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### Butterflies of Mt Mecula and Mt Yao, Niassa Province, Northern Mozambique

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**Abstract:** A multidisciplinary expedition visited Mt Mecula and Mt Yao in northern Mozambique from  $6^{th}$  to  $16^{th}$  May, 2012. Butterflies found on the two mountains are scheduled, and those of scientific interest are discussed. A preliminary report on the flora of Mt Yao is provided. Biogeographical inferences are drawn.

Key words: Niassa Reserve, Mt Mecula, Mt Yao, biogeography.

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#### **INTRODUCTION**

The Niassa Game Reserve lies along the southern bank of the Ruvuma River, the border between Mozambique and Tanzania. It is a vast expanse of woodland broken by occasional inselbergs, and containing a few scattered villages. At 42 000 km<sup>2</sup> it is larger than the Kruger National Park in South Africa. Hidden within its depths are a couple of mountains high enough for forests to clothe their upper levels. The best known of these is Mt Mecula, standing behind the sleepy little town of the same name. Mt Yao is approximately 185 km to the west.

#### MATERIALS AND METHODS

Butterflies were collected opportunistically using sweep nets. In addition, traps baited with fermented banana were employed, and butterfly larvae where found were taken for raising to adults. Determinations were by ABRI, Nairobi. Plants were collected and pressed, and sent for identification to the Herbarium, Royal Botanic Gardens, UK. Accession numbers are given.

Mt Mecula ( $12^{\circ}4'38''S$ ;  $37^{\circ}37'49''E$ , 1404 m) was collected from  $6^{th}$  to  $10^{th}$  May, 2012. Collectors were Steve Collins (SCC), Martin Hassan (MH),

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Copyright: This work is licensed under the Creative Commons Attribution-NonCommercial-NoDerivs 3.0 Unported License. To view a copy of this license, send a letter to Creative Commons, Second Street, Suite 300, San Francisco, California, 94105, USA, or visit: <u>http://creative commons.org/licenses/by-nc-nd/3.0/</u> Julian Bayliss (JLB) and Colin Congdon (TCEC). The species list therefore represents approximately 20 man-days of collecting effort. 114 species were recorded. At this stage it was decided that a short visit to Mt Yao should be made, the party consisting of Bayliss, Congdon and Hassan. Mt Yao was explored from 14<sup>th</sup> to 16<sup>th</sup> May.

#### RESULTS

As Mt Yao had not previously been visited by any natural scientists, a short, preliminary description of the mountain vegetation is provided. The approach to the mountain is through mixed woodland of lowland typical northern Mozambique. From base camp, the path crosses three rivers before beginning to climb, at the time of the visit the first river swollen by overnight rain. It is a gentle climb at first, but soon becomes steep, through thin stony woodland dominated by Uapaca kirkiana and U. sansibarica, with Brachystegia boehmii, and a herb layer of short grass, with patches of a suffrutex Cryptosepalum. In this woodland we saw a very fine Moraea sp. (TCEC/JLB #792 in RBG Kew - not nov.? matched in Kew). The slope eases, and becomes a pleasant walk through completely undisturbed woodland until the first tongue of riverine forest is reached at about 1000 m elevation. Here we made camp beside a strong, clear stream. The forest is undisturbed, with little evidence of recent fire damage, and most forest edges are 'hard'. A red flowered legume (cf. Desmodium) dominated the forest floor, with a small, white flowered Justicia (TCEC/JLB #794 in RBG Kew), and large patches of Aframomum. The understory contained Allophylus sp., Deinbollia sp., Drypetes gerrardii, Dracaena aff. manni. Forest lianas included Paullinia pinnata, Dalbergia lactea and Keetia sp. and Smilax was everywhere. The flora of the woodland beyond the stream appeared very similar to areas in eastern Zambia, but the medium elevation riverine forests contained unfamiliar species. Only Parinari excelsa, Bersama abyssinica and Anthocleista grandiflora were immediately identifiable. In the forestwoodland ecotone we found a small Albizia – probably adianthifolia.

The climb to the summit dome rocks (12°26'36"S; 36°30'42"E, 1313 m) is another gentle walk. At first this is through what could best be described as cloud woodland or elfin woodland – huge old *Brachystegia spiciformis* hanging with masses of *Usnia*, an effect of the frequent mists which envelop the mountain. In this woodland we found *Pericopsis, Monotes, Uapaca kirkiana* and *sansibarica, Parinari curatellifolia, Vitex* sp., and among the shrubs, *Maesa lanceolata, Annona senegalensis, Dombeya* cf. *burgessiae*, and nearer the top in thinner woodland, *Protea angolensis*.

On the rocky tops were a few *Protea welwitschii* and two species of *Combretum*. We noted a hemiparasitic *Agelanthus* sp. on *Pericopsis*, and *Viscum* sp. (TCEC/JLB #795 in RBG Kew) on *Bridelia*. Epiphytic orchids of several genera were observed.



**Figure 1** – View from Mt Mecula (photo JLB)

From the top, views in all directions gave some idea of the huge extent of the Reserve. There were no signs of human habitation anywhere as far as could be seen. Our guide assured us that the mountain far over in the east was Mt Mecula. Also the nature of the vegetation on the mountain became clear. The mountain is essentially wooded, with the many streams, large and small, having gallery forest. Within these forests we



Figure 2 – First river crossing (photo JLB) with C. Congdon climbing the bank

found extensive bowls of impeded drainage – swamp forest. The one nearest our camp had large trees with aerial and buttress roots, open pools of water, but almost no undergrowth – a very strange place indeed. There were signs of previous occupation. We found a whisky bottle, left over



Figure 3 - Cloud woodland on Mt Yao (photo TCEC)



Figure 4 – Swamp forest on Mt Yao (photo JLB)

from a Portuguese helicopter base on the mountain.

We spent three full days and four nights on Mt Yao. JLB recorded the dawn chorus of bird song for later analysis, but the only call we immediately recognised was the African Broadbill



Figure 5 – View from Mt Yao – Malaika Sacranie recording bird calls (photo JLB)

*Smithornis capensis*. Apart from butterflies, JLB was able to collect several crabs, a skink, a snake and a bat, all of which await identification.

Unfortunately continuously misty conditions on the 15<sup>th</sup> curtailed collecting on that day. Even so, 88 species were recorded from the remaining 6 man-days of effort. Thus it appears that with further collecting, Mt Yao may prove to be the richer in species numbers of the two mountains. What is certain at this stage is that Mt Yao amply justifies a second, more comprehensive exploration.

Butterfly species recorded from the two mountains are given in Table 1.

#### DISCUSSION

# Species of special interest from Mt Mecula and Mt Yao

Acraea periphanes Oberthur, 1893. This is a new record for Mozambique. This butterfly occurs in woodland and marshy places from Angola, northern Zambia, southern Democratic Republic of Congo (DRC), and Malawi to western Tanzania (Ackery *et al.*, 1995). It is therefore not surprising to find it in similar habitats in Mozambique. It was found on Mt Yao, in woodland very similar to that in parts of eastern Zambia.

*Amauris crawshayi* Butler, 1897. Not previously known from Mozambique, although its presence was to be expected. This is a forest species, from Cameroon, Angola, DRC, Uganda, Rwanda, Burundi, Kenya, Tanzania, Malawi, Zambia (Williams, 2012).

*Neocoenyra fulleborni* Thurau, 1903. The discovery of this species on Mt Yao was one of the most interesting finds of the expedition. It was previously considered to be a Tanzania endemic. It is a montane grassland species of medium elevations, found in the Udzungwa Mountains, the Southern Highlands and the Kitesa Forest

above Mbamba Bay, near the Tanzania-Mozambique border (Kielland, 1990). It was not found on the Njesi Plateau (Congdon *et al.*, 2010), although it may occur there. Its presence links Mt Yao to the highlands of southern Tanzania.

*Euphaedra zaddachi* Dewitz, 1879. A widely distributed butterfly of forest and heavy woodland, it ranges from Nigeria, through Cameroon, Gabon, Congo, Central African Republic, Angola, DRC, Uganda, Rwanda, Burundi, Kenya, Tanzania, Malawi and Zambia, but was not previously known from Mozambique (Williams, 2012). Its larvae feed on *Parinari curatellifolia* (Chrysobalanaceae), a common component of the woodland on Mt Yao.

Alaena ochracea Butler, 1894. Another new species for Mozambique, this butterfly was previously known only from the Shire Highlands of southern Malawi (Gifford, 1965; Williams, 2012). It has not been found on a number of other mountains in Mozambique north of the Zambezi (Congdon *et al.*, 2010), so its presence on Mt Mecula is unexplained.

Baliochila Stempffer & Bennett, 1953.

Baliochila hildegarda Kirby, 1887. This is a woodland butterfly, previously known from DRC (Shaba), Kenya (east), Tanzania, Malawi and Zambia (Williams, 2012). Most species of Baliochila have restricted distributions, but *B. hildegarda* is an exception to the rule. It is therefore not surprising that it should be found in northern Mozambique, from where it had never previously been recorded.

*Baliochila* sp. nov. Two females of a species in the *B. woodi* (Riley, 1943) species group were found on Mt Mecula. Other members of this group are known from the Usambara and Udzungwa Mts (Tanzania), Mt Mulanje in southern Malawi and the nearby Mt Mabu in Mozambique (Congdon, *et al.*, 2010).

*Baliochila* sp. nov. (Figs 6 and 7). A male of a species possibly in the *B. nyassa* Stempffer & Bennett, 1953 group was found on Mt Mecula. It was flying in *Brachystegia* woodland near the top of the climb from Mecula town, and a second specimen was found at the top of the forest on Mt Mecula.

*Baliochila* sp. nov. Yet another probably new species of *Baliochila* was found on Mt Yao. So far it is known from just one male. This species is perhaps closest to *B. lipara* Stempffer & Bennett, 1953, a woodland species which is known from coastal Kenya southwards to KwaZulu-Natal.

#### Biogeography

Small, isolated habitats tend to be depauperate, because species which become locally extinct through random fluctuations in population cannot re-establish. The apparent absence of any member of the montane *Cymothoe* group of species may be an example of this. If large enough, isolated areas of forest may also hold local endemics. This makes mountains such as Mt Mecula and Mt Yao of particular interest. The two mountains have small areas of medium altitude forest and Zambezian *Brachystegia* woodland surrounded by low altitude coastal woodland. Their butterfly fauna reflects this. *Acraea periphanes* is essentially Zambezian, together with *Junonia artaxia*. *Euphaedra zaddachi* is more of a forest butterfly, but is also present in Zambezian woodland. The *Charaxes* species present on Mt Yao but apparently absent from Mt Mecula, together with *Amauris crawshayi* are forest butterflies, and suggest affinities with forests further west in Malawi and southern Tanzania.



Figures 6 (upper) & 7 (lower) – Baliochila sp. nov.? upper side. Mt. Mecula, Niassa Province, Mozambique. M. Hassan 06.v.2012. Deposited with ABRI collection, Nairobi, Kenya. (Photos TCEC)

The woodi group of Baliochila species are butterflies of intermediate elevations on eastern mountains, and the presence of one of the group on Mt Mecula effectively links the Eastern Arc species of Tanzania with those on Mt Mabu and Mt Mulanje. The other two new Baliochila join a succession of locally endemic species running from coastal Kenya south through the Eastern Arc Mountains to coastal South Africa. The forest areas on the two mountains are relatively small to support endemics. The three Baliochila species therefore present something of a puzzle. The *B. woodi* one might possibly be considered to be a member of a single widespread species, as it is tied to a forest environment. The other two could be associated with woodland. The area of woodland surrounding the mountains is so extensive that it could well hold butterflies not found outside it. Very little collecting has been done in northern Mozambique and the even more extensive woodlands to the north in southern

Tanzania. The Niassa Game Reserve (42 000 km<sup>2</sup>) is just South of the Selous Reserve in Tanzania ( at 54 600 km<sup>2</sup>, about the size of Belgium), and each of these is surrounded by very large areas of similar woodland, making in total an area well in excess of 100 000 km<sup>2</sup>.

The mountains are too low for many of the true Afromontane butterflies. Absent were Mylothris sagala Grose-Smith, 1886, Charaxes xiphares (Stoll, 1781) and C. acuminatus Thurau, 1903, although their larval host plants were present. Thus the forest butterflies were those of intermediate elevations, and these tend to be widespread. Mt Mecula is about 100m higher than Mt Yao, so might be expected to hold more montane species, but this does not appear to be the case. Mt Mecula is notably richer in Lipteninae, even allowing for the greater collecting effort on that mountain. Taking that disparity into account, Mt Yao would appear to be richer in Satyrinae, perhaps due to the much larger area of woodland on the mountain, this being the preferred habitat of many of the 'browns'.

Just as the two mountains held relatively few Afromontane species, so they were too high for many coastal butterflies. Mt Mecula held only two species of *Colotis* Hübner, 1819, with the same number on Mt Yao. Given that the expedition took place in May, when many species of coastal woodland *Colotis* are on the wing, this is surprising, but may be explained by a lack of larval host plants in the family Capparaceae. A similar paucity of larval host plants, this time in the Rutaceae, may account for the apparent lack of *Papilio* Linnaeus, 1758 species on Mt Yao, although the ubiquitous *demodocus* Esper, [1798] must surely occur there.

It would be easy, then, to dismiss these mountains as containing few surprises and not much of interest. This is far from the case. *Neocoenyra fulleborni* is a clear link with western Tanzanian montane grasslands to the north, while *Alaena* 



**Figure 8** – *Moraea* possible sp. nov. (Photo JLB)

ochracea and the undescribed Gonatomyrina from Mt Mabu and Mt Namuli are clearly links to the south. Three butterflies new to science cannot lightly be dismissed. A new species of Moraea (Iridaceae) (Fig. 8) would add importance to the locality. A few days of collecting produced totals of 114 species for Mt Mecula and 86 for Mt Yao. On the much larger and more diverse Mt Mulanje to the South, several man-years of collecting have yielded a total of about 250 species. We therefore believe it is reasonable to expect totals in the region of 200 for both Mt Mecula and Mt Yao. No doubt those totals would include several more butterflies of biogeographical importance, new species for Mozambique and probably more species new to science.

#### ACKNOWLEDGEMENTS

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**Table 1** – Butterflies of Mt Mecula and Mt Yao Species marked\* are new records for Mozambique (ref. Congdon *et al.* 2010). 0 = Present

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Metiseria accipieris (Buller, 1895)      0        Ampittia capenas (Hewitson, 1868)      0        Teniorhinus harona (Westwood, 1881)      0      0        Parosmodes incerta (Snellen, 1872)      0      0        Parosmodes moranti (Trimen, 1873)      0      0        Accata biseriata (Mabille, 1893)      0      0        Accata biseriata (Mabille, 1893)      0      0        Accata biseriata (Mabille, 1893)      0      0        Acteros mackenii (Trimen, 1862)      0      0        Aritiropa erinnys (Trimen, 1862)      0      0        Meza larea (Neave, 1910)      0      0      0        Fresna nyassee (Hewitson, 1877)      0      0      0        Platylesches moritii (Wallengren, 1857)      0      0      0        Zenonia zeno (Trimen, 1864)      0      0      0        Borbo borbonica (Boisduval, 1833)      0      0      0        Borbo fatuellus (Hopffer, 1855)      0      0      0        Gegenes niso (Linnaeus, 1764)      0	Medically desiring (Detter 1906)	0	
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Tentoritinus narona (WestWood, 181)    0    0      Pardaleodes incerta (Snellen, 1872)    0      Parosmodes moranti (Trimen, 1873)    0      Acdar biseriata (Mabille, 1893)    0      Acteros mackenii (Trimen, 1868)    0      Semalea pukvina (Piötz, 1879)    0      Artitropa erinnys (Trimen, 1862)    0      Meza larea (Neave, 1910)    0      Fresna nyassae (Hewitson, 1877)    0      Platylesches galesa (Hewitson, 1875)    0      Zenonia zeno (Trimen, 1864)    0      Borbo fatuellus (Hopffer, 1855)    0      O    0      Paplilioninae	Ampittia capenas (Hewitson, 1868)	0	0
Parateleodes incerta (Shellen, 1872)    0      Parosmodes moranti (Trimen, 1873)    0      Acada biseriata (Mabille, 1893)    0      Acada biseriata (Mabille, 1893)    0      Acada biseriata (Mabille, 1893)    0      Acata biseriata (Mabille, 1893)    0      Acata biseriata (Mabille, 1893)    0      Acata biseriata (Mabille, 1893)    0      Acteros mackenii (Trimen, 1868)    0      Semalea pulvina (Plötz, 1879)    0      Meza larea (Neave, 1910)    0      Fresna nyassae (Hewitson, 1877)    0      Platylesches galesa (Hewitson, 1877)    0      Platylesches moritil (Wallengren, 1857)    0      Zenonia zeno (Trimen, 1864)    0    0      Borbo borbonica (Boisduval, 1833)    0    0      Borbo fatuellus (Hopffer, 1855)    0    0      Gegenes niso (Linnaeus, 1764)    0    0      Papilioninae	<i>Tentorninus harona</i> (Westwood, 1881)	0	0
Parismodes moranti (Trimen, 1875)    0      Acada biseriata (Mabille, 1893)    0      Acleros mackenii (Trimen, 1868)    0      Semalea pulvina (Plötz, 1879)    0      Artitropa erinnys (Trimen, 1862)    0      Meza larea (Neave, 1910)    0      Fresna nyassae (Hewitson, 1878)    0      Platylesches galesa (Hewitson, 1877)    0      Platylesches galesa (Hewitson, 1877)    0      Platylesches moritill (Wallengren, 1857)    0      Zenonia zeno (Trimen, 1864)    0    0      Borbo borbonica (Boisduval, 1833)    0    0      Borbo fautellus (Hopffer, 1855)    0    0    0      PAPILIONIDAE	Pardaleodes incerta (Snellen, 1872)		0
Acda a biseriata (Mabile, 1895)    0      Acleros mackenii (Trimen, 1868)    0      Semalea pulvina (Plötz, 1879)    0      Artitropa erinnys (Trimen, 1862)    0      Meza larea (Neave, 1910)    0      Fresna nyassae (Hewitson, 1878)    0      Platylesches galesa (Hewitson, 1877)    0      Platylesches moritili (Wallengren, 1857)    0      Zenonia zeno (Trimen, 1864)    0      Borbo borbonica (Boisduval, 1833)    0      Borbo fatuellus (Hopffer, 1855)    0      Gegenes niso (Linnaeus, 1764)    0      PAPILIONIDAE	Parosmodes moranti (Trimen, 1873)	0	0
Acteros mackenti (Trimen, 1868)    0      Semalea pulvina (Plötz, 1879)    0      Artitropa erinnys (Trimen, 1862)    0      Meza larea (Neave, 1910)    0      Fresna nyassae (Hewitson, 1878)    0      Platylesches galesa (Hewitson, 1877)    0      Platylesches moritili (Wallengren, 1857)    0      Zenonia zeno (Trimen, 1864)    0    0      Borbo borbonica (Boisduval, 1833)    0    0      Borbo fatuellus (Hopffer, 1855)    0    0      Gegenes niso (Linnacus, 1764)    0    0      Papilioninae	Acada biseriata (Mabille, 1893)	0	
Semical pluvina (PIOL, 1879)      0        Artitropa erinnys (Trimen, 1862)      0        Meza larea (Neave, 1910)      0        Fresna nyassae (Hewitson, 1878)      0        Platylesches galesa (Hewitson, 1877)      0        Platylesches galesa (Hewitson, 1877)      0        Platylesches moritili (Wallengren, 1857)      0        Zenonia zeno (Trimen, 1864)      0        Borbo borbonica (Boisduval, 1833)      0        Borbo fatuellus (Hopffer, 1855)      0        O      0        Borbo fatuellus (Hopffer, 1855)      0        O      0        Paplitoninae      0        Papliloninae      0        Papilio constantinus Ward, 1871      0        Papilio demodocus Esper, [1798]      0        Papilio inieus Linnaeus, 1758      0        Graphium angolanus (Goeze, 1779)      0        PIERIDAE      0        Coliadinae      0        O      0        Queroma (E) brigitta (Stoll, [1780])      0        Eurema (E) mandarinula (Holland, 1892)      0      0        Nepheronia argia (Fabricius, 1775)      0 <t< td=""><td>Acteros mackenii (Irimen, 1868)</td><td>0</td><td>0</td></t<>	Acteros mackenii (Irimen, 1868)	0	0
Aritiropa erinnys (Trimen, 1862)    0      Meza larea (Neave, 1910)    0      Presna nyassae (Hewitson, 1878)    0      Platylesches galesa (Hewitson, 1877)    0      Platylesches galesa (Hewitson, 1877)    0      Platylesches galesa (Hewitson, 1877)    0      Platylesches moritili (Wallengren, 1857)    0      Zenonia zeno (Trimen, 1864)    0      Borbo borbonica (Boisduval, 1833)    0      Borbo fatuellus (Hopffer, 1855)    0      Gegenes niso (Linnaeus, 1764)    0      PAPILIONIDAE	Semalea pulvina (Plotz, 1879)	0	0
Meza larea (Neave, 1910)    0      Fresna nyassae (Hewitson, 1878)    0      Platylesches galesa (Hewitson, 1877)    0      Platylesches moritili (Wallengren, 1857)    0      Zenonia zeno (Trimen, 1864)    0    0      Borbo borbonica (Boisduval, 1833)    0    0      Borbo fatuellus (Hopffer, 1855)    0    0      Gegenes niso (Linnaeus, 1764)    0    0      PAPILIONIDAE    0    0      Papilio constantinus Ward, 1871    0    0      Papilio constantinus Ward, 1871    0    0      Papilio demodocus Esper, [1798]    0    0      Papilio nireus Linnaeus, 1758    0    0      Graphium angolanus (Goeze, 1779)    0    0      PIERIDAE    0    0      Coliadinae    0    0      Catopsilia florella (Fabricius, 1775)    0    0      Eurema (E) brigitta (Stoll, [1780])    0    0      Fuernae    0    0    0      Pierinae    0    0    0      O    0    0    0      Pierinae    0    0    0<	Artitropa erinnys (Trimen, 1862)	0	0
Presna nyassae (Hewitson, 1878)    0      Platylesches galesa (Hewitson, 1877)    0      Platylesches moritili (Wallengren, 1857)    0      Zenonia zeno (Trimen, 1864)    0    0      Borbo borbonica (Boisduval, 1833)    0    0      Borbo fatuellus (Hopffer, 1855)    0    0      Gegenes niso (Linnaeus, 1764)    0    0      PAPILIONIDAE	Meza larea (Neave, 1910)		0
Platylesches galesa (Hewitson, 1877)    0      Platylesches moritili (Wallengren, 1857)    0      Zenonia zeno (Trimen, 1864)    0      Borbo borbonica (Boisduval, 1833)    0      Borbo fatuellus (Hopffer, 1855)    0    0      Gegenes niso (Linnaeus, 1764)    0    0      PAPILIONIDAE	Fresna nyassae (Hewitson, 1878)		0
Priorite (Waitengrein, 1857)    0    0      Zenonia zeno (Trimen, 1864)    0    0      Borbo borbonica (Boisduval, 1833)    0    0      Borbo fatuellus (Hopffer, 1855)    0    0      Gegenes niso (Linnaeus, 1764)    0    0      PAPILIONIDAE    0    0      Papilioninae    0    0      Papilio constantinus Ward, 1871    0    0      Papilio demodocus Esper, [1798]    0    0      Papilio nireus Linnaeus, 1758    0    0      Graphium angolanus (Goeze, 1779)    0    0      PIERIDAE    0    0    0      Coliadinae    0    0    0      Pierinae    0    0    0      Pierinae    0    0    0      Nepheronia argia (Fabricius, 1775)    0    0    0	Platylesches galesa (Hewitson, 1877)		0
Zenonia zeno (Himeh, 1864)    0    0      Borbo borbonica (Boisduval, 1833)    0    0      Borbo fatuellus (Hopffer, 1855)    0    0      Gegenes niso (Linnaeus, 1764)    0    0      PAPILIONIDAE    0    0      Papilioninae    0    0      Papilio constantinus Ward, 1871    0    0      Papilio constantinus Ward, 1871    0    0      Papilio demodocus Esper, [1798]    0    0      Papilio nireus Linnaeus, 1758    0    0      Graphium angolanus (Goeze, 1779)    0    0      PIERIDAE    0    0    0      Coliadinae    0    0    0      Piermae (E) brigitta (Stoll, [1780])    0    0    0      Fuerma (E) mandarinula (Holland, 1892)    0    0    0      Pierinae    0    0    0    0      Nepheronia argia (Fabricius, 1775)    0    0    0	Platylesches moritili (Wallengren, 1857)	0	0
Borbo borbonica (Boisduval, 1833)    0    0      Borbo fatuellus (Hopfer, 1855)    0    0      Gegenes niso (Linnaeus, 1764)    0    0      PAPILIONIDAE    0    0      Papilioninae    0    0      Papilio constantinus Ward, 1871    0    0      Papilio constantinus Ward, 1871    0    0      Papilio demodocus Esper, [1798]    0    0      Papilio nireus Linnaeus, 1758    0    0      Graphium angolanus (Goeze, 1779)    0    0      PIERIDAE    0    0      Coliadinae    0    0      Pierma (E) brigitta (Stoll, [1780])    0    0      Eurema (E) mandarinula (Holland, 1892)    0    0      Pierinae    0    0      Nepheronia argia (Fabricius, 1775)    0    0	Zenonia zeno (Inimen, 1804)	0	0
Borbo Jatuettus (Hopfler, 1855)    0    0      Gegenes niso (Linnaeus, 1764)    0      PAPILIONIDAE	Borbo borbonica (Bolsauval, 1855)	0	0
Gegenes miso (Linnaeus, 1764)    0      PAPILIONIDAE	<i>Boroo jaluellus</i> (Hopfler, 1855)	0	0
PAPILIONIDAE	Gegenes hiso (Linnaeus, 1764)	0	
PAPILIONIDAE	BABILIONIDAE		
Papilioninae	rafilionidae		
Tapinonnae	Danilianinaa		
Papilio constantinus Ward, 1871    0      Papilio demodocus Esper, [1798]    0      Papilio nireus Linnaeus, 1758    0      Graphium angolanus (Goeze, 1779)    0      PIERIDAE	1 apmoninae		
Papilio constantinas ward, 1871    0      Papilio demodocus Esper, [1798]    0      Papilio nireus Linnaeus, 1758    0      Graphium angolanus (Goeze, 1779)    0      PIERIDAE	Papilio constantinus Word 1871	0	
Image: Constraint of the second se	Papilio demodocus Esper [1798]	0	
Image: Second	Papilio nireus Linnaeus 1758	0	
Oraphian ungolatias (GOELC, 1117)    0      PIERIDAE	Graphium angolanus (Goeze 1779)	0	
PIERIDAE    Image: Colladinae      Coliadinae    Image: Catopsilia florella (Fabricius, 1775)    0    0      Catopsilia florella (Fabricius, 1775)    0    0    0      Eurema (E) brigitta (Stoll, [1780])    0    0    0      Eurema (E) mandarinula (Holland, 1892)    0    0    0      Pierinae    Image: Catopsilia (Fabricius, 1775)    0    0      Nepheronia argia (Fabricius, 1775)    0    0    0	Gruphium ungolunus (Goeze, 1777)	0	
Coliadinae	PIFRIDAE		
ColiadinaeImage: ColiadinaeCatopsilia florella (Fabricius, 1775)0Description0Eurema (E) brigitta (Stoll, [1780])0Eurema (E) mandarinula (Holland, 1892)0PierinaeImage: Colimbu			
Catopsilia florella (Fabricius, 1775)    0    0      Eurema (E) brigitta (Stoll, [1780])    0    0      Eurema (E) mandarinula (Holland, 1892)    0    0      Pierinae	Coliadinae		
Catopsilia florella (Fabricius, 1775)    0    0      Eurema (E) brigitta (Stoll, [1780])    0    0      Eurema (E) mandarinula (Holland, 1892)    0    0      Pierinae			
Eurema (E) brigitta (Stoll, [1780])    0      Eurema (E) mandarinula (Holland, 1892)    0      Pierinae	Catopsilia florella (Fabricius, 1775)	0	0
Eurema (E) mandarinula (Holland, 1892)  0  0    Pierinae	Eurema (E) brigitta (Stoll, [1780])	0	
Pierinae  0    Nepheronia argia (Fabricius, 1775)  0	Eurema (E) mandarinula (Holland, 1892)	0	0
Pierinae  Image: Constraint of the second s		Ŭ Ŭ	
Nepheronia argia (Fabricius, 1775)  0	Pierinae		
Nepheronia argia (Fabricius, 1775) 0			
	Nepheronia argia (Fabricius, 1775)	0	

Locality	Mt Mecula	Mt Yao
Nepheronia thalassina (Boisduval, 1836)	0	
Afrodryas leda (Boisduval, 1847)	0	
Teracolus eris (Klug, 1829)	0	
Colotis evenina (Wallengren, 1857)	0	0
Colotis regina (Trimen, 1863)		0
Belenois gidica (Godart, 1819)	0	
Mylothris agathina (Cramer, 1779)	0	_
Mylothris rueppellii (Koch, 1865)		0
Mylothris similis Lathy, 1906	_	0
Mylothris yulei Butler, 1897	0	0
Dixeia charina (Boisduval, 1836)		0
Dixeia spilleri (Spiller, 1884)	0	
Leptosia alcesta (Stoll, [1782])	0	
NYMPHALIDAE		
Heliconiinae		
Acraeini		
Acraea aganice Hewitson, 1852	0	0
Acraea caldarena Hewitson, 1877	0	0
Acraea cerasa Hewitson, 1861	0	
Acraea egina (Cramer, 1775)	0	
Acraea natalica Boisduval, 1847	0	0
Acraea oncaea Hopffer, 1855	0	
Acraea periphanes Oberthür, 1893		0*
Acraea satis Ward, 1871	0	
Acraea bomba Grose-Smith, 1889	0	0
Acraea cabira Hopffer, 1855	0	0
Acraea serena (Fabricius, 1775)	0	0
Acraea zetes (Linnaeus, 1758)		0
Argynnini		
Pardopsis punctatissima (Boisduval, 1833)	0	0
Lachnoptera ayresii Trimen, 1879	0	
Phalanta phalantha (Drury, [1773])	0	0
Danainae		
Danaus chrysippus (Linnaeus, 1758)	0	0
Amauris crawshayi Butler, 1897		0*
Amauris echeria (Stoll, 1790)	0	
Satyrinae		
Gnophodes betsimena (Boisduval, 1833)	0	0
Melanitis leda (Linnaeus, 1758)		0
Melanitis libya Distant, 1882	0	0
Bicyclus angulosus selousi (Trimen, 1895)		0
Bicyclus anynana (Butler, 1879)	0	
Bicyclus campinus (Aurivillius, 1901)		0
Bicyclus ena (Hewitson, 1877)	0	0
Bicyclus safitza (Westwood, [1850])	0	
Heteropsis perspicua (Trimen, 1873)	0	0
Ypthimomorpha itonia (Hewitson, 1865)	0	
Neocoenyra fulleborni Thurau, 1903		0*

Locality	Mt Mecula	Mt Yao
Neocoenyra ypthimoides Butler, 1894	0	0
Nymphalinae		
Hypolimnas misippus (Linnaeus, 1764)	0	
Salamis anacardii (Linnaeus, 1758)		0
Salamis parhassus (Drury, 1782)	0	
Precis archesia (Cramer, 1779)	0	
Precis ceryne (Boisduval, 1847)	0	
Precis octavia (Cramer, 1777)	0	
Junonia artaxia Hewitson, 1864		0
Junonia oenone (Linnaeus, 1758)	0	0
Junonia orithya (Linnaeus, 1758)	0	
Junonia terea (Drury, 1773)	0	0
Catachroptera cloanthe (Stoll, 1781)	0	0
Vanessa cardui (Linnaeus, 1758)	0	
Limenitinae		
Sevenia boisduvali (Wallengren, 1857)	0	
Neptis laeta Overlaet, 1955	0	0
Neptis melicerta (Drury, 1773)		0
Neptis saclava Boisduval, 1833	0	0
Harma theobene Doubleday, 1848		0
Cymothoe coranus Grose-Smith, 1889	0	
Pseudacraea lucretia (Cramer, [1775])	0	
Euptera kinugnana (Grose-Smith, 1889)	0	
Euphaedra neophron (Hopffer, 1855)	0	
Euphaedra zaddachi Dewitz, 1879		0*
Hamanumida daedalus (Fabricius, 1775)	0	0
Charaxinae		
Charaxes achaemenes Felder & Felder, 1867	0	
Charaxes baumanni Rogenhofer, 1891	0	
Charaxes bohemani Felder & Felder, 1859	0	
Charaxes brutus (Cramer, 1779)	0	
<i>Charaxes candiope</i> (Godart, 1824)	0	0
Charaxes cithaeron Felder & Felder, 1859		0
Charaxes druceanus Butler, 1869	0	0
Charaxes guderiana (Dewitz, 1879)	0	0
Charaxes jasius (Linnaeus, 1/6/)	0	0
Charaxes macciounii Butler, 1895	0	0
Charaxes manica Trimen, 1894		0
Charaxes pollux (Cramer, 1775)		0
Charaxes protocted Feistmaniet, 1850		0
Charaxes zooling (Westwood [1850])	0	0
Charaxes Loolina (Westwood, [1850])	0	
I VCAENIDAE		
Linteninae		
	1	
Alaena amazoula (Boisduval, 1847)	0	
Alaena ochracea Butler, 1894	0*	
Pentila pauli Staudinger, 1888	0	
Baliochila hildegarda (Kirby, 1887)	0*	
Baliochila sp. nov. (1)	0*	
		•

Locality	Mt Mecula	Mt Yao
Baliochila sp. nov. (2)	0*	
Baliochila sp. nov. (3)		0*
Theclinae		
Myrina silenus (Fabricius, 1775)	0	
Cigaritis natalensis (Westwood, 1851)	0	
Cigaritis phanes (Trimen, 1873)	0	
Axiocerses amanga (Westwood, 1881)		0
Axiocerses punicea (Grose-Smith, 1889)	0	0
Axiocerses sp.		0
Argiolaus lalos (Druce, 1896)	0	
Stugeta bowkeri (Trimen, 1864)	0	
Hemiolaus caeculus (Hopffer, 1855)	0	0
Gonatomyrina sp. nov.	0	
Pilodeudorix caerulea (Druce, 1890)	0	0
Virachola antalus (Hopffer, 1855)	0	0
Virachola diocles (Hewitson, 1869)	0	
Capys connexiva Butler, 1897		?
Polyommatinae		
Anthene anadema (Druce, 1905)	0	
Anthene definita (Butler, 1899)	0	
Anthene livida (Trimen, 1881)	0	
Anthene lunulata (Trimen, 1894)		0
Cupidopsis jobates (Hopffer, 1855)		0
Pseudonacaduba sichela (Wallengren, 1857)		0
Lampides boeticus (Linnaeus, 1767)	0	0
Uranothauma antinorii (Oberthür, 1883)	0	
Uranothauma falkensteini (Dewitz, 1879)	0	
Uranothauma vansomereni Stempffer, 1951	0	0
Cacyreus virilis Aurivillius, 1924	0	0
Leptotes pirithous (Linnaeus, 1767)	0	0
Zizeeria knysna (Trimen, 1862)		0
Actizera lucida (Trimen, 1883)		0
Eicochrysops hippocrates (Fabricius, 1793)	0	0
Eicochrysops messapus (Godart, 1824)		0
Euchrysops malathana (Boisduval, 1833)	0	0
Euchrysops osiris (Hopffer, 1855)	0	0
Thermoniphas colorata (Ungemach, 1932)	0	
Chilades trochylus (Freyer, [1844])	0	0