus occur in New Guinea and the remainder of the Oriental region, some overlapping with the present species.

184. **Argyreus hyperbius hybrida** Evans
(*Argynnis hyperbius*)

The INDIAN FRITILLARY is a Palaearctic butterfly that has managed to colonise the montane zones of Ethiopia, South India, Sri Lanka, Malaysia, Sumatra, Sulawesi (Vane-Wright, *pers. comm.*), and New Guinea. This feat is quite unique in the butterfly world but it is reminiscent of several genera of plants (e.g. *Impatiens*). Possibly the wide range is due to the migratory capacity of the species which may breed on the plains of India during winter. I have seen large numbers on the Chambal river south of Agra in December 1986, several hundred kilometres from any permanent foothold. In the Nilgiris the species is confined to the plateau proper mainly on moist grassland and in clearings in *sholas*. It is quite common and on the wing throughout

the year. The Nilgiri population is sedentary to the extent that even strays from the plateau are never met with at lower levels. It comes freely to flowers and I have seen one male on the excrement of a dog. In flight the female is a very respectable mimic of *Danaus genutia*. I saw many attacks on males at Longwood Shola near Kotagiri by the Bulbul (*Pycnonotus jocosus*), but whether it was by chance or design that the female was not attacked cannot be said for sure. Many severed male wings were found in the area. Three caged females in Kotagiri laid freely on the leaves of two species of violet in contrast to the European Argynnis which lay on nearby inanimate objects. This difference is doubtless mediated by the fact that *A. hyperbius* is continuous brooded whereas the egg of European Argynnis represents the hibernation stage. The egg stages lasted nine days, the larval stage forty days, and the pupal stage sixteen days. Woodhouse (1952) reports quite similar data from Sri Lanka. In all 45 males and 41 females emerged successfully, indicating a normal sex ratio. The males hatch on average three days before the females, a very moderate level of protandry.

HELICONIINI

185. *Cethosia nietneri mahratta* Felder

The TAMIL LACEWING is a lovely butterfly of the wettest lowland forests of the Western Ghats system where it may be quite common. A darker subspecies occurs on Sri Lanka which appears to be ecologically somewhat more tolerant, a trait that is found in other rainforest species as well. On the wing the lacewing is virtually indistinguishable from the toxic *Danaus genutia*. They appear to be in a co-mimicry relationship, though I am not certain that the *Cethosia* have yet conclusively been proven toxic. However the larval food

plants of the Passifloraceae are exploited by toxic Ithomiines in the Neotropics and by Acraeines in Africa, and when handled *Cethosia* feigns death, a trait usually associated with protected species. Caged females at Kotagiri refused to lay eggs on two different Passifloraceous plants.

NYMPHALINI

186. *Junonia hierta hierta* Fabricius (*Precis hierta*)

The YELLOW PANSY is the first of a series of common species with pretty colours which are among the most widely distributed and noticeable of all the Indian butterflies. The Yellow Pansy is a common butterfly whose main habitat is open scrubland and ill-kept agricultural land, but it may also be found in mountainous districts, and on occasion may be taken practically anywhere in the Nilgiris. Numbers fluctuate considerably. The males are territorial and will select a small stone as a vantage point from where they vigorously chase off all comers. The species, like most of the Pansies, is migratory. It is a Palaetropical species being found in Thailand, Burma, India and Pakistan, recurring in the rather different ssp. *cebreus* in southern Arabia and throughout dry tropical Africa, with a weak incursion into the eastern Mediterranean (Larsen 1986b).

187. *Junonia orithya swinhoi* Butler (*Precis orithya*)

The BLUE PANSY is another common plains butterfly that may be found in the Nilgiris in fluctuating numbers, being least common in densely forested areas. This species, too, is migratory although only very small numbers participated in the 1986 migrations in the Nilgiris. I have rarely found it common except

in the thorn forests surrounding the mountains. The distribution is Palaeotropical covering the Papuan subregion, most of the Oriental region, Arabia and all of Africa, occasionally being found as far north as Jordan (Larsen 1986b). It is notable that the species occurs in fairly well-defined subspecies indicating that migration takes place within and not between the subspecific entities.

188. *Junonia lemonias* Linné
(*Precis lemonias*)

The LEMON PANSY is the most common of the five *Junonia* in the Nilgiris, being found practically anywhere in larger numbers than the others, but like them being scarcer on the plateau. It was the most numerous member of the spring migration observed in May 1986 with more than one million specimens (Larsen 1987b), a third of the total number of migrants. The species is a more frequent visitor to damp patches than the others of the genus. The seasonal forms are very marked, but I have not seen any very pronounced dry season forms in the Nilgiris. The species is centred on the Indian subcontinent extending to Malaysia in the east.

189. *Junonia almana almana* Linné
(*Precis almana*)

The PEACOCK PANSY is another common butterfly found all over the plains with the other Pansies, but it is rather scarce in the Nilgiris. I have only seen the wet season form in the area and the dry season form seems to be very rare in Sri Lanka, even in the dry northeast of the country. In Delhi the two forms appear with the seasons like clockwork and hardly overlap in time. It is often found in clearings in the rainforest zone where the Yellow and Blue Pansies do not occur, possibly because they use *Mimosa pudica* as a

larval food plant. The range covers most of the Oriental region.

190. *Junonia atlites atlites* Linné
(*Precis atlites*)

The GREY PANSY is the scarcest of the genus, being linked to more mesic habitats than the others, and usually not common, though I have sometimes seen fair numbers at the foot of the Nadgani Ghat. It occurs occasionally at Kallar. Some time in 1957 I saw a single specimen following the main migration in Kotagiri (1900 m), but this is exceptional and it is essentially a low-land species. Most of my specimens, contrary to the other *Junonia*, have been dry season forms, wet season forms at Nadgani appearing only by August. The distribution covers the entire Oriental region except for the driest parts.

191. *Precis iphita pluvialis* Fruhstorfer

The CHOCOLATE PANSY is very common in wooded country at low and medium heights, becoming scarcer in the driest habitats and the plateau, but nearly as eclectic as the four common *Junonia*. It is an avid visitor to flowers and occasionally to damp patches. This butterfly is a great nuisance to the collector since on the wing it often looks like a better and more interesting insect than it actually is. Like the *Junonia* it is migratory. The distribution covers practically the entire Oriental region.

192. *Vanessa cardui cardui* Linné

The PAINTED LADY is by any yardstick the world's most widely distributed butterfly and probably among the best known. It is also one of the most accomplished migrants, a migrant stream from Mexico to the United States once being estimated at three billion specimens. In the Nilgiris it may be found anywhere, but rarely in very large numbers, and not at any

time of the year, as is so often the case with migrant species. Hampson considered it to be limited to the plateau, but that is not so, and I have seen it at both Mettupalayam and in the Mudumalai sanctuary. Wynter-Blyth considered it to be common on the plateau, but this is only occasionally so. The distribution is practically speaking world wide, though it is missing from the equatorial rainforests and much of Latin America.

193. *Vanessa indica pholoe* Fruhstorfer

The INDIAN RED ADMIRAL is a Palaearctic element that maintains a toehold in the higher mountains of South India. In the Nilgiris it is essentially a plateau species, but occasionally it descends to the subtropical zone. It is mainly found on the edges of forest, but it may also be found in garden areas. It is fairly common but numbers have suffered from the extensive tea planting which has reduced the amount of nettles, its larval food plant. The larvae live singly in little tents spun from the leaves of the nettles, after the mid-rib has been bitten half through. In this, and for that matter all other traits, the species is very similar to the European counterpart (*Vanessa atalanta* Linné). The range covers the Sri Lankan and South Indian mountains, then from the Himalaya east to Japan and for some very odd reason the Canary Islands.

194. *Kaniska canace viridis* Evans
(*Vanessa canace*)

The BLUE ADMIRAL is a handsome butterfly that, at the moment at least, is relatively scarce on the plateau of the Nilgiris and occasional in the subtropical forests. I am quite certain that the species was much more common during my childhood (1954-1958) and that this is not only because some of the natural habitat has given way to tea. During my six months in 1986 I have seen no more than three dozen

or so. It is essentially a butterfly of the clearings and edges of typical *sholas*, but the larval food plant, *Smilax*, was also common in ill-tended plantations. Such habitats used to be widespread but have now given way for tea. Males are very territorial, occupying the same perch for days on end, and continue battles with any intruders even when they have reached the point where they can hardly fly. The range covers the mountains of Sri Lanka and southern India, then from the Himalayas east through temperate Asia, with isolated populations in montane Malaysia and Sumatra.

195. *Hypolimnias misippus* Linné

The COMMON OR DANAID EGGFLY is generally a common butterfly in India, but it is not normally abundant in the Nilgiris. In fact, the next species is usually the more common of the two Eggflies. It represents one of the classical cases of female limited mimicry with the normal female form being an excellent mimic of the toxic *Danaus chrysippus*. The model has two additional female forms, both of which are exceedingly rare in southern India. In the Eggfly the female form *inaria*, which lacks the black and white apex to the forewings, is seen very occasionally. I shot one off a tall eucalyptus with an air-gun in 1957, and I saw another at Kallar in June 1986. The form with white hindwings, *alcippoides*, is even scarcer and indeed I have never seen a fully developed specimen from South India, though doubtless they do occur. Pierre (1980) uses the presence of these forms to dispute the entire concept of mimicry since they are 'inappropriate' mimics, having no models. Their rarity is therefore of great import, because it is rather a powerful argument in favour of balanced polymorphism where the monomorphic model has ensured that selection has almost eliminated the expression of the two rarer forms, both of which are common in Africa. The range

covers the entire new world tropics, with some penetration of the Palaearctic. It has established itself in the Caribbean and parts of Latin America during the 18th and 19th centuries.

196. ***Hypolimnias bolina jacintha*** Drury

The GREAT EGGFLY is not rare at low and middle heights in the Nilgiris and may be found intermittently on the plateau. Like other migratory species it is, however, both fluctuating in numbers and somewhat unpredictable. For a period in September 1986 it was one of the most common butterflies in the area and it formed a fair proportion of the large autumn migrations in October. In a reversal of the normal situation this species is actually more common in the Nilgiris than *H. misippus*. The female is mimic of the *Euploea*-species and though the mimicry does not look that impressive in cabinet specimens it is sometimes startlingly effective in nature. There is a long history of all-female broods in this butterfly, shown by Clarke & Sheppard (1975) to be due to early male-limited mortality, and in 1961 this occurred in Delhi. During 1984-1986 in Delhi and during 1986 in the Nilgiris the sex ratios were normal. The distribution covers the entire Oriental region and many Pacific islands, but contrary to *H. misippus* distinct subspecies occur.

197. ***Doleschallia bisaltide malabarica***
Fruhstorfer

The AUTUMN LEAF is closely related to the *Kallima* and have much the same habits, though linked to the wetter type of evergreen formations. It is generally a rare butterfly in Sri Lanka and South India and must rate as very rare in the Nilgiris. Yates (1935) records it on the basis of specimens collected by Stokes Roberts, and Gordon Thompson feels quite sure he has seen it on one or two occa-

sions in the Nadgani area. I am surprised to learn that it has been found also in the Palnis (Shembaganur), Rodericks & Ugarte (1960) but the locality is probably more mesic than most parts of that mountain range. The distribution covers Sri Lanka and South India, then from Nepal east to practically the entire Oriental region.

198. ***Kallima horsfieldi*** Kollar
(*Kallima philarchus*)

The SOUTH INDIAN BLUE OAKLEAF has often been considered a subspecies of the Sri Lankan *Kallima philarchus* Westwood, and which approach to take is a finely balanced choice, but, actually, not a matter of great consequence. The beautiful leaf shape of the *Kallima* is one of the celebrated examples of camouflage and the South Indian species is as fine as any other in this respect. When settling on branches and tree trunks the *Kallima* invariably settle head down. The species is relatively rare in the Nilgiris and largely limited to evergreen forest at the tropical and sub-tropical levels, though it may also be met with in the mixed deciduous forest and on occasion in moist-deciduous forest in the Wynaad. In 1957 we saw a specimen at Kotagiri (1900 m) for the first and only time. Despite the enthusiastic pursuit by nearly a dozen kids with nets it managed to escape, and indeed it nearly always does, except when collected at rotting fruit. In nature the species lives a fairly retiring life, only being spontaneously on the wing for a brief period just after noon. Occasional specimens may be seen basking in the early morning sunshine. When disturbed they fly fast but not usually for long, settling among branches and leaf debris where their underside pattern is to their best advantage. The species is endemic to the Western Ghats system, but very similar species are found in Sri Lanka, and then from Sikkim to much of the Oriental

region. I have collected *K. spiridiva* Grose Smith in Sumatra and its characteristics and behaviour in the field did not differ from the South Indian species.

MARPESIINI

199. **Cyrestis thyodamas indica** Evans

The MAP BUTTERFLY is a delightful species with its delicate markings on a semi-transparent background, but it is not a common butterfly in the Nilgiris. In my experience its headquarters is the evergreen forest of the subtropical level, though it is also found in plateau *sholas* and in the tropical evergreen forests. It very rarely ventures into open country. The slow flight with the wings held horizontal for long periods is very characteristic, as is the resting posture with the wings held flat against the under surface of a large leaf. It is fond of coming to water along running streams but is less of a visitor to flowers. I did not come across it often in the Nilgiris and then mainly in the subtropical forests around Glenburn. A few were seen on the Nadgani Ghat and there was a small, but definitely resident, population in the Longwood Shola at 2000 m near Kotagiri. Holloway (1973) gives an interesting review of this genus, with *C. thyodamas* being found in suitable places on the Western Ghats, but not in Sri Lanka, and then again from Jammu east to Burma and Thailand. The genus has a single Afrotropical representative on the mainland as well as one on Madagascar.

LIMENITIDINI

200. **Neptis jumbah jumbah** Moore

Most details of the *Neptis* are taken from the monograph on the Oriental species by Eliot (1969). The CHESTNUT STREAKED SAILOR is endemic to peninsular India and Burma, as well as Sri Lanka. The South Indian form

actually approaches that of Sri Lanka, ssp. *nalanda* Fruhstorfer. It is the most common of the South Indian *Neptis* after the ubiquitous *N. hylas* and is generally not rare, and sometimes locally common. It is mainly limited to low-level forest of the mixed deciduous and evergreen types, but it will also penetrate much of the subtropical zone. The flight is rather higher and more powerful than that of *Neptis hylas*, and the species is quite wary when descending to feed on flowers or to seek damp patches. It is rarely seen away from forest. The range is curious inasmuch as it is not found in the Himalaya west of Sikkim despite being present many places in the Eastern Ghats and Bengal.

201. **Neptis hylas varmona** Moore

The COMMON SAILOR is almost ubiquitous in the Nilgiris though it is missing in the driest thorn forest formations. It is often common and would probably be on a list of the twelve butterflies most frequently encountered in the area. It is quite variable in both size and markings and it is sometimes difficult to avoid the impression that more than one specific taxon is hidden within. It is a frequent visitor to flowers and occasionally comes to water, but does not participate in the larger joint mudd-puddling exercises. The range covers most of the Oriental region with the exception of the Philippines and Sulawesi where very similar species occur. It penetrates the Palearctic region in East Asia.

202. **Neptis clinia kallaura** Moore
(not included in W-B)

While the two previous species are easily identified the three following species are easily confused. Their taxonomy and nomenclature were worked out by Eliot (1969) who should be consulted. This unfortunately means that all old records of the three species *N. clinia*,

N. nata and *N. soma* must be treated with considerable caution. I have not seen certain specimens from the Nilgiris but Eliot mentions both Travancore and Coorg and it is certain to occur. The range covers South India, then from Nepal east to southern China and Sunda-land, but not Sulawesi and the Philippines.

203. ***Neptis nata hampsoni* Moore**
(*Neptis nandina*)

The CLEAR SAILOR is a large and rather scarce species that is found in small numbers in all of the evergreen forests including the plateau *sholas*. I have taken it at Longwood Shola near Kotagiri and on the Nadgani Ghat. Wynter-Blyth found it only near the Runnymede railway station. It tends to fly higher than *N. hylas* and is not always easily caught. The range stretches from South India through wooded parts of the peninsula to Madhya Pradesh, then from Sikkim east to most of the Oriental region.

204. ***Neptis soma palnica* Eliot**

The SULLIED SAILOR is characterised by the very narrow white bands, more narrow than those of any other South Indian *Neptis*, so much so that older records of this species are likely to be correct. It seems to be very rare in the Nilgiris and I never came across it although the few records are from the Nadgani area. The range covers the wetter parts of the Western Ghats, the Himalaya from Jammu east to Indo-China, South China and Malaysia, but not Sundaland proper.

205. ***Neptis viraja kanara* Evans**

The YELLOWJACK SAILOR looks very much like the common *Pantoporia hordonia* but is almost twice as large. On the wing it might just be confused with the yellow female of *Athyma nefte*. It seems to be exceptionally

rare in the Nilgiris with three or four records from the Nadgani Ghat and the western slopes. I never came across it. It is reputed to be stronger on the wing than the other *Neptis*. Apart from in South India the species occurs from Kumaon to Burma, Thailand, the Andamans and Orissa.

206. ***Neptis columella nilgirica* Moore**

The SHORT BANDED SAILOR is often placed in its own genus, *Phaedyman*, but I prefer to consider it a subgenus of the *Neptis*. It is another scarce Nilgiri butterfly that I did not come across. Hampson records it from the western slopes, while Wynter-Blyth saw it near Ketti and once on the Mettupalayam Ghat at lower altitude. It seems to be linked to evergreen forests. Apart from in the Western Ghats the species may be found in suitable places on the Indian peninsula, then from Kumaon east to the Philippines and Lesser Sunda Islands, but not Sulawesi. It is strange that only two of the *Neptis* should be found on Sri Lanka as well.

207. ***Pantoporia hordonia hordonia* Stoll**
(*Neptis hordonia*)

The COMMON LASCAR is a common butterfly in forest at low and middle heights, often flying with *Neptis hylas* around thickets containing *Acacia horrida*. The flight is quite weak and the insect often comes to flowers, but only occasionally to damp patches. There is a slightly darker species with a more prominent speculum on the upper hindwing costa in the form of *Pantoporia sandaka davidsoni* Eliot but I have not been able to trace any certain Nilgiri records. The Common Lascar is found in South India, then from Kumaon east to practically throughout the Oriental region.

208. *Athyma nefte inara* Doubleday
(*Pantoporia nefte*)

The COLOUR SERGEANT is a powerful butterfly with a remarkable degree of sexual dimorphism. The male is black with a white band and a few orange markings, while the female is dark brown with a series of deep orange bands, superficially resembling a large yellow *Neptis*. It is not a common butterfly in South India and seems to be limited to the low-land evergreen forests with slight penetration of the subtropical zone. Most Nilgiri records are from the Nadgani Ghat area, where I have also taken both sexes at Lantana. I have a female also from Mukkali, near the Silent Valley approach road. The males come to water occasionally. The Western Ghats population is isolated, the main range being from Nepal to South China and Sundaland. All four South Indian *Athyma* are absent from Sri Lanka.

209. *Athyma selenophora kanara* Evans
(*Pantoporia selenophora*)

The STAFF SERGEANT male is very like that of the preceding species but lacks white markings in the cell; the female looks like a giant white *Neptis*. Like all the local *Athyma* they both have the white saddle linking the light band of the two hindwings across the thorax and abdomen. It is very rare in the Nilgiris. Wynter-Blyth found a small colony at Wenlock Bridge and in 1957 I collected a single female either at Kodanad or in the Longwood Shola near Kotagiri, but the details escape me now. I did not see it in the Nilgiris during 1986, but I did get a fine female at the very summit of the Biligiriranga Mountains above Honametti Estate. It appears to be centred on the subtropical evergreen zone with ability to colonise also the upland *sholas*. In addition to South India it is found in southern Bihar, and then from Simla east to South China, Borneo and Java. Generally the species is not common.

210. *Athyma ranga karwara* Fruhstorfer
(*Pantoporia ranga*)

In addition to being a distinctive species in other respects the BLACKVEIN SERGEANT may be immediately recognised through its white-dotted abdomen. As with the other *Athyma* it is a scarce butterfly in the Nilgiris. It is strictly limited to well-developed evergreen forest of the tropical and subtropical types. Wynter-Blyth found it in one valley near Runnymede several years running. I have taken two at practically the same little damp patch in the forests below Glenburn (5.v & 12.vi), and Sid Imber saw one near Kunjapannai not far from Glenburn (1.x.1986). There are also a number of records from the Nadgani Ghat where I have twice taken it (21.vi & 4.vii). Apart from in South India it is found from Nepal east to Indo-China and Malaysia and is nowhere common.

211. *Athyma perius perius* Linné
(*Pantoporia perius*)

The COMMON SERGEANT is the most widespread and numerous of the genus in the Nilgiris, but it is far from common. There are records from the western slopes, Nadgani, Devala, Kallar, Ketti and Kotagiri. I bred a specimen from an euphorbiaceous plant in the late 1950ies in Kotagiri. The flight is powerful but not normally as high as in the other three *Athyma*. Flowers are visited and occasionally also damp patches. It is found in southern and peninsular India where conditions permit and will be found under more open conditions than the other three. The main range is from Simla east to Taiwan and south to Sundaland.

212. *Moduza procris undifragus* Fruhstorfer
(*Limenitis procris*)

The COMMANDER is not rare in the wettest low-land forests and may occasionally be quite numerous at the foot of the Nadgani Ghat.

Hampson considered it rare and Wynter-Blyth did not meet with it, but during June to August 1986 we found many at Lantana in the Nadgani Ghat area, especially before 11.30 in the morning. Later in the day males would perch and pounce on other passing butterflies high up in the trees. Occasional specimens would come to water. I have seen one or two also in subtropical evergreen forest near Glenburn. It is a most elegant and powerful butterfly, wary when at rest, and it is quite unforgiving towards a clumsy entomologist. In peninsular India and on Sri Lanka it is reputed to occur in various types of deciduous forest under much more xeric conditions than any of the Nilgiri localities. It is found from the level of Dehra Dun in the Himalayas east to practically the entire Oriental region.

PARTHENINI

213. *Parthenos sylvia virens* Moore

The CLIPPER is a large butterfly that is among the most beautiful of all butterflies, the beauty being topped off by a very graceful behaviour. The powerful, gliding flight with the wings held stiff just below horizontal is a delight to watch. The habitat is almost exclusively the wetter low-land evergreen forests of the western slopes. Wynter-Blyth once saw a specimen at Kallar, possibly originating from the Attapadi/Silent Valley area where the species is common. At the foot of the Nadgani Ghat large numbers sometimes come to Lantana in the mornings and they are then very easy to catch, but they never seem to come to damp patches or to malodorous substances. When not attracted to flowers they usually stay in the canopy, perching on a broad leaf from where they make short sorties, but usually staying quite out of reach. Damaged specimens are very often met with. I have seen one flying, awkwardly, with less than one tenth of the right forewing remaining. The species

is found in Sri Lanka, South India, in parts of the Eastern Ghats, and then again from about Mussoorie east to the entire Oriental region and New Guinea. There are many subspecies, often quite distinctive.

EUTHALIINI

214. *Tanaecia lepidea miyana* Fruhstorfer
(*Euthalia lepidea*)

The GREY COUNT is a distinctive butterfly that is generally rare in the Nilgiris, though sometimes not rare in suitable localities in Kanara. It is almost exclusively found in the wettest low-land evergreen forests, though occasional specimens have been seen at Kallar. I have seen one or two on most of my visits to the Nadgani Ghat. Specimens in good condition are almost impossible to obtain except on bait or naturally decomposing fruit. Flowers are not visited, damp patches only rarely. The butterfly is fond of sunning itself on a leaf with the wings held flat, but under such circumstances it is very wary. It is found in South India, locally on the Eastern Ghats and more generally from Kumaon to Malaysia.

215. *Euthalia telchinia* Ménétries

The BLUE BARON is not dissimilar to the preceding species, but the wings are more angular and the marginal band of the male is blue instead of grey. According to Wynter-Blyth one South Indian specimen, from Coorg, is all that is known, but according to Harish Gaonkar (*pers. comm.*) more have been seen. Gordon Thompson described to me, in such a way as to be quite certain that no mistake could be involved, how he and his father in the 1960ies had found a small colony of this species in some swamp jungle on the Nilgiri Wynaad. I am almost certain that I saw a male on the Gersoppa Ghat in Kanara in October 1986. It would be most interesting to get a good series of this butterfly since there

is a very good chance that it represents a distinct, unnamed subspecies. Apart from South India the range covers the area between Sikkim and Burma and the species is considered rare throughout its range.

216. *Euthalia aconthea meridionalis*

Fruhstorfer

(*Euthalia garuda*)

The COMMON BARON is the most widely distributed and common of the *Euthalia*-group in peninsular India, feeding on mango and cashew as well as other plants. It is sometimes very common in places like Bangalore and I found it plentiful at Goa in October 1986. It is therefore curious that it should be rare in the Nilgiris where in the course of my seven months I have seen less than a dozen in all low-land types of habitat except for thorn forest. This is despite the fact that mango and cashew are extensively planted in the area. It is very fond of fallen fruit and will occasionally come to water, otherwise it is very difficult to bag. The distribution stretches from Sri Lanka and India east to Borneo and most of Sundaland.

217. *Euthalia lubentina arasada* Fruhstorfer

The GAUDY BARON is one of the true jewels among the Nilgiri butterflies, but it is, unfortunately, just as rare as the other members of the genus. I have seen only about half a dozen at Nadgani, Glenburn and Kallar, mainly in evergreen forest, but occasionally in mixed deciduous. During my childhood the species was a genuine, though very infrequent, member of the migratory stream (Larsen 1978). Its habits are those of the genus except that it moves about more freely in direct sunshine. It is found in suitable localities throughout Sri Lanka and peninsular India, extending east to Malaysia. In the remainder of the Oriental

region it is replaced by a group of very similar species.

218. *Euthalia evelina laudabilis* Swinhoe

The REDSPOT DUKE is a lovely green butterfly that may be found in evergreen forest at low and medium heights. Some females are very large. It is sometimes placed in a genus of its own, *Dophla*. Though far from common it is the member of the genus that is most frequently met with. Yates, writing on Coorg, said that he was reminded by it of 'a green thought in a green shade'. This green species is, in fact, often met with basking on a green leaf in a tight shaft of sunlight deep in the shade of evergreen forest, and usually it is much too cunning to let itself be captured. At the risk of being anthropomorphic my impression is that it has figured out a collector's strategy long before the collector can begin carrying it out. It is very difficult to get a specimen unless it comes to rotting fruit, and even then it is very wary. The Sri Lankan and South Indian populations are disjunct from the main distribution area which covers most of the Oriental region from Assam east.

219. *Symphaedra nais* Forster

(*Euthalia nais*)

The RED BARON is a most distinctive relative of the *Euthalia* in which genus it is sometimes included. The brick red ground colour, though, is very different from the normal pattern of that genus, and the behaviour is more like that of the *Junonia* than the *Euthalia*. However, the larva has the unmistakable form of the *Euthalia* with the long filaments on each segment lying flat against the leaf. It seems surprisingly scarce in the Nilgiris. Wynter-Blyth saw a few at Kallar and I have seen it three times at the same point on the Kotagiri Ghat in bamboo jungle. During my childhood the

species was a regular, though rare, member of the main migrations (Larsen 1978). The species comes avidly to both fruit and water. Its rarity in the Nilgiris is puzzling. It is sometimes very common on Chamundi Hill near Mysore. I have seen it in large numbers near Mhow, and in October 1986 it was very common in the Gir Lion Reserve in Saurashtra. The species is endemic to Sri Lanka and the Indian subcontinent and seems to be found mainly in various deciduous forest formations that are much less mesic than the normal habitat for *Euthalia* species.

APATURINAE

220. *Rohana parisatis atacinus* Fruhstorfer (*Apatura parisatis*)

The BLACK PRINCE is one of two South Indian representatives of the Apaturinae, a subfamily that is best developed on the frontiers between the Oriental and eastern Palaearctic. The species is rather rare in the Nilgiris, mainly found in the subtropical evergreen forests. The female is very much like a member of the genus *Ariadne* but the small black male is unmistakable. My only Nilgiri specimens are from 1957 when I collected a pair at the edge of a *shola* at Kodanad while on a scout camping trip. Hampson also considered it to be rare. The distribution covers Sri Lanka and South India, then from Kumaon east to Sundaland and the Philippines.

221. *Euripus consimilis meridionalis* Wood-Mason

The PAINTED COURTESAN is very rare in the Nilgiris. Hampson took one on Lantana in the NW corner of the Nilgiris, Wynter-Blyth secured one at Kallar and saw one more, I took one female in the forest below Glenburn (12.vi). There are some other Nilgiri speci-

mens, including a pair from the Droog taken by Meinertzhagen in 1890 now in the British Museum (Natural History). I have also seen a recent Nadgani specimen in a photograph of a Japanese collection. The species would thus appear to be limited to evergreen forest of the tropical and subtropical types and to be generally rare. It is, in fact, so rare that it is difficult to understand how viable populations are maintained, since it is a large and highly characteristic butterfly that comes to rotting fruit and apparently to flowers, though flowers are not visited by the European Apaturinae. The species in the genus are generally considered to be mimetic, and some Malaysian species are splendid mimics of Danaids. The female of the South Indian species is a mimic of the day flying Zygaenid moth *Cyclosia papilionaris australinda* Hampson (kindly determined by G. Tarmann of the Tiroler Landesmuseum in Austria). The species is found on the Western Ghats and then from Garhwal east to Burma and Thailand.

CHARAXINAE

222. *Polyura athamas athamas* Drury (*Eriboea athamas*)

The COMMON NAWAB is the most ecologically eclectic and widely distributed member of the Oriental Charaxinae, and so it is in the Nilgiris where the species can be caught almost anywhere in the low-land and middle levels. It is, though, not much at home away from forest. In 1958 there was a resident colony on one or two trees at 1900 m near Kotagiri according to P. Tousgaard, but this is exceptional. The males often perch on leaves fairly high up at the edge of a bit of forest from where they make furious sorties to investigate any passing butterflies, but otherwise they are mainly seen when coming to malo-

dorous substances or to water. Sometimes a whole string of specimens can be caught at the same little patch of otter droppings in the course of a morning. The females are very rarely met with. The species is found in Sri Lanka, much of India, and most of the Oriental region. The genus has recently been subject of an excellent monograph by Smiles (1982).

223. ***Polyura agraria agraria*** Swinhoe
(not mentioned by W-B)

The ANOMALOUS COMMON NAWAB (it does not have a current english name) is a smaller and paler butterfly with more acute forewings and relatively broader light bands on the forewings. When I first saw two specimens from Kallar I was in no doubt that it was a distinct species even though I knew nothing of its taxonomic status — indeed I hoped it might be new. The species has been the subject of much discussion and has usually been considered a form of *P. athamas*, but I am surprised that it was only finally raised to specific rank by Smiles (1982). The species seems to be very rare in the Nilgiris and I have only three from Kallar where I have seen well over a hundred of the Common Nawab. From the rest of the Nilgiris I must have seen specimens or pictures of an additional hundred or more; none was the present species. Its range covers most of the Oriental region and in some localities the two species are more difficult to tell apart than they are in the Nilgiris. It is, however, absent from Sri Lanka where *P. athamas* is common.

224. ***Polyura schreiber wardii*** Moore
(*Eriboea schreiberi*)

The BLUE NAWAB is a superb butterfly that is much prized by collectors and which on the whole is rare to very rare in the wettest parts of the Western Ghats system, including the western slopes of the Nilgiris. I have seen it

on two occasions at the foot of the Nadgani Ghat. Specimens are very difficult to get at except when they come to baits or traps. I saw a perfect male on monkey droppings at Sholayar in the Annamalai mountains. Usually both sexes keep very high in the canopy, occasionally swooping down in the most erratic manner to identify the source of some odour, and then usually zooming back up without settling. In Kanara I have on one occasion seen a female investigate potential food plants some distance from the nearest forest, but this was in a recently clear felled area and may have been exceptional. The range covers South India's wettest parts, then from Assam to Malaysia. It is everywhere considered rare.

225. ***Charaxes bernardus imna*** Butler
(*Charaxes polyxena*)

The TAWNY RAJAH is one of the most powerful and impressive insects in South India and the sight of a large female flying at maximum speed is a true delight. The top speed exceeds sixty kilometres an hour. It is, unfortunately, a rare species in the Nilgiris and even when found is very difficult to catch unless at natural or artificial baits. Rotten organic matter, especially crabs, will attract the male, both sexes coming to fermenting fruit on occasion. The male sometimes perches well out of reach, attacking all passing butterflies, occasionally coming within range of the net. I know of Nilgiris specimens only from various points on the Nadgani Ghat and at Kallar and it seems to be limited to lowland evergreen forests. In Sri Lanka it goes higher up the hills and elsewhere in India it is found under less mesic conditions than in the Nilgiris. In addition to Sri Lanka and South India it is found from about Mussoorie to South China, Sundaland, the Papuan subregion and the Bismarcks. Some authors subdivide the taxon

bernardus into several closely related species, giving *imna* specific status.

226. **Charaxes solon solon** Fabricius
(*Charaxes fabius*)

The BLACK RAJAH is an unmistakable butterfly looking very much like some of the Afrotropical *Charaxes*. The name *fabi* Fabricius is older but preoccupied, but Fabricius happened to have named it twice. It, too, is scarce in the Nilgiris. Wynter-Blyth obtained a single specimen at Kallar from where I have two males (16.vi and 29.vi) both taken on animal dung. Hampson lists it as 'rare, 3000-4000 ft'. The rarity is difficult to understand since the species may be common on the South Indian plains, e.g. around Bangalore, and one of the food plants is the tamarind tree of which Kallar has a fine series of old specimens. The species is found from Sri Lanka practically throughout the Oriental region.

ACRAEINAE

227. **Acraea terpsicore** Linné
(*Telchinia violae*)

The TAWNY COSTER is the only South Indian representative of a large subfamily and genus that is strongly centred on the Afrotropical region, but *A. terpsicore* is endemic to Sri Lanka and the Indian subcontinent. It is most closely related to the African and Arabian *A. neobule*, and according to le Doux (1922) the name *terpsicore* is the valid one (see discussion in Larsen 1983). In the Nilgiris the butterfly is not rare and often common and may be found practically anywhere at all levels except inside the densest forests. The flight is usually slow and not far from the ground. Flowers are visited regularly, but not damp patches.

LIBYTHEINAE

228. **Libythea myrrha carma** Fruhstorfer

The CLUB BEAK is a fairly common butterfly especially in the subtropical zone, but it may also be found in the tropical evergreen forests and occasionally breeds in *sholas* on the plateau. It participates in the migrations, and I must assume that is why I have seen a specimen in the driest possible habitat near Masi-nagudi. Flowers are rarely if ever visited, but at certain times of the year damp patches hold great attraction. It is sometimes found with the next species, *L. lepita*, which is usually much the more numerous, though more linked to the lower levels. The range covers Sri Lanka, South India, then from Kulu east to southern China and Sundaland.

229. **Libythea lepita lepitoidea** Moore

The COMMON BEAK is indeed more common than the preceding species, but generally at somewhat lower levels, especially in the denser mixed deciduous forest formations. Here it is sometimes very abundant just before the start of the rains, while only occasional specimens are met with during the rainy season. It is a frequent visitor to damp patches, but does not seem to visit flowers. It has been suggested that species should be considered a form of the European *L. celtis* Fuessly, but I have not seen convincing evidence for this view. Certainly its habitat choice in southern India is very different from that of the European species which extends to at least Chitral. The species is found in Sri Lanka, where it is very rare, in South India, and from Jammu east along the Himalayas to Thailand, South China and Japan.

[Note on the LIBYTHEINAE. Mention must be made of a recent paper by Shields (1985) revising the genus. In this he accepts two subspecies of *L. myrrha* in South India, in-

cluding the Sri Lankan ssp. *rama* as well as *carma* and draws a dividing line between the two that is not supported by his locality list. Both subspecies are quoted from the Nilgiris which does not make much biogeographical sense. It would have been more logical to merge the South Indian and the Sri Lankan subspecies which are not well differentiated. He considers *L. lepita* to be conspecific with the European *L. celtis* in the combination *L. celtis lepita* Moore and accepts the presence of the latter in South India. The taxon *lepitoides* is also accepted as South Indian, but now in the combination *L. laius lepitoides*. This butterfly is an East African one. All this is done without reference to the genitalia (a few genitalia have been copied from other books (such as Eliot 1978) without giving a source) though the genitalia clearly provide better phylogenetic characters than the wing patterns. I would be very surprised if there really are more than two species in South India.]

HESPERIIDAE

COELIADINAE

230. *Bibasis jaina fergusonii* de Nicéville (*Ismene jaina*)

The ORANGE STRIPED AWLET is very rare in the Nilgiris and in most of its range. It will always be found in the wetter lowland evergreen forests. There is but a single record from the area, a specimen seen in a local collection by Wynter-Blyth, without data but apparently without doubt from the Nilgiris. Its general habits are probably like the rest of the Coeliadinae, including a tendency to fly chiefly at dawn and dusk. The range covers the Western Ghats, then from Mussoorie to Thailand, Indo-China, Taiwan and Sulawesi, with very similar species replacing it in Malaysia and the rest of Sundaland. It is interesting that this species

is absent from Sri Lanka while *B. oedipodea ataphus* Watson is present, though not represented in South India.

231. *Bibasis sena sena* Moore

The ORANGE-TAIL AWL seems generally to be a rare butterfly in the Nilgiris. It was so considered by Hampson and Wynter-Blyth failed to procure it. Gordon Thompson collected a small series of worn specimens on the Nadgani Ghat on one of our visits, and I saw one about a week later, but these are the only observations we have of imagines. It was therefore somewhat surprising that we found quite a few larvae at Kallar in August and September, beautiful creatures that are well described in Woodhouse (1952). What purpose the bold larval markings found in many Coeliadinae serve is difficult to say considering that they spend the entire day in a hide made from rolled up leaves and only come out to feed at night. They hatched readily in captivity, though a week later in Kotagiri than in the much warmer Metupalayam. When drying their wings they hold the wings in a horizontal position and fold the antennae back along the thorax in a position wholly at odds with any natural resting posture, but this appears to be general for the HesperIIDae. The adults are very tough, nearly as much so as *Thaduka multicaudata*, and are almost impossible to despatch with the customary pinch of the thorax. This is not the case in *Hasora* or *Badamia*. The adult is somewhat reminiscent of the common *Hasora chromus* but the orange hindwing cilia will tell them apart. The distribution covers Sri Lanka and South India, then from Simla east to the Philippines and Sundaland. It seems to be rare in most of its range.

232. *Hasora chromus chromus* Cramer (*Hasora alexis*)

The COMMON BANDED AWL shares with *Badamia exclamatoris* the distinction of being

the only South Indian Coeliadinae to be tolerably common and to be found outside of the wet lowland forest habitats. This is linked to the fact that both of these species are migratory. I have specimens from all types of habitat between the foot of the mountain and 2000 m at Kodanad. Though normally not at all common, it may occur in huge quantities. At Kallar in the beginning of October 1986 masses of larvae were found on *Pongamia* trees, many of which were defoliated so that pupation took place more or less in the open. The normal larval ground colour is a light yellowish green, but larvae on very crowded trees tended to be almost black. Such records of complete defoliation are also found in older literature. The adult butterflies visit both flowers and damp patches but are generally very wary. The distribution covers the whole of the Oriental region as well as the Papuan sub-region, Australia and the Bismarck Islands.

233. ***Hasora taminatus taminatus* Hübner**

The WHITE BANDED AWL is more tied to forest habitats than is the preceding species and it appears not to be very common in the Nilgiris. Though Hampson records it without detail, Wynter-Blyth failed to find it, and I have taken it on three occasions only in the forests surrounding Glenburn. I have taken it on both flowers and at water. It would appear to be restricted to evergreen forests at low and middle heights. It is found in Sri Lanka and South India, then from Sikkim to Sundaland and the Moluccas.

234. ***Hasora badra badra* Moore**

The COMMON AWL never seems very common anywhere and certainly not in the Nilgiris. The first record in print is one by Wynter-Blyth in a supplement to his main Nilgiri paper. I have three females on three different dates on the Nadgani Ghat, all coming to Lantana flowers

on dull, drizzly days. Even by the standards of the genus its flight is rapid and I suspect it is largely crepuscular. It is found in Sri Lanka and South India, then again from Nepal east to Sundaland and Sulawesi.

235. ***Badamia exclamationis* Fabricius**

The elongated forewings of the BROWN AWL render this large skipper quite unmistakable. Occasional dry season specimens are very small, lacking entirely in hyaline spots, being so dissimilar from the usual that I initially thought it was a distinct species. Generally the species is not rare in evergreen forests at the lower and middle levels and it may sometimes become very common indeed. At such times it will also tend to be met with in more open country and on the plateau. Occasionally it may migrate in considerable numbers and it participated in the main migrations at 2000 m during October 1986. The flight is extremely rapid, but rarely sustained, and when the butterflies settle under leaves as they usually do, then they are easily caught as they trust their concealment. When visiting flowers, as they do freely, they are very wary, as they are during their occasional visits to damp patches. In 1986, co-incidental with the migrations, we found large quantities of the very attractive larvae at Kallar and they bred easily in captivity. The range covers the entire Oriental region, with extensions to New Guinea and Australia, and into the Pacific at least to Samoa.

236. ***Choaspes benjaminii benjaminii* Guérin-Ménéville**

The INDIAN AWL is without discussion the finest of the skippers known from the Nilgiris, though *Bibasis gomata* Moore would give it a good run for the money if it were to turn up. The indigo-blue and shining green of both sexes are quite different from any of the

other skippers. This is mainly a montane butterfly that has been recorded as low as Runnymede. by Wynter-Blyth. It is usually considered to be not rare, but I did not come across it in 1986. However, during the 1950ies we would occasionally find large numbers on Lantana near Kotagiri on dull days. The species is found in Sri Lanka and South India, then from Kangra east to southern China, Japan and Palawan.

PYRGINAE

237. *Celaenorrhinus leucocera* Kollar

The COMMON SPOTTED FLAT is one of three fairly similar species of almost identical habits, though *C. ruficornis* appears to be ecologically more or less separated from the two others. The present species and *C. ambareesa* are often found flying in the same spot. Both are butterflies of rather shady forest, along roads and in other places where they have sufficient space for the furious early morning patrolling. These patrols are male territorial and mate locating flights covering a length of up to ten metres and they are conducted with such speed that the human eye can barely follow it. At frequent intervals the butterfly will alight on the underside of a leaf for rest, but it rarely basks on the top of leaves or at vantage points in the manner of *Caprona* and *Tagiades*. Flowers are sometimes visited, damp patches only very occasionally. It is mainly found in the lowland evergreen and mixed deciduous forests, but also penetrates the subtropical evergreen. The range includes South India, the Himalaya from Jammu east to Indo-China and southern China, but not south to Sundaland proper.

238. *Celaenorrhinus ambareesa* Moore

The MALABAR SPOTTED FLAT is not rare on road verges and clearings in evergreen and

mixed deciduous forest, but it is not found on the plateau. Its habits are so much like those of the preceding species that they cannot be differentiated in nature. It is an Indian endemic being found in suitably wooded areas of peninsular India south of the Indo-Gangetic plain. It is interesting that all three South Indian members of the genus should be lacking from Sri Lanka, which in turn has its own distinctive endemic species in the form of *C. spilothyrsus* Felder & Felder.

239. *Celaenorrhinus ruficornis fusca* Hampson

The TAMIL SPOTTED FLAT is rather rare in the Nilgiris proper. Wynter-Blyth took but a few at Nadgani and I only have it from the Nilgiri Wynaad. I did, however, find it quite common in moist-deciduous forest in the Bili-giriranga Mountains. Hampson thought it common and since he was living in the Wynaad on the fringes of moist-deciduous forest I suspect the species is specially adapted to this type of habitat. In habits it does not differ from the other members of the genus. The nominate subspecies is from Java; another subspecies occurs in Sulawesi, so the South Indian population is strongly disjunct.

240. *Tagiades japetus obscurus* Mabille
(*Tagiades atticus* & *distans*)

The COMMON SNOW FLAT is almost identical with the next species which, however, always lacks the two hyaline discal spots of the upper forewing in spaces 2 and 3. These are always present in *T. japetus* though they may be minute. The species is not rare in evergreen forest formations except on the plateau and may be found in mixed deciduous forest. The flight is very rapid, looking like a series of white flashes, but the butterfly is territorial and often returns to a given perch. It is a frequent visitor to flowers but only occasional at damp patches, despite the fact the chosen habitat is often along rivers and streams. The

range covers practically the entire Oriental region and the genus is also represented in Africa.

241. **Tagiades gana silvia** Evans
(*Tagiades obscuros*)

The IMMACULATE SNOW FLAT in South India is very much like the preceding species under which the distinguishing characters are mentioned. I did not distinguish between the two while in the field, but my recollections and

specimens in my collection indicate that the two are so close in habits, habitat and local distribution that nothing special can be said about this butterfly except that it seems slightly the rarer of the two. The name *obscuros* has been applied to South Indian populations in older literature. The range, again, covers most of the Oriental region, but neither of two species are found in Sri Lanka.

(to be continued)



Larsen, Torben B. 1987. "THE BUTTERFLIES OF THE NILGIRI MOUNTAINS OF SOUTHERN INDIA LEPIDOPTERA RHOPALOCERA." *The journal of the Bombay Natural History Society* 84, 560–584.

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