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Poecilmitis adonis (Lycaenidae) male
(Forewing length 14–17 mm)

LEPIDOPTERISTS' SOCIETY OF SOUTHERN AFRICA

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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.

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

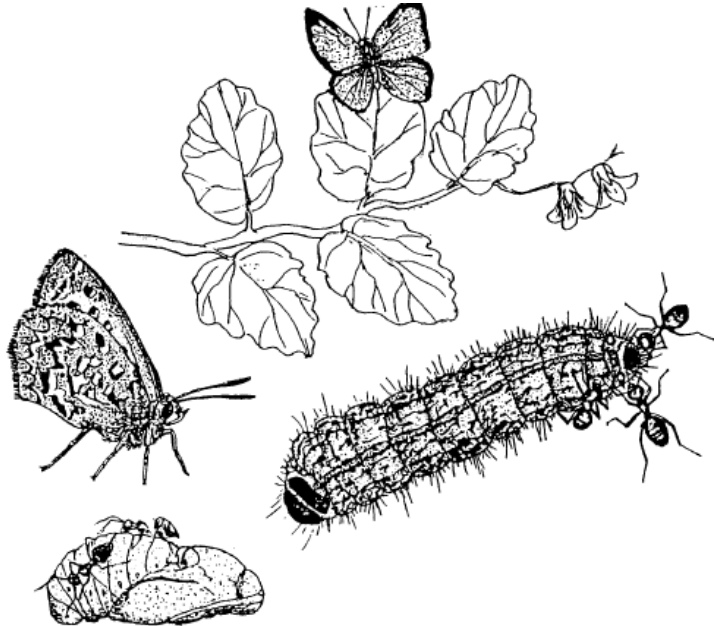
EDITORIAL

Last time (September 1993) I wrote about the number and variety of interesting papers presented at the Conference in August 1993. I appealed to those contributors to turn them into articles for *Metamorphosis* but to date I have not had one.

The members who complained about articles getting too scientific or not scientific enough are at liberty to send papers to publish. I will be very glad to receive them, in fact I need them.

As it is, I had quite a job finding enough papers to fill this December edition and had to ask my sons Graham and Stephen to write something. Fortunately Steve Woodhall also wrote about his latest trip, and I had a reply to Steve's last paper from the Cape Nature Conservation. Without our old stalwarts we would have had lean fare. Anyway, the cupboard is now bare; let's hope we get some papers so that we can have a *Metamorphosis* in March 1994.

W.H. Henning



Aloioides dentatis dentatis: adult on foodplant (*Hermannia depressa*); final instar larva being investigated by host ants (*Acantholepis capensis*); pupa and host ant-, adult underside.

COMMENT BY THE PRESIDENT

I have mentioned before that the Nature Club of Florida Park High School has been building an Information Centre at the Ruimsig Entomological Reserve at Roodepoort. It cost them some R20000 to complete the project and they managed to raise most of the money from generous contributions by the First National Bank and the Nature Foundation. The Information Centre will be officially opened on the 22nd January 1994.

The Ruimsig Entomological Reserve is of particular interest to Lepidopterists as it is probably one of the last habitats of the rare lycaenid butterfly *Aloeides dentatis dentatis* (Swierstra) and is also the type locality of *A. trimeni* Tite & Dickson. The 12 hectare reserve is also home to one hundred other butterflies species including two other *Aloeides*, namely *A. aranda* and *A. taikosama* and several *Lepidochrysops* species: *L. ignota*, *L. plebeia*, *L. patricia* with *L. ketsi* and *L. ortygia* also having been recorded.

The reserve was established in 1984 with the help of the Lepidopterists' Society and the Wildlife Society of Southern Africa mainly for the purpose of protecting one of the last known habitats of *A. dentatis*. Because of its small size the reserve has to be managed quite carefully with controlled burning to ensure open areas for the growth of *Hermannia depressa* the foodplant and host ant *Acantholepis capensis* of *Aloeides dentatis*. This has worked very well and *A. dentatis* is probably the commonest butterfly on the reserve during its main flight period from November to February. A mark recapture study done here in December 1989/January 1990 indicated that about 300 individuals were on the wing at any one time during these months.

The building of the Information Centre has not been without incident. During the building 5 sets of windows were stolen. In one incident the wall of the building was pushed over to get the recently installed windows out. Even the roof tiles are not safe and were being stolen as fast as they were put into place. Vandalism has also taken place. Ceramic floor tiles which had just been laid were pulled up over night and smashed. All this has happened in spite of the fact that the Information Centre is inside the reserve which is surrounded by a 3 metre high game fence. The intruders simply pulled up and made an opening underneath the fence. The fence also has had an interesting story. In 1986 it cost the Nature Foundation and the Roodepoort City Council about R11000 to erect. Within a week of it being erected some individuals came along and cut down and stole about 100 metres of fence. We presume they simply rolled it up and drove away with it on the back of a bakkie or truck.

I can understand that impoverished people will be tempted to steal material to build a home but what always amazes me is this purposeless vandalism. The Information Centre has been built to help educate all people regardless of race or colour in South Africa by providing a facility close to the main urban area of the country where people can get to know the wonders of the insect world. Its a poor indictment of our country that the Nature Club of Florida Park High is now having to install a burglar alarm system in the information Centre to protect the displays and collections from vandalism. Fortunately BBR has agreed to donate and service a burglar alarm system in the cause of conservation.

Anyway, I think the Nature Club has done a fantastic job and should really be thanked and praised for their initiative in building this important facility for the furtherence of education in this country.

Stephen Henning

REGIONAL ROUNDUP

After the excitement of the AGM and conference many collectors began their season's excursions. Shiyalongubu Forest where *B. phosphor borealis* Quickelberge was found last year was an early trip for me but, while the forest seemed in good condition, very little was seen on the wing. One *Aloeides dryas* Tite & Dickson was seen and some dark *Acraea horta* (Linnaeus) with enlarged spots were collected, a few other species were in evidence but the butterflies were not out in their usual profusion. Various parts of the western Transvaal were also investigated but from the evidence I saw the drought still persists in this area.

Chris Ficq, Steve Collins, Alf Curie, Nolan Owen-Johnston and Steve Woodhall, in various combinations, spent some time travelling the arduous trip through the Orange Free State to collect in the arid Karoo regions of the southern OFS and north-eastern Cape. Springfontein; Colesberg; Steynsburg and Donkerpoort (H.F. Verwoerd Dam) were all visited. *Aloeides gowani* Tite & Dickson was found at various spots but not in good numbers. *Pseudonympha trimenii ruthae* Dickson were found in great numbers earlier in the season. *Aloeides macmasteri* Tite & Dickson was also plentiful and Chris Ficq made the interesting discovery (interesting for me at any rate) of *Aloeides macmasteri* at low elevations and its relative *Aloeides henningi* Tite & Dickson (in an unusual form) at higher elevations near Steynsburg. Other captures at Springfontein were *A. argyraspis* (Trimen), *S. irrorata* (Trimen). *Poecilmitis turneri amatola* Dickson & MacMaster was also a welcome catch by Steve Collins and Chris Ficq. A number of *Crudaria leroma* (Wallengren) were also found and sent to Alan Heath who is currently researching the group.

The south-eastern and eastern Transvaal were also the target of a few trips with *Dingana alaedeus* Henning & Henning being found in good numbers above Dirkiesdorp and *Dingana dingana* above Sabie, *Dingana bowkeri* was also found in various localities including Bulwer in Natal.

From the Cape the news is that this season is still not producing the quantities expected. Jon Ball visited Lamberts Bay and only found the odd *P. atlantica* Dickson, at Piketberg he caught only one *T. wallengrenii* (Trimen & Bowker). Most other localities visited were equally without result. *Metisella metis* (Linnaeus) was found on the Hantamsberg by John White which is a good extension to its known range.

Aloeides dentatis (Swierstra) was flying at the Ruimsig Entomological Reserve from September to November but little else was on the wing.

As can be seen the season has not started at a tremendous rate but hopefully it will take off soon. Steve Woodhall had a successful trip to Zimbabwe but he will tell you about that in a separate paper. Please keep me informed of your trips, my phone number at home is (011) 768-1949 and at work (011) 474-1466.

GRAHAM HENNING

1993 AGM AND CONFERENCE

By S.E. Woodhall

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This year's AGM and Conference was different to previous years - it was our tenth Anniversary and this was cause for celebration. Events kicked off with a gala dinner and dance at the Eskom Club, Megawatt Park. Attendance could have been better, not many of our provincial members could attend, even though there was plenty of accommodation available at local members' houses. But over 50 couples attended, and a good time was had by all. Those who didn't come, you missed a great party! After Herman Staude as MC had opened the occasion, and toasts had been drunk, Mark Williams gave us a potted history of the Society, with some amusing anecdotes from past events. Our guest of honour, John Ledger, then entertained us with a description of his career in conservation, describing some of the pitfalls in store for those who try to get money out of big organisations to spend on wildlife. We had an excellent dinner and the disco was enjoyed by many, although it wasn't loud enough to drown conversation so many people just enjoyed a chat with old friends! Eventually we got kicked out at midnight.

The next morning saw a few tender heads, but the AGM got going roughly on time with Steve Henning in the chair. There were 46 members present. One item which was raised and should be aired was the formation of Regional Councils. This topic must be enlarged upon by those enthusiasts in other major centres so please let us know your feelings on this subject.

After tea, I then took the floor to present my paper on the options available to the Society. We used to be a small, struggling study group with no money and sporadically producing a journal of variable quality. Now we have nearly 300 members, over R35000 in the bank and *Metamorphosis* is a well-respected, regularly published journal with ISSN registration. With the capital gained from sales of our "Practical Guide", we have a number of options open to us. We can use that money in a number of ways to become more of a force to be reckoned with, but I presented a spectrum ranging from one extreme to another. Most of our members' only contact with the Society is *Metamorphosis*. This makes it our most important product, so I looked at the costs of a few levels of quality up from where we are now, on the assumption that a better *Metamorphosis* = more members. The way-out option was to upgrade *Metamorphosis* to A4 full-colour and go on a membership drive to garner the 4000-odd members needed to finance such a publication at today's membership fee level! This was pure fantasy, and as I thought, the feeling of the members present was that we should not do anything to jeopardise the ongoing health of the Society! I had put together a set of break-even charts for upgrades of *Metamorphosis*, which showed what we could afford to do at varying membership levels and subs. levels. For our current *Metamorphosis* format we are just above the break-even point, and as we gain members we will be able to gradually upgrade it and build our fighting fund further. Regular colour sections, of the kind we have recently done thanks to the generosity of the authors, would require about 700 members to break even, although with a 30% increase in subs. we could get by with 450 members. A5 full colour would require about 1300 members at current subs.

The comment came from the floor that print and pictures are not the only aspect of the quality of the journal, the type of article that we are publishing is also important. There was the feeling that we were getting a little too technical and that articles of basic instructive value to the layman were needed. This was taken note of, and the regular contributors will produce more of this kind of middle of the road material in future i.e not too scientific and more instructive. More descriptions of field trips would also be welcome, written in a form that allows them to be abstracted and used as proper sources of information.

My paper provoked much discussion, which was its objective. Space prevents me from reporting it all, but the consensus seemed to be that we should keep the physical quality of *Metamorphosis* where it is for the time being, and do the following:

- Improve the variety of articles being published. However it must be borne in mind that we have to use what we get, so start writing!
- Canvas our membership, via a properly designed questionnaire to be sent out with next year's subs. reminder, on the question of what they actually want from the Society. This should be combined with questions aimed at finding out more about who our members are, areas of commonality, and the true circulation of *Metamorphosis* (as opposed to the number of members). This would help in possible future sales of advertising space in the journal;
- Spend only the income from the capital fund, in ways aimed at promoting increased membership. One suggestion that will probably be acted upon is the production of a colour brochure on the Society for distribution by, for example, the Wildlife Society.

After all that business, the audience seemed relieved to hear a paper on Lepidoptera at last! Herman Staude gave us a fascinating illustrated talk on his work with the Geometridae. He showed us these strange and often beautiful moths that use cycads as foodplants. There is evidence that toxins from these plants are used as defences by the moths, and that both batesian and Mullerian mimicry rings are operating. As usual, Herman's toastmasters experience showed in his delivery of the paper, which was informative and witty.

There then followed the usual extended lunch, during which many sausage rolls, beers and (thanks Dave Upshon and Nestle), coffee and tea were consumed and Society regalia were on sale. Lindsay Durham did a roaring trade in T-shirts and hats, and these will be available on a mail order basis for those who cannot come to the AGM. After lunch, Bill Steele made us all drool with an account, with mouthwatering slides, of his recent trip to Kenya as a guest of Steve Collins. You could hear peoples' brains working on schemes to get up there! Basically Bill gave us a travelogue of the fabled spots he visited, such as Kakamega Forest, the Ngong Hills and a circumnavigation of Mt.Kenya with all its wonderful forests such as Meru. From the number of specimens he photographed, he certainly seemed to have had a successful trip!

We went from tantalization to education next, with Rolf Oberprieler's talk on Practical Taxonomy, how to describe a species and the rules of nomenclature. Rolf has a knack of making difficult subjects easy to understand. We should all be able to describe any new species we discover for ourselves now! With luck, next year Rolf will de-mystify us on the subject of phylogenetics.

The following speaker was Rolf's colleague from the National Collection of Insects, Beth Grobbelaar. Beth spoke to us on leaf beetles (Chrysomelidae). These non-lepidopterous talks are a regular feature of our conferences, and are a good way of reminding us that entomology is not all about butterflies and moths! The leaf beetles, as described by Beth, are a fascinating group of often beautiful insects.

To wrap up the day, Koos de Wet then gave us, in Afrikaans, a report back on the translocation work being done with *Erikssonia acraeina*.

Everyone then adjourned to Mark Williams' plot at Klipfontein for a braai and drinks. Cadac again kindly lent us some skottels and grilligas cookers, and as the levels of beer and wine went down the tales got taller and shaggier! Gradually the more sensible members left and the party boiled down to a hard-core, and we were entertained by (anonymity perserved) someone showing us how to stand on a beer can without crushing it. Many of the forthcoming season's collecting trips were born on this evening, although I think some were forgotten in the morning!

Said morning produced surprisingly few latecomers, although the kindly opening hour of 0930hrs probably helped! Graham Henning started off with his 'Survival strategies of Acraeas'. This paper has already been published in the September 1993 issue of *Metamorphosis*, and was according to Graham, the last *Acraea* paper in a series which was started at last year's AGM and Conference.

I then had the floor again, this time to talk about butterflies, not boring finances. This paper discussed the significance of the effects of alternative foodplant use on the morphology of *Charaxes ethalion*. An attempt had been made to use statistical techniques to find out if using a foodplant not used in the wild (but accepted in captivity) really makes a difference to the size and appearance of specimens from the same brood. Suffice to say that the answer is yes, but not always in ways you would expect! It produced a lively debate and much hypothesising on why a species will use different foodplants in different localities, but remain the same species. The paper will be reproduced in a future volume of *Metamorphosis*.

After tea, Rolf Oberprieler was back to give us the next instalment in what he terms his "soap opera" on the Emperor moths of the world. This time we revisited the *Bunaeinae*, familiar to many of us because so many of our local species fall under this subfamily. As usual Rolf's talk was well-planned and exhaustively illustrated. I use the word "exhaustively" because Rolf is so thorough. If he hasn't bred something yet - usually because it is known from one tatty specimen caught last century - he at least has a picture of that one specimen! His talk was made more informative by his knowledge of foodplant relationships and how they link into the moths' distribution.

Next, it was time for another photographic trip to far-away places, this time to Mauritius with Dave Upshon. As he had been working on a Nestle-sponsored film on the endangered species of the island (which just about counts as Africa!), Dave was able to penetrate some little-known parts of Mauritius. This meant he was able to obtain specimens of almost all of the extant indigenous species, and even (typical Dave) find a new one! Being an excellent photographer, Dave was able to capture the magic of Mauritius, especially the sunsets! After his talk, he showed the film that Nestle have just sponsored on the endangered animal species of Africa. One memorable shot was a group of elephant in Namibia, initially obscured by mist which clears almost magically to reveal them.

Then it was time for another special 10th anniversary event. Each year the slide show has not been well supported, and three of the most active photographers had recused themselves to act as judges. This year it was decided to try something different. Rob Millar, who works for AGFA, kindly organised some free film to be given as prizes. Anthony Bannister, the well-known wildlife photographer, made room in his busy schedule to judge the slides and come to the conference to give a critique. The scientific slide category was dropped (rather

precipitately as it turned out - apologies to those who had aimed their efforts at this category, it will be reinstated next year) to simplify things. It was interesting to get a different angle on our photographs. After winnowing out those with obvious technical faults, Anthony concentrated on their appeal as images. He didn't like black backgrounds or flat ones, preferring natural-looking ones suggesting out-of-focus grass or shrubbery. Surprisingly for us macrophotographers, shots in which the insect totally filled the frame didn't make the grade, Anthony pointing out that the insect has to have space to move.

The entry was larger than previous years despite the short notice (we only managed to confirm that Anthony could help us a few weeks prior to the conference) and we had a good selection of slides to look at. The winners were:

-1st prize (12 rolls 36 exp. 35mm Agfachrome 100 plus the floating trophy):

Rolf Oberprieler for the slide "*Pseudobunaea irius* larva".

-2nd prize (6 rolls of the same film): Mark Williams, with a shot of *Argema mimosae*.

-3rd prize (2 rolls of film): John Joannou for the slide "Maze", a picture of the underside of *Coenyra rufiplaga*.

Lunchtime was then upon us, and we all went out to gaze upon the exhibits that members had brought to amaze, instruct and inspire envy! Graham Henning had a case full of Acraeas illustrating his talk on their survival strategies. Bill Steele and Dave Upshon had examples of their captures from Kenya and Mauritius respectively. Peter Ward had some Comorean specimens on display, notably some dayglow-pink Acraeas reminiscent of fishing lures! I had a drawer full of interesting catches from the past year, including an aberrant pale-straw coloured *Aloeides rileyi* female, and some results of my exchange program with a collector in Byelorussia, strange and rare Apollos and butterflies from Siberia. Rob Pare had some Zimbabwean *Charaxes* on display, Rolf Oberprieler some Bunaeinae Emperors, and many more fascinating conversation pieces were brought by others. Herman Staude had some larvae of the geometrid *Venilloides inflammata* actually feeding on cycad leaves; until this season one of the world's rarest moths.

After lunch, Rob Pare did his usual trick of stunning us all into submission with some marvellous slides of his Zimbabwe butterflies. Finally, I went through slides of all the weird and wonderful places he has been visiting, to show everyone who hasn't been there what places like Mariepskop and Gwaliweni actually look like! We also saw slides members had taken on field trips. This last section took rather long, so there wasn't time for John Joannou's Lepidoptera Quiz. This will definitely be held next year, I will have to show fewer locality shots!

All in all it was a successful AGM and conference. Over 70 members attended, a few new members came and joined, and everyone had a chance to speak up and have some fun. Why don't all of you who didn't make it this year come to the next one?

REVISIONAL NOTES ON THE GENUS *Aloeides* Hübner (LEPIDOPTERA: LYCAENIDAE)

By G.A. Henning

17 Sonderend Str., Helderkruin, 1724.

Abstract. A tentative phylogeny of the genus *Aloeides* Hübner is presented with keys to super-groups and species-groups. A great deal of work is still to be done, particularly with regard to life-histories. It is hoped this paper will stimulate more research into the genus.

Key Words: Lycaenidae; *Aloeides*; phylogeny; super-group; species-group.

Introduction

The genus *Aloeides* Hübner was initially revised by Tite and Dickson in 1968 & 1973. Since then considerable additional work has been done by other authors. In these revisional notes the probable relationships between the species are examined, collating them into super-groups and species -groups, and outlining the possible phylogenetic development of the genus. Known distributions are given for each species within the species-group as well as habitat preferences and food-plants.

Method

The general relationships are determined by wingshape, upperside markings and underside hindwing markings of the males. The male genitalia are only distinctive in some species groups, and in some species, these are dealt with where appropriate.

Genus *Aloeides* Hubner

Aloeides Hübner, 1819. *Verz. bek. Schmett.* (5):73.

Type species: *Papilio pierus* Cramer (Scudder, 1875:107).

The genus can be separated into three SUPER-GROUPS:

SUPER-GROUP I – *aranda*

SUPER-GROUP II – *pierus*

SUPER-GROUP III – *thyra*

KEY TO THE SUPER-GROUPS OF THE GENUS *Aloeides*

1. Spots on hindwing underside small, valves without prominent lateral projection.....SUPER-GROUP I - *aranda*
- Spots on hindwing underside not small, valves with prominent lateral projection..... 2
2. Spots on hindwing underside not large, not coalesced.....SUPER-GROUP II - *pierus*
- Spots on the hindwing underside large, often coalesced.....SUPER-GROUP III – *thyra*

SPECIES-GROUPS WITHIN THE SUPER-GROUPS

SUPER-GROUP I - *aranda*

aranda species-group
almeida species-group

SUPER-GROUP 11 - *pierus*

pierus species-group
molomo species-group
taikosama species-group
barklyi species-group

SUPER-GROUP III - *thyra*

thyra species-group

KEY TO THE SPECIES-GROUPS OF THE GENUS ALOEIDES

1. Upperside silvery blue.....*barklyi* group
- Upperside not silvery blue2
2. Large spots or discoidal fascia on hindwing underside.....*thyra* group
- Spotting on hindwing underside not large.....3
3. Underside spots very small, lateral projection on valves not prominent.....4
- Underside spots not very small, prominent lateral projection on valves.....5
4. Upperside dark markings generally not extensive, hindwing with small tail.... *aranda* group
- Upperside dark markings generally extensive, hindwing not tailed.....*almeida* group
5. Upperside dark markings generally not extensive, aedeagus without lateral patches of spines.....*molomo* group
- Upperside dark markings generally extensive, aedeagus with lateral patches of spines6
6. Wingshape broadly rounded, discal area of upperside not ochreous..... *taikosama* group
- Wingshape narrow and angular, discal area of upperside ochreous*pierus* group

PHYLOGENETIC CLASSIFICATION

SUPER-GROUP I

aranda species-group
aranda sub-group (monotypic)
almeida species-group
almeida sub-group (3 species)
henningi sub-group (2 species)

SUPER-GROUP II	<i>pierus</i> species-group
	<i>pierus</i> sub-group (4 species)
	<i>trimeni</i> sub-group (2 species)
	<i>damarensis</i> sub-group (3 species)
	<i>molomo</i> species-group
	<i>molomo</i> sub-group (monotypic)
	<i>taikosama</i> species-group
	<i>taikosama</i> sub-group (monotypic)
	<i>griseus</i> sub-group (3 species)
SUPER-GROUP III	<i>barklyi</i> species-group
	<i>barklyi</i> sub-group (monotypic)
	<i>thyra</i> species-group
	<i>thyra</i> sub-group (monotypic)
	<i>dryas</i> sub-group (13 species)
	<i>egerides</i> sub-group (8 species)
	<i>simplex</i> sub-group (7 species)
	<i>dentatis</i> sub-group (9 species)

NOTE. Undescribed populations which are in preparation are included in the above, these populations are included below and are numbered as sp. 1 to sp. 8.

An important feature of the sub-groups is that all the species therein are allopatric.

ANALYSIS OF SPECIES-GROUPS

ARANDA SPECIES-GROUP

aranda sub-group; *A. aranda* (Wallengren 1857)

ALMEIDA SPECIES-GROUP

Key to the *almeida* species-group

1. Outer margin convex, aedeagus with lateral spines on both sides.....*almeida*
 - Outer margin straight, aedeagus with lateral spines on one side only.....*henningi*

almeida sub-group; *A. almeida* (Felder 1862)
 A. macmasteri Tite & Dickson 1973
 A. susanae Tite & Dickson 1973

henningi sub-group; *A. henningi* Tite & Dickson 1973
 A. stvensoni Tite & Dickson 1973

 THYRA SPECIES-GROUP

Key to the *thyra* species-group

1. Small, outer edge of discoidal fascia on hindwing underside evenly sinuate and parallel to outer margin.....*egerides*
- Not small, on hindwing underside discoidal fascia not evenly sinuate or parallel to outer margin.....2
2. Upperside marginal border narrow.....*simplex*
- Upperside marginal border not narrow.....3
3. Hindwing underside, discoidal fascia and submarginal line continuous and complete.....*dentatis*
- Hindwing underside, discoidal fascia and submarginal line not continuous or complete.....4
4. Upperside, veins darkened throughout their length and costa of hindwing broadly darkened.....*thyra*
- Upperside, veins and costa of hindwing not darkened.....*dryas*

thyra sub-group;

A. thyra (Linnaeus 1764)

dryas sub-group;

A. dryas Tite & Dickson 1968
A. sp. 4
A. titei G.A.Henning 1987
A. penningtoni Tite & Dickson 1968
A. dicksoni G.A.Henning 1987
A. cafrariae G.A.Henning 1987
A. juana Tite & Dickson 1968
A. caledoni Tite & Dickson 1973
A. carolynnae Dickson 1983
A. apicalis Tite & Dickson 1968
A. depicta Tite & Dickson 1968
A. lutescens Tite & Dickson 1968
A. margaretae Tite & Dickson 1968

egerides sub-group;

A. egerides (Riley 1938)
A. nubilus G.A. & S.F.Henning 1982
A. oreas Tite & Dickson 1968
A. quickelbergei Tite & Dickson 1968
A. clarki Tite & Dickson 1968
A. gowani Tite & Dickson 1968
A. sp. 5
A. arida Tite & Dickson 1968

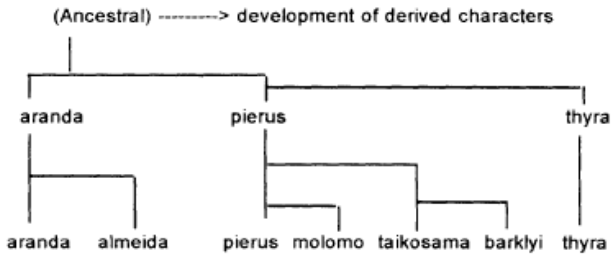
simplex sub-group;

- A. simplex* (Trimen 1893)
- A. tearei* G.A. & S.F.Henning 1982
- A. sp. 6*
- A. nollothi* Tite & Dickson 1977
- A. bamptoni* Tite & Dickson 1977
- A. vansoni* Tite & Dickson 1968
- A. sp. 7*

dentatis sub-group;

- A. dentatis* (Sweirstra 1909)
- A. rossouwi* G.A. & S.F.Henning 1982
- A. merces* S.F. & G.A.Henning 1986
- A. rileyi* Tite & Dickson 1976
- A. pallida* (Riley 1938)
- A. braueri* Tite & Dickson 1968
- A. kaplani* Tite & Dickson 1977
- A. pringlei* Tite & Dickson 1976
- A. sp. 8*

Diagram of *Aloeides* development



Symplesiomorphic characters:

- Hindwing tailed
- Hindwing underside spots small
- Angled wing-shape in male

Synapomorphic characters:

- Hindwing not tailed
- Hindwing underside spots large and coalesced
- Silvery blue upperside colour
- Rounded wing-shape

ANALYSIS AND DISTRIBUTION OF SPECIES-GROUPS

The species-groups can be associated with particular habitat types, these habitat descriptions will be based partially on Acocks, 1975. No species within a sub-group are apparently sympatric. Foodplants are given when known.

ARANDA SPECIES-GROUP

aranda sub-group

A monotypic species-group with a wide distribution from the Western Cape to south-western Tanzania (1900m). They occur in montane habitats in the north of their range but can be found in subcoastal habitats from Zululand southwards.

Foodplant:

A. aranda - *Aspalathus* sp. (Fabaceae) ex eastern Cape.

Distribution and Habitat:

A. aranda - western Cape to western Tanzania - sandy and montane sourveld.

ALMEIDA SPECIES-GROUP

almeida sub-group

An endemic South African group.

Foodplant: Unrecorded.

Distribution and Habitat:

A. almeida - western and southern Cape - macchia and false macchia.

A. macmasteri - eastern Cape to Namaqualand - valley bushveld and mountain veld.

A. susanae - Natal and north-eastern Orange Free State - highland and Dohne sourveld.

henningi sub-group

Endemic to South Africa. The Type specimens of *A. stevensoni* were apparently incorrectly labelled by Stevenson as Rusape, Zimbabwe. No further specimens have been found there and the species has been found in the Wolkberg of the northern Transvaal which is an area frequently visited by Stevenson. The type locality is therefore considered *patria falsa*.

Sympatry *A. henningi* is sympatric with *A. susanae* and *A. macmasteri*.

Foodplants:

A. henningi - *Hermannia depressa* N.E. Br. (Sterculiaceae)

- *Aspalathus* sp. (Fabaceae); (incomplete).

Distribution and Habitat:

A. henningi - far north-eastern Cape to eastern and central Transvaal -

Cymbopogon/Themeda veld and Bankenveld.

A. stevensoni - Wolkberg, northern Transvaal - north-eastern mountain sourveld.

PIERUS SPECIES-GROUP

pierus sub-group

Sympatry: All three subgroups can occur sympatrically

Foodplants:

A. pierus - *Aspalathus* spp. (Fabaceae)

Distribution and Habitat:

- A. pierus* - western Cape and eastern Cape to southern Orange Free State and Kimberly - macchia, Karroo and false Karroo.
A. maluti - Lesotho - Themeda/Festuca alpine veld.
A. swanepoeli - northern Transvaal to Natal - north-eastern mountain sourveld and highland sourveld.
A. sp. 1 - south-eastern Transvaal and north-eastern Orange Free State -Themeda veld.

trimeni sub-group

Foodplants:

- A. trimeni* - *Hermannia depressa* N.E. Br. (Sterculiaceae); typical ex Transvaal
 - *Aspalathus* sp.; ex eastern Cape

Distribution and Habitat:

- A. trimeni* - southern Cape to Zimbabwe - montane grassveld.
A. sp. 2 - Bushmanland, Namibia - arid thornveld.

damarensis sub-group

Foodplants:

A. damarensis - *Aspalathus* sp. (Fabaceae)

Distribution and Habitat:

- A. damarensis* - eastern Cape to northern Namibia and Zimbabwe
 - thornveld and bushveld (sandy).
A. angolensis - Angola - open bushveld.
A. conradi - Malawi to Kenya - open bushveld.

MOLOMO SPECIES-GROUP

molomo sub-group

Foodplant:

A. molomo subsp. *krooni* - *Sida ovata* Forssk. (Malvaceae); ex northern Namibia.

Distribution and Habitat:

A. molomo - eastern Cape to western Tanzania - thornveld and bushveld to montane grassveld.

TAIKOSAMA SPECIES-GROUP

taikosama sub-group

Sympatry: Both subgroups are sympatric.

Foodplant: Unrecorded.

Distribution and Habitat:

A. taikosama - Karoo to Zambia, Zimbabwe and Mozambique - open bushveld and thornveld.

griseus sub-group

Foodplant: Unrecorded.

Distribution and Habitat:

- A. griseus* - Zambia and Malawi - open woodland.
A. plowesi - Harare to Chimanimani, Zimbabwe - montane grassveld.
A. sp. 3 - Barberton District, Transvaal - north-eastern mountain sourveld.

BARKLYI SPECIES-GROUP

barklyi sub-group

Foodplants Unrecorded.

Distribution and Habitat:

- A. barklyi* - Namaqualand - Namaqualand broken veld.

THYRA SPECIES-GROUP

thyra sub-group

The *thyra* sub-group consists of only one species. It has been separated from the closely related *dryas* group as the most southern species of this group are sympatric with *thyra*. *A. thyra* also exhibits characteristic dark markings on the upperside.

It is found in western Cape Macchia, coast to high elevations, from the Cape Peninsula north to Lamberts Bay, north-east to Matjiesfontein and east to Knysna.

Sympatry: Occurs with *lutescens*, *margaretae* and *carolynnae* of the *dryas* group; *egerides* and *arida* of the *egerides* group-, *pallida* of the *dentatis* group-, and *vansoni* of the *simplex* group.

Variation: Specimens from the eastern extremes of its distribution, such as Stillbay and Knysna, have the dark veining reduced. It is possible that *thyra* was isolated in the south and has subsequently spread northwards and eastwards.

Foodplants:

- A. thyra* - *Aspalathus laricifolia* Berg.; *A. acuminata* Lam. ssp. *pungens* (Thunb.) Dahlg.;
- A. cymbiformis* DC (Fabaceae)

Distribution and Habitat:

- A. thyra* - western Cape - macchia.

dryas sub-group

The *dryas* sub-group consists of thirteen species, the most northern being *dryas* with *depicta* the most southern.

The members of this sub-group inhabit sour grassveld in montane biomes from the Zoutpansberg in the northern Transvaal to the Natal and eastern Cape coastal regions. In the south-western Orange Free State and central Cape they are found in Karoo biomes and in the southern and western Cape they occur in Macchia.

Sympatry: In the south eastern Transvaal *titei* occurs with *merces* of the *dentatis* group and *oreas* of the *egerides* group. In the Natal Drakensberg *penningtoni* occurs with *oreas*. In the western Cape *depicta*, *margaretae* and *apicalis* occur with *egerides* and *arida* of the *oreas* group, *caledoni* occurs with *pallida* of the *dentatis* group, while *juana* and *vansoni* of the *simplex* group also apparently occur sympatrically. The sympatry with *thyra* is recorded above.

Foodplants:

- A. depicta* - *Aspalathus* sp. (Fabaceae)

A. sp. 4 - *Lotononis eriantha* Benth. (Fabaceae)

Distribution and Habitat:

Section A - northern aggregate;

A. dryas - northern and eastern Transvaal escarpment - sour grassveld.

A. sp. 4 - Steenkampsberg to Machadodorp - north-eastern sandy highveld.

A. titei - south eastern Transvaal - sour grassveld.

A. penningtoni - Natal - sour grassveld.

A. dicksoni - eastern Cape mountains - sour grassveld.

A. caffrariae - eastern Cape coastal regions - sour grassveld.

A. juana - Little Karoo and Namaqualand - Karoo and Namaqualand broken veld.

Section B - southern aggregate;

A. caledoni - Caledon to Matjiesfontein - macchia.

A. carolynnae - Slanghoek Mountains and Witsand - macchia.

A. apicalis - Piketberg to Namaqualand - succulent Karoo.

A. depicta - Port Elizabeth to Piketberg (montane) - macchia and succulent mountain scrub.

A. lutescens - Brandvlei to the Roodeberg - Karoo.

A. margaretae - western Cape coastal regions - succulent Karoo.

egerides sub-group

A group of eight species which are generally smaller butterflies than in any of the other *thyra* sub-groups.

This sub-group can be divided into two sections, section A is the montane group on macchia and sourveld, these being *egerides*, *nubilus*, *oreas* and *quickelbergei*, and section B is the karoo and Namaqualand group being the remainder.

The high altitude species in the North drop down to the coast in the western Cape. The karoo species occur from Port Elizabeth to the northern Cape and Namaqualand.

Foodplants:

A. clarki - *Aspalathus* sp. (Fabaceae)

A. gowani - *Aspalathus* sp. (Fabaceae)

Distribution and Habitat:

Section A - eastern aggregate;

A. egerides - Piketberg to Struis Bay - coastal macchia.

A. nubilus - eastern Transvaal - highland sourveld.

A. oreas - south-eastern Transvaal to eastern Cape - highland sourveld.

A. quickelbergei - Karreedouw to the Langeberg - highland false macchia.

Section B - western aggregate;

A. clarki - Aloe flats to Sundays river - valley bushveld.

A. gowani - Sheldon, eastern Cape, to Kimberley - false karoo.

A. sp. 5 - Hotazel - Kalahari shrub bushveld.

A. arida - Redelinghuys to northern Namaqualand - Namaqualand broken veld and strandveld.

simplex sub-group

A group of seven species characterized by narrow dark margins on the upperside and

sandy brown undersides.

Foodplant: Unknown.

Distribution and Habitat:

- A. simplex*- Northern Cape to north-eastern Namibia - Kalahari shrub bushveld, red sand.
- A. tearei* - Aus to Windhoek - montane broken veld.
- A. sp. 6* - southern Kaokoland - arid scrubveld.
- A. nollothi* - Port Nolloth to Hondeklip Bay - west coast strandveld.
- A. bamptoni* - Little Namaqualand - Namaqualand broken veld.
- A. vansoni* - Great Karoo - western mountain karoo.
- A. sp. 7* - Nyanga, eastern Zimbabwe - montane grassland.

dentatis sub-group

The ornate silvery markings of the underside with a crimson red ground colour reach their peak in this sub-group. Many populations are restricted to a small area and have become endangered with the spread of urbanisation.

Foodplants:

- A. dentatis* - Roodepoort - *Hermannia depressa* N.E. Br. (Sterculiaceae).
- Suikerbosrand - *Lotononis eriantha* Benth. (Fabaceae).
- subsp. *maseruna* - *Hermannia jacobefolia* (Turcz.) R.A. Dyer (Sterculiaceae); ex Orange Free State and western Transvaal.
- A. pallida* - *Aspalathus* spp., (Fabaceae).

Distribution and Habitat:

Section A - northern aggregate;

- A. dentatis* - southern and south-eastern Transvaal, northern and central Orange Free State - Cymbopogon/Themeda veld (sandy).
- A. rossouwi* - south-east of Stoffberg and on Die Berg - north-eastern sandy highveld.
- A. merces* - south-eastern Transvaal - sour montane grassveld.
- A. rileyi* - north-western Lesotho and neighbouring Orange Free state, montane - sour montane grassveld

Section B - southern aggregate;

- A. pallida* - Port Elizabeth to Ceres, north to southern Orange Free State - Karoo and macchia.
- A. braueri* - Cathcart to southern Lesotho - highland sourveld.
- A. kaplani* - Sutherland district - mountain renosterbosveld.
- A. pringlei* - Winterberg - highland sourveld.
- A. sp. 8* - Mbulu to Natal Drakensberg - highland sourveld.

Discussion

The relationships above are fairly tentative but it is hoped that as more information becomes available the phylogeny of the genus will become clearer. The genus is considered at this time to have developed somewhere further north than South Africa, and that upon reaching South Africa, as conditions changed, the genus splintered and evolved into the various species-groups and sub-groups as outlined above (Cottrell, 1985). Key localities have been identified which have helped to elucidate the relationships by having a number of the species groups occurring sympatrically. The primary locality has been near Wakkerstroom in the south-eastern

Transvaal where members of three of the *thyra* sub-groups have been found sympatrically; *A. titei*, *A. oreas* and *A. merces*. The veld-types determined by Acocks have followed many species' distributions fairly accurately. The unnamed species referred to by numbers will be published quite soon, mostly in the second edition of Pennington's Butterflies.

Acknowledgements

My thanks to my brother Stephen and father Bill, also to Chris Ficq, Nolan Owen-Johnston and the late Charlie Dickson.

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Aloeides egerides male underside

**DESCRIPTION OF A NEW SPECIES OF *ANTHENE* DOUBLEDAY
(LEPIDOPTERA: LYCAENIDAE) FROM THE TRANSVAAL, SOUTH AFRICA**

By G.A. & S.F. Henning

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Abstract. *Anthene juanita* sp.n. from the Eastern Transvaal is described and notes on its known habits and distribution are given.

This new species of *Anthene* is closely related to *A. larydas* (Cramer, 1780) and *A. crawshayi* (Butler, 1899) and was discovered in the north-eastern Transvaal.

Subfamily *Polyommata*nae Tribe Anthenini

Anthene larydas is the type species of the genus *Anthene* Doubleday, 1847. It, together with related species, have distinct subbasal and basal lines present on the forewing underside which are lacking in other members of the genus, so form a distinct species group - the *larydas* group. The *larydas* species group in turn can be separated into two subgroups.

Subgroup 1: *A. larydas* (Cramer, 1780),
 A. kersteni (Gerstaecker, 1871)

A. larydas and *A. kersteni* were considered synonymous by Bethune-Baker (1910), although he does state that they fly together and are easily separated in the male. *A. kersteni* is a smaller butterfly with a slightly paler upperside while the underside is whiter with markings broadly edged with white. The male genitalia of both species are very similar, one difference being the dorsal integument of *A. larydas* which is more convex than that of *A. kersteni*.

Distribution and Habitat

A. larydas is primarily a West African species extending to Uganda and Western Kenya and is an inhabitant of evergreen forest and heavy woodland.

A. kersteni is an East African species occurring from the coastal areas of Natal in South Africa northwards to Kenya and is an inhabitant of coastal bush, forest margins and woodland.

Subgroup 2: *A. crawshayi* (Butler, 1899)
 A. juanita sp. n.

A. crawshayi is a widespread species with several subspecies which require further research. It is possible more species are involved than is currently recognised.

A. juanita represents the most southern population which was at first thought to be a subspecies of *A. crawshayi* but from available material is considered to be a distinct but closely related species.

Distribution and Habitat

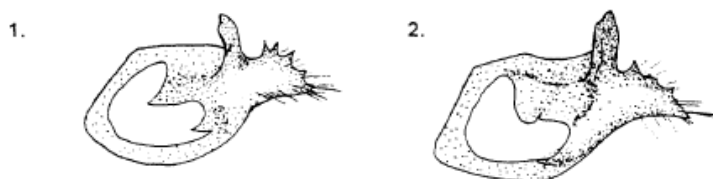
A. crawshayi is found from Sierra Leone to northern Zimbabwe and East Africa. There are four possible subspecies. It is an inhabitant of woodland and savanna.

A. juanita has been recorded from the north-eastern Transvaal of South Africa in dense riverine forest along the banks of the Oliphants River at the base of the Drakensberg Escarpment.

Anthene juanita sp.n. (Fig. 1; Plate A: 1-4)

Diagnosis

Male. Most similar to *Anthene crawshayi* (Butler) on the upperside of the wings, but differing by a darker more purplish-blue colour and in not having distinct black submarginal spots in areas CuA₁ and CuA₂. Underside also closest to *A. crawshayi*, but all markings darker and better defined with basal spots dark brown to black; hindwing with postdiscal markings more basal, leaving a distinct submarginal brownish-grey area. Genitalia similar to *A. crawshayi*, but with valve shorter and rounder; distal process much shorter and corona-shaped not elongated as in *A. crawshayi*; teeth on distal process longer and thinner.



Male genitalia: 1. *A. juanita* valve; 2. *A. crawshayi* valve.

Female. Most similar to *A. crawshayi* on the upperside, but with more extensive blue colouring basally on both wings; forewing with more extensive white scaling in discal and postdiscal areas. Hindwing with larger white postdiscal lunules. Hindwing underside with basal and subcostal spot in discal area black; other markings darker brown and better developed; submarginal area of hindwing as in male but submarginal lunules extending into this area.

Description

Male. Forewing length 12.5 mm; antenna-wing ratio 0.56. Wings. Upperside. Ground colour purplish-blue with a narrow dark outer marginal line. Cilia greyish-white and produced into tufts on hindwing veins CuA₁, CuA₂ and 1A+2A. *Underside.* Ground colour pale greyish-brown. Forewing with dark submedial and discal bands outlined in white crossing wing; irregular dark postdiscal marks outlined in white in two groups in areas CuA₁ and M₃ and from M₂ to costa; submarginal area with a double row of white lunules, dark line along outer margin. Hindwing with four dark brown to black, white-margined basal spots; irregular line of dark markings outlined with white in discal area, upper spot black; medial area with a dark line outlined distally and proximally with white closing cell; a distinct greyish-brown submarginal area almost 2 mm wide; irregular line of white, submarginal lunules from costa to inner margin; marginal area with row of dark-centred, white ovulate marks; those in areas CuA₁ and

1A+2A black with metallic blue scaling distally and orange proximally.

Female. Forewing lengths 13.5-14.5 mm, mean 14 mm (n = 5); antenna-wing ratio 0.46-0.48, mean 0.47 (n = 5). *Wings. Upperside.* Ground colour dark greyish-brown. Forewing: basally up to median area suffused with bright blue scaling; upper end of cell with distinct dark spot; discal and postdiscal areas with white scaling in M_3-CuA_2 ; submarginal area with row of indistinct ovulate marks. Hindwing: basally blue up to median area anteriorly and to postdiscal area in $CuA_1-1A+2A$; distinct row of white postdiscal lunulate marks from Rs to anal fold; submarginal row of dark brown to black-centred, white ovulate marks from costa to inner margin. Cilia greyish-white. *Underside.* As in male but ground colour paler and dark markings more prominent and white markings more extensive.

Material examined

Types: Holotype ♂ : SOUTH AFRICA: Manoutsa Park, below Strydom Tunnel, N.E. Transvaal, em. 25.xi.1990. (ex pupa), R.F. Terblanche. Allotype ♀ : same data but em. 30.xi.1990. Paratypes: 1 ♀ same data; 2 ♀ same data but not bred; 1 ♀ same data but em. 30.xi.1990. Holotype and allotype in Transvaal Museum, Pretoria, South Africa. Paratypes in collections of W.H., S.F. & G.A. Henning (Florida) and R.F. Terblanche (Potchefstroom).

Biology

Pupae were found under a flat rock lying amongst gravel and sand. They were pale reddish-brown mottled with black, and on the dorsum of the thorax there was a large creamy-white, diamond-shaped mark.

Discussion

While it is very similar to *A. crawshayi* the characteristics of this butterfly are such that it warrants to be treated as a separate species, and not as a subspecies of *A. crawshayi*. This species is named after Juanita Terblanche.

Acknowledgements.

We would like to thank our father Bill Henning and Renier Terblanche for their assistance in preparing this paper. Renier Terblanche has travelled widely over the Transvaal and Orange Free State in recent years and has discovered several new taxa.

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**DESCRIPTIONS OF TWO NEW TAXA OF LYCAENIDAE (LEPIDOPTERA)
FROM THE ORANGE FREE STATE, SOUTH AFRICA
WITH NOTES ON THE GENERA *DURBANIA* TRIMEN AND *THESTOR* HÜBNER**

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Abstract Notes on the lycaenid genera *Durbania* Trimen and *Thestor* Hübner with descriptions of *Durbania amakosa sagittata* ssp.n. and *Thestor terblanchei* sp.n. from the Orange Free State with notes on their known habits and distribution.

Reinier Terblanche has collected extensively in the Orange Free State over the past ten years and his efforts have been rewarded with the discovery of a new species of *Thestor* and a new subspecies of *Durbania amakosa* Trimen.

Notes on the genus *Durbania* Trimen 1862

The genus *Durbania* was erected by Trimen (1862: 400) for a single species, *amakosa* Trimen, which is consequently the type species. This genus is endemic to South Africa. Further species were added to the genus over the years until it was revised by van Son in 1959 who limited it to two species, namely *D. amakosa* and *D. limbata* Trimen, 1887.

D. limbata is characterised by broad red markings placed closer to the outer margin than *D. amakosa*. It also flies later in the year during March and April, whereas *D. amakosa* flies from November to January. It inhabits rocky outcrops from the Natal Midlands to the south-eastern Transvaal.

D. amakosa has been separated into a number of subspecies by van Son 1959 and Quickelberge 1981. It is largely a montane species but populations can also be found in the subcoastal regions of Natal.

D. amakosa amakosa Trimen, 1862

The nominate subspecies is found in the Eastern Cape, through Transkei to Kokstad in Natal. Further north along the Drakensberg it changes slightly but is currently retained in the nominate subspecies (for example specimens from Bushmansnek).

D. amakosa penningtoni van Son, 1959

To the west of the nominate localities in the Eastern Cape this subspecies has been recorded from Grahamstown to Bedford. There is no clearly defined break between colonies of *penningtoni* and *amakosa* and it is considered that this race will eventually prove to be a distinct species.

D. amakosa natalensis van Son, 1959

The Natal Midlands and the foothills of the Drakensberg is the distribution of this well-marked subspecies.

D. amakosa ayresi van Son, 1959

The most northern subspecies from northern Natal (Majuba) to the Eastern Transvaal.

D. amakosa albescens Quickelberge, 1981

A distinct subcoastal population found not far from sea along the lower Natal south coast to as far north as Oribi Gorge. The type locality is Margate.

D. amakosa flavida Quickelberge, 1981

This subspecies inhabits the mountains inland from the subcoastal regions, from Durban to Ngoye. The type locality is Shongweni.

Durbania amakosa sagittata ssp.n. (Plate A: 5-8)

In the north-eastern Orange Free State this subspecies with its yellowish underside has been found on QwaQwa Mountain in the northern foothills of the Lesotho Drakensberg,

Diagnosis

Most similar to *Durbania amakosa ayresi* van Son, 1959.

Male. Upperside: orange markings broad; forewing orange spots reduced towards inner margin; hindwing orange markings with no black scaling along the veins, distal margin jagged due to the extension of orange scales along veins. Cilia weakly chequered with ochreous greyish-brown at end of veins, greyish-white internervules small, particularly on forewing. Underside: forewing orange band narrower with definite black distal edge, hindwing ground colour with strong yellowish-brown tinge; discal orange spots indistinct.

Female. Upperside: orange markings more extensive; forewing orange from base to submarginal area with black patch at upper end of cell and a smaller patch in middle of cell; hindwing orange from median to submarginal area with outer edge sagittate due to orange extending along veins. Cilia as in male. Underside: forewing with distinct black distal edge to orange patch; hindwing ground colour with strong yellowish-brown tinge and all markings indistinct, subbasal markings often rounded; orange postdiscal spots small and indistinct. Cilia indistinctly chequered as in male.

Description

Male. Forewing lengths 14.8-16.1 mm, mean 15.4 mm ($n = 27$); antenna-wing ratio 0.4-0.45, mean 0.43 ($n = 27$). *Wings. Upperside.* Ground colour black. Forewing with a curved row of orange postdiscal spots. Hindwing with postdiscal spots fused into a band up to 3 mm wide, distal edge serrated due to orange extending distally along veins. Cilia weakly chequered with greyish-brown at ends of veins. *Underside.* Forewing ground colour brown with yellowish-white suffusion particularly along costa and beyond postdiscal band; postdiscal band orange and up to 4 mm wide, marked prominently with black along distal edge. Hindwing pale brown with yellowish-brown suffusion; postdiscal spots tinged with pinkish-orange, subbasal markings rounded. Cilia indistinctly chequered and greyish-white internervules small, particularly on forewing.

Female. Forewing lengths 18.2-20.5 mm, mean 19.6 mm (n = 10); antenna-wing ratios 0.35-0.38, mean 0.36 (n = 10).

Wings. Upperside. Ground colour blackish-brown. Forewing: basally orange extending half way up cell and joining up with broad disco-postdiscal band in areas CuA₁ and CuA₂. Hindwing with a broad orange band up to 9 mm wide from just below costa to just above inner margin and extending from median to submarginal areas, distal edge of band serrated due to orange scaling extending along veins. Cilia as in male. *Underside.* Forewing as in male but orange disco-postdiscal band much broader (up to 6 mm wide). Hindwing as in male with a distinct yellowish-brown tinge.

Material examined

Types: Holotype ♂: SOUTH AFRICA: Southern slope, QwaQwa Mountain, 15.i.1992, R.F. Terblanche. Allotype ♀ : same data but 16.i.1992. Paratypes: 7 ♂ 5 ♀ same data; 22 ♂ 7 ♀ same data but 1 ♂ 11.i.1992, 3♂ 3 ♀ 13.i.1992, ♂ 1 ♀16.i.1992, 4 ♂ 4 ♀21.i.1992. Holotype and allotype in Transvaal Museum, Pretoria. Paratypes in the collections of R.F. Terblanche and W.H., S.F. & G.A. Henning.

Biology

This subspecies occurs on the southern slopes of QwaQwa Mountain among the lichen-covered rocks. Its flight is of short duration, with long rests on rocks. The larvae feed on algal growths among the lichen. Pupae were found attached to the partially discarded larval skin in concealed spots on the rocks.

Discussion

A distinct subspecies branching off into the Orange Free State. It was discovered by Renier Terblanche.

Notes on the genus *Thestor* Hübner, 1819

The genus *Thestor* was erected by Hübner in 1819 for the species *Papilio petalus* Cramer, 1779, which is a subjective synonym of *Papilio protumnus* Linnaeus, 1764.

This genus is confined to the Southern African sub region with the most northern populations being found in north-eastern Zimbabwe.

The genus *Thestor* together with the closely related genus *Lachnocnema* Trimen, 1887, belong to the Tribe Lachnocnemini. All the species of both genera are apparently entirely aphytophagous in their early stages being associated with ants (Formicidae) and coccids and psyllids (Homoptera).

The genus *Thestor* can be divided up into several species groups. The *protumnus* species group can be easily distinguished by the distinct outer marginal markings on the Forewing underside which are lacking in the other species groups.

The *protumnus* species group consists of three species: *T. protumnus*, *T. dryburghi* van Son, 1966 and *T. terblanchei* sp. n.

T. dryburghi inhabits an isolated area in Namaqualand from Kamieskroon to Springbok. It can be found with *T. protumnus* in some localities. Its characteristics are its rounded wings and the two round black spots on the upperside of the hindwing.

T. protumnus is probably one of the most widespread species of the genus. It occurs sympatrically with members of other species groups. The different populations in the species groups have been considered infrasubspecific. Two subspecies are recognised with a third in preparation.

T. protumnus protumnus (Linnaeus, 1764)

This subspecies is found on the Peninsula and neighbouring South Western Cape to as far as the Piketberg and van Rhynsdorp. Its wing shape and underside markings are fairly distinctive when compared to the following subspecies.

T. protumnus aridus van Son, 1941

This subspecies inhabits a wide range of arid habitats from Namaqualand to Grahamstown in the Eastern Cape northwards to Kimberly.

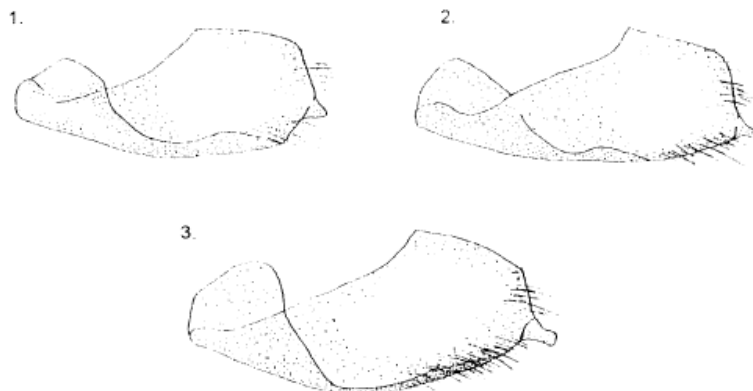
A distinctive subspecies from northern Namaqualand is currently under investigation.

At the most north-eastern extreme of the group's range, at the Korannaberg in the Orange Free State, the distinct population was at first considered to be a subspecies of *T. protumnus* but the study of the available specimens indicates that this population is in fact a full species in its own right.

Thestor terblanchei sp.n. (Figs. 1 & 2; Plate A 9-12)

Diagnosis

Male. Most similar to *T. protumnus* (Linnaeus, 1764) but much smaller with narrower, more elongated wings with outer margins rounded. Ground colour of upperside paler, more ochreous and less yellowish; marginal borders more greyish. Forewing with inner edge of outer marginal border serrated due to ochreous scales extending along veins towards outer margin; discal black markings absent or reduced. Forewing underside with black submarginal dots as in *T. protumnus* absent; hindwing postdiscal lunular band broader and more basally situated than in subspecies *aridus* and tapering towards inner margin, unlike in nominate *protumnus* where it broadens slightly towards inner margin. Genitalia with lower margin of valve strongly angled outwards about three quarters from base of valve, therefore broader and more angular than in *T. protumnus*, which has a smoothly curved lower margin up to the distal appendage; distal appendage smaller than in *T. protumnus*: aedeagus slightly shorter than *T. protumnus*.



Male genitalia: 1. *T. terblanchei* valve; 2. *T. protumnus protumnus* valve; 3. *T. protumnus aridus* valve.

Female. Similar to *T. protumnus* but ground colour darker and more ochreous-brown with proximal edge of outer marginal border scalloped as in male. Upperside dark spotting reduced and lacking entirely in areas CuA_1 and M_3 of forewing.

Description

Male. Forewing lengths 12.8-15.8 mm, mean 14.5 mm ($n = 7$); antenna-wing ratio 0.35-0.38, mean 0.365 ($n = 7$).

Wings. Upperside. Forewing ground colour ochre with broad (about 3 mm wide) greyish-brown outer marginal and costal borders; broad black subapical band from costa to vein M_3 ; large quadrate black spot at upper end of cell; androconial patch brownish-grey down veins CuA_1 and M_3 in discal area, and to a lesser extent on vein CuA_2 . Hindwing greyish-brown with ochreous discal patch below vein R_s and from median to submarginal or outer marginal area in $CuA_1-1A+2A$; dark mark closing cell and irregular blackish discal line in M_1-CuA_1 . Cilia grey, becoming darker at ends of veins. *Underside.* Forewing pale yellowish-ochreous with greyish costal and outer marginal border as on upperside., black subapical band from costa to vein M_3 ; large black quadrate mark at upper end of cell and a smaller one below it in cell and medially in CuA_2 . Hindwing: grey, becoming paler over disc and crossed by irregular slightly darker lunulate, postdiscal band, inner edge of which is darkened. Cilia white or whitish becoming darker at end of veins.

Female. Forewing lengths 13.8-15.2 mm, mean 14.5 mm ($n = 2$); antenna-wing ratio 0.36-0.38, mean 0.37 ($n = 2$).

Wings. Upperside. Ground colour darker more rusty brownish than male. Forewing: similar in colour to male but without androconial streaks along veins M_3 - CuA_2 . Hindwing similar as in male but discal spots in areas M_1 to CuA_1 more distinct. Cilia grey, becoming darker at end of veins. *Underside.* Ground colour slightly darker grey than in male. Forewing as in male. Hindwing with a distinct discal band edged with dark reddish-brown and a smaller similar mark at distal end of cell.

Material examined

Types: Holotype ♂: SOUTH AFRICA: Mooimeisieshoek, Korannaberg, Orange Free State, 14.i.1991, R.F. Terblanche. Allotype ♀: same data. Paratypes: 4 ♂ same data; 1 d 1 ♀ same data but 20.iii.1982. Holotype and allotype in Transvaal Museum, Pretoria. Paratypes in collections of W.H., S.F. & G.A. Henning and R.F. Terblanche.

Other material: *T. protumnus protumnus* - from Redhill, Simonstown, Mamre, Malmesbury, Stikland; *T. protumnus aridus* - Hofmeyr, Wolfhok near Garies, Matjiesfontein, Compassberg, Hantamsberg; *T. dryburghi* - Kamieskroon, Springbok.

Biology

This species was found flying in dry karoo-type vegetation on gently sloping, lower gullies of the Korannaberg in the Orange Free State, on a south-west facing slope. Specimens were found singly over a fairly wide area. When last visited, this locality was well grassed and no specimens were seen. The males fly around gravel patches in the normal manner of the genus.

Discussion

A fairly distinctive species which resembles *T. protumnus* in many respects. It was at first thought to represent a northern subspecies, but from available material and genitalia dissections it appears to warrant specific status. It is named after Renier Terblanche.

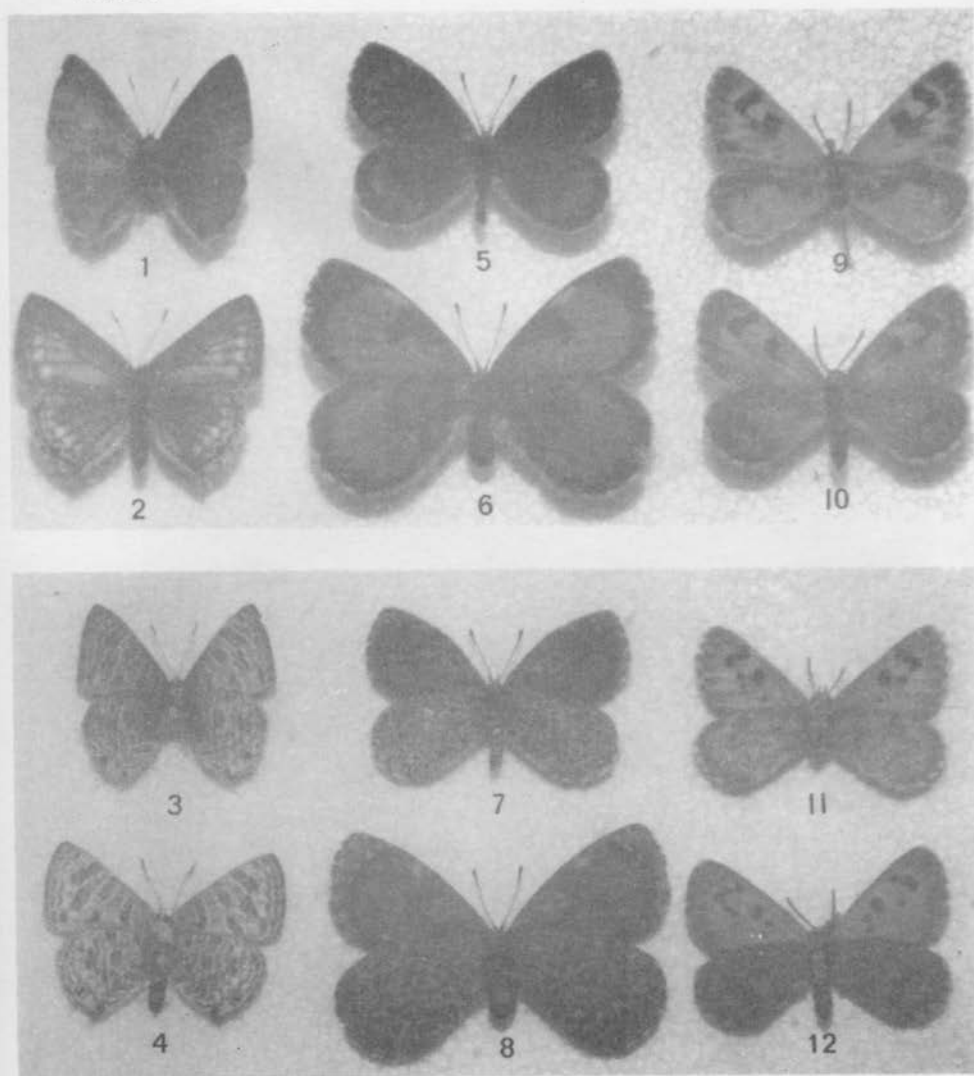
Acknowledgements

We would like to thank our father Bill Henning and Renier Terblanche for their assistance in preparing this paper.

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Plate A

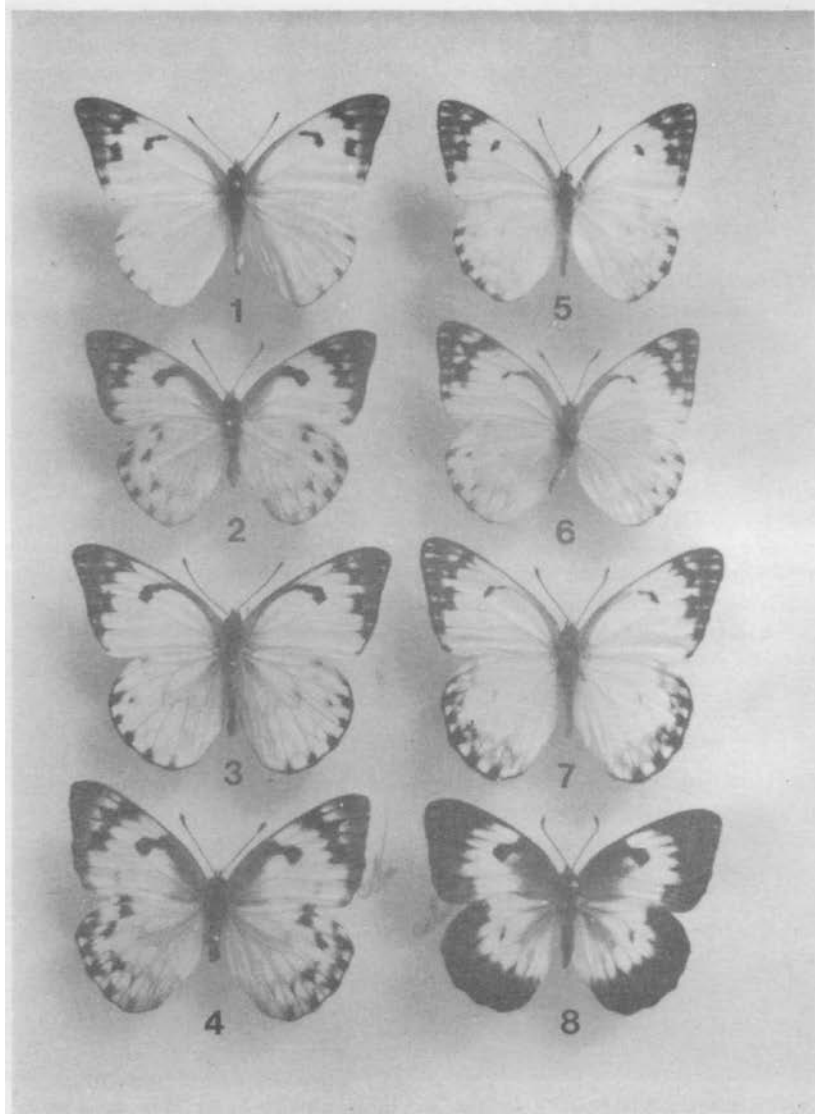


Figs 1-4. *Anthne juanita*. Upperside. 1. ♂ holotype. 2. ♀ allotype. Underside. 3. ♂ holotype. 4. ♀ allotype.

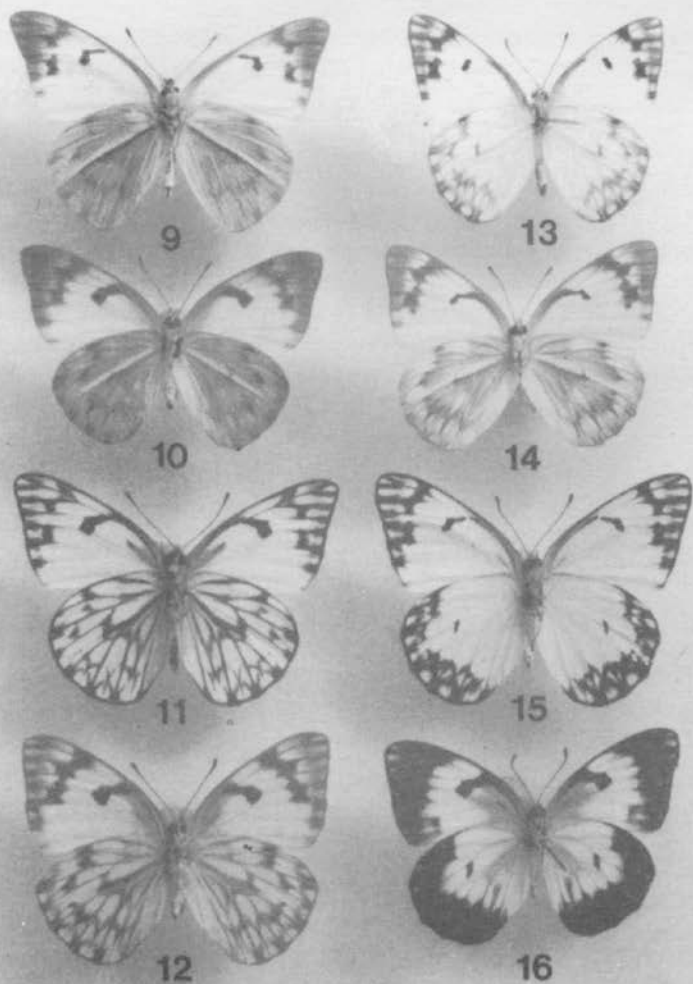
Figs 5-8. *Durbania amakosa sagittata*. Upperside. 5. ♂ holotype. 6. ♀ allotype. Underside. 7. ♂ holotype. 8. ♀ allotype.

Figs 9-12. *Thestor terblanchei*. Upperside. 9. ♂ holotype. 10. ♀ allotype. Underside. 11. ♂ holotype. 12. ♀ allotype.

Plate 1



Figs 1-8. *Belenois gidica* uppersides. 1 - 4. Zambia. 1. Male, dry season form. 2. Female, dry season form. 3. Male, wet season form. 4. Female, wet season form. 5-6. Gambia. 5. Male, dry season form. 6. Female, dry season form. 7. Male, wet season form. 8. Female, wet season form.



Figs 9-16. *Belenois gidica* undersides. 9-12. Zambia. 9. Male, dry season form. 10. Female, dry season form. 11. Male, wet season form. 12. Female, wet season form. 13-16. Gambia. 13. Male dry season form. 14. Female, dry season form. 15. Male, wet season form. 16. Female, wet season form.

Plate 3

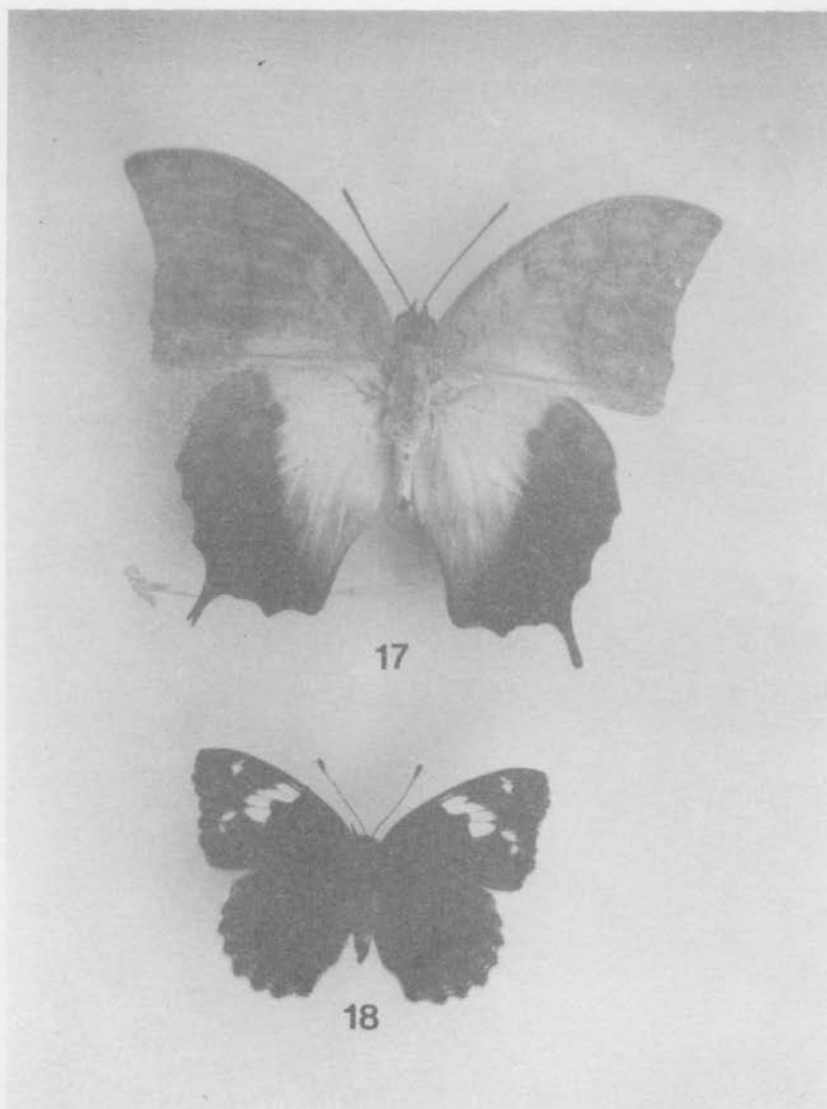


Fig 17. *Charaxes varanes vologeses*, male. The Gambia, Bijilo Forest, 27.vii.1992, M.A. Newport.

Fig. 18. *Junonia oenone oenone* male. The Gambia, Pirang Forest, 25.vii.1992, M.A. Newport.

THE OTHER END OF AFRICA

By Mike Newport

7 Trinity Road, Sutton Coldfield, West Midlands, B75 6TH, U.K.

Abstract. A description of two recent field trips to The Gambia with a checklist of the species recorded during April 1987, February 1988, October/November 1991 and July/August 1992.

Did you ever wonder what the butterflies were like at the other end of the Afrotropical Region? It was with this in mind - among other things - that I found myself attracted to The Gambia a couple of years back. My family and I have now had two 2 week holidays there - October/November 1991 and July/August 1992 - and I look forward to further visits.

The Gambia is a small ex-British colony situated on the Atlantic coast at the very west end of West Africa. It is a narrow strip of land never more than 30 miles wide, and follows the east-west running River Gambia for around 200 miles inland, it is surrounded on all landward sides by Senegal. The region is often referred to a Senegambia.

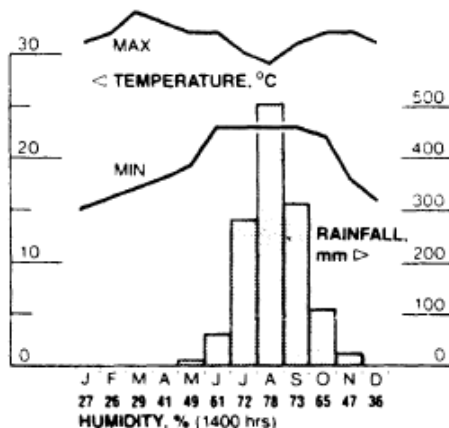
Weatherwise, it has perhaps the most agreeable climate in West Africa, being subtropical with distinct wet and dry seasons. Coastal areas are dry from November to May, while the rainy season lasts from June to October.

The Gambia has a blossoming tourist industry with package tours from the United Kingdom becoming very economic, hence my ability to visit there! It is fast becoming known as the 'smiling coast', this being a reference to

the nature of its people. Who, while not rich, are certainly comfortable and well fed by African standards. 'No problem' is their catchphrase.

The Gambia has become a popular destination for the British bird watching fraternity. Having a fine range of endemic species, and being the winter home of many migrating European birds.

Once a well wooded country, The Gambia, like many parts of Africa, has suffered heavy de-forestation, (around 35% loss in the past 12 years). The forest islands that remain are now well managed and protected by the joint Gambian/German Forestry Project. With their kind permission, it was in and around their 'forest parks' that most of my collecting took place. The Gambia is literally on the north western edge of woodland Africa. It can be clearly seen from



sattellite imagery of the area, that the Sahara is advancing southwards through northern Senegal and is now pushing towards the northern banks of the River Gambia. The Gambia is a 'front line state' in this war, and is most certainly under threat. We must wish the forestry project well in their battle.

Once in The Gambia transport for collecting has to be sorted out. Vehicle hire costs can be outlandish, so I settled for using the local taxis, which although pricey, were plentiful. The driver that became my regular driver - and guide - on each visit was one Jarraga Jallow, a wonderful character. He appeared to be a local celebrity, and we were waved through the numerous police and army road blocks with a cheery "Hey Jallow". His car was his pride and joy, and of a make that he considered among the world's finest, a Russian Loda! As we rattled along the roads bound for one forest or another, I consoled myself with the thought that at least it is probably well maintained. A notion I carried until one day when returning from a collecting trip the heavens opened, needless to say the wipers did not work! Jallow drove the 20 miles back to the hotel with his head out of the side window so that he could see! By the time we reached the hotel there was almost as much water inside the car as outside!

I concentrated most of my collecting efforts on the Bijilo and Pirang forests. They are quite different in nature, and made an interesting comparison. Both forests are in the western half of The Gambia which is classed as 'Guinea savanna'.

Bijilo Forest

At 126 acres Bijilo forest park is around 1.5 miles long by 250 yards wide, and runs along the back of Kotu beach, just south of the last of the tourist hotels. The vegetation varies from ankle deep dune dwelling plants immediately behind the beach, to fairly dense open canopy woodland as the land climbs some 40 feet inland. Palm trees predominate the mid area and Bijilo is noted for having one of the last remaining rhun palm stands in The Gambia. Bijilo was opened to the public in 1991, and has a network of paths maintained as nature trails, very useful to the butterfly collector! The forest boasts colonies of both Red Colobus and Green Vervet Monkeys. Watching their antics provided very entertaining interludes between collecting. Bijilo's other large residents, the Monitor lizards, seem to exist purely to give people heart attacks! Their favourite trick being to hide in the undergrowth until one is as close as possible, usually with a yard, before charging away in an explosion of vegetation and sound!

Butterflies are abundant throughout Bijilo, but are commonest in the mid area where flowering shrubs are plentiful. I recorded 43 species during my visits, see checklist. A further 16 species have been recorded in the Kotu Beach area near Bijilo by myself, and a friend Mike Perceval. Mike visited during the dry season in both February 1988 and April 1987 when lycaenids appeared particularly common. It is probable that all 16 species noted occurring near Bijilo could be found there, if only occasionally. I would think that year round collecting could lead to a Bijilo checklist of as many as 100 species.

Particularly common were *Dixeia o. orbona*, *Eurema hecabe solifera*, *Cacyreus lineus*, *Charaxes varanes vologeses*, *Junonia o. oenone* and *Danaus chrysippus aegyptius* form *alcippus* on both my visits. With *Belenois gidica* and *Lepidochrysops polydialecta* in July, and *Pinacopteryx eriphia tritogenia*, *Belenois aurota* and *Zizeeria knysna* in October also being very common. *Belenois gidica* had me guessing for a while as they were quite unlike the

specimens of that species that I am familiar with from my time spent collecting in Zambia (See plates 1 & 2). As can be seen, the dry season form male exhibits none, and the female little, of the underside brownish suffusion, nor the wet season forms few of the distinctive underside markings typically seen in the comparative seasonal forms of the southern races. The southern races also possess noticeably more angular forewings, especially apparent in the dry season forms. None of the Gambian females seen exhibited any sign of polymorphism apart from seasonal.

I made liberal use of banana baited traps throughout the forest, and was fairly disappointed to find only the odd *Charaxes achaemenes atlantica*, besides the hoards of *Charaxes varanes vologeses*. In truth, the latter were of interest, being the darkest marked members of this species that I have seen. An unusual male was encountered which had no scaling whatsoever on the uppersides of its forewings. Another unusual form of a well known Nymphalid that I encountered, was a male *Junonia o oenone* devoid of any trace of the blue patch in the centre of the hindwing (see plate 3 fig 18).

Lepidochrysops polydialecta (provisional det.) was of particular interest to me in that, despite 8 years collecting in Zambia and 5 visits to Kenya, they are almost the first *Lepidochrysops* that I've seen on the wing! The aggressive territorial nature of the males coming as somewhat of a surprise to me. I'd always imagined that they were gregarious gentle butterflies.

Also of surprise was the complete absence of Satyrids and the paucity of Acraeas. Families that I've found well represented wherever I've collected. The numerous specimens of *Danaus chrysippus aegyptius* encountered were, as expected, all of the form *alcippus*, my favourite form of a butterfly of which I'm particularly fond.

Kotu Beach

The area known as Kotu Beach comprises a number of mixed, mostly disturbed, open habitats. The grounds and gardens of the hotels, and Fajara golf course proving the most productive for butterflies. The grounds of one hotel, the Senegambia, proved particularly so during Mike Perceval's visits during both February 1988 and April 1987.

The two *Iolais* species that I found were not taken on the wing, but found as a couple of first instar larvae (they later produced two adult males). Both were found on the same smooth leaved, pink flowering species of *Loranthus*, a lemon tree being the host for one, and the other being on an unrecognised flowering shrub in the grounds of the golf club. Both larvae were found on my October 1991 visit. I was disappointed to find, on my second visit in July 1992, that some enthusiastic gardener had pruned off all of the *Loranthus* at the golf club. This, however, was made up for by the discovery of large quantities on small *Acacia* trees at the seaward end of the golf course. But, despite much searching, no eggs or larvae were found. It would seem that *Iolais* are less common in the rains than the dry season. A pattern that I observed when living and collecting in Zambia in the 1980's.

Pirang Forest

At 158 acres Pirang forest park is slightly larger than Bijilo, being around 1 mile long by 400 yards wide. It is situated around 25 miles inland, near the banks of the River Gambia in a predominantly cultivated rural area. Classed as a 'wet' forest, its canopy is very heavy with little direct sunlight reaching the forest floor. Very few butterflies were found inside the forest

itself, but were in abundance around the forest edge, and along the broad sandy path that dissects the forest about 30/70. This path connects the villages of Pirang and Bonto, their proximity having been the forests saving, rather than a threat to its existence, previous generations of villagers considering it a sacred place. Although there was a move by some villagers a few years back to replace the forest with a Mango plantation, a move that happily failed. Pirang, like Bijilo, is home to colonies of Red Colobus and Green Vervet monkeys as well as Red Patas monkeys. A similar, but larger forest exists near Pirang, this is called Abuko. Abuko is a carefully managed nature reserve, as yet I have not managed to gain permission to collect butterflies there, but feel it could yield some interesting species. I have resisted the temptation to add my 'on the wing' Abuko sightings to the checklist, as these can be very unreliable, especially when on unfamiliar territory. As can be seen from the checklist, I have recorded 44 species from Pirang forest and its immediate surroundings. A figure that surely would double with year round collecting.

The following species were noted at Pirang, but not elsewhere: *Spialia dromus*, *Leptosis a. alcesta*, *Pseudonacaduba s. sichela*, *Bebearia mardania senegalensis*, *Neptis s. serens*, *Junonia t terea* and *Bicyclus vulgaris*. *Belenois c. calypso* and *Phalanta phalantha aethiopica* were found only at Pirang, plus a small patch of similar forest at Brufut, some 25 miles south west. Two female forms of the former were noted, one all white and one with white forewings and yellow hindwings. With regards to *P. phalantha*, I was surprised to find this butterfly restricted to a forest habitat. My collecting experience to date has shown it to be very much an insect of open habitats, with *P. e. eurytis* replacing it in forests. Both species are well represented in my collection and I am fairly well satisfied that the Gambian specimens are indeed *P. phalantha*.

Two additional *Charaxes* were found at Pirang: *Charaxes epijasius* and *Ch. v. viola*, although both insects appear well distributed, in fact, Bijilo was the only place that I did not find them. I had hoped to find *Charaxes fulvescens senegala* at forests such as Pirang, but was disappointed. It occurs not so far away in neighbouring Senegal. As indeed does *Papilio menetheus*, which I had also hoped to find but did not!

Conclusions

The specimens of the hesperiid *Platylesches moritili* that were found appear to constitute a new record of this species for The Gambia.

As can be seen, the extreme north west corner of the Afrotropical Region presents quite a different picture to its southern extremity. The most obvious difference being the paucity of specialised genera in the north. The butterflies of the coastal area of The Gambia would be very familiar to those who have collected in subtropical and tropical Africa as a whole. The species encountered being, on the whole, very wide spread, even if many are of a West African subspecies.

As for the future, I would like to visit The Gambia again at various times of the dry season. The forest Nymphalids such as the *Euphaedra*'s apparently appearing in December, and Lycaenids supposedly being more numerous during the first few months of the year. Who knows what gems await.

As you would gauge from all of the foregoing, I would have no hesitation in recommending The Gambia as a destination, be it for a collecting trip, a family holiday, or as I have done, a bit of both.

Acknowledgements

My thanks to Mr D. Reeb and Mr A. Kasper of the Gambian/German Forestry Project for their help while in The Gambia. To Mike Perceval for listing his Gambian material and allowing me to examine and photograph them. To Steve Collins, Torben Larsen and Mick Gillies for their help in identifying some of the more awkward specimens that I found. To my wife, Margaret, for her patience and understanding. And last, but not least, the people of the The Gambia for helping to make our stays in their country so memorable.



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CHECKLIST OF THE BUTTERFLIES OF THE GAMBIA

Checklist of the butterflies of the The Gambia noted by Mike Newport during early July 1993, July/August 1992 and October/November at all locations, and Mike Perceval during February 1988 and April 1987 in the Kotu Beach area.

CARC	REF	SPECIES	BIJIL FOREST	KOTU BEACH AREA	PIRANG FOREST
1981					
		Hesperiidae			
53		<i>Tagiades flesus</i> (Fabricius)	X	-	X
142		<i>Spialia dromus</i> (Plotz)	-	-	X
11		<i>Coeliades f. forestan</i> (Stoll)	-	X	X
145		<i>Spialia spio</i> (Linnaeus)	-	X	X
360		<i>Zophopetes dysmephila</i> (Trimen)	-	X	-
376		<i>Gretna waga</i> (Plotz)	-	X	-
435		<i>Platylesches moritili</i> (Wallengren)	X	X	-
450		<i>Pelopidas mathias</i> (Fabricius)	-	X	-
467		<i>Borbo gemella</i> (Mabille)	X	X	-
		Papilionidae			
500		<i>Papilio n. nireus</i> Linnaeus	X	X	X
505		<i>Papilio d. demodocus</i> Esper	X	X	X
524		<i>Graphium angolanus pylades</i> (Fabricius)	X	X	X
544		<i>Graphium l. leonidas</i> (Fabricius)	X	X	X
		Pieridae			
557		<i>Catopsilia florella</i> (Fabricius)	X	X	X
561		<i>Eurema hecabe solifera</i> (Butler)	X	X	X
566		<i>Eurema b. brigitta</i> (Stoll)	X	X	X

567	<i>Pinacopteryx eriphia tritogenia</i> (Klug)	X	X	-
576	<i>Colotis a. amatus</i> (Fabricius)	X	X	-
597	<i>Colotis danae eupompe</i> (Klug)	X	X	-
601	<i>Colotis a. antevippe</i> (Boisduval)	-	X	-
603	<i>Colotis e. euippe</i> (Linnaeus)	X	X	X
612	<i>Colotis evagore antigone</i> (Boisduval)	X	X	-
626	<i>Belenois a. aurota</i> (Fabricius)	X	X	-
627	<i>Belenois c. creona</i> (Cramer)	X	X	-
632	<i>Belenois c. calypso</i> (Drury)	-	-	X
643	<i>Belenois gidica</i> (Godart)	X	X	X
654	<i>Dixeia o. orbona</i> (Geyer)	X	X	X
663	<i>Appias e. epaphia</i> (Cramer)	X	X	-
678	<i>Mylothris c. chloris</i> (Fabricius)	X	X	X
700	<i>Leptosia a. alcesta</i> (Stoll)	-	-	X
Lycaenidae				
1261	<i>Myrina s. silenus</i> (Fabricius)	X	X	-
1344	<i>Axiocerses harpax kadugli</i> (Talbot)	X	X	X
1531	<i>Iolaus (E.) i. iasis</i> Hewitson	X	-	-
1539	<i>Iolaus (I) m. menas</i> (Druce)	-	X	-
1582	<i>Hypolycaena p. philippus</i> (Fabricius)	X	X	X
1662	<i>Deudorix (V.) antalus</i> (Hopffer)	-	X	-
1681	<i>Deudorix (V.) livia</i> (Klug)	-	X	-
1736	<i>Anthene a. amarah</i> (Guerin)	X	X	X
1738	<i>Anthene larydas</i> (Cramer)	-	X	X*
1825	<i>Pseudonacaduba s. sichela</i> (Wallengren)	-	-	X
1828	<i>Lampedes boeticus</i> (Linnaeus)	X	X	-
1843	<i>Cacyreus lingeus</i> (Stoll)	X	-	X
1868-78	<i>Leptotes species</i>	-	X	-
1883	<i>Tuxentius cretosus nodieri</i> (Oberthur)	-	X	X
1889	<i>Tarucus theophrastus</i> (Fabricius)	-	X	X
1891	<i>Tarucus rosaceus</i> (Austant)	X	X	-
1901	<i>Zizeeria knysna</i> (Trimen)	X	X	-
1902	<i>Zizina antanossa</i> (Mabille)	X	X	-
1913	<i>Azanus moriqua</i> (Wallengren)	X	X	-
1937	<i>Euchrysops malathana</i> (Boisduval)	-	X	-
1938	<i>Euchrysops osiris</i> (Hopffer)	-	X	-
1988	* <i>Lepidochrysops polydialecta</i> (Bethune-Baker)	X	-	X
2080	<i>Chilades eleusis</i> (Demaison)	-	X	X
Nymphalidae				
2113	<i>Charaxes achaemenes atlantica</i> van Someren	X	-	X
2118	<i>Charaxes epijasius</i> Reiche	-	X	X
2182	<i>Charaxes v. viola</i> Butler	-	-	X
2217	<i>Charaxes varanes vologeses</i> (Mabille)	X	X	X

2427	<i>Bebearia madania senegalensis</i> (Herrick-Schaffer)	-	-	X
2565	<i>Neptis s. serena</i> Overlaet	-	-	X
2625	<i>Byblia anvata crameri</i> Aurivillius	X	-	X
2644	<i>Hypolimnas misippus</i> (Linnaeus)	X	X	X
2665	<i>Junonia o. oenone</i> (Linnaeus)	X	X	X
2666	<i>Junonia hierta cebrene</i> Trimen	-	X	-
2668	<i>Junonia s. sophia</i> (Fabricius)	-	X	-
2675	<i>Junonia chorimene</i> (Guerin)	X	-	X
2676	<i>Junonia t. terea</i> (Drury)	-	-	X
2683	<i>Precis antilope</i> (Feisthamel)	-	X	-
2694	<i>Vanessa cardui</i> (Linnaeus)	X	X	-
2704	<i>Phalanta phalantha aethiopica</i> (Rothschild and Jordan)	-	-	X
Acraeinae				
2819	<i>Acraea eponina</i> (Cramer)	-	X	X
2840	<i>Acraea pseudogina</i> Westwood	-	X	-
2841	<i>Acraea c. caecilia</i> (Fabricius)	X	X	X
2865	<i>Acraea z. zetes</i> (Linnaeus)	X	X	X
Satyridae				
2917	<i>Bicyclus vulgaris</i> (Butler)	-	-	X
Danaiidae				
3185	<i>Danaus chrysippus aegyptius</i> (Shreber)	X	X	X
Species totals		75	43	59
				4

* Preliminary determinations

**SPRINGTIME IN ZIMBABWE 1993
(OR, BEERS, MUD PUDDLES AND BUTTERFLY-EATING DOGS)**

By Steve Woodhall

PO Box 67317, Bryanston 2021

You are standing on a peak in Monomatapa, a red and green tapestry of Msasa trees thousands of feet below you. You are gazing across the vast shield of Africa towards the west. The sun is hot but the air is like champagne, a cool breeze rippling the long grass and making the myriad flowers nod their heads. Little fluffy clouds waft over your head, none of them seeming to obscure the sun; the sky is deep azure. Suddenly a golden, glittering green flash appears before you; and then another, and another, whirling and chasing up the gully towards you. Your net follows them up the hill, sweeping from behind. With a broad smile of satisfaction, you put another male *Lepidochrysops ruthica* into a packet - Nyanga weaves its magic again.

Many lepidopterists have waxed lyrical about green butterflies and about mountains. Swanepoel told us about Ken Pennington's raptures over a *Euryphene achlys* caught at Ngoye in Zululand - "Boy, see for yourself the bronzy green gloss of an *achlys* flying down a stream or along a glade, and you'll die happy!" John Joannou, writing in *Metamorphosis* vol.1 no.25, about a collecting trip to the mountains of Barberton, was moved to think of "The Sound of Music". Well I have caught a few *achlys* now and I was with John on that Barberton trip. In my humble opinion *ruthica* at World's View, Nyanga, combines and surpasses both these experiences-, but then again I am a well-known high-altitude lycaenid freak.

Nyanga was but one highlight of a safari that was born during the conference this year. I heard one of our Zimbabwean members complaining that us 'Soul Effricans' are always threatening to come to their hunting grounds and catch some real butterflies, but we never do. So Jan Coetzee and I loaded up the trusty Isuzu on Friday 24th September 1993 to prove them wrong. Off we went into a gathering storm, having a near miss when a tree flattened the bakkie just in front of us only 15km from home! There was another little moment just before Louis Trichardt when Jan had to take to the verge to avoid a truck that was coming towards us on our side of the road with only one headlight. We reached Beit Bridge where we tested our crafty stratagem to beat the dreaded school holiday queues -we arrived at 0030 hrs to find ourselves no.13 in the queue already! We slept in the bakkie - Jan in the cab where despite his slight stature he was a little cramped. At 0600 hrs Jan sprinted for the door while I parked the bakkie. We were through the South African side in 30mins, and were through Zimbabwe immigration before the chaos had had time to develop. By 0700 hrs we were into *terra incognita* for both of us.

At first the weather was cloudless but as we went further north it began to get dull. However, once through Masvingo it cleared again and we progressed in a fairly hazardous manner, neither of us watching the road, but the surrounding bush for butterflies! Until we hit some granite koppies just before Birchenough Bridge we saw little; then some small yellow flowers by the roadside yielded a few *Crudaria leroma* and *Aloeides damarensis mashuna*. We resolved to press on to Mutare as fast as we could, because everything was looking frighteningly dry and desiccated. The veld got greener as we got into Mutare, and thanks to

Martin Lunderstedt's maps we were in the Cloudlands area by 1400 hrs, with a large thunderstorm brewing.

We were both longing for a sight of something unfamiliar; but this afternoon we were presented with a bewildering array of *Neptis* (which at the time of writing are still to be identified) and little brown satyrids. The latter turned out to be *Bicyclus campinus* and *condamini*, firsts for both of us but not really exotic-looking. Jan then caught a *Teniorhinus harona* and I a *T.herilus*, skippers that are totally unlike anything we get down south. Primary experiences, especially for myself, being deep into the law of diminishing returns on local trips, are balm to the soul.

We drove into Mutare in some trepidation, as a strong wind manifested itself and huge anvil clouds covered the sun. Just our luck, I thought, to be the heralds of a week of spring rains. We went in search of John Daffue. He has a lovely plot on which *Charaxes pollux* and *Ch. macclounii* can be trapped. He very kindly put us up for a few days and showed us around the area. He should be a member by the time this goes into print. John is also a dog enthusiast, he has a German Shepherd called Lara and Abby, a Pyrenean Mountain dog who eats butterflies (more of her later)!

We awoke early in the morning to mist and cloud, and thought oh, oh, this place looks like living up to its reputation for abortive collecting trips. But John was dismissive of our worries and he was proved right when the mist cleared by 0930 hrs. We set off for Burma Valley, home of fabled creatures!

Burma Valley, when we got there, was very dry and didn't look promising at all. Things immediately perked up when an *Alaena nyassae* turned up, followed by a real adrenaline-pumper - *Sallya rosa*! Contrary to what we had been told, these were NOT easy to catch, and they royally ignored our hastily-hung traps. We were reduced to sneaking about in the understorey, frantically chasing them when they came into view. When I finally caught one, it was quite worn, confirming John's observation that the same individuals have been overwintering in the valley for months. The excitement and frustration of these butterflies somewhat spoil the magic of Burma Valley for me; I spent so much time desperately trying to catch one (I finally got two, Jan four) that I know I missed many more valuable specimens. I did get a pair of *Axiocerses punicea*, and *Teriomima puellaris* was flying. Jan thought these were moths at first, with their weak, fluttering flight, but he soon found they can levitate quickly when disturbed. I actually thought they were nothing to get excited about, and took a small series. I felt a bit of a twit when it turned out that this is actually a rarity on a par with *T.zuluana* in Zululand, and everyone is asking me if I got any spare ones. The skippers were well out, *Andronymus caesar philander* being particularly common. I got an *achlys*, a rather worn male, and a perfectly fresh *Ch. macclounii* came to one of the traps. Jan was in ecstasy when he trapped a lovely male *Ch. protoclea azota* - I love seeing someone totally happy, with a grin plastered on his mug that threatens to split his head in two! This butterfly was not as common as we had hoped, Jan's specimen being the only one we saw.

Even though John kept apologizing for the "lack" of butterflies, we had an exhausting and action-packed day, retiring early after a braai and beers (and a couple of John's lethal brandy-and-okes - now I know what a *Charaxes* feels like after guzzling bait).

Monday morning saw us up with the lark and off in the mist to hang traps in the Vumba. The plan was to do this and then head off to Nyanga. This we did, but were distracted by a nice concentration of *Aphysoneura pigmentaria latilimba* down on the Essex road. It took us

half an hour to catch a nice series, but they were not as easy to catch as other satyrids. In fact this butterfly behaves much more like a nymphalid; its flight is swift and agile and many of our "chinese swipes" went astray!

Eventually we reached Nyanga village where we found the water tanks easily. The grass had been partly burnt but the ground was dry and *Becium*, was scarce. A few very fresh *Lepidochrysops violetta* were recorded (behaving very like *L. praeterita* does at Carletonville), and Jan had a stroke of luck with an *L. peculiaris* male. Of the fabled hordes of *ruthica* and *mashunae* there were no sign, so we were a little apprehensive as we went to our stand-by spot of World's View. Of course, there we struck gold and got *L. coxii* and *Issoria smaragdifer* as well as *ruthica*. The *ruthica* males were patrolling the rocky slopes and defending small territories below big rocks, just like *L. irvingi* does in the Eastern Transvaal. Females were more sedentary and kept to the floor of the gullies, frequenting the yellow flowers of a *Chrysanthemoides* that was growing there. *L. coxii* were found along the tops of the ridges, with females on a small pinkish labiate flower. We noted that there was no *Becium* to be seen; perhaps these species don't use it. Sated with these triumphs we returned to the water tanks to search harder, but all I got was a glimpse of a *peculiaris* as it shot away from me. The cream underside is very conspicuous when the insect is at rest, but on the wing it looks like *L. plebeia*.

We bought some trout (R8.00 each for quite big fish), took them back to John's and had a feast of them, skottel-fried in butter and washed down with some bubbly we had brought up from SA. I had some live butterflies in film cans for photography, and as I was putting them in the fridge I noticed that the *L. ruthica* I had incarcerated thus had some water in the can with it, a potential cause of damage. I opened the can to dry it, and took the chilled insect out, letting it sit on my finger. This was enough to warm it up, and it made a bid for freedom, still a little cold and sluggish. Before I could catch it, Abby the Pyrenean casually snapped it in mid-air! This caused hilarity all round, even though this meant we would have to revisit Nyanga to get another photographic specimen, I saw the funny side. Abby is a really blue-blooded dog with expensive tastes to match.

Tuesday saw us out with John who had taken a day off to show us around. We started off by driving up Cecil Kop, above Christmas Pass. Nothing much was doing except a couple of *Stygionympha wichgrafi lannini* taken by Jan. It was perhaps a little early in the day, so we pushed off to Murahwa's Hill and Meikles Jungle, where we hung traps in the hope of getting *Apaturopsis cleocharis* (we didn't). However, several nice *Neptis* were on the wing, including *melicerta carcassoni* and *serena*, so we were successful. We then set off into the Vumba, John showing us the marsh at Cloudlands where Martin Lunderstedt had caught an *Acraea pentapolis epidica*. This we didn't see (surprise, surprise!), but we were rewarded with a few *Neptis swynnertoni* and *Mylothris sagala umtaliana*, both of which caused great excitement and frenzied erection of extensions. As an ex-European collector, I was interested at the similarity in behaviour of *N. swynnertoni* to the White Admiral, *Limenitis camilla*. The butterfly is far more nervous and agile than any other *Neptis* I have seen. It has a more robust body and the same chestnut-brown underside as a *Limenitis*. Perhaps with its central African relatives, it is more closely related to the White Admiral than even the European *Neptis sappho*. *N. swynnertoni* doesn't even fly like a typical *Neptis*; it only glides for short periods, beating its wings far more often and vigorously. Cloudlands really is a tantalizing spot. High up in the canopy, *Cymothoe vumbui* thumbed their little chitinous noses at us, we would have needed 100ft. extensions to have worried them. Eventually a couple of days later I did catch one. Typically for me, it came out of the canopy as I was answering a call of nature, and my

antics as I tried to adjust my dress and catch him must have been comical, but I didn't think so at the time! This marsh also produced a couple of *Acraea conradtii vumbui*, an uncharacteristically fast species and a big thrill to see. *Cymothoe alcimeda rhodesiae* were very common, swarming around blue-flowered *Vernonia amygdalina* bushes. This shrub is familiar to anyone who has hunted in Zululand, and it was a pleasure to see it in these exotic surroundings.

Our sojourn at Cloudlands was so fascinating that we were late for lunch at Milly Haywood's fabulous little place Cool Waters, on the Lawrenceville Road. Milly is a true original, she comes from my part of the world and dispensed her warm Yorkshire hospitality (REAL meat pie, and apple pie with cheese! thanks Milly) with cold beers whilst we lurked balefully by her famed mud patches, hoping for *Aphnaeus* to come down (and other things we dared not dream of such as *Lipaphnaeus adema spindasoides*). In this we were unlucky, the only butterflies of interest being lots of huge fresh female *Neptis alta*. We beat it to the top of the kopje at the Altar Site near Mutare, to find just a couple of very fresh *A. erikssoni barnesi* frequenting a flowering *Dalbergia* tree, but were disappointed to find so few. We returned to Milly's to spend more time relaxing and in intensive mud-watching, and Jan was rewarded with one specimen of *barnesi*. Of *A. marshalli* there was sadly no sign.



Aphnaeus erikssoni barnesi male on *Combretum* blossom (Del. S. E. Woodhall)

The next day saw us up in the Vumba again, catching more of the same species we had seen on Tuesday. The *Aphnaeus* were again ignoring Milly's mud patches, but I was quite happy with lazing in the sun and watching hopefully. Jan was made of sterner stuff and insisted we climb Cross Kopje - in the midday heat, nogal! So off we went. This is not a nice hill to climb, especially on a boiling hot day, but it was worth it when we reached the summit. Straight away Jan got an *Abantis zambesiaca*, to his everlasting joy. I got my first ever *Platylesches robustus*, which is easily distinguished from the ubiquitous *P. moritili* by its large size (as big as an *Abantis*), and yellow spots on the upperside. We were too late in the day for *Deudorix zeloides*, but at approx. 1300 hrs the first *Aphnaeus marshalli* males started to

appear. At first we despaired of catching these little whirling dervishes, but after a while a behavioural pattern emerged - they were settling on one or the other of two large shiny-leaved trees. All we had to do was to sit on the large rocks next to these and ambush the butterflies as they arrived. Eventually they stopped coming and the first female arrived, taken by Jan. Unfortunately no more showed up, so we set off down to inspect the Meikles Jungle traps again. Jan had caught a couple of *Iolaus* on the kopje, but we were disappointed later to learn that they were only our old friend *I. trimeni*.

That evening Milly kindly took us to the Portuguese Club where we had searingly hot peri-peri chicken and prawns, washed down with lots of cold Zambesi. She had watched the mud for us and finally took one male *A. marshalli* and a couple of *barnesi*, as well as a *Stygionympha wichgrafi lannini*. We had a fascinating evening, as Milly has many a tale to tell!

A morning 'phone call to Rob Pare produced the information that Nyanga Downs might just produce specimens of the elusive *Lepidochrysops mashunae*, so we packed up, said our farewells to John and (it turned out later, having forgot half of my clothes and cooking gear - my mind is like a sieve when occupied by butterflies!) set off. We reached the spot as a cold wind was blowing and high clouds were partially covering the sun, but this didn't stop the myriads of *L. coxii* from flying. *Aloeides aranda f. rougemonti* was well out, as were *L. ruthica* (again!), *Acraea pseudatolmis* and *A. nohara halali*. I saw only one *L. mashunae*, typical of sought-after *Lepidochrysops* it settled suddenly on a *Becium* flower in front of me, giving me only enough time to register that it was there before going off down the hill like a bat out of hell with me in hot pursuit. Even though I was by this point quite fit from all the walking we had been doing, it lost me with contemptuous ease. Intensive searching produced no more of these, so it looks as though we were too early to find them in numbers. Feeling somewhat defeated we set off to Rukotso Mountain in search of the new *Aloeides* discovered by Ian Mullin. The spot took some time to find as it was six years since my last visit, but we eventually got there. Jan took off like a rocket after a little orange thing, but this turned out to be another *aranda*. No sign of the new *Aloeides* and the weather was getting a bit cloudy and cold so we called it a day.

The original plan had been to camp at Nyanga and drive to Bindura in the early morning, but we decided to get some kilometres under our wheels and try to reach the Harare campsite before the sun went down. As it was only 1500 hrs we surmised that we might have a late afternoon crack at *L. mashunae* at Headlands. But it was not to be - the only rain of the trip was busy soaking Headlands as we drove past. We got to the Harare municipal campsite by 1800 hrs, and found it a comfortable place with good, clean ablutions and nice soft ground for tent-pegs. After a braai and pasta-in-sauce we were exhausted, and turned in for a good night's sleep.

The morning saw Jan in a mood for a good lie-in, but unfortunately for him I was in my usual collecting-trip mode, i.e., up at the crack of dawn! Funny how this is not the case on workdays. We breakfasted quickly and set off for Bindura. We found Rob and Claire Pare's farm Uronga South easily, and soon Rob was showing us all the wonderful foodplants growing in his garden. A big thrill was handpicking a female *Deudorix caerulea obscurata* on the grass beneath a *Julbernardia* tree. This was a good omen so after another breakfast (mielie porridge Zimbabwe-style - a first for me.) we set off for Green Hills, site of Rob's well-known experiments with *Charaxes chittyi*. When we got there his assistant had already found some *chittyi* eggs, as well as a couple of *Abantis* pupae which Rob kindly gave me to hatch and photograph down south. We festooned the trees with traps. Rob left us to it as he had other

visitors, and Jan and I split up to explore. *Neptis penningtoni* were fairly abundant, and suddenly I noticed some small black-and-white missiles hurtling around the hilltop. A lucky "chinese swipe" had three of them in the net at once - *Abantis zambesiaca* at last, and all perfect males! Glowing with success I searched for more and found them to be quite numerous, together with *A. paradisea* and *A. venosa*. Every little clearing on that broad hilltop had a few *Abantis* in it, dogfighting in a way that reminded me of Tom Cruise in Top Gun. They are so fast, they make lycaenids like *A. erikssoni* look slow. I missed a female *zambesiaca* on a tall flowering *Pterocarpus*, my extensions were just not quite long enough to get at her. However, under the same tree I found a small *Parinari curatellifolia* tree with a little grey lycaenid playing around it. A quick swipe of the net and I had him, a perfect male *D. caerulea obscurata*. Another turned up a few minutes later, and then I noticed that some taller *Parinari* trees had *lolaus* playing around in them. A session of teetering around with extensions finally secured a couple of these, which turned out to be rather worn *I. australis*. I went in search of Jan to see if he had found any of these. He had found a colony of the beautiful yellow satyrid *Henotesia simonsii*, and had had fun with the *Abantis*, but no lycaenids, so we went back to the *Parinari* trees. Jan found one that was flowering and was attracting more male *D. caerulea*, so we spent the next hour or so laying siege to these with our extensions. We found that the traps had attracted large numbers of tatty *Ch. guderiana*, but nothing else of real interest in them, including the one I had (rather optimistically) hung under a *Securidaca longipedunculata* in the hope of getting *Ch. penricei*. Surprisingly, I only got one *Ch. chittyi*, an old and battered male. As I was trudging back to the bakkie, laden with traps and bait buckets, I picked up the odd *H. simonsii* so was not too excited when a little yellow bug settled in my path. A quick inspection caused me to frantically jettison all my gear because it was a *Lepidochrysops* with a yellow underside! It took off with me in hot pursuit, and when I had a swing at it I realized I'd picked up an extension instead of my net.

We will draw the curtain of charity over the swearing that ensued.

At the time I thought it was *L. gigantea* as it had a blue upperside, but Rob later on thought it was more likely to be a female *peculiaris*. GRRRR!

We got back to the farm exhausted, but a couple of cold beers revived us (I had a swim - bliss) and Rob proceeded to make us drool by showing us his collection. All those wonderful Zimbabwean butterflies (Rob hates us calling them bugs!), many of them bred. There were also lots of lovely *Colotis ione* fluttering about in Rob's study, because he had bred out a load of them from his recent Kenya trip. Over supper we made plans for the morrow. This was to be the last day's collecting and it was a toss-up between Christon Bank and Arcturus. We chose the former as being easier to find and not requiring a detour.

As it turned out we only set off at lunchtime because I was determined to take up Rob's offer of a spin in his plane. Whilst we waited for him to return from picking up his son Jonathan from school, we messed about in the riverine bush by the Mazoe River, not finding much apart from more *N. penningtoni*. I don't think poor Jan shared my enthusiasm for a flight, but up we went anyway. There is nothing like flying at low altitude over the African bush. All we needed was the theme tune from "Out of Africa" to make it complete. Rob showed us all his considerable spread from the air-, including the famous cattle dips where he had imitated a dead log in the hunt for *Anthene crawshayi*.

When we reached Christon Bank, we split up and climbed separate kopjes. There were plenty of *Precis antilope* in the long grass, as well as more *H. simonsii* and some little

Ypthimas which I think are *rhodesiana*. Of the fabled *L. gigantea*, *Mimacraea marshalli* and *Cooksonia neavei* there were no sign although to be fair we were too early in the year. Climbing my kopje, I found a huge flat rock next to a big leafless *Sterculia africana*, and settled down to lurk. I was rewarded when *Aphnaeus erikssoni mashunae* males started to turn up like clockwork, all landing on the same thick twig of the *Sterculia*. I soon learned that sweeping the net through the twigs of this tree is a non-starter, they are like iron bars and stopped the net dead while my quarry zapped off into the blue! Eventually I worked out how to do it and spent a pleasant afternoon getting a nice series of males (alas, no females!) Occasionally a nice fresh *I. australis* or *I. sidus* would put in an appearance, and I caught a strange little *Deudorix* with a fugitive purple sheen on the upperside, which still has to be identified. Feeling the hour was getting a little late, with the prospect of the 600km drive to Beit Bridge ahead of us, I set off back to the bakkie to look for Jan. When I got there he wasn't there, so I walked back onto the bank, calling his name. Still no Jan. I was getting worried, what if he'd fallen off one of those huge granite boulders and was languishing injured in the bush somewhere? I set off back to the bakkie to see if he'd taken another route back, but he wasn't there. Seriously worried now, as the sun was going down, I began to collect my thoughts when a little girl came up to me and pointed to the house at the end of the road. There was Jan enjoying a cold beer! Not having a very successful time with the *Aphnaeus* he had looked for me in vain and eventually Garry Geddes and his friend Jean, who own the house, had invited him in for a beer while they enjoyed my antics. We had a few beers more and Garry invited us to stay the night and set off in the morning. We were sorely tempted, but we really had to get going. They are a charming couple and told us they would like to see more of us butterfly collectors. I have their 'phone no. if anyone is going up there and wants somewhere to bunk at Christon Bank.

We drove back, got lost in Harare at night (the signposts to Masvingo are good at first then leave you stranded in an industrial dead end) and dodged wildlife (giraffe and impala) all the way to Beit Bridge. Zimbabwe really is still Africa! Eventually we bedded down for the night next to the border post. It was my turn to sleep in the cab and just as I had got comfy (not easy to do) a noise like a steam whistle went off in my ear followed by a honk like an old-fashioned car hooter. Gibbering with fear, I awoke and finally realized a donkey had just brayed right next to the bakkie. It turned out that Beit Bridge by night is home to a large population of itinerant asses, all of which have cowbells on their harnesses! I tried in vain to sleep, to the music of cowbells clanking and donkeys braying. Jan slept on, like a log in the (soundproofed) back of the bakkie.

In the morning we queued for longer than we had on the way up, because it transpired that some individuals were bribing their way past the head of the queue! Eventually we got through and drove off into the grey South African dawn. We had entertained ideas of collecting in the northern Transvaal on the way back to Joeys, even perhaps finding *Lepidochrysops lotana* at Sheba's Breasts if our Zimbabwean luck held. But it was as if the weather had said, "right, you two, you've had a week of good weather, what more do you want, now shove off home!" As we drove south the rain got heavier and heavier, only clearing at Pretoria.

All in all, it was a great trip. We got nearly everything we wanted to get, quite a few things we didn't expect to get, and were exceptionally lucky with the weather. Our thanks again to all who showed us such kindness and hospitality during our visit, John, Milly, and Rob and Claire. Finally, my thanks to Jan for being such a good companion and putting up with my nonsense for a week.

IN DEFENCE OF CAPE NATURE CONSERVATION - A REPLY TO STEVE WOODHALL.

By J Vlok

Cape Nature Conservation P.O. Box 123, De Rust, 6650

In his article entitled "Escape to the Cape" (Metamorphosis 4(3)), Steve Woodhall mentioned the large number of fires he saw, during his December 1992 - January 1993 visit to the Cape fynbos. He raised the point that these fires probably threaten the Cape fynbos butterflies much more, than what butterfly collectors do. This may well be so. However, he is unfair to link two separate issues, viz. the occasional refusal by Cape Nature Conservation (CNC) to issue collecting permits for butterflies and the large number of fires which occur in the Cape fynbos, and then come up with a statement like "Far simpler to refuse to consider collecting permits, sweeping the problem under the carpet whilst doing nothing whatsoever to conserve the butterflies of the fynbos, simply paying lip service to this goal."

Only one of the fires which he mentioned actually burned on land which belongs to CNC. This was the Riviersonderend fire, which started near the rubbish dump of Riviersonderend and later spread into the mountains, where it was fought and put out by CNC officials. All the other mentioned fires occurred on private land and/or land managed by other organisations, e.g. Cape Town Municipality. Despite the fact that most of these fires did not occur on state owned land, e.g. those in Gydo pass area, many of them were fought and put out by CNC officials, without help from the actual land owners -who have been enjoying their Christmas parties. Taking into consideration that it cost on average R20 000 to fight a fire and that CNC has a limited budget and available staff, the mentioned examples should not be used to criticize CNC for allowing fires to ravage the fynbos vegetation and its resident butterflies. To the contrary, I believe that CNC officials should be congratulated for, not only willingly giving up Christmas and New Year days with their families - to fight a fire on land adjacent to theirs, but also being willing to spend money from their limited budgets on fires which could have been ignored!

To say that CNC do nothing to conserve the fynbos butterflies is also not true. Firstly, I can name several examples where CNC have taken special measures to conserve butterfly species. We have, for instance, refused permission to erect radio masts on the crests of mountain peaks where rare butterfly species occur, under considerable pressure refused to support housing developments in coastal areas because endangered butterfly species occurred on the land, etc., etc. The motivation for refusing these permits were mostly based on negative effects the operations would have on the ecological processes of the areas and consequent effects on the populations of the rare butterflies. Secondly, have you noticed that CNC's 1993 calendar is entirely devoted to butterfly species? This was done to stimulate the public's interest in our South African butterflies.

Unfortunately, I am unable to inform you why collecting permits have not been issued to all applicants. It is, however, quite logical that CNC cannot issue permits to every individual who wants to collect rare species. The only way in which we can restrict the collecting of rare species, is by limiting the number of permits which are issued. It remains the responsibility of the applicant, to show that he/she is a responsible person whose collecting information will be of value, not only to the conservation organisation, but also for the conservation of the

organisms they want to collect. I can assure you that collecting permits have been issued to some *bona fide* amateur collectors. Several of them have been co-operating very well with our Department and have supplied invaluable information to our organisation. For instance, information which Alan Heath has supplied to us on some of the rare butterflies of the Kammanassie mountain, enabled us to take some special precautions to conserve these taxa. Unfortunately there are also some collectors who, with or without permits, simply ignore the fact that we badly need the information which they acquire when they collect rare species.

I fully understand Steve Woodhall's anxiety with all the fires he saw in the Cape mountains. We as CNC officers are equally unhappy about them. Despite an education programme, of at least 30 years, we still have too many fires in our mountains. Too much land in these Cape mountains still belong to uncaring private individuals. Criticizing CNC for the situation will not solve the problem. We rather need your support and co-operation to improve the situation. If anybody is interested, we would love to start monitoring projects on the effect fires have on the Cape butterflies. Questions, such as "What effects the interval between fires, season of fire and intensity of fire have on Cape butterfly populations?" are important questions we should be able to answer, but nobody has ever worked on them. I cannot see any reason why CNC and any private individual(s) cannot co-operate to start such projects. If anybody is interested in such a project, you are welcome to contact me at the following address-, J. Vlok, Cape Nature Conservation, PO Box 123, De Rust, 6650.

Conservation organisations need the information which private individuals, like yourself, collect. If you have valuable information, please take the trouble to find out who the local conservator is, to whom the information would be of value. It is only with the co-operation between concerned private individuals and state conservation organisations that we will be able to conserve our wonderful heritage, in all its diversity, for the generations to come.



Thestor rosssouwi female upperside

THE YELLA FLORELLA

By Rupert Jack

The late Rupert Jack was the first Government Entomologist in Southern Rhodesia.

Fr.J.O'Neill honoured him by naming *Acraea pharsalus ruperti* after him in 1919.

Rupert's daughter DotTayler, of Mkwesine in the South-east lowveld of Zimbabwe mentions he had a superb collection, and was something of a poet as well.

The following is submitted with her permission:

There is a yellow variety of the female of the African Migrant butterfly, *Catopsilia florella*. This form is by no means a rarity, but when I heard a youthful enthusiast speak of catching a "yella florella" I had a bad attack, as follows:

In the earlier days
Of my butterfly craze,
When I was an eager young fella,
I'd a burning ambition
To make an addition
By catching a yella florella.

I saw one one day
In the midst of a vlei,
where she danced like a gay Cinderella,
But my rush for her blood
Ended up in the mud
And away went the yella florella.

On a second occasion
The insect's evasion
Brought me down what is known as a "smella"
For the toe of my boot
Got caught in a root,
To the joy of the yella florella.

The third time, I thought
With luck should be fraught,
But I gave a lagubrious bells,
When my net met a thorn
Into ribbons was torn,,
And I still lacked my yella florella.

But now I'm as gay
As a morning in may,
I'm as cheerful as Samuel Wella,
For there in my box I
Have, next to my "Foxy",
A beautiful yella florella!

A decision I made
To bring science to my aid,
And I fitted a turbo-propella;
My flight through the air
Was a brilliant affair,
And I captured my yella florella.



Catopsilia florella female on host plant

IN DEFENCE OF INFRASUBSPECIFIC NAMES

By David L. Hancock

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Rolf Oberprieler's article in *Metamorphosis* 4(3): 120-121, cannot go unchallenged, as strict observance of his views would only serve to discourage future research on the butterflies of Southern Africa.

Whilst I agree that infrasubspecific names such as variety and form are outside the scope of The International Code of Zoological Nomenclature, this is to ensure that:

- 1) they do not need to be taken into account in studies at the species and subspecies level and
- 2) they do not confuse the Nomenclature with regard to priority and homonymy.

They may, be quoted in synonymies, in much the same way as misidentifications and incorrect applications may be quoted, since they serve to define previous concepts of the taxa in question. What names proposed after 1960 cannot do is be automatically raised to species or subspecies level without being redescribed as new. Non-recognition by The Code does not imply that they are without value. Common names are also outside the scope of The Code yet, if properly standardized, they too have value, particularly when discussing matters such as conservation.

The key to the matter is standardisation. We could easily refer to forms by the terms "blue female form" and "yellow female form" but what if someone finds a similar one which becomes "blue female form with big white patches and little yellow spots?" Without some sort of standardisation the matter may quickly get out of hand. We could call them "form A" or "form B" but that tells us nothing, about them, and how do we know if one person's "form A" is the same as someone else's?" Scientific names for the species are already latinised, so it makes sense to treat form names in a like manner.

The next question becomes "is it necessary or desirable to recognise different forms?" The answer is obviously "yes". If we are to use butterflies as scientific tools, which we do, for example, in studies of evolution and biogeography. Then we need to be able to define not only species and subspecies limits, but also genetic variability within populations. Recognition of "primitive" forms, for example, gives clues to the centre of origin of a subspecies or species. In conservation, maintenance of genetic variability in a species is eminently desirable but this cannot be achieved if we cannot define or discuss that variability in a scientific manner. It is no use saying "populations A and B each have three forms but they are not all similar." I would agree, however, that giving names to individual "aberrations" is a particularly pointless exercise and should be discouraged.

Should forms be given "types?" Again yes, if we are to properly define them. Types, whether they are recognised by The Code or not, act as voucher specimens, enabling subsequent workers to correctly determine the taxon concerned. Subsequent interpretations may differ from the original so widely that confusion reigns, a confusion that may be difficult to sort out without a reference point, or original "type" specimen to which we can refer. The only,

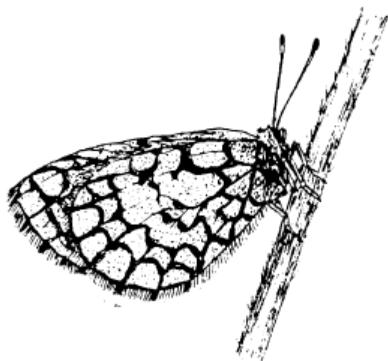
moral question here is that types should always be deposited in public institutions where they can be properly maintained and made available for research purposes-, certainly, they should not be retained in private collections, and names based on such instances should be disregarded and replaced. Since the rules of The Code do not apply this can be done readily. In general though, the spirit of the Code should be maintained and the principle of priority applied.

Museum curators should not disregard type labels affixed to forms and they certainly should not remove them. Particularly if the names have been published, since these form part of the specimen's label data. Curators are, in fact, scientific guardians so they should not be passing judgement over what types are worthy of recognition or not anyway. To suggest otherwise is inexcusable.

Our knowledge of the butterflies at the species and subspecies level in Southern Africa is well advanced and perhaps almost complete. Further research thus involves study of populations, etc., below the subspecies level. Certainly the study of genetic variation is a worthwhile and challenging task. It is surely not necessary to point out how Sir Cyril Clarke's studies on genetic variation in swallowtail butterflies led to the resolution of the Rhesus-factor in human medicine. Recognition of genetic variability depends on the proper definition of morphological forms, and I see every advantage in giving them "scientific", i.e. latinised names. Although The Code excludes them from its rules, it makes no attempt to prohibit their use. Such would be contrary to the spirit of scientific endeavour.

I for one hope that the new "PENNINGTON'S BUTTERFLIES" will include form names, as did the old one, as these are a useful, and informative category. They provide a "depth" to a species. Disregarding them would be like basing a collection on just one specimen of each species, ignoring the variability which, as in humans, makes life interesting.

In short, The Code is not a demagogue, nor is it intended to be. Just because it does not formally recognise categories such as form, variety or even common names, it does not mean we should not recognise them either. Those who wish to ignore them may do so and those who wish to use them may do so, with nobody breaking the rules.



Alaena margaritacea male underside

**HAZARDS OF BUTTERFLY COLLECTING
- SPARE THAT BOUQUET -**

Ethiopia, 1982

By Torben B. Larsen

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The Ghion Hotel in central Addis Ababa is a rambling old-fashioned place set in huge untidy grounds which used to provide interesting butterfly collecting on business trips till, sadly, they were converted into formal gardens some years later. At the time, years after the toppling of Haile Selassie's regime, the words 'Imperial' could still be made out faintly under an inadequate layer of revolutionary paint. There were better hotels in town - of the homogenized Hilton variety - but butterflies apart, the Ghion retained a certain charm which compensated for slipping standards of service and - shall we say - maturing of the buildings and furniture.

Many of my best butterfly photographs from Africa were taken in the gardens of Ghion after work, since the cool afternoons at 2000 m. with occasional clouds, quietened down butterflies to a wonderfully cooperative level. In lowland areas butterflies are generally hyperactive till light for photography is insufficient.

One of the most interesting butterflies in Ethiopia is the African Cabbage White (*Pieris brassicoides*), obviously closely related to the Palaearctic Cabbage Whites of the same genus, perhaps most strongly to the Afghan and Himalayan *Pieris deota*. I was delighted to find this present in the garden. As far as I know no-one had ever seen the early stages of *Pieris brassicoides* and, more importantly, its chromosome number was unknown. So here was a real chance of making some useful entomological discoveries during a business trip.

Walking to work the next morning, I saw a female Cabbage White flying about with the unmistakable air of being on the look-out for somewhere to lay her eggs. Since timings in Africa are not always precise, I stayed to see what happened, and very soon she began to lay eggs on a Rape plant (*Brassica napus*), an imported weed, also used by the Cabbage Whites of Europe and the Himalayas. And, contrary to the smaller Cabbage Whites of the genus *Artogeia*, she laid her eggs in small, evenly-spaced clutches, just like the other *Pieris*. I marked five or six egg-clutches to be picked up on my return in the afternoon.

Males were common in the garden later that day, so not only did I gather the plants with eggs, I also got some good photographs. More importantly, a small series of fresh males was collected in order to determine the chromosome number. The true members of the *Pieris* have a haploid chromosome number of $n=15$, while the smaller members classed in the genus *Artogeia* have $n=25-26$.

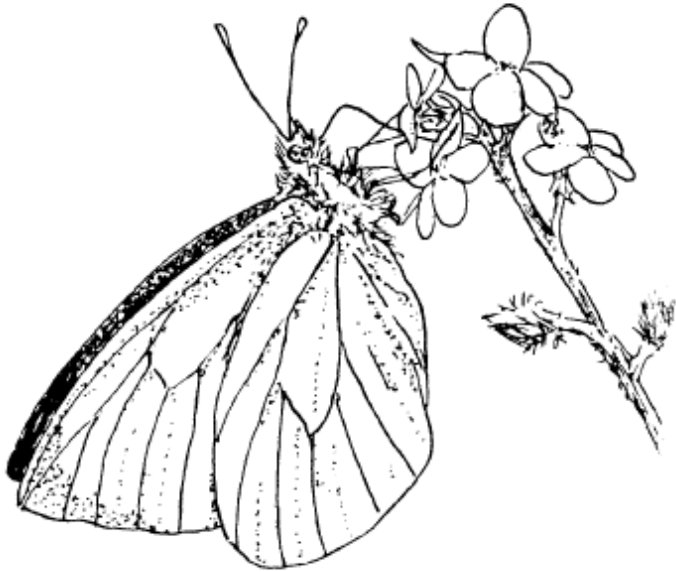
Unfortunately you do not just count the chromosomes. You have to extract the testicles from a freshly killed male butterfly, pickle them in Bouin's Fluid, and - in my case - send them to Dr. Saitoh in Japan for microscopic study, as was duly done.

The scraggly weeds with the egg-clutches were placed in an empty vase in my room to await hatching. I really wanted to see the colour pattern of the caterpillars, since those of the true *Pieris* differ from those of the *Artogeia*. I would also be able to delight many colleagues in Europe with gifts of the unknown caterpillars of this interesting butterfly; it might even be

possible to get a laboratory population going for cross-breeding experiments.

When I came back from work the following day, there was a huge bouquet of pretty flowers on my desk. Well, room service was obviously improving. But where were my scraggly weeds and their precious eggs? Nowhere! The horror of the situation dawned on me. My little collection of flowers had been interpreted as a criticism, as a sign that I would like proper flowers in the room. I called in the staff - the eggs could not be refunded, and I did not have the heart to be overly cross. And I had wonderful fresh flowers in my room every day.

I did not manage to find more eggs in the wild, but the pickled testicles made it to Japan, and in due course the chromosomes were counted. The haploid number was $n=14$, one short of those of the other true *Pieris*, validating the division of the genus into *Pieris* and *Artogeia*. And deep in my heart I still know that the caterpillar of *Pieris brassicoides* is going to match that of the European Cabbage White.



Dixea leucophanes male showing underside

GETTING TO KNOW MOTHS
- BOLLWORMS, GRAIN MOTHS, TOBACCO STEM BORERS AND LEAF MINERS -

By Stephen Henning

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Bollworms, grain moths and so on belong to the family Gelechiidae (Superfamily Gelechioidea). This family of small moths usually have narrow wings. The forewing is without a pterostigma and is often narrow and pointed at the tip. The hindwing has long cilia and the apex is characteristically extended. The outer margin is indented just behind the apex or it is sinuous. The antennae are simple or shortly ciliated and the four-segmented maxillary palpi are folded over the base of the haustellum. The labial palpi are recurved.

The larvae have the thoracic legs occasionally reduced. They pupate in a silken cocoon in the larval shelter or amongst debris on the ground. The pupae have maxillary palpi and a cremaster.

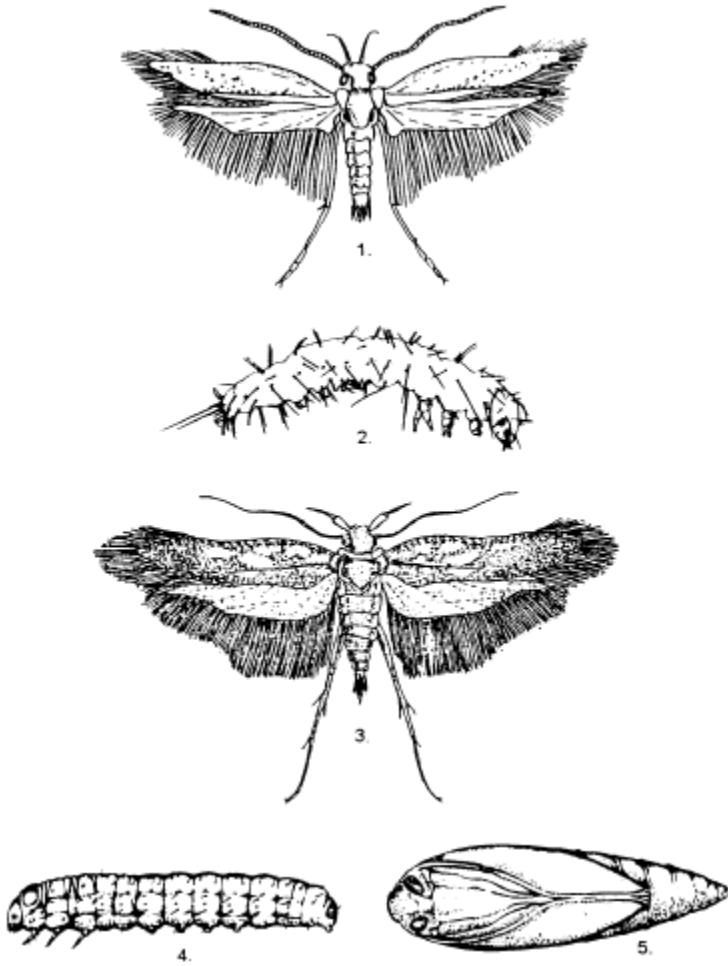
The larval habits vary widely. Larvae may be leaf rollers, leaf miners, gall makers, grain borers and potato leaf and tuber feeders. Many of them are of economic importance and are in fact notorious as pests of potato, cotton and cereal crops. The larva of *Phthorimaea operculella* (potato tuber moth) breeds inside potato tubers, or in tomato, *Datura* and other Solanaceae. In tobacco it is a miner inside the leaves. Another, *Sitotroga cerealella*, the angoumois grain moth, feeds on stored grain.

This is a large family of about 550 species belonging to 3 subfamilies in Southern Africa. The subfamilies are Gelechiidae (141 genera, 535 species), Anomologinae (3 genera, 8 species), Holcopogoninae (1 genus, 2 species).

For more information see Janse (1949), Henning (1985), Pinhey (1975) and Vari & Kroon (1986).

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Angoumois grain moth, *Sitotraga cerealella* (Gelechiidae) - 1. Male upperside. 2. Larva (after Joubert, 1963). Potato tuber moth, *Phthorimaea operculella* (Gelechiidae) - 3. Male upperside. 4. Larva. 5. Pupa (after Broodryk, 1967).

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