

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

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[Continued from Vol. 84(1): 54]

LYCAENIDAE

MILETINAE

050. *Spalgis epeus epeus* Westwood

The APEFLY, so called because the pupa looks like a miniature monkey head, is an unusual little butterfly that is the only representative of its subfamily in South India. The underside is greyish brown with a dark irroration that differs from the pattern of any other species in the area. It is found mainly in lowland evergreen formations, though it should occur also in the denser mixed deciduous forest. I do have a definite record from near Kotagiri (1900 m) from May 1957 which is most unusual; the specimen is still in my possession. The flight is rather fast and erratic for such a small butterfly, but it usually does not fly high. It seems to be scarce in the Nilgiris. Wynter-Blyth caught three at Kallar from where I have one and I have collected only half a dozen or so at various points on the Nadgani Ghat. The larva is unusual since it feeds exclusively on Coccidae (mealy bugs), the only wholly carnivorous butterfly in the Nilgiris. It occurs in Sri Lanka, in suitable jungles of peninsular India, and from Kumaon to practically the entire Oriental region. One or two species of *Spalgis* also occur in Africa.

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POLYOMMATINAE

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051. *Castalius rosimon rosimon* Fabricius

The COMMON PIERROT is found in most types of country up to about 1400 m, rarely higher, provided open forest is present. It spends its time fluttering about *Zizyphus* shrubs which are the larval food plants, but it visits flowers readily and also comes to damp patches during the dry season or on exceptionally hot days. Dead insects and bird droppings are also an attractant. The genus is monobasic and the many other species which have been allotted to it are now transferred to resurrected genera, and in the case of the African species to *Tuxentius* Larsen (1982). The species is found throughout the Oriental region.

052. *Caleta caleta decidia* Hewitson (*Castalius caleta*)

The ANGLED PIERROT is a moderately common butterfly whose black upperside with the prominent white discal band on all four wings makes it unmistakable in the Nilgiris. The main habitat is open evergreen forest, but it may be found also in mixed deciduous and in subtropical evergreen forest. It is, however, a very poor coloniser of disturbed habitats. It is one

of the most frequent visitors to mudpuddles and it is quite inordinately fond of bird droppings. Wynter-Blyth found it common to 8000 ft, but that would be quite exceptional in my experience. The distribution covers Sri Lanka, suitable localities in peninsular India, Orissa, Bengal, from whence east to Indo-China and the Philippines. It is replaced by very similar species in Sundaland proper.

053. *Discolampa ethion vavasanus* Fruhstorfer
(*Castalius ethion*)

The BANDED BLUE PIERROT is a delightful little butterfly, the only one in South India to have a defined white band on a shiny blue background. It is not rare in lowland evergreen forest, being a bit scarcer in dense mixed deciduous forest, and only just penetrating the lower levels of the subtropical evergreen forests. It never ventures away from forest. It comes less frequently to water than do the two preceding species, and it seems disinterested in bird droppings. It is very fond of sweat, though, and often settled on my shirt or shoulder bag both in India and in Thailand. The flight is very weak and the butterfly is rather unobtrusive. It is found in Sri Lanka and in South India, recurring from Assam to practically the entire Oriental region and New Guinea.

054. *Tarucus ananda* de Nicéville

The DARK PIERROT is quite a unique little butterfly and I cannot help wondering whether it does not need a genus of its own. It is very scarce in the Nilgiris. In September 1883 Hampson took a long series on the northern slopes, presumably in the Oucherlony Valley area (5000 ft). Wynter-Blyth failed to procure it. I have taken a few at water in the forests below Glenburn on two occasions only (12.vi and 15.viii). Near Karkala in Kanara I found a tall jungle tree which was infested with this

butterfly. Every second or third leaf had one or more larvae and hundreds of battered imagines were flying about. A vicious small ant was in agitated attendance. The tree was a big-leaved evergreen and successive generations of larvae had removed more than 25% of all the chlorophyll, carefully avoiding damage to the leaf membranes. Seriously damaged leaves were eaten to the point that they resemble the *Peepal* leaves from which painted souvenirs are made in northern India. It is amazing that such a tiny butterfly could do so much damage. The species is found only in southern India, and then again from Nepal east to Burma.

055. *Tarucus nara* Kollar

(*T. nara*, *T. extricatus*, & *T. alteratus*)

Despite the fact that the male genitalia always give a firm determination in the Blue Pierrot group, they have always been the victims of great confusion. The STRIPED PIERROT is a common Indian butterfly of the drier tracts and it is quite frequently met with at the foot of the northern and southern slopes of the Nilgiris, nearly always where *Zizyphus nummularia*, the larval food plant, grows. Very occasionally one may find *Castalius rosimon* on the same plants, though their ranges do not overlap much. The *Tarucus* are essentially cremic butterflies of the subdesert zone that stretches from Mauritania through Arabia to NW India. The present species is endemic to India and Sri Lanka.

056. *Tarucus callinara* Butler

The SPOTTED PIERROT is very similar to the preceding one, but there is a clear tendency that the black markings on the underside have a more macular shape. This is especially true for the submarginal series. The only records of this species that I have from anywhere in southern India are my own from Masinagudi

(9.vi and 18.x). Evans (1955) does not mention it from much south of Madhya Pradesh where I have found it quite widespread. It is perhaps not surprising that other firm records are not available since older literature is confused about the genus. Hampson does describe specimens that sound as if they are genuinely *T. callinara*. In habits they do not differ from the preceding species. The distribution covers the area from India to Burma, and it has recently been found also in Thailand (*pers. obs. unpublished*, from Kanchanaburi).

057. *Syntarucus plinius* Fabricius

This is the only Oriental species of an essentially African genus and it appears to be phylogenetically closest to *Syntarucus babaoulti* Stempffer, based on genital morphology, the only certain way of telling species in the genus apart. The species is common more or less everywhere, though essentially tied to the open and dried biotopes. It is also somewhat periodical and may go missing for months in places where it was previously common. It does not penetrate the densest wet evergreen forests or the plateau *sholas*, but otherwise it may turn up anywhere. It has a wide range of larval food plants but I have always found *Plumbago zeylonica* to be exceptionally attractive to this and to some of the African species. The adult butterfly visits flowers and wet patches. It covers most of the Oriental region, but seems to be absent from Malaysia.

058. *Azanus ubaldus* Cramer

The BRIGHT BABUL BLUE is an Afrotropical butterfly that has penetrated the Indian sub-continent and Sri Lanka. Hampson thought it 'rather rare, 1000 to 7000 ft'. Wynter-Blyth found it common on the southern slopes to the very top of the hills. I have seen it frequently at water on both the northern and the southern slopes, especially during the dry

season, but only at low levels. The species is a known migrant and probably of somewhat erratic occurrence. It may also be met on flowering *Acacia* in some numbers. No one seems to have come across the rather similar *Azanus uranus* Butler in the Nilgiris. The two fly together in Delhi and the latter is definitely a valid species and not a form of *A. ubaldus* (Larsen 1987a). It ought to occur in the area. *A. ubaldus* is found throughout the drier parts of Sri Lanka and India, the main range encompassing all of Arabia and Africa.

059. *Azanus jesous* Guérin-Ménéville

The AFRICAN BABUL BLUE is not common in the Nilgiris. Hampson thought it rare at low levels. Wynter-Blyth found it common at Kallar in November, 1941 but did not otherwise see it. I have found moderate numbers at Masinagudi on various occasions (esp. 9.vi and 18.x), collected a few at Kallar (23.v) and found it common at Ronningtown (25.v). It would appear to share with many other migrants a degree of unpredictability. Most of my specimens have been seen at damp patches with a dozen or so other Lycaenids, but it may also be caught on the flowers of *Acacia*. The distribution covers most of Sri Lanka, India, Arabia and Africa, with slight penetration of the hotter parts of the Mediterranean.

060. *Everes lacturnus syntala* Cantlie
(*Everes parrhasius*)

The INDIAN CUPID (a poor common name given the vast range of the species) is not rare at lower levels in the Nilgiris, penetrating also the subtropical zone. It comes readily to flowers and water and is most frequently seen during the dry season. The species appears to be somewhat migratory. It was common in a Delhi Park during 1984, from where it had never been recorded, but was missing from this

locality in 1985 (Larsen 1987a). It is mainly found in the drier lowland formations, including the savannas at Masinagudi. The genus is essentially Palaearctic, but *E. lacturnus* covers the entire Oriental region, New Guinea and Australia.

061. **Udara akasa mavisa** Fruhstorfer
(*Lycaenopsis akasa*)

In the *Lycaenopsis* group of genera I follow the recent monumental work of Eliot & Kawazoe (1983), though possibly their generic level splitting is somewhat excessive. The WHITE HEDGE BLUE is a common little butterfly everywhere on the plateau, even some distance from forest. Though tiny and weak in flight they manage to cover considerable distances. The species descends through the dense evergreen forests of the subtropical zone and may be found at quite low levels in wet evergreen forest such as at Nadgani. Mostly it is seen patrolling tirelessly along forest roads or edges, often stopping to feed from flowers. I never saw it at water. It is also found in Sri Lanka where it is quite rare and then recurs in the montane zones of Malaysia and Vietnam, a very strongly disjunct pattern for such a small butterfly. It extends further to Sumatra, Java and the Lesser Sunda Islands.

062. **Acytolepis puspa felderi** Toxopeus
(*Lycaenopsis puspa*)

The COMMON HEDGE BLUE male has a white disc otherwise only found in the very similar *Celatoxia albidisca*. The former is a low level species found in wet forest to the mixed deciduous, being unable to survive in thorn forest or agricultural lands. The latter is essentially montane and the two have only the most fleeting zone of overlap in parts of the subtropical zone and are rarely found together. *A. puspa* is a more robust insect with less precise black markings on the underside. It is

an avid mudpuddler that also visits bird droppings and fresh cowpats. I have rarely encountered any on flowers. It is found in forested country from Sri Lanka, through India to most of the Oriental region.

063. **Acytolepis lilacea lilacea** Hampson
(*Lycaenopsis lilacea*)

HAMPSON'S HEDGE BLUE is a rare little butterfly which is found in Sri Lanka and South India (Palnis, Nilgiris and Coorg). It occurs everywhere with *Acytolepis puspa* in lowland forest, just penetrating the subtropical zone, but it is very much scarcer. I have specimens from Nadgani, Kotagiri Ghat and Glenburn, while Wynter-Blyth took it at Kallar. On the wing it is difficult to tell from *A. puspa* though the male lacks any white on the disc of the forewings. The broad black border of the forewing upperside will serve to distinguish it from *Celastrina lavendularis*. Apart from the populations of South India and Sri Lanka the species is found in parts of Indo-China and Burma. Till quite recently it was considered endemic to southern India and Sri Lanka.

064. **Celatoxia albidisca** Moore
(*Lycaenopsis albidisca*)

The WHITEDISC HEDGE BLUE is endemic to the hills of southern India where it is common along the edges of and in clearings within the typical montane *sholas*. It may descend to the subtropical zone but is then very much scarcer. Occasional wandering specimens may be seen flying in open country. Inside *sholas* the butterflies are often seen flying high among the tangled crowns, but not infrequently it will come to flowing water, even on a cool day. I have found this to be the case for certain other montane species such as *Parantica nilgiriensis*, the Sumatran *Euploea martini* and many montane butterflies in Papua New Guinea. It is rarely seen on flowers.

065. *Celastrina lavendularis lavendularis*

Moore

(*Lycaenopsis lavendularis*)

The PLAIN HEDGE BLUE lacks the white discs of the previous montane species. According to Wynter-Blyth it is a common species above 1500 m, especially in montane *sholas*, but I never met with it. In all likelihood it is at the trough of a cyclical decline. Col. Eliot recently told me that such cyclical variation occurred in some Malaysian montane members of the group. The species is found practically throughout the Oriental region.

066. *Neopithecops zalmora dharma* Moore

The QUAKER is a characteristic little butterfly that is common in the lowland evergreen forests, penetrating the mixed deciduous and the subtropical evergreen, and showing some ability to colonise agricultural land if *Glycosmis*, one of the rutaceous larval food plants, is present in quantity. It may be very common in the agricultural area at Kallar. It must be one of the weakest butterflies on the wing, fluttering helplessly about in low vegetation. The black upperside and the white underside lead to a peculiar flickering flight profile. Flowers do not seem to hold much attraction for the species, but it avidly visits damp patches. The distribution covers Sri Lanka, the Western and Eastern Ghats, and then from Kumaon east to practically the whole of the Oriental region.

067. *Megisba malaya twaithesi* Moore

The MALAYAN is a species of dense lowland evergreen forest that is surprisingly rare in the Nilgiris. Wynter-Blyth caught only one, at Nadgani. I have taken three in this locality in July, September and October. I have single males from the Glenburn area from 4.vii and 1.x. The South Indian and Sri Lankan subspecies is untailed. The species is tailed in

most of the Oriental region, but untailed forms recur towards the Papuan subregion. It is an avid mudpuddler, being partial also to bird droppings, otter dung and fresh cowpats. The distribution covers practically the entire Oriental region.

068. *Zizeeria maha ossa* Swinhoe

The PALE GRASS BLUE is generally by far the most common of the four Grass Blues in South India and may be found practically anywhere, even on paths in primary wet evergreen forest. It is often abundant in tea and coffee plantations because one of the larval food plants, *Oxalis*, seems to do well here despite the heavy application of weedicides and pesticides. It is found in India and Sri Lanka, extending east to Hong Kong and the Philippines, but not southeast to the core of the Oriental region.

069. *Zizeeria karsandra karsandra* Moore

The DARK GRASS BLUE is scarcer in the Nilgiris than it is in many other parts of India, but localised colonies may occur practically anywhere in the area. Most of my own records are from low levels, but Wynter-Blyth recorded it from as high as 8000 ft. This tiny insect has a wholly disproportionate range, being found from Australia to Algeria where it merges with the African vicariant, *Z. knysna* Trimen.

070. *Zizina otis decreta* Butler

(*Zizeeria otis*)

The LESSER GRASS BLUE needs collecting in order to tell it apart from *Z. karsandra* with complete certainty, and I have not been diligent enough in so doing. Wynter-Blyth records it from up to 2000 m, but my own highest records are from about 1500 m. It is an unobtrusive little butterfly rarely flying more than a few centimetres above the ground. Like

the other Grass Blues it is fond of feeding from the flowers of the *Tridax* weed. There are three sister species in this complex which probably demand a modern review: *Z. otis* throughout the Oriental region; *Z. labradus* Godart in the Australian subregion; and *Z. antanossa* Mabille throughout Africa.

071. ***Zizula hylax hylax* Fabricius**
(*Zizeeria gaika*)

The TINY GRASS BLUE is very variable in size. Small specimens vie with *Freyeria trochylus putli* for the title of the smallest Indian butterfly, while large specimens are often larger than the other Grass Blues. It is worth mentioning that when at rest the butterfly often waggles its wings from side to side in a way that I have not seen in any other Lycaenid; the same behaviour has been observed in Arabia. The species may be found anywhere in the Nilgiris and may be locally very common. Wynter-Blyth considered it to be mainly a low-level species that was scarce on the lower plateau. On 20.v I found it to be very common on dry, open grassland surrounding the Mukurti dam. Indeed, the ecological tolerance and the geographic distribution of this tiny insect is truly amazing. The larval food stuffs are many, some of which highly unusual for the subfamily. It is found throughout Africa and Arabia, from India throughout the Oriental region, and then through New Guinea to the New Hebrides.

072. ***Chilades laius laius* Cramer**

The LIME BLUE is fairly common at low levels in all types of country, but I have never seen it in abundance. For long periods it may be missing in areas where it used to be common. The seasonal difference is very considerable, but I did not find any very good correlation between the occurrence of these forms and actual weather conditions. The

species visits both flowers and damp patches in the company of other Lycaenids and is not easy to identify on the wing. The larvae feed on the young shoots of *Citrus* and perhaps other rutaceous plants. This is so unusual that I was inclined to think it more likely that the larvae were carnivorous, but I found them on fresh *Citrus* at the government fruit garden at Kallar. The range covers the northern parts of the Oriental region from Sri Lanka to the Philippines but not Sundaland proper.

073. ***Chilades parrhasius* Fabricius**
(*Euchrysops contracta* & *E. minuta*)

The SMALL CUPID has had an unfortunate nomenclatural and taxonomic existence, having been quite wrongly placed in the genus *Euchrysops* and confused in name with the species now known as *Everes lacturnus*. The confusion may not be over. Nekrutenko (1984) erected the new genus *Lachides* for among others this species and retrieves the name *contracta*. The paper is in Russian and I have still not been able to check personally. The butterfly is the one linked to the very driest tracts; it is one of the most common butterflies in Delhi. My only Nilgiri records are from Masinagudi and Ronningtown, just the type of localities where it was to be expected. It is fond of flowers and comes freely to damp patches. The distribution covers the Indian subcontinent, parts of Afghanistan and southern Russia, Iran and the Arabian peninsula.

074. ***Chilades pandava pandava* Horsfield**
(*Euchrysops pandava*)

The PLAINS CUPID is rather seasonal and quite erratic of occurrence, though it is often common in the wetter lowland forest tracts. There is, hardly any overlap between this species and the preceding one. I have met with it at Kallar, where it is intermittent, and at the lower end of the

Nadgani Ghat where it may be very common indeed. While not being averse to joining in the normal communal mudpuddling assemblages, the species often forms large, dense assemblies consisting exclusively of this species, often in shady places. It is more attracted to foul substances than most species of its group. The distribution is from Sri Lanka to Sunda-land.

075. ***Freyeria trochylus putli*** Kollar
(*Zizeeria putli*)

The GRASS JEWEL shares with *Zizula hylax* the distinction of being the smallest Indian butterfly. It is found in open places practically throughout the Nilgiris though it is essentially a dry zone species. It is rather local, very easily overlooked, and probably under reported. With one exception all specimens I have seen match ssp. *putli*: it differs from the nominate subspecies in being darker, usually having more elongated wings, lacking the red anal spots of the hindwing upperside, and in having one or two extra silver-centered black spots along the hindwing underside margin. However, a single large specimen from as improbable a place as the Nadgani Ghat in all respects matches the nominate form. Despite much searching no more could be found in the area. The range is grossly at odds with the size of the butterfly and somewhat enigmatic. It occurs throughout Africa, in the eastern Mediterranean and much of the Middle East to Pakistan and NW India. Ssp. *putli* covers the Indian subcontinent and Sri Lanka, very selected parts of the Oriental region, parts of New Guinea and northeastern Australia.

076. ***Euchrysops cnejus cnejus*** Fabricius

The GRAM BLUE is a dry zone butterfly that

is an effective coloniser of agricultural lands where it is usually more common than in natural habitats. It may be found practically anywhere in the Nilgiris, though it tends to avoid the densest lowland evergreen forests. It was one of the few butterflies actually resident at my Kotagiri compound. It is fond of flowers and comes readily to water. Its habits are unexceptional. The distribution covers the whole of the Oriental region, extending to Australia and deep into the Pacific. Eliot (1978) repeats the old records from Aden which are due to taxonomic and nomenclatural mix-ups with the African *E. osiris*.

077. ***Catochrysops strabo strabo*** Fabricius

The FORGET-ME-NOT is not rare at low levels in the Nilgiris flying mainly along roadsides and visiting flowers and damp patches. It seems to be at its most common during the dry season. In behaviour it is very much like the other members of the subfamily in the genera *Euchrysops* and *Chilades*. The distribution covers practically the entire Oriental region. There is an additional species in Sri Lanka in the form of *Catochrysops panormus lithargyria* Moore which has a somewhat lighter hue. This species also occurs in Asia proper and its absence from South India is puzzling. It would be well worth keeping a look out for it. However, Tite (1959) does not mention it, and there is certainly no South Indian material in the British Museum (Natural History).

078. ***Lampides boeticus*** Linné

The PEA BLUE (the English name, the Long-Tailed Blue, is quite unsuitable to Indian conditions) is found everywhere, at

all levels, most of the year. It is not, however, invariably as common as is often suggested, neither in the Nilgiris, nor elsewhere in India. Its frequency is probably mediated in part by migration, and I have seen small numbers as part of the October 1986 migration in Kotagiri. When the exotic *Cytisus* and *Genista* bloom on the Ooty downs the butterfly may be phenomenally common. It comes to flowers and occasionally to water. The larval food plants are many and varied, and it is sometimes a real pest on cultivated peas and beans. It is found right through the tropics of the old world, penetrating well into the Palaearctic region during summer, reaching England regularly but in small numbers.

079. **Jamides bochus bochus** Cramer

The DARK CERULEAN is an unmistakable butterfly. The blue of the male upperside is more intense than possibly in some Neotropical *Morpho*. In flight it looks like a series of metallic blue flashes. It is widely distributed below the plateau level except in the very driest tracts, but since it is a persistent migrant, it may be found even there. In the late 1950ies I saw a definite directional migration towards the east at Kotagiri. It visits flowers intermittently, usually those of its very varied leguminose larval food plants. Damp patches are visited only sporadically. Much of the time is taken up with simply sitting on leaves in a shady spot. The flight is faster, higher and more erratic than in the two following species of *Jamides*.

080. **Jamides celeno aelianus** Fabricius

The COMMON CERULEAN is one of the most common butterflies of the lowland tracts in the Nilgiris, from the driest to the wettest, but most happy where there is a plentiful supply

of the main larval food plant, *Pongamia glabra*. In the savanna forests it is mainly found along streams. It becomes progressively scarcer as one moves up through the subtropical zone, and it is a rare visitor to the actual plateau where Wynter-Blyth recorded it as high as 7500 ft. The larvae are not gregarious but often so crowded that several are found on each leaf of the food plant. They are avidly attended by ants. Both sexes visit flowers and males will come to water, but not with any obsessional zeal like so many other Lycaenids. The flight is weak and fluttering and it is often possible to mistake the species for something more interesting than it is. The distribution covers the whole of the Oriental region to New Guinea.

081. **Jamides alecto alocina** Swinhoe

The METALLIC CERULEAN flies with the Common Cerulean but only in the wetter lowland tracts where its somewhat unusual food plant, cardamom, grows. It has been recorded as a serious pest of this valuable crop, but this does not seem to be a problem in the Nilgiris according to many planters with whom I spoke. The species is quite rare in the Nilgiris and I only obtained three at Glenburn, Mukkali and in the Wynaad. I saw well over a dozen in evergreen forest in the Bili-giriranga Mountains during one day. There is normally no difficulty in telling the two species apart even on the wing. *J. alecto* is much darker and much more brilliant in colour than its close relative, which often looks more white than blue. The range is more restricted than that of the Common Cerulean, being limited to Sri Lanka and South India, then from Nepal to Malaysia. It is interesting that Sri Lanka should have additional species of this genus that do not occur in India.

Nacaduba and related genera

The members of the genus *Nacaduba* at first sight appear somewhat confusing and since their distribution according to Wynter-Blyth is not fully correct, a brief summary will be given here:

Two species, the FOUR LINE BLUES, lack the lines at the base of the forewing underside. Of these *N. hermus* is very much darker than *N. pactolus* whose delicate violet is semi-transparent so that the lines of the underside are faintly visible on the upperside.

Four species belong to the Six-Line Blues, all of which are tailed, and only two of which are listed as South Indian by Wynter-Blyth. *N. kurava* is rather large, with somewhat pointed wings, and a delicate violet ground colour which permits the underside lines to be faintly visible. *N. beroe* and *N. berenice* are smaller and both have more rounded wings; the ground colour is a denser violet and in *N. beroe* the male forewing is clearly overlaid with fuzzy androconial scales that are entirely missing in *N. berenice*. The last species, *N. calauria*, is a dark steely blue, reminiscent of that of *N. hermus*.

The three members of the genus *Prosotas* are only half the size of the *Nacaduba* proper. Of these *P. nora* is tailed while *P. dubiosa* differs mainly in being untailed. The rare *P. noreia* can be told from the others by two characters in the male sex: The cilia of the forewing apical margin is white, and the basal band of the forewing underside is confined to the cell.

The two species assigned to the genera *Ionolyce* and *Petrelaea* cannot be confused with other species.

082. ***Nacaduba pactolus continentalis***
Fruhstorfer

The LARGE FOUR LINE BLUE is decidedly

scarce in the Nilgiris though it has been recorded from Wenlock Bridge, Kallar and Nadgani. Gordon Thompson collected a fine male at Kallar on 2.vi.1986 but we never saw additional specimens. It appears to be a species of the denser forest formations at moderate to medium heights, but too few records are on hand. It is found in Sri Lanka and South India, extending to Hainan and Java in the Oriental region.

083. ***Nacaduba hermus hermus*** Felder & Felder

I follow Tite (1963) in allocating the South Indian population to the nominate subspecies. The names *nabo*, *sidoma* and *viola* have also been applied. In the Nilgiris, at least, the species tends to be smaller and darker than the previous one. It is quite rare, turning up here and there in dense tropical or subtropical forest. Wynter-Blyth found it just below Coonoor and at Nadgani in both of which localities I have also taken it. Apart from that I have some from the middle level of the Coonoor Ghat. It is somewhat darker on the wing than the more common *N. kurava* but they share roughly the same habits, including a very fast flight for such a relatively weak looking butterfly. The range covers Sri Lanka and South India, then from Assam to Malaysia and the Philippines.

084. ***Nacaduba kurava canaraica*** Toxopeus

The TRANSPARENT SIX LINE BLUE is relatively large, with somewhat pointed wings and with the underside pattern showing faintly through the blue ground colour. It is not easily confused with any other species. It is more common than the two Four Line Blues but rarely met with in more than one or twos. The habitat is evergreen forest at all levels from the plateau *sholas* to the foot of Nadgani

Ghat. Occasionally specimens are also found in mixed deciduous forest. Inside the forest specimens fly very fast about naked twigs on which they settle from time to time. The flight is very powerful. They settle avidly on bird droppings and are occasionally found on damp patches. The range covers practically the entire Oriental region in a number of subspecies.

085. **Nacaduba calauria evansi** Toxopeus

The DARK CEYLON SIX LINE BLUE is very like a specimen of *N. hermus* with additional basal lines on the forewing underside, and much darker than the following two species which also tend to be of a lighter violet hue. I collected one specimen of this butterfly at water at the upper reaches of the Nadgani Ghat near the TN/Kerala border. I have not previously seen records of this butterfly from South India; normally it is considered a Sri Lankan speciality in the Indian area. The genitalia of my single specimen match those of Malaysian and Sri Lankan specimens and there can be no doubt about the determination. There are a few battered specimens from the Western Ghats in the British Museum (Natural History) which appear to pertain to this species which must be very rare indeed in South India to have escaped positive identification for so long. Apart from South India and Sri Lanka the species occurs in Malaysia and Sundaland but seems to be scarce everywhere.

086. **Nacaduba beroe gythion** Fruhstorfer

The OPAQUE SIX LINE BLUE has rounded wings of a shining light violet and resembles the next species except that the wings are covered with hair-like androconial scales that are readily visible with a small hand lens, at least in fresh specimens. The distribution in the Nilgiris is essentially in evergreen and

mixed deciduous forest at low to medium heights. Most of my specimens have been collected at damp patches on roads and along rivers and I cannot say much about the habits except that bird droppings are visited. *N. beroe* extends into the Oriental Region at least as far as the Philippines and Java. It is found also in Sri Lanka.

087. **Nacaduba berenice ormistoni** Toxopeus

The ROUNDED SIX LINE BLUE is very much like the preceding species except that the wings lack the special, prominent androconial scales, but the genitalia are very different. Very worn specimens are accordingly not easy to determine without dissection. I have seen no records of this butterfly from southern India though it is common in Sri Lanka and its absence from our area would have been surprising. In the event I have a small series from mixed deciduous forest on the Kotagiri Ghat and my impression is that it is less of an evergreen forest species than most of the other *Nacaduba*. Despite the lack of written records there are many South Indian specimens in the British Museum (Natural History). However, I did not find the species common. The species is found throughout the Oriental region and beyond.

088. **Ionolyce helicon viola** Moore
(*Nacaduba helicon*)

The unmistakable POINTED LINE BLUE is very rare in the Nilgiris. No other Nilgiri Lycaenid has so pointed forewings, and there are also differences in the underside patterns. Hampson notes it from about 3000 ft. Wynter-Blyth took a single male at water near Kallar (31.vii.1941). I failed to see it even once. The forewing is so pointed that it would be impossible to confuse a specimen even in a large assemblage of mudpuddling Lycaenidae. It is found in Sri Lanka, South India, and then

from Sikkim east to most of the Oriental region and beyond to the Moluccas and Australia.

089. **Prosotas nora nora** Felder & Felder
(*Nacaduba nora*)

The COMMON LINE BLUE is sometimes by far the most abundant butterfly in the lower parts of the Nilgiris, vast swarms being found on wet roads in the mornings, especially during the dry season. Often the closely related *P. dubiosa* is almost as common. When not coming to water the butterflies are very inconspicuous sitting around on broad leaves or on the food plants, species of thorny climbing *Acacia*-type plants that wreak havoc with a butterfly net. They visit the flowers of these plants but otherwise do not seem interested in flowers to any great extent. The underside of this tailed species often has a distinctly ochreous hue. The females are rarely seen though I have taken one or two at water. The distribution of this tiny butterfly spans the entire Oriental region, as well as New Guinea and parts of Australia.

090. **Prosotas dubiosa indica** Evans
(*Nacaduba dubiosa*)

But for the lack of tails the TAILLESS LINE BLUE is practically identical with *P. nora* and it is almost as common, sharing the same range and habits. For long it was considered simply a tailless variety, but it is certainly a distinct species. It is less tolerant of extreme arid conditions and in places like Masinagudi *P. nora* is sometimes the only representative of the two. The range covers most of the Oriental region to as far east as Fiji.

091. **Prosotas noreia hampsoni** de Nicéville
(*Nacaduba noreia*)

The WHITE TIPPED LINE BLUE may be recognised by two standard indicators: the fringe of the apical area of the forewing when seen

against a black background is white; and the basal pair of lunules on the forewing underside does not extend beyond the cell. However, the general aspect of the butterfly is also somewhat different from the two common species. My only specimen was sitting in a big mudpuddling assemblage but I had no difficulty in marking it out as something potentially interesting. Hampson thought it 'fairly common', but he seems to have confused some of his Line Blues. Wynter-Blyth did not find it, and my only record is a male from Kotagiri Ghat (19.v). It genuinely seems to be very rare and is so considered also in Sri Lanka and at Coorg. It is found over much of the Oriental region as far east as Java but is generally rare.

092. **Petrolaea dana dana** de Nicéville
(*Nacaduba dana*)

The DINGY LINE BLUE does not have all that much in common with *Prosotas* and *Nacaduba* and is readily identified. Though Hampson called it common this is not in line with subsequent experience. Wynter-Blyth caught one at Ketti and three at Kallar. I have just one from the Kotagiri Ghat (iv.86) in mixed deciduous forest. I have taken it under similar circumstances at Dhimbam in the Biligiriranga Mountains (30.viii), both specimens being caught at damp patches. The behaviour does not seem to differ much from the other Line Blues. It is found in Sri Lanka and in South India, then from Kumaon eastwards to New Guinea via Sundaland. Its absence from the book on Thailand's butterflies (Boonsong *et al.* 1977) must surely be an oversight.

LYCAENESTHINI

093. **Anthene emolus emolus** Felder & Felder
(*Lycaenesthes emolus*)

The CILIATE BLUE seems very rare in the Nilgiris where both Hampson and Wynter-Blyth failed to obtain it, though the latter

located a specimen in the collections of the Bombay Natural History Society. I have taken half a dozen males in all on three different dates at the foot of the Nadgani Ghat. Its rarity in the Nilgiris is particularly hard to understand since it is quite common in many localities on the Eastern Ghats in Orissa and in the Himalayan foothills from Nepal eastwards. It flies east to Sundaland, but does not reach the Philippines or Sri Lanka as does the other South Indian member of the genus.

094. ***Anthene lycaenina lycaenina*** Hewitson
(*Lycaenesthes lycaenina*)

The POINTED CILIATE BLUE is quite common in most types of lowland forest during the dry season, but becomes decidedly scarce during the rainy months. It rarely occurs in disturbed habitats. Normally it is only collected when visiting damp patches and, occasionally, flowers. The flight of both the *Anthene* is noticeably faster than that of most other Polyommatainae and when seeing a horde of them flying around a puddling spot, there is usually no problem in picking out the *Anthene*. Females are very rarely seen. The genus is strongly centred on Africa, but the two Indian species have an Oriental distribution. *A. lycaenina* is found in Sri Lanka and South India, in Orissa, and then from Nepal east to the Philippines and Sundaland. Tite (1966) provides an excellent overview of the genus.

095. ***Talicauda nyseus nyseus*** Guérin-Ménéville

The RED PIERROT is a most amazing little butterfly, the only member of its genus, with a colour pattern that is totally different from any other butterfly that I know. Perhaps *Luthrodes cleotas* Guérin-Ménéville from New Guinea is a partial exception; though its ground colour is blue rather than black it shares the red hindwing patch and the basic underside pattern. It is placed last among the Poly-

ommataini since I am uncertain of its exact status within the group. The butterfly is locally abundant from the foot of the Ghats to the highest peaks, accepting a rainfall regime from 500 to 6000 mm. I have seen it on the streets of Colaba in Bombay. Its only ecological requirement seems to be the presence of crassulaceous plants such as *Kalanchoe* and *Bryophyllum*. The young larvae tunnel inside these plants, only emerging from the fleshy leaves when more food is needed. The excreta are not evacuated and the larva lives in a frightful mess. Pupation takes place on the leaf of the food plant. The flight is slow and deliberate, the crimson patches of the hindwings being most visible. The suggestion that it is a protected species is difficult to escape. There are two main centres of distribution. The nominate subspecies is in peninsular India south of Bombay and Orissa. Two other subspecies are found in Assam and Burma.

THECLINAE

ARHOPALINI

096. ***Arhopala pseudocentaurus pirama***
Moore
(*Amblypodia centaurus*)

The WESTERN CENTAUR OAKBLUE is the largest South Indian Lycaenid and, though rather rare, among the most common of the genus in the Nilgiris. The somewhat similar *Arhopala amantes* may be recognised by the presence of well-developed tornal lobes on the hindwings which on the underside have green metallic shading. For application of the names *centaurus* and *pseudocentaurus* see Eliot (1978) for analysis of the tangled story. I have met this butterfly on a number of occasions on the lower reaches of the Nadgani Ghat but never in quantity. There is also a record from Kallar where I think I have seen it as well.

The adult butterfly spends most of its time sitting on broad leaves quite high up and is not much on the wing and then usually making the briefest of flights. Beating the vegetation with a long stick is the best way of flushing it out. Oakblues occasionally come to damp patches but not to flowers, but I have not seen this species at water. The larvae are beautifully camouflaged in green and brown, but their presence is inevitably revealed since they are covered by up to thirty large red tailor ants of the genus *Oecophylla*. Larvae which I brought home died in the absence of ants. The species is found in the wettest parts of South India and Sri Lanka, then from Kumaon east to the Philippines and Sundaland, being replaced by *A. pseudocentaurus* in the Papuan subregion.

097. ***Arhopala amantes amantes* Moore**
(*Amblypodia amantes*)

The LARGE OAKBLUE is fairly uncommon but, though I did not often see it, probably marginally more common than the preceding species. There are records from Kallar, Burliar, Coonoor Ghat, Kotagiri Ghat and the Nadgani area. It may turn up in evergreen forest of both the tropical and the subtropical variety as well as in mixed deciduous. It has a most irritating habit of alighting at a damp spot for just a split second, then racing off to investigate another one. As is the case with other Oakblues, flowers hold no attraction, but apparently sap exudations are sometimes visited. It is found in suitable forests in Sri Lanka and much of India, extending east to Burma and Thailand. I once found it very common in Corbett National Park in U.P.

098. ***Arhopala canaraica* Moore**
(*Amblypodia canaraica*)

The KANARA OAKBLUE seems to be a very rare butterfly of the lower reaches of the Western Ghats system, and the only Nilgiri

records are by Hampson from the northern slopes. It is smaller than the two preceding species and the male has a black border of 1 mm. The very rare Tamil Oakblue (*Arhopala bazaloides*) is also to be expected. Its ground colour is more purple than in the other three and the black border of the male is 2 mm broad. I never came across either in the Nilgiris, but I did collect a few *A. canaraica* near Karkala in South Kanara. The species is only found on the Western Ghats.

099. ***Arhopala abseus indica* Riley**
(*Amblypodia abseus*)

The ABERRANT OAKBLUE is smaller than the others with a characteristic, variegated underside. It must be considered rare in the Nilgiris since the only record is one seen at Kallar by Wynter-Blyth on 28.iii.1943. Apart from a Coorg specimen this was the only record from South India, but it has been seen by A. J. Sharman in the Palnis (Rodericks & Ugarte 1960). It is also rare in Sri Lanka, but much more common from Nepal east to the Philippines and Borneo.

100. ***Thaduka multicaudata kanara* Evans**

The MANY-TAILED OAKBLUE, not closely related to the real Oakblues, is a lovely butterfly with its metallic blue colour and the four fluttering tails. It may not really belong in the Amblypodini. It has the reputation of being everywhere rare to very rare, probably at least partly because it does not fly much spontaneously. I have found it most frequently not in the forest proper but along rivers at the edge of forest. It is not uncommon along the Coonoor and Kotagiri rivers where they join at Kallar and I have seen up to a dozen in a day. Rather surprisingly Wynter-Blyth failed to find it in the Nilgiris. Normally it is necessary to beat it out of low bushes since it never visits flowers and not normally damp patches

either. This is the toughest butterfly I have ever come across. It is practically indestructible. Pinched several times in the traditional way, in a manner that would kill even a Danaid, chances are that it will happily fly off when the envelope is opened several hours later. This type of toughness is normally the prerogative of protected species, but I have also encountered it in the Hesperiid, *Bibasis sena*. The distribution is strongly disjunct, covering the Western Ghats system, Burma and Thailand. The genus is monobasic.

101. ***Surendra quercetorum biplagiata* Butler**

The COMMON ACACIA BLUE is usually a species of the lowland wet zone, which is local, but occasionally common, sometimes very common at Kallar. The male is violet, the female brown. The disposition of the tails differs between the two sexes. The adult butterflies spend much of their time sitting on twigs and fresh shoots, often those infested with ants, and usually head down. Often three to five are found in little clusters, sometimes physically sitting on top of each other. At Kallar they often sat on the flowers of Lantana but paid no attention to nectar. I have seen females at the nectaries of leguminose plants, again in the company of ants, but I was never able to satisfy myself that they really took nourishment. There is not much spontaneous flight activity and any flights are of very short duration. Adult butterflies occasionally bask with the wings three-fourths open. The range covers Sri Lanka and South India, then from about Simla to Indo-China. In Sundaland proper it is replaced by *S. vivarna* whose female is purple.

102. ***Zinaspas todara todara* Moore**

(*Surendra todara*)

The SILVER STREAKED ACACIA BLUE was recorded as common by Hampson, but according

to Yates (1935) this is because he confused it with *Surendra quercetorum*, while recording females of the present species under the name of *Rapala distorta*. Wynter-Blyth failed to find it and I have found it very scarce. I have a specimen from Nadgani Ghat on the TN/Kerala border (12.v) and I have seen it in the moist-deciduous forest of the Wynaad Wildlife Sanctuary. I also have a female from moist-deciduous forest in the Biligiriranga Mountains below the Honametti Estate. The species really does appear to be scarce in South India. The genus is monobasic and the species recurs from Sikkim to Thailand and Malaysia. It is curious that it should not occur in Sri Lanka.

AMBLYPODIINI

103. ***Iraota timoleon arsaces* Fruhstorfer**

The SILVERSTREAK BLUE is one of the most handsome of all the South Indian Lycaenidae and the variegated underside is unmistakable. It is unfortunately rare in the Nilgiris. Hampson mentions it, giving no details, and Wynter-Blyth failed to collect it. Between 16 and 29.vi Gordon Thompson and I took a few specimens on fig trees along the Coonoor river at Kallar and saw quite substantial numbers of very worn specimens. They were probably the progeny of a single female and despite careful monitoring of these trees over the next five months none was seen again. The species appears to be found in hilly country with reasonable rainfall, but not necessarily in evergreen forest. Though the larvae will feed on most species of *Ficus* the butterfly is very local. Perhaps some special combination of figs and attendant ants are needed. It is rare in Sri Lanka, fitfully distributed and not normally common in peninsular India, then from Simla east to southern China, Hong Kong and Malaysia. Other members of the genus popu-

late the remainder of the Oriental region.

104. *Amblypodia anita dina* Horsfield
(*Horsfieldia anita*)

The LEAF BLUE is decidedly rare in the Nilgiris having been recorded only by Hampson. Possibly the climate is on the wet side since the species is not uncommon in the drier jungles of eastern Madhya Pradesh and Chota Nagpur. It will only be found in reasonably undisturbed jungle and is an insect that does not take to the wing very often. It may be met with in some numbers on damp patches and sometimes on carrion or bird droppings. The shape and underside pattern is a miniature replica of that of the *Kallima* butterflies. The range is from Sri Lanka, through suitable places in peninsular India to Malaysia and Java. Other members of this small and compact genus are to be found in the remainder of the Oriental region and in the Papuan subregion.

APHNAEINI

105. *Spindasis vulcanus vulcanus* Fabricius

The COMMON SILVERLINE is a species of open lowland country which I have taken at Kallar, Mettupalayam, Kotagiri Ghat and Masinagudi. The orange markings of the forewing upperside are generally well developed in both sexes in contrast to *S. schistacea*. Wynter-Blyth found it very common on the lower plateau near Ketti in November and December. I think he must have chanced upon an exceptional situation. All the *Spindasis* are somewhat unpredictable in their occurrence and frequency and though usually not numerous there may be temporary abundance (thus at Gir Forest in Gujarat in October 1986 I saw more *S. elima*, *S. vulcanus* and *S. ictis* during one day than throughout four years of collecting in all of India). The flight is extremely

rapid and how courting couples manage to maintain visual contact during their frenzied courtship flights is a source of wonder. However, the members of genus are fond of flowers, not least *Tridax*, and are then easily netted. The species is endemic to Sri Lanka and the Indian subcontinent.

106. *Spindasis schistacea* Moore

The PLUMBEOUS SILVERLINE is very similar to the Common Silverline but normally the males have obscured orange markings on the forewing upperside and a small patch of shot blue scales in the tornal area of the hindwings. My only female is a silvery grey and very different from any other *Spindasis* I have seen. *S. schistacea* seems to be found in more mesic country than *S. vulcanus* and I have taken it at Nadgani, Kallar and the forests below Glenburn, as well as at Sholayar in the Annamalais. The habits are those of the genus. The species is endemic to peninsular India and Sri Lanka.

107. *Spindasis ictis ictis* Hewitson

The SHOT SILVERLINE is scarce in the Nilgiris area and was not mentioned by Hampson or Wynter-Blyth. It does figure in the revised Nilgiri list of Yates (1935) though with no supporting data. It is one of the most seasonally variable butterflies that I know of, extreme dry season forms lacking most trace of the normal bands on the underside. I have taken it at Masinagudi on two occasions: a dry season form on 18.v and a wet season form on 9.vi in the very same spot. Though many Silverlines live in dry habitats they never frequent damp patches. The species is endemic to the Indian peninsula and Sri Lanka.

108. *Spindasis elima elima* Moore

Hampson recorded the SCARCE SHOT SILVERLINE as 'common, 2000-4000 ft' with no addi-

tional detail. This is not in accord with subsequent data. Wynter-Blyth records a single specimen from Kallar, and I have failed to find it. I did see hundreds in so unlikely a place as the Gir Lion Sanctuary in Gujarat. Moore's names *trifurcata* and *lunulifera* have been used instead of *elima* by some authors, but given the virtual absence of Nilgiri material I have not looked into the matter. The species is endemic to Sri Lanka and peninsular India and is probably mostly associated with slightly less dry habitats than is *S. ictis*.

109. *Spindasis abnormis* Moore

The ABNORMAL SILVERLINE is easily recognised by the fact that most of the usual bands of the underside are obsolete, leaving only the central discal bands with any prominence. It was described after a few Coonoor specimens collected in 1880. A very few were then taken in the Coorg area. Florence found additional specimens near Coonoor early this century since then very little additional material has come to hand. One must assume that this South Indian endemic is strictly localised, and in all probability linked to some fairly obscure species of ant, since the genus has one of the closest symbiotic relationships with ants of all the Lycaenidae.

110. *Spindasis lohita lazularia* Moore

The LONG-BANDED SILVERLINE is perhaps the prettiest of the South Indian members of the genus. The upperside is a deep shot blue with a prominent orange patch at the tornus, though the female is a dull black. It is more of a forest insect than the others and may be found in lowland mixed deciduous forest and in the evergreen formations. It is not very common and I have less than a dozen picked up as single specimens in many localities, usually while feeding from the flowers of *Acacia horrida* and other thorny leguminose plants. Wynter-Blyth doubted its presence in the southern

Nilgiris but I have caught it on the Kotagiri Ghat as well as at Kallar. The range covers Sri Lanka and South India, a few chosen spots in central and eastern India, then from Kumaon east to Taiwan, Hong Kong and Sundaland.

CATAPAECILMATINI

111. *Catapaecilma major callone* Fruhstorfer

The name *myositina* Fruhstorfer is normally associated with the South Indian populations of the COMMON TINSEL, but Cantlie (1962) insists that this should be limited to the Ceylon population which is morphologically different from the South Indian one. Though Hampson called it 'common' the Common Tinsel appears to be relatively scarce in the Nilgiris. Wynter-Blyth failed to find it during four and half years of intensive collecting and I have only taken two in widely separated spots in the Nadgani area. On 1.x.1986, S. Imber found a thriving colony at Kunjapannai in an area I had exploited frequently without seeing the species. Elsewhere it has been taken in a wide variety of habitats, even as high at 1600 m at the St. Catherine's Falls near Kotagiri where I took it in 1956. I took a good series in very dry country in the foothills of the Palnis in July 1984. Wynter-Blyth (1957) adduces evidence that in both Sri Lanka and southern India it has entered a cyclical decline since the 1880ies. I have personally not found any species of *Catapaecilma* common anywhere else in the Oriental region. The species is found in Sri Lanka, South India, along the Eastern Ghats, then from Mussoorie east to Taiwan and south to Malaysia. Other species inhabit the rest of the Oriental region.

LOXURINI

112. *Loxura atymnus atymnus* Cramer

The unmistakable YAMFLY is not rare and sometimes common in the wetter lowland

forest formations, especially where bamboo is present, and it may sometimes be found in the vicinity of villages. Normally the butterfly flutters weakly in the shade but it has a capacity for rapid flight if disturbed or faced with open sunshine. I have not seen them on flowers, but they seem to be attracted to homopteran insects, especially those feeding on their larval food plants, *Smilax* and *Dioscorea*, but I have not positively seen them imbibing the sugary secretions. The inevitable traffic of ants in such places does not disturb the butterflies. The species is found in Sri Lanka, suitable localities on the Indian Peninsula, then east to Sundaland and the Philippines.

CHERITRINI

113. *Cheritra freja freja* Fabricius

The COMMON IMPERIAL may be found in small numbers on the Nadgani Ghat, and in the Nilgiris it seems to be limited to the wettest tracts of lowland evergreen forest. The long tails make confusion with any other South Indian butterfly but the much darker *Binda-hara phocides* impossible. The South Indian population is normally known under the subspecific name of *jaffra*, but Harish Gaonkar has examined the Fabrician type of *freja* in Copenhagen and it is clearly of South Indian origin, like much else of Fabricius' type material. Hampson found it on the western slopes, Wynter-Blyth did not obtain it, while I have seen it on most visits to the Nadgani Ghat. I have never seen it on flowers or at water. Males sometimes perch on a prominent leaf, usually out of reach, sometimes with the wings three-fourths open. From such perches they may launch brief flights. Good specimens are difficult to procure since the tails often break off in the net. In dull weather the butterflies settle under leaves. It is amazing that they

can manage this act without the tails getting in the way. The range covers Sri Lanka and South India, then from Kumaon to Indo-China and Sundaland.

HORAGINI

114. *Rathinda amor* Fabricius

The MONKEY PUZZLE is a very distinctive little butterfly in a monobasic genus that is found only in Sri Lanka, South India and Assam. It is a retiring species that has to be looked for actively in the mixed deciduous forest that constitutes the main habitat. It is usually found sitting on the top of broad leaves, sometimes with the wings three-fourths open basking in the sunshine. When disturbed it will only fly a short distance and the flight is very weak by the normal standards of the Theclinae. The larva is covered in long fleshy tubercles, supposed to give a monkey food for thought and responsible for the English name (!?). The pupa is attached only by the cremaster, lacking the girdle round the thorax. These two traits unite *Rathinda* and *Horaga*.

115. *Horaga onyx cingalensis* Moore

The COMMON ONYX is very rare in the Nilgiris. Hampson recorded it as 'rare', Wynter-Blyth and I failed to find it, though I did see a specimen in the Biligiriranga Mountains. Generally it is found in dense shrub or forest undergrowth, not necessarily that of the wettest types. Thus, it is reputedly not rare in the vicinity of Bangalore. The habits are probably somewhat like those of *Rathinda amor*. The range covers Sri Lanka and South India, then from Kangra east to Taiwan, Hong Kong and Sundaland.

116. *Horaga viola* Moore

The VIOLET ONYX is a rare little butterfly whose exact taxonomic status has been the

subject of considerable discussion. It is very rare in the Nilgiris but it is mentioned in the list by Yates (1935). I have no personal experience of the insect, but it probably frequents slightly more mesic habitats than the preceding species. It is found in Sri Lanka and South India, as well as Burma. It is not mentioned from Thailand by Boonsong *et al.* (1977) and taxonomic and nomenclatural issues make it difficult to say how far it penetrates into the Oriental region (possibly to the Philippines and Sundaland).

ZEZIINI

117. *Zezius chrysomallus* Hübner

The REDSPOT is a very distinctive butterfly in a monobasic genus that is endemic to Sri Lanka and the Indian subcontinent. While local, it is not rare, and may be found in lowland country under a large variety of ecological conditions. It is rare in the Nilgiris, however, Hampson caught a single female and Wynter-Blyth found a single male forewing at Kallar. Over the six months that I spent in the Nilgiris I collected a dozen or so at Kallar with the help of Gordon Thompson. Of these three were males. We sometimes found both sexes sitting on a bush infested with *Oecophylla* ants which are known to tend the larva. Three of the Kallar females were taken at water as was a single specimen at Ronningtown, rather unusual in the Theclinae. A female from the foot of Nadgani Ghat is so different from the others that one would spontaneously consider it a distinct species. The upperside is a more or less uniform dark brown with a coppery sheen instead of powdery blue with broad brown borders. The underside is very dark with the space between the heavily marked lunules filled in with red, contrasting strongly with the lightly marked underside of the usual female. Only the unique disposition of the

spots of the underside and the special arrangement of the tails make it certain that it is a Redspot. It is presumably a product of the extreme humid conditions of the Nadgani locality.

IOLAINI

118. *Ancema blanka argentea* Aurivillius
(*Pratapa blanka*)

The SILVER ROYAL is the first of a series of seven very beautiful strong blues, most of which have eluded me, all being genuinely rare to very rare in the Nilgiris. The underside of the male in this species has a special silver sheen that will distinguish it from all other South Indian species. Yates (1935) records a Nilgiri specimen taken by Stokes-Roberts and Wynter-Blyth collected a single female at Kallar on 22.viii.1941. I did not come across it. It is found in South India, and then from Sikkim to Sundaland.

119. *Creon cleobis cleobis* Godart
(*Pratapa cleobis*)

The BROADTAIL ROYAL is rare at medium heights in the Nilgiris according to Hampson. Wynter-Blyth took a single specimen below Coonoor on 2.x.1942 and there is a record of one from the Gudalur Dak Bungalow (Yates 1935). I caught a fresh male on the flowers of *Polygonum* in my Kotagiri garden on 6.x.1986, a most surprising record as the garden was normally a butterfly desert. The underside is a creamy brown that differs from the other related species. The genus is monobasic and the single species is found in South India and then from Simla east to S. China, Hong Kong and Malaysia.

120. *Pratapa deva deva* Moore

The WHITE ROYAL has been recorded from Kallar and the Mettupalayam Ghat, but I have not come across it. It is found on Sri

Lanka, in South India, through suitable localities in peninsular India to Ambala and east to Sundaland.

121. *Tajuria maculata* Hewitson

The SPOTTED ROYAL with its white underside adorned with large, disjunct black spots is quite unmistakable. Yates (1935) includes it in his list on the basis of a Stokes-Roberts specimen in the de Nicéville collection. All the new records to the Nilgiris based on his material have since been validated by others and the species is so distinctive that it is difficult to see how a labelling error would have survived. Otherwise the range covers the area from Sikkim to Sundaland and there appears to be no geographical differentiation. If it is a genuinely South Indian species a long series from more than one locality is a great desideratum. It could well be an undescribed subspecies.

122. *Tajuria cippus cippus* Fabricius

The PEACOCK ROYAL also seems to be rare in the Nilgiris though generally speaking it is more common than most of the members of this group of genera. It is also much less demanding in habitat choice. Wynter-Blyth failed to find it. I am almost certain that I saw it near Masinagudi, but it might just have been *T. jehana*. It ranges from Sri Lanka through much of India to South China and Sundaland.

123. *Tajuria jehana* Moore

The PLAINS ROYAL does not figure on Wynter-Blyth's original Nilgiri list but is mentioned from Kallar and below Coonoor in a later supplement. It also figures in Yates (1935) as collected by Winkworth. I have a specimen from Kallar (28.v). Given the Kallar records I suspect that this is the species which

Gordon Thompson saw on a *Loranthus* infested chikoo tree at Rahman Gardens in Mettupalayam. All members of the group feed on loranthaceous plants. The species is closely allied to *T. cippus* but is endemic to Sri Lanka and peninsular India.

124. *Tajuria melastigma* de Nicéville

The BRANDED ROYAL is a rare species that was recorded from the Nilgiris by Hampson and of which Wynter-Blyth saw a specimen from a local collection probably from the Mettupalayam Ghat. The underside is brownish with a rosy tinge. The species is endemic to India and Burma having been recorded from the Nilgiris, Kanara and the Himalaya from Kumaon to Burma. It is generally considered to be rare.

125. *Rachana jalindra macarita* Fruhstorfer
(*Charana jalindra*)

The BANDED ROYAL is a handsome butterfly that is very rare in South India. Wynter-Blyth collected a male at Burliar in April and a female at Ketti in June. Since the species is normally associated with lowland evergreen forest the Ketti record is curious. On the underside the outer third of all four wings is a rich chocolate, making it very different from all other South Indian species of the group. All members of the Iolaini (*Ancema*, *Creon*, *Pratapa*, *Tajuria*, *Rachana*) feed on parasitic mistletoes of the genera *Loranthus*, *Dendrophthoe* and *Scurrula*. They rarely stray far from the trees on which the plants grow, nor are they much given to flying spontaneously. They only rarely visit flowers and even more rarely damp patches and hence they probably seem scarcer than they actually are. *A. jalindra* is found in South India, then from Nepal east to Sundaland, generally being rare throughout its range.

HYPOLYCAENINI

126. *Hypolycaena nilgirica* Moore

The first specimen of the NILGIRI TIT was caught in the Nilgiris just about one hundred years ago by one A. Lindsay. It was later collected also in the Palnis and a few specimens turned up in Sri Lanka. Hampson did not record it, Wynter-Blyth took a total of fifteen at Kallar where I have taken three on different dates. Kallar would thus appear to be a headquarters of sorts for a rare and local butterfly. I have only seen it at water and know nothing of its behaviour except that the flight is weak and fluttering, so much so that confusion with *Ypthima ceylonica* is a possibility. Nothing is known about the early stages.

127. *Chliaria othona othona* Hewitson

The ORCHID TIT is rare in South India and is recorded here from the Nilgiris for the first time on the basis of a single fresh male that I caught at water in the forests below Glenburn on 12.vi.1986. The underside and genitalia of this and the preceding species are so similar that they should possibly be treated as congeneric. It is fitting that the larval food plants of such a pretty and delicate little butterfly should be species of orchids. It seems likely that the species is limited to lowland and subtropical evergreen forest in the Nilgiris. It is found in South India, then from about Dehra Dun east to at least Malaysia, but further east taxonomic difficulties makes it difficult to say which exact species are represented.

128. *Zeltus amasa amasa* Hewitson
(*Zeltus etolus*)

The FLUFFY TIT appears to be very rare in the Nilgiris. Hampson took three females in the Nadgani area in 1888 and I have a single

female from near the foot of the Ghat. Wynter-Blyth failed to procure it. It appears to be limited to lowland evergreen forest in our area. It is much more common elsewhere in its range which stretches from Nepal east to Hainan, the Philippines and Sundaland. The genus is monobasic.

DEUDORIGINI

129. *Deudorix epijarbas epijarbas* Fabricius

The CORNELIAN is a widely distributed butterfly that is remarkably scarce in the Nilgiris. Wynter-Blyth obtained one at Runnymede and two at Kallar, from where I also have two (2.vi and 13.viii) both collected by Gordon Thompson. The species is often quite common in a wide variety of habitats to as high as 2500 m in the Himalaya so its scarcity in the Nilgiris is doubly puzzling. It is not rare in lowland Sri Lanka, found in suitable localities throughout peninsular India, then practically throughout the Oriental region, extending via New Guinea and Australia as far into the Pacific as Samoa.

130. *Deudorix isocrates* Fabricius
(*Virachola isocrates*)

The COMMON GUAVA BLUE is another species that is rare in the Nilgiris despite being quite common on the open plains of Sri Lanka and peninsular India. Hampson gives an upper limit of about 1200 m but no further details. Wynter-Blyth caught one at Kallar (28.iii) and saw one at Nadgani in December. I never came across it despite checking hundreds of guava and pomegranate trees, the favourite, but not exclusive, larval food plants. In addition to India and Sri Lanka the range covers Burma and Thailand.

131. *Deudorix perse ghela* Fruhstorfer
(*Virachola perse*)

The LARGE GUAVA BLUE is another rarity in

the Nilgiris. Hampson mentions it as '2000-4000 ft' with no details and I know of no further records. It is a denizen of more forested country than is *Deudorix isocrates* but they are otherwise very similar in both facies and habits. The range covers Sri Lanka and South India, then from Kangra east to Burma, Thailand and the Philippines. There is a population also in the Eastern Ghats.

132. ***Bindahara phocides moorei*** Fruhstorfer

The PLANE in the Nilgiris is found mainly on the western slopes where Hampson collected 15 specimens and where I have seen small numbers on several occasions in dense forest on the Nadgani Ghat and near Rousden Mullai estate at Devala. On 23.v a specimen unexpectedly turned up at Kallar. Wynter-Blyth caught one at flowers near Ketti (1900 m), a most unexpected record since the species is definitely essentially one of the lowland evergreen forests. The flight is rapid, often inside dense vegetation, and I have found it very difficult to capture in good condition. Apart from Sri Lanka and South India, the species occurs from Sikkim east to practically the entire Oriental region, thence to Australia and the Solomon Islands.

133. ***Rapala iarbus iarbus*** Fabricius

(*A. iarbas* & *R. melampus*)

Some authors would distinguish the South Indian populations of the INDIAN RED FLASH as ssp. *sorya* Kollar, but the species is so widely distributed, variable and probably migratory that I do not feel there is much point in doing so. It is another widely distributed plains butterfly, often common, that is curiously scarce in the Nilgiris, the only record being Hampson's note '2000-7000 ft'. It is probably best looked for in places like Masinagudi and in mixed deciduous forest, but I found no trace of it. The species is

distributed practically throughout the Oriental region and beyond.

134. ***Rapala lankana*** Moore

Despite the scientific name the English name of this very scarce butterfly is the MALABAR FLASH. It is endemic to Sri Lanka and the Western Ghats and there are a few Nilgiri records. Hampson records it as '1000-3000 ft, not common', presumably on the western slopes. A local collector, Gopal-krishnan, showed me a photograph of one in a Japanese collection and thought it was from the Nadgani area. Very little is known about this butterfly.

135. ***Rapala manea schistacea*** Moore

(*Rapala schistacea*)

The SLATE FLASH is relatively scarce in the Nilgiris, though I would not accept Wynter-Blyth's view that it is very rare outside the western slopes. I have regularly picked up single specimens on the Kotagiri Ghat, near Glenburn, at Kallar and at various points of the Coonoor Ghat in addition to Nadgani. I have just over a dozen, all females, and mostly caught on the flowers of *Acacia horrida*, a thorny creeper that can wreak havoc to a butterfly net. It is found in Sri Lanka, wooded parts of the Indian subcontinent with adequate rainfall, east to Thailand and Burma and perhaps deeper into the Oriental region where the taxonomy of the group becomes very difficult.

136. ***Rapala varuna lazulina*** Moore

The INDIGO FLASH is much rarer than the preceding species, notwithstanding Hampson's comment that it was common. Wynter-Blyth did not find it and I have but three females, all collected at the level of about 1100 m on the Coonoor and Kotagiri Ghats. One settled on the shirt of a passenger awaiting the depar-

ture of the toy train from Benhope Station. His surprise at my catching a butterfly off his shirt with my fingers was at least as great at my seeing the species in this manner. It is found in Sri Lanka, South India and from Kangra east at least to Malaysia and probably beyond.

CURETINAE

137. *Curetis thetis thetis* Drury

The INDIAN SUNBEAM is the most common of the three *Curetis* in South India, but it is still not an insect which is met with anywhere on any day. The female is the only one with white instead of orange markings. The narrow black border of the male is not continued along the termen of the forewing and the ground colour is more intense than in the two other species. It is not too rare at Kallar, where females are often seen on *Pongamia glabra*, a favourite larval food plant. I have seen it on the Kotagiri Ghat and I have taken specimens also at Nadgani and Ronningtown. The males are mostly taken at damp patches, usually by themselves and not as members of the larger mudpuddling assemblies. They are inordinately fond of bird droppings. I have seen as many as three on one small dropping, so engrossed in their task that when I lowered the net over them they remained sitting. Occasionally a male may be seen basking in the sun with the wings three-fourths open, but otherwise they manage to stay out of sight. The species is endemic to the Indian subcontinent, Sri Lanka and Burma. Records from further east pertain to populations now considered to be distinct species.

138. *Curetis dentata dentata* Moore

The DENTATE SUNBEAM and the following species, *C. siva* are very similar and may be distinguished as follows: In the former the

discal band on the hindwing underside, faint as it may be, is strongly disjunct, the streaks in spaces 6 and 7 being inwardly displaced almost to the end cell; in *C. siva* the band is almost continuous all through spaces 2 to 7, much as in the otherwise very different *C. thetis*. I have a few specimens from the Nadgani Ghat but Wynter-Blyth caught the species (or possibly *C. siva*) at Kallar. All but one of my four or five specimens were taken on bird droppings. The distribution of the species covers South India, then from about the level of Kulu east to Indo-China and Hong Kong.

139. *Curetis siva* Evans

The SHIVA SUNBEAM was described by Evans (1954) and is endemic to South India with firm records from Travancore (Kerala), Mysore, Coorg, N. Kanara and the Nilgiris. The distinguishing characters are given under the preceding species. I have not come across it and the only record I have is the original description.

RIODININAE

140. *Abisara echerius prunosa* Moore

The PLUM JUDY is the only South Indian representative of this distinctive subfamily, given family rank by many authors. Older Indian literature often lumped the Riodininae and the Libytheinae as the Erycinidae, though the two are phylogenetically as far apart as almost possible. The species is mainly found in lowland and subtropical evergreen forest though in my childhood there was a permanent colony in an old fruit plantation at Kotagiri (1900 m). It is not rare, but is best met with early in the morning when the males perch on leaves along forest paths. Later in the day they retire to some more secluded roost. They are rarely seen away from dense forest. Neither

sex seems interested in flowers or damp patches. The species is found in South India and Sri Lanka, suitable parts of peninsular India, extending in a northerly pattern to Indo-China and the Philippines. Other similar species replace it in Sundaland. The genus is also represented in Africa.

NYMPHALIDAE

DANAINAE

Danaid butterflies are well known for their need to frequent sources of pyrrolizidine alkaloids which are essential for the males to prime the pheromones that are necessary for successful courtship. Ackery & Vane-Wright (1984) give a good review of this phenomenon. Before dealing with the individual Danaid species it is worthwhile summarising the information I obtained on this issue in the Nilgiris in the form of an introduction since more than one species is usually involved at each pyrrolizidine alkaloid source.

From the very beginning of my stay in the Nilgiris many coffee plantation managers spontaneously informed me of large assemblages of *Tirumala septentrionis* and *Euploea* species on a large, yellow *Crotalaria*, a known alkaloid source that is sometimes interplanted with coffee. Their enthusiastic descriptions of this phenomenon made it clear that hundreds or even thousands would be present at the same time. I have personally only seen the occasional specimen on this plant.

At Ronningtown I found a large *Heliotropium* that had been overturned in such a way that a cave some 30 cm deep had been excavated around the root system. At any given time up to fifty Danaids were settled on the plant or more especially the upturned and exposed roots (*Danaus chrysippus*, *D. genutia*, *Tirumala septentrionis*, *E. core*, *E. sylvester*).

Many crawled into the cave beneath the plant, jostling with each other to get at the best roots. *Heliotrope* is again well known as a pyrrolizidine alkaloid source.

At Kallar I found thousands of the same five species on *Ageratum conyzoides* that had been sprayed with weedicide inside the extensive Arecanut plantations, usually in little clusters of three to five individuals on the chosen plants. According to Gordon Thompson the plants were most attractive about three days after weedicide application, so that the butterflies moved about the plantations according to dates of spraying.

By the Coonoor river at Kallar I once found fourteen *Tirumala septentrionis* on the tiniest possible cut stump of an unidentified plant, crammed so closely together as to be hardly believable. Most ingestion of pyrrolizidine alkaloids takes place as a social activity, almost exclusively male. I suspect that the social aspect is simply because the easiest way for a Danaid to localise an alkaloid source is by the proxy of looking for other males.

141. *Danaus chrysippus chrysippus* Linné (*Danais chrysippus*)

The PLAIN OR COMMON TIGER is one of India's most widespread and well-known plains butterflies, being very common also in disturbed areas, villages and agricultural land. No resident of India can have escaped seeing it. It avoids deep evergreen forest and becomes progressively rare as one ascends the mountains, and I do not think it breeds regularly on the plateau of the Nilgiris. The species is migratory, but it constituted only a small fraction of the migrations that I have seen in the area. The butterfly is essentially monomorphic in South India the two regular forms being of extreme rarity, though the form with white hindwings has become predominant in Malaysia and North Sumatra this

century. The range is vast, covering all the old world tropics with some penetration into the Palaearctic in China, the Middle East and the Mediterranean.

142. ***Danaus genutia genutia* Cramer**
(*Danaüs plexippus*)

The STRIPED TIGER is widespread throughout the Nilgiris in most types of country though it is rarely very common. Only at Ronningtown have I seen it in very large numbers. It is, however, more at home in the wetter forests and on the plateau than is *Danaus chrysippus*. It participates in the migrations with other Danaids and may also share communal roosts for the night. It comes to water occasionally, certainly more frequently than *D. chrysippus*. It is found practically throughout the Oriental region, and in Australia, but not on New Guinea.

143. ***Tirumala limniace exoticus* Gmélin**
(*Danaüs limniace*)

The BLUE TIGER is generally a common butterfly in peninsular India but it is scarce in the Nilgiris, being outnumbered by *T. septentrionis* by a factor of at least 100 to 1. This was also the experience of Wynter-Blyth in the 1940ies. In the drier tracts, such as at Masinagudi, both species are scarce, but equal in number. The species is migratory and may occasionally be met with on the high plateau, but I doubt that it ever breeds there except in exceptional cases. The species is found in most of the Oriental region, but is absent from Sumatra and Borneo, where *T. septentrionis* is present. The African populations are now considered to be specifically distinct from *T. limniace*.

144. ***Tirumala septentrionis dravidarum***
Fruhstorfer
(*Danaüs melissa (hamata)*)

The DARK BLUE TIGER is found in the forests

of the lowland and the subtropical zones, but is not normally resident on the plateau, though migrants, stragglers and the occasional temporary population may occur. It is sometimes very common indeed at lower levels with large numbers coming to water, especially where salts are present. I have seen cows licking water sources on vertical mud faces also utilised by this species. It is one of the major components of migratory activity in southern India whenever mixed migrations occur. The range covers Sri Lanka and South India, then from Himachal Pradesh east to Malaysia, Sumatra and Borneo. *T. limniace* is absent from these two islands, but it is present on Java and Sulawesi, from where *T. septentrionis* is absent.

145. ***Parantica aglea aglea* Cramer**
(*Danaüs aglea*)

The GLASSY BLUE TIGER is often reported to be common or very common but that is not normally the case in my experience. Certainly it is best classed as not rare in the Nilgiris, being found practically anywhere where there is decent forest, but in small numbers only. It may be found also in more open country on occasion. Wynter-Blyth apparently did not find it much above 5000 ft, but it is certainly resident at 2000 m in the Longwood Shola near Kotagiri. It is a much weaker butterfly than the two *Tirumala* and usually only emerges from forest when seeking the flowers of Lantana. I have not seen it at damp patches but would not rule out that it occasionally frequents them. I have never seen it migrating in the Nilgiris, but I did see large numbers as part of mixed migrations in the Konkan in October 1986. It is found in Sri Lanka and South India, then from the level of Jammu to Hong Kong and Malaysia, being replaced by very similar species further east.

146. **Parantica nilgiriensis** Moore*(Danaïs nilgiriensis)*

The NILGIRI TIGER is an unmistakable species that is endemic to the higher mountains of southern India and most closely related to *P. fumata* Butler, a Sri Lankan endemic. It is basically a butterfly of the evergreen *sholas* of the plateau, but it may be found in more open country as well, though the extent to which it breeds outside of the forest is doubtful. It descends to the subtropical evergreen forests and I have exceptionally seen it as low as 1000 m. The flight is rapid, low and erratic for a Danaid, giving the impression that it may not be a protected species. The flight pattern reminds one of the day flying moth *Agria tau* of northern Europe as it makes its way through the spring beech forests. It is often seen in numbers on flowering trees or on the occasional Lantana in clearings in *sholas*. From time to time it is also met with sipping moisture from water seepages in vertical banks in the forest or along clear brooks, something that may also be observed in other montane butterflies.

147. **Idea malabarica** Moore*(Hestia lynceus)*

The MALABAR TREE NYMPH, like the other members of the genus, is a true delight to watch as it makes its way slowly through the lower parts of the forest canopy in a ghostly fashion, sometimes exposed to sunlight as it crosses a glade or a forest road. Often little companies of up to a dozen specimens will be performing a muted aerial ballet as they circle about some communal cross-roads. The butterfly is a South Indian endemic, limited to wet evergreen forest of the Western Ghats system, replaced by the ecologically somewhat more tolerant *I. iasonia* Westwood in Sri Lanka. Other species occur from the Sundarbans eastwards, though rarely are more than two species found in any one locality. I have never seen

them at water, but despite the statement by Ackery & Vane-Wright (1984) that they rarely or never visit flowers, I have seen them on Lantana and flowering jungle trees on many occasions. They are, though, less avid nectar seekers than most other Danaiids. The flight is effortless at all times and their ability to hover in the same spot for minutes on end is remarkable, but when needed they can make very rapid progress indeed. The species is quite common in the right type of habitat.

148. **Euploea core core** Cramer

The COMMON CROW is abundant at lower and middle heights in all types of terrain. It is also strongly migratory. Though seen regularly on the plateau it is probably not truly resident. During the dry season large roosts of this and/or the next species are frequently found in cool forests, sometimes in the company of other common Danaiids. Damp patches are attractive at certain times, at others not. Various types of diapause mechanisms seem to be operating in the species, but I have not been able to determine their exact nature and timing. For a winter roost of Danaiids in Corbett National Park see Larsen (1987d). Many early authors have remarked on the habit of this and other *Euploea* of patrolling a limited territory with the abdominal hair pencils fully extended even though no females or rival males are in sight. I have witnessed more than fifty such displays, often lasting half an hour or more. The hair pencils are extended, the abdomen curled downwards, the wing beat slow and more precise than normal. The area patrolled is very small, usually not more than five to ten metres in diameter and sometimes less. In an open forest near Glenburn I could see more than ten males at any given time. During several hours of combined observation I never saw male-male interaction, nor did I see any females approach or being courted.

I never saw *Euploea sylvester* engage in this type of behaviour. On three occasions I have seen courtship displays, though neither the inception, nor the final copula. Here the male hovers above a sitting female, standing almost still in the air some 10 to 15 cm from the female. If the female moves, the male follows. At this stage of courtship I never saw the hair pencils extended. The species is found from Sri Lanka to most of the Oriental region and Australia to the Pacific, but according to Ackery & Vane-Wright (1984) it is lacking from Borneo, Sulawesi and the Philippines.

149. *Euploea sylvester coreta* Godart
(*Euploea coreta* & *E. harrisi*)

The DOUBLE BRANDED CROW differs from the Common Crow in having two long prominent brands along the termen of the forewing upperside instead of one small brand, but in flight there is no difference. The abdominal hair pencils are a sullied yellow rather than the rich egg-yolk yellow of the common Crow. This is also a common species, but it is less at home in the drier habitat than is *E. core*. In the large migration of May 1986 (Larsen 1987b) both species were present in roughly equal numbers. In late May 1986, a bit up the Coonoor Ghat I found a roost of this species comprising some 300 individuals. None of a random sample of fifteen or so was *E. core* though they sometimes roost together. There is little difference in habits between the

two common crows. The species is found in Sri Lanka and South India, then from Nepal to most of the Oriental region, the Papuan subregion and the Pacific.

150. *Euploea klugii kollari* Felder & Felder
(*Euploea crassa*)

The BROWN KING CROW is very much rarer in the Nilgiris than the two others and is much more closely confined to wet evergreen forests. I have taken moderate numbers only on the Nadgani Ghat and at Mukkali near the entrance to Silent Valley (1000 m). Hampson appears not to have found it, but Wynter-Blyth caught a few at Kallar where it is not normally found. Although it may easily be overlooked since it is much like the other two on the wing, the species does appear genuinely to be quite rare. The curved termen of the male forewing is very characteristic. All three *Euploea* may be caught together at Mukkali and Nadgani, and on a few occasions I have tested their pheromonal odours. All three were pleasant, but definitely different, though I will not venture to try a description. All are fond of flowers, but I have not taken *E. klugii* at water, though I will not rule out that it occasionally visits damp patches. The species is found in Sri Lanka, in South India, and from Nepal east to Indo-China and Sumatra.

(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, 291–316.

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