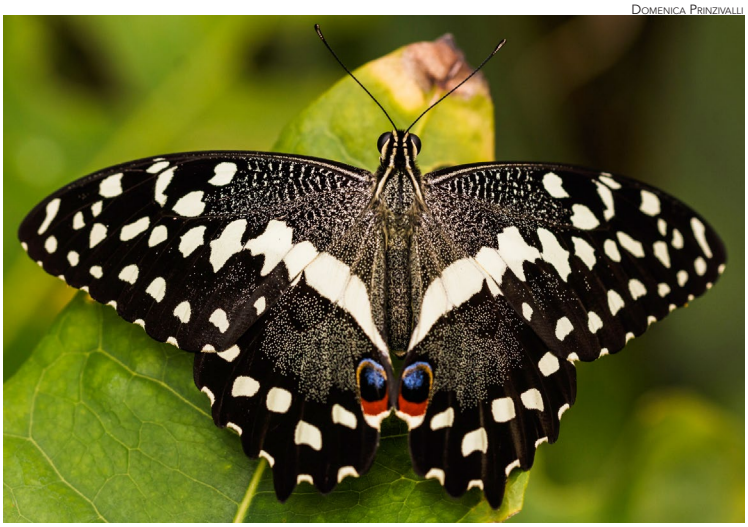
Papilio – Swallowtails (Papilionidae)

The Swallowtails and Swordtails are generally the largest butterflies found in Nigeria even if some species, like the White Lady, can be quite small compared to large species from other families. They are strong fliers, that are hard to catch with a sweep net, but can often be observed closely when nectaring or mud-puddling. There are five species known from Amurum and they are all easy to identify in the field.

Domenica Prinzivalli



Bernard Dupont

Papilio demodocus demodocus Esper, 1798
Citrus Swallowtail

The Citrus Swallowtail is a very common species, found in almost any part of West Africa. Whilst it is generally considered a savannah species, it has managed to colonise everywhere from cities to cleared land inside rainforest. This is due to human cultivation of various *Citrus* plants that are one of the main hostplants for this species, hence its common name. The pattern is quite unmistakable, and in the West African savannah no other species look similar. However, in intact rainforest there are other species with similar patterns.

Matt Muir

Bernard Dupont

Papilio nireus nireus Linnaeus, 1758
Narrow-banded Green Swallowtail

The Narrow-banded Green Swallowtail is generally considered to be a forest species, but it tolerates drier or more degraded habitats better than many other forest swallowtails. It has only been recorded once in Amurum when a set of wings was found on the ground in one of the gulleys suggesting it was caught by a predator. It is a promising sign that forest species such as this can be observed in Amurum, and there are signs that the butterfly fauna is changing with more forest-linked species being found over the past decade.

Graphium angolanus baronis (Ungemach, 1932)
White Lady

The White Lady is a common savannah butterfly often found hilltopping on local inselbergs. The dorsal surface is black and white, with a distinct pattern that is repeated on the ventral surface (below left), but with the dark pattern in a more reddish tone. As with the other members of this group it is easy to identify without needing to collect specimens. It is the smallest of the five Papilionidae members known in Amurum.

ADRIAN HOSKINS

Graphium leonidas leonidas (Fabricius, 1793)
Veined Swallowtail

The Veined Swallowtail is a larger species than the White Lady, and the light pattern is light blue, rather than white, but in the females the blue can sometimes be so light that it almost looks white. The species is often found visiting flowers along the gulley forests, and quite easy to approach for a closer look. This is the largest of the *Graphium* species found in Amurum and a quite common sight. The ventral pattern (below centre) is somewhat similar to the White Lady, but with a less reddish tone.

SIMON TONGE

Graphium policenes telloi Hecq, 1999
Common Striped Swordtail

Compared to the two preceding species, the Common Striped Swordtail is less frequently seen in Amurum, but it is easy to miss as it often stays up in the tree tops, patrolling the gulleys at high speed. It generally flies faster than the other species and rarely settles for long enough to allow detailed observations. This is the only species in this family with prominent hindwing tails found in Amurum. The population on the Jos Plateau almost certainly belongs to a recently described subspecies which tend to have lighter coloured stripes than the specimen in the photo. The ventral pattern (below right) has a characteristic red stripe.

ADEDOTUN AJIBADE

OSKAR BRATTSTRÖM

Graphium angolanus

ADEDOTUN AJIBADE

Graphium leonidas

CHARLES J SHARP

Graphium policenes

Coeliades, Tagiades, Eretis & Sarangesa (Hesperiidae)

Coeliades forestan forestan (Stoll, 1782)
Striped Policeman

Coeliades pisistratus (Fabricius, 1793)
Two Pip Policeman

The two Policemen species are the largest skippers found in Amurum. Both species are often found hill-topping. They can be easily identified in the field by the broad white stripe on the ventral hindwings. The Two Pip Policeman have a set of small black spots that are missing in the Striped Policeman

Martin Weigand

Coeliades forestan

Phil White

Coeliades pisistratus

Tagiades flesus (Fabricius, 1781)
Clouded Flat

The Clouded Flat is often found resting under leaves a few metres above ground. Males will defend small territories and swoop down towards any passing butterflies. The dorsal pattern is somewhat similar to the Savannah Elf (*Eretis lugens)* and the Grey Elfin (*Sarangesa loelius)*, but the ventral hindwings have a bright white ground colour, making the species unmistakable. It is not common in Amurum, but with trees growing back it might become more frequent.

Phil White

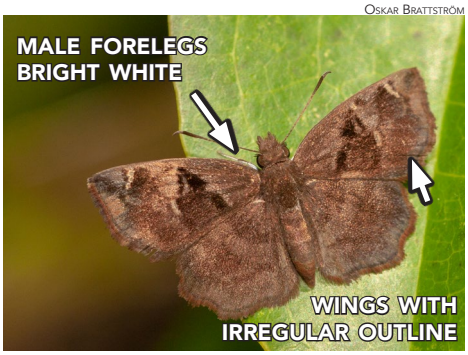
Rainer Wendt

***Tagiades flesus* –** Dorsal and ventral view

Eretis lugens (Rogenhofer, 1891)
Savannah Elf

This is one of the smallest skipper species in Amurum, and frequently found at the edge of the gulleys, sitting either on the bare ground or on low vegetation. The wings have a rather unusual irregular outline. Like most skippers, males are territorial and if they are disturbed they will generally soon return to their favourite perch. The sexes can be told apart by the bright white forelegs in the male. The dorsal pattern is lighter in the female, but otherwise both sexes look similar.

Oskar Brattström



***Eretis lugens* –** Male

Sarangesa loelius (Mabille, 1877)
Grey Elfin

The Grey Elfin is quite similar to the Savannah Elf (*Eretis lugens*), however it can usually be told apart from its larger size, more regular wing outline and lighter patterning. Generally, it can be found resting on the ground, and frequently take shelter in shaded overhangs by the gulleys in the middle of the day. There is some seasonal variation, with the wet season morph being darker and more strongly marked.

Sylvia Joseph Gabis

(Hesperiidae) *Abantis, Spialia, Gomalia, Astictopterus & Prosopalpus*

Abantis nigeriana (Butler, 1901)
Nigerian Paradise Skipper

The Nigerian Paradise Skipper is quite a large species with a brownish-black ground colour and multiple large white spots on the forewing. The hindwing is almost fully white, but with a broad black margin. The hindwing veins are also darkened and stands out against the white patch. The species have only been observed a single time when a hill-topping male (the specimen in the photo) was seen on the inselberg close to the APLORI student guest house.

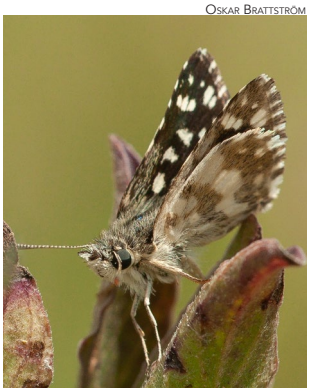
Oskar Brattström

Spialia diomus diomus (Hopffer, 1855)
Diomus Grizzled Skipper

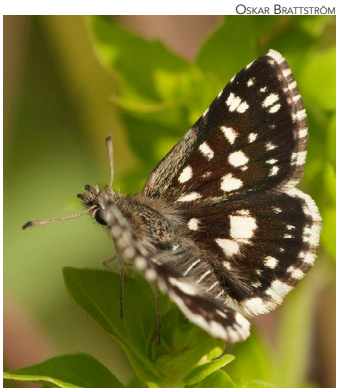
Spialia dromus (Plötz, 1884)
Dromus Grizzled Skipper

The Grizzled Skippers have highly characteristic wing patterns making the genus easy to identify, but they are very hard to separate to species level without collecting specimens or taking detailed photos showing the full wing pattern of both sides.

Oskar Brattström



Oskar Brattström



Spialia sp.

Gomalia elma elma (Trimen, 1862)
Mallow Skipper

The Mallow Skipper has a somewhat similar camouflaged pattern on the forewings as some other species often seen in Amurum. However, the hindwing has a clear dorsal white band making the species highly distinctive.

Robert Taylor

Wyand Uys

Astictopterus abjecta (Snellen, 1872)
Abject Hopper

Prosapalpus styla (Evans, 1937)
Widespread Dwarf Skipper

These two skippers are almost fully black on the dorsal side, and have an indistinct, rather similar ventral pattern. They can be separated by their size, with that of the Abject Hopper being almost double that of the Widespread Dwarf Skipper. Both species are common in Amurum.

Oskar Brattström

Astictopterus abjecta

Rainer Wendt

Rainer Wendt

Prosapalpus styla

Gorgyra, Acleros, Platylesches & Pelopidas (Hesperiidae)

Gorgyra mocquerysii Holland, 1896
Mocquery's Leaf Sitter

Gorgyra minima Holland, 1896
Minimal Leaf Sitter

The Leaf Sitters are small, rather dark skippers that can be very hard to identify to species level. So far, only two species have been found in Amurum. The Minimal Leaf Sitter is a smaller species, and also darker with less white spots than Mocquery's Leaf Sitter. The chequered cilia (hairs) at the edge of the wings are only found in the latter of the two species.

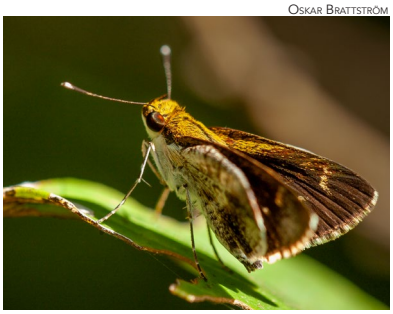
Rainer Wendt

Gorgyra mocquerysii

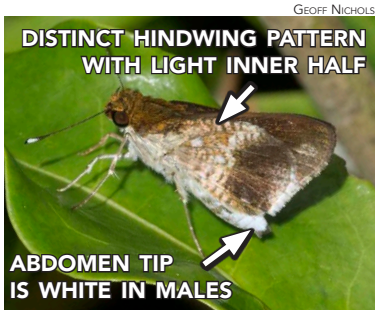
Acleros mackenii olaus (Plötz, 1884)
Macken's Dusky Dart

This forest species is easily recognised by the characteristic ventral hindwing pattern (see photo). The dorsal wings are mostly black with a few light spots. The tip of the abdomen is bright white in the male.

Oskar Brattström



Geoff Nichols



Platylesches mortili (Wallengren, 1857)
Common Hopper

The Common Hopper is a widely distributed, and rather common, woodland savannah species. The ventral hindwings have a diffuse light grey band across a reddish-brown ground colour. The row of spots on the dorsal hindwing is also a distinct character compared to other species in Amurum.

magdastlucia (iNaturalist.org username)

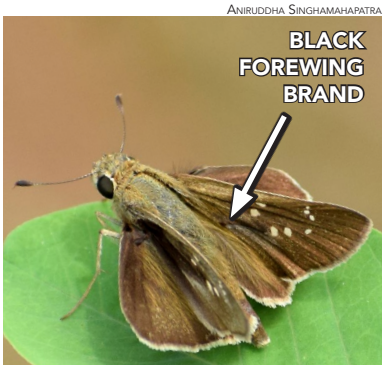
Gonzalo Roget

Pelopidas mathias (Fabricius, 1798)
Lesser Millet Skipper

Pelopidas thrax (Hübner, 1821)
Millet Skipper

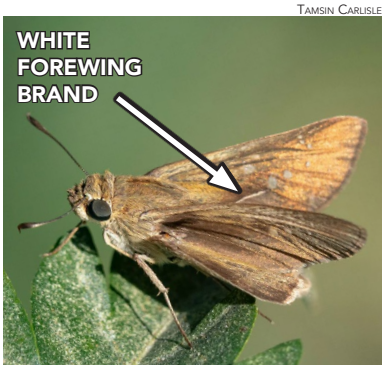
Males of the Millet Skipper species are easy to separate from each due to the distinctly coloured brand on the forewing (see photos below). The females of the two Millet Skippers look very similar and can also easily be confused with the False Swift (*Borbo fallax)* described on the next page.

Aniruddha Singhamahapatra



Pelopidas mathias

Tamsin Carlisle



Pelopidas thrax

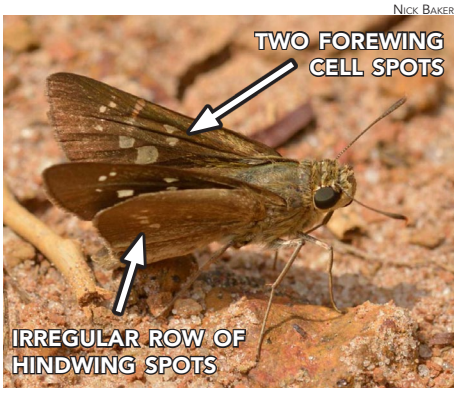
Borbo b. borbonica (Boisduval, 1833)
Borbo fallax (Gaede, 1916)
Larseni gemella (Mabille, 1884)
Larseni perobscura (Druce, 1912)
Swifts

The Swifts are a group of skippers that can be very hard to separate from each other in the field. Of the four species known from Amurum, the False Swift (*Borbo fallax*) is the only one to have two spots in the forewing cell. The other *Borbo* species, the Olive-haired Swift (*B. borbonica*) have a warm olive brown ventral colour, with three clear light spots. It is somewhat similar to the smaller Twin Swift (*Larseni gemella*), but this species has a less warm ground colour, and the three spots are less well developed. Finally, the Small Swift (*L. perobscura*) has a row of several spots, usually arranged in an irregular fashion. Females of the False Swift, can easily be confused with those of the Millet Skippers (*Pelopidas*) (previous page).

Peter Erb

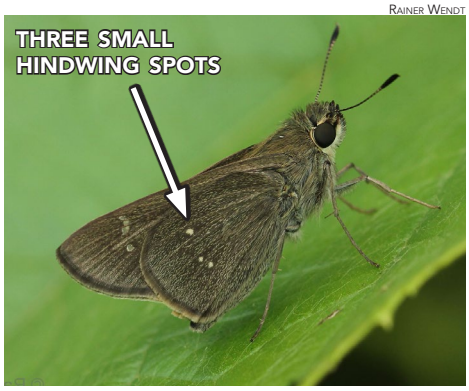
Borbo borbonica

Nick Baker



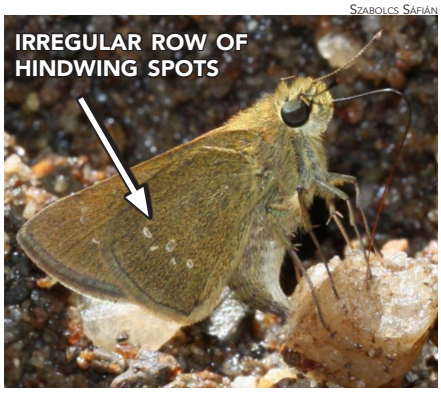
Borbo fallax

Rainer Wendt



Larseni gemella

Szabolcs Sáfián



Larseni perobscura

Gegenes pumilio gambica (Mabille, 1878)
Pigmy Skipper

This small skipper has a quite light brown ground colour and almost no light patterning in forms of spots or patches at all. All other skippers in Amurum with limited wing patterning are much darker, making this species unmistakable. Image shows a mating pair, with the slightly larger female (that sometimes can have faint hindwing spots) to the left.

Oskar Brattström

Afrogegenes hottentota (Latreille, 1824) Hottentot Skipper

This is a quite distinctive small species with the ventral hindwing surface being yellowish, with some lighter markings. The male lack dorsal spots, but has a very characteristic shiny dark patch on the forewing, while the female instead has multiple light spots on the forewings.

Doug Macdonald

***Afrogegenes hottentota* –** Female

Joseph Heymans

Oskar Brattström

***Afrogegenes hottentota* –** Males

Catopsilia, Pinacopteryx & Dixeia (Pieridae)

Catopsilia florella (Fabricius, 1775)
African Emigrant

The African Emigrant is a common species in West Africa, and can be found at almost any location. It is quite easy to determine from a distance, and the sexes can be separated as the male is much paler than the dark yellow female. It is a highly migratory species that can occur in large swarms, and it is usually more common during the transition between wet and dry seasons. Just like many intra-African migratory birds, the movements are coordinated with the rain patterns, but its migration is less precise than for most birds, so it can still be found at almost any time in Amurum. It flies quickly, quite high above ground, but both sexes are avid flower visitors, which usually provides the most reliable way for an entomologist to get a closer look.

Phil White

Catopsilia florella
Male (left) and female (right)

Pinacopteryx eriphia tritogenia (Klug, 1829)
Zebra White

The Zebra White is a quite rare sight in Amurum, and the species is normally linked to drier habitats further north. It is not clear if it is regularly migrating species, or whether the local specimens are part of a small marginal population. The sexes look similar, but there is a fairly high degree of seasonal difference with the dry season morph having less distinct markings, especially on the ventral side, forming an effective camouflage. The dorsal pattern is unique, and makes it an easy species to identify in the field.

Brian du Preez

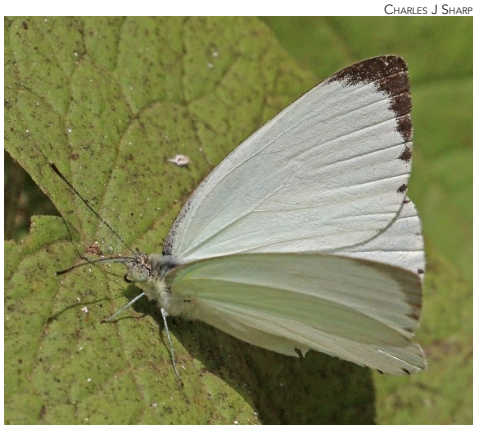
Peter Erb

Pinacopteryx eriphia
Dorsal and ventral pattern

Dixeia orbona orbona (Geyer, 1837)
Creamy Small White

This is quite a small and somewhat variable species. The dorsal wings of the male are usually pure black and white, while the ventral side often has some degree of orange colouration close to the base of the wings. The females have a variable amount of both yellow-orange and black markings on either side. In Amurum they can probably only be confused with the Dotted Borders (*Mylothris*), but the Creamy Small White is a smaller species, and there is usually an extra row of small black spots on the ventral hindwing, inside of the normal marginal row (see photo), which is never present in any of the Dotted Borders.

Charles J Sharp



Peter Bygate

Dixeia orbona – Male (left) and female (right)

Mylothris aburi Larsen & Collins, 2003
Savannah Dotted Border

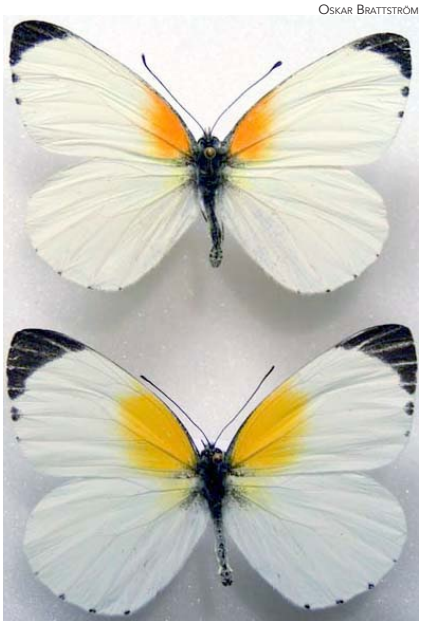
Mylothris rueppellii josi Larsen, 1986
Rüppell's Dotted Border

Oskar Brattström

Mylothris rueppellii – Male

The Savannah Dotted Border is a quite common butterfly in Amurum, but it is usually found inside the shaded forest in the gulleys flying around in small groups about two metres above ground. The larvae feed on mistletoe plants, and live gregariously, and sometimes even pupate in small groups. Before the Nigerian subspecies of Rüppell's Dotted Border was observed in Amurum, it was only known from a single and rather unusual location, the garden of the Hill Station hotel in Jos! The species is normally found in eastern and southern Africa, and the subspecies on the Jos Plateau is possibly a species in its own right given the presumably huge distance to the nearest populations. The orange forewing patch of Rüppell's Dotted Border is much darker, almost red, and also does not reach as far away from the body. The two species are found in the same habitats and flies together, but Rüppell's Dotted Border always seem to be the rarer of the two.

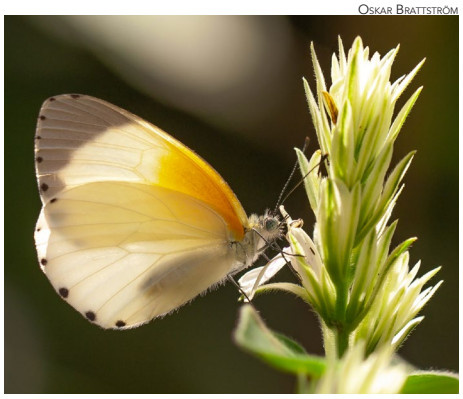
Oskar Brattström



Mylothris rueppellii – Male (top)
Mylothris aburi – Male (below)

Szabolcs Sáfián

Oskar Brattström



Mylothris aburi – Male (left) and female (right)

Mylothris chloris chloris (Fabricius, 1775)
Common Dotted Border

Despite its name, the Common Dotted Border have few dots on the wing borders, this is because the black markings are so large that they merge together, forming a large continuous patch, especially on the hindwings. Compared to the other local Dotted Border species, this species is often seen flying in more open habitats. The male and females are similar, but the female has more extensive black markings on all wings, both dorsally and ventrally. It can often be seen visiting *Lantana* flowers around the gulley forests. It can only be confused with females of the African Caper White (*Belenois creona*), but this species have the black margins broken up by several yellow spots, as well as a different dorsal pattern.

Oskar Brattström

Adrian Hoskins

Mylothris chloris – Male (left) and female (right)

Colotis – Orange tips (Pieridae)

The Orange Tips (*Colotis*) is a highly variable genus, and sometimes it is not easy to identify every single individual, especially the females. Many species show large seasonal differences, with dry season morphs generally having more dark markings, especially in the females. Most of the species are migratory, moving south in the dry season, so the species present in Amurum varies over the year.

Oskar Brattström

Colotis vesta amelia (Lucas, 1852)
Veined Golden Arab

This is a highly variable species, and the sexes are sometimes hard to tell apart. The ventral surface becomes more cryptic in the dry season morph. It is a rare butterfly in Amurum, and like most *Colotis* species normally found in larger numbers further north in Nigeria.

Judy Gallagher

Jukka Jantunen

Colotis vesta – Wet (left, top) and dry morph (right)

Colotis danae eupompe (Klug, 1829) Scarlet Tip

Just as the name suggests, the Scarlet Tip has a strong scarlet colouration of the wing tips, sometimes less developed in females. Most similar species have a degree of yellow tone to any red colouration in this patch. There is usually some grey scaling around the base of the wings on the dorsal side. Compared to the males, the females can have variable amount of dark patterning.

Bernard Dupont

K. M. Haneesh

Mayuresh Kulkarni

Colotis danae – Male (left), female (centre), and ventral pattern (right)

Colotis evarne (Klug, 1829)
Sulphur Orange Tip

The male have a light orange forewing patch that lacks a black border on the inside. Females have more black markings, and sometimes the orange colour is more or less missing. Their ground colour usually has a light yellow tone, not found in similar species. Normally the species is found in Sudan savannah habitats, but at times strong Harmattan winds brings large numbers further south.

tiluchi (iNaturalist.org username)

Mohi Patel

osoandino (iNaturalist.org username)

Rainer Wendt

Colotis evarne – Male (left), females (centre, right), and ventral pattern (top right)

Colotis antevippe antevippe (Boisduval, 1836) Large Orange Tip

The male apical patch is a strong orange-red, and sometimes also bordered by black on the inside, making it somewhat similar to the Round-winged Orange Tip (bottom of page). However, the latter species always has a broader black margin around the whole patch. The ventral hindwing sometimes has black scaling along all the veins. The females always have a black bar inside the paler orange patch at the forewing tip.

Charles J Sharp

Phil White

Yvonne de Jong

Colotis antevippe – Lighter male (left), darker male (centre), and female (right)

Colotis evagore antigone (Boisduval, 1836) Tiny Orange Tip

As the name suggests, this is a tiny species. It is highly variable and apart from its very small size, it can sometimes be very hard to tell apart from other *Colotis* species.

Charles J Sharp

Judy Gallagher

Wynand Uys

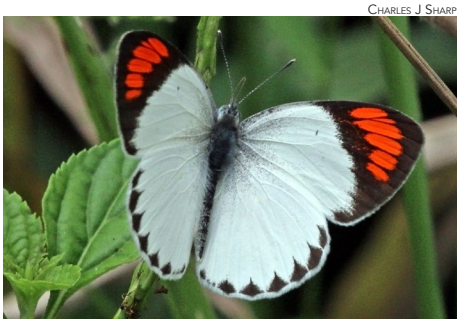
Colotis evagore – Male (left), female (centre), and darker morphs of both sexes (right)

Colotis euippe euippe (Linnaeus, 1758)
Round-winged Orange Tip

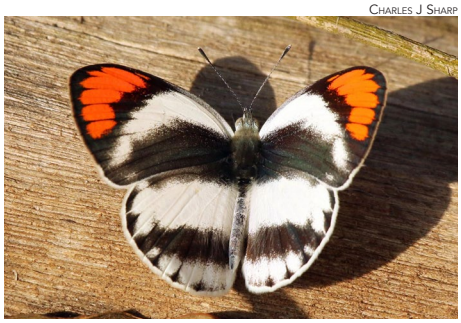
This species has a more rounded forewing than the other Orange Tips. The male apical patch is always bordered by a broad black margin on all sides. The female is usually the darkest member of the genus, and the orange patch can be completely covered by black scales. This Orange Tip is probably the most ecologically tolerant of the Nigerian species, being found further to the south in wetter habitats as well.

Rainer Wendt

Charles J Sharp



Charles J Sharp



Peter Bygate

Colotis euippe – Male (left), females (centre, right), and ventral pattern (top right)

Belenois – Caper whites (Pieridae)

Belenois aurota (Fabricius, 1793)
Caper white

The ventral surface of this common species have a characteristic net-pattern with all the veins darkened. There is a bar-shaped mark in the forewing cell. The female (below to right) is darker than the male (right), but otherwise has a similar pattern. It is a Sudan savannah species, but with strong migratory tendencies meaning that the population moves further south during the dry season. During extreme migration events, millions of Caper whites can form spectacular clouds of butterflies all moving in one direction.

Belenois creona creona (Cramer, 1776)
African caper white

This is another common species, and with similar migratory tendencies. The ventral surface lacks the net-pattern of the former species, and the black markings at the wing edges are better developed. The female (below right) is much darker than the male (below left), and both sexes have just a small black spot in the forewing cell, instead of the bar-like marking in *B. aurota*.

Tony Rebelo

Oskar Brattström

Belenois aurota
Male (top) and female (just above)

Oskar Brattström

Oskar Brattström

Belenois creona – Males (left) and female (right)

Eurema – Grass yellows (Pieridae)

The five species of *Eurema* known from Amurum are all quite small butterflies that can usually be separated by a combination of their wing shape and patterns. In general the females are paler than the males, often with more black markings. However, all species are quite variable, and seasonal morphs varies with more dark dorsal markings in the wet season morphs, while dry season morphs have more ventral patterning. Males of *E. hecabe, floricola* and *senegalensis* all have a dark androconial patch along a basal vein on the ventral forewing (arrow on image to left). To identify *Eurema* to species level you begin by studying the shape of the inner margin of the black forewing patch (see images to right).

Shape of inside black margin

EVENLY ROUNDED
E. brigitta
E. desjardinsii

BROADEST AT VEIN 4
E. senegalesisi
E. hecabe

BROADEST IN SPACE 5
E. floricola

Thomas Desloges (all mounted specimens of *Eurema*)

Eurema brigitta brigitta (Stoll, 1780)
Small grass yellow

This is usually the smallest of the grass yellows. The males have an orange tone to the yellow, whilst females can be slightly greenish. The dorsal surface of the females is often covered in fine black scales.

Eurema desjardinsii regularis (Butler, 1876)
Desjardin's grass yellow

The hindwings usually have a clear sharp angle along the outer edge and the colour is less orange than *E. brigitta*. The underside is similar to *E. brigitta,* often with long streaks formed from dark scales.

Eurema senegalensis (Boisduval, 1836)
Forest grass yellow

This is normally the largest *Eurema* species. The outer edge of the forewing is straight compared to *E. hecabe*, and it is also noticeably scalloped. As the name implies, this species is more linked to forests.

Eurema hecabe solifera (Butler, 1875)
Common grass yellow

Compared to *E. senegalensis* the outer edge of the forewing is more rounded, and without clear scalloping. The hindwings often have a darker margin than *E. seneglensis*, but this somewhat variable.

Eurema floricola leonis (Butler, 1886)
Malagasy grass yellow

Like *E. senegalensis*, this species is more linked to forest than savannah. Despite the difference in the black patterning on the forewing, it is deceptively similar to *E. hecabe*.

Males **Females**

I. C. Riddell

Eurema hecabe
Dry season morph

Bart Wursten

Eurema brigitta
Note the long hindwing streaks

Rogério Ferreira

Eurema senegalensis
Notice the straight forewing edge

Family Lycaenidae – Blues, Coppers and Hairstreaks

Lycaenidae (Blues, Coppers and Hairstreaks) is a large family of butterflies with over 500 species known from West Africa. Around 50 species have been recorded from Amurum, but no doubt there are more yet to be found. Generally, ventral wing patterns help to identify the species, while the dorsal pattern helps separate the sexes. If the following guide does not give enough detail (or new species are found), almost all collected material should be possible to identify to species level using the reference literature in the library.

Lycaenidae taxonomy is still actively changing, and at the time of writing four subfamilies have representatives in Amurum. Please note that the taxonomic organisation has changed considerably since the reference book for West Africa (Larsen, 2005) was published, so double checking with frequently updated online sources is recommended. Below are the main characteristics for the subfamilies found in Amurum:

Subfamily Portiinae (Liptenids)

In Amurum this subfamily is represented by a single, very characteristic, orange species with black spots.

Pentila pauli pauli Staudinger, 1888
Paul's Pentila

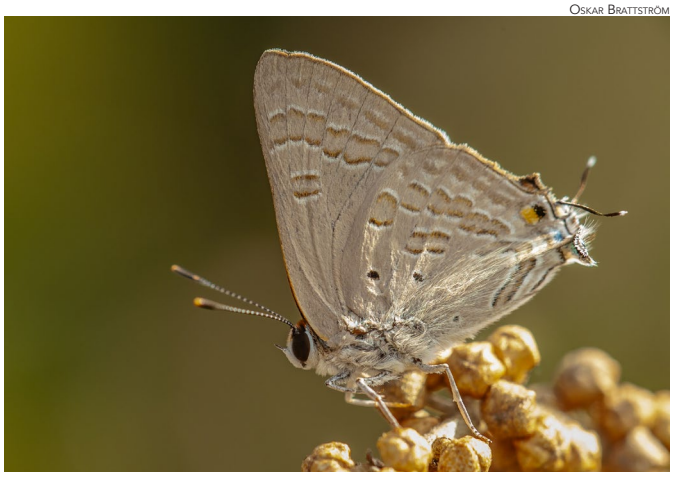
This unmistakable, quite small butterfly, is the only representative of the subfamily in Amurum. Most of the West African Portiinae species are linked to rainforests , with a few exceptions like Paul's Pentila.

Adedotun Ajibade

Subfamilies Theclinae & Aphnaeinae
(Strong blues: Hairstreaks, Sapphires and Playboys)

Compared to Polyommatinae, species of these subfamilies tend to have more pointed wings, well-developed tails at the end of the hindwings, and ventral markings made up of small streaks. However, there are many exceptions, but with time one learns to recognise the group and get a feeling for their general look. Aphnaeinae (only two species known in Amurum) used to be placed within Theclinae and was only recently given subfamily status.

Oskar Brattström



Subfamily Polyommatinae
(Weak blues)

Compared to Theclinae and Aphnaeinae, species in this subfamily have less developed hindwing tails or no tails at all. Their wings are generally more rounded and the ventral patterns often have small spots with white outlines. However, they are frequently combined with streaks similar those of the previous group. There are lots of exceptions here as well, but with training the general characteristics become easy to recognise and most specimens can be placed correctly.

Oskar Brattström

Oskar Brattström

Hypolycaena philippus philippus

Common Hairstreak (Fabricius, 1793)

Hairstreak butterflies generally have two pairs of long tails at the end of the hindwing, but in the Common Hairstreak the tails are shorter than most species. Compared to the Savannah Fairy Hairstreak, the ventral surface (left) is darker, and the markings are broken up into dashes, forming less clear streaks. The dorsal surface is dark purple in the male (below left), but only visible in certain angles of light. It lacks the white patch found in the following species. Females (below right) are larger, and have a lighter dorsal colouration than the males. This is a common butterfly found all over Amurum.

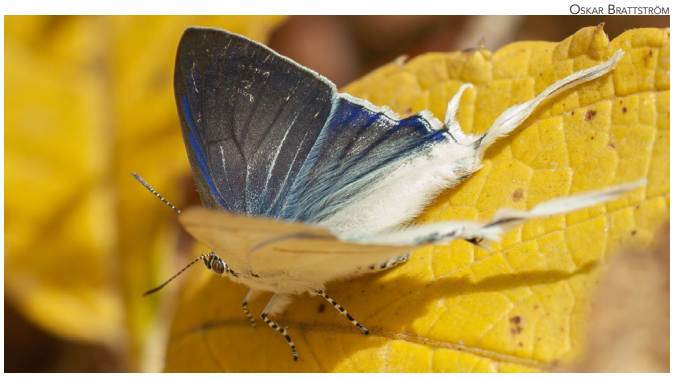
Rainer Wendt

Lies van Rompaey

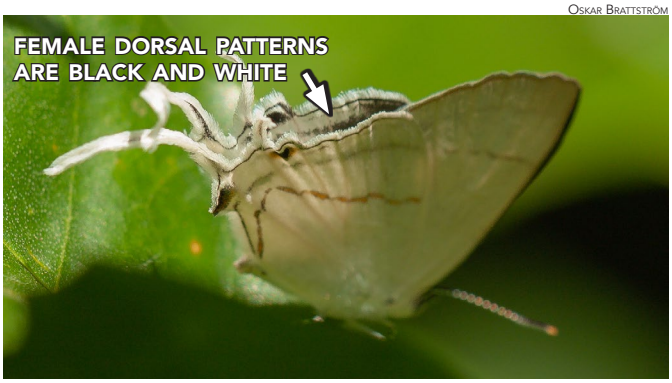
Hypolycaena anara Larsen, 1984 Savannah Fairy Hairstreak

The Savannah Fairy Hairstreak is an incredibly beautiful butterfly that is frequently seen in Amurum. It is more specific in its choice of micro-habitat than the Common Hairstreak, generally staying in humid parts of the gulley forests, and frequently comes to the ground to drink from streams and puddles. Both sexes have very long tails that together with the tornal spots make the rear end of the hindwings look like the antenna and eyes of an insect. These 'false-head' patterns are common in Lycaenidae butterflies and probably work as an anti-predator device by fooling attackers to target this end, rather than the real head of the butterfly. The dorsal wings of the male have a shiny dark blue colouration, with contrasting white inner edges on the hindwings (right). The female lacks the blue and is being black and white instead (left below). The ventral surface of both sexes (below) is bright white, with orange streak-like markings, making them very distinctive. The forewing shape is more pointed in the male (below right), making identification of the sexes possible even if the wings are not open.

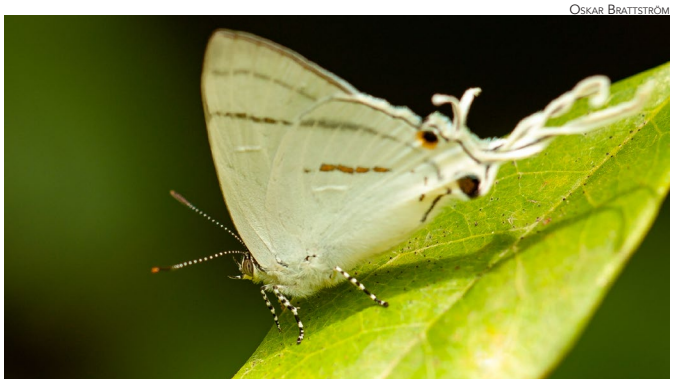
Oskar Brattström



Oskar Brattström



Oskar Brattström



This is a very large and complex genus with over 100 African species, but only four species are known to occur in Amurum. Sapphires are very fast fliers, and generally rest with their wings closed over their back, so the dorsal patterns are only rarely seen except in collected specimens. Males are frequently found hill-topping on local inselbergs where they guard a temporary territory often made up of the crown of a small tree or shrub. They will sit in an alert position on a branch of their territory and only leave to chase away approaching conspecific males in a fierce erratic flight, but the winner usually returns to the same perching position once the intruder is gone. They generally ignore the presence of other butterfly species (or entomologists) and can be approached quite closely. Climbing local savannah inselbergs in the middle part of the day and checking for fighting males spinning around in the air is usually the best way to find these species.

Females of all the species known to occur in Amurum are mainly white and black on the dorsal surface, usually with some blue scales at the base of the wings. They are very hard to tell apart and need to be collected for accurate identification. The colour of the tornal spots matches that of the males and will be the best field characteristic for the females. Due to their territorial behaviours, males are much easier to find and they will make up the majority of any specimens seen or collected.

The males of the three species on this page have blue and black markings on the dorsal surface, whilst the forth species shown on next page has mainly white and black markings.

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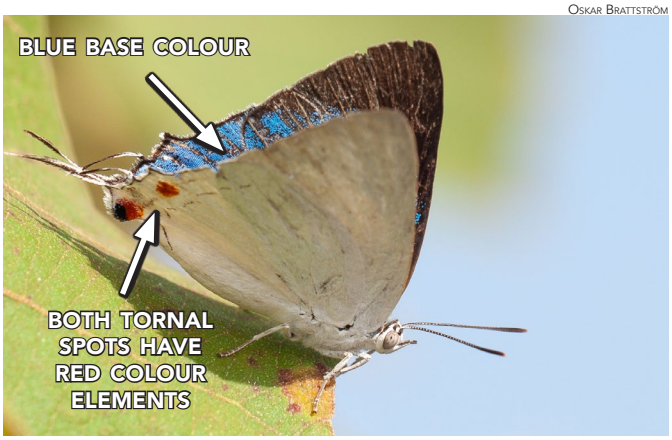
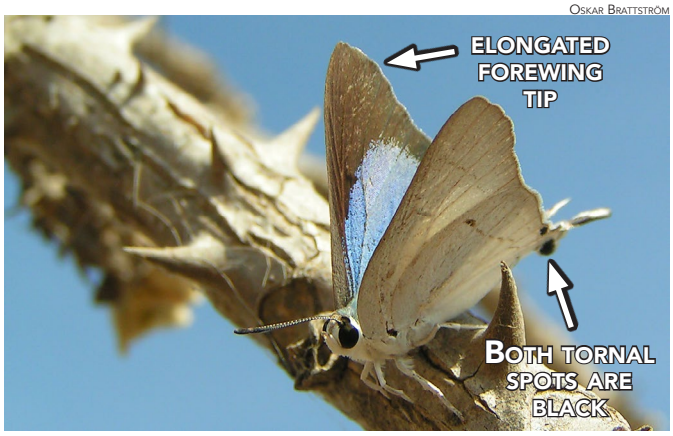


Iolaus menas menas Druce, 1890
Blue Savannah Sapphire

The underside is white, with light markings and two red and black spots at the base of the small tails on the hindwing. This is the most common of the three species with blue males.

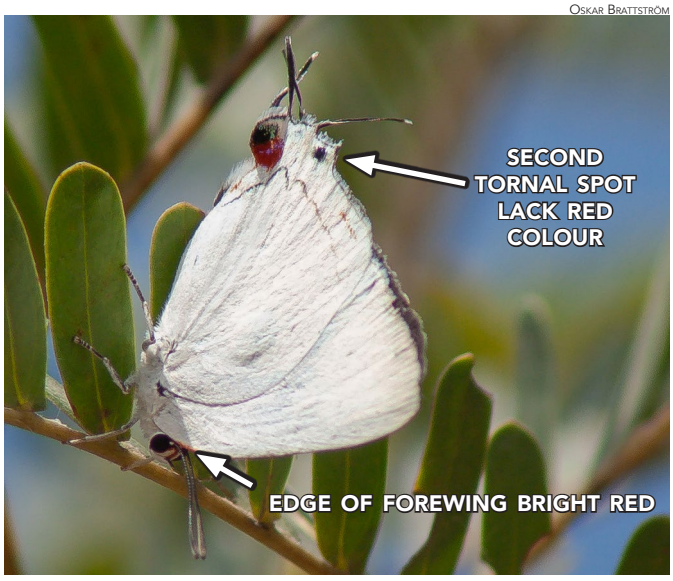
Oskar Brattström



Iolaus alienus bicaudatus Aurivillius, 1905
Brown-line Sapphire

The wing shape is different from all other species as the edge of the forewing is more elongated. There are no red spots at the base of the tails on the hindwing. This is a small species that have only been observed a single time in Amurum (December 2006, specimen in photo). It is normally found in much drier habitats further north in West Africa.

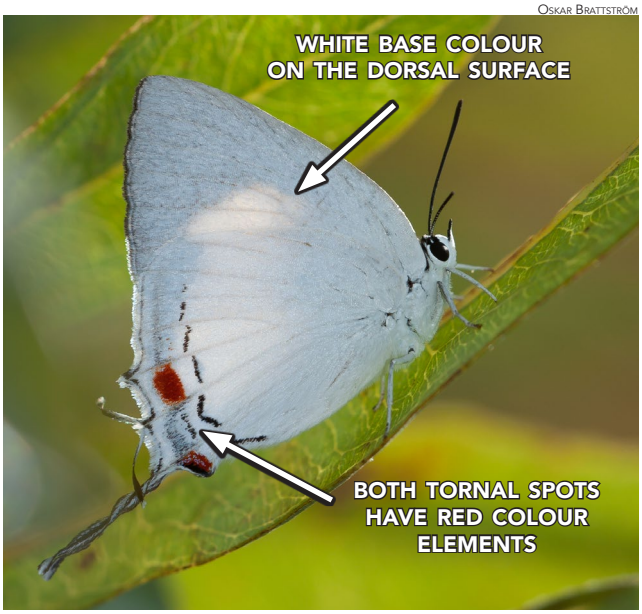
Oskar Brattström



Iolaus scintillans Aurivillius, 1905
Scintillating Sapphire

The Scintillating Sapphire is a quite rare butterfly in Amurum that can be separated from similar species with blue males by the lack of any red marking on the second spot on the ventral hindwing (see photo). In *Iolaus menas* and *I. ismenas* both spots have red markings, and in *I. alienus* both spots are black. The leading edge of the forewing is bright red at the base, but this is very hard to spot in the wild (it can be seen in this photo, and in the pinned specimen on the next page).

Oskar Brattström



Iolaus ismenias ismenias (Klug, 1834)
White Sapphire

This is the only species frequently seen at lower levels in Amurum, away from the inselberg peaks. Their flight is quick and erratic, usually about a meter or two above ground, as they seek out and inspect the leaves of small trees and shrubs, but they rarely settle for long. Learning how to identify them in the field can take some time as they are easily mistaken for many other species of lightly coloured butterflies from the family Pieridae that fly in a similar way.

The male usually have a fair amount of blue scales at the base of the wings on the dorsal side. This is barely visible in the females that also tend to have a warmer white base colour.

Oskar Brattström

Oskar Brattström

In collected specimens, males can be separated from females by looking for the so-called androconial brushes. These are fine tufts of hairs used for pheromone communication and located on the ventral lower edge of the forewing of the males. The brushes are dark grey to black in all species except *Iolaus scintillans* that have a yellow brush. If no brushes can be found the specimen will be a female.

mushikichi (Twitter username)

Oskar Brattström

These images show the large difference between males that have a white ground colour and those with a blue ground colour. Females of all species in Amurum have white ground colour, but will lack the androconial brushes (see images above).

Deudorix & Pilodeudorix – Playboys (Theclinae)

Oskar Brattström

Deudorix antalus (Hopffer, 1855)
Deudorix lorisona lorisona (Hewitson, 1862)
Deudorix dinochares Grose-Smith, 1887
Pilodeudorix caerulea (Druce, 1890)
Playboys

The oddly-named Playboys are represented by four species in Amurum. One of them, the Common Brown Playboy (*Deudorix antalus*), outnumbers the other by far. Playboys are often found hill-topping, or perched on the leaves of trees a few metres above ground. Females of all four species are quite similar, while the males have very different dorsal colours.

D. antalus – Warm shiny brown.
D. dinochares – Fiery red, black forewing edges
D. lorisona – Orange, extensive black markings
P. caerulea – Deep blue, with black markings

Martin Grimm

Oskar Brattström

Thomas Desloges

Pilodeudorix caerulea

M Purves (Wikipedia.org username)

Deudorix dinochares

Martin Grimm

Deudorix lorisona

Oskar Brattström

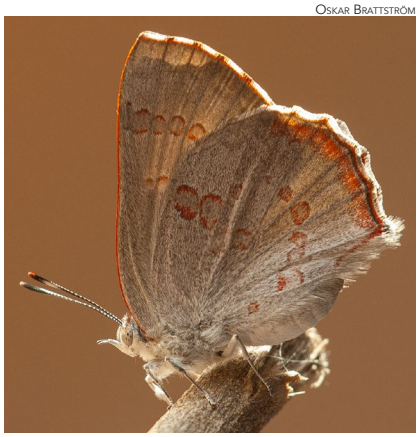
Deudroix antalus

All photographs above show male specimens, except top right which shows a female *Deudorix antalus*.

Capys – Protea Playboys (Theclinae)

Capys sp. (Undescribed) 'Amurum Protea Playboy'

Oskar Brattström



As the name suggest, the Protea Playboys depend on *Protea* plants. The eggs are laid at the base of the large flower buds, and the larvae digs into the bud where they feed and stay until they pupate. There are three *Capys* species known in West Africa, and the population in Amurum most likely represents an undescribed species new to science. It differs morphologically from the only described Nigerian species, *Capys stuarti,* a species endemic to the Kaduna area. Adults are only rarely seen, but flower buds with pupae inside can be collected to procure fresh specimens. Generally, butterfly populations are not sensitive to collection, but as Proteas with large buds are rare in Amurum (and we do not yet know how widespread this species is), collection should only be done with permission from the APLORI scientific management team.

Capys sp. – Male

Capys sp. – Female

(Theclinae) *Myrina* | (Aphnaeinae) *Axiocerces* & *Cigaritis*

The three species shown on this page are the single known representative of their respective genera in Amurum. They all have characteristic wing patterns and therefore identification in the field is easy to learn. As the name implies, the Common Scarlet is quite common, but it is very well camouflaged and often stays undetected. The two other species are rather strikingly coloured, but have only been seen a few times each.

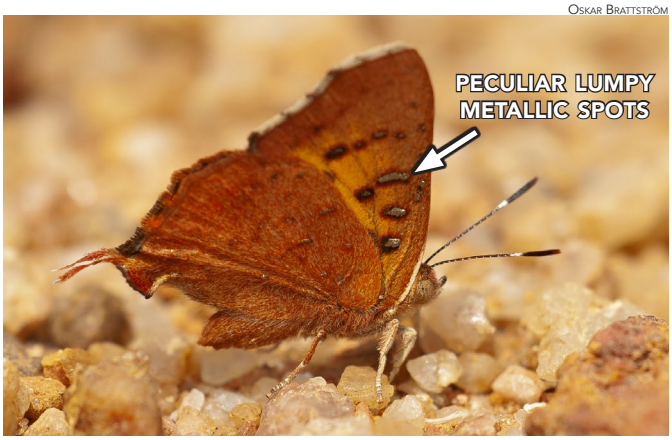
Philippe du Preez

Philippe du Preez

Myrina subornata subornata Lathy, 1903 Small Fig Blue

The dorsal surface looks similar to some other species known from Amurum, but the almost unmarked ventral surface, and the fact that it has single tail per hindwing, not two as in other blues, sets it apart

Oskar Brattström



Axiocerces harpax harpax (Fabricius, 1775)
Common Scarlet

The ventral surface is a red sand colour with specks of golden scales standing out from the background colour. The dorsal surface is fiery orange with black markings. This is a very fast-flying species that is hard to follow with the eyes when on the move. It usually perches on bare sandy ground and blends in perfectly with its surroundings when not moving.

Nigel Voaden

Rainer Wendt

Cigaritis larseni Bouyer, 2012 Larsen's Silverline

The wing pattern of this beautiful little butterfly is impossible to confuse with any other species in Nigeria, making it easy to identify in the field if you can find it. It has only been seen in Amurum twice!

Anthene & *Monile* – Ciliate Blues (Polyommatinae)

The common name, Ciliate Blues, given to species from the genera *Anthene* and *Monile* is due to the two (sometimes three) pairs of short tails found on the hindwings (sometimes missing in worn specimens).The Ciliate Blues in Amurum can all be told apart from their ventral patterns, and the first four species in this guide all lack any strong markings in the ventral forewing cell. *Anthene amarah* and *A. lunulata* are the most common species in Amurum, and learning to identify them in the field makes it possible to focus collection efforts on the remaining rarer species. It is likely that a few further species will eventually be found in Amurum

Oskar Brattström

Oskar Brattström

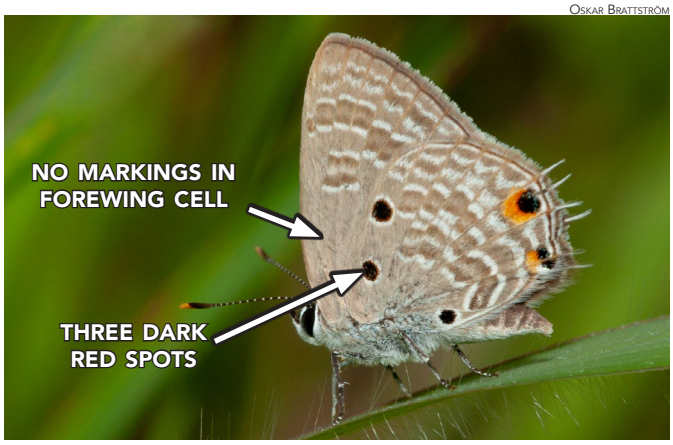
Anthene amarah amarah (Guérin-Méneville, 1847 Leaden Ciliate Blue

This species is very easy to identify by looking for the black bar at the base of the ventral forewing. This marking is almost always visible when the butterfly is sitting with closed wings, something they generally do for a few seconds upon landing, before slowly opening their wings. The dorsal surface has a light, glossy lead-like tone in the male, while the female has a more brown non-glossy tone. The red crown of the tornal spot on the hindwing is better developed in the female. The photographed specimens above are both females.

Anthene lunulata grosei (Aurivillius, 1899)
Red-spot Ciliate Blue

The ventral surface of the Red-spot Ciliate Blue is somewhat intermediate between the other two species shown on this page. There are three, well developed, round spots on the hindwing, often more dark-red than black. The male has a light violet-blue dorsal colouration with broad dark margins along the outer edges of the forewings. The female have some light markings on the hindwing, and as many other species better developed tornal spots.

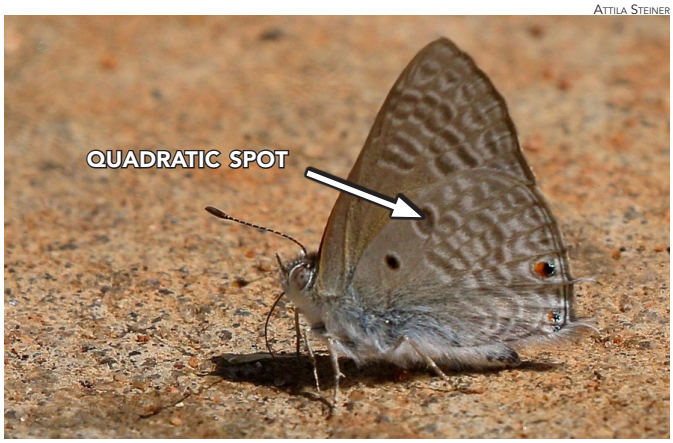
Oskar Brattström



Anthene princeps (Butler, 1876)
Coppery Ciliate Blue

The outer spot on the ventral hindwing edge is quadratic in both sexes, looking almost halfway between a typical round Polyommatinae spot, and the more streak-like markings on the rest of the wings. This is a rare species in West Africa that have only been seen a few times in Amurum. Males have a coppery tone on the dorsal surface, whilst the females have a variable amount of blue scaling combined with faint light markings.

Attila Steiner



Anthene definita (Butler, 1899)
Defined Ciliate Blue

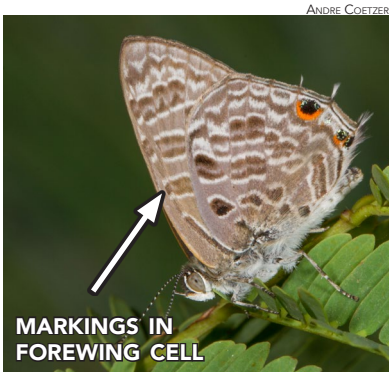
There are no markings in the ventral forewing cell, and also no dark round spots on the hindwing. The dorsal side has a distinct black patterning in the female (photo to right), which is missing in the more lilac-blue male. While this species is common in East Africa, it tend to be rare in West Africa.

Andre Coetzer


Andre Coetzer


Anthene crawshayi vuattouxi
Crawshay´s Ciliate Blue Libert, 2010

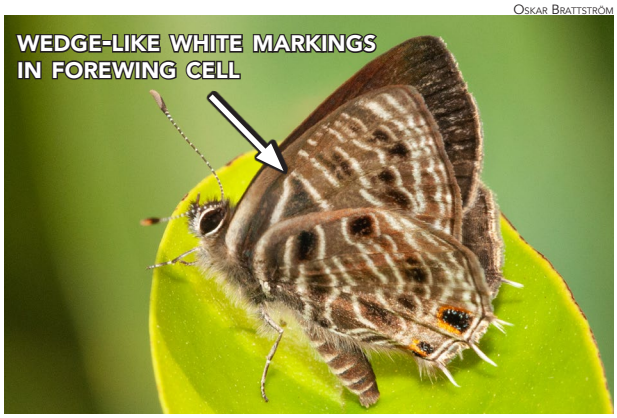
The ventral wing surface have a similar lightly grey ground colour as the previous *Anthene* species, but there are clear markings in the forewing cell. The male have a light violet ground colour on the dorsal side, while the female (photos to right) have a more variable pattern with blue and white scales.

Andre Coetzer


Andre Coetzer

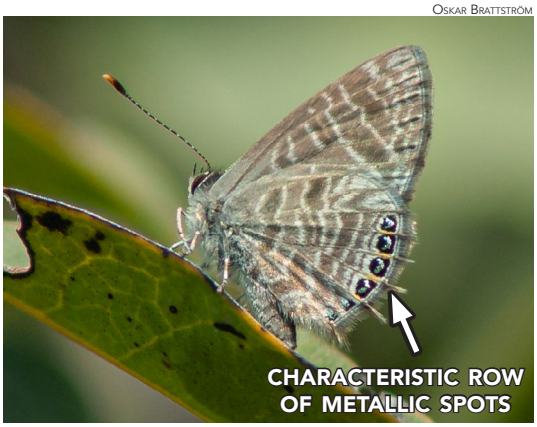

Anthene nigeriae (Aurivillius, 1905)
Nigerian Ciliate Blue

The Nigerian Ciliate Blue is a very dark representative of its genus. There is a white wedge-like marking at the base of the ventral forewing cell, not found in any of the other species in Amurum. The dorsal surface is almost fully black in the male, the female have a few white markings, but is still much darker than similar species. It is frequently found perching on leaves in the early morning, soaking up the first rays of sunlight.

Oskar Brattström


Monile gemmifera maculata Libert, 2010
Jewelled Ciliate Blue

With a neat row of small shiny eyespots on the ventral hindwing, this species is very distinct. It is a tiny butterfly that is easily overlooked. In Amurum it has been observed a few times at the peak of the inselberg close to Laminga. These sightings are the only known records for Nigeria, but it will certainly be present, but not yet documented, at many other sites.

Oskar Brattström


Pseudonacaduba, Lampides & Eicochrysops (Polyommatinae)

Pseudonacaduba sichela sichela (Wallengren, 1857)
African Line Blue

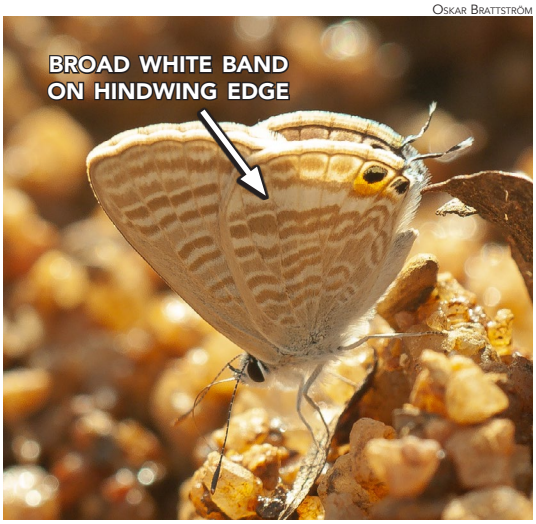
The ventral markings consist of fine light streaks forming irregular bands on a homogeneous grey background. There are two small tornal spots (usually without any orange crown), but no tails, on the hindwing. The male is deep violet blue on the dorsal surface, while the female is black with a variable amount of blue colour at the base of the wings. This is an example of a species where the lack of characters is often more important than a presence.

Oskar Brattström

Lampides boeticus (Linnaeus, 1767)
Pea Blue

The Pea Blue is an extremely widespread butterfly, being found all over Africa, southern Europe, the Middle East and Arabia, most of the Oriental Region and parts of Australia. The species is highly migratory, constantly tracking suitable breeding conditions, and on many locations it can only be found at specific times of the year. The Jos Plateau has been suggested as one of few places in West Africa where the species could potentially be found all year round. The broad white band on the edge of the ventral hindwing is a good character for identification. On the dorsal side the male is uniform violet blue, while the female have a more varied greyish-brown colouring with some blue scales.

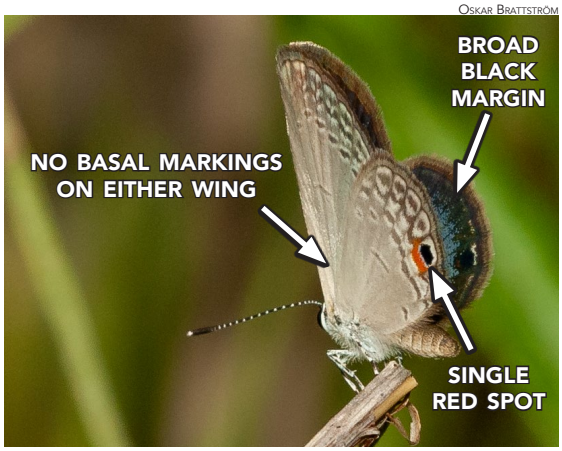
Oskar Brattström



Eicochrysops dudgeoni Riley, 1929
Dudgeon's Cupid

Both sexes of the tiny Dudgeon's Cupid have no basal markings on the ventral side of either wing and there are also no hindwing tails. The tornal spot is clearly marked with red. The dorsal surface of the male is dark blue, with a broad black margin (see photo). The dorsal surface of the female is dark brown, with a clear red tornal eyespot.

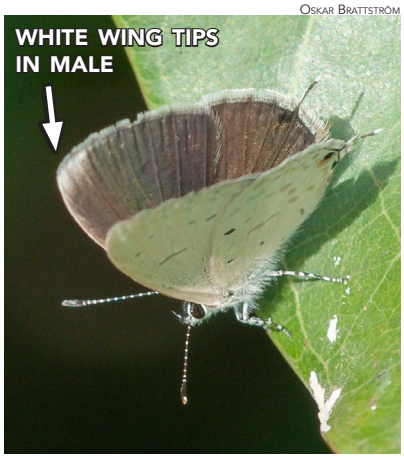
Oskar Brattström



Eicochrysops hippocrates (Fabricius, 1793)
White-tipped Cupid

The male White-tipped Cupid have clear white tips on the otherwise almost black dorsal forewings. The female (right) lacks the white tips, and has some steel-blue scaling at the base of both wings. The ventral wing pattern is light, and has only a few markings, making it quite distinctive. There is a small tail at the tornal end of the hindwing in both sexes. Males are often found perched on leaves of trees, head down, looking for any intruders in their territories.

Oskar Brattström



Kate Braun

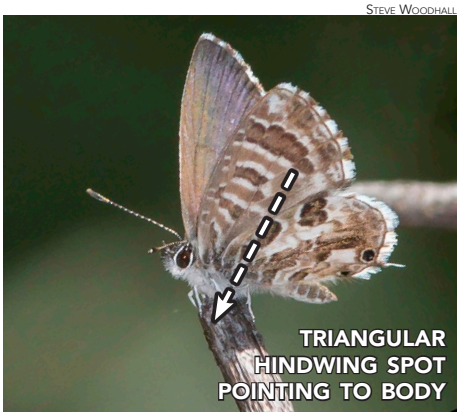
(Polyommatinae) Bush and Zebra Blues – *Cacyreus* & *Leptotes*

Cacyreus lingeus (Stoll, 1782)
Common Bush Blue

Cacyreus virilis Aurivillius, 1924
Alternative Bush Blue

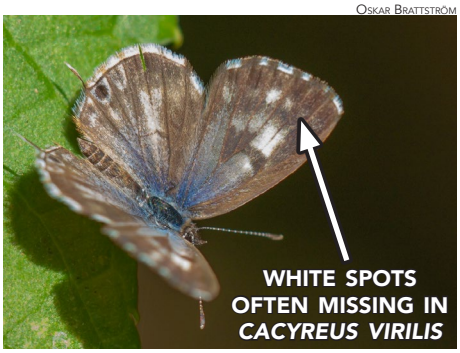
As the name implies, the Common Bush Blue, is a common butterfly. The distribution of the Alternative Bush Blue is patchy in West Africa, but it is quite frequently found on the Jos Plateau. Males can only be separated by the angle of one of the spots on the ventral hindwing (see photos). This character also helps to separate the females, but they can also be separated by looking for the small white spots at the dorsal forewing margin that are only present in *C. lingeus* (see photo).

Steve Woodhall



Cacyreus virilis – Male

Oskar Brattström



Oskar Brattström

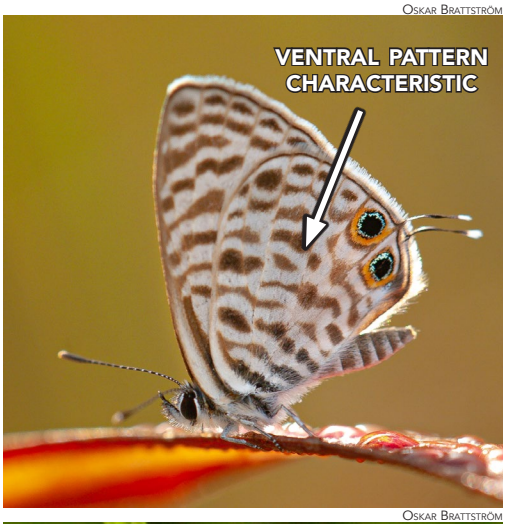
Adedotun Ajibade

Cacyreus lingeus – Female (left) and male (centre and right)

Leptotes pirithous (Linnaeus, 1767)
Leptotes babaulti (Stempffer, 1935)
Leptotes jeanneli (Stempffer, 1935)
Leptotes brevidentatus (Tite, 1958)
Zebra Blues

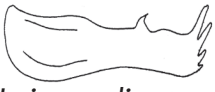
These four species can not be separated in the field, so for monitoring purposes they are usually treated as one group. Males can be separated by genitalia dissections, the distinctive valves of the four species are shown below (image from Larsen, 2005). The females cannot be separated without genetic data. Normally *L. pirithous* is the most common of the four, but no dissections have been made from Amurum specimens so far.

Oskar Brattström



L. pirithous

L. babaulti



L. jeanneli

L. brevidentatus

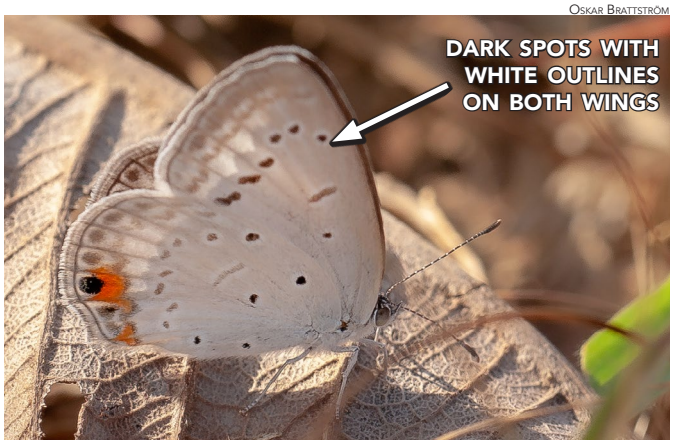
Ferran Pestaña

Oskar Brattström

Leptotes sp. – Male (left) and female (right)

Cupidopsis, Euchrysops & Thermoniphas (Polyommatinae)

Oskar Brattström



Cupidopsis cissus cissus (Godart, 1824)
Meadow Blue

This species is quite similar to the four *Euchrysops* species discussed below. The key character is the spots on the ventral side; in *Cupidopsis* most of them are black, with a white outline, but sometimes a bit pale, like in the female in the photo to the left. In *Euchrysops* only the more basal spots are clearly ringed with black. The Meadow Blue has no hindwing tails and is generally more common than the four *Euchrysops* species found in Amurum.

Euchrysops malathana (Boisduval, 1833)
Euchrysops barkeri (Trimen, 1893)
Cupids

Euchrysops osiris (Hopffer, 1855)
Euchrysops subpallida Bethune-Baker, 1923

The four species of *Euchrysops* known from Amurum can be identified by looking for the presence of hindwing tails, counting the number of tornal spots, and observing the colour of these spots. If there are no tails, the amount of orange colour around the tornal spots helps separate *E. malathana* (large orange crown) from *E. subpallida* (limited orange). If hindwing tails are present the number of well-developed tornal spots separates *E. barkeri* (one spot) from *E. osiris* have (two spots). Dorsally, males tend to have more uniform blue colouration, while females are more heavily marked with black scales. The two specimens shown below with wings open are both females. Further *Euchrysops* species are likely to be present in Amurum so it is worth giving them some time in the field looking for new records.

Pavel Votjek

Euchrysops malathana

Steve Woodhall

Euchrysops osiris

Steve Woodhall

Euchrysops barkeri

Steve Woodhall

Euchrysops subpallida

Thermoniphas micylus (Cramer, 1780)
Common Chalk Blue

This distinct and lightly coloured species has only been observed a single time in Amurum. It is normally found further south in more forested habitats, so its presence in the reserve might be a sign that the ongoing habitat changes are allowing new species to colonise as the trees grow back. The dorsal surface is blue without much markings, slightly duller in the female than the male.

Adrian Hoskins

(Polyommatinae) Babul Blues & Pierrots – Azanus & *Tuxentius*

Azanus jesous (Guérin-Méneville, 1849)
Azanus mirza (Plötz, 1880)
Babul Blues

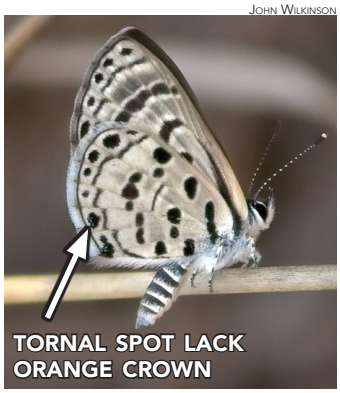
Azanus moriqua (Wallengren, 1857)
Azanus natalensis (Trimen & Bowker, 1887)

The Babul Blues are all quite small butterflies and the males are commonly seen mud-puddling in large numbers. Five species are known from Amurum, but only one of them (*Azanus isis*) is relatively easy to separate from the others in the field, and is therefore treated separately below. The other four species can usually be identified by observing their ventral spot patterns, but the differences are sometimes quite hard to see. Accurate identification of every single individual seen in the field takes quite some time, even for an experienced observer. They are therefore often treated as a group when performing monitoring projects.

Oskar Brattström

Azanus jesous

John Wilkinson



Azanus moriqua

Rainer Wendt

Azanus mirza

tiluchi (inaturalist.org username)

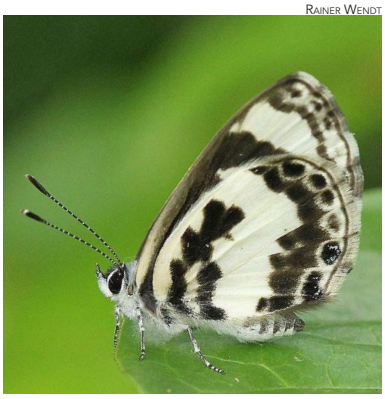
Azanus natalensis

Azanus isis (Drury, 1773)
White-banded Babul Blue

The ventral surface of the White-banded Babul Blue is somewhat similar to that of the Savannah pied pierrot (below), but the black markings are larger and form continuous bands in the White-banded babul blue. The female dorsal surface is black and white (again similar to the Savannah Pied Pierrot), but males can always be told apart by the shiny blue overlay above the black and white pattern.

Rainer Wendt

Rainer Wendt



Azanus isis

Tuxentius cretosus nodieri (Oberthür, 1883)
Savannah Pied Pierrot

The distinctive Savannah Pied Pierrot cannot be confused with many other species in the area, except possibly the White-banded Babul Blue (*Azanus isis*) that can also be found in Amurum. However, with a bit of practice they can easily be told apart by the less merged black spots on the underside in *Tuxentius*. Both sexes have a black and white dorsal pattern. Males are often found mud-puddling, and both sexes will gather around their host plant trees (*Ziziphus sp.*) in large numbers when they are flowering.

Mattia Menchetti

Chilades, Zizina, Zizeeria & Zizula (Polyommatinae)

Chilades trochylus (Freyer, 1843)
Grass Jewel

This tiny butterfly is easy to recognise due to the three small tornal spots on the ventral side of the hindwing that have a large orange crown fused together into one large orange patch. The dorsal side has warm brown colour in both sexes, and the orange patch around the tornal spots is well developed on this side of the wings as well. Just like the other three species on this page, it is easy to overlook as it is one of the smallest butterflies on the African continent.

Steve Woodhall

Zizina otis antanossa (Mabille, 1877)
Dark Grass Blue

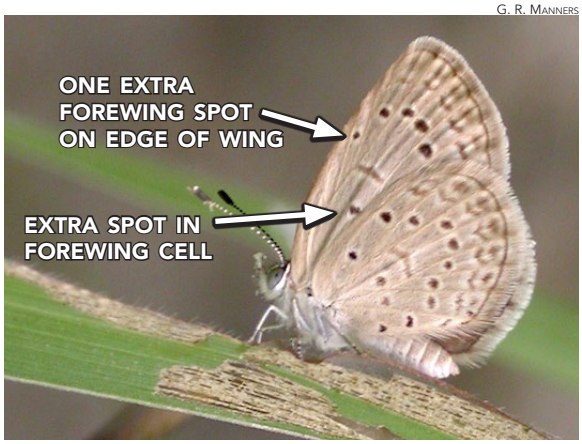
This is the first of three small lightly marked species that are all common in Amurum. Whilst they are very similar on first sight, they all have some differences in the arrangement of their ventral spots on the forewing that can be used to separate the species. The Dark Grass Blue (*Zizina otis*) have less spots than the following two species (see photos below).

Adrian Hoskins

Zizeeria knysna (Trimen, 1862)
African Grass Blue

As is typical with many species of Lycaenidae, the males have a more developed blue colour on top, while the females are darker with more brown and black markings. This is true for all of the three species in this last group. Compared to the Dark Grass Blue (*Zizina otis*) the African Grass Blue (*Zizeeria knysna*) have an extra spot on the ventral forewing edge as well as one in the cell (see photo).

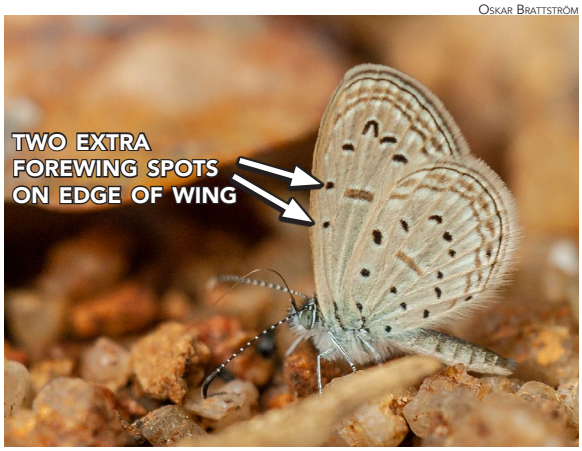
G. R. Manners



Zizula hylax (Fabricius, 1775)
Tiny Grass Blue

Both sexes of the Tiny Grass Blue (*Zizula hylax*) have an additional spot on the forewing compared to African Grass Blue (*Zizeeria knysna*) (see photo). They lack the spot in the cell found in the latter. This small species of blue is often found in large numbers, together with the preceding two species, flying in small swarms low above short grass, including lawns, such as those in the APLORI institute's gardens.

Oskar Brattström



Family Nymphalidae – Brush-footed butterflies

Nymphalidae (Brush-footed butterflies) is the world's largest butterfly family. There are over 550 species known from West Africa, and around 50 of those have been recorded from Amurum. Most groups of Nymphalidaes have had their first pair of legs reduced in size, and only use the other two pairs four walking. Exactly why this have happened is not clear, but there are some evidence that the reduced pair of legs have evolved to take on secondary sensory functions.

The taxonomy is more stable than for Lycaeniade, but it is still worth keeping an eye on the recent phylogenetic literature to follow changes in classifications. Below are a listing of the subfamilies found in Amurum, but they are less well defined as in Lycaenidae and of less use for identification purposes.

Subfamily Danainae

Often called Milkweed Butterflies, as one of the main subgroups use Milkweeds as larval host plants. Most species have aposometic warning colours and are poisonous.

Subfamily Satyrinae

Known as Satyrids, or Browns, these species often have rows of characteristic eyespots on their wings. The larvae feed on various monocotyledonous plants, primarily grasses.

Subfamily Charaxinae

These butterflies are usually large and powerful fliers, with striking patterns that have often made them the favourites among both insect collectors and taxonomists.

Subfamily Nymphalinae

Morphologically a rather undefined group, and used to be where species not fitting within other groups were placed. Modern phylogenetics have cleaned up this situation.

Subfamily Biblidinae

A quite small group that sometimes been merged with the Limenitidae, but modern phylogenetics have shown that this is an old and genetically distinct group.

Subfamily Limenitidinae

Not a well represented group in Amurum, but numerous species across the world. Includes many species with a tendency to glide with open wings while flying.

Subfamily Heliconiinae

Sometimes called Longwings as many species have elongated forewings, but this group also contains the Fritillaries that have normally shaped wings.

Oskar Brattström

Charaxes lactetinctus **–** Blue-patch Charaxes
Hill-topping male surveying his territory

Danaus, Tirumala & Amauris – Tigers & Clerics (Danainae)

Danaus chrysippus alcippus (Cramer, 1777)
African Monarch

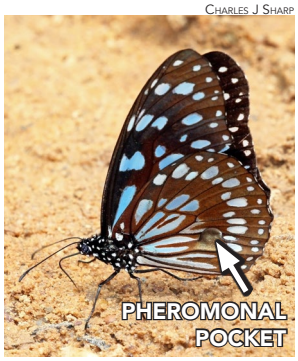
African Monarchs are migratory and move all over the continent. Like most Danainae species they are poisonous, which protects them from predators. Their striking colours are an effective warning signal that is copied by many non-poisonous species. Males can be distinguished by the pheromonal pockets on their hindwings.

Rainer Wendt


Rainer Wendt

Tirumala petiverana (Doubleday & Hewitson, 1847)
African Blue Tiger

The African Blue Tiger is a large butterfly known to have unpredictable population cycles. It will sometimes be missing for a long time in areas where it can at other times be very common. Just like the African Monarch, the males have pheromonal pockets on their hindwings. It is a distinctive butterfly, but can be mistaken for *Graphium leonidas* which has a similar colour pattern, but with fewer and larger light blue spots.



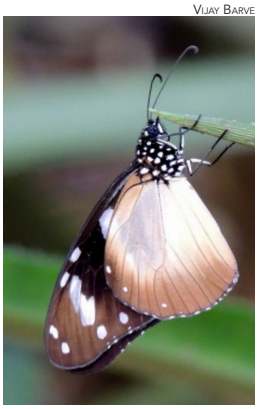
Charles J Sharp


Peter Bygate

Amauris damocles (Fabricius, 1793)
Small Monk

The Small Monk is easy to separate from the other local Danainae species by its relative lack of colour. The males have an androconial patch at the tornal edge of their hindwings. Most *Amauris* species are mimicked by other butterflies, and in Amurum the Small Monk have a mimic in one of the morphs of the Variable Eggfly (*Hypolimnas anthedon*) that can look very similar.

G. R. Manners


Vijay Barve

Ypthima – Ringlets (Satyrinae)

Ypthima sp. Ringlets

The small Ringlets are more or less impossible to separate to species level without performing genitalia dissections. They can easily be separated from the similar Bush Browns (*Bicyclus*) by the fact that Ringlets always have two light dots inside the top forewing eyespot, while Bush Browns never have more than one central dot per eyespot. No dissection work has been done in Amurum, so the exact species composition of the Ringlets is unknown.


Adrian Hoskins

Hannes Öhm

Ypthima doleta – Mating pair (left) and female (right)

(Satyrinae) Bush Browns – *Bicyclus*

Bush Browns (*Bicyclus*) is a large genus of similar looking species that are very hard to separate in the field. They often show seasonal dimorphism with more a camouflaged dry season morphs with smaller eyespots than the wet season morphs. There are only three species known in Amurum.

Regine Hakenbeck

Bicyclus pavonis

Bicyclus pavonis (Butler, 1876)
Rock Bush Brown

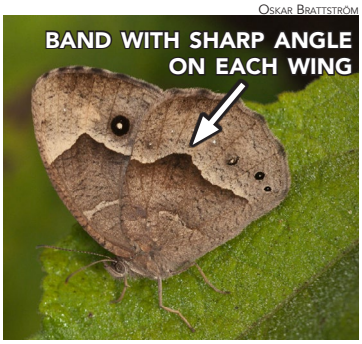
The Rock Bush Brown is found all over the African savannah belt north of the equator. It is unusual among *Bicyclus* species in savannah habitats as it does not show distinct seasonal morphs; regardless of season it always displays a typical wet season morph with large conspicuous eyespots.

Bicyclus campa (Karsch, 1893)
Hill Bush Brown

This is the most common Bush Brown in Amurum, and can be seen at most times of the year. The wet season morph has large eyespots that help to deflect predator attacks away from the body. In the dry season the species is less active, and the better camouflaged dry season morph instead blends in better with its surroundings.

Oskar Brattström

Oskar Brattström



Bicyclus campa – Wet (left) and dry (right) season morphs

Bicyclus angulosa angulosa (Butler, 1868)
Angular Bush Brown

Despite normally being a quite common species, only a single specimen of the Angular Bush Brown has been found in Amurum so far, suggesting it might not be a resident species. The ventral wing band is shaped differently than in the species detailed above.

Pamela Sai

Carol McDougall

Bicyclus angulosa – Wet (left) and dry (right) morphs

(Satyrinae) Evening Browns – *Melanitis*

Melanitis leda (Linnaeus, 1758)
Common Evening Brown

Melanitis libya Distant, 1882
Violet-eyed Evening Brown

As the name implies, the Evening Browns are generally active at dusk. During the day they tend to rest on the ground, and if disturbed they will move just a short distance, relying on camouflage for protection. *Melanitis leda* shows strong seasonal dimorphism, while the less common *M. libya* has a constant dry season morph. The species can be separated by the angle of the eyespots on the dorsal forewing. The size of these spots varies, but the upper spot is always placed closer to the base of the wing in *M. libya*.

Rainer Wendt

Doug Macdonald

Melanitis leda have very distinct seasonal morphs. Images show the wet (above) and dry (right) season morphs.

Images to the far right show how the eyespots help to separate the two *Melanitis* species.

Thomas Desloges

M. leda

M. libya

Charaxes (Charaxinae)

The genus *Charaxes* are large powerful butterflies, often with colourful wing patterns that makes identification relatively straightforward. However, some species like the 'Black Demon Charaxes complex' are almost impossible to identify to species level in habitats with many sympatric species, such as in Cross River. In Amurum at least eleven species can be found, and most of these can be identified easily. They generally fly high up in the canopy, but can be collected with bait-traps as both sexes are strongly attracted to rotting fruit. Males are also attracted to foul-smelling substances such as carcasses or faeces. As they are sturdily built butterflies that can be handled without damaging them, they are well suited for mark-recapture studies.

Rainer Wendt

Charaxes varanes

Charaxes varanes vologeses (Mabille, 1876)
Pearl Charaxes

The Pearl Charaxes is the most common member of the genus in Amurum. The ventral surface has a camouflaged yellow-brown pattern, while the dorsal surface has a warm white basal patch on each wing. There are two other similar species of Pearl Charaxes in Nigeria (*C. fulvescens* and *C. obudoensis*), with the former being a rainforest specialist, and the latter an Obudu Plateau endemic.

Mark Liptrot

Charaxes candiope

Charaxes candiope (Godart, 1824)
Green-veined Charaxes

The almost artificial-looking green veins that given this species its common name are impossible to miss. The Pearl Charaxes can also have a green tinge to the same veins, but never as strong as the Green-veined Charaxes, that also lack the dorsal white colouration of the preceding species. Females of this common species typically have larger yellow spots on the forewing than the males.

Jean-Pierre Arnaud

Charaxes lactetinctus

Charaxes lactetinctus lactetinctus Karsch, 1892
Blue-patch Charaxes

Compared to the other species on this page, the Blue-patch Charaxes is a much rarer sight, best found by climbing local hilltops to find territorial males. The ventral surfaces have a warm brick-red tone, and the blue-white basal patches on the dorsal wings are set against a much darker background than in the somewhat similar Pearl Charaxes.

Rainer Wendt

Charaxes varanes

Arne Holgersson

Charaxes candiope

Oskar Brattström

Charaxes lactetinctus

Charaxes epijasius Reiche, 1850
Cream-bordered Charaxes

Charaxes legeri Plantrou, 1978
St. Leger's Charaxes

The four species on this page all have similar ventral patterning (see photos below), but the dorsal patterns are quite distinct. The Cream-bordered Charaxes is a common species all over West Africa, and can be found in all types of savannah habitats, all the way up to the Sahel region. The less widespread, and rarer species, St. Leger's Charaxes is similar looking, but the sky-blue hindwing patch is always smaller than in the Cream-bordered Charaxes.

Séverin Tchibozo

Charaxes epijasius

Charaxes legeri

St. Leger's Charaxes (top) can have a variable amount of sky-blue colouration on the hindwing, but the patch will never be as large as in the Cream-bordered Charaxes (left).

Charaxes brutus brutus (Cramer, 1779)
White-barred Charaxes

This is a quite rare species in Amurum. It is normally being linked to more forested habitats, suggesting it might become more common in the future. The dorsal surface has a white band that extends across both fore- and hindwing and can be confused with the somewhat similar (and much more common) Bush Charaxes (next page). However, the ventral surfaces are completely different.

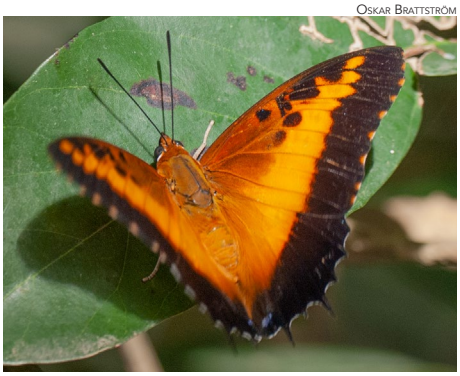
Peter Vos

Charaxes brutus

Charaxes pollux pollux (Cramer, 1775)
Black-bordered Charaxes

The Black-bordered Charaxes is a common butterfly in Amurum, but across its West African range it is usually a local and rare sight. The combination of the golden-yellow dorsal patterning and the intricate ventral pattern is unique, and no other local species looks similar. The females have lighter and more extensive markings than the males.

Oskar Brattström



Charaxes pollux

Amadou Bahleman Farid

Charaxes epijasius

Richard Gill

Charaxes brutus

Charaxes pollux

Charaxes (Charaxinae)

The Charaxes pages on this and the following two pages show sexual dimorphism to a higher degree than those on the previous pages. The ventral surface is more similar between males and females than the dorsal.

Charaxes boueti boueti Feisthamel, 1850

Bamboo Charaxes

Peter Bygate

Charaxes boueti – Female

Peter Bygate

Charaxes boueti – Male

This is a rare species in Amurum, and one that was traditionally more distributed towards the southern parts of Nigeria. The Bamboo Charaxes is currently undergoing an ecologically interesting range expansion. The species have recently began to adapt to using exotic Asian bamboo species (*Bambusa*) as larval host plants, instead of indigenous bamboo species. With humans planting the exotic species further north, the butterfly is now spreading out into new areas where it would never have been found as recently as 30 years ago. Compared to many other Charaxes this is a quite small species, and the ventral hindwing has two distinctive light bands. The dorsal surface shows strong sexual dimorphism, and the female can be mistaken for the Bush Charaxes (see below), but the ventral pattern (similar in both sexes) is different between the two species, making misidentification next to impossible.

Peter Bygate

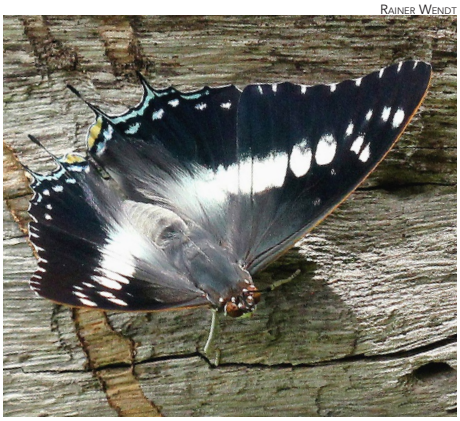
Charaxes boueti – Ventral pattern

Charaxes achaemenes monticola van Someren, 1970

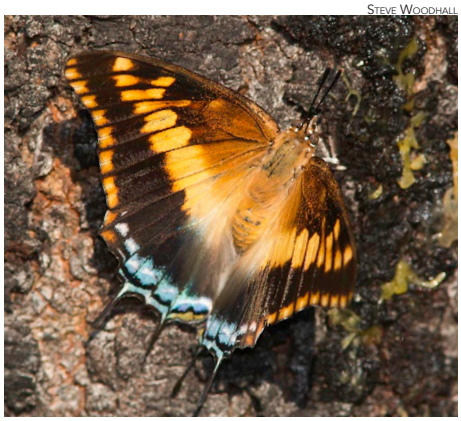
Bush Charaxes

The male Bush Charaxes have a dorsal surface that is somewhat similar to the White-barred Charaxes, but the white forewing band of the former breaks up into two rows of spots at the top of the wing, while the band stays as a single line of dots in the latter. The ventral surfaces are completely different between the two species, with the Bush Charaxes looking somewhat similar to the Demon Charaxes species discussed on the next page. The female can instead be mistaken for the Bamboo Charaxes, but the dorsal marginal row of blue merged spots on the hindwing sets the Bush Charaxes apart. It is a common species in Amurum.

Rainer Wendt



Steve Woodhall



Rainer Wendt

Charaxes achaemenes – Male (left), female (centre), and ventral pattern (left - similar in both sexes)

Charaxes viola viola Butler, 1866
Savannah Demon Charaxes

Charaxes chevroti Collins & Larsen, 2005
Kagoro Demon Charaxes

The Demon Charaxes is generally a very hard group to identify to species level, as the males of many species are very similar. Two species are certain to be present in Amurum, and a third, the Pink-washed Demon Charaxes (*Charaxes plantroui*) possibly resident as well. Luckily, the two species in Amurum are unusually easy to separate from each other, especially the females. The Kagoro Demon Charaxes used to be known only from Kagoro, and was considered as possibly extinct given the recent destruction of its only known habitat. It was however found in large numbers in Amurum in 2007, and also observed in nearby Kurra Falls, so the species might be well established on the Jos Plateau and less rare than previously thought.

Szabolcs Sáfián

Charaxes viola – Male

Charaxes viola – Male (left) and female (right)

The male have better developed blue-white spots on the dorsal surface, females have a clear yellow tinge to the dorsal forewing band that also stays merged further up on the wing.

Charaxes chevroti – Male (left) and female (right)

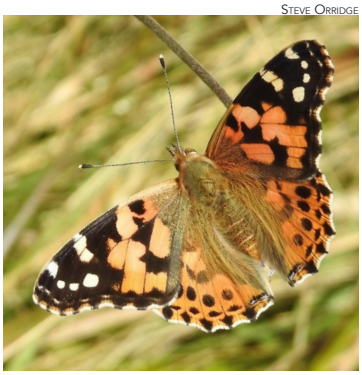
The male is darker above, but with a light band on the ventral hindwing. The female dorsal band is less yellow, and splits into two rows of spot lower down on the forewing.

(Nymphalinae) Painted Ladies – *Vanessa*

Vanessa cardui (Linnaeus, 1758)
Painted lady

The Painted Lady is the most widespread butterfly species in the world, and has an amazing migratory capacity. The West African populations are most likely linked with those in Europe, crossing the Sahara Desert twice each year in a way similar to migratory birds, but with separate generations flying each direction of the route. In Amurum it is most likely to be found during the early dry season.

Steve Orridge



Oskar Brattström

Precis – Commodores (Nymphalinae)

Commodores (*Precis*) are quite large butterflies with distinct patterns. They often rest on the ground or on low vegetation with wings open, making them quite easy to observe. It is almost always possible to identify them to species level in the field. They are closely related to the Pansies (*Junonia*).

Some species show strong seasonal dimorphism with different morphs in the wet and dry season, sometimes looking so different from each other that the two morphs initially were described as two separate species! Other butterfly groups showing large seasonal variation are the Bush Browns (genus *Bicyclus*). Adult butterflies cannot change their wing patterns so the environmental cues that influence the adult morphs are all received in the larval and pupal stage. This has been the focus of much ecological research and several species of African butterflies have been bred in labs all over the world to try and understand how these remarkable developmental shifts are controlled at a genetic level.

Oskar Brattström

Precis pelarga (Fabricius, 1775)
Common Commodore

This is the least common of the four *Precis* species known in Amurum. Whilst the three other species are more of savannah specialists, the Common Commodore is generally found in more forested areas. It appears to tolerate habitat degradation quite well and can be found in dense Guinea savannah and gardens with lush vegetation. The dry season morph (pictured) has drawn out forewing tips and the broad orange bands are often dusted with light blue scales, especially in females (male with limited blue scaling shown). The ventral side is dark, with a leaf-like camouflage pattern.

Oskar Brattström

Oskar Brattström

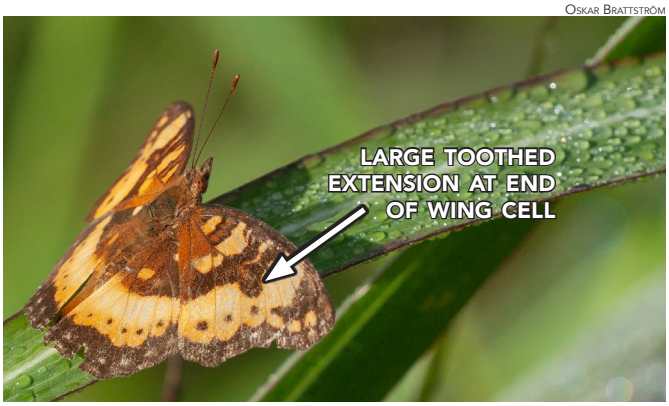
Precis frobeniusi Strand, 1909
Toothed Commodore

The Toothed Commodore is a rare and local savannah butterfly endemic to West Africa. The dorsal pattern is very distinct and it is an easy butterfly to recognise in the field. It has a patchy distribution linked to hilly areas and is found quite frequently in Amurum, but it is never as common as the two species on the next page. Compared to the other Commodores it is quite cautious and difficult to approach for photographs. It is often found by the edge of erosion gulleys, hiding in the shade on hot days. Seasonal variation appears to be much less pronounced than in the other Commodore species.

Precis antilope (Feisthamel, 1850)
Darker Commodore

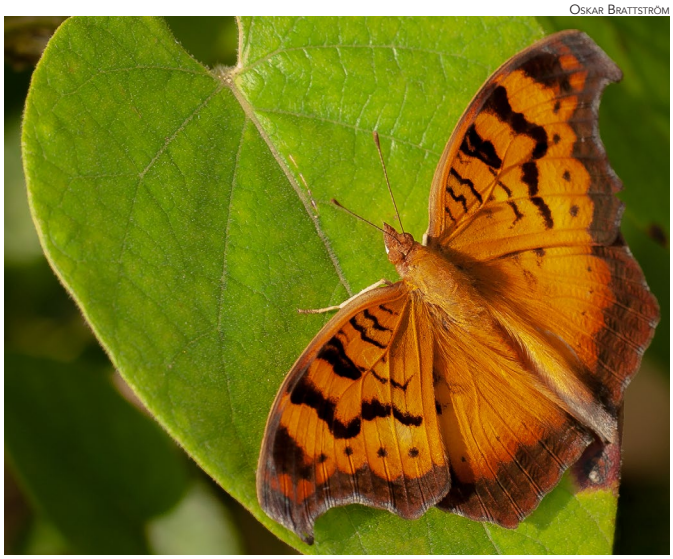
This is the most common of the Amurum Commodore species. The seasonal morphs are quite different, with the dry season morph (photos to the left) being larger, with drawn out forewing tips and less pronounced dark markings. The wet season morph (below) can be confused with that of the Gaudy Commodore, but the latter has less extensive black markings, and also lacks the pronounced tooth at the end of the forewing cell (see photo below). The ventral side has a quite lightly coloured leaf like camouflage pattern in the dry season.

Oskar Brattström



Oskar Brattström

Oskar Brattström

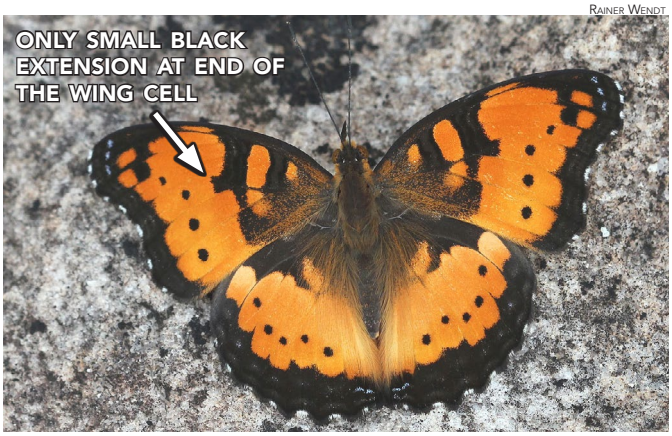


Precis antilope – Wet season morph (left) and dry season morph (right)

Precis octavia octavia (Cramer, 1777)
Gaudy Commodore

The Gaudy Commodore displays one of the most striking examples of seasonal dimorphism found in any species of butterfly. The dry season morph has a beautiful pattern with shiny blue and red markings. It is often found resting on the dry ground with wings open, and despite the strong pattern it blends in quite well with rocks and gravel, suggesting it is a camouflage pattern. The wet season morph is smaller and looks quite similar to that of the Darker Commodore, but it lacks a pronounced toothed extension at the end of the forewing cell. The ventral surface is similar to the dorsal in the wet season, while the dry season morph has a dark camouflaged pattern.

Rainer Wendt



Rainer Wendt

Precis octavia – Wet season morph (left) and dry season morph (right)

Pansies (*Junonia*) are similar to the Commodores (*Precis*) in both behaviour and some of the patterning. They also show variation between the seasons, but to a much smaller extent; the dry season patterns are generally more cryptic, especially on the ventral side. Just like Commodores, Pansies are a group that can be identified to species level in the field. The sexes are similar, but females tend to have larger eyespots and lighter markings.

OSKAR BRATTSTRÖM

OSKAR BRATTSTRÖM

Junonia chorimene (Guérin-Méneville, 1844)
Golden Pansy

The Golden Pansy is a common sight in Amurum, and has the most cryptic dorsal colouration of the group. It often rests on the ground or on low vegetation with the wings held making the dorsal patterns easy to see. The ventral pattern is quite similar to that of the Darker Commodore, but the dorsal surfaces are very different in the two species, making identification easy. If disturbed, it often takes shelter in shade of thorny, dense vegetation, making it quite hard to catch with a sweep net.

OSKAR BRATTSTRÖM

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Junonia terea terea (Drury, 1773)
Soldier Pansy

This is a distinctive species with broad yellow bands on both pairs of wings that continue uninterrupted from forewing to hindwing. The somewhat similar Yellow Pansy has the yellow patterns broken up by black markings, together with a large blue spot on the base of the hindwing that is missing in the Soldier Pansy. The ventral side is straw coloured with faint markings, similar to the species on the next page.

RAINER WENDT

Junonia oenone oenone (Linnaeus, 1758)
Dark Blue Pansy

The Dark Blue Pansy is a very common butterfly in savannah habitats all over Africa, and a very easy one to recognise in the field. The dark blue spots on the hindwings stand out clearly against the almost completely black base colour. Females have larger red eyespots on both wings than the males. The photo shows a male, with the wings almost fully exposed in a typical resting position. The ventral side has a light camouflage pattern.

Junonia orithya madagascariensis Guenée, 1865 Blue Pansy

This species is very similar to the Dark Blue Pansy, but instead of a clearly defined dark blue spot at the base of the hindwing, the Blue Pansy has the whole other half of the hindwing covered in a shiny light blue colour. It is a common butterfly, but not as common as the Dark Blue Pansy. Females have much larger eyespots on all wings compared to males (both photos are showing males).

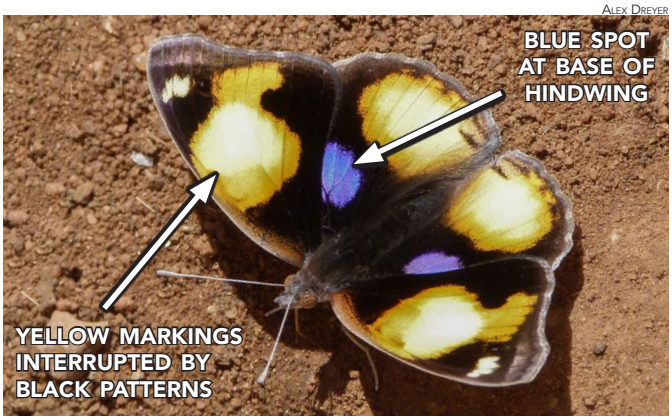
OSKAR BRATTSTRÖM

ROGÉRIO FERREIRA

Junonia hierta cebrene Trimen,1870 Yellow Pansy

The Yellow Pansy can be quite common in Amurum, and is usually easiest to spot in the dry season when it tend to rest on bare ground, showing its pattern with the wings almost fully open. The yellow pattern elements on the dorsal surface are more broken up by dark markings than in the somewhat similar Soldier Pansy. It also has a shiny blue spot at the base of each hindwing missing in the latter (sometimes obscured by the forewings). The underside is straw coloured, and provides camouflage when the wings are closed.

ALEX DREYER



MURPHY TLADI

Hypolimnas & Protogoniomorpha (Nymphalinae)

Hypolimnas misippus (Linnaeus, 1664)
Diadem

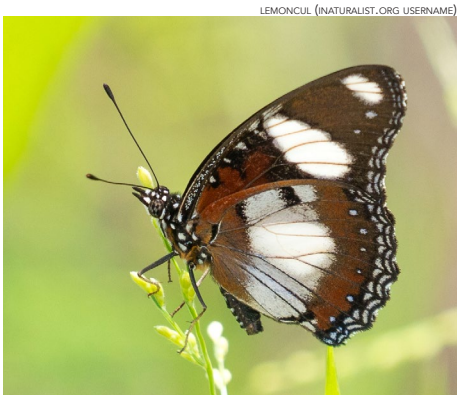
The Diadem is a common and widespread butterfly that can be found all across Africa, through southern Asia, all the way to Australia. Males have an unmistakable pattern, with light eyespots surrounding by dark shiny blue. The females have multiple morphs, all mimicking various subspecies of the poisonous African Monarch (see beginning of Nymphalidae section). The Diadem is not poisonous itself, but instead gets protection by fooling predators into thinking that it is, without having to produce toxins (Batesian mimicry).

Rainer Wendt

Marcus Pardon

Robert Taylor

lemoncul (iNaturalist.org username)

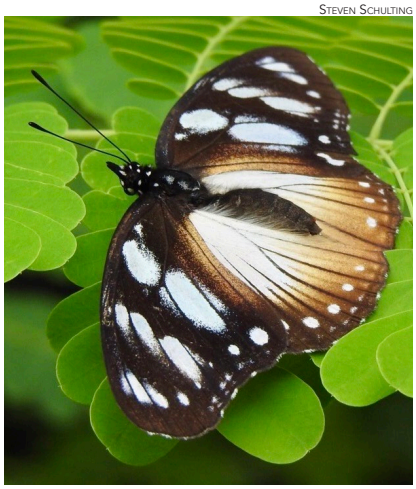


Hypolimnas misippus – Females (left and centre) and males (right and top right)

Hypolimnas anthedon anthedon (Doubleday, 1845)
Variable Eggfly

This is another species that relies on Batesian mimicry (see above) to fool its predators. Males and females are similar, and occur in four distinct morphs in. In the drier savannah zone the most common morph (right) mimics the poisonous Small Monk. Further south in the forest zone another morph (below) that mimics a poisonous forest butterfly, the Friar (*Amauris niavius*), becomes more common.

Steven Schulting



Hypolimnas anthedon
Typical savannah morph

Charles J Sharp

Hypolimnas anthedon – Typical forest morph

Protogoniomorpha parhassus (Drury, 1782)
Forest Mother-of-Pearl

In wet forests across Africa this is a common species, but it has only been seen once in Amurum and it is one of those species likely to become more common if the forest continues to grow back. The Forest Mother-of-Pearl is a large butterfly, with a characteristic pattern and wing shape. The dorsal wing surface have a light violet shine in certain angles of light, hence the common name.

Michele Menegon

Protogoniomorpha parhassus

(Nymphalinae) *Catacroptera* | (Biblidinae) *Byblia* & *Sevenia*

Catacroptera cloanthe ligata Rothschild & Jordan, 1903
Pirate

At a first glance it looks somewhat similar to the Jokers (below) and Commodores, but the row of dark blue eyespots on the dorsal hindwing are not shared with any similar species. The Pirate is quite a large butterfly, with peculiar ventral wing surfaces covered by short hairs, making it look almost furry on a close inspection.

Rainer Wendt

Catacroptera cloanthe

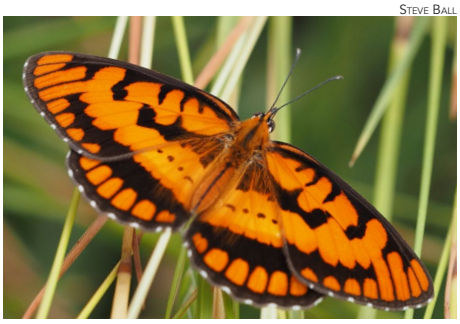
Byblia anvatara crameri Aurivillius, 1894
African Joker

Byblia ilithyia (Drury, 1773)
Joker

The two Joker species are quite similar, but can be told apart from the darker pattern in *Byblia anvatara*, especially on the ventral surface. Both species are savannah specialists, but *B. ilithyia* is adapted to drier habitats and the two species overlap only occasionally. Whilst *B. anvatara* is quite common in Amurum all year round, *B. ilithyia* has only been observed once..

Peter Bygate

Steve Ball



nintr (iNaturalist.org username)

Byblia ilithyia

Rainer Wendt

Byblia anvatara

Sevenia boisduvali omissa (Rothschild, 1918)
Brown Tree Nymph

Sevenia umbrina (Karsch, 1892)
Ochreous Tree Nymph

The Tree Nymphs can often show large population explosions and then be missing for long periods of time. They are strongly attracted to rotten fruit, and can appear in large numbers at mud-puddles. The Brown Tree Nymph (less common in Amurum) has a darker pattern, but females can sometimes be hard to tell apart from males of the lighter Ochreous Tree Nymph (that have very light coloured females).

Thomas Desloges

Rogério Ferreira

Szabolcs Sáfián

Sevenia boisduvali – Male

Sevenia umbrina – Female

Neptis – Sailers (Limenitidinae)

Neptis morosa Overlaet, 1955
Savannah Sailer

Neptis kiriakoffi Overlaet, 1955
Kiriakoff's Sailer

Neptis serena serena Overlaet, 1955
River Sailer

The Sailers (*Neptis*) is a very complicated genus and the taxonomy is just beginning to be properly worked out. In rainforest areas the number of species is very high, and putting names on them all can be a real challenge for any field biologist. In Amurum there are only three species, and whilst the differences might appear quite straightforward, some specimens can be hard to place accurately. With their characteristic black and white wing patterns there are no other local butterflies they can be mistaken for.

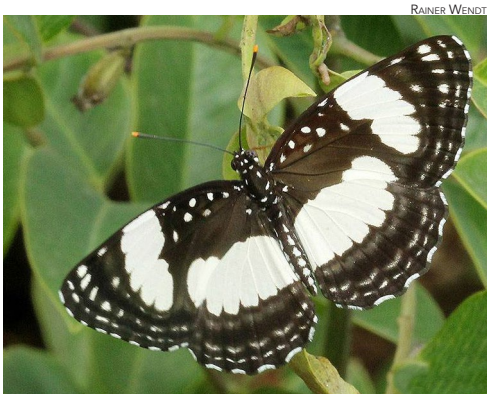
N. morosa The ventral forewing marginal line is broken by black markings at two points (see photo).

N. kiriakoffi Marginal line unbroken, usually a third line of fine streaks on the dorsal hindwing (see photo).

N. serena Marginal line unbroken, large hindwing band broader than in the other species (see photo).

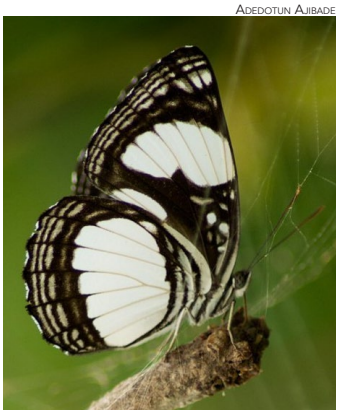
Amadou Bahleman Farid

Rainer Wendt



Neptis morosa

Adedotun Ajibade



Adrian Hoskins

Neptis serena

Joachim Louis

Neptis kiriakoffi

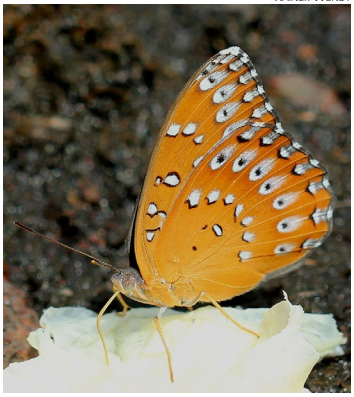
Hamanumidia – Guineafowl (Limenitidinae)

Hamanumidia daedalus (Fabricius, 1775)
Guineafowl

The Guineafowl is named after the dorsal pattern with white spots on a grey background, looking like the bird with the same name. It is a common savannah butterfly, but with a strong capacity to colonise degraded land further south. It typically flies low over sandy ground and keep the wings held down to the ground when resting so that the orange-red ventral pattern is rarely seen.

Martin Grimm

Rainer Wendt



Phalanta phalantha aethiopica (Rothschild & Jordan, 1903)
Common Leopard Fritillary

Phalantha eurytis eurytis (Doubleday, 1847)
African Leopard Fritillary

Just like the two Jokers (previous page), the two Leopard Fritillaries have different habitat requirements, but with a slightly larger overlap. *Phalanta phalantha* is more savannah adapted than *P. eurytis,* a forest species. The former is the more common in Amurum. The wing pattern shows some variation, but they can usually be separated by looking at the black margin of the dorsal forewing and the presence or absence of one forewing spot (see photos).

Peter Vos

Phalanta eurytis

Bart Wursten

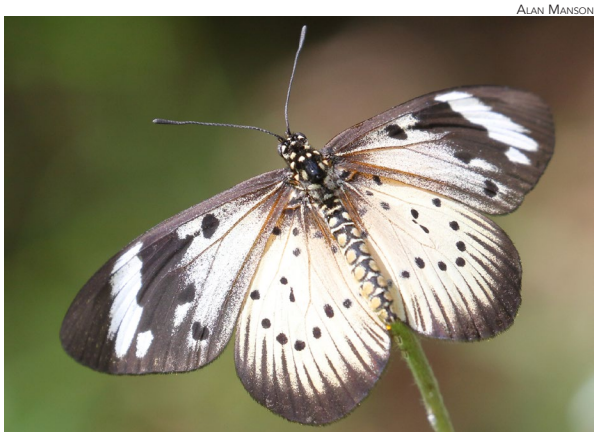
Phalanta phalantha

Acraea is an incredibly species-rich genus, with over 200 African species. They are easy to identify to genus level from their unusually elongated wing shape. In Amurum only four species have been documented. More might well be found, but the diversity hotspots in West Africa for this group are in rainforest habitats. As far as we know, all *Acraea* species are toxic to predators, and display strong warning colours.

Acraea encedon encedon (Linnaeus, 1758)
Encedon Acraea

The Encedon Acraea has many colour morphs ranging from white, to yellow and orange. It has only been seen once in Amurum, but can easily be overlooked be being misidentified as the more common Small Orange Acraea.

Alan Manson



Acraea encedon

Acraea serena (Fabricius, 1775)
Small Orange Acraea

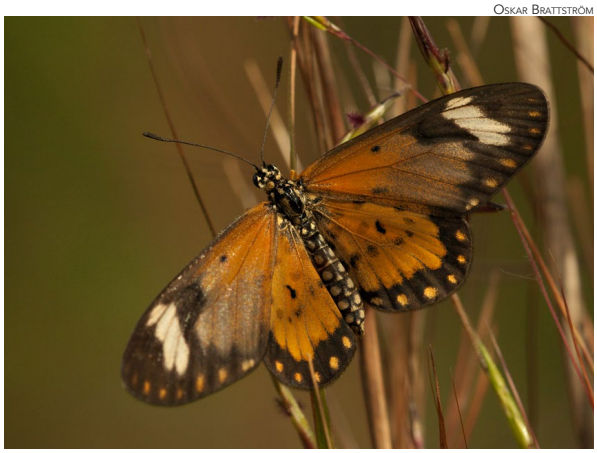
This is the smallest of the Amurum Acraea species and a very common sight. The sexes looks quite different, and are easy to tell apart in the field.

Phil White

Oskar Brattström

Acraea serena – Males

Oskar Brattström

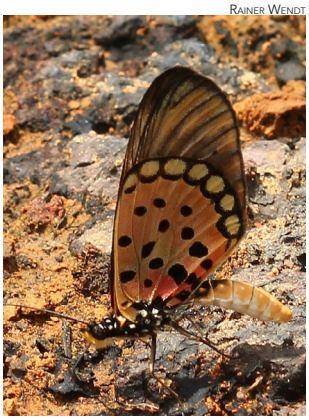


Acraea serena – Female

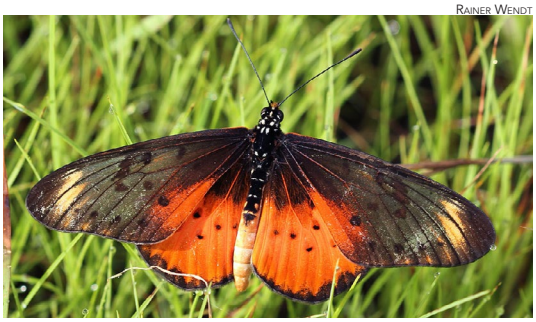
Acraea pseudegina (Westwood, 1852)
Abadima Acraea

This is a very large Acraea, and the combination of size and the smoky dark forewings makes it an easy species to identify in the field as no other Amurum butterflies look similar. It is quite common a species in Amurum, often found sitting at the top of tall grass or flying quite slowly just above the vegetation. The sexes are similar, but the female have slightly more red and yellow markings on the forewings.

Rainer Wendt



Rainer Wendt



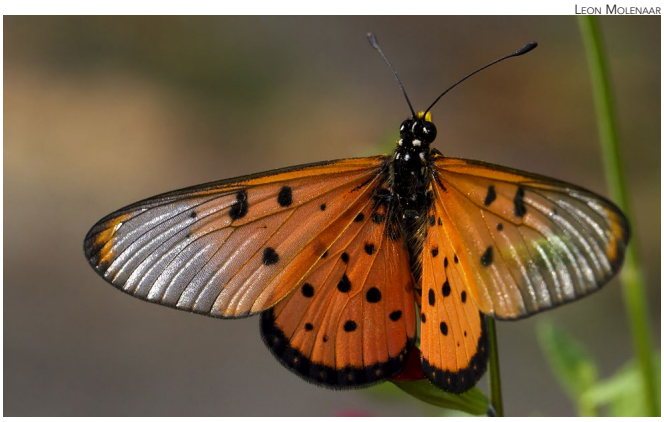
Peter Bygate

Acraea pseudegina – Male (left), female (centre) and ventral pattern (right)

Acraea neobule neobule (Doubleday, 1847)
Wandering Donkey

This oddly named Wandering Donkey has a strong orange and pink colouration, and parts of the forewings are almost translucent. The female have larger parts of the forewing covered in orange than the males. It can be seen almost anywhere in Amurum, but males are especially easy to find on the inselberg peaks as they display very strong hill-topping behaviour.

Leon Molenaar



John Wilkinson

Acraea peneleos peneleos (Ward, 1871)
Peneleos Acraea

Just as the other species on this page, the Peneleos Acraea have wings that are somewhat translucent. However, compared to the other two the forewing veins are markedly darker so that the whole wing have multiple small clear 'windows' with black frames. It is not a common species in Amurum, and is usually found further south in Nigeria.

Pamela Sai