METAMORPHOSIS

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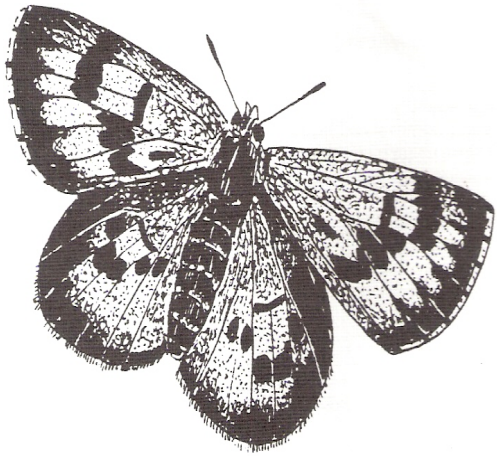

Thestor rossouwi (Lycenidae) female
(Forewing length 19.5 – 21 mm)

LEPIDOPTERISTS' SOCIETY OF SOUTHERN AFRICA

EXECUTIVE COUNCIL

The **aims** of the Lepidopterists' Society of Southern Africa are to promote the scientific study and conservation of Lepidoptera in Southern Africa; and to promote the publication of original scientific papers as well as articles of a less technical nature in the journal, *Metamorphosis,* or other publications of the Society.

Membership of the Society is open to all persons interested in the study of Lepidoptera. There is no geographical limit to membership.

There are three categories of membership:

	Local	**Overseas**	
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Affiliate members (Scientific Societies, museums, libraries, schools, etc.	R55,00 p.a.	US$40,00 p.a.	UK £20

Persons may become **Life Members** by paying eight hundred Rand (R800,00) locally and US$600.00 overseas.

Membership fees are due on **1 April**. Overseas rates are higher due to increased postage.

CORRESPONDENCE

The Hon. Secretary, P.O. Box 470, FLORIDA HILLS, 1716

All drawings, unless otherwise stated, are by S.F. Henning.

EDITORIAL

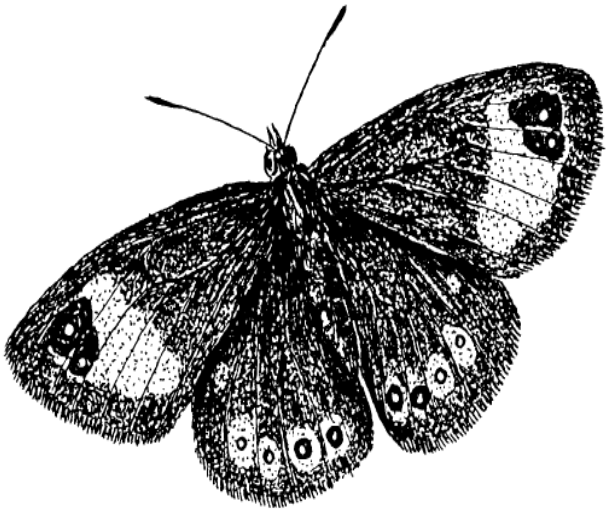
I have always known what type of publication on Lepidoptera that I would like to read - a blend of scientific and popular. This I have endeavoured to do with *Metamorphosis* over the past five years. Having got to this point and achieving most of my aims, I think it is about time I passed *Metamorphosis* on to somebody else for fresh input and ideas.

The production of *Metamorphosis* also takes a lot of hard work and time to produce and as I have got older I find that I have not the energy to do the job on my own anymore. At this point I would like to thank my two sons Stephen and Graham for all the hours they have put into *Metamorphosis*. They have done proof-reading, refereed papers, typed articles, stuck labels on to envelopes, in fact just about everything at one time or another.

At the last Council Meeting it was generally agreed that the production of *Metamorphosis* was too big a job for one person. It was decided in the future that there would be a panel consisting of a co-ordinating editor, scientific editor and an editor of the more popular articles. Hermann Staude has agreed to be the first co-ordinating editor, Mark Williams will be the scientific editor and at this stage I will still be involved with the more popular articles.

I hope between us we will raise *Metamorphosis* to even greater heights for your enjoyment and edification. Remember we still need your articles to make it a success.

W.H. Henning



Dingana alaedeus male upperside.

COMMENT BY THE PRESIDENT

Over the past few months I have done little else but write and proof read the manuscript for volume 1 of *Butterflies of Southern Africa* which I am doing with my brother Graham, John Joannou and Steve Woodhall. This first volume deals with the Hesperiidae, Papilionidae and Pieridae and hopefully should be published in September 1995. Volumes 2 to 5 will appear at one yearly intervals from 1996 to 1999.

This project has certainly highlighted to me the gaps in our knowledge of butterflies. It appears that few people can have ever sat down and observed butterflies as there are virtually no comprehensive articles published on the behaviour of any species. Surely this cannot be that difficult to do as we all have common species in our own gardens. In addition we have *Metamorphosis* where we can publish these observations.

Life histories are just as bad. Gowan Clark is virtually the only person who has published and illustrated the life histories of South African butterflies. His contribution is absolutely irreplaceable. But we could all do what he did. When he bred a species he carefully recorded the size and durations of the instars. He noted their colours and mentioned any unusual behaviour exhibited by the larvae including pupation. In addition he meticulously painted each life history. We could all do this, except for perhaps the painting. Instead we could get the early stages photographed. This we could do ourselves or get another member with a camera to do so. In Gauteng you can get hold of John Joannou or Steve Woodhall.

When photographing a larva try and make it look as natural as possible. I remember well when I was looking for life history slides for my *Charaxes* book getting beautifully in focus caterpillars squatting in the middle of their faeces in a brightly coloured plastic box. These are of course totally useless if you ever hope to publish them.

How it distresses me when I mention that I am looking for the life history of a particular species and somebody says that he has bred it but took no records. These people usually cannot remember anything about it, not even the colour of the caterpillar or the foodplant, but they have a perfect bred series in their collections.

I would like to plead with members to record the life histories of species that have not been bred before. You could publish them in *Metamorphosis* or even under your own name in our *Butterflies of Southern Africa*. In addition we could publish in colour any photographs you may have of these life histories. Currently we are working on volume 2 dealing with the Nymphalidae which includes the Danainae, Satyrinae, Acraeinae, Charaxinae, Nymphalinae and Libytheinae. We in particular are looking for life histories and photographs of the Satyrinae. Also keep an eye out for any lycaenid life histories and photographs which we could use in voumes 3 and 4. Any observations on courtship and mating would also be most welcome.

Stephen Henning

REGIONAL ROUNDUP

The past few months has shown that the butterfly populations are at an ebb. Most of the species are still to be found but the commoner ones, such as *Mylothris agathina*, have been conspicuous by their absence in most localities. This trend in the butterfly populations has been noted by many collectors and is thought to be attributable to the drought and the severe winter experienced in some areas.

It was reported in the December Regional Roundup that *Thestor dryburghi* was found by various collectors in Namaqualand this season. Some of these reports have subsequently been found to be *Thestor protumnus aridus*. *T. dryburghi* was however found in some numbers by Martin and Alf Curle.

Steve Woodhall visited the Eastern Cape during December and this is recorded elsewhere in this *Metamorphosis*. One thing which bothered him was the plight of the *Poecilmitis lyncurium* locality at Mbulu. It appears that the ridge inhabited by this butterfly is being encroached upon by black wattles. We ask members who visit this area to please give us progress reports and also reports of other localities in this area for this species so that the status of this butterfly can be better assessed.

Nolan Owen-Johnston also made a trip through the Cape and lists his main captures as follows: Knysna - *Orachrysops niobe*; Keurbooms River - *Thestor murrayi*; Buffelsnek Forestry - *Lepidochrysops robertsoni, Aloeides pallida juno?, Aloeides quickelbergei*, Seweweekspoort - *Thestor tempe, Poecilmitis plutus*; Stilbaai - *Thestor swanepoeli, Thestor brachycerus, Poecilmitis felthami, Poecilmitis thysbe, Aloeides thyra ofientis, Chrysofitis zeuxo* (elongate wings?); Swartberg Pass - *Poecilmitis hyperion, Pseudonympha hippia, Lepidochrysops swartbergensis*; Near Hermanus - *Aloeides egerides*; Kalk Bay - *Thestor yildizae, Lepidochrysops oreas*; Red Hill - *Thestor protumnus*; Du Toits Kloof - *Thestor holmesi, Aloeides pallida grandis*; Sutherland - *Thestor pringlei, Trimenia wykehami.*

The farm Mooimeisieshoek at the base of the Korannaberg was visited by Steve, Nolan and myself. *Thestor terblanchei* were found in the usual colony and a dozen specimens were recorded. This appears to be the standard quantity at any time in this restricted colony. Again a search of the area revealed no more colonies. Other species collected were *Lepidochrysops ortygia, L. ketsi, L. letsea, Aloeides pierus* and *Ypthima, asterope.*

My brother Stephen and I climbed Arrochar Hill near Mooi River in December to search for *Orachrysops*. Unfortunately none were found and very little was recorded besides a *Kedestes mohozutza* and *Poecilmitis lycegenes*.

Some members visited the Strydpoortberge for *Dira jansei* which they found in good numbers this year at Donkerpoort but not so many at Makapansgat. Other interesting captures were *Pseudonympha narycia loxopthalma* and *Coenyra rufiplaga.*

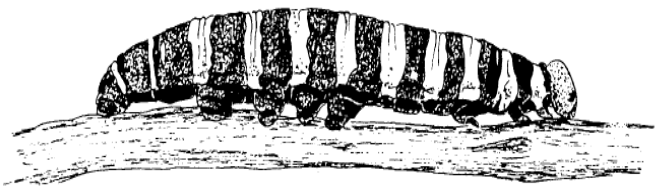
A society outing to Mariepskop was undertaken on the 4th and 5th March 1995. Sixteen collectors were set loose in this beautiful forest and a good time was had by all. Most people caught *Charaxes marieps* and *Mylothris trimenia* while *Calleagris krooni* was out in great numbers. A *Dira jansei* was collected near the Deneys-Reitz memorial. The usual forest *Charaxes* abounded and about 70 butterfly species were recorded

including *Azanus mirza* in numbers sucking at the mud at the base of the mountain. Heavy rains made the road up the mountain very difficult on Saturday morning. I was skidding wildly from side to side in the mud and at one time thought I was not going to make it up a particularly hazardous section. The moth traps were very effective and John Joannou collected 17 species of Hawk moths. Hermann Staude was not so lucky with the Geometrids as the Hawk Moths appeared to frighten them off, he did however have a successful trip. A full report of their moth captures will be reported in due course.

One memorable experience was at mid-night on Saturday. Two vehicles (the infamous Staude Sani and Woodhalls doughty double cab) full of collectors went to the very peak of Mariepskop in swirling mist and drizzle. There amongst the fynbos was Hermann's moth trap literally laden with Hawk Moths, mainly common ones. The squeaking of the enormous Death's Head Hawk moths was a pleasure to hear. Even though I was exhausted, having been up since three o'clock that morning, driving for almost six hours and collecting all day, the magic of the scene was memorable. I stood and absorbed the sight as hundreds of hawk moths whirred around us and settled on our faces, arms and clothes. Other members of our party who had spent an equally arduous day but were by now well fortified by generous helpings of beer were frolicking merrily, among the moths. On Sunday morning I was the second last to wake (my son Hamish who had shared all the experiences of the previous day was the last to rise). Earlier on Saturday evening Steve Woodhall had given a talk to the members of the Mariepskop conservancy at Kampersrus at the base of the mountain. This was all arranged by the forester Mike Walker who also issued us with permits to collect. We owe him a debt of gratitude for his kindness.

Please contact me if you have experiences to share. Phone (011) 768-1949 (H); (011) 474-2985 (Fax).

GRAHAM HENNING



Coeliades anchises final instar larva

ZULULAND AHOY!

By E. L. Pringle
Huntly Glen, Bedford 5780, South Africa

Abstract: A description of a trip to Zululand in November 1994 with detailed observations on the behaviour of the butterfly *Ornipholidotos peucetia penningtoni* (Riley) (Lepidoptera: Lycaenidae).

After years of working almost exclusively in the Cape, my wife and I decided to remind ourselves of the unique beauty of Zululand. So, at the end of November, off we went via the eastern Free State on the long road north once more. And what an interesting trip it turned out to be.

Our target butterfly this time was the Glasswing, *Ornipholidotos peucetia penningtoni* (Riley), an extremely beautiful - and elusive - lycaenid butterfly. To start off with, we visited some of our old localities around Mhlosinga and Mkuze, which, after leaving the drought-ravaged Eastern Cape and Orange Free State, were looking well-grassed and dazzlingly green. What a lovely colour green is!

Some of the larger and more showy Zululand butterflies, such as *Graphium morania, G. porthaon, G. antheus* and *G. colonna*, were out in abundance, as were many pierids. The quantities were certainly there, and the butterflies were very eye-catching, but the quality was lacking, and we found nothing that was particularly exciting. We collected for a morning in the Phinda Reserve, an exclusive private game reserve, where we had to be on the look-out for lion, leopard, rhino and elephant, and were accompanied by four game guards. The game guards were anxious to learn, but I must admit one does get a bit of stage fright when one has to net an alert butterfly like *G. porthaon* in front of such an interested audience! Several misses were made to look deliberate, like the belated swing of a batsman beaten by a good off-spinner. I remember collecting in the same area in 1983, when we were caught in a sharp thundershower and drenched to the bone. Immediately after this shower of rain, we heard baboons shouting approximately 100 meters away, and then walked onto the very fresh pug marks of the leopard they had seen. Living in jeopardery, as they say. At this locality, we observed *Graphium morania* and *G. colonna*, ovipositing on the same low-growing *Uvaria* shrub, which was either *U. caffra* or *U. lucida*. Unfortunately, one cannot tell these shrubs apart unless they are in fruit, as the fruit is the only real difference between them.

Next, we went down to the False Bay and St. Lucia areas, to search for the Big Game, the elusive *Ornipholidotos*. After an unsuccessful attempt at False Bay, we moved closer to St. Lucia to continue the search. We took a long trail through thick bush in very hot and humid conditions, which served as further Selous Scout training for my wife and five-year-old son. They would plod gamely along the footpath, while I sped off through the bush, zig-zagging and circling until I came back onto the footpath. It was a good thing I had them there, as the endless circling and bundu-bashing through tall canopy forest once caused me to lose my direction in this extremely uniform and featureless country, and it was only through loud shouting to them that I was able to

relocate the footpath.

After walking for miles through this country, I was coming to the conclusion that *Ornipholidotos* had beaten us, and that our trip had been in vain. The area was alive with butterflies like *G. colonna, Amauris ochlea, Sallya natalensis* and *Libythea labdaca*, and at about 1.30 p.m. we stopped for a rest in a shady glade of tall trees, which had a pleasant breeze wafting through it from the ocean. I was walking among the quantities of fluttering *A. ochlea* and flip-gliding *L. labdaca* when I chanced to look back to where my wife and son were seated approximately 100 meters away. There was a small whitish insect fluttering in the undergrowth not far from them. This brought me steaming back, and there it was: my first *Ornipholidotos*! A comprehensive search of this area revealed many more specimens, confined to an area about the size of two tennis courts. Each specimen remained invisible, as the butterfly does not readily take to the wing, and will remain settled with its wings folded for long periods, up to twenty minutes at a time. They have a liking for dried twigs, where two specimens are often seen sitting together. A full day was subsequently utilised for observing this curious creature in its habitat. As I have said, specimens remain immobile for long periods; every now and then, one flutters up, but normally resettles on another dried twig after a very brief flight. On a hot sunny day, however, the males become quite active at about 1 p.m., when they ascend to the tree tops, and flutter about the tree canopy. Of course, this renders them just as invisible to the passing butterfly collector. Females lay their eggs at the base of large trees, on a greenish tree lichen. The eggs are exceptionally small, even for a lycaenid, and are light green when laid, darkening within a very short period to a blackish green, which renders them nearly invisible to the naked eye. The trees on which these eggs were laid were those of *Celtis africana*, but at a second colony found later at Enseleni, the trees were *Ficus sycomorus*. Both tree species have white-coloured trunks.

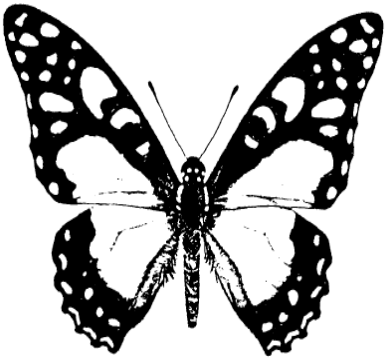
Each colony encompasses a maximum of 5 big trees, which leads one to conclude that an ant species must be utilised, as similar groves of trees with lichen are common throughout these forests, and yet are not frequented.

My final final observation is that this butterfly is probably not a mimic, as has been suggested, but is itself a distasteful species. When squeezed, the thorax of this butterfly gives off an acrid secretion which smells very similar to that given off by some danaid and acraeid butterflies. In addition, the butterfly's thorax is extremely rubbery, which means that the insect is quite difficult to kill by squeezing its thorax. This is very reminiscent of butterflies that are known to be distasteful. One wonders just how many distasteful lycaenids there actually are: what about the *Durbania* complex?

By the way, take warnings about crocodiles in the Natal parks very seriously: I very nearly stepped on one in the Enseleni reserve. We were both horrified to see one another, and rapidly parted company.

Acknowledgements
I must apologise for my oversight in not having acknowledged the Department of Zoology of the University of Cape Town for their assistance in financing, through the Charles Dickson Research Grant, the plate for my last paper in *Metamorphosis* Vol 5 No. 3 pages 107-114. My sincere thanks for this assistance.

My thanks also to the Natal Parks Board for giving permission to collect butterflies in some of their Parks.



Graphium morania male upperside

Ornipholidotos peucetia penningtoni male underside.

BUTTERFLIES AND MOTHS OF BENGUERRA ISLAND

(24 September 1994 - 4 October 1994)

By F.C. Donnelly
P.O.Box 848, Highlands North 2039

Abstract: A description of a trip to Benguerra Island between the 24th September and 4 October 1995 with a checklist of the species recorded.

Benguerra Island - also known as Ilha Benguerua - lies in between Magaruque and Bazaruto Islands, latitude and longitude 2° 52' S and 35° 22' E. The island is approximately ten kilometres long in a north/south direction.

The island is sandy and partially wooded. Near its south east extremity is a reddish sandy bluff and about 4,5 kilometres north are two well defined and partially wooded peaks, the southernmost one of which is about 49 metres high. To the north of these peaks the land is much lower. There are several freshwater pans on the island, one at least believed to be inhabited by wild crocodiles. The island is surrounded by drying sand banks, the largest of which lies on the island's northern tip and is completely exposed at low tide.

Travel to the island is accomplished by boat - private yachts or dhows - and for pilots there is a 1000 metre long grass airstrip.

There are several native villages, a tourist lodge and a diving school on the island. A crocodile farm is also situated next to the lodge and approximately 60 000 litres of filtrated fresh water is pumped daily to both the lodge and crocodile farm.

An abundance of bird species is also found, with approximately 160 species recorded to date, including the rare green coucal and the crab plover. Several suni and one bush baby have been re-introduced to the island.

Further studies are still to be undertaken by the World Wildlife Fund (WWF) sponsored people to determine what other species of animal would be able to successfuly re-inhabit the island. Mosquitoes are also present and from time to time cases of malaria are reported.

I spent 10 days on Benguerra Island from the 24th September to the 4th October 1994. During this time the weather tended to be cool and windy due to frontal activity emanating from the south, so several days of valuable collecting time was wasted due to the poor weather conditions. Many moths were collected around various lights at night. My main opposition in this endeavour were a number of geckos who staked out areas in the vicinity of the lights each night.

The ten days spent on the island was not quite long enough to do a complete survey but I recorded 22 species of butterflies and numerous moths of which I only identified 5 to date. Large numbers of the caterpillar of the noctuid moth *Egybolus vaillantina* were found. They were yellowish in colour and resembled the caterpillars of *Danaus chrysippus* and were very active. I kept one and it successfully emerged in Johannesburg when I got back.

The local WWF representative, Paul Dutton, informed me that the WWF would be willing to sponsor a Lepidopterist next year for further research on the island group. Anyone interested in this project should contact Paul Dutton through the Society.

CHECK-LIST OF LEPIDOPTERA RECORDED

Superfamily Papilionoidea
Family Nymphalidae

Subfamily Danainae
Danaus chrysippus (Linnaeus)

Subfamily Satyrinae
Melanitis leda helena (Westwood)

Subfamily Acraeinae
Acraea petraea Boisduval

Subfamily Nymphalinae
Eutytela dryope angulata Aurivillius
Byblia anvatara acheloia (Wallengren)
Hypolimnas misippus (Linnaeus)
Vanessa cardui (Linnaeus)

Family Lycaenidae
Anthene definita (Butler)
Lampides boeticus (Linnaeus)

Family Pieridae
Eurema hecabe solifera (Butler)
Colotis Ione (Godart)
Colotis eunoma (Hopffer)
Colotis dancaee annae (Fabricius)
Colotis antevippe gavisa (Wallengren)
Colotis evippe omphale (Godart)
Colotis auxo auxo (Lucas)
Belenois aurota (Fabricius)
Belenois creona severina (Stoll)
Dixeia spilleri (Spitler)
Appias epaphia contracta Butler

Family Papilioniae

Papilio demodocus Esper

Superfamily Hesperioidea
Family Hesperiidae

Tagiades flesus (Fabricius)

Superfamily Noctuoidea
Family Noctuidae

Egybolus vaillantina (Stoll)
Diaphone eumela (Stoll)
Othreis fullonia (Clerck)
Sphingomorpha chlorea (Cramer)
Cyligramma latona (Cramer)

BUTTERFLY HUNTING IN THE EASTERN CAPE - AMATOLA DISTRICT
DECEMBER 1994/JANUARY 1995

By S. E. Woodhall
10 Bay Close, Bloubosrand Ext.9, Randburg, Gauteng

Abstract: A description of a trip to the Amatola district of the Eastern Cape during December 1994 and January 1995, with a list of the species recorded.

November 1994. The summer of 1994/5 had arrived and I had not really decided on what to do butterfly-wise. I had had to go to the UK on family business, missing the usual spring hi-jinks. My wife Jayne announced that she wanted a break from Johannesburg life, and I had better organise something quick! My first thought was to visit the Western Cape again, having had a very successful trip there in October. However, a few phone calls soon convinced me that there was nowhere to stay, even at the exorbitant prices being asked for self-catering accommodation.

I then remembered that Cameron McMaster has a holiday cottage at his house in Stutterheim in the Eastern Cape. Also, a trip to this area had been planned for November to look for some hesperiids that I needed to photograph live for the forthcoming book on southern African butterflies. This had been cancelled because of the need to go to the UK, but I thought maybe I might still have a chance in December, so I phoned Cameron. As I thought, his cottage was booked, but I asked him if any of his legion of farmer friends had anything available (even a barn, by this time I was desperate!). He 'phoned me back soon afterwards to ask if I didn't mind house-sitting. Visions of being responsible for a flock of Dohne Merino sheep rose forbiddingly, but Cameron reassured me that it was just a case of a couple of dogs and some chickens. He gave me a telephone number and I duly 'phoned Mrs Monica Scott.

Monica turned out to be a schoolteacher who, with her husband Hamish and children, was planning to visit their beach cottage at Kwelera but wanted someone to look after the house while they were away. Coincidentally, her eldest son Robbie has caught the Lepidoptera bug (thanks to Cameron, an indefatigable recruiter) and was only too happy to have a kindred spirit visit him! He has to be the luckiest lad in the society, because Amoglen, the Scotts' farm, is right on the edge of the Kologha Forest.

We packed Jayne's Jetta with the usual half-ton of gear. It never fails to amaze me how much abuse and overloading Jettas will take. Johan Greyling, Andrew Mayer and I once managed to stuff one with enough gear for three collectors on a Zimbabwe trip, so Jayne's car actually got off lightly! Off we set on the early hours of Boxing Day morning, still nursing Christmas hangovers. Once we got off the N1 at Bloemfontein and started approaching the Eastern Cape on the N6, we noticed two ominous signs. One was the dry, dusty state of the bush, the other a lot of high cirrus cloud and a strong wind. Was "Rainmaker Woodhall" about to strike again? Cameron had warned me about the drought they had been suffering, and it would be just our luck to arrive just as it started to rain! As we reached Stutterheim, it was cloudy and misty and cold. I've learned to be

philosophical about bad weather and was more worried about being able to find Amoglen. In the end we found Cameron's cottage, and he was able to show us the way. Amoglen was, as we had expected, paradise indeed. We had a very pleasant dinner with the Scotts and had a look at the animals we were going to look after for two weeks. Well, one thing I can say is that Robbie Scott will probably be a zookeeper one day, he had everything from a commercial egg farming operation to *Papilio dardanus cenea* larvae going, an aviary, tropical fish, hamsters.... Gerald Durrell has a successor here! The hamsters in particular require a zookeeper's skills, as they are without doubt the finest Houdinis of the animal kingdom. During our stay, Jayne had a lot of fun recapturing escaped hamsters, setting little box traps all over the house - as soon as she got one, another one got loose!

As Monica had told us, the house is right on the edge of Kologha Forest, in fact the forest is at the bottom of the garden! A big lawn with a hadida is all that sits between the back stoep and huge Outeniqua yellowwoods (*Podocarpus falcatus*). I began to harbour hopes that this garden might be like the famous "Yellowwoods" at Balgowan and harbour *Bowkeria phosphor* among its inhabitants!

The next day, Tuesday 27th Jan, dawned misty and dull but Cameron said this would not stop us going on a guided tour of the area, so he and I set off with Robbie. He mentioned that the drought had only broken the previous week, so we might not get many butterflies at all. We went all over Kubusie Forest, up to the top where *Poecilmitis braueri* used to fly before its habitat was overgrown with Blackwood *(Acacia melanoxylon*) and pines. We went down Dontsa Pass where a similar thing had happened, and through the forests on Mount Kempt and down Evelyn Valley where Cameron told us we still stood a good chance of getting *Papilio euphranor*. Occasionally we stopped off at a clump of *Tapinanthus* parasitic mistletoe to look for *lolaus* larvae, but we found none and most of the clumps were too high for us to search. Finally he showed us a patch of forest containing waist-high clumps of mistletoe. He asked us not to pick too much as this destroys the slow-growing plant and leaves only the high clumps, which are still usable by the butterflies. However, we must think of future generations of collectors! This spot rewarded our searching with numerous *lolaus sidus* larvae on the orange-flowered mistletoe used by *lolaus aphnaeoides* (but none of these alas, we were too late in the season), and a few *lolaus silas* larvae on a different mistletoe with red/green flowers. Whilst we were searching, Cameron announced that he had seen one of the skippers I was after, *Astictopterus inornatus*. We looked for this and eventually found one, but to my dismay it dived into the grass and hid too well for us to find it. It was getting late so we returned to Amoglen, wet through but happy.

Wednesday the 28th also dawned wet and fusty. Jayne reminded me that there were two people on this trip and only one of them was a collector, so could we please do something she wanted to do for a change? So off we went to King Williams Town to look at old buildings and the museum. We visited the Kaffrarian Museum, looking at all the historical artifacts showing what a hard place the Eastern Cape was in the days of the 1820 settlers. We even found a butterfly exhibit, with both South African and exotic species on display. All were badly faded, and I was bemused to see an Australian

Euploea core amongst the "South African" species! More interestingly, we could see some of the locality labels on the local species, and they were historic specimens in their own right. Some originated from the Vernay-Lang Kalahari expedition of the 1930's, and one had a Trimen label, another a Bowker.

Examining the *Ficus natalensis* trees outside the Museum failed to bring any *Myrina dermaptera* pupae to light. This was to my disgust and Jayne's embarrassment, it can't have been much fun for her standing around like a spare part whilst her husband grovelled around in the litter at the base of trees! One of these days I will come right with this butterfly but it wasn't to be this one. We repaired to the local steakhouse for lunch, and whilst devouring a steak I noticed a few sunbeams flitting through the windows. This put me on fire to return to Octopus East forest to see if we could find another *A. inornatus*. After a bit more sightseeing, Jayne graciously agreed to spend a while in the bush, so off we went.

The sun was well out when we got to the forest, and plenty of butterflies were on the wing. *Harpendyreus tsomo* was the commonest, a butterfly I had only seen one of before, so photos were taken and also a series of specimens. A few more *lolaus sidus* larvae came to light, then I stumbled on a little glade with *A. inornatus* dogfighting each other in the late afternoon sun. One more hole in the book was filled. We were obviously right at the end of the brood as most were worn, but we did manage to capture a couple of good ones on film. It started to rain again so we beat a retreat.

The clouds were still down on the treetops at Amoglen on the next morning, Thursday 29th December. Now I was beginning to get frustrated. Anyone who has read Hemingway's Green Hills of Africa will know how obnoxious I can become when a longed-for collecting trip is rained off. It's one thing being philosophical about a bit of rain but three days! Enough already! This having happened to me once before in P.E., I decided to try the same remedy that worked then - drive inland until there are no more clouds. This we did, and once over Fort Cunynghame pass we could see that Windvogel Mountain above Cathcart was partly in sun. We drove to the bottom, and Jayne took one look at the huge krantzes and steep slopes, and immediately decided a good read was a better plan. I was made of sterner stuff and, with *Poecilmitis braueri* in mind, started to climb.

The first thing I noticed was how dry and dead the vegetation looked. Obviously the drought had had a worse effect in the rain shadow of the Amatolas. As I neared the summit, a few specimens of *Dingana bowkeri clarki* came out of the grass. The weather was still mostly cloudy, and I could see clear skies to the southwest and started cursing myself for not getting out earlier and having a look at the Karoo proper. The whole top of the Windvogel was in a terrible state, cattle having knocked over the fence protecting the summit ridge, no greenery whatever and total overgrazing. Not a *P. braueri* in sight, and only a couple of worn *Durbania amakosa amakosa* being seen. The only compensation was the large numbers of raptors I saw, probably the source of the mountain's name. A pair of Peregrine falcons were teaching their young to hunt by tossing something around between themselves. Wishing for a pair of binoculars, I trudged wearily back to the car. We drove down to Hogsback via Happy Valley and

Gaika's Kop to while away the afternoon. Nothing spectacular was flying in the Hogsback forests and it was too late (and I was too footsore) to ascend the Kop. We hoped for the morning to bring good weather, as Cameron had told me he would take me to Mbulu on the 30th in search of fabled butterflies!

Cameron expected good weather for this trip, and he was right. In fact it was a scorcher and I cheered up immediately. We took his Isuzu diesel bakkie, which was a good move as the road became a farm track on the east bank of the Kei River, the old Transkei. Scenes of desolation and overgrazing faced us as we travelled up hill and down dale. We reached the first spot, some shrub-covered boulders set in overgrazed grassland near a Xhosa village. An hour of diligent searching turned up one tatty male *Poecilmitis lyncurium*, the object of our trip. We then went to another spot some three or four km to the east, a rocky hillside above a patch of indigenous forest, badly invaded by wattle. Here, we found another four or five *P. lyncurium*, and Cameron took some photo's to record the destruction of this once fine habitat. The rocks were covered in lichen and this was supporting a large, healthy colony of *Durbania amakosa amakosa*, so I took a few of those. We decided to leave the rest of the *P. lyncurium* to breed (if they can survive among all that wattle) and took ourselves back to Stutterheim where Cameron had business. I thanked him for the trip and as there was some of the afternoon left I climbed halfway up Dohne Peak to look for *Kedestes chaca*, another skipper needed for the book. This was actually quite a hard climb, and most of it was up mountainsides covered in blackwood and pine, a depressing sight. The worst of it is that these exotics are feral seedlings, not purpose-planted, and the patches of indigenous bush that survived the original planting are now getting overrun by them. Cameron told me that the forester is working on an exotics extermination program on Dohne Peak, I hope it succeeds, it looks a Herculean task. Anyway, at least the top half of Dohne Peak is clear of exotics and the grassy slopes, dotted with huge granite boulders and laced with streams and indigenous forested kloofs, are a delight. As soon as I got to the spot Cameron had described to me, a male *K. chaca* presented himself, followed by a huge fresh female. They were sitting on grass stems, basking in the late afternoon sun, and were a joy to see. A bonus was *K. mohozutza*, flying with *K. chaca*. I was particularly pleased to be able to photograph *K. chaca* for our book instead of using a drawing, it is by far our loveliest grass skipper.

The next day (Saturday 31st Dec.) again dawned bright and sunny, so I decided this was the day for Gaika's Kop. I had seen this massive lump of rock sitting in the sun from the top of the Windvogel, and I could visualise crowds of rare butterflies at its summit. It is quite a long drive from "Stutt"to Gaikas Kop, so it was 10h00 when I reached Clifton, the farm at its foot. I further screwed up by mishearing the directions of Mrs Pieterse, the farmer's wife, to an easy starting point. I ended up climbing right across the western slopes of the mountain and could see my mistake from there. Never mind, thought I, the weather's nice..... or was it? Tendrils of cloud were creeping over from the eastern side of the mountain. I put these out of my mind and concentrated on the climb. Gaika's Kop is a beautiful climb, just as good as any alpine peak with wonderful views and lots of wildflowers, and of course butterflies! *Aeropetes tulbaghia* delighted my eye as I climbed, feeding on the nectar of the ubiquitous red-pink Watsonia flowers. I picked up a

Poecilmitis turneri amatola and a couple of *P. chrysaor*, and a nice female *Orachrysops nasutus*. As I neared the summit plateau, *Pseudonympha gaika* and a few *P. varii* started to be seen, the latter a primary experience. I began to anticipate deliciously the delights of the summit. I clambered over the last lot of granite slabs onto the plateau and looked over towards the summit - just in time to see a wall of cloud racing towards me. I only had time to register that there seemed to be a lot of Selago in flower (the same one used by *Lepidochrysops lerothodi* in Lesotho) when the clouds blanketed me. I climbed the peak on the south-western end, and sat there willing the still thin cloud to disperse. But it only got thicker. Bitterly disappointed I beat a hasty retreat, not wanting to get lost in the mist with all those sheer drops around. As I got to the car it started to rain, a thin mean drizzle that matched my dark mood. I cursed the Eastern Cape, and its rotten and capricious weather. I reflected on Bill Teare's description of the "Cruel Cape".

At least the weather was confined to the peaks, and as I drove down towards Stutt it seemed to be clearing, so I went back down to Kubusie Forest where a couple of *Charaxes xiphares thyestes* had gone into the traps. The garden at Amoglen was teeming with *Charaxes varanes* and *P. dardanus cenea*. A tatty *f. ronar* was taker and put with some *Vepris* in the hope of getting some eggs, which was consolation for the defeat at Gaika's Kop.

On New Year's Day, as planned, we went down to spend the day at Kwelera Mouth with Cameron, his friend Rhoda and the Scotts. Their beach cottage is under a big milkwood tree about 1 km upstream from the lagoon, and the first thing we saw sitting on the dead vegetation at high water mark was a freshly emerged female *lolaus silas*. We saw a few males circling the tops of the milkwood trees as well. A search for eggs turned up a few, and we set charaxes traps in the coastal bush in the hope of getting some *C. karkloof capensis*. In this we were unsuccessful, but at least we got a nice *C. brutus natalensis* female which pleased Robbie. Above the river cliffs there were many cycads and I was able to take some *Durbana setinata* home for Hermann Staude. At the end of the day we drove into East London where Cameron showed us exactly which fig trees to search for *Myrina dermaptera*, but yet again this insect eluded us.

As the next day (2nd January) was a beauty, I decided to have another go at Gaika's Kop. First of all I hung traps in the forest, taking a hairy fall from a wooded bank onto the seat of my pants. I thought nothing of it at the time. This time the weather held up and I took the right route up the mountain's foothills in the car. Jayne's Jetta must have wondered what was going on, driving over what looked like trackless grassland, but I managed to reach a point halfway up the north-east ridge and could have got further in my bakkie. Mrs Pieterse's directions were faultless. It pays to ask the farmer for permission to catch butterflies, not only is it polite but one often gets helpful hints as well. As I climbed the steep slopes, I saw the same species that I had seen on the last climb. When I reached the summit, the view was superb and not a cloud in sight. I rushed to the Selago clumps I had seen earlier expecting to see lots of *P. penningtoni* sitting on them, but no luck. There were, however, lots of *Pseudonympha*, notably *gaika*,

varii and *paludis*. *Capys alphaeus* was very common, both on flowers and around the many Protea bushes. I took females of the Cape form for the first time, they were huge compared to KwaZulu-Natal specimens. And then I saw the clumps of weird spire-shaped spikes of the mountain bamboo, *Thamnocalamus tessellates*, growing in crevices between huge boulders on the eastern and southern sides of the summit. I walked over, thinking that I really stood no chance of seeing *Metisella syrinx*, when one popped up in front of my nose! They turned out to be rather common, but very hazardous to catch. Normally *Metisella* skippers are easy to catch in their grassy haunts. One doesn't realise just how agile they are until one tries to catch them whilst leaping from boulder to boulder above a 200m drop! Eventually I took a series and was able to take photos as well. They were just starting to emerge, as I only took one (very fresh) female but could find no eggs.

An exhaustive search of the summit produced no *Poecilmitis* except for a *P. turneri amatola*. A couple more *Orachrysops nasutus* came along, as I walked down to the springs on the western slopes for a drink. I slowly worked my way down the mountain, finding a single female *Aloeides* which Graham Henning thinks may be *A. dicksoni*. I only found one despite a lengthy search.

When I got back to the farm, Mrs Pieterse invited me in for a much-needed glass of orange juice. I apologised for the state of my clothing which was dusty, dirty and sweaty. After the drink I thanked her and said my goodbyes, and walked to the car. To my horror I saw the reflection of my rear end in the door mirror. The fall early that morning had literally ripped the seat out of my pants and I hadn't noticed! The warm weather obviously stopped me feeling any strange draughts whilst climbing Gaika's Kop, and I had sat in this respectable lady's lounge, chatting to her with her daughters, and had actually apologised for the state of my clothes!

An inspection of the traps in the forest showed no new *Charaxes,* but I did see a *Paralethe dendrophilus dendrophilus*, the beautiful orange spotted nominate subspecies. It escaped me, ducking into the thickest forest, and I saw no more despite much bush-whacking.

On the next day (3rd January), the weather was fine again so I went up Mt Kubusie with Cameron and Rhoda, the objective being *Poecilmitis penningtoni*. In this we failed, but we did find a nice colony of *Aloeides braueri* at the foot of the mountain, as well as a few *A. oreas* at the summit. We thought these were *A. quickelbergei* at first, but when Graham Henning saw them he told me they were *A. oreas*. *Pseudonympha varii* was out and we got one *Poecilmitis turneri amatola*.

On the 4th I had to go into East London on business, and we spent the afternoon exploring the small coastal resorts. Unfortunately a storm blew up and that put paid to any more collecting. In fact, after this day we had two more days of foul weather but I wasn't too worried - we had got some good butterflies and anything else was going to be a bonus. We went looking for larvae again, finding some more *I. sidus* and surprise! two final instar *I. aphnaeoides* larvae feeding on the flower of the *Tapinanthus* foodplant. Obviously late stragglers, they were gratefully added to my growing menagerie of larvae, together with a batch of *Mylothris trimenia* larvae.

Saturday 7th January started out a sunny day, so we went into the forests to look for *Papilio euphranor* and *Bowkeria phosphor*. Cameron had told us where to look for these,

the latter in patches of indigenous forest along streams in the pine plantations. I tried all the tricks, making puddles in the road, examining the purple flowers of *Verbena braziliensis* and bramble flowers, all to no avail. The forest roads were quite badly overgrown and we could not get all the way to the foot of Mt Kubusie to the spots where Cameron told me Clive Quickelberge had found *phosphor* all those years ago. We did see a few *Papilio ophidicephalus phalusco* but they were all worn. We went down to Evelyn Valley for *P. euphranor*, but as we approached the forest the sun went behind clouds and all butterfly activity stopped. Early the next morning, we set off back for Johannesburg. It had been a good safari and as far as the hesperiids were concerned, we had got what we came for. Hopefully we will be able to return at Eastertime to look for the species that eluded us!

The forests of the Amatolas are under threat from invading aliens such as Blackwood (*Acacia melanoxylon*), Wattle (*Acacia dealbata*) and various pine species. I noticed that the damage was considerably worse than the situation in the KwaZulu Natal midlands or the Eastern Transvaal. There, exotics are confined to the slopes and the gullies and steep slopes still have pure stands of indigenous afromontane forest. In Kubusie, Kologha and Dohne forests, feral seedlings of the above three species are intermixed with the extensive afromontane forests. Where plantations have been cleared, large numbers of saplings have grown from seed creating an impenetrable thicket containing no indigenous plantlife whatever.

Cameron told me that the forester in charge has instituted a program of exotic removal on Dohne Peak. This is commendable, and if successful will be a blueprint for all other southern African montane woodland that suffers from similar problems.

The situation in the old Transkei is much more serious and there would appear to be less hope for the future. The grassland around Mbulu Forest is terribly overgrazed. The rocky slopes above the forest are infested with self-seeded wattle saplings, and the indigenous shrubs that used to grow between the rocks are being shaded out. We found *Poecilmitis lyncurium* to be very scarce, and at least in this locality its days seem to be numbered. *Durbania amakosa amakosa* was abundant but will this still be so when all the rocks are in deep shade and all the lichen has died? Cameron is drafting a letter to the deputy Minister of the Environment, Bantu Holomisa, to raise the alarm on this issue. As a Transkeian himself and ex-president of Transkei perhaps he will feel bound to do something.

Thanks are due to :
Cameron McMaster for his help and hospitality, without him this trip would have been impossible;
Monica and Hamish Scott and family for the use of their house and their hospitality;
Mrs Pieterse of Clifton, the farm on which Gaika's Kop is situated.

Would members planning to climb Gaika's Kop please contact Mr or Mrs Pieterse before climbing the mountain. Their telephone no. is 04563 32441.

Finally Mrs Cawthorne, wife of the assistant forester for Kubusie Forest, for issuing a

collecting permit. A checklist of species seen during the visit follows.

Checklist of butterfly species seen and captured:

Kubusie/Kologha/Dohne/Octopus East forests:

Nymphalidae:
Danainae:
Danaus chrysippus (L)
Amauris albimaculata albimaculata Butler

Satyrinae:
Melanitis leda helena (Westwood)
Bicyclus safitza safitza (Hewitson)
Aeropetes tulbaghia (L) (only on top of Mt Kubusie)
Paralethe dendrophilus dendrophilus (Trimen)
Dingana bowkeri clarki van Son (only on top of Mt Kubusie)
Pseudonympha varii van Son (only on top of Mt Kubusie)
Pseudonympha magoides van Son (only on top of Mt Kubusie)

Acraeinae:
Acraea horta (L)

Charaxinae:
Charaxes varanes (Cramer)
Charaxes candiope (Godart)
Charaxes jasius saturnus Butler
Charaxes brutus natalensis Staudinger
Charaxes xiphares thyestes (Stoll)

Nymphalinae:
Neptis laeta Overlaet
Precis archesia (Cramer)
Precis octavia sesamus (Trimen)
Junonia hierta cebrene Trimen
Junonia oenone oenone (L)

Lycaenidae:
Phalanta phalantha aethiopica (Rothschild & Jordan)
Durbania amakosa amakosa Trimen (on top of Dohne Peak)
Iolaus silas silas Westwood
Iolaus sidus Trimen
Iolaus aphnaeoides aphnaeoides Trimen
Capys alphaeus alphaeus (Cramer) (on top of Mt Kubusie)
Aloeides braueri Tite & Dickson (northern slopes of Mt Kubusie)

Aloeides oreas Tite & Dickson (on top of Mt Kubusie)
Poecilmitis turneri amatola Dickson & McMaster (on top of Mt Kubusie)
Harpendyreus tsomo (Trimen) (Octopus East forest)

Pieridae:
Catopsilia florella (Fabricius)
Eurema brigitta brigitta (Stoll)
Eronia cleodora cleodora Huebner
Mylothris trimenia Butler

Papilionidae:
Papilio dardanus cenea (Stoll)
Papilio demodocus demodocus (Esper)
Papilio nireus lyaeus (Doubleday)
Papilio ophidicephalus phalusco (Suffert)

Hesperiidae:
Tagiades flesus (Fabricius)
Astictopterus inornatus (Trimen) (Octopus East forest)
Kedestes chaca (Trimen) (Dohne Peak)
Kedestes mohozutza (Wallengren) (Dohne Peak)
Gegenes niso niso (L)

Charaxes varanes male feeding on animal droppings

BUTTERFLIES OF THE AFFORESTABLE REGION OF THE MACLEAR DISTRICT

By Adrian J. Armstrong
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Abstract: A preliminary list of butterflies of the afforestable grasslands of the Maclear District is given, together with the broad attitudinal distribution range of each species.

The Maclear District of the Eastern Province is situated at the southern end of the Drakensberg range. The topography is hilly to mountainous, with many streams, rivers and wetlands. Rains occur predominantly in summer, with mean annual precipitation ranging between 600 mm and 1 200 mm. Temperatures range between -17°C and 40°C, with snowfalls occurring in most winters and even on odd occasions throughout the year. *Themeda* grassland is the main vegetation type, although *Protea* woodland, scrub and montane forest also occur.

The following list resulted from a project done for the Southern African Nature Foundation relating to the large-scale afforestation in the northern Eastern Province (Northeastern Cape). Butterflies were one of the four wildlife groups incorporated into a conservation evaluation of different grassland environments in the afforestable region. Butterflies were sampled mainly between November 1993 and April 1994, and January and February 1995. Sampling was done in environments delimited by combinations of attitudinal, geological, and rainfall, classes. Sampling was done at five sites in each environment: a North-facing slope, a South-facing slope, an East- or West-facing slope, a valley or bottom flat, and a crest or ridge. Butterflies at each site were sampled during four ten-minute counts (i.e. usually on four separate days) in each environment. Therefore an environment was visited only during one month in the summer, although some environments were also visited during winter. The list is consequently not a complete checklist for the area, but rather a preliminary list.

The afforestable region lies in the Montane and Subalpine belts (Killick 1978). The Drakensberg range is lower in the Maclear District than in Natal, and basalt occurs down to 1 700m a.s.l. at certain places (1:250 000 Geological Series Maps, Geological Survey, Pretoria). The Montane Belt merges with the Subalpine belt around 1 700 m a.s.l., taking the upper limit of the Montane Belt to be coincident with the upper distributional limit of montane forest in the region. Large areas of *Protea* savanna only occur in the Montane Belt, the Subalpine Belt being largely *Themeda-Festuca* grassland in the afforestable region. Sampling in the Subalpine Belt was only done up to an altitude of approximately 2 000 m a.s.l.. The recorded distribution of the species is given after their names, according to the following scheme:

S = Subalpine Belt (1 700 - 2 000 m a.s.l.)
UM upper Montane Belt (1 500 - 1 700 m a.s.l.)
LM lower Montane Belt (1 200 - 1 500 m a.s.l.)
A = all altitudes.

List of butterflies

NYMPHALIDAE
Danaus chrysippus aegyptius (Schreber). A
Aeropetes tulbaghia (Linnaeus). A
Paralethe dendrophilus albina Van Son. LM, UM
Dingana b. bowkeri (Trimen). LM,S
Cassionympha cassius (Godart). LM
Pseudonympha magoides Van Son. S
Pseudonympha varii Van Son. S
Stygionympha s. scotina Quickelberge. S
Stygionympha w. wichgrafi Van Son A
Acraea horta (Linnaeus). LM,UM
Acraea n. neobule (Doubleday). UM
Hyalites anacreon (Trimen). A
Byblia ilithyia (Drury). LM
Hypolimnas misippus (Linnaeus). LM,S
Precis octavia sesamus Trimen. LM
Precis archesia (Cramer). LM,UM
Precis hierta cebrene (Trimen). A
Precis o. oenone (Linnaeus). LM
Vanessa cardui (Linnaeus). A

LYCAENIDAE
Durbania a. amakosa Trimen. LM,S
Thestor b. basutus (Wallengren). LM
Leptomyrina lara (Linnaeus). LM,S
Capys alpheus extentus Quickelberge. LM,S
Capys disjunctus Trimen. LM
Myrina silenus ficedula Trimen. LM,UM
Aloeides macmasteri Tite and Dickson. LM,S
Poecilmitis chrysaor (Trimen). LM
Anthene d. definita (Butler). LM
Cacyreus p. palemon (Stoll). A
Cacyreus marshalli Butler. A
Leptotes pirithous (Linnaeus). LM, UM
Lampides boeticus (Linnaeus). A
Harpendyreus noquassa (Trimen and Bowker). UM,S
Lepidochrysops asteris (Godart). LM
Orachrysops subravus G.A. and S.F Henning. S
Actizera l. lucida (Trimen). LM
Oradium barberae (Trimen). UM,S
Zizula hylax (Fabricius). LM

PIERIDAE
Pinacopteryx e. eriphia (Godart). S
Colias e. electo (Linnaeus). A
Catopsilla florella (Fabricius). A
Eurema b. brigitta (Stoll). A
Belenois aurota (Fabricius). A
Belenois creona severina (Stoll). LM
Belenois gidica (Godart). LM,UM
Pontia h. helice (Linnaeus). A

PAPILIONIDAE
Papilio d. demodocus Esper. LM
Papilio nireus lyaeus Doubleday LM

HESPERIIDAE
Eretis u. umbra (Trimen). LM
Spialia diomus ferax (Wallengren). LM,S
Spialia m. mafa (Trimen). LM
Metisella malgacha orina Vari. S
Kedestes mohozutza (Wallengren). A
Gegenes n. niso (Linnaeus). A

Certain species (*Capys alpheus extentus, Aloeides macmasteri*) with a LM,S distribution are apparently Montane species. They were only recorded near the Montane/Subalpine boundary in the Subalpine Belt, the former species while hill-topping. Other species with this distribution probably occur in the upper Montane Belt as well. Species with a UM distribution are likely to occur also in the lower Montane Belt.

Conservation evaluation

Altogether 52 species were recorded during the project. The highest number of species were recorded in environments in the lower parts of the Montane Belt, and least species in environments in the upper altitudes of the Montane Belt. Environments in the Subalpine belt, especially on basalt, had the greatest number of species endemic to the mountainous areas in southern Africa. These Subalpine grassland environments are therefore priority for conservation in the Maclear District.

Acknowledgements

I gratefully thank the Southern African Nature Foundation for sponsorship of this project, the Mazda Wildlife Fund for the loan of a vehicle, North East Cape Forests for hosting me and for use of their facilities, Stephen and Graham Henning for identifying some of the specimens, and the farmers who allowed access to their land for their hospitality.

Reference

KILLICK, D.J.B. 1978. The Afro-alpine Region. In, *Biogeography and ecology of southern Africa,* (ed.) M.J.A. Werger. Junk, The Hague, Vol. 2, pp.517-560.

Durbania amakosa female underside

BUTTERFLY AND INVERTEBRATE EXTINCTIONS IN AFRICA WEST OF THE DAHOMEY GAP

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Request for Help

I have just completed a checklist of all West African forest and forest edge butterflies, a total of 926 species. A total of about 75 essentially Sudan savannah butterflies have been excluded.

The purpose is to see how many of the described species have been recorded since the 1960's,1980's and 1990's (a species seen in the 1990's is automatically included in earlier years as well). The 1960's is based on very extensive material. The 1980's material is much weaker, based partly on published data from Sierra Leone. The 1990's material is mainly based on my own project in Ghana and my collaboration with H. Dall'Asta in Côte d'Ivoire.

The immediate, rough results are interesting:

Table 1 Described forest species from west of the Dahomey Gap known to be present during the 1960's, 1980's and 1990's (based on Larsen mss)

Forest Species	**1960's**	**1980's**	**1990's**	**1960's %**	**1980's %**	**1990's %**	**AA** (2))
Present	889	709	678	96	76	73	7
Not Recorded	38	218	249	4	24	27	
TOTAL	927	927	927	100	100	100	7

Clearly there was essentially no extinction of butterflies from the time they were first described till 1960, which was when the forest habitat really started to get seriously hurt. Given the extreme weakness of the 1980's and 1990's database, it could be plausibly argued that there has been, at most, limited extinction since then. The 1000 butterflies of western west Africa can be considered proxies for at least 300,000 other arthropods, so the issue is a major one.

I hope to build up evidence for two major points:

1) That present extinction rates are much lower than many of the figures being bandied about.
2) That the present level of conservation efforts - if maintained - is adequate to protect the bulk of biodiversity despite the rapid deforestation.

If this were proven, It would be powerful additional support for conservation programmes.

However, I need help from people who have collected in western West Africa during the 1980's and 1990's.

I would be extremely grateful for your help in updating this checklist. Attached is a portion of the checklist dealing with the Charaxinae as an example of the format followed, and the information required. The following are my priorities:

1) Ticking any species not listed from that decade in my checklist, with the greater emphasis on the 1980's and 1990's. **These species are shown in bold in the table for ease of reference.**

2) Any species not recently listed from West Africa that you have seen more recently anywhere in Africa (this means adding to the AA category, which means species not found in west Africa in that decade, but found elsewhere in Africa).

3) If you happen to know of earlier records than those listed under found, please write the relevant decade. This is less important, since I am planning to look up all taxa described since 1920 in the BMNH collection (this means pushing the first DISCOVERED SPECIMEN back in time, not the date of the taxonomic description).

4) Any suspicions that any species has actually gone extinct would be welcomed - I have *Euriphene kiki* as my only real candidate.

Though the number of people having collected very recently in West Africa is relatively small, I am sure that even a quick run through the checklist will give a significant boost to recent records. At least some of the unrecorded taxa are taxonomically dodgy .

I shall organise the data in such a way that updating is easy and I will take stock once again at the end of the present project towards the end of the century.

Charaxes varanes (Cramer),		1770+	60	80	90
Charaxes fulvescens (Aurivillius),	1891	1890+	60	80	90
Charaxes candiope (Godart),	1824	1820+	60	80	90
Charaxes protoclea Fesithamel,	1850	1850+	60	80	90
Charaxes boueti Feisthamel,	1850	1850+	60	80	90
Charaxes cynthia Butler,	1865	1860+	60	80	90
Charaxes lucretius (Cramer),	1775	1770+	60	80	90
Charaxes lactetinctus Karsch,	1892	1890+	60	80	90
Charaxes epijasius Reiche,	1850	1850+	60	80	90
Charaxes castor (Cramer),	1775	1770+	60	80	90
Charaxes brutus (Cramer),	1779	1770+	60	80	90
Charaxes pollux (Cramer),	1775	1770+	60	80	90
***Charaxes eudoxus* (Drury),**	**1782**	**1780+**	**60**	**00**	**00**

Charaxes tiridates (Cramer),	1777	1770+	60	80	91
Charaxes bipunctatus Rothschild,	1894	1890+	60	80	90
Charaxes numenes (Hewitson),	1859	1850+	60	80	90
Charaxes smaragdalis Butler,	1865	1860+	60	80	90
Charaxes imperialis Butler,	1874	1870+	60	80	90
Charaxes ameliae Doumet,	1861	1860+	60	80	90
***Charaxes pythodoris* Hewitson,**	**1873**	**1870+**	**60**	**80**	**00**
Charaxes hadrianus Ward,	1871	1870+	60	80	90
***Charaxes nobilis* Druce,**	**1873**	**1870+**	**60**	**00**	**90**
Charaxes zingha (Stoll),	1780	1780+	60	80	90
Charaxes etesipe (Godart),	1824	1820+	60	80	90
Charaxes achaemenes Felder,	1866	1860+	60	80	90
Charaxes eupale (Drury),	1782	1780+	60	80	90
Charaxes subornatus Schultze,	1916	1910+	60	80	90
Charaxes anticlea (Drury),	1782	1780+	60	80	90
***Charaxes hilderbrandti* Dewitt,**	**1879**	**1870+**	**60**	**00**	**00**
Charaxes etheocles (Cramer),	1777	1770+	60	80	90
Charaxes plantroui Minig,	1975	1960+	60	80	90
Charaxes angelae Minig,	1975	1970+	60	80	90
***Charaxes bocqueti* Minig,**	**1976**	**1970+**	**60**	**80**	**00**
***Charaxes petersi* van Someren,**	**1969**	**1950+**	**60**	**80**	**00**
***Charaxes dreuxi* Bouche & Minig,**	**1977**	**1970+**	**60**	**00**	**00**
Charaxes virilis Rothschild,	1900	1900+	60	80	90
Charaxes cedreatis Hewitson,	1874	1870+	60	80	90
Charaxes northcotti Rothschild,	1899	1890+	60	80	90
Charaxes pleione (Godart),	1824	1820+	60	80	90
Charaxes paphianus Ward,	1871	1871+	60	80	90
***Charaxes nichetes* Grose-Smith,**	**1883**	**1880+**	**60**	**80**	**00**
***Charaxes porthos* Grose-Smith,**	**1883**	**1880+**	**60**	**00**	**00**
***Charaxes zelica* Butler,**	**1869**	**1860+**	**60**	**00**	**00**
Charaxes laodice (Drury),	1782	1780+	60	80	90
***Charaxes mycerina* (Godart),**	**1824**	**1820+**	**60**	**00**	**00**
***Charaxes doubledayi* Aurivillius,**	**1898**	**1890+**	**60**	**00**	**00**
Euxanthe eurinome (Cramer),	1775	1770+	60	80	90
Palla violinitens (Crowley),	1890	1890+	60	80	90
Palla decius (Cramer),	1777	1770+	60	80	90
Palla ussheri (Butler),	1870	1870+	60	80	90
Palla publius Staudinger,	1892	1890+	60	80	90

Any of the above information would be most welcome. Further requests for assistance will be forthcoming as the project progresses.

RAMBLINGS IN RHODESIA (ZIMBABWE) WITH RUTH AND KEN PENNINGTON
- September and October 1957 -

By Ruth Southey
P.O.Box 709, George 6530

(continued from *Metamorphosis*, 1994, **5(4):** 153-54)

When we were in the Umtali area, we were the house guests of Harold and David Cookson at their home Lawrenceville in the Vumba Mountains, and where we enjoyed wonderful hospitality.

1st October. After early tea, breakfast and general tidy-up, David took Ruth and me to Umtali where I had X-rays of my injured leg and manipulation, which eased the pain. David then suggested we drive to Leopard Rock Hotel, this most interesting, being built into the hillside. No tea was available so we drove home and refreshed ourselves.

Jim Cookson, bold, red-bearded, happy and bright, blew in from Salisbury towards evening. Sundowners and dinner, Antonio being the chef. There was much jollification and jubilation. Later, Jim showed us his slides and David's of the Chimanimani Mountains. The multi-coloured msasas in their young spring leaf were most impressive.

2nd October. After early tea, breakfast and packing we left for Inyanga by 09:00. This was a most interesting drive, going higher and higher in to the mountains. We called in at the Pearces' lovely home, and parked on a hill top beyond their vegetable garden, looking down on their flower garden - rippling hill of colour, with a stream running down one side. We were invited to tea with these charming people, then settle in our camp with the usual sundowners, dinner and bed.

3rd October. After early coffee and breakfast, Ken set off with his net to hunt *Lepidochrysops ruthica* at a spot 15 miles away. Ruth and I tea-ed with Mrs Pearce. All sorts of offers were made for the alleviation of my pain. We lunched in the caravan, and then came rain in sheets. My tent leaked badly, and there was a big movement of bag and baggage.

Later when the rain stopped Ruth went with Mrs Pearce and her guests to tea with Mrs Mc Ilwaine. I accepted a kind invitation to sit at the fire in the house. There I met Raymond Burrell from the vast Cowdray Estates in Sussex and Surrey, most interesting. Later Mike Pearce joined us, and we happily saw the sun go down. The party returned from the Mc Ilwaines, and I met their Royal Highnesses, the Maharajah and Ranee of Alyrajipore, both most charming.

Ken came back late, soaking wet, with no *L. ruthica*, but six fine trout - he had the foresight to take his rod. After changing, he was happy to serve us with sundowners - my second seeing down of old sol! After dinner the rain poured down again, and Ken insisted on my sleeping in the caravan while he used my tent

4th October. Ken left early with the Rajah and Raymond Burrell to fish for trout in

Herbert Mc Ilwaine's lake but with no success. We breakfasted on the six caught the day before - perfectly delicious. Ken then left for a rendezvous with the Cooksons. I asked permission to hunt butterflies in the glorious garden.

Lunch, rain, laze. Ken arrived back at 18:00, with trout. He had had a fall in the river, and nearly killed himself getting out and back to the car up a very steep hill. Pat and Mike Pearce, Mr and Mrs Murphy - he was the American Vice-Consul in Salisbury - came to sundowners - lovely party and charming people. Dinner and bed.

5th October. After early coffee and breakfast, Ken left to join the Cooksons to hunt for *L ruthica*. Again no luck, but he netted many a then desirable species. He fished the Inyangombe River and brought home six more fine trout.

I hunted in Pat's garden and netted two more specimens of *Deudorix calignosa*. Ken was very pleased as this species is rare. I also handed him more *Uranothauma poggei*. Pat Pearce's garden is a dream, with rippling cascades of violas, forget-me-nots, sweet williams, white and pink, wiry white daisies in every crevice-, foxgloves and all sorts of roses and irises. A phone message came from the Cooksons to say they would be leaving Dannakeng the next day.

6th October. After breakfast, Ken walked to see his old friends, the Mc Ilwaines, and came back in time to take us to the Pearces for Sunday Service. The lovely church was built by Mike in red stone. The altar was most impressive, and the loveliest I had ever seen; it was built in the same red stone, reredos an open view on to the hills, and with the cross framed against the sky. The service was held by Mr Maurice Carver, recently head of Rusawe, and was beautiful and impressive. A full local congregation, inclucing about thirty Africans who sang two Shona hymns alone and magnificently. All the singing was unaccompanied by music.

In the afternoon Ruth went with the Pearces to decorate the font for Kate Murphy's christening. Ken started off to go fishing in the Madzoro River, but damaged his oil sump not far off. He managed to collect the oil and came back. We went down to the christening and then on to the party - Kate was a lovely little baby. The Maharajah made a short speech. Rowena Pearce was home from Salisbury with five friends. The young gentlemen were from Eton, Harrow and Winchester.

In the afternoon, we were invited to sundowners by Mike and Pat, and there met the Singletons, he being a cricket "blue', and one-time captain of the Rhodesian team. Dinner, bridge and bed.

7th October. After early coffee and breakfast, Ken went off to the *L. ruthica* locaity for the day. Ruth and I walked to the slave pits, and old ruins on the hill above the Mc Ilwaines' home. It was all most interesting. We put up a pennant winged nightjar - a most astonishing-looking bird. We went home and lunched.

Ken arrived about 15:00 having netted 6 male *L. ruthica*, he being the only known person to have netted this species. In the later afternoon we all drove to the Madzoro River. Ken went off to fish while Ruth and I bathed in a lovely pool. However we were nearly unable to get out - finally we managed to do this with our bodies covered in red mud and grass. Ken came back with a fine basket of trout Home clean-up, then we joined the Cappen family for, believe it or not, sundowners, then back to the caravan for dinner.

8th October. We went with Ken after breakfast to the *L. ruthica* spot, a long dry hill above the Rhodes Estate Hotel, and spent the most astonishing morning. I myself netted one female and one male, thus proudly being the second person in the world known to net this species, a unique "blue" of Inyanga, shot-green in colour and very beautiful. Ken netted two males in a very restricted area at the tree of the original catch five years before. We were all most thrilled. We lunched there and afterwards left for camp. After tea, Ken drove us to World's View, a lovely drive into the mountains on Joan Mc Ilwaine Drive. At World's View we looked across 100 miles of Rhodesia, quite breathtaking. The terrace below the viewpoint was a blazing mass of msasas in glorious young leaf.

Home again, and we then entertained the Pearces and their guests (in the Pearce house!) to sundowners. Home for dinner, and we did some packing in preparation for our departure the next day - what a wonderful day this had been.

9th October. After early coffee and breakfast we packed, made our farewells and left about 08:30. We stopped at the burnt patch near Rhodes Estate, and saw and netted several *Lepidochrysops mashuna, L. inyanga* and others. We moved to the *L. ruthica* spots where an east wind was blowing, and it was much hotter than the day before. We searched till noon and then I netted a male just outside the pine trees. I invited Ruth to bottle this *L. ruthica*, the beautiful butterfly that had been named for her by Ken five years before. We lunched beside the Marora River, and after leaving I discovered that I had left my net behind - so it was 'goodbye to it. We travelled via Rusape, and called in on Claire and Neville Vissian at their base camp. We were all delighted to meet again.

We spent a very happy afternoon and evening, and slept soundly after a gay sundowner party and delicious dinner. The camp was in a lovely spot in a corner of the hills, under vast granite outcrops.

10th October. Early coffee, and I looked out on a most impressive skyline of sun-tipped granite. We left, after a good breakfast, at 08:00, and arrived in Umtail soon after 10:00, and I had a treatment for the very painful leg, and so on up to the Cooksons.

The men went out with their nets, and Ruth was taken for a joyride by Jim in his new Citreon. When all were home, the decision was made to go on the morrow to the Chimanimani Mountains. We enjoyed a very happy evening.

11th October. The climbers were up at 05:00 and left at 05:30 after coffee. It was very sad to see them go, but very happy to be staying with Mr Cookson. During the morning I wrote letters, lazed and did various chores. Mr Cookson showed me their very fine hawkmoth collection, and altogether I enjoyed a very lazy, pleasant day.

12th October. Mr Cookson and I went up the Vumba with trapnets as well as nets, but results were negligible, so we went home. After lunch I wandered about for a short while and netted one *Iolaus silas*, but great heat drove me indoors again. I looked at the wonderful collections of hawkmoths and butterflies, followed the always enjoyable routine of sundowners, dinner and bed. Antonio was the Cooksons' chef and he always did us proud.

13th October. After breakfast, I went with my net up the furrow in the forest, a most lovely walk. I saw "blues" in great numbers. I got home at 12:30 to find the party back from their trip to the Chimanimanis, where the collectors had had a good and very

successful time.

Time was also drawing near to leave, and after lunch we started packing in readiness for our departure the next day.

14th October. And so the time had come to leave after a most wonderful trip. We said sad farewell to our very good friends and hosts, Harold and David, and Jim too, and left to start our way back to our country.

Amatongas Forest, Mozambique - Camp 1957. From left to right: Harold Cookson, David Cookson, Neville Vissian, Claire Vissian, Ruth Pennington, Ken Pennington.

AN APPRECIATION

Ruth Pennington, my long-time friend, much loved has gone. Rising 97, and sadly crippled with pain, she told me in her last letter, written shortly before her death in December 1994, that she had had a wonderful life. She said she had been blessed with a loving husband, loving, caring family, and many loving friends, but she was tired and ready to go, and so she has gone.

Where she was, there was always smiling and laughter and an aura of happiness. She is missed, and sadly missed by very many. May she rest in peace. Farewell, dear friend, from your loving friend,

Ruth Southey

A PROPOSAL FOR A DATA RECORDING SYSTEM FOR LEPIDOPTERA.

By B Coetzer

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Abstract: Part one of a proposal for a design document to standardise the recording of collection data on a computer based database by collectors.

BACKGROUND

Man, as one of the greatest eliminator of species, is currently under great pressure to undo or at least restrict the harm he has done to nature over the past several thousand years. The rewards reaped from centuries of neglect has indeed been tragic as far as nature is concerned. In order to contain this damage and be able to advise others on what effects certain actions would have it is necessary that the information pool available is accurate. The basis for information is always data, both historical and current.

Butterfly collecting has been a favourite pastime by many over many years. Although often restricted by authorities as being destructive towards nature it is proposed to rather use this activity in a constructive way. This can be done by the use of conservation sensitive collection practises as well as the recording of data. Without the use of amateur collectors there is very little chance of being able to keep tabs on the population information of Lepidoptera.

This proposal is to form the basis of a design document for recording the collection data of participant collectors on a computer based database. In addition it proposes a computer based tool to assist with the entry of data and the manipulation of the data.

The task of recording all specimens in current collections is immense and probably impractical as a first goal. A goal that should certainly be achievable in the short term would be the recording of all records being made at present while older data can be entered when time and facilities are available.

It is proposed that this task be handled formally as the proper capturing of the data could have a very long term impact on research and conservation in the future, and as such it would be beneficial to structure the data in such a way that sophisticated data manipulation is possible. Also, if a lot of effort is spent in collecting the data, it would be worthwhile to accumulate it in a useful format. On the other hand it is understood that data capturing would most likely be done by amateurs who have little interest in, nor access to, computers and it is therefore imperative that the capturing interface be simple, can run on any PC and can be made available to everyone at very low cost, or preferably at no charge.

Issues like these form the basis of a user requirement specification and have been addressed as such. It is suggested that the specification be left quite formal and as complete as possible. This will allow not only for a clear understanding of the final tool but, should it ever become necessary, this could form the basis of a dedicated tool developed for those who have an interest in Lepidoptera. Also as the efforts of any individual or entity charged with the maintenance of such data cannot be guaranteed

over the long term, such a document would allow for continuity by specifying exactly the goals, structure and so on to anybody taking it over, even a complete non-technical (in the lepidopterist sense of the word) person.

COLLECTORS ROLES

As mentioned earlier, the role of the amateur collector will be crucial in the collection of this data. This is the only practical way in which the information could be gathered and, managed properly, could ensure good data for other studies.

Data collection and submission

The first pre-requisite is of course that collectors be encouraged to submit data. This could be enforced in places such as protected areas but should be encouraged for all collections. Accurate identification and recording will always be a problem and the use of statistical methods could point to possible errors. When such errors have been identified, specimen-identification could be made by qualified people.

Conservative collection practices.

It will be essential that good collecting practices be encouraged. An extract of such practices have been included in a "Practical Guide to Butterflies and Moths in Southern Africa" published by the Lepidopterists' Society of Southern Africa. Governing agencies could attempt to manage collecting by promoting collection to ensure an even collection throughout the year and even invite collectors during periods where information is scarce.

FUTURE

The ability to handle other information may in future be necessary. Such information could include life history descriptions, photographs of life histories and so on. The present proposal could serve as a stepping stone towards a well managed data collection and storage system for South African Lepidoptera. It could of course in future be expanded to other regions.

USER REQUIREMENT SPECIFICATION

The User Requirement Specification (URS) is the set of design goals for the catalogue and the entry/manipulation tool. It is necessary to specify as much as possible in terms of the URS if the benefits reaped from this effort is to be most useful.

Data manipulation

The ability to manipulate the data is the most powerful aspect of such a catalogue. It is this ability which will allow interested parties to extract information such as distribution, trends and so on. It is therefore necessary to attempt to describe the manipulation required.

The following are some examples of possible requests that could be made to such a system:

Extract distribution
This would be the ability to request a list of all localities in which a particular butterfly has been found. Such a feature could most likely be extended to produce maps of distribution.

Extract list
The ability to list all the butterflies found at a given locality or a given region. The latter could be descriptive, such as a province, but from a scientific point of view a region specified by boundaries such as latitude and longitude would be better.

Extract current list
This would be the ability to extract the list of butterflies at a given location between specific dates. This would allow the determination of trends and could be used to provide warning signals from an extinction point of view.

Data entry
Data entry will be made from collections done by amateurs. For this reason the entry tool should be such that it is affordable and easy to use. It is proposed that collectors be encouraged to offer data in a computerised form with a specific structure, to reduce the workload of entering it into a common database. This could be promoted by giving users a tool which will serve their own interest as well as the common interest. The use of a individual database would therefore give users a tool to manipulate their own data. In addition this tool could be enhanced to automatically create labels, etc.

Data integrity
This is the biggest challenge to this database. Poor information can come from many sources such as:

Poorly identified species
Inaccuracies with locality names (spelling, grid references, etc.)
Duplicate names

It is imperative that poor data be filtered as soon as possible. The first attempt would be to educate collectors in the sense that information be checked before submission. Any inconsistencies such as strange occurrences should also be checked by asking experienced lepidopterists to physically examine doubtful specimens or in extreme cases by arranging for specific surveys at certain localities.

LEPIDOPTERA DATABASE

GENERAL

This section describes the technical detail of the proposed database. Any comments with regards to its structure and especially requirements of users could be submitted to the author or the Lepidopterist Society.

STRUCTURE

The amount of data that could be collected on such a system is enormous. It is therefore important that duplication of data stored be reduced to the minimum. A structure to encourage this is therefore proposed. Data will be split up in separate databases, each to be manipulated separately or in conjunction with one another. It is not necessary that every record contains all the species identification data, a simple reference to a record containing all this information should be sufficient. This is also true of localities, foodplants Etc.

Lepidoptera database

This database contains all the specie information. It is suggested that the database be split into several databases, each containing a superfamily. The number of species in South Africa does not justify a further split per family.

Papilionoidea

It is suggested that information be maintained up to form level. This may be too fine for some but may be useful if a study into forms is being done and can easily be removed by simply grouping forms together.

Reference works

It is suggested that Pennington's second revision (1994) be used as the base reference of species. Where new species are identified the new publication should be referenced.

Hesperoidea

As for Papilionoidea.

Other Superfamilies

These would of course imply all the moth Superfamilies. At this stage only butterflies are addressed but this could easily be expanded and the lepidopterists interested in these Superfamilies should be encouraged to join in this effort.

Locality database

This database is the most problematic to create and maintain, especially if great accuracy is required. It may even be the biggest database depending on the number of localities entered. Some names may appear in more than one language and farm names are often duplicated, even in the same region. It is suggested that the nearest

town, the name of the specific area and if possible the grid co-ordinates of the location be recorded. Other, obviously useful information such as' on the hill-top', time of day, feeding on specific plants, etc. would also be useful but it is suggested that this be kept by the collector on his own database as a note to the record.

The accuracy of the grid reference is hard to specify because of the practical difficulty in obtaining the information. Given standard maps and even common maps of reasonable scale, it is hard to get accuracy's of better than 15'. A map of 1:1000000 scale allows for accuracy's of about 5' if better accuracy's are required much better scales are required. It is suggested that provision is made to enter coordinates up to l' but that it is accepted that data will probably only be accurate to 30' in general.

It is proposed, initially, to use a standard reference grid of quarter degree maps. Each of these maps will be named and entered into the database as a coarse location. This structure is already in use by the botanical society and it is suggested that this is the best resolution to create initial distribution maps with. Room will be provided for more accurate locations to be entered at a later stage.

Collection database
It is suggested that collectors' individual databases be kept separately. This is the only useful information for a collector. The format of this database should however be such that it contains all the information required by the main collection list.

Catalogue database
This database is where collector's data will be combined. Maintenance of this database is problematic in that such a database should ideally be centralised at some location. It could be split up into regions and be maintained by an appointed agency for a region with centralised control over it. It is suggested that the regional museums take an active part in this. This database would then be updated by information sent by amateur and other collectors.

Foodplant database
In order to allow for foodplants it would be necessary to establish a common list of foodplants so that data stored can be minimised. Ideally such a computerised list should be supplied by the botanical establishment but failing this a list could be drawn up for lepidopterists by using standard reference manuals such as Palgrave's Trees of Southern Africa and other books.

Reference database
This database will consist of a list of Lepidoptera text books and other material to link entries to a proper scientific basis.

Part two of this proposal will be published in the June edition of *METAMORPHOSIS* and will describe in detail all the fields required in all of the databases. Here follows a summary of those fields (ed.):

SUMMARY OF DATABASE FIELDS

Lepidoptera database
Specie - ID
Family
Subfamily
Tribe
Subtribe
Group
Genus
Subgenus
Specie
Subspecies
Form
Author, Date
English Common Name
Afrikaans Common Name
Reference
Conservation Status
Location of Holotype
Location of Allotype
Life History
Description
Male image (Top)
Male image (Bottom)
Female image (Top)
Female image (Bottom)

Locality database
Location ID
Country
Region/Province
Town
Actual location
Latitude
Longitude
Average altitude

Collection database
Record_ID
Specie_ID
Location_ID
Date
Collector
Number_caught
Population_observation
Notes

Catalogue database
Record_ID
Specie_ ID
Location_ID
Date
Collector
Number_caught
Population_observation
Collection

Foodplant database
Plant_ID
Family
Genus
Specie
Author, Date
English Common Name
Afrikaans Common Name
Group
Reference_book
Reference number

Collectors database
Collection_ID
Address

Reference book database
Book ID
Title
Author(s)
Publisher
Year
ISDN Number
Location

DATA ENTRY FORMATS

Modern databases offer sophisticated data entry sheets and it would be beneficial if these tools can be used. Such a tool will for instance warn if a spelling mistake was made when choosing a specific identification code.

As many users may only have access to limited computing capabilities it is suggested that a simple, comma separated field structure be used where the database cannot be used. This should only be the case at collector level.

The following field structure is proposed:
Record — ID, Specie_ID, Location_ID, Date, Collector, Number_caught, Population—observation

Eg

523, PiPiColDanAnn00, PRETORIA, 26/06/1994, A.Coetzer, 2M, 1 F, Many

It will be necessary to complete the Lepidoptera Database soon so that Specie_ID's can be made known to contributors via publications such as *Metamorphosis*. The location database will be more problematic and it is suggested that the data used by the botanical society for distribution maps be used initially.

PROGRAM CHOICE

Many good products exist in the PC market and most will do the job. The following issues can be used as guidelines:

a. The program must be a relational database in order to be able to perform the required manipulation.
b. The database must be able to take simple text files and convert them into proper database files.
c. The database must be able to handle large files, containing many entries.
d. The program should be inexpensive so that many people can afford it.

It would be preferable for the database to handle image information such as scanned images or line drawings. Windows offers a good user interface, and it is suggested that the program runs in a Windows environment.

It is suggested that **Paradox for Windows** be used as the basic database program, and where Windows is not available that **Paradox for DOS** be used as an alternative. This database is relatively inexpensive and can handle all the above mentioned requirements.

Other options are also possible, such as dBase, Access, Oracle, Informix and so on. These were essentially discarded because of their high price or availability.

WHY NOT STUDY:
1. Longhorn beetles

By Martin Krüger

P. O. Box 413, Pretoria, 0001.

Note: In the editorial of Metamorphosis 5(4) of December 1994 readers were asked what their thoughts were about having a regular column to introduce insect groups other than Lepidoptera.This is the first article intended to introduce amateur lepidopterists to lesser known, but certainly not less interesting, groups of insects.

Introduction

Longhorn beetles of the family Cerambycidae will be a familiar sight to the collector of both butterflies and moths, as members are both diurnal and nocturnal. Taxonomically they belong to the superfamily Chrysomeloidea, together with leaf beetles (Chrysomelidae) and seed weevils (Bruchidae). Both chrysomelids and cerambycids are very large families, with in excess of 25,000 described species. About 1000 species in more than 300 genera have been described from southern Africa so far. Six subfamilies are represented in our region, but the vast majority of species are placed in just three of them. Among these, **Prioninae** (about 25 species) are the most primitive. The group is exclusively nocturnal and includes medium-sized to large, blackish or brownish beetles, including the aptly named *Megasoma* species. With close on 500 described species, **Lamiinae** are the largest subfamily in southern Africa. The beetles are mostly nocturnal and display great variability in size and coloration, although most are greyish or brown. **Cerambycinae**, which number several hundred species, by contrast, are overwhelmingly diurnal and brightly coloured.

The adults range in length from 3 to 100 mm. Most are rather elongated and readily identified by the greatly elongated antennae. In the males particularly these may reach several times the length of the body. Many species are capable of producing sound by scraping a sclerotized plate on the mesonotum against one or several sharp ridges on the posterior margin of the pronotum. Coloration of the nocturnal species is overwhelmingly cryptic in shades of brown and grey, while those active during the day are often brightly coloured. A number of species are aposematically coloured, mimicking distasteful families such as Lycidae. The metallic green or blue species of the tribe Callichromini are frequently observed visiting flowers. Other food sources of the adult beetles include fermenting fruit and sap oozing from trees; day-flying as well as nocturnal species are attracted to trap nets.

The larvae develop as internal feeders in a wide variety of plants, including grasses, shrubs and trees. However, most are wood borers and some species are considered pests in the timber industry; in Africa, *Monochamus leuconotus*, the white stem coffee borer, is an important pest of *Coffea arabica*. In adaptation to their way of life the larvae lost most pigmentation, except for the head capsule and thoracic shields, and further exhibit a strong reduction of thoracic and

abdominal legs, resulting in a grublike appearance. Larvae of several species are considered delicacies by indigenous peoples.

Collecting longhorn beetles

In accordance with their periods of activity, Lamiinae and Prioninae are best obtained at night, much in the same way as one would collect moths (see Woodhall, 1992); several species are crepuscular and can be netted while on the wing. Methods to obtain the diurnal species (mostly Cerambycinae) include the use of a beating tray (*Acacia* species are productive) and checking diseased-looking trees for copulating or ovipositing beetles. However, most species are best collected from flowers or netted in flight.

Further reading

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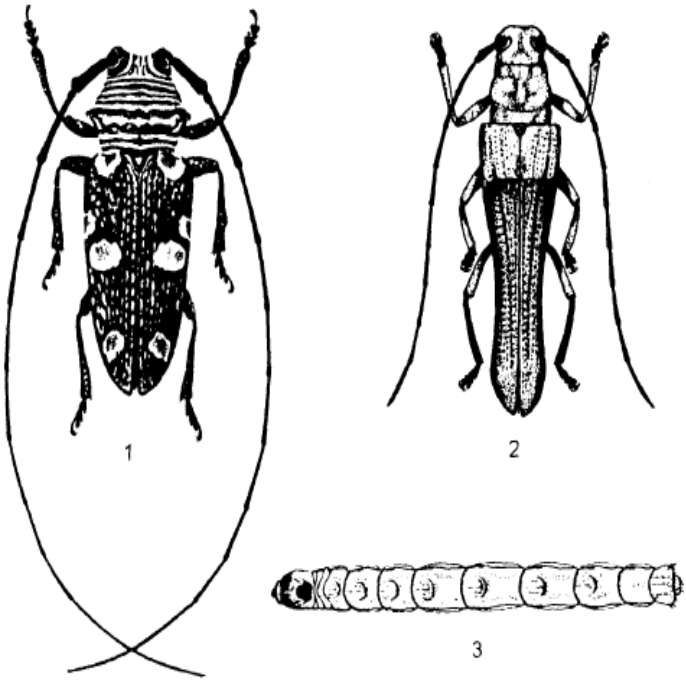

Cerambycidae - 1. *Zographus niveisparsus* (after Ferreira, 1964); 2. *Dirphya nigricornis* adult; 3. same, larva (after Crow, 1962)

GETTING TO KNOW MOTHS
- LEAF ROLLERS, CODLINGS -

By Stephen Henning
5 Alexandra Street, Florida 1709, South Africa

The leaf rollers and codlings (or codlins) belong to the family Tortricidae (Superfamily Tortricoidea). This is a family of small moths with wide and densely scaled wings of dull coloration. The head is usually rough scaled, ocelli are present and the labial palpi, which are normally porrect, may be long or short. Vein CuP is present in both wings. The forewing costa is characteristically curved outwards, the outer margin is straight. The male sometimes has the costa folded over. The hindwing often has a comb of hair on the cubitus.

The larvae are small, slender and smooth and live in concealment. They often have an anal fork, and crochets may be uniordinal, biordinal, or triordinal. The larvae roll or twist themselves up in the leaves on which they feed. Some are leaf miners, or live in bark, flowers, fruits or other parts of their foodplants, sometimes forming galls. The pupa has spines on the abdomen, those on the cremaster or anal segments are hooked. The antennae reach nearly to the tip of the wings. They pupate in the larval shelters and the pupae are protruded at ecdysis.

The larvae of two species, *Cydia pomonella* (codling moth) and *Cryptophlebia leucotreta* (false codling moth), are serious pests of orchard fruit. The former occurs mainly on apples and pears and the latter mainly on citrus.

The majority of the adults fly at dusk with a rapid darting flight.

This is a large family of about 250 species in southern Africa belonging to 4 subfamilies. These are the Tortricinae with about 71 species in 16 genera; the Olethreutinae with 172 species in 19 genera; the Cochylinae with 6 species in 2 genera; and the Chlidanotinae with 1 species and 1 genus.

For more information see Henning (1985), Meyrick (1913), Pinhey (1975), and Vari & Kroon (1986).

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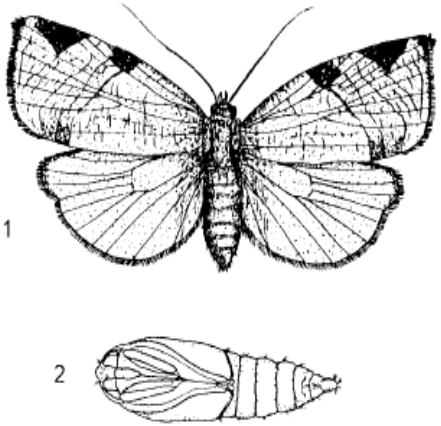
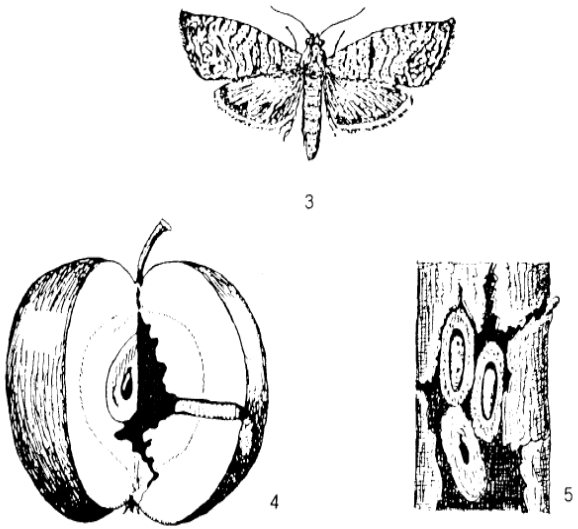


Tortricinae -1. *Cacoecia occidentalis* female; 2. Typical tortricid pupa.



Olethreutinae - The life history of the codling moth *Cydia pomonella*. 3. Adult; 4. Caterpillar inside apple; 5. Cocoons and pupae beneath bark (After Skaife, 1979)

LETTERS TO THE EDITOR

MHLOPENI NATURE RESERVE
P. O. Box 386
Greytown 3500

Dear Editor,

Thank you for my second copy of your most interesting journal, with its charming illustrations.

Your members may be interested to read about Mhlopeni Reserve in the Natal Midlands which provides habitat for an extraordinary number of species... flora and fauna: Lepidoptera included. I am too lazy to re-type all that is in our brochure, but please draw whatever is relevant for your readers. More work needs to be done, but in just 3 days Clive Quickelberge tallied close on 100 species of butterflies alone. The moths are "something else !" Due to shortage of cabinet space I have slowed down on collecting. Also my vision has deteriorated, making the pinning of smaller specimens tiresome. I really don't want to make a botch of a tiny, precious jewel which could be an endangered species....

Which brings me to another subject. Ciba Geigy (pesticide Company, based on Basle, Switzerland) produced a product, sold as AWARE for the control of coddling moths in citrus orchards. It is one of the new, cunning hormonal remedies... not classified as a "poison", which prevents metamorphosis from larva to pupa. Children in the Eastern Transvaal some 60 km away from the spraying site reported loss of their silkworms, which grew to full size, turned brown and died without spinning. I picked this up on the early morning farmer's programme on radio. The product has been temporarily withdrawn.

I have been breeding *Argema mimosae* (Boisduval) Lunar moth with success for 3 generations, from a single female found near Muden. The last batch of larvae reached final instar then, refusing to spin, simply withered away. We are about 15 km from the nearest citrus orchard, but they deny using the product AWARE. If the hormones are non-selective (broad spectrum) this could be a disaster of an unprecedented scale. I have alerted Natal Parks Board members and our local Conservancy members. Unfortunately no-one will notice until there is such a "crash" in populations that someone says "What happened to the moths?"

Let us please be aware of AWARE. Although withdrawn, farmers will use what they have in stock; a proper follow-up is required.

If you are interested in my *Argema mimosae* breeding statistics I will happily write an article.

Joy Alcock

OBITUARY
- JOHN DUNELL HANDMAN -

I count it a privilege to have known John for some 15 years. Our friendship spanned the last part of his life during which he resided in Durban and latterly in Pietermaritzburg. During the earlier years of this period he was remarkably fit and kept up with the best when it came to scaling the heights after interesting butterflies. He came across as tremendously enthusiastic-, liked nothing better than talking butterflies and planning outings in his pick-up van which South Africans term a "bakkie" but which sounded like "backy" in John's British accent. I found the typical old English expressions of "By Jove" etc. that escaped his lips during the heat of the chase quite enchanting. Later on when his eyesight and/or concentration for spotting small fast-flying "blues" waned somewhat he, upon returning from a hunt, used to exasperatedly exclaim "By Jove Clive, do you know, I never saw a damn thing!"

The high point of John's butterfly career was the 16 years he spent in Malawi. During this time he amassed a total of some 13 000 specimens. So comprehensive was his coverage of Malawian butterflies (most probably the best single collection of butterflies from this country in existence) that it enabled David Gifford to compile the only book to have been written on the butterflies of this beautiful part of Africa. The overwhelming majority of specimens figured in the plates in this book are John's captures. the relentless pursuit of his hobby, often aided by various members of John's family, inevitably led to the discovery of new species to science and many others both rare and unusual. Fittingly we are left with *Leptomyrina handmani* and *lolaus handmani*, both Gifford 1965 and also *Colotis ione* female form *pepita* (Gifford 1965) named in honour of John's wife.

Leading up to the publication of Gifford's book the author refers in his acknowledgements to "a constant stream of information and material" that John sent him while he was at this time resident in Edinburgh, Scotland. So prodigious were Johns contributions towards the compilation of the book that when Gifford gave consideration to printing a second edition of Butterflies of Malawi he felt compelled to suggest to John that he should come in as co-author. Unfortunately a sequel to the book never materialised. However John’s strength lay more in firing up other people to do the writing and describing of the many novelties he was always unearthing.

John kept up a vast volume of correspondence with just about every authority on African butterflies of his time. In a file of his left with me which he entitled "Lepidopterology' there are numbers of letters from C. B. Cottrell, R. H. Carcasson, E. C. G. Pinhey, G. E. Tite, T. G. Howarth, D. Gifford, R. M. Fox, V. G. L. van Someren, K. M. Pennington and R. I. Vane-Wright to name just a few. Also in this file are various other writings listing species caught in various regions and

By the time John started working up my enthusiasm for Malawian butterflies, age was beginning to tell and I was only able to publish a few of his novelties before his memory began to falter. Now without his rich fund of first-hand knowledge concerning his material much more time and work is needed to create a basis for taxonomic research on Malawian butterflies. Equipped with this knowledge, John’s collection will prove to be a rich field of study.

John's collection was beginning to suffer damage due to inadequate housing and the inevitable effects of the frequent shifts to which his life was subject. In September 1988 John agreed to donate his collection to the Durban Natural Science Museum where his valuable specimens are now kept in adequate cabinets. Having often witnessed the state of butterfly collections that end up at museums it is a tonic to look through Johns specimens and to observe the neat and full data entered upon each butterfly's label. I know that John's collection will continue to serve as an inspiration for future workers and will prove to be a mine of information for future research.

John is survived by his wife Pepita and a son Fred, and daughter Sylvia, all resident in Natal. Devoted to his family, John's warm hospitality, extreme generosity, social charm and humour are but some of the attributes that made up a man of high integrity. Men of his calibre seem to constitute a dwindling breed in the world today. His passing leaves the butterfly world and indeed mankind, that much poorer.

John Dunell Handman, a British national, born in London 20 May 1908. Received his education at Kings School, Canterbury, U.K. Qualified as a civil engineer under his father in New Zealand. Spoke fluent Spanish and some Portuguese.

1930-1942 Served as a district engineer of the Central Argentine Railway Co. Ltd.
1942-1947 Saw war service in India, Burma, Ceylon and Java and attained the rank of Major O.C.
1947-1949 Rejoined the Argentine Railway Co.
1949-1964 District engineer of the Nyasaland Railways Ltd.
1963 Moved to R. S. A. where he worked on the Hendrik Verwoerd and the P. K. LeRoux dams, ending his working career on the Durban/Johannesburg oil pipe-line. He died in Pietermaritzburg on 22 November 1994.

Clive Quickelberge
Durban Natural Science Museum

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CONTENTS