

# METAMORPHOSIS

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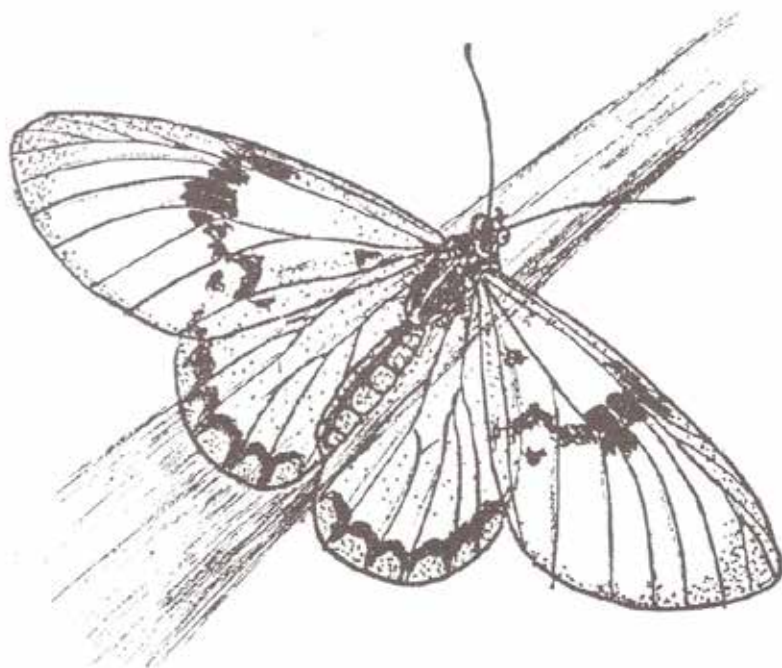
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*Acraea rabbaiae* (Acraeinae) female  
(Forewing length 30–34 mm)

# 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.

There are three categories of membership:

	<b>Local</b>	<b>Overseas</b>	
Full members	R55,00 p.a.	US\$40,00 p.a.	UK £20
Junior members and Pensioners	R28,00 p.a.	US\$20,00 p.a.	UK £10
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Persons may become **Life Members** by paying eight hundred Rand (R800,00) locally and US\$600.00 overseas.

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

## CORRESPONDENCE

General -	The Hon. Secretary, P.O. Box 470, FLORIDA HILLS, 1716
<i>Metamorphosis</i> -	The Editor, P.O. Box 398, Magaliesburg, 2805
Membership fees -	The Hon. Treasurer, P.O. Box 67317, Bryanston, 2021

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

**EDITORIAL**

I was approached recently by an advisor to the conservation authority of a South African province. He asked me if authors reporting on collecting trips in *Metamorphosis* had familiarised themselves with the relevant conservation laws, applicable to the area they had visited, prior to their visit. He also wanted to know if they had obtained the relevant permits where necessary.

The Society has been pro-active in the conservation of Lepidoptera for many years now and is probably the leader in this field in Africa. Many of our members are currently involved in the surveying, as well as biological studies of Lepidoptera in nature reserves across South Africa. In all cases they report excellent relations with the various conservation bodies. Nature conservation authorities generally welcome being approached by Lepidopterists, because we can supply them with information vital to them, on the Lepidopteran fauna that occur in the reserves under their care. It is equally important that the authorities are aware of the activities of Lepidopterists in the areas under their jurisdiction. Members often do not know who to contact in this regard. Contact addresses in my possession are as follows:

For Northern Province:

The assistant director Environmental Affairs and Tourism, Northern Province, P 0 Box 217, Pietersburg, 07700

For KwaZulu-Natal:

The Director, Natal Parks Board, P 0 Box 662, Pietermaritzburg, 3200, Tel.(0331) 47 1961

For the Eastern Cape:

The Director, Cape Nature Conservation, Private Bag X 1126, Port Elizabeth,6000, Tel. (041) 390 2179

For the Western Cape:

Chief Director , Cape Nature Conservation, Private Bag X9086, Cape Town, 8000, Tel. (021) 483 4158.

Although it is not the responsibility of the Editors to ensure that authors have complied with regulations during their field-work, we have an obligation towards our members to endeavour to keep the society's good reputation intact. We ask prospective authors to abide by the rules. So next time you plan a field-trip please ensure that you contact the conservation body in charge. You will find such contact an enriching experience, you will promote the aims of your society and you will make good friends.

Hermann S Staude

### COMMENT BY THE PRESIDENT

We are living in a time of change in South Africa. Our ideas and practices are coming under review in all walks of life. The Lepidopterists' Society is not immune to these changes. When the Society started some thirteen years ago Africa was closed to most South Africans. Now numbers of our members are travelling throughout Africa in search of butterflies. Our membership from the rest of Africa has increased in recent years. Numerous articles in *Metamorphosis* are now concerned with African butterflies in general, rather than just Southern African ones. All our scientific studies on Southern African butterflies also have to consider those in the rest of Africa, as butterflies recognise no political boundaries.

It has been felt for some time that our Society should reflect these changes and our increased membership. We are the only Lepidopterists' Society in Africa and it will be proposed at the next Annual General Meeting that we change our name to the Lepidopterists' Society of Africa. This will not affect the ordinary member and the running of the Society in South Africa. It will, however, give us greater influence in other parts of Africa and hopefully access to increased sponsorship. This in turn will lead to an increase in the quality of *Metamorphosis* and other publications of the Society.

Another clause in the constitution which needs to be considered is the one concerning the election of council members. What we would like to propose is that the Chairman of each regional branch of the Society automatically becomes a voting member of the council. They will receive the minutes of all council meetings and if unable to attend the meeting, can contribute their views or opinions via fax, for example, to the Secretary. To date we only have two branches - one in the Western Cape and one in Gauteng, who would be eligible. Applications to establish a new branch with voting rights on the Council will have to be recognised officially by the Council. If we do become the Lepidopterists' Society of Africa, we would eventually expect to have branches in East, West and Central Africa in addition to our Southern African ones.

This all brings us on again to our AGM and Conference on the 9th to 11th of August. I would like to encourage all of you to attend this year to discuss the above points and get your opinions. This year we are taking advantage of a long weekend to stage a three day conference. We start with the AGM on Friday the 9th August, followed by a lunch time braai and an afternoon looking at exhibits and catching up with all the gossip.

There is still time to send in slides for the photographic competition or to decide to present a paper. Remember the talks do not have to be scientific, many members prefer to hear about and see slides of an interesting locality. Also bring along boxes of any interesting new captures, or butterfly books, paintings, setting boards or anything else you would like to swap or sell.

The new President, Secretary and Treasurer will also be announced at the AGM. The ballot forms will be sent out with this issue of *Metamorphosis* and we would be grateful if you could return them before the end of July.

Stephen Henning

## REGIONAL ROUNDUP

The good rains during March and April curtailed some trips but the benefits will be worth it next season.

There were large hatches of pierids in the bushveld north of the Zoutpansberg and in northern KwaZulu-Natal. At Tembe in Zululand *Charaxes etesipe tavetensis* was found by Steve Woodhall and Andy Upshon, it was also found further towards the coast by the Pringles who also recorded *Charaxes protoclea azota*. *Acraea rabbaiae* was found at Tembe by Steve and Andy along with *Euxanthe wakefieldi*.

North of the Zoutpansberg Paul Kruger and Andries Wannenburg found pierids in numbers among which were males and females of *Colotis celimene amina* and a wide variety of female forms of *Hypolimnas misippus*. Their most startling find was a number of the yellow females of *Colotis regina* which have only been recorded a couple of times south of the Limpopo. One presumes the good rains had something to do with this unusual occurrence. Bill Steele and family also visited the area and they too found some of the yellow females. The yellow female was named *louisa* by Suffert in 1904.

I visited the Nelspruit area and spent time watching *Bicyclus ena* hill-topping. The males ascended to one particular group of rocks around which they fluttered, settling half way up the vertical sides. Each male settling out of sight of the others. A number of the normal bushveld species were in evidence. During April I visited .Shiyalongubo Forest at Barberton which had a lot of butterflies flying when I arrived but within minutes it clouded over and ended the day's activities. A fresh yellow female of *Papilio echerioides* was recorded in the brief time available to me.

Visits to Zimbabwe proved very fruitful, Martin Lunderstedt recorded the following impressive list at Rusito and Haroni; *Melanitis libya*, *Gnophodes betsimena diversa*, *Acraea insignis gorongosae*, *Hyalites cerasa*, *Apaturopsis cleocharis*, *Sal/ya rosa*, *Bebearia orientis*, *Euriphene (Euryphura) achlys*, *Aterica galena*, *Hypolimnas deceptor*, *Oboronia beuronica*, *Pentila swynnertoni*, *Iolaus lalos*, *Lipaphnaeus adema spindasoides*, *Anthene sheppardi*, *Gorgyra johnstoni*, *Semalea pulvina* and *S. arela*.

A successful outing to Mariepskop was enjoyed by some members of the society. A full account will be prepared.

The Brenton Blue Project has been extended to the end of June. The funds collected are not as good as was anticipated. The team of Dave Edge and Ernest Pringle are still working hard on the project. Other conservation projects are beginning to appear, the African Wildlife magazine published an article on *Poecilmitis lyncurium* by Cameron McMaster and the TV program 50/50 is reviewing the plight of *Orachrysops ariadne*.

Clive Quickelberge gave a talk on *O. ariadne* on radio on the 6th June 1996. The more exposure we get on conservation matters the better. Clive also reports a startling find by Dennis Ekhard, in the well-known Dhlinza Forest at Eshowe, he and Clive found *Appias sabina* flying in numbers! Where did they come from? Hermann Staude also saw them when he visited the nearby Entumeni forest recently.

GRAHAM HENNING

## BUTTERFLY SAFARI TO LONDOLOZI - NOVEMBER 1995

By S. E. Woodhall

10 Bay Close, Bloubastrand ext.9, Randburg, RSA.

It was with some interest that I took a 'phone call from André de Beer, a ranger at Londolozi. They wanted someone to give their staff a quick course in butterfly identification - was I interested, because John Joannou wasn't able to make it, and he had kindly put my name forward as a replacement. Dates were agreed upon and on November 10, Jayne and I set off for one of our most luxurious bush retreats.

As we drove over the escarpment and down towards Hazyview, the weather was lowveld hot and sticky, with surprisingly few butterflies on the wing. Londolozi is in the Sabi-Sand Nature Reserve, on the south bank of the Sabi River on its way east towards the Kruger National Park. To get there, one drives along the Kruger Gate road from Hazyview, turning left at the sign. It is a long way off the tar road. We weren't too sure what to expect, as André had told us we were to stay in the "bush camp" we certainly didn't expect film star treatment, but that's what we got! "Bush Camp" is right on the bank of the Sabi River, and has a setting right out of Hemingway. Accommodation is in five-star chalets with all mod cons (except airconditioning - but with a ceiling fan big enough to lift the roof of the room, we didn't miss this). Meals are served in a communal area which is actually a huge open-fronted room through whose roof grows a massive tree! Food is gourmet standard - a long way from the usual collecting-trip fare. We arrived in time to change quickly and set off after a quick lunch for a trap-setting session with Bruce Little, who looked after us during our stay. Bruce has been bitten by the lepidoptera bug - he was on fire to see what would come to the traps. André was up at the "Tree Camp", which I believe is even more sybaritic than Bush Camp, we would only see him on Saturday at the slide show.

Setting up the traps, we could see that the area around the camp was mainly well-wooded lowveld, with lots of *Combretum*, *Acacia nigrescens*, *Sclerocarya birrea* and the river bed full of *Phoenix reclinata*. The soil was sandy and the occasional *Colotis* put in an appearance. We had to get back to the camp by 1600 because then was time for the game drive.

This is an article on butterflies, so I won't annoy you with all the boring lion, leopards, elephants, buffalo and white rhino we saw on the game drives. Jacqui, our ranger/driver, saw to it that the big five was seen by all over the weekend - including some very cute leopard cubs.

We should have stopped in the bush for drinks, but were chased away by an awesome thunderstorm that came down from the escarpment at sundown. We were treated to an angry red sunset over Mariepskop as we dodged raindrops and thunderbolts. Back at the camp, we had supper and hit the sack - it had been a long day.

Saturday November 11 dawned clear and sunny, so at 05h30 we were off on another game drive. By the time the sun had burned off the dew, bushveld butterflies were making themselves evident. I was amusing the clients by leaping off the Landy every so often to catch things to show them. Nothing of any great significance was caught, but we did find some *Aloeides taikosama*

and *A. damarensis*, which allowed me to explain something about our ant-associated lycaenids. As soon as we got back to camp, we set up the projector in the schoolroom and I set about teaching the rangers something about their butterflies. The show was well-received, and I expect that all of them will now be able to identify *Charaxes* larvae from six feet away, for the benefit of clients.

After lunch, Bruce and I set off in a really old Landy - the sort one reads about in Wilbur Smith, *not* the kind of vehicle Londolozzi uses for its guests, but with far more of the romance of the bush than the shiny new ones used for game drives. We looked in the traps - I had been hoping for some *Charaxes castor*, but all we got were the usual *C. brutus*, *C. jasius saturnus* and *C. varanes*. Bruce, of course was highly delighted with these, he hadn't seen traps in action before. Sometimes we old hands forget the magic of *real* Primary Experiences! The marshy areas around the river are criss-crossed with hippo paths, so Bruce grabbed his rifle and told me to watch out, and we went in search of more beasties. What we did find was a colony of *Henotesia perspicua*, but I was too busy looking over my shoulder to be any good at catching them.

During that afternoon's game drive, I asked if there were any other veld types in Londolozzi's area besides sandy bushveld. I could see some nice-looking koppies off to the north-east but these are in Mala Mala, and off limits to Londolozzi's staff. Jacqui said there was some black cotton soil further west along the river, and we could have a look down there tomorrow. There were also some granite koppies along the old river bank. That evening, we finished the drive by watching the sun go down in the bush, one of the best African sunsets I've seen, and this time no thunderstorm! The majesty of the sunset was set off to perfection by the proximity of a pride of lions, and Boschendal La Pavillon bubbly to wash down biltong and droe wors. Another terrible day in Africa.

That evening we were able to sit outside and have a wonderful supper with André and his parents, in the boma, around a roaring fire with all the other rangers and their clients. Lots of beverages, amber and otherwise, were to hand. A party atmosphere prevailed, but I had the 05h00 wake-up call in mind, and like all the others, I was learning why the word "bushed" means tired. 23h00 saw us all off to bed, anticipating a good day's game and butterfly chasing on the morrow, which dawned wet and misty. We went down the Ravenscourt river drive anyway, in search of cheetah and a different veld type. The first thing we saw was a big herd of cow elephants with calves, which entranced everyone. Then we got into the cotton soil area, and saw it was the same kind of weathered dolerite found north of the Magaliesberg. To me this has always been a sign of good lepidopterising, and sure enough we saw a line of ancient, worn-down koppies marking the ancient river terrace. But it was dull and misty, so all I could do was speculate on what might fly there. Then, we happened upon the first *Ximenia caffra* of the trip. This is an important butterfly plant, as it is used by *Iolais pallene*, *Stugeta bowkeri*, and some of the *Spindasis*. Bruce had shown me what he had been told was *Ximenia caffra*, near the camp, but he had been misled. As he wasn't on this game drive, we resolved to bring him back after lunch to have a look. Before resuming our (unsuccessful) cheetah drive, I did my party trick by finding a

nice third instar *Iolais pallene* larva on the *Ximenia*. Best catch of the trip so far!

After lunch, the sun started to show herself, so Bruce and I went off with André and his father Dave to retrieve the traps and have a look at the *Ximenia*. As we drove along, the old currant bun got hotter and hotter and butterflies started to whiz around. As we approached the elephant herd and the *Ximenia*, we noticed more and more *Lepidochrysops glauca* flying. I looked about for some nice *Lantana rugosa* plants to demonstrate the life history, but couldn't see any. Then we got to the *Ximenia* spot and all hell broke loose. *Lepidochrysops* everywhere! They were flying up and down a dry stream bed, next to a flowering *Combretum erythrophyllum*. They were somewhat agile and our chinese swipes were something to behold. Eventually we got a series and then I realised these were the same strange sky-blue *L. glauca* that I have seen at Pietersburg. A quick search revealed lots of *Ocimum canum*, which to everyone's amazement I showed to be Basil of the *pesto* variety- and covered with little blue eggs and dun-coloured larvae eating the seeds. We watched a female laying, and took some samples for Mark Williams. And then Bruce did his "what's this?" he came to me with a little lycaenid dead in his net - a perfect female *Desmolycaena mazoensis*, the first I've ever seen. She had been feeding on the *Combretum* blossom.

I must have looked like my Labrador dog asking for chocolate, because Bruce insisted on the little gem going into the Woodhall collection. Anyway, this is an appropriate time for me to go a little deeper into the "what's this?" phenomenon.

I am reliably informed that the late great D.A. Swanepoel used to take youngsters collecting with him. Occasionally one of these acolytes would ask oom Dawid the identity of a passing butterfly, to be rewarded by a "warm klap" and the words "don't ask 'what was that', ask 'what is this?!'". Well I have a different slant on this. I seem fated to accompany people who come to me with a really sought-after butterfly, asking "what's this?!". I have been thinking about instituting a "what's this?" award to the most extreme one of the year. Some examples are:

Andrew Upshon - *Teriomima zuluana* at Manguzi. "What's this funny little yellow thing - looks like a Pennington's Buff?" (*Cnodontes penningtoni*)

Steve Collins (believe it or not) - *Lepidochrysops pephredo* at Mooi River. "Hey, I've just caught this strange *Lepidochrysops*!"

Dave Upshon - it runs in the family - at Kowyns Pass, having found a huge female *Charaxes marieps* in his trapnet - "Steve, I've got a peculiar *Charaxes* in my trap."

My good wife Jayne at Rukotso Mountain in Zimbabwe, on a jaunt for Ian Mullin's new *Aloeides*, a rare thing related to *A. simplex* - "what's this little orange thing?" No prizes for guessing what it was!

And now Bruce Little joins the hall of fame.



Back to Londolozi - the obvious next step was to lurk balefully next to that *Combretum* and acquire a few more *D. mazoensis*, but it was not to be. This was André's last weekend as a Londolozi ranger, he is due to leave Africa for the U.S. soon, and we had to get on our way so he and his folks could leave for Jo'burg. So next time I see Bruce, I expect he will have a full series of bred *D. mazoensis*!

Alas, it was now time to get on our way back to Jo'burg and the mundane workaday world, having had a glimpse of how the other half live. We were the only guests driving back - the others were all flying from Skukuza! Londolozi is a very special place - if you can raise the fees (I don't think bonds are available), it is well worth a visit.

Thanks are due to Bruce, Jackie and André as well as the management of Londolozi for making this visit possible. A full list of all species encountered has been compiled, and sent to Londolozi. This is available to any member who wants a copy, just drop me a line and I'll supply one.



Mark Williams, Founder of the Society. (Del. Nohna du Toit)

## STUDYING THE EARLY STAGES OF LEPIDOPTERA IN SOUTHERN AFRICA

By Mark Williams.

183 Van der Merwe Street, Rietondale 0084, RSA.

(Based on the framework notes for a workshop held under the auspices of the Lepidopterists' Society of Southern Africa on the 10th June 1995 in Pretoria).

### INTRODUCTION

People who collect and study butterflies and moths usually concentrate on the adults, largely ignoring the immature stages. This approach has resulted in a very unbalanced appreciation of the ecology of these insects. Until the huge gaps in our knowledge concerning the early stages (egg, larva and pupa) of Lepidoptera are to some extent filled, our incomplete knowledge of their ecological requirements will make it difficult or impossible to take any rational conservation actions. This workshop is intended to provide delegates with a rudimentary action plan that will enable them to study butterfly and moth life histories and report their findings in a meaningful way. Because my own personal interest chiefly concerns butterflies the rest of this paper deals with them. The remarks made are, however, equally applicable to moths.

Over the years I have come to appreciate the unique beauty and fascinating behaviours of the immature stages of butterflies. I have come to realise that, in reality, each stage of the butterfly life cycle is actually a very different creature. Moreover, while each of the four stages fills a different ecological niche, the stages blend together in space and time in order that the species of butterfly may survive in the particular habitat in which it occurs. I have come to appreciate that an intimate knowledge of all the stages in its cycle is a prerequisite for an understanding of the natural history of a particular species of butterfly.

In regard to southern African butterfly species, with which most of us are concerned, we know a fair amount about the adults (there are still large gaps!) but our knowledge of the early stages of the majority of species is either rudimentary or totally lacking. Despite the pioneering work done by people such as Gowan Clark and Charles Dickson, whose publications are well known to most of us, there is an enormous amount still to be discovered.

The rearing of butterflies in captivity may be done with a number of objectives in mind. Below is a list of some of the possible reasons for captive rearing. I have arranged these in the order that I consider to be the least important to the most important. Butterflies may be reared in captivity in order to:

- obtain perfect adults for one's collection
- satisfy one's curiosity/have fun
- add to our knowledge about them
- investigate specific issues, such as the genetics of mimicry, seasonal

variation in adults, and so forth settle taxonomic problems at the specific or higher taxonomic levels

- gain a deep knowledge of and insight into the natural history (ecology) of a particular species of butterfly.

During this workshop it will be our intention to focus on rearing butterflies with the last two objectives specifically in mind. The second last objective ("taxonomic issues") involves a very thorough study of the morphology of the early stages. The final objective ("ecological issues") requires careful observation of the behavioural and chronological aspects pertaining to the different immature stages. Each of these will be dealt with in detail but before doing so one must decide what species one wants to study.

Over 860 species of butterfly have been recorded from southern Africa. The early stages of 314 species (37%) have been recorded in the literature in a fair amount of detail. For the remaining 545 species (63%) there are no, or only partial, data on the immature stages. A breakdown of the situation for each of the five families of butterfly in the subregion is given in Appendix A. From the data presented in Appendix A it is clear that there is an enormous amount of research that needs to be done, especially in the Lycaenid and hesperiid families. All of this research will take many decades to complete, so that it may be wise to consider prioritising such studies.

Perhaps the early stages most deserving of attention are of those butterfly species listed in the Red Data Book (Henning & Henning, 1989) for which there is little or no data available concerning the immature stages. In particular, the species in the higher categories (endangered, vulnerable) need to be studied urgently. The endangered category contains two taxa, the vulnerable category six and the rare category includes ninety-one species and subspecies.

The other group of butterflies that should receive priority are those genera for which nothing, or very little, is known concerning the early stages of any of its constituent species. Southern African genera that belong in this group are found, especially, in the Lycaenidae (Pringle, *et al.*, 1994).

## **The Nuts and Bolts of Studying the Early Stages of Butterflies**

What needs to be done, and when, can be outlined as follows:

Decide **what** you want to study and **where**.

Decide **how** you are going to do it.

### **DO IT!**

- observe and record
- write up results

**Publish.**

### **Deciding what you want to study, and where**

In deciding what species of butterfly you want to study consider the guidelines given in the introduction, above. Temper your choice(s) by means of your personal interests, capabilities, expertise and geographical location. It is absolutely crucial, if you are a beginner, to take the trouble of getting in touch

with someone who is more knowledgeable than you are, so that you can discuss what you propose to do with him/her. Remember that you will be putting a lot of effort, and perhaps also money, into your study and you do not want to waste either. Proper planning is crucial and an "expert" can save you from a lot of frustration and disappointment. Remember too that your findings, to be of lasting value, must be published, so they have to be publishable!

As a hypothetical illustration of what preparatory work is needed let us assume that you have chosen (for reasons best known to you and your expert consultant) to research the early stages of the fascinating pink and green butterfly, *Monstrosus absurdus*. Firstly, a search of the literature, in order to find out exactly what, if anything, has been published on the immature stages, is necessary. Secondly, it is essential to find out what has been recorded about the early stages of congeneric species (i.e. other species of *Monstrosus*), should the genus contain other described species. This will enable you to make comparisons at a later stage and, of course, may affect the design and methodology that you are going to use in the work on your chosen species. Find someone who has access to the literature and familiarize yourself with the information you gather.

You must now decide on a particular locality (study site) at which to do the necessary field work that will be required. Although, ideally, the locality from which the butterfly was originally described (the type locality) should be chosen, this is not essential. If the species you are researching has a number of closely related congeners it would be wise to work at the type locality.

### **Planning how you are going to go about it**

If the results of your research are to be of value, meticulous planning is necessary. This involves the methods to be employed as well as the materials you are going to use. Part of the research you are going to do will be done at the study site - this is the field work. The other part of the study will be done at home - laboratory work.

Field work involves:

- Studying oviposition behaviour and oviposition sites, and recording the results. This may involve several visits, over a period of time, to the study site.
- Collecting appropriate material for study in the laboratory. Collect live females, or eggs, or both; a voucher specimen of the larval foodplant, preferably a specimen with flowers and/or fruit; associated insects such as ants and homopterans. If possible larvae and pupae should also be collected as these may produce hymenopteran or dipteran parasitoids.

Laboratory work involves:

- Identifying the larval foodplant/food and preserving specimens. Criteria for the preservation of plant material have been standardised. Identification of the plant should preferably be done by a competent person (trained botanist) working at a recognised herbarium.

- Preserving immature stages (egg, each of the larval instars, pupa, parasitoids).
- Preserve in 80% alcohol or Pempal's solution. The specimens must be killed by immersing them in near-boiling tap water, blotting the killed specimen and finally storing it in 80% alcohol.
- Rearing the immature stages. The methodology is comprehensively dealt with in Woodhall, 1992.
- Photographing and/or drawing the early stages.
- Describing the morphology of the early stages. This can be done at three levels - macroscopically; by light microscopy, using a dissecting microscope; and by scanning electron microscopy, using a scanning electron microscope. A strong magnifying glass (hand lens) is extremely useful if a dissecting microscope is unavailable. For each of the immature stages the following morphological observations may be recorded: Egg - dimensions, shape, coloration, surface patterning, micropyle, changes during development. Larva (for each instar) - size (from x mm to y mm), head width, shape, coloration (head and body), surface, neck and anal shields (colour, shape, size), setae (types and distribution), specialised epidermal structures (dorsal nectar organ, tentacle organs, perforated cupola organs), morphological changes (e.g. colour changes) during the prepupal period. Pupa - mode of attachment, size, shape, coloration, surface patterning, setae (types and distribution), specialised epidermal structures.
- Describing the behaviour of the early stages. Egg - behaviour of the emerging larva, fate of the egg shell. Larva - behaviour of the larva, especially feeding, moulting (fate of the old skin?), behaviour of the prepupal stage. Pupa - pupation site; behaviour following eclosion.
- Recording the duration of the various stages. Duration of the egg, each larval instar and the pupa, including the duration of diapauses in any of the stages.
- Recording and preserving any dipteran and hymenopteran parasitoids that have attacked the egg, larva or pupa.

### **Recording observations**

All observations made, whether in the field or in the laboratory, should be written down. Do not trust your memory, no matter how good you think it is.

For field work use a small notebook (Appendix B) or a small, battery-operated tape recorder (microrecorder). Record the date, place and weather as a routine. Note, in detail, oviposition behaviours in females of the species which you are studying. Carefully record the exact site for each oviposition observed, and of any eggs that are found. The number of eggs at each oviposition site, and the time that they are laid, should also be noted. Material collected for laboratory work, such as live females, eggs, larvae and pupae must be given individual reference numbers. Voucher specimens of foodplants, ants, homoptera and other material must also be carefully labelled for laboratory processing. A sample page from a field notebook is given in Appendix B, to illustrate these points.

The laboratory notebook (Appendix C) should contain data on the material collected in the field. The identity of the larval foodplant or food, including the person who made the identification, the accession number and the institution in which the identified specimen is deposited should be written in. A complete record of preserved specimens of eggs, larvae, pupae, parasitoids, associated ants and homoptera must be included. Also record any photographs or drawings that were made. See Appendix C for a sample page from a laboratory notebook.

For each living specimen (eggs, larvae and pupae) a separate Daily Record Sheet, with a unique reference number, is necessary (Appendix D). Finally, Results Sheets (Appendix E) are used to collate the pooled data from the Daily Record Sheets. Separate Results Sheets are used to record the larval foodplant/food, the behavioural and temporal data, morphology (macroscopic, microscopic) and parasitoids (if found) (Appendix E). If the Daily Record Sheets and Results Sheets are punched sheets of paper, they are most conveniently kept in a labelled clip-file.

### **Writing up the results**

The usual format for a scientific paper reporting on research findings in the field of biology is as follows:

- TITLE
- ABSTRACT
- INTRODUCTION
- MATERIALS AND METHODS
- RESULTS
- DISCUSSION
- ACKNOWLEDGEMENTS
- REFERENCES

The title should be short, but give the prospective reader a good idea of what is being reported on. The abstract states, as briefly as possible, what was done, how it was done, what was found and what conclusions were drawn. The introduction summarises the literature pertaining specifically to the subject matter being dealt with. The introduction is not the place for a mini-review of literature peripheral to the subject. The materials and methods section should be written in such a way as to allow anyone who should wish to, to accurately repeat the work you have done, in such a way that he/she may verify/nullify your findings. The results section is self-explanatory. In reporting on the early stages the results section may be divided into several subsections: larval foodplant/food; behavioural and temporal findings; morphological findings; parasitoids found. The preceding sections and subsections are best written in the past tense (eg. Eggs were laid on young shoots...). Morphological data is best reported in the present tense (eg. Egg white, globular, ...), in telegraph style text, supported by good illustrations (photographs or drawings). In the discussion section the author notes any new discoveries and interesting findings, compares his data to that of previous publications (supports it or refutes it) and suggests avenues for future research. Acknowledgements is the section in which one thanks those people who have made direct inputs into the present study. A general rule is

that persons who make an intellectual contribution to your work should receive co-authorship; people who make material contributions, on the other hand, are only acknowledged. All published references that are quoted in the introduction, materials and methods and discussion sections are placed here. References not quoted in these sections may not be put in the reference section. It is very important to reference all statements that require hard data to back them. Unpublished data should be noted only in the text, as eg. (Harrison 1994, unpublished data).

### **Publishing your findings**

Finding a suitable journal in which to publish your findings is usually not difficult. Getting the editor(s) to accept your paper is another matter! The surest way to get your manuscript rejected is to send in a poorly prepared, sloppy piece that in no way conforms to the specified format of the journal. Make sure that you find out what the submission requirements for that particular journal are and follow them to the letter. If the editor sees that you care, he will too. Remember that you do not have the right to have your work published just because you have submitted a manuscript. The Editors' prime responsibility is to the journal's readership, not to its authors.

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### **APPENDIX A SOUTHERN AFRICAN BUTTERFLY LIFE HISTORIES- THE STATE OF KNOWLEDGE**

Over 860 species of butterfly have been recorded from southern Africa. The life histories of 314 (37%) of these have been recorded in the literature in a fair amount of detail. For the remaining 545 species (63%) there are no or only partial data on the life histories. A breakdown of the situation for each of the five butterfly families in southern Africa is as follows:

Species	L.H. known	L.H. unknown	% unknown
Nymphalidae	253	123	49
Lycaenidae	409	306	75
Pieridae	54	22	41
Papilionidae	17	5	29
Hesperiidae	126	89	71

From the above it can be seen that the life histories are best known in the papilionids (71%) and pierids (59%). The most poorly known are the hesperiids (29%) and lycaenids (25%).

A clearer picture of the state of our knowledge on the life histories emerges when we consider the subfamilies and tribes of the various families:

#### NYMPHALIDAE

	Species	Known	Unknown	% unknown
Danainae	7	5	2	29
Satyrinae	82	29	53	65
Acraeinae	55	25	30	55
Charaxini	38	34	4	11
Nymphalini	70	36	34	49
Libytheinae	1	1	0	0

#### LYCAENIDAE

	Species	Known	Unknown	% unknown
Lipteninae	31	2	29	94
Liphyrinae	3	0	3	100
Miletinae	31	2	29	94
Theclinae	194	49	145	75
Iolini	21	7	14	67
Hypolycaenini	9	4	5	56
Deudorigini	15	5	10	67
Amblypodinii	2	2	0	0
Aphnaeini	147	31	116	79
Lycaeninae	2	2	0	0
Polyommatainae	148	48	100	68

#### PIERIDAE

	Species	Known	Unknown	% unknown
Euchloini	1	1	0	0
Coliadini	7	5	2	29
Pierini	46	26	20	44

#### PAPILIONIDAE

	Species	Known	Unknown	% unknown
Papilionini	7	7	0	0
Graphini	10	5	5	50

#### HESPERIIDAE

	Species	Known	Unknown	% unknown
Coeliadinae	6	2	4	67
Pyrginae	45	17	28	62
Hesperiinae	75	18	57	76



**APPENDIX B     SAMPLE PAGE FROM A FIELD NOTEBOOK**

Hornsnek, Pretoria 23 Sep. 1992  
 Arrived 10:30. Weather good - hot & dry; cloudless; wind moderate north-westerly. Female *I. trimeni* located on S., protea-covered slope at 11:15. Seen hovering in & out of proteas - searching for oviposition sites? Female located a "loranthus"; hovered round it for 1-2 mins, then settled on twig of plant. Walked around on plant for about 30 sec. & oviposited at base of young leaf of the plant. Single egg/site; 3 eggs on this particular specimen of "loranthus". Then flew off to another protea - lost to sight.  
 Spent about 2 hours searching "loranthus" plants for immatures - found 15 unhatched eggs & 10 larvae. Collected voucher specimen of the "loranthus". Left 14:00 (thunderstorm threatening).

**APPENDIX C     SAMPLE PAGE FROM A LABORATORY NOTEBOOK**

Data from field trip to Hornsnek, 23/9/92.

- 1) "Loranthus on which female of *Iolais trimeni* laid identified by M. Welman (Botanical Res. Inst. Herbarium, Silverton) as *Tapinanthus rubromarginatus* (Engl.) Danser (Loranthaceae). Deposited in the Herbarium collection (Accession No. 34865/92).
- 2) Live material collected: (trimeni/23.9.92/1 to 25). Of these, the preserved specimens are:
  - 3 eggs (trimeni/23.9.92/1 to 3)
  - 2x 1st instar larvae (ditto /16 & 17)
  - 1x 2nd instar larva (ditto /21)
  - 1x 3rd instar larva (ditto /24)
- 3) Drawings made: egg (ditto /2/E); 1st to 4th larval instars (ditto /16/L1; /20/L2; /24/L3; /8/L4); pupa (ditto /12P).

**APPENDIX D     EXAMPLES OF DAILY RECORD SHEETS**

- 1) Ref.: trimeni/23.9.92/1  
 Egg, ex Hornsnek, preserved in Pampals for SEM. Photographed on 16/10/92 (/1/SEM1 to 3). One drawing done under dissecting microscope (/1/DM1).
- 2) Ref.: trimeni/23.9.92/6  
 24/9: No change in egg.  
 25/9: No change.  
 26/9: Larva emerged 9:45. Exit hole eaten in top of eggshell. Discarded shell not eaten.  
 27/9: Larva feeding on upper surface of leaf. Eats a trough out by moving backwards & rests in trough. Leaf parenchyma eaten out to expose membrane in middle.....

**APPENDIX E****RESULTS SHEETS****Larval host-plant/food:****Behavioural and Temporal aspects**

## Behavioural Data

Oviposition behaviour:

Oviposition sites:

Egg

Emergence:

Shell fate:

Larva (for each larval instar)

Feeding:

Moulting:

Other:

Prepupal:

Pupa

Site:

Eclosion:

## Temporal Data

Egg:

Larva (for each instar):

Pupa:

Diapauses:

**Morphology**

## Egg

Size:

Shape:

Coloration:

Surface:

Micropyle:

Changes:

## Larva (for each larval instar)

Size:

Head width:

Shape:

Coloration:

Surface:

Shields:

Setae:

Specialised structures:

Changes:

## Pupa

Attachment:

Size:

Shape:

Coloration:

Surface:

Setae:

Specialised structures:

**Parasitoids**

Egg:

Larva:

Pupa:

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## NOTES ON THE *ACRAEA (ACRAEA) RABBAIAE* SPECIES GROUP OF THE ACRAEINAE (LEPIDOPTERA: NYMPHALIDAE)

By S.F. Henning and G.A. Henning  
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**Abstract.** The *Acraea (Acraea) rabbaiae* species group is briefly discussed and a new subspecies of *rabbaiae* is described.

### Introduction

The *rabbaiae* species group consists of two species, *Acraea (A.) rabbaiae* Hewitson, 1877, and *Acraea (A.) zonata* Hewitson, 1877. *Acraea (A.) rabbaiae* has been accepted as two subspecies for some time. The confusion arose in the description of *Acraea mombasae* Grose-Smith, 1889, which was supposed to represent the northern subspecies, until it was realised that nominate *rabbaiae* also belonged to the northern subspecies, the type locality being Rabai in Kenya. This resulted in *mombasae* being synonymised with *rabbaiae*. This has left the southern subspecies without a name, which we describe hereunder.

The male genitalia in this group are characteristic; the uncus is not apically bifid and the valves have an inner projection on the ventral margin.

### KEY TO THE *Acraea (Acraea) rabbaiae* GROUP

1. Ground colour orange-brown .. *zonata*  
Ground colour not orange-brown .. *rabbaiae*

### *Acraea (Acraea) zonata* Hewitson

*Acraea zonata* Hewitson, 1877. *Entomologist's mon. Mag.* **14**:154.

Type locality: Zanzibar.

### Diagnosis

Ground colour orange-brown. A complete black discal band across the forewing and a post-discal band connected to the margin on the hindwing leaving elongated marginal spots which cover a third of the hindwing.

### Habitat and habits

A coastal forest species. Adults usually fly high in the tree tops. The males fly along the forest edge during the warmer hours of the day. Females can also be seen flying high in the forest canopy. Flies with *rabbaiae* in most localities in Kenya and Tanzania.

### Distribution

Coast of Kenya and Tanzania, also on Zanzibar, occasional records inland to as far as Malawi.

***Acraea (Acraea) rabbaiae* Ward**

*Acraea rabbaiae* Ward, 1873. *Entomologist's mon. Mag.* **10**:152.

Type locality: Rabai, Kenya.

**Diagnosis**

Ground colour pale ochreous, sparsely scaled. Forewing with discal black band indistinct. Hindwing marginal band fading towards the anal angle.

***Acraea (Acraea) rabbaiae rabbaiae* Ward****Habitat and habits**

A coastal forest species. A high flying species usually seen floating around the tree tops and seldom descending. May be found in some numbers in good seasons.

**Distribution**

Kenya coast, Tanzania coast to northern Mozambique.

***Acraea (Acraea) rabbaiae perlucida* ssp.n.**

*Acraea rabbaiae* Ward, no 96, Pringle, Henning & Ball, 1994. *Pennington's butterflies of Southern Africa*: 74, pl. 60: 96i-ii.

**Description**

**Male.** Forewing length: 28-30 mm, mean 28,8 (n=4); antenna-wing ratios: 0,39-0,40, mean 0,39 (n=4). Wings, upperside. Forewing: hyaline with black veins, sparsely scaled with white, and darker apex and outer marginal area; discal band of black spots extending from area R<sub>1</sub> to inner margin, with an additional spot above origin of R<sub>1</sub> and another subbasally in area CuA<sub>2</sub>; discal spots basally in M<sub>1</sub> and M<sub>2</sub> are fused with a black area at end of cell, forming a broad patch; marks in area CuA<sub>1</sub> and CuA<sub>2</sub> are bar-like and inwardly oblique, with the anterior end of that in CuA<sub>2</sub> being placed slightly proximal from the posterior end of that in CuA<sub>1</sub>; occasionally, discal spot in CuA<sub>2</sub> is continued as a dark suffusion below vein 2A. Hindwing: hyaline with black veins, sparsely scaled with white, otherwise unmarked, except for a submarginal row of black ringed ochraceous spots. Underside. As above, with marking less intense, especially in hindwing.

**Female.** Forewing length: 30-34 mm, mean 31,8 mm (n=3); antenna-wing ratios: 0,38-0,39, mean 0,38 (n=3). Wings. Similar to male but more rounded.

**Material examined**

**Types.** Holotype , SOUTH AFRICA: Thembe, KwaZulu-Natal, 20.v.1993, S.E. Woodhall. Paratypes: 2 with same data; 3 Manguzi, near Kosi Bay, 11.x.1982, 10.x.1983, 6.vi.1989, G.A. Henning; 5 3 Tembe Elephant Reserve, KwaZulu-Natal, 21.v.1993, A.I. Curle, 7 3 Tembe Elephant Reserve, Zululand, 21.v.1993, M.A. Curle, 6 6 Tembe Elephant Reserve, KwaZulu-Natal, 21.v.1993, H.C. Ficq. Holotype in Transvaal Museum, Pretoria. Paratypes in the collections of S.E. Woodhall, W.H., S.F. & G.A. Henning and A.I. & N.I. Curle.

**Habitat and habits**

It is usually observed flying around tree tops but it occasionally descends to feed at flowers. Females are more often seen fluttering along forest edges where they appear to be searching for suitable plants on which to lay. It appears to be on the wing from September to June.

**Distribution**

This subspecies has been recorded from South Africa: KwaZulu-Natal: Krantzkop, Balgowan, Eshowe, False Bay near Hluhluwe, St Lucia, Thembe, Emanguzi Forest near Kosi Bay; Mpumalanga: Komatipoort; Gauteng: Pretoria. Zimbabwe: Lundi, Mutare, Vumba, Mount Selinda, Chipinga, Melsetter. Mozambique: Maputo, Dondo Forest. Also found in Malawi.

**Remarks**

This subspecies is distinctly different from nominate *rabbaiae*. The ground colour being hyaline sparsely scaled with white compared to the ochreous scaling of the nominate subspecies. The forewing discal band on *perlucida* is bold and distinct, the submarginal line on the hindwing is complete and distinct. All these marking are indistinct in the nominate subspecies.

**Acknowledgements**

Our thanks go to S.E. Woodhall, A.I. Curle, N.K. Owen-Johnston, P.J. Sharland, H.C. Ficq and our father Bill Henning.

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## A REVOLUTION IN "SUGARING"

By Kenneth Gainsford

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History shows many different ways of attracting moths and butterflies using their natural "lust" for sweet nutrients found in nature in the forms of nectar, honeydew and fluids from wounded trees etc.

Collectors have made hundreds of recipes over the last centuries, but a simple formula and a very simple way of presenting the attractive, sweet, alcoholic bait to the moths has proved very effective in Europe.

The method of using strings soaked in a sugar bait made from red wine and sugar are widespread amongst lepidopterists, who mainly hunt moths, but butterflies are also easily attracted.

Since some English lepidopterists noticed Hawkmoths as visitors to their wineglasses during the warm summer evenings, many ways of presenting sugar bait to moths have been tried. It is essential that the smell is easily dispersed in the surroundings, that the moths attracted are easily obtainable, but also important is where to put the bait when in use. The standard procedure has been to use bait in woodland areas where one finds naked tree trunks, onto which the bait is "painted" with a brush. A spot "the size of an open hand", as the old directions told, would prove suitable. But the painting procedure demands a bait not too thin, as it would float down the trunk, or drip away, or become absorbed by the bark. These drippings could attract unwanted guests from the ground (ants, beetles, slugs, woodlice etc.), disturbing the moths, but also many moths will find the drippings, and are difficult to locate in the dark. The latter problem gives a short effective period for the bait as it dries out and loses its smell. Others tried to get around the problem of needing tree trunks by using apple slices, dried, with the centre cut out, and then soaked in sugar bait. These slices could then be hung from any small twig, and was probably the first attempt to sugar along hedges and bushes.. Others made creative devices of wooden boards onto which pieces of material were nailed. The material was soaked in sugar bait, and the wooden boards hung from branches, or as I (BS) saw around 1970 in Denmark, nailed directly to the tree trunk, which of course, is very unhealthy for the tree.

Others, when in open land, i.e. grassland, simply took a handful of grass, still with its roots, made a knot in the top, and painted the bait onto the compressed mass of grass.

Then in Sweden in the mid-eighties, the collectors started to use strips of linen for sugaring. Soaked in sugar bait and hung from the twigs and branches of trees and bushes. The problem with these strips was their width, as the moths could easily hide in the folded and curled material. Then from the Danish lepidopterists evolved the "sugar strings". Should a name be associated with this "new way", it should be Michael Fibiger, who apart from

being a superior lepidopterist with many important works to his name (Noctuidae Europaea for example), always tries new methods while they are still thoughts for most other people.

One would also often like to attract butterflies, but with the "trunk painting" method, the bait will usually be in the shade, which of course is not the best place to find butterflies. The strings are easily hung in direct sun, and the authors have seen many Nymphalids and Satyrids visiting. Genera like *Vanessa*, *Cynthia*, *Polygonia*, *Charaxes* and *Hipparchia* are the most commonly seen. Wasps, hoverflies and other diurnal insects also like the bait.

The sugar baited strings have many advantages when compared to the old sugaring method of "Tree painting", as one always has to rely on the correct size of tree, stem, pole etc. to paint. You also do not need to consider the thickness of the bait.

We summarise the advantages of sugar baited string thus:-

- The strings can be hung on any thin branch of a tree, bush, or even stiff grass.
- The strings leave no unsightly black blotches.
- They can be hung wherever one chooses, even in the middle of an open field with no trees (simply place a bamboo stick in the ground).
- It has been found that the sugar baited strings attract much more lepidoptera than other methods.
- In periods with little wind, the spreading of the smell is a problem. BS has found that sugaring thin trees on windless nights is much better than larger trunks. The smell can be spread from tree hanging strings under all wind conditions.
- It is also as easy to use strings for butterfly hunting.

### **Method**

The best strings to use are of natural fibres (i.e. Sisal). The amount depends on the number of strings the collector wishes to place in a given area. We prefer the strings to be not too thick, as they may get stiff and be difficult to hang. A diameter of 5 - 8mm is suitable, cut into lengths of about 100cm. Tie a knot in each end to prevent fraying. You can also tie a knot in the centre of each string, which prevents the string from slipping to the ground.

A new sisal string is stiff, and will not absorb any of the bait. To make it softer and absorbent, boil the string in water twice for 10 minutes. The result is brown water and soft string. The bait is normally kept in a 10l plastic bucket with a tight fitting lid (a paint bucket is ideal). The pieces of string should be placed into the bait mixture with one end sticking out, to make it easier to handle. They will soak up the mixture in a few days, and can then be transported in a plastic bag with the dry ends sticking out. The strings can be kept in the bait, and because of the high sugar content they do not start to rot and disintegrate. One will get a little sticky when hanging out the strings, so a canister of water is a must for expeditions.

Hang the baited strings a little while before the flight period starts. Some species are crepuscular and it is better to hang the strings an hour before. If you hang the strings after dark, the results vary. When approaching the strings, place the net under them, as the moths tend to drop off when you approach with a light. To gather a specimen, simply hold a killing jar close to the specimen, and flick it into to jar.

A string of about 8mm diameter contains enough bait to last all night, depending on temperature and wind conditions, but you may have to soak the strings from time to time when used in daytime. In some weather conditions, a thick sisal string may be left out for several nights. When left unsupervised for long periods, the strings may be carried away by cows and other various fauna.

### **Bait**

Many differing baits can be used, and it is up to the collector to try various combinations of ingredients. The simplest and easiest method is to take one liter of cheap red wine, and add 1Kg of sugar and stir until dissolved. It is difficult to dissolve all of the sugar, but stir from time to time over a few days. When you have started to use the bait, remember to add more win and sugar from time to time to prevent the bait from fermenting.

### **When to do the sugaring**

KG has found that the best results are encountered on dark nights with a slight wind. The wind aides the moths to smell the bait over greater distances, but sometimes in strong winds, the results can be fantastic. Sugaring is most effective when competition from greenfly and flowering plants is low. In early spring and late autumn, we have nights of 5 - 7 C with rains in Scandinavia. On such nights, you may find upwards of 100 specimens per metre of string! You may not find anything interesting, but you at least go back home knowing that you have at least fed a lot of moths, making them fitter to produce more offspring for the benefit of the ecosystem, and the collectors of the future.



**A REVIEW OF THE *HYALITES (AURACRAEA) ANACREON* SPECIES  
COMPLEX IN SOUTHERN AFRICA WITH DESCRIPTIONS OF TWO NEW  
SPECIES AND TWO NEW SUBSPECIES.**

By G.A. Henning & S.F. Henning  
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**Abstract:** The *Hyalites (Auracraea) anacreon* species complex in southern Africa is reviewed. Two new species, *H. (A.) alalonga* and *H. (A.) parei* are described, as well as two subspecies, *H. (A.) parei orangica* from Malawi and *H. (A.) induna salmontana* from the Zoutpansberg, Northern Province.

Considerable research has been conducted on this species complex in Southern Africa but a great deal still needs to be done, particularly with regard to life histories. The following review is a contribution towards our understanding of this complex.

The group was previously reviewed by Henning, 1993 and van Son, 1963.

**KEY TO THE SOUTHERN AFRICAN SPECIES OF THE  
SUBGENUS *AURACRAEA***

1. Hindwing upperside without distinctly spotted marginal band .. *rahira*  
Hindwing upperside with distinctly spotted marginal band .. *anacreon*  
complex -2
2. Forewing upperside apex broadly black ... 3  
Forewing upperside apex not broadly black ... 4
3. Distal portion of abdomen unspotted .. *bomba*  
Distal portion of abdomen spotted .. *induna*
4. Margin of hindwing upperside with narrow spots, marginal spots of  
hindwing underside lighter than ground colour, forewing not greatly  
elongated .. 5 Margin of hindwing upperside with rounded spots, marginal  
spots of hindwing underside of ground colour, forewing greatly elongated ..  
*alalonga*
5. Forewing marginal spots indistinct, female resembles male .. *parei*  
Forewing marginal spots distinct, female distinctly different from male ..  
*anacreon*

***Hyalites (Auracraea) anacreon* (Trimen).**

*Acraea anacreon* Trimén, 1868. *Trans. ent. Soc. Lond.* **1868**:77.

Type Locality: "Kaffraria", Eastern Cape, South Africa.

A species restricted to Southern Africa (Henning, 1993). Recorded from South Africa and Zimbabwe.

### Diagnosis

The original description of the male states: Fulvous-ochreous; each wing with a discal transverse row of black spots, and a black hind-marginal border marked with spots of the ground colour.

Female distinctly different from the male, upperside markings as in the male but with ground colour of forewing dusky greyish-brown to burnt orange, paler postdiscally with the marginal spots orange. Hindwing orange to brownish-orange.

The undersides of both sexes have the marginal spots of the hindwing paler than the ground colour, often distinctly ochreous-white.

### Habitat and habits

A marsh and riverine species found where the food-plant grows. Specimens will fly back and forth along river banks where their food-plant is found. They do not wander far from the habitat and in good seasons can therefore be found in numbers. They fly around the plants fairly steadily seldom exhibiting a burst of speed unless disturbed. The plants are often quite low and the butterflies keep to the height of the plants or lower. When flying any distance they fly swiftly, close to the ground. Females fly slower and often flutter about the food-plant searching for suitable places to lay eggs. Both sexes feed on flowers growing near the food-plants. Specimens settle frequently, often on the food-plants, and bask in the sun with open wings. Flight period recorded from October to May but often single brooded emerging in February. The larval food plant is *Cliffortia linearifolia* Eckl. & Zeyh. (Rosaceae).

### Distribution

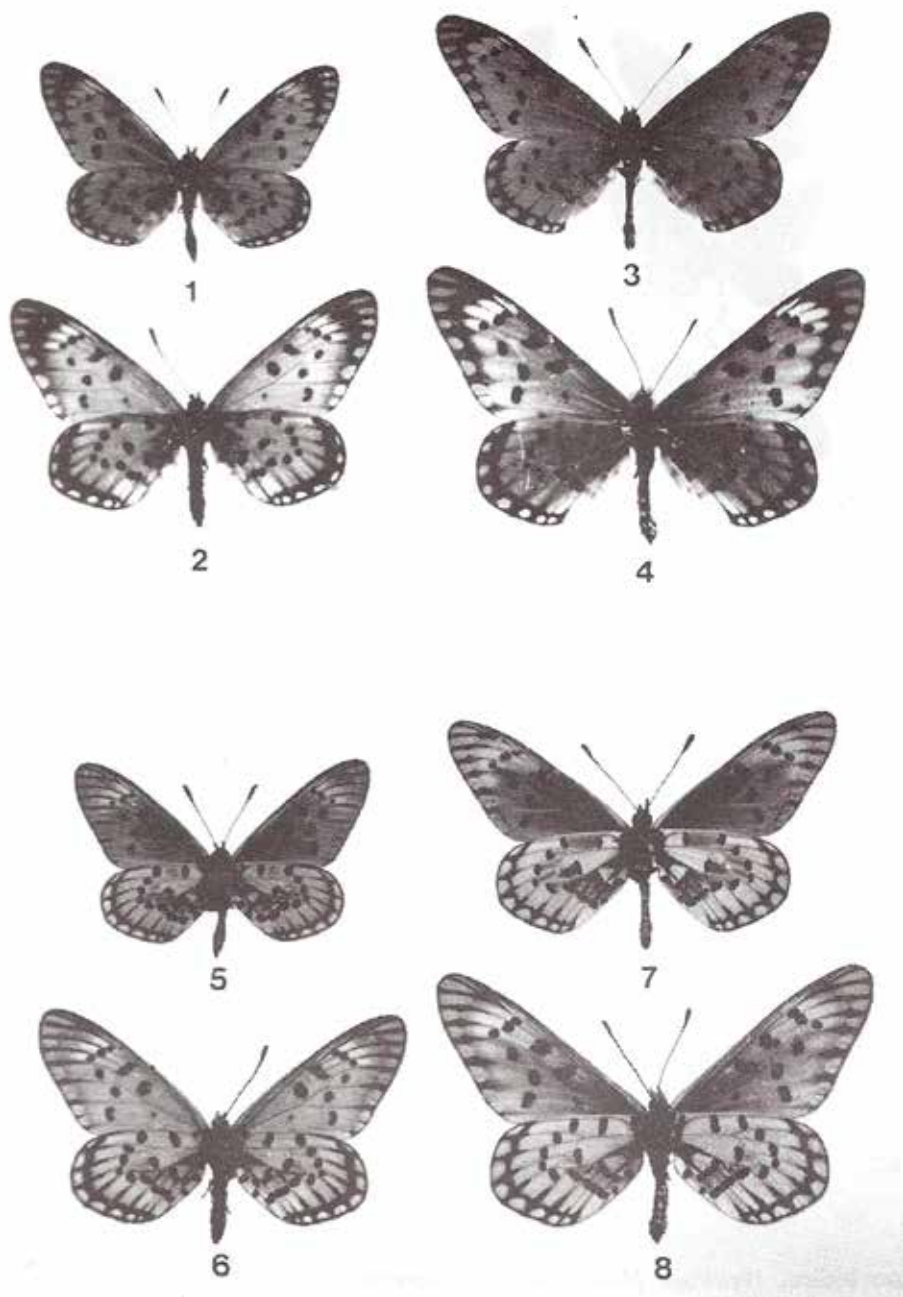
From the Amatola Mountains in the Eastern Cape through the KwaZulu-Natal midlands and Drakensberg, westwards across Gauteng to Groot Marico and Rustenburg in the North West Province, and northwards through Swaziland to Dullstroom and the Blyde River in Mpumalanga.

### *Hyalites (Auracraea) alalonga* sp. n.

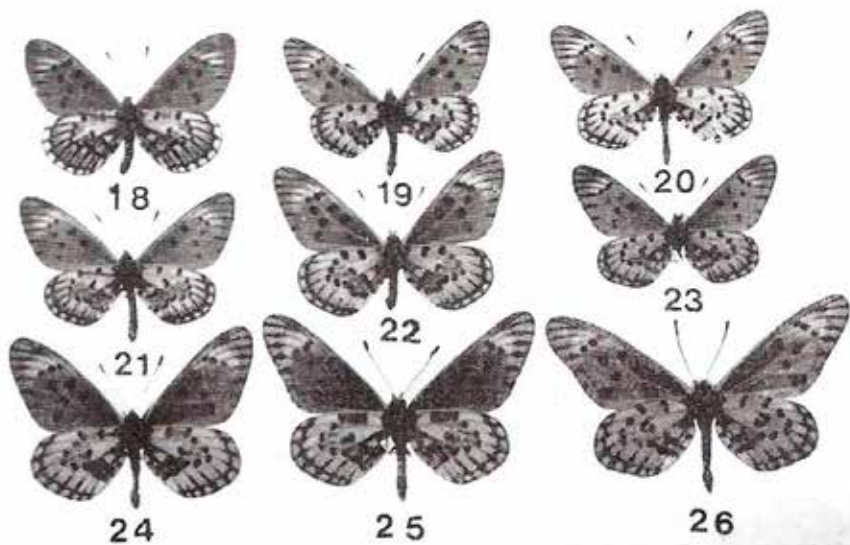
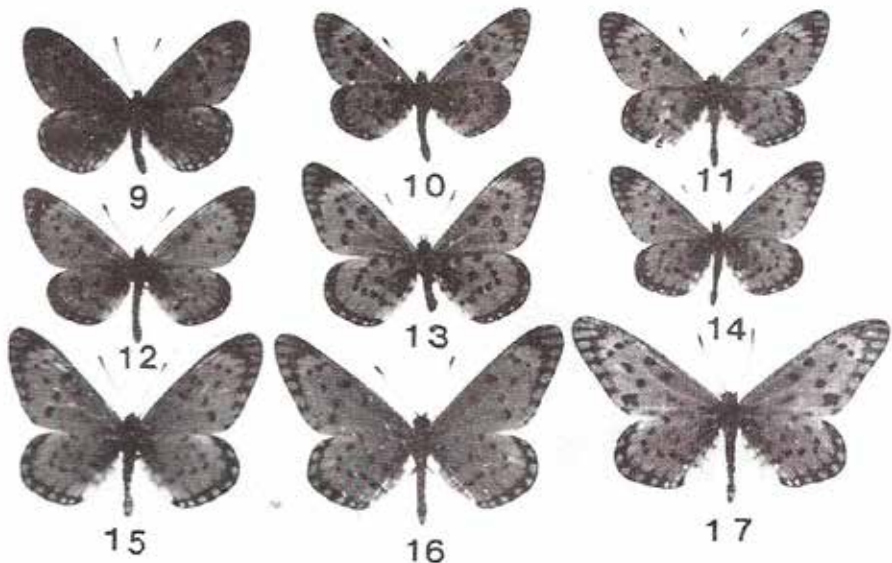
*Acraea anacreon* Trimen, 1868. *Trans. ent. Soc. Lond.* **1868**: 77.  
as Var 'A' (Trimen, 1887).

### Description

**Male.** Forewing length: 28,5-36,5 mm, mean 31,5 mm (n=4); antenna-wing ratios: 0,40-0,43, mean 0,42 (n=4). Forewings greatly elongated. Upperside. Forewing: bright golden-orange becoming paler distally; black markings consist of a spot in cell at two-thirds from base, a discocellular bar, a discal series of spots, rectangularly bent in area  $M_2$ , with spot in  $CuA_2$  shifted outwards, and a submarginal band forming inner edge of marginal spots, which are separated by black streaks on the veins; submarginal band gradually tapers towards inner margin and is occasionally reduced or absent below vein  $CuA_2$ . Hindwing bright golden-orange, usually blackened at base except in costal area; the black extends through basal one-third of cell and areas  $CuA_2$  and  $2A$ ; cell with spot at three-quarters from base; discal series,



**Uppersides: *Hyalites (Auracraea) anacreon* (Swaziland) – 1 ♂, 2 ♀**  
***H. (A.) alalonga* – 3 ♂ Holotype, 4 ♀ Paratype.**  
**Undersides: *H. (A.) anacreon* (Swaziland) – 5 ♂, 6 ♀**  
***H. (A.) alalonga* – 7 ♂ Holotype, 8 ♀ Paratype.**



**Uppersides:** *Hyalites (Auracraea) anacreon* – 9 ♂ (Nyanga, Zimbabwe); 10 ♂ (Verloren Valei, Mpumalanga); 11 ♂ (Bushman's Nek, KZN); 12 ♂ (Rustenburg, North-West); 13 (Witpoortjie, Gauteng); 14 ♂ (Rosetta, KZN). *H. (A.) alalonga* 15 ♂ (Wolkberg, Northern Province); 16 ♂ (Stoffberg, Mpumalanga); 17 ♂ (Karkloof, KZN).

**Undersides:** *H. (A.) anacreon* 18–23 as in 9–14; *H. (A.) alalonga* 24–26 as in 15–17.



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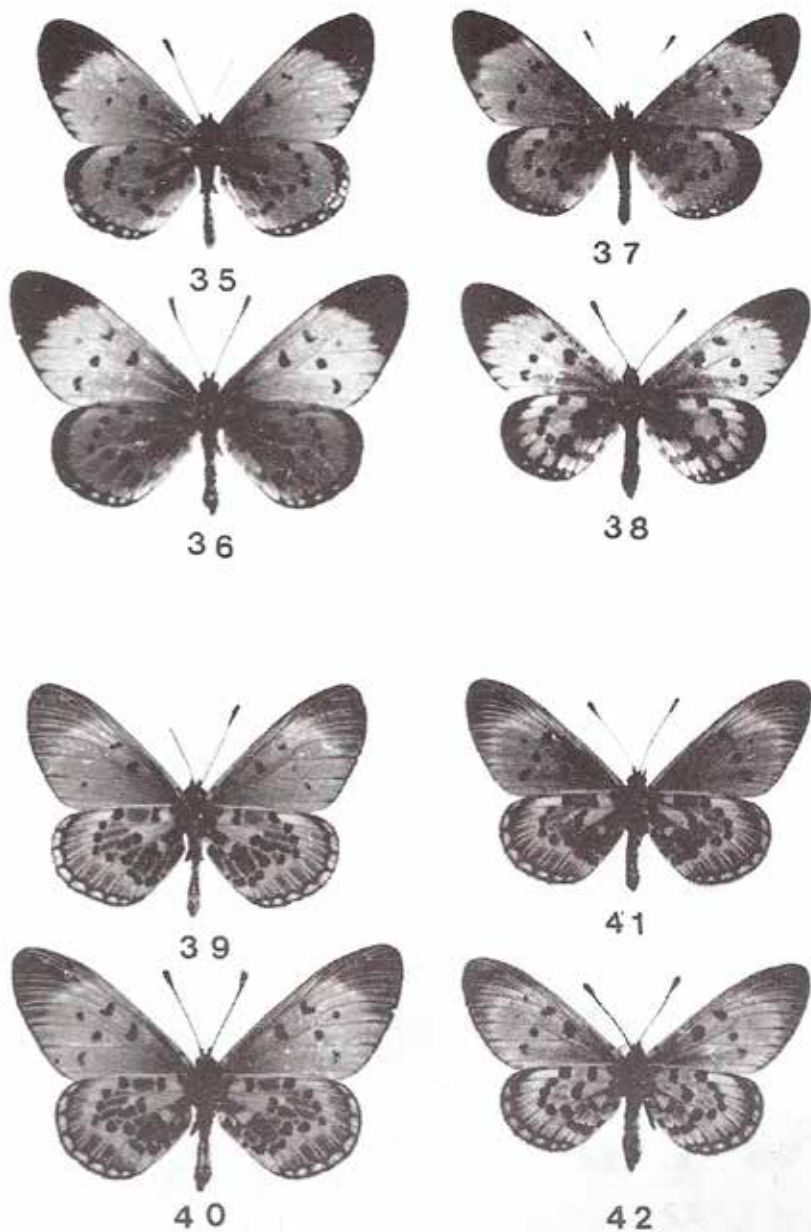


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**Uppersides:** *Hyalites (Auracraea) parei parei* 27 ♂ Holotype;  
*H. (A.) parei orangica* 28 ♀ Paratype (brown form); 29 ♂ Holotype; 30 ♀ (orange form)  
**Undersides:** *H. (A.) parei parei* 31 ♂ Holotype; *H. (A.) parei orangica* 32 ♀ Paratype  
 (brown form) 33 ♂ Holotype; 34 ♀ Paratype (orange form).



**Uppersides: *Hyalites (Auracraea) induna induna* 35♂; 36♀**  
***H. (A.) induna salmonata* 37♂ Holotype; 38♂ Paratype**  
**Undersides: *H. A.) induna induna* 39♂; 40♀.**  
***H. (A.) induna salmonata* 41♂ Holotype; 42♀ Paratype**

rather regularly excurved, except for spot in  $CuA_1$  which is slightly shifted basad; a median row of confluent spots from origin of vein  $CuA_2$  to vein 2A. Underside. Forewing: light ochreous-white with orange from base to postdiscal area; black markings as above, but submarginal band reduced to spots on the veins. Hindwing: light ochraceous-white with some reddish-pink suffusion at end of cell and between median and discal spots below cell; black spots as on upperside, but marginal band reduced to a thin scalloped line and black streaks on veins more prominent. Marginal spots of ground colour.

**Female.** Forewing length: 28,8-36,5 mm, mean 31,6 mm ( $n=3$ ); antenna-wing ratios: 0,36-0,38, mean 0,37 ( $n=3$ ). Wings, upperside. Forewing: similar to male but ground colour greyish, with a whitish suffusion distal to postdiscal spots  $R_5$ ,  $M_1$  and  $M_2$ ; marginal spots orange; black markings as in male but often better developed. Hindwing: varies from golden-orange to fawn with dark markings usually better developed than in male. Underside. Similar to male but with forewing pale greyish-brown from base to postdiscal area.

#### Material examined

**Types.** Holotype , SOUTH AFRICA: Mpumalanga: Three Rondavels, Swadini, 17.iv.1987, G.A. Henning. Paratypes: 14 2 with same data, 3 same data but 15.iv.1987; 5 2 Blyde River Canyon, 14.iv.1985, G.A. Henning; 3 1 Blydepoort Nature Reserve, 13.xii.1985, G.A. Henning. Holotype in the Transvaal Museum, Pretoria. Paratypes in the collection of W.H., S.F. & G.A. Henning. Other material examined. KwaZulu-Natal: Karkloof, Champagne Castle. Mpumalanga: Stoffberg, Long Tom Pass, Graskop, Mariepskop. Northern Province: Wolkberg, Woodbush, Haenertsburg.

#### Habitat and habits

A montane grassveld species, apparently not restricted to close association with foodplants as is the case with the closely related *anacreon*. Males fly fast and direct, exhibiting a strong patrolling behaviour. Males will continuously patrol a course, often over stretches of fairly barren grassveld, with a number of males following the same patrol. One such course monitored was along a dry river bed high up on a steep, barren slope. The males would fly at speed up the one side of the gully, turn at the top and fly down the other side. At the site in question they were flying an anti-clockwise course. At other sites the patrolling behaviour is not as evident and males fly swiftly over extensive stretches of bushy hillside. Females are not as evident as with *anacreon* and they have been recorded flying more randomly than do the males. Observations show that this species does not settle frequently but rests as it glides down the hillsides. They can be seen feeding on flowers. The species is apparently double brooded with emergences in December and April.

It has possibly evolved in the northern portion of the range of a common ancestor. The southern aggregate, *anacreon*, has probably spread its range northwards and now overlaps with *alalonga* over its range indicating that the two taxa have speciated.

### Distribution

From the high elevations of Mpumalanga, along the Drakensberg escarpment and on the mountains to the west of Stoffberg. Isolated populations are also found in the KwaZulu-Natal midlands, Karkloof to Champagne Castle, and on the Wolkberg in the Northern Province.

### Remarks

Its general appearance is very similar to *anacreon* and was designated Var. A by Trimen in 1887. Its distribution precludes the option of a subspecies of *anacreon*, and in certain localities the species fly side by side. Its distinctive elongate wing shape and large, rounded hindwing marginal spots are characteristic. The marginal spots on the hindwing underside are of the ground colour while those of *anacreon* are lighter. The valve on the male genitalia is proportionally longer than *anacreon*, being as long as the tegumen, whereas the valve of *anacreon* is about three quarters the length of the tegumen. The apex of the valve is also rounded and not pointed as in *anacreon*. The aedeagus narrows appreciably distally, whereas in *anacreon* it does not narrow as much. Its flight and habits are also clearly different from *anacreon*. In *anacreon* the selected habitats are almost exclusively marshy valleys or river banks with the foodplant, *Cliffortia linearifolia*. Its flight among the foodplants is slow and fluttering. In contrast *alalonga* flies fast and strongly over montane grassveld areas without any indication of a possible foodplant. Males often ascend and descend steep gullies in their territorial flights. While *Cliffortia* may be present in the area it is not attended to as in *anacreon*. The larval food plant has been reported as a species of *Aeschynomene* (Fabaceae).

### *Hyalites (Auracraea) parei* sp. n.

#### Description

**Male.** Forewing lengths: 23,0-27,7 mm, mean 26,0 (n=6); antenna-wing ratio: 0,44-0,46 mm, mean 0,45 (n=6). Wings, upperside. Forewing: bright orange becoming slightly paler distally; black markings consist of a spot in cell at two-thirds from base, discocellular bar, a discal series of spots, rectangularly bent in area M<sub>2</sub>, with the spot in CuA<sub>2</sub> shifted distally; black submarginal band from costa to vein CuA<sub>1</sub>; veins blackened distally at apex; outer margin black. Hindwing: bright orange usually blackened at base, except in costal area, the black covering basal half of cell and basal one-third of area CuA<sub>2</sub> and 2A, not reaching inner margin; spot in cell at three-quarters from base; a discal series, rather regularly excurved, except for spot in CuA<sub>1</sub> which is slightly more basad; usually a median row of spots from origin of vein CuA<sub>2</sub> to vein 2A; orange submarginal spots ringed by variable amounts of black. Underside. Forewing: bright orange basally becoming more ochreous distally; subapical area with light ochreous-white streaks in areas R<sub>1</sub>-M<sub>2</sub>; veins at apex and outer margin blackened; black spotting as on upperside. Hindwing: light ochreous-white with dark pink subbasal and median areas; postdiscal area with bright orange internervular streaks; submarginal greyish-white spots ringed with black; veins blackened in distal third of wing.



**Female.** Forewing length: 27,5 mm; antenna-wing ratio: 0,44. Wings, upperside. Marking similar to male but forewing greyish-brown up to submarginal line with orange marginal spots; while hindwing is a darker greyish-orange with orange marginal lunules. Underside. As in male but basal half of forewing paler, more fawn in colour.

#### **Material examined**

**Types.** Holotype , ZIMBABWE: Chimanimani Mountains, 13.x.1984, I. Mullin. Paratypes: 5 with same data; 1 with same data but 9.x.1985, R.D. Paré; 3 same data but 12.X. 1957, K.M. Pennington; 1 1 same data but 11.x.1952, K.M. Pennington. Holotype in the Transvaal Museum, Pretoria. Paratypes in the collections of W.H., S.F. & G.A. Henning, Transvaal Museum, Pretoria and I. Mullin, Harare Zimbabwe.

#### **Habitat and habits**

Inhabits montane grassland. The high elevation slopes on the Chimanimani mountain range.

#### **Remarks.**

The forewing marginal spots are indistinct or absent, hindwing spots are generally more restricted than in *anacreon*. The wing shape is distinctly more rounded than in *anacreon*. The ground colour is more ochreous and the female is not distinctly different from the male in colouration, unlike *anacreon*. The male genitalia have the valve more concave dorsally than *anacreon*, accentuating the apex. The valve is narrower centrally than *anacreon* and the apex is acute, not rounded as in *alalonga*.

#### **Etymology**

This species is named after the late Rob D. Paré who contributed so much to the knowledge of Zimbabwean butterflies.

#### ***Hyalites (Auracraea) parei parei* subsp. n.**

The nominate subspecies is from the Chimanimani mountains in eastern Zimbabwe. A second subspecies is described below.

#### ***Hyalites (Auracraea) parei orangica* subsp. n.**

#### **Description**

**Male.** Forewing lengths: 23,3-26,8 mm, mean 25,4 mm (n=4); antenna-wing ratio: 0,45-0,49, mean 0,47 (n=3). Wings, upperside. Forewing: bright orange becoming slightly paler distally; black markings consist of a spot in cell at two-thirds from base, a discocellular bar, a discal series of spots, rectangularly bent in area M<sub>2</sub>, with spot in CuA<sub>2</sub> shifted distally; discal spots in areas M<sub>1</sub>-M<sub>3</sub> often very small or absent; black submarginal band from costa to vein CuA<sub>2</sub>; veins black distally at apex; outer margin black. Hindwing: bright orange, usually blackened at base

except in costal area, the black extending over about one-third of cell and in areas CuA<sub>2</sub> and 2A, not reaching inner margin; spot in cell at three-quarters from base; discal series of spots rather small and indistinct, regularly excurved, except for spot in CuA<sub>1</sub> which is slightly basad; one or more discal spots absent in some specimens; occasionally small spots in median area in CuA<sub>2</sub>; submarginal spots ochreous-orange ringed by black. Underside. Forewing: bright orange from base to a little beyond cell, and extending down to tornus; distally light ochreous-yellow with orange internervular streaks; black spotting as on upperside; veins at apex and submarginal area blackened. Hindwing: bright ochreous-yellow; subbasal and median areas dark pinkish-orange; postdiscal area with orange internervular streaks; greyish-white submarginal spots ringed by black; veins with distal third blackened.

**Female.** Forewing lengths: 28,5-29,8 mm, mean 29,2 (n=3); antenna-wing ratios: 0,42-0,44, mean 0,43 (n=3). Wings, upperside. Forewing: similar to male but occasionally browner basally and more ochreous distally. Hindwing: similar to male but occasionally ground colour has a browner tinge. Underside. Similar to male but orange areas occasionally slightly browner.

#### **Material examined**

**Types.** Holotype , MALAWI: Nyika, 28.x.1972, I. Bampton. Paratypes: 1 with same data but 23.x.1972; 1 Mwavitithiza, 1950 m, Nyika, 3.xi.1981, R.J. Dowsett; 1 Zovochipolo, Nyika, 2200 m, 25.xii.1981, R.J. Dowsett; 4 1 Nyika Plateau, 14-15.xii.1984, H.S. Staude; 2 Nyika, 17.iv.76, A. Heath. ZAMBIA: Chowo, Nyika, 3.iv.1981, R.J. Dowsett. Holotype in Transvaal Museum, Pretoria. Paratypes in the collections of W.H., S.F. & G.A. Henning and A. Heath.

#### **Habitat and habits**

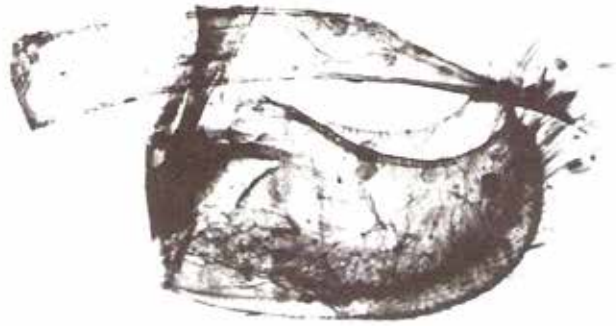
This species is an inhabitant of high elevations on the Nyika Plateau in Malawi and Zambia. It has been observed in grassland along forest edges and in woodland.

#### **Distribution**

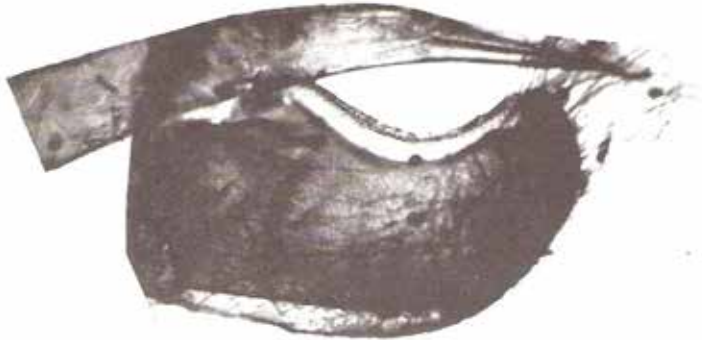
Nyika Plateau in Malawi and eastern Zambia.

#### **Remarks**

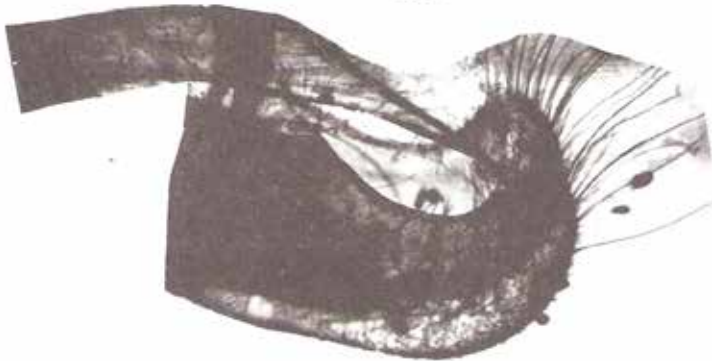
This subspecies was considered by various authors to be nominate *anacreon* but it is clearly not the same insect. The restricted curve of spots on the hindwing shows an affinity to the northern species *anacreontica*, and is more restricted than in the nominate subspecies. It was originally separated from *anacreon* by Henning, 1993. It is also more orange than the nominate and the female can be almost identical to the male.



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Male genitalia, valves and distal portion of aedeagus:  
43. *H. (A.) anacreon*, 44. *H. (A.) alalonga*, 45. *H. (A.) parei*

***Hyalites (Auracraea) induna (Trimen)***

*Acraea induna* Trimén, 1895. *Trans. R. ent. Soc. Lond.* **1895**:184.

Type Locality: "Salisbury, Mashunaland", Zimbabwe.

***Hyalites (Auracraea) induna induna (Trimen)*****Diagnosis**

Differs from *anacreon* by the complete broad black apical area, distal portion of forewing paler than basal area, black spots smaller or absent. The female is similar to the male but is browner and darker. It is distinguishable from *bomba*, which it resembles, by the very broad, black apical area, brighter orange colouring and the spotted distal portion of the male abdomen.

**Habitat and habits**

Described from Zimbabwe where it is fairly widespread. It inhabits woodland and montane grassveld along the eastern highlands.

**Distribution**

The nominate subspecies is found in Zimbabwe, Malawi and Zambia.

The southern population of this species is restricted to the highest peaks of the Zoutpansberg Mountains in the Northern Province of South Africa. This isolated population has distinctive characteristics and is described hereunder.

***Hyalites (Auracraea) induna salmontana ssp. n.*****Description**

**Male.** Forewing length: 23,5-26,0 mm, mean 24,7 (n=5). Wings, upperside. Forewing: golden-orange becoming slightly paler distally, with a broad black apical area which continues down outer margin as a narrow black line; large black mark in cell, a spot at upper end of cell, spots basally in  $M_3$  and  $CuA_1$  and distally in  $CuA_2$ . Hindwing: golden-orange, blackened at base except in costal area, the black extending over two-thirds of cell, to basal half of cells  $CuA_2$ , 2A and basal third of 3A; mark in cell at three-quarters from base; discal spots large and regularly excurved, except for spot in  $CuA_1$  which is slightly basad of the others; median row of confluent spots from origin of vein  $CuA_2$  to vein 2A; outer marginal area with a broad black band containing small internervular ochreous spots in areas  $M_2$ -2A. Underside. Forewing: light ochreous-white, tinged with orange from base to subapical area; submarginal area with bright orange internervular streaks; black markings as on upperside. Hindwing: light ochreous-white, with reddish-pink suffusion between subbasal and discal spots; postdiscal area with bright orange internervular streaks; outer marginal spots greyish-white ringed with black; discal and median spots as on upperside.

**Female.** Forewing length: 26-30 mm, mean 27,9 mm (n=3); antenna-wing ratios 0,42-0,43, mean 0,43 (n=3). Wings, upperside. Similar to male but ground colour of forewing greyish-brown with dark basal suffusion; hindwing pinkish-orange with variable amounts of black suffusion in basal area, which is often continued along lower half of wing to submarginal area; black marking otherwise similar to male. Underside. As in male but forewing from base to subapical area more greyish-brown.

#### **Material examined**

**Types.** Holotype SOUTH AFRICA: Northern Province, Witvlag, Zoutpansberg, 13.iv.1986, G.A. Henning. Paratypes: 15 ♂ with same data; 5 ♀ with same data but 11.v.1986; same data but ex ovo, emerged 3.ix.1986; Soutpansberg, 10.iv.1973, I.Coetzer. Holotype in the Transvaal Museum, Pretoria. Paratypes in the collections of W.H., S.F. & G.A. Henning.

#### **Habitat and habits**

This butterfly inhabits mountain sourveld at high elevations. It flies along exposed rocky ridges where the foodplant grows.

The males usually fly fairly slowly but can fly fast if disturbed.

Both sexes feed on the small daisy-like flowers which grow in profusion in the grassy dells between the ridges. Males patrol along the rocky ridges in search of females. Its flight period is from March to May. The larval foodplant is *Aeschynomene nodulosa* (Bak.) Bak. (Fabaceae).

#### **Distribution**

The higher peaks of the Zoutpansberg, Northern Province.

#### **Remarks**

This is the southernmost limit of the species and is an isolated population on the highest ridges of the Zoutpansberg range of mountains in the Northern Province. It has shorter wings than the nominate subspecies, with the apex of the forewing more acute. All spots on the forewing and the hindwing underside are larger and the hindwing underside marginal band is narrower. The colouring is brighter and the dark bases on the upperside are more extensive. The hindwing underside also shows a greater contrast than the nominate subspecies. The variation evident from a long series is minimal in comparison with the variability of this species in Zimbabwe.

#### ***Hyalites (Auracraea) bomba* (Grose-Smith)**

*Acraea bomba* Grose-Smith, 1889. *Ann. Mag. nat. Hist.* (6)3:128.

Type Locality: Namoule, East Africa.

#### **Diagnosis**

The apical patch is generally smaller than that of *induna* and often weakly spotted marginally. The dark basal area on the hindwing upperside is generally absent. The distal portion of the abdomen of the male is unspotted in *bomba*, spotted in

*induna*. It is generally smaller than in *induna*. Male genitalia with valve narrower than in *anacreon* over its entire length  
Photographs of type examined as no figure was available in the original description.

### Habitat and habits.

Usually a montane grassland species but may also be found in woodland.

### Distribution

Eastern highlands of Zimbabwe to Malawi, Zambia and East Africa.

### Acknowledgments

We acknowledge the contribution made by the late R. D. Paré. We thank Ian Mullin, Alan Heath, Ivan Bampton, Steve Collins, Richard Warren, Bob Dowsett, Bill Steele, Alf Curle, Nolan Owen-Johnston, Martin Krüger and the Transvaal Museum, Phil Ackery and the Natural History Museum, London. We also thank our father Bill Henning.

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A.(H.) *anacreon* male and female types (after A.G. Butler *del et. Lith.* Jan 1868)

## EASTER IN THE VUMBA

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Recently, Johan Greyling and his partner in crime, Andy Mayer, have returned with stories from the Vumba. Like most people, we 'Natalers' had dreamed of the places we had read about for such a long time. Johan Greyling, Wolter Kaspers and I planned a trip that coincided with Martin Lunderstedt's Easter trip. Johan was fairly familiar with the area, and Martin had the benefit of growing up in the area and new it well. Wolter and I were complete greenhorns. Up til now every potential Easter trip was delayed due to one or other problem. This year was to be different. After months of talk and dreaming, Wolter met me at the bridge construction site in site in Weenen. We filled his bakkie to bursting, and left to meet up with Johan in Pietersburg, from where we were to go on to the Vumba.

Martin had left the Free State a few days before and had set off to 'Zim' via Johannesburg and Pietersburg. His faithful 1400 Nissan protested from the word go making some rather alarming mechanical noises on the trip to Jhb, and indeed for the first three weeks of his tour. His first stop was at the residence 'Chef' Woodhall and his wife Jayne. Andy Mayer was to join them for supper, and after some waiting and a lot of the amber fluid, he arrived, only to add to his reputation of being the 'Master of Latecomers'. The evening was memorable with Martin almost ruining Steve's reputation by pouring beer onto the "Steaks a la Garlic".

Early the following morning he set sail to Pietersburg and the home of the Greyling Clan. Like everyone who goes to Amadal, Martin overshot the turn-off, and had to back track to the famous "Pietersburg 10km" sign post, which all weary travellers know is the turn of to the Greyling pad. After finding the place, Martin had one more obstacle to cross, the famous Greyling pack of hounds, ranging from a docile Great Dane to the not so docile smaller breeds such as dachshunds and spaniels. Thinking he had arrived at the SPCA, he was about to leave, when Johan's father appeared to save him from his fate, and took him in and sat him down for lunch.

The next few days saw Martin do some successful collecting in the area. Unfortunately the Makapansgat locality is out of bounds to all but the paleoanthropologists from Wits, but places such as Tubex and Donkerkloof were visited. He was a little late for *Dira jansei* and *Coenyra rufiplaga*, but was able to net male *Colotis celemine amina* ( a first ), *Charaxes jahluca rex* and female *Iolais silarus*.

The trip to the Eastern Highlands takes one past places such as Waterpoort and Buby river, where Swanepoel and Pennington had netted so many sought after specimens. It was either the bad Gauteng drivers on the narrow Waterpoort roads, or the fact that the rare beasts at Buby had decided to stay rare, that lead to very little being netted on the way up.

One thing that Martin did find particularly heart warming was the extreme friendliness of the Zimbabwean drivers (him driving a Free State car nogal!). Just as he was basking in the hospitality of all the waving and light flashing he encountered the wonder of the 'New Zimbabwean' speed trap. A Mercedes, armed to the teeth with all the modern trapping paraphernalia, was waiting for him. Luckily his Nissan must be a close relative of my Golf, because there is not much, barring gravity of course, which can coax more than 120km/h out of either of them.

A while later, near Birchenough bridge and miles from help the car let out a metallic clunk of protest. It had decided that enough was enough and that it needed a rest. After some peering into the darkness of the engine the problem was found. The alternator had come adrift and had nearly fallen out of the car. 'Heath Robinson' helped, and before long he was back on the road, albeit somewhat cautiously, and arrived at his mother's in Mutare a few hours later.

Wolter and I travelled up in his bakkie and had a far less eventful trip than Martin. We arrived in Pietersburg fairly early and were able to have a bite, a good chat and a few winks, before leaving on the second stage of our journey.

After packing Johan's Jetta, we left for the border. The trip up to the Buby River was uneventful, the new Duty Free at the border being the only source of entertainment, with Johan teasing us about his buying all the luxuries we had brought all the way from Durban for a fraction of the price.

Buby river was our first stop and, like Martin, we found that the area was very dry and, barring the odd *Belenois aurota*, was devoid of life. Runde river was our second stop. Sitting in the hollow of the huge granite mountains, this area gave us a taste of what was to come, whetting our appetites with species such as *Teniorhinus harona*, *Eretis melania*, *Coeliades pisistratus* and *Iolais nasii* and *Hypolycaena caeculus caeculus*, both of which set Wolter's heart aflutter.

Unfortunately, Runde is a long way from Lawrenceville, so very little time could be spent there. At nine that night we found ourselves winding along the dusty Lawrenceville roads, with Johan telling us of all his and Andy's collecting spots, hidden in the darkness. On a bend, we met Martin. He joined us at Trinafor Cottage to give us some 'gen' on the area and have a cold beer. Apparently Murakwa's hill was very badly burned and Cross Kopje was very dry. Within minutes Johan's friend, Bruce Mattson, arrived bearing gifts of a particularly noxious brew from Mozambique. Known as 'Lion Tears', hidden in a dumpy bottle with a very nondescript yellow and red label, the brew is added to beer and certainly super-charges it. It is distilled from the fermented sap of one of the indigenous palms, and without restraint, I am sure that a few mixtures would cause temporary paralysis.

Day one was to visit the famous Pungwe River bridge at the bottom of the Honde valley. A lot of the vegetation in the valley has been chopped down, but the small section of forest on the river, near the bridge, is still intact. What a place! No sooner had we got out of the car than *Ornipholidotos peucetia peucetia*, *Baliochila lipara*, *Baliochila barnesi* and *Pentila tropicalis fuscipunctata* were packeted. Up went the traps, and we dashed into the bush, thrilled at what we might find. Yet another liptenid, this time *Teriomima puellaris*, was caught, followed by some lovely male *Deudorix lorisona coffea*. It is not every day that the vast majority of the



captures are new to you. I literally did not know what to catch first. The day was memorable with numerous amusing incidents of, the type which can only happen chasing butterflies in bush or swampy areas.

One particularly amusing incident must have been Martin balanced on my shoulders wielding in excess of six metres of extension to try to catch a male *Euxanthe wakefieldi*. He netted it, only to have it fly out on the very long trip to the ground. A little while later, Wolter proved that one need not use extensions when as tall as he, and presented the insect to Martin. The day ended with a number of wonderful catches, some of the prime ones being *Acraea johnstoni johnstoni*, *Acraea egina acera*, *Euxanthe wakefieldi*, *Charaxes pollux gazanus*, *Ch. protoclea azota*, *Ch. violetta melloni*, *Ch. macclouni*, *Neptis carcassoni*, *Andronimus caesar philander*, *Gorgyra johnstoni* and *Euriphene achlys*, not to mention all the other Lycaenids already listed. On the way back we took a turning toward the river. At the river Martin surprised us all by catching *Thestor basutus capeneri*. Also of note were the huge numbers of *O. peucetia peucetia*, *P. tropicalis fuscipunctata* and *T. paellaris* in one little spot near the river.

Looking at the little piece of forest, one can only wonder how long it will be until it, too, is turned into farmland and curios. I have painful memories of the sound of axes, no doubt supplying the local carvers with lumber, that will eventually end up as a carved hippo, or bowl on the Harare-Beit Bridge road, only to be snatched up by some unsuspecting tourist.

The four of us returned to the area toward the end of our trip, with Bruce in tow, and found that things had calmed down a little. The late Rob Paré told Martin of the swampy area behind the forest to try for *Neptis jordani*, and after a little searching we found them. Johan also found *Acraea acerata* and *Borbo micans*.

Day two dawned with us trekking off into the Burma valley, where we were eventually to spend another four days. The area produced a number of first-timers, but the big plus for the area must have been Johan's capture of two specimens of *Abantis bamptoni*. The top of his head nearly fell off, so big was his smile. Other noteworthy catches in the valley were *Abantis zambeziaca*, *Andronymus neander neander*, *Borbo fanta barnesi*, *Borbo borbonica*, *Borbo holtzi*, *Platylesches picanini*, *Platylesches affanisima*, *Fresna nyassae*, *Sarangesa lucidella lucidella*, *Acada biceratus*, *Metisella willemi*, *Alaena nyassa nyassa*, *Deudorix caerulea obscurata*, *Gnophodes betsimena diversa*, *Melanitis libya*, *Precis artaxia*, *Eurema regalis* and of course, Wolter's *Lipaphnaeus aderna spindasoides* and *Coeliades libeon*. It was in the Burma, late one afternoon, that we came upon dozens of *O. peucetia peucetia* and *P. tropicalis fuscipunctata* sitting on a creeper. The site of a row of dainty butterflies on each bit of creeper was something that one does not see every day in Natal, and will be remembered for a long time. Martin found us Natalians rather amusing, as we appreciated the new experiences. He later wrote "watching Wolter and Simon throw their usual calm names away was always a source of entertainment." The drive from the end of the Burma to Mutare is through rural settlement which, as with all such areas, has a café/bottle store every two hundred metres. Many a day's collecting came to a close with us relaxing in the evening sun outside one of these buildings, sipping on a Coke or

beer, and watching the sun slowly slip lower, before the final drive back to the cottage.

Trapping in the area was successful with all but one (*Charaxes penricei penricei* Rothschild) of the local Bomponi/Burma Charaxes coming to the traps. Of interest was the capture of a single male *Charaxes jahlnusa argynnides* Westwood, an insect none of us expected to see there. I must say that for Wolter and myself, who have had traps hanging in Northern Zululand for many a month, it was particularly good to find *Ch. protoctlea azota* and *Ch. etesipe tavetensis* Rothschild. These butterflies are scarce in Natal, and it will be sweet when we eventually do catch them on home turf. It reminds me of one of Clive Quickelberge's stories of how he spent years trying for 'the flame-bordered Charaxes', hanging traps at Kosi Bay and Manguzi, with no success. After all his trying, one day an assistant of his walked into his office and produced a male specimen. He had been up to Kosi for the weekend, and apparently caught it on an old banana peel in his camp site. Life can be cruel!

The only problems experienced when trapping were, firstly, the theft of traps (higher up the valley), and secondly, on a less serious note, the large mantids that took great delight in devouring those sought-after *M. libya* or *Ch. protoctlea azota* that sat in the traps.

The Banti Forest is one of those places you hear of, high up in the mountains. Inaccessible, with very temperamental weather, and lovely butterflies. We were in the area, so why not shoot up, we thought. The trip began on bad roads, up through the Chitora hills (where we hung traps in the hope of catching *Ch gallegueri*). The further we went the more dilapidated the roads became. Streams were inspected, and then cautiously crossed, and finally, after an hour-and-a-half of axle-crunching stuff, we could finally go no further as the father of all pot holes lay in wait for us. Four feet deep, two wide, and the full width of the road. It made us decide that it was time to do a little walking. We left our two bakkies a kilometre from the forest. The road goes on, but I doubt if legendary vehicles such as Herman Staude's SANI, or the Jetta that Johan had somehow convinced was a 4x4, would have made it. The last few rainy seasons have destroyed the road. We had met the father of the pot holes, but soon learned that he had friends, and lots of them at that.

There were trenches up to a metre deep running all the way to the top of the road, almost a kilometre away. Well, we had got there, but unfortunately, the clouds had got there too. The place was living up to its reputation of inaccessibility and temperamental weather. We grabbed the nets and were off to the forest. On the way down through the grass, there were a few skippers flying, and I was able to net a *B. fanta barnesi*. In the forest we were to seek *Mylothris carcassoni*, that has only been found in the Banti and nearby forests. Johan and Andy Mayer had been up before, but had never been able to catch any. As the sun poked its head through the clouds, 'whites' would come down from the forest canopy, either to feed or tumble after each other. Most of these were *Mylothris sagala umtaliana*, but in amongst them were the odd *M. carcassoni*. The sun played with us, poking its head out just long enough for us to see what was flying, and then retreating back behind the clouds.

After an entertaining afternoon we left, Martin sporting a fine series, and the rest of us with a pair each. Martin noted that it seemed that the *M. carcassoni* patrolled along the water course at canopy level. It was on the way down that Martin decided that he was in a Pajero and taking part in the Paris Le Cap rally, off he tore with us in hot pursuit. After ten kilos of hell raising we noticed something had gone wrong with Martins bakkie, all we could see was dust and one lone wheel. We stopped, anticipating the worst, only to find that the chain holding the spare wheel in place had broken, and the wheel had fallen off. After that we decided to take things at a more sedate pace, and travelled through to the Burma via the more user friendly Zimunge Road.

Traps were inspected and we found a number of *M. libya* and Martin found some female *Ch. etesipe tavetensis* and a perfect female *Ch. chittyi*. That night we decided to return to the Banti as soon as the weather allowed us. Unfortunately, this was when Martin was away in Bulawayo playing hockey, (or socialising, by the look of his eyes when he returned), so Johan, Wolter and I piled into the bakkie and went up. The weather was perfect, not a cloud in the sky. We went to our spots, and before long *M. carcassoni* turned up. Pennington (1978) stated that he found them to sit and play high. Although true for the hotter and later hours of the day, this was not true for the morning hours. When sitting in one spot, I was able to observe them flying and feeding. They would fly along the edge of the forest, about two metres above the ground. Every 10 minutes or so one would come along, feed on a particular bunch of flowers, and then leave to continue its trip along the forest edge. As it warmed up they rose and began playing high on top of the canopy, just allowing one to watch. Although females were followed, we saw no sign of egg laying. Besides the capture of *M. sagala umtaliana* and *M. carcassoni*, a number of *Neptis swynnertoni*, *Zezenia zeno* and *Aphysoneura pigmentaria vumba*, were caught. Two trips to Banti are enough for a small bakkie, so we decided to return on a later trip, when one of us has a more robust vehicle.

The Banti is fairly inaccessible and the rural population is low, so the forest is still in very good condition. Apparently Dr Kroon caught *M. carcassoni* in other forests in the Butler North area. It would be fun to pop into the nearby forests of Mozambique to see if the insect also flies there.

After a week of driving long distances, we decided to stay close to home and visit Cloudlands. It was up in this patch of forest that Martin had caught *Hyalites pentapolis apidica* and *Charaxes acuminatus vumba* along with so many other interesting insects, so we went off with high hopes. The weather smiled on us and a wonderful day was had. We did not catch anything like the rarities that Marten had before, but we came away with *Hyalites vumbui*, *Metisella orientalis orientalis*, *Calaenorhinus galenus*, *Abantis venosa*, *Precis tugela tugela*, *Cymothoe vumbui*, *M. sagala umtaliana* and, surprisingly enough, a male *Colotis eris eris*. We Natalians associate this 'tip' with the thornveld areas of Zululand and Muden, and were rather stunned to find it in the high, moist forest of Cloudlands.

After a day in the bush, the evening was usually spent setting. However, we were able to sample one of the local grub spots after some of the less hectic days. The White Horse Inn (a spot that I am sure all butterfly people, who have collected in the area, know well, but for the benefit of those who have not been there I shall go

on), is a great place to moisten the mouth after a day in the bush. Should you feel flush and eat there, the black mushrooms wrapped in bacon are every health fundi's nightmare, but a great way to keep the Zambezi Lagers company before the main course. An evening was spent at Bruce's, where we were able to sample the African cuisine thanks to Clever, his chef-in-training. Also available were large volumes of 'Lion Tears', that Bruce had got his house guests to drink by preying on sensitive male egos, with fairly catastrophic results. The rest of the time the catering was make-shift with Johan, Wolter and I attempting to re-enact the miracles the lasses at home so effortlessly perform. Thank heavens everyone went to bed late and got up very early and did not have the energy to complain about the poached eggs that I fed them in the mornings. My reputation for destroying a perfectly good egg goes back to a collecting trip to the Monguzi forest in Zululand with Harold Selb and Johan, and has haunted me ever since.

Johan had to leave on Easter Monday, and after goodbyes had been said, Wolter and I went to Cross Kopje to attempt to catch *Deloneura sheppardi*, on the flamboyant trees. Alas, even our tapping branches with Wolters two metre frame and my six-metre extension combined, could not entice anything (if there were indeed butterflies there,) to fly, so it was back to Burma to meet with Martin who had just returned from his 'hockey tournament'. He had spent the day in the valley and netted *Neptidopsis ophione velleda* near the Bomponi. The three of us spent the last few days waving our nets in the Burma area, with the usual interesting results.

We left, as planned, with two days to spare, hoping to spend some time in the Soutpan, Waterpoort and Tshipise area. I had spent most of the weekends, in the last six months of my army career, collecting with Johan and Harold Selb in the area, and was very keen to see it again. Unfortunately, we were a little late for the Soutpan, but we were able to collect *Spialia delagoae*, *S. colotes transvaaliae*, and *Coenyropsis natalii natalii*, in the Waterpoort area. The rest of the weekend was spent relaxing at the Greylings in Pietersburg.

After two weeks it was a pity to leave and trek home, but as the cliché goes "all good things.....". The last evening was spent in Pietersburg, sitting at the Villa Italia, dreaming up new trips and enviously thinking of Martin collecting somewhere in Mozambique.

At the AGM last year it was noted that a number of the locals were becoming a little irate with the sudden influx of butterfly collectors. We were able to chat to a few people and it became very obvious that it was the old problems, not asking permission to collect on other's land, and general bad manners that was the cause of the consternation.

One local farmer was particularly irate because a bush fire was started on his property while someone was collecting there. Unfortunately John Daffue, a local collector, was falsely accused and had the police visit him. Thankfully things calmed down but it illustrates a very important point in respecting other people's property, after all we are tourists on their turf. We found everyone to be particularly helpful.

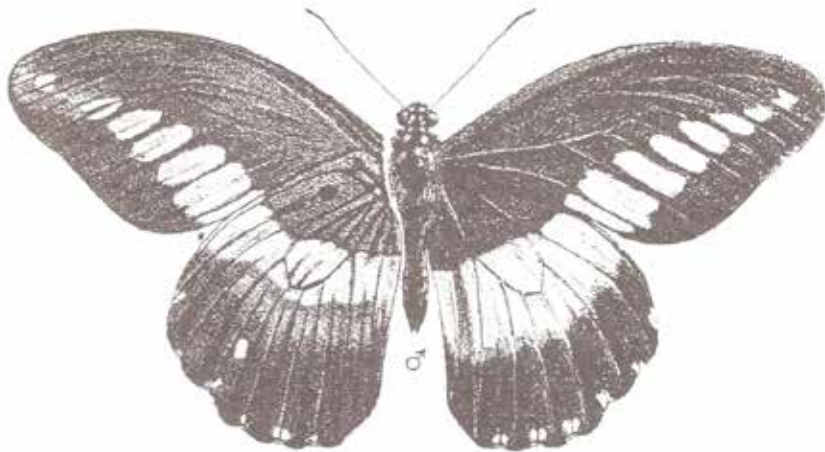
It was a long trip home, with not much chance for collecting, travelling through the flat Transvaal landscape, littered with smokestacks and cooling towers, through the

Newcastle coal mining area to good old Durban. I feel the urge to return. Maybe, if the gods are willing, next year will see me treading paths in another area of Zimbabwe or Malawi or..... The dreaming and planning of trips to exotic spots starts again.

Special thanks go to Al Sutcliffe, for granting us permission to collect on his farm, and to his *induna* for catching the thieves stealing my traps, and then making them replace them. To Rob and Thea Hayden-Tebb, for making us welcome in their home, to Bruce Mattson for his hospitality, to the Greyling family for letting us stay on the trip up and back, and finally to Johan Greyling, Martin Lunderstedt and Wolter Kaspers for making the trip so memorable.

This account of our trip is compiled from two stories written for *Metamorphosis* by Martin and myself. I have combined them as best I can, and hope that I have done justice to Martin's.

Finally, this is a fitting place for we Natalians to bid *au revoir* to old friends and long time members of the Natal butterfly fraternity. Wolter and Janet Kaspers have decided to go on an extended world tour, and are due to leave Natal in March. They have no fixed plans but expect to be away for a year or two. Clive Quickelberge, resident entomologist at the Durban Museum, has retired, and is to move back to the Cape with his wife Natalie in the not too distant future. I would like to take this opportunity to wish them all the best in their travels and retirement respectively. We will miss them in Natal, but I know that there is very little that can keep either Wolt or Clive away from Zululand, and I expect to see a familiar net waving around the flowers at the top of a *Deinbolia* soon.



*Papilio echerioides* male type (A.G. Butler *del. et. lith.* Jan 1868)

**FURTHER OBSERVATIONS ON *PIERIS BRASSICAE* (L)  
(LEPIDOPTERA: PIERIDAE) IN THE WESTERN CAPE PROVINCE.**

By A.J.M. Claassens  
203, High Level Road, Sea Point, RSA.

**Abstract:** A parasitoid of the pupa of *pieris brassicae* is recorded and certain facets of the life-cycle of this parasitoid, as well as other aspects of its biology, is described. The Argentine Ant *Iridomyrmex humilis* Mayr, is recorded as a predator of *P. brassicae* eggs. Alternative food plants of the larvae of *P. brassicae* are recorded. The known distribution of *P. brassicae* in the Western Cape province is noted.

**Parastioids**

Claassens, 1995, recorded two species of fly, a *Winthemia* sp. And an *Exorista* sp. (Diptera, tachinidae) as parasitoids of the larva of the Large White, *P. brassicae*. In the same article it was mentioned that a tiny parasitoid was killing pupae of this butterfly. I have since reared this parasitoid from pupae collected at random in the garden as well as from pupae reared indoors. Dr. Barraclough identified the parasitoid as a wasp belonging to the family Pteromalidae of the superfamily Chalcidoideae (Hymenoptera). He stated that species of *Pteromalis* are known to attack Lepidoptera, both certain butterflies and moths, as well as Diptera, Homoptera and Coleoptera.

The females of the *Pteromalis* sp. attacking the pupae of *P. brassicae* in my garden have a black head and thorax and a shiny bronze-coloured abdomen. They are approximately 3.5mm long. The males have the same colour, but are only approximately 3mm long. Pupae of *P. brassicae* infected with this parasitoid change their shiny green colour into a dull dark colour, but after emergence of the parasitoids through a tiny hole made by the wasps, from the inside of the pupal shell, the shell is of the usual greyish colour. These empty shells keep their shape and firmness for a long time, especially if positioned in places sheltered from wind and rain.

In order to collect the parasitoids initially six fresh pupae were collected from the garden in early June, housed in a shoe box covered with mosquito wire mesh and kept indoors. From these pupae four imagines of the Large White emerged, but two pupae turned a dull colour, and after 38 days, 72 *Pteromalis* wasps emerged from one pupa, and after 41 days, 84 wasps emerged from the other one. The females of this species by far outnumbered the males. Dr D. Kroon (pers. comm.) who bred *Pteromalis* from pupae collected at Fresnaye, Sea Point, found that from some infested pupae, close to 200 wasps emerged.

Mating between the sexes took place from the moment the wasps emerged, and one or two males were often observed positioning themselves next to the exit hole on the pupa, where they courted emerging females by buzzing around them, rapidly flapping their wings without actually flying, and mating with them. Courtship and mating were of short duration, the males mating with several females in quick

succession, either on the pupal shell or anywhere else in the box. Similar observations were made by Dr. D. Kroon.

Another 12 uninfected butterfly pupae, reared indoors from mature larvae, were placed with a batch of newly emerged parasitoids. The females attacked them readily, even though most of these pupae were in an advanced state of development, with the white and black markings of the imagines clearly showing through the pupal wing cases. From all these pupae eventually *Pteromalis* wasps emerged, The duration of their development varying from three and a half to five weeks. In pupae in which the wings of the imagines were visible at the time of infestation, the parasitoid larvae did not devour the wings, and these could be detached from the pupal shell after emergence of the adult wasps. In my garden, pupae in any stage of development were also attacked by the parasitoids.

When infested pupae are opened, either the many, tiny, white larvae or tiny, dark brown pupae of the parasitoid are found. Sometimes fully developed wasps are found, which then disperse immediately. Not all wasps emerge from the host pupae at the same time, so that individuals may be seen to emerge one or more days after the main emergence has taken place. Usually emergence takes place through one hole, but sometimes more than one exit is made.

In my garden, almost all pupae inspected during September to November 1995 were infected. Claassens, loc. cit., noted that during these months, and even during December and January, many pupae are in diapause, lasting up to 130 days or more, and they are thus exposed to *Pteromalis* attacks for a considerable time. Yet during September to November, the imagines of the Large White are seen in the Cape Peninsular in considerable numbers, so that one can only conclude that in certain areas the wasps are less common, or even absent, or that they overlook pupae positioned in less exposed positions.

### **The Argentine Ant (*Iridomyrmex humilis* Mayr) collecting eggs of *P. brassicae*.**

Mr A. K. Brinkman of Claremont (pers. comm.) Noticed Argentine Ants dislodging eggs of the Large White from nasturtium leaves and carrying them away. I have twice seen this ant carrying eggs off *Nasturtium* leaves in my garden in Sea Point, but on both occasions I have disturbed the ants by touching the leaves and changing their position. Although it seems as if the contribution of this most hated and harmful exotic ant to the biological control of the Large White seems small at this stage, the observations in this regard are interesting and warrant further investigation.

### **Alternative larval food-plants**

Claassens, loc. cit., mentioned that the common garden plant, Sweet Alyssum, *Lobularia maritima*, (Cruciferae) was used by the larvae in late summer, after the usual larval food-plants, nasturtium, became scarce. I have since seen the larvae feed on this plant during October and November when nasturtium was still plentiful. However, I have yet to find eggs on these plants. Mr A. K. Brinkman (pers. comm.) definitely noticed larvae of the Large White feeding on flowers of *Chrysantheamoides monilifera* (Asteraceae) after the nasturtium plants growing at

the base of bushes of this plant were defoliated by the larvae. He also found the larvae feeding on leaves of beetroot plants, probably not an usual larval food plant.

### **Sightings of the Large White outside the Cape Peninsular**

The Large White has extended its range of distribution from Cape Town and its immediate vicinity right through the Cape Peninsular and beyond. Along the West Coast it is now known to occur as far north as Velddrif (G. Fraser-Grant, pers. comm.). Along the South Coast I have seen the imagines on the wing with certainty as far east as Vermont, close to Hermanus. As Dr. J. Ball, 1994, correctly warned, the spread of the Large White in the Western Cape Province could have serious consequences for cabbage growers, but up till now only mild infestations of cabbage crops have come to my attention.

### **Conclusion**

Although parasitised in the larval and particularly the pupal stage, the Large White appears to have established itself well in the Western Cape Province. A *pteromalis* sp. appears to be a most effective biological control agent of the Large White in the Cape peninsular. The contribution of the Argentine Ant to biological control of the Large White, though seemingly small and localised, is interesting. When pressed for food, the larvae of the Large White appear to be very adaptable and turn to eating plants on which the females have not been seen to oviposit. The spread of the Large White along the coastal areas east and west of Cape Town to well beyond the cape Peninsular is worrying, especially if the butterfly were to spread to cabbage growing areas, where they would do much damage to the crops, and from where their rapidly increasing numbers might spread even further.

### **Acknowledgements**

I wish to thank Dr. A. D. Baraclough, Chief Curator of Entomology at the Natal Museum, Pietermaritzburg, for identifying the *Pteromalis* sp.. Thanks also to Messrs A. K. Brinkman, G. Fraser-Grant and Dr. D. Kroon for supplying information on the Large White.

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## EXPEDITION DIARY

By Colin Congdon  
P. O. Box 14308, Nairobi, Kenya

Early in March 1994, Ivan and I, with our collectors Peter and Martin and a couple of Hehe porters, set off from Mufindi in the Southern Highlands. Our first stop was with the Moyers, who run a mission station at Tatanda, on the Sumbawanga-Mbala road. We had a day on Mbaa Mt (2210m) where David Moyer and I collected a number of *Capys* larvae (they died of heat later on) and one larva which eventually turned out to be *Iolaphilus pamae*, a first for Tanzania. Foodplant *Erianthemum* sp.

The next stop was Mbizi Mt above Sumbawanga town (2400m), where we spent a couple of nights. Here we found larvae of *Iolaphilus crawshayi* or *Phragmanthera usuiensis*. I also found a larva of *Virachola jacksoni*. On seeing it, Martin went out and came back in ten minutes with two more.

On to Mpanda, where we made contact with Jan Kielland's collectors, and arranged for them to meet us at Kigoma after the Kasye trip. Spent a night at Sabaga, on a beautiful, clear river. There were plenty of *Sallya rosa* along the river, and Martin brought in a larva of *Pterocarpus* which turned out to be *Abantis venosa*, the form with reduced pale areas on the hindwing (corresponds with the illustration of *A. Contigua* in Larsen's Butterflies of Kenya).

From Sabaga to Uvinza the road is terrible. Ivan bellied his Pajero on one stretch, and I pulled him out with my Patrol. Then he had a puncture. Peter leapt out of the car, I assumed to help. Not so. He dashed off into the bush and reappeared after a few minutes with a mixed bag of *Deloneura ochrascens* and the much rarer *D. subfusca*. These found their way into the back of Ivan's glove compartment, and were only discovered when the car was finally emptied in Nairobi.

At last to Kigoma, where we met up with Sally and Kaj, who had brought Frank Mmbaga from Dar es Salaam. Hot showers and clean accommodation at the Norad guest house. Bliss.

Kigoma gives the impression of a lazy little town on the edge of nowhere (It is in fact at the westernmost extremity of Tanzania, and due north of Lois Trichard), so we were agreeably impressed when we got all our letters of introduction and booked a boat within the day.

We found the boat at Ujiji, of Livingstone fame, just down the lake from Kigoma. It was a shallow tub of a thing, capable of carrying 50 tons, and pushed along by a big outboard. With all our stuff on board it was still practically empty, so when we hit a storm four hours out of Ujiji it pitched and wallowed alarmingly. One or two members of the expedition parted company with their breakfast and prayed for death.

We spent the night on the lake shore at Kasye village, and set off for the forest the next day. It is an easy 1½ hours' walk, and a pleasant one if you are not carrying a heavy pack. The campsite is on the little Kayse River, and just inside the forest. We had decided that as it was such an easy carry from the lake we could afford to bring more than just essentials, leaving the extra loads to be ferried up

from the village over the first few days. Ivan was particularly insistent that we bring a good supply of fresh bread. Unfortunately, when it arrived it had made the journey up from the lake on a porter's head, with other heavier, harder things on top. When unpacked, the crisp new loaves had become oddly shaped lumps that disintegrated when prodded. At this stage Ivan had quite lost his sense of humour, which was not fully restored until it was found that the rest of us had somehow forgotten the extra box of beer. Ivan is a tea drinker.

The forest contains many rare and lovely butterflies, any one of which could induce Seared Eyeball Syndrome in the unprepared, and even the most hardened collector can get a bad go of SES when gazing at the vast expanse of blue when a *Charaxes mixtus tanzanicus* comes to a trap, or when netting a high flying *Euphraedra sarcoptera nipponicorum*, or seeing a freshly emerged *Charaxes zelica toyoshimae* feasting on a rotten crab by the river. One day we must find out what their larvae are feeding on.

The trip back was uneventful. We left Kasye in gentle rain and arrived back in Kigoma in brilliant sunshine. One of Jan Kielland's collectors, Isidoro, had arrived by train the previous day. The other, Elisa, had inadvertently drunk his rail fare in a local bar in Mpanda, and was unable to join us.

After a couple of days sorting out, we paid off the porters, said goodbye to Sally and Kaj, and set off for the Uganda Border and Minziro forest. But that is another story.

### Acknowledgements

Ivan and I have an arrangement. He does all the work, and I take all the credit.

**Note:** This article was received prior to the tragic accident which resulted in the death of Jan Kielland – Ed.

## SCIENTIFIC NOTES

### LARVAL HOST-PLANT OF *TYLOPAEDIA SARDONYX SARDONYX* (TRIMEN)(LEPIDOPTERA: L YCAENIDAE)

In the second edition of Pennington's Butterflies (1994) inference is erroneously made that the larval host-plant of *T. sardonyx peringueyi* (Aurivillius) is the same as that used by *T. sardonyx sardonyx* viz. *Aspalathus spinosa* L. (Fabaceae). The larval host-plant of *T. sardonyx sardonyx* is in fact *Euclea undulata* Thunb. (Ebenaceae). . .

I observed females ovipositing on *E. undulata* at Nuweland farm, Montagu district; north of the N1 at Matjiesfontein; and on the rooiberg pass near Van Wyksdorp. I then purchased a few *E. undulata* scrubs at the Karoo Botanical Gardens in Worcester and successfully reared *T. sardonyx sardonyx* from egg to imago.

Mike Schlosz 75 Garfield Rd, Claremont, 7700, RSA.

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**KEDESTES NIVEOSTRIGA (TRIMEN) (LEPIDOPTERA: HESPERIIDAE) IN  
THE WESTERN CAPE PROVINCE.**

Nestled in the foothills of the Riviersonderend Mountains, some 140km east of Cape Town, the little town of Greyton boasts a number of interesting butterflies. Some of them appear to be way out of their normal territory. Having explored many of the walks in and around Greyton for the last year, my wife and I have made the acquaintance of a number of these "specials" including:

*Poecilmitis irene* Pennington – a small colony we are monitoring

*Poecilmitis palmus* (Stoll)

*Thestor kaplani* Dickson & Stephen – a new colony

*Thestor stepheni* Swanepoel

*Thestor montanus* Van Son – a very dark variety

*Lepidochrysops asteris* (Godart)

*Durbaniella clarki phaea* Ball

*Acraea rahira* (De Boisduval)

Recently, while exploring a locality where *Pelopidas thrax inconspicua* breeds, we were amazed to net a number of specimens of *Kedestes niveostriga*. Pennington's Butterflies (1994) lists it from Kwazulu-Natal and the Bashee River. Is this the most westerly record for the species? We are investigating further.

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## EDITORIAL POLICY

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## CONTENTS

EDITORIAL	49
COMMENT BY THE PRESIDENT	50
REGIONAL ROUNDUP. G.A. Henning	51
BUTTERFLY SAFARI TO LONDOLOZI – NOVEMBER 1995. S.E. Woodhall	52
STUDYING THE EARLY STAGES OF LEPIDOPTERA IN SOUTHERN AFRICA. Mark Williams	56
NOTES ON THE <i>ACRAEA (ACRAEA) RABBAIAE</i> SPECIES GROUP OF THE ACRAEINAE (LEPIDOPTERA: NYMPHALIDAE) S.F. & G.A.Henning	65
A REVOLUTION IN "SUGARING". Kenneth Gainsford & Bjarne Skule	68
A REVIEW OF THE <i>HYALITES (AURACRAEA) ANACREON</i> SPECIES COMPLEX IN SOUTHERN AFRICA WITH DESCRIPTIONS OF TWO NEW SPECIES AND TWO NEW SUBSPECIES. G.A. Henning and S.F. Henning	71
EASTER IN THE VUMBA. Simon Joubert & Martin Lunderstedt	81
FURTHER OBSERVATIONS ON <i>PIERIS BRASSICAE</i> (L.) (LEPIDOPTERA: PIERIDAE) IN THE WESTERN CAPE PROVINCE. A.J.M. Claassens	88
EXPEDITION DIARY. Colin Congdon	91
SCIENTIFIC NOTES	92
NEW MEMBERS	93
FORTHCOMING EVENTS	94
ADVERTISEMENTS	94