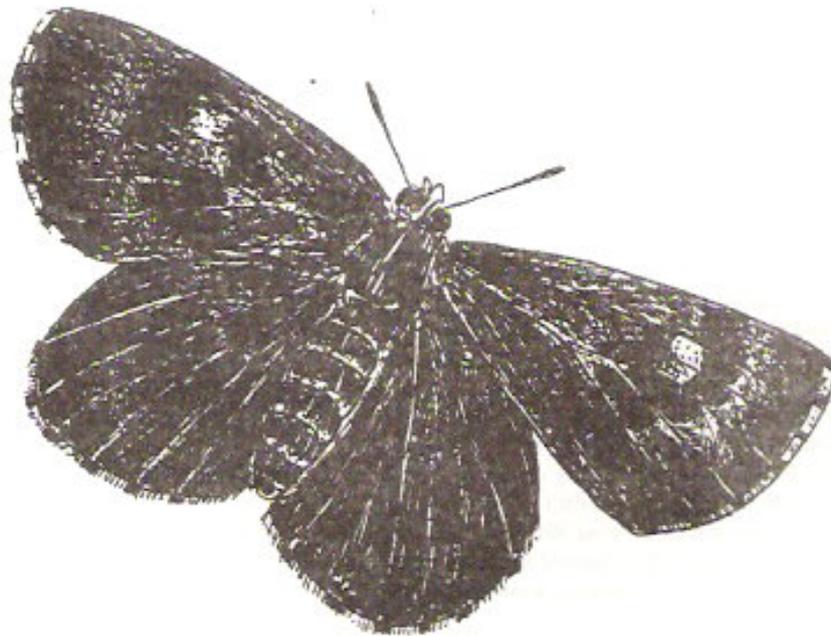


LEPIDOPTERISTS' SOCIETY

OF SOUTHERN AFRICA

METAMORPHOSIS No. 25

Editor: W.H. Henning



Thestor yildizae female (Del. S.F. Henning)

Typesetting: D.M. Kroon

Editorial

It is with sincere regret that we see the departure of Mr. Nolan Owen-Johnston as editor of *Metamorphosis*. Our newsletter has reached new heights under his hand and I hope I will be able to emulate his high standard.

Over the past thirty years of studying butterflies in South Africa, I have noticed a distinct change in the attitude of fellow enthusiasts. In the sixties and early seventies the emphasis was mainly on the amassing of a collection of specimens. Since that time the emphasis has changed towards the studying of butterflies. People are becoming more interested in breeding specimens, studying their habits and photographing them in the wild. I believe this is a healthy trend and bodes well for the future of Lepidoptera in South Africa with increasing urbanization and pollution. The conservation of Lepidoptera depends on our knowing the distribution, habits, early stages and host-plants of the various species so that appropriate measures can be undertaken for their protection. With regard to the conservation of Lepidoptera, and in fact all insects, one must always remember that the main, if not only, cause for the decline or extinction of species is habitat destruction. So all conservation measures must be geared to protect the habitat. In recent years *Metamorphosis* has encouraged this trend as it has provided a place for the amateur to publish his findings and express his feelings about conservation and other issues.

The Council has decided that *Metamorphosis* in future has to come out at least four times a year - namely March, June, September and December. This can only be achieved with your help. That means sending us articles to be published. We are interested in all your observations and comments. Nothing is too small or irrelevant.

Also, it is election Year. Please participate and exercise your right to elect the Council Members and Office Bearers whom you feel will further the ends of the Society.

With regard to our participation in the conservation effort the Transvaal Nature

Conservation Department is already working closely with the Lepidopterists' Society with regard to the butterflies of the Transvaal. Several members are now doing checklists of some of their reserves, namely:

Mr. G.A. Henning and others

- Suikerbosrand Nature Reserve and
- Blyderivierspoort Nature Reserve

Mr. R.T. Warren and family

- Verloren Valley and
- Doorndraai Dam (see reports in this issue)

Transvaal Conservation Officers Koos de Wet and Lindsay Beveridge, who are members of our Society, are at the moment doing research on endangered butterflies of the Transvaal. In particular, research is being done on *E. acraeina*, *L. lotana* and *A. margaretaea*.

Messrs. S. Woodhall, J. Joannou, Dr. M. Williams and others are doing a checklist and research at the Lapalala Wilderness area.

The National Parks Board is also cooperating with us. Messrs. J. Joannou, G.A. Henning, S. Woodhall, H. von Gordon, N. Owen-Johnston and S.F. Henning have been compiling a checklist of the Golden Gate Highlands National Park - see report in this issue.

The Society hopes that in the near future we will have similar cooperation with the Natal and Cape Conservation Departments. Possibly our Cape and Natal members should approach their local conservation departments and see if they can set up similar projects to those in the Transvaal and Orange Free State. All projects of this type are encouraged and supported by the Council of the Society.

Regional roundup

Graham Henning

The first quarter of 1990 has seen many a trip cancelled because of bad weather. The following expeditions are mainly those undertaken by our Transvaal members, little has been heard from the Natal and Cape collectors. Please let us know what you are doing so that we can report it. One contribution received from Mike and Pat

Schlosz of Cape Town is a trip to the Transvaal! We hope more of our Cape members will make the northern trek but what about your local trips?

During January there was a brief visit to Boons in the W. Tvl by Chris Ficq and Graham and Hamish Henning. No *L. ketsi* were seen but several *A. dentatis maseruna* were observed.

Also in January John Joannou and Hans von Gordon visited the Barberton area but had nothing special to report. John also went to the Makatini Flats with Steve Woodhall, they collected *G. colonna*, and *E. barkeri*. *G. antheus* was seen laying on *Uvaria caffra* and was bred through and *A. epaphia* was also bred from there on a *Boscia* sp.

In February Nolan Owen-Johnston and David Swanepoel visited the type locality of *P. swanepoeli* near Houtbosdorp in the N. Tvl. This area had been searched by Nolan and Graham Henning and others in previous years without success. This visit to the type locality proved just as fruitless. The habitat has apparently changed with the advent of the pine plantations and the grassy marsh is now overgrown with bushes. Nolan thinks a good fire will clear it (but it will also clear the pine plantations). Other localities for this elusive brown will have to be found. The only recently recorded locality is from a large marsh in the Woodbush Forest Reserve (Refer to the *Red Data Book* for more details).

The Wittekoppe Mountain near Vrede (about 200 m.) yielded some good records in February. Bill and Ryan Steele with Graham and Hamish Henning tackled this long climb to find *S. scotina*, *M. malgacha orina*, *P. chrysaor* and *A. oreas* (surprisingly still on the wing). The object of our search was an elusive "dentatis" type of *Aloeides* of which two were collected by Bill. The season's total of this taxon after 3 trips is now 3 specimens. At this rate it will take a decade to get enough specimens to form an opinion of this species.

Jon Ball from Cape Town visited the Transvaal briefly in February. Jon and Chris Ficq spent a day at Stoffberg where they collected a few 'Rossouw's' *Lepidochrysops* and *Aloeides rossouwi*. The full record of the trip to the

Transvaal in February by Mike and Pat Scholsz will be published in the next *Metamorphosis*. An interesting late record is that of *A. margaretaea* in February. During February, and again in March, Beestekraal was visited by Nolan Owen-Johnston and Ivan Bampton for *Charaxes vansoni* but to no avail.

Nolan, Steve Woodhall and Mark Williams visited Vaalkop Dam a couple of times during March, but there were very few butterflies around, of note were *L. glauca* and *C. pillaana*.

Several trips were made to the Eshowe area and to Balgowan during early March by various collectors, namely Steve Woodhall, John Joannou, Nolan Owen-Johnston, Mark Williams and Ivan Bampton. Little was found at Balgowan, *C. mokeezi* was out in numbers and a female *P. euphranor* was collected. Nolan saw an *A. rabbaiae* at Nkandhla, Steve collected *C. coranus*, *P. eurytus* and *A. cerasa*. *P. dendrophilus* were plentiful. Larvae of *C. coranus* were found by Ivan and Mark on *Rawsonia lucida* and larvae of *C. keithloa* were also recorded on two plants, the one was *Acridocarpus natalensis* the other as yet unknown. *P. ophidicephalus zuluensis* were also out in fair numbers. An *Indigofera* species was seen in numbers at the alleged *O. ariadne* locality at Nkandhla.

Satyridae, fresh and of many species, were out in large numbers as seen and taken by an expedition in late January across Lesotho, from Buthe Buthe, up the towering Moteng Pass, and travelling towards Oxbow. Traversing the rugged terrain in two four wheel drive vehicles, Les Minter, Richard Stephen, Doug Kroon and Neville Duke collected an outstanding assortment of interesting moths, butterflies and a few Neuroptera. The most notable catch was a few more specimens of the rare *T. pringlei* near the type locality. *Lepidochrysops* were scarce, possibly as a result of generally unfavourable weather, but a few *L. lerothodi*, and *L. variabilis* were added to the bag. Moths were exceptionally prolific and a good assortment of fresh interesting material was collected. Hepialidae, a primitive moth family, are well represented generally in Lesotho, and this trip proved particularly successful with the

numbers and assortment of species in this family.

In March *D. limbata* was out at Wakkerstroom when Steve Woodhall, Chris Ficq and Graham and Hamish Henning visited this wonderful locality. Unfortunately no *Aloeides* were found. *M. malgacha* was recorded on the mountain top and *M. metis* was found on the slopes. *M. metis* is usually a forest species in the Transvaal so this was quite a surprise. *H. noquasa*, *C. palemon* and the odd *A. anacreon* were seen in the nearby marsh.

Chris Ficq spent a day at Warmbaths during March and recorded *I. silarus* larvae and *C. rufiplaga*.

The following list is of Chris Ficq's trip to the Cape during December '89:

Hantamsberg: *P. stepheni* (in numbers), *P. wykehami*, *A. apicalis*, *T. dicksoni calviniae* (in reasonable numbers), *T. argyroplaga* (very dark form).

Van Rhyns Pass: *P. lysander*.

Sutherland: *T. wykehami* (in numbers), *T. pringlei* (in numbers), *P. midas*.

Gydo Mountain: *L. quickelbergei*, *L. dukei*, *L. robertsoni*, *P. uranus*, *T. petra*.

Peninsula: *L. trimeni*.

Greyton: *T. stepheni*.

McGregor: *L. oreas junae*, *L. methymna*, *L. robertsoni*.

Rooiberg: *L. swarbergensis*, *P. plutus*, *A. pierus*, *A. juana*.

Du Toits Kloof: *L. australis*, *C. alphaeus*.

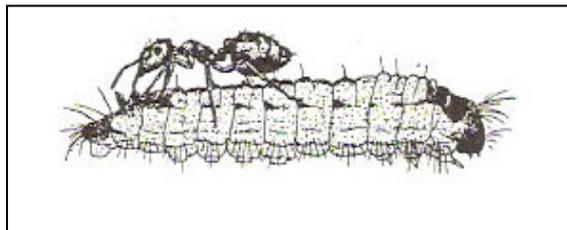
Caledon: *T. protumnus aridus*.

Seven Weeks Poort: *T. tempe*.

Avontuur: *L. outeniqua*, *L. robertsoni*, *A. quickelbergei*.

Huis River Pass: *P. henningi*, *P. chrysaor*, *C. jahlusa jahlusa*.

Swartberg Pass: *L. swartbergensis*, *L. pringlei*, *T. dukei*, *P. nigricans swartbergae*.



Conservation & collecting butterflies in conservation areas – a personal viewpoint

Alan Heath

A report by J.F. Burton entitled "*The future of butterflies in Europe: strategies for survival*" recently appeared in *Antenna* the Bulletin of RESI, the Royal Entomological Society of London. This report discussed the proceedings and resolutions etc., taken at the Congress held at Wageningen, The Netherlands, in April 1989, where nearly 90 entomologists from 17 countries took part.

I feel that it is appropriate to reprint some of the passages in the report for the interest of Lep. Soc. Members, as follows:

"... One problem for entomologists was the attitude of some over-enthusiastic conservationists to the scientific collecting of insects, including butterflies ... the extreme, intolerant reaction to all forms of insect collecting by misguided conservationists is, however, a hindrance to research. Scientific knowledge still depends upon collecting, especially as regards the many species which are impossible to identify in the field. Collecting is, in any case, less dangerous to butterflies than habitat destruction ..."

"... a serious decline in many species, with numerous local extinctions. This was chiefly due to the alteration, destruction and fragmentation of their biotopes, a situation from which they would be unable to recover without human assistance. Such as would be unable to recover without human assistance. Such assistance had to be based upon the scientific study of the ecological requirements of each species, so that sound management techniques could be put into practice."

"All too often, we heard, protecting the habitat of seriously declining and endangered species wasn't enough in itself: they still died out for reasons which were not apparent."

"This is where the work of such biologists as Dr. Thomas and Dr. Elmes of the UK has proved important. Their work on the Large Blue and its close relatives has shown just how intricate and delicate the environmental needs of some species can be ... Equally impressive, was the work of Dr. Warren, whose six year study of the complex ecological needs of the Heath Fritillary ... averted the extinction of this butterfly ... sadly, government funds will no longer be available for D. Warren to continue his research into this or any other species. Financial cut-backs are also putting an end to the research of other British entomologists in this field and we heard the same story from elsewhere in Europe ..."

I wonder just how many professional biologists are likely to be available in South Africa in the foreseeable future for work such as that described above? After considering that rather 'rhetorical' question, bearing in mind that we have more than ten times the number of butterfly species than the European biologists have (left) and almost certainly ten times as many endangered species and ecological problems to solve, - what are we in South Africa, doing about it?

Bureaucratic ignorance seems to prevail here in South Africa more so even than Europe. The custodians of our forest areas and other suitable habitats appear to confuse the conservation of butterflies with that of rhinos and elephants! Is it that they see the butterfly and moth specimens in collections in the same light as trophy heads of lions and rhinos above the fireplace? If so, are they correct? We are all aware that by far the majority of butterfly species have been discovered (and very often described) by amateurs and that this is still continuing here in South Africa. We also know that the life cycles and other information is gathered mainly by amateurs.

Doubtless some of the professional entomologists feel that the field should be "left to them" but in fairness, I submit that they are not all inclined to that view and in any event, they would not even begin to cope with the huge task.

We in this Society include professionals and amateurs alike, we also range in interests from the straightforward "collector" in the first instance, through those wanting to contribute "something worthwhile" by discovering some new species or life cycle (and the satisfaction of having the family name perpetuated by such discovery); finally there are those like myself who are dedicated to the study and ultimate survival of these lovely examples of God's creativity.

One thing we all seem to have in common, however, is the love of nature and 'the outdoors'. It's not everybody's cup of tea, - (fortunately!). Whatever our motives we can contribute a great deal, whether amateur or professional.

The days of discovering new species is fast coming to a close now and despite the possibility of 'a few more' new taxa being uncovered, the field of study must focus instead on the life cycles, ecology and gaining the KNOWLEDGE to conserve our endangered butterflies. Then we can concentrate on active conservation measures; that does not mean a ban on collecting.

To return to the matter of bureaucratic intolerance towards our butterfly activity; I feel that the Society should consider negotiating an appropriate mandate with such bodies as the Provincial Directorates of Nature and Environmental Conservation, the National Parks Board and the Department of Environment Affairs, for general approval.

I am certainly NOT suggesting a 'carte blanche' permit for everyone to collect 'everywhere'. It must surely be possible to prepare a set of rules in this regard; I list a few suggestions on this, as follows:

- a) Regional or Provincial permits to be provided by the Society, to members, approving and describing the purpose of their permit. This permit would list the 'proven' specialized interests of the Society member concerned, it could also contain specific exclusions, e.g. areas with military involvement,

- private property under management etc.
- b) Rules of behaviour and strict enforcement of 'disciplinary measures' to be the responsibility of the Society.
 - c) Access by permit holders to forestry, nature reserves and conservation areas to be strictly with the knowledge of and at the discretion of the 'local conservation official' but with the '**provisional approval**' of the authority concerned.
 - d) In the event of any dispute or alleged misconduct; the local conservation officer's decision would be final and binding on the Society.

How about the above rules, 'for starters'?

We know it has been common practice for members of the Society to climb fences and to take risks of that sort in pursuing their entomological interests; although this is not to be 'encouraged', it has been going on for many years and it will no doubt continue for some time to come. However, the practice of doing this on conservation land, Nature Reserves etc., is not likely to endear us to the authorities concerned and could cast a smear on the Society's image, especially if offenders use membership of the Society as a justification, in mitigation.

I believe that we must face up to changes which are taking place in South Africa and become a little more 'responsible' in our approach. Similarly, the conservation bodies should do likewise and accept that it is better to know who is in their area and what they are doing. If they do not, they will 'lose-out' themselves.

Society members can be called upon to contribute towards checklists of species, foodplant and other ecological information; conservation bodies have nothing to lose and much to gain.

I must say that in my own experience, local conservation officers are a 'good lot', willing to help and anxious to learn about butterflies, their foodplants, ant associations, etc., but I

believe they can be hamstrung by the bureaucracy above. It is at the local level where any special or sensitive issues should be assessed in the light of a visiting lepidopterist. It is after all, only an extension of the Government's policy of de-centralising authority and allowing decisions to be taken at a lower level, closer to the actual issue.

I would suggest that if the above suggestion were to get off the ground, it would require a fairly broadminded approach from the 'authorities' concerned and would need the support of the professional members; what do they/you think??

Robber flies predatory on Lepidoptera

Jason Londt

Assistant Director, Natal Museum,
Pietermaritzburg

The Natal Museum in Pietermaritzburg has led the field in research on the classification of southern African flies (insect order Diptera) for more than 30 years. The magnitude of the task is enormous - some 16 300 species, in no fewer than 95 different families, have been listed in the most recently published catalogue of Afrotropical Diptera (i.e. covers Africa south of the Sahara and Madagascar) and the number continues to grow as new species are found.

Robber flies of the family Asilidae constitute one of the largest groups of flies and have been the subject of concentrated research over the last thirteen years. Although members of this family are fairly large (some reaching a wingspan of more than six centimetres) and are to be found almost everywhere (including suburban gardens) and at all times of the year, it is surprising that so few people are able to recognise them. All members of the family are voracious predators, equipped with powerful grasping legs, large eyes (affording three dimensional vision), and a well-developed piercing proboscis. Their diet is composed almost entirely of other insects (spiders are rarely taken). This fact alone should be reason

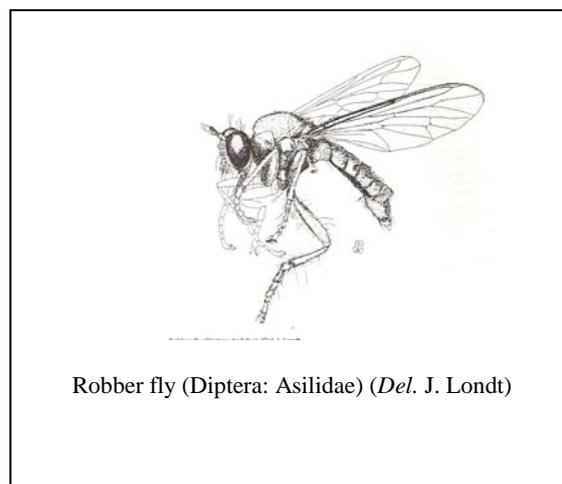
enough for scientists to want to learn more about them – after all millions of rands are spent annually on the elimination of insect pests. Robber flies are arguably the most important predators of insects and the fact that they can at times be very abundant would suggest that they must have a tremendous impact on the populations of other insects.

An aspect of research on these predatory flies which has received attention in recent years is their biology. Virtually nothing is known about their feeding preferences or life-cycles. A beginning has now been made to the building up of a computer data base designed to provide available information concerning the diet of African Robber Flies. Robber flies are sometimes found clutching and feeding upon their insect prey. A special effort has been made to capture Robber flies together with their prey and some 763 records have now been processed. A preliminary analysis of this information reveals some interesting trends.

- i) Robber flies tend to feed on a wide range of insect prey but primarily on other flies, wasps and bees (the honey bee being particularly acceptable) and, surprisingly, beetles (mostly scarab beetles).
- ii) Prey was almost invariably winged (and probably captured while flying).
- iii) Cannibalism was not uncommon.
- iv) Many more female Robber flies were collected with prey than males; suggesting that their need for food is greater.
- v) Species apparently favouring bees or wasps very frequently resemble their prey in appearance (and probably behaviour).

Lepidopterists may be interested to note that while only 40 records of Robber flies feeding on Lepidoptera have been processed, it is believed that butterflies may constitute an important part of the diets of a number of species. A breakdown of the limited data

available shows that no fewer than 20 Robber fly species, in 10 different genera, are implicated. The two main genera are *Alcimus* (14 records) and *Neolophonotus* (12 records).



Robber fly (Diptera: Asilidae) (Del. J. Londt)

Of the 40 Lepidoptera records, 18 are adult moths, 20 adult butterflies and 2 are caterpillars. A breakdown of the butterfly families involved may be of particular interest to readers of this newsletter; Pieridae (11), Lycaenidae (4), Satyridae (2), Danaidae (1), Hesperidae (1), Nymphalidae (1). It is clear that the Whites are the most heavily preyed upon group of butterflies (55%). The genera of pierids involved are *Belenois* (6), *Colotis* (3) and *Eurema* (2). This data suggests that pale coloured butterflies are favoured. This is probably because they are more visible when compared to members of other families (e.g. Lycaenidae).

I would like to invite collectors to contribute to our knowledge by keeping their eyes open for Robber flies with prey. The fly should be collected together with its prey and papered (placed in an envelope) together with full label data (locality, date etc.). These specimens should then be placed in a sturdy container (cigarette box would do) and sent to me at the Natal Museum, Private Bag 9070, Pietermaritzburg. Please include your name and telephone number so that I can make contact with you.

A visit to Fairview

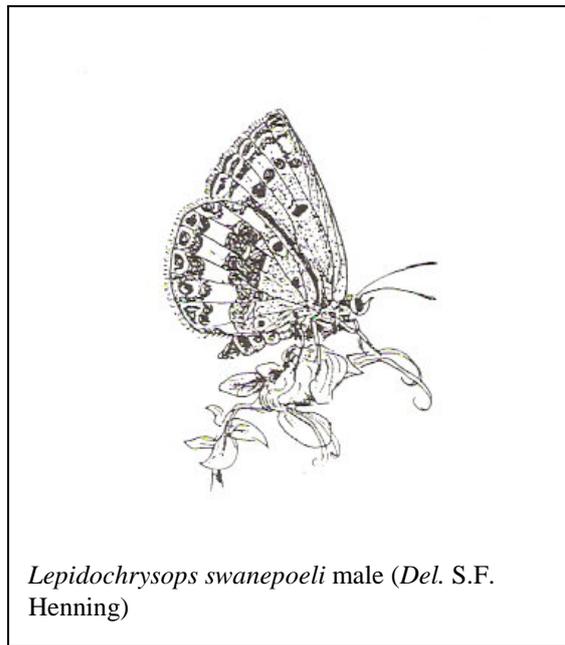
John Joannou

In contrast to the normal pattern, the weather report on Saturday night informs us that the Highveld would have rain whilst the Transvaal's Eastern escarpment stood a 60% chance of reasonable weather. So with more than a little hesitation, Steve Woodhall and I decide to visit Barberton the following day - Sunday 26th November.

Steve duly arrives at 05:30, bringing with him cold and wet weather, and we proceed along the N4, muttering frequently about things like clouds and rain. During a prolonged breakfast stop in Middelburg, punctuated alternatively with profound philosophies on how good the rain was for the season ahead and curses for the vagaries of weekend weather, we decide to press on to Machadodorp, assess the situation there and either swing North for Graskop or South to our original destination. Needless to say, at our 'decision point' the situation is still as clear as mud and resigning ourselves to the possibility that our excursion might turn out to be nothing more than a 800 km weekend drive, we 'put foot' for the South. 20 km from Barberton, the solid grey masses suddenly thin out and amazingly the sun begins to shine through. Not daring to tempt fate, we merely gesticulate silently in the direction of the sun, beam broadly at each other and decide that the boys at the Weather Bureau aren't such a bad bunch after all.

We drive slowly up the mountain side, zig-zagging back and forth until we find ourselves on the summits. To describe this particular area and do it justice takes a finer pen than mine, suffice to say that I feel I should be yodeling! Like something out of *The Sound of Music*, the rolling green hills forming the summit are covered in a multitude of flowers; reds, blues, yellows and anything else in between. In the background, surrounding the Fairview hills are more mountains, distant and ethereal and although it is actually quite hot, one expects, indeed wonders why, they aren't capped with snow. Between the mountains and where we stand, appearing breathtakingly far down, lies the town, remote and toy-like, detached from the present.

We park the car near a small kraal and start towards a beacon a hundred yards away; up pops a flash of blue, down flashes a net and



Lepidochrysops swanepoeli male (Del. S.F. Henning)

the first *Lepidochrysops swanepoeli* is in the bag - a male. Half a dozen paces further on and another blue, not so much of a flash this time - more leisurely, almost floating along, but the net flashes down, faster than before to capture what is obviously a female of the same species - the first I have ever set eyes upon. We walk on, now fully expecting females to pop up everywhere but as those who have caught this insect will know, things like that just don't happen every day. No more females came by but a further dozen males are easily caught. Along this particular ridge, as indeed with all the others we inspect, the commonest butterfly is *Acraea violarum* - all males, barring one female that Steve took and freshly emerged, their blood red wings perfectly matching the flowers. On to another section, this ridge crowned with rocks and small proteas but the same lovely flower bedecked grasslands bordering both sides. Steve informs me that this is the *L. tantalus* spot but we turn up nothing new and decide to return to the kraal and investigate the hills behind it. At the parking spot is another vehicle and from the beacon ridge two nets wave at us - Mark Williams and Nolan Owen-Johnston. We exchange greetings and information on what's been caught or seen and arrange to meet at a

distant spur once they have completed their walk about on the beacon ridge. The spur turns out to be a wonderful place, forming a plateau of flowering grassland whilst the escarpment, falling steeply to the valley below, provides the kloof vegetation which spills over and creates a wonderful contrast. Here are large patches of a *Becium* species and although no *L. swanepeoli* are seen, two very worn *L. jeffreyi* females come by, one of which is netted. In addition *L. patricia* and *L. plebeia* are recorded, the former in good numbers. Numerous other blues are also about, amongst them *Cupidopsis iobates*, *Euchrysops malathana*, *E. dolorosa* and the ubiquitous *Lampides boeticus*. I am convinced that this species must be the most cursed butterfly of our region and must surely suffer inferiority complexes of monstrous proportions – how many times have we all heard the phrase “Oh, xxxx! It’s only a *boeticus*”. The walk along the spur turns up *Charaxes achaemenes* and masses of *Graphium angolanus* – hardly expected, with the ‘alpine feeling’ still persisting, but there just the same. The former abounding around a grove of their foodplant *Pterocarpus angolensis* with spiny flying saucer fruits still green while the *Graphiums* are simply everywhere. A quick inspection by Mark of an *Annona* turns up a couple of eggs and a larva. We carry on and find *Spindasis* – Nolan a *S. mozambica* and Steve a rather nice *S. natalensis* form *obscura*. On the way back to the car an *Axiocerces amanga* that couldn’t have been more than minutes old, finds its way into Steve’s net – surely one of the most glorious undersides when freshly emerged like that.

We have some lunch (melted sandwiches) and wash it down with hot, flat Coke – the hardships of butterfly collecting! Steve and I intend looking at one more series of ridges and then calling it a day. We bid farewell to Nolan and Mark and head across some treacherous bits of road that would make a motor-cross track look like a glass top. We drive up onto a steep pimple of a hill whose peak is so sharp that when on top we cannot see the ground below us – we decide to investigate and turn up more *L. swanepeoli* males. A little dark *Aloeides* attracts my attention and I catch it, small and completely black – I don’t recognize it and decide to take it back to let Graham Henning have a look at

it. I catch another male plus a female and Steve a further male – these have small orange flashes and I decide that they are probably *A. taikosama*, but something doesn’t quite gel; they are too small, the underside markings too intense and the upperside black has a violaceous sheen to it. Time will tell once the ‘fundis’ get to have a look at the set specimens. We continue to Eureka City and wonder what events took place those many years ago in the rooms of the Victoria Hotel, now standing broken, roofed only by the leaves of a spreading fig. Our thoughts are interrupted by the floating flight of a female *L. swanepeoli* and Steve leaps out – net swinging to claim her. This seems the perfect way to end the day and without further ado we start winding our way back down to toy town and home.

The journey back to the Reef is, for the most part, travelled in comfortable silence – each pre-occupied with his own thoughts, ruminating over those aspects of the day that had been special. I say ‘for the most part’ because Steve on occasion, could contain himself no longer and would burst out with the phrase “Hell! What a bloody lekker day!” – suitably couched in his inimitable, enthusiastic Pommy accent! I smile and continue to wallow in the luxurious sensations of content, well being and gratitude that there are so many places still to visit and which I know will bring me more of these same pleasures.

The full checklist for the visit is as follows:

LOCATION: Fairview, Barberton, Tvl.
DATE: 26/11/89
RECORDER: J. Joannou

Danaus chrysippus aegyptius (Schreber, 1759)
Neita neita (Wallengren, 1875)
Stygionympha wichgrafi wichgrafi van Son, 1955
Acraea anemosa Hewitson, 1865
Acraea nohara nohara Boisduval, 1847
Acraea violarum Boisduval, 1847
Junonia hierta cebrene Trimen, 1870
Junonia oenone oenone (Linnaeus, 1758)
Junonia archesia (Cramer, 1779)
Junonia octavia sesamus Trimen, 1883
Catacroptera cloanthe cloanthe (Stoll, 1781)
Vanessa cardui (Linnaeus, 1758)
Byblia anvatarata acheloia (Wallengren, 1857)

Charaxes jasius saturnus Butler, 1865
Charaxes achaemenes achaemenes C & R Felder,
 1867
Spindasis natalensis (Westwood, 1852)
Spindasis mozambica (Bertolini, 1830)
Axiocerses amanga (Westwood, 1881)
Aloeides dryas Tite & Dickson, 1968
Aloeides swanepoeli Tite & Dickson, 1873
Aloeides taikosama (Wallengren, 1857)
Capys disjunctus disjunctus Trimen, 1895
Cupidopsis cissus (Godart, 1824)
Cupidopsis iobates iobates (Hopffer, 1855)
Lampides boeticus (Linnaeus, 1767)
Cyclus pirithous (Linnaeus, 1767)
Actizera lucida lucida (Trimen, 1883)
Euchrysops dolorosa Trimen, 1887
Euchrysops malathana (Boisduval, 1833)
Lepidochrysops swanepoeli Pennington, 1948
Lepidochrysops jefferyi (Sweirstra, 1909)
Lepidochrysops plebeia plebeia (Butler, 1898)
Lepidochrysops patricia (Trimen, 1887)
Catopsilia florella (Fabricius, 1775)
Eurema brigitta brigitta (Stoll, 1780)
Belenois aurota aurota (Fabricius, 1793)
Papilio demodocus demodocus (Esper, 1798)
Graphium angolanus angolanus (Goeze, 1779)
Spialia secessus (Trimen, 1891)
Spialia spio (Linnaeus, 1767)

One of each species caught - grand total 40.

Cycles

Anonymous

Floating, sailing on the breeze
 Through a labyrinth dappled green
 Searching, scenting, hope to find
 Where the virgin mate has been

Find at last and courtship dance
 Spiral, chase in sky of blue
 Settle, sidle, end to end
 Transfer life, begin anew

Morning rising, feed on flower
 Lay on foliage new and high
 Moist and shiny, pearls of life
 Spent and empty, off to die

Dawn awaking, greet the newborn
 Hide in shades of green and grey
 Eating, growing, skin is tearing

Change and grow another day

Changing, growing ever growing
 Till at last the course is run
 Pause, reflect, prepare to sleep now
 Earthbound days are nearly done

Bursting walls of chitin prison
 Bright, resplendent colours new
 Hanging, waiting in the sunlight
 Drying off the morning dew

Floating, sailing on the breeze
 Through a labyrinth dappled green ...

Butterflies of the Golden Gate Highlands National Park

Graham Henning

This list is preliminary and constitutes the work of only a few lepidopterists. It is, however, fairly comprehensive and is believed to include almost all the species expected to be found in this type of habitat. The notes following the checklist concern species which are rare or scientifically important.

HESPERIOIDEAE

HESPERIIDAE

HESPERIINAE

Gegenes niso niso
Gegenes pumilio gambica
Kedestes barberae barberae
Kedestes lenis
Metisella malgacha malgacha
Tsitana tsita tsita

PYRGINAE

Eretis umbra umbra
Gomalia elma elma
Spialia diomus ferax
Spialia asterodia
Spialia spio
Spialia mafa mafa

PAPILIONOIDEA

NYMPAHLIDAE

NYMPAHLINAE

Byblia ilithyia ilithyia
Catacroptera cloanthe cloanthe
Hypolimnas misippus
Junonia (Junonia) hierta cebrene
Junonia (Junonia) orithya
madagascariensis
Junonia (Precis) archesia
Junonia (Precis) octavia sesamus
Phalanta phalantha aethiopica
Vanessa (Cynthia) cardui

Lepidochrysops ketsi
Lepidochrysops lerothodi
Lepidochrysops patricia
Lepidochrysops plebeia plebeia
Lepidochrysops variabilis
Orachrysops lacrimosa
Tarucus sybaris sybaris
Uranothauma nubifer
Zizeeria knysna
Zizula hylax

ACRAEIDAE

Acraea horta
Acraea neobule neobule
Acraea rahira rahira

SATYRIDAE

Aeropetes tulbaghia
Dingana bowkeri clarki
Henotesia perspicua
Pseudonympha magoides
Pseudonympha narycia narycia
Pseudonympha paludis
Pseudonympha paragaika
Pseudonympha poetula
Pseudonympha varii
Stygionympha scotina
Stygionympha wichgrafi wichgrafi
Torynesis orangica

DANAIDAE

Danaus (Anosia) chrysippus aegyptius

LYCAENIDAE

LYCAENINAE

Lycaena (Lycaena) clarki

POLYOMMATINAE

Actizera lucida lucida
Anthene amarah amarah
Anthene butleri livida
Azanus jesous jesous
Azanus moriqua
Cacyreus marshalli
Cacyreus palemon palemon
Cacyreus virilis
Cupidopsis cissus
Cupidopsis iobates iobates
Cy Clyrius (Syntarucus) pirithous
Eicochrysops messapus mashallakoena
Freyeria trochylus
Harpandyreus noquasa
Lampides boeticus

THECLINAE

Aloeides aranda
Aloeides henningi
Aloeides rileyi
Aloeides timeni trimeni
Axiocerses tjoane
Capys alphaeus extentus
Gonatamyrina henningi
Myrina silenus ficedula
Poecilmitis chrysaor
Poecilmitis pelion
Spndasis mozambica

PIERIDAE

PIERINAE

Belenois (Anaphaeis) aurota aurota
Belenois (Belenois) creona severina
Colotis agoye bowkeri
Colotis evenina evenina
Colotis evippe omphale
Mylothris agathina
Pinacopteryx eriphia eriphia

COLIADINAE

Catopsilia florella
Colias electo electo
Eurema (Maiva) brigitta brigitta

PAPILIONIDAE

PAPILIONINAE

Papilio (Druryia) nireus lyaeus
Papilio (Princeps) demodocus demodocus

NOTES:

1. *Aloeides maluti* has not been included in the above list but is almost certain to be in the Park, the only OFS record was of a female recorded by F. Terblanche about 3 km past the

eastern gate of the Park and was taken in the same habitat as *Aloeides rileyi*, which occurs in the Park. (recently more specimens have been recorded by R. Terblanche).

2. *Aloeides taylori* was described from a single specimen taken in the Park by K.M. Pennington on 3rd October 1954. All subsequent records from the Park were apparently *Aloeides rileyi* which was described from Buthe Buthe in Lesotho. Henning & Henning (1986) did research on the two species and *Aloeides taylori* was sunk to a synonym of *Aloeides rileyi*.
3. *Kedestis lenis*, apparently the only known records in the OFS, are from along the river beneath the Brandwag.
4. *Torynesis orangica* was discovered in the Park by members of the Transvaal Museum; it constitutes the most northerly record of this Cape genus. Specimens have been recorded in the adjacent mountains outside the Park. A Red Data Book species categorized as rare.
5. *Pseudonympha paragaika* a Red Data Book species categorized as rare has only been found in the Park on the slopes above Brandwag. No other colonies are known although it is likely to be found in the adjacent mountains.
6. *Pseudonympha paludis*, *Pseudonympha varii* and *Stygionympha scotina* are all mountain species with Golden Gate being the only recorded habitat in OFS.
7. *Poecilmitis pelion* and *Lepidochrysops lerothadi* are Lesotho species only recorded in South Africa in the Park.

Although only 87 species have been recorded in the reserve so far the number of species restricted to this reserve are more than for any other.

We would like to thank Mr. Corrie Pieterse for allowing us to become involved in research in the Park.

Korrespondensie

Rudi Mijburgh

Onder die redakteurskap van Mnr Nolan Owen-Johnston het daar in *Metamorphosis* 1 (24) die volgende verskyn:

“Rudi Mijburgh van Pretoria het ook aan die Redaksie kommentaar gelewer: Mr. Rudi Mijburgh feels concerned that an article in *Rapport*, “*Skoenlappers wat soos miere leef*”, lacks accuracy and finesse. (*Rapport*, 3 September 1989, p. 25). He appeals to potential writers of articles in Afrikaans to submit these to himself for final vetting prior to publication for general distribution.”

Graag wil ek lesers daarop wys dat ek op geen stadium aan die Redaksie kommentaar gelewer het nie. Hierdie bewering is onsin. Wat wel gebeur het is dat ek ‘n persoonlike skrywe aan dr. Douglas Kroon gerig het waarin ek daarop gewys het dat die hele familie LYCAENIDAE nie in Afrikaans bekend is as BLOUTJIES nie, maar slegs die genus LEPIDOCRYSOPS. Die artikel deur Stephen Henning in *Rapport* was uitstekend maar dis moontlik dat hy dit uit Engels laat vertaal het en dat die vertaler geglip het. In my brief aan dr. Kroon het ek te kenne gegee dat ek bereid sal wees om briewe uit Engels in Afrikaans to vertaal as ek daarom gevra word.

Die Redakteur se woordkeuse is ongesellig en skep die indruk asof ek verwaand is. Die woord “ook” in die eerste sin wat by geskryf het is onnodig en klink sinister. So ook die woorde “for final vetting” is heeltemaal uit die duim gesuig.

An introduction to the ant-lions

Mervyn Mansell
National Collection of Insects, Plant Protection
Research Institute, Private Bag X134 0001
Pretoria.

Ant-lions are Myrmeleontidae, the richest and most widespread family in the order Neuroptera (lacewings). There are an estimated 2 000 species distributed on all the continents, but especially in the arid and semi-arid regions of Africa, Australia, Asia and the Americas. About 150 species in 40 genera are known from southern Africa, making them the

largest of the 12 families of Neuroptera which occur here.

The larvae are familiar to most people through the pit-building habits of some species, but both the name and the assumption that they all construct pits are misleading; larvae do not feed exclusively on ants and relatively few species are pit-builders. Also, the little creatures that lurk in the pits are often not associated with the beautiful net-winged adults frequently mistaken for dragonflies. Unlike dragonflies, however, myrmeleontid adults rest with the wings folded over the body in a roof-like manner, the antennae are conspicuous and clubbed and most species are nocturnal, being attracted to light. Although the common name usually refers to the larvae, adults are also known by this term or as 'ant-lion lacewings'.

The family includes some of the biggest and most spectacular of all insects, a claim made with confidence despite the hilarity it will elicit from besotted devotees of other groups. But, even the sceptics can be convinced. For example, the dominant Afrotropical group of ant-lions, the tribe Palparini, comprises over 100 species including 40 in southern Africa. It contains two of the largest local insects, *Palpares immensus* and *P. inclemens*, the latter with a wingspan of up to 170 mm. The wings of the palparines are attractively marked with shades of black, indigo or brown, often against a yellow background, and a few have beautifully emarginated or sinuate wing margins. *Cymothales* is another exquisite taxon, whose representatives are slender delicate insects with long legs and beautifully marked iridescent falcate wings. These patterns are not only attractive to the human eye, but primarily have a vital function in camouflaging the insects.

Ant-lions occupy a variety of habitats ranging from coastal dune forest to open grasslands, arid rocky areas to sandy deserts, and many species have adapted to hot dry areas where they may occur in large numbers.

Southern Africa has been a major evolutionary centre for these insects, where there is a rich fauna manifesting two main distributional trends. About 36% of the species occur in the

drier western parts, including the Cape Province, Namibia and Botswana and comprise mainly endemic taxa, whilst approximately 42% of the fauna inhabits the east, including Zimbabwe, Mozambique, Transvaal and Natal, and is influenced by tropical elements extending southwards from central and East Africa. The few remaining species are widespread throughout the subregion.

Like Lepidoptera, ant-lions undergo a complete metamorphosis (hence the suitability of this article for your newsletter of the same title). The life cycle commences with the female laying her eggs in sand in open areas, under bushes, in caves and under rock overhangs or in habitats sheltered by buildings. A few species lay in debris in tree holes and some on tree trunks or on rocks. Approximately 20 southern African ant-lion species (or only 14%) construct pits, and they represent three genera. The remainder are free-living in the habitats mentioned above.

The larval feeding mechanism, in which the mandibles and maxillae are modified and fit together to form piercing and sucking tubes, is unique to the Neuroptera and has contributed significantly to the success of ant-lion larvae as predators. When prey is captured, the cuticle is pierced by the sharp tips of the mandibles and an enzyme is infused into the body through the mandibular/maxillary canals. This kills the prey and dissolves the soft internal tissues, the resulting fluid being drawn up through the "sucking tubes" into the alimentary canal of the larva. Because the digestion of prey is so efficient, the hindgut is sealed off from the midgut and no solid waste, only excess fluid, is voided during the larval life. This exempts some of the malpighian tubes from an excretory role, enabling them to produce silk for cocoon construction instead.

Compared to the adult stage, which only occupies a few weeks, the larvae live a long time, between one and three years or longer under adverse circumstances. During this time they pass through three larval instars before pupating in a perfectly spherical silken cocoon which is coated with sand grains or bits of detritus. The pupa has mandibles for cutting an eclosion aperture through the

cocoon wall from which the adult emerges. The newly emerged adult voids a solid meconial pellet before seeking a vertical surface to cling to whilst the long wings expand and harden. Most adults are also carnivores, and not above resorting to cannibalism, whilst a few feed on pollen and nectar.

Field collecting of ant-lions (and other families of Neuroptera) is undertaken during the summer months, from about October to March, when the adults are present. Most specimens are taken at non-destructive light-traps, where they can be selected without harming unwanted insects, whilst diurnal species are hand-netted in the same way as butterflies. Specimens are killed in cyanide killing-jars or a deep freeze, if available and are best pinned in the field when fresh. If this is impractical they are carefully layered between sheets of tissue paper or in paper triangles in petri dishes or small flat boxes and subsequently relaxed and pinned. Specimens are set on setting boards with the wings and legs spread in a similar fashion to butterflies.

Larvae are also collected and kept alive for rearing and correlation with the adults, as this forms an important part of the research on Myrmeleontidae.

Despite their size, abundance and beauty, the systematics of ant-lions has, until recently, been surprisingly neglected and there are no convenient reference works from which ant-lions can be identified. However, I am presently involved in a comprehensive study aimed at fulfilling this need, and a number of papers dealing with various genera have been published. The first of these (Mansell, 1985) provides an introduction to the group, and a preliminary key to southern African genera. It is intended to ultimately combine this information into one complete illustrated reference.

Other families of Neuroptera are also receiving attention, particularly the Nemopteridae (ribbon-winged, spoon-winged or thread-winged lacewings), easily recognised by their long ribbon-like hindwings, and Ascalaphidae (owl-flies)

which resemble ant-lions but have very long clubbed antennae.

In the absence of suitable literature, I am prepared to assist with identifications and general information on Neuroptera, and any specimens or data that you may have could, in turn, be most valuable in augmenting our knowledge of these insects. Several members of the Lepidopterists' Society have already contributed significantly in this respect. You are welcome to bring or send material, or visit me at the above address. Material will be returned upon request, otherwise it will be curated here in the National Collection, which houses the most comprehensive collection of southern African Neuroptera in existence.

REFERENCE

- MANSELL, M.W. 1985. The ant-lions of southern Africa (Neuroptera: Myrmeleontidae). Introduction and genus *Bankisus* Navas. *Journal of the Entomological Society of Southern Africa* **48**: 189-212.

Deloneura millari - Die besonderhede van twee papies

Etienne Terblanche

Hoe eienaardig is alles nie - die wereld vir ons (in al sy besonderhede), ons vir mekaar (in al ons besonderhede) - en die skoenlappers. 'n Mens verstaan so min van elke ding. Een middag ontdek jy teen 'n stukkie bas konkreet getuigenis van 'n ander soort wereld wat op sy eie ongesteurd bestaan; waarvan jy voorheen net vaag omlynde vermoedens gehad het.

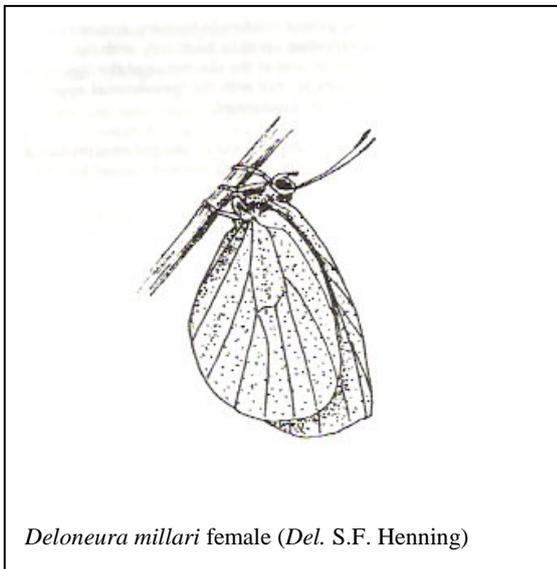
Om die volwasse skoenlapper te bestudeer is om te kyk na die punt van 'n ysberg - elke versamelaar weet dit is so. Elke versamelaar vermoed dat, onder die sigbare oppervlak van sy stokperdjie daar'n komplekse en omvangryke ondertoon is: soos die gedragpatrone, die omgang met ander insekte, of die fluoressent patrone in die vlerke wat nie vir ons oë bedoel is nie ... en soms gebeur dit dat die versamelaar en daardie onderliggende wêreld van vorme, kleure, patrone en gebeurtenisse rakelings ontmoet sodat 'n flikkering van die aard van daardie

stil lewenskring en sy bedrywige verloop, vir 'n oomblik vir die aanskouer gestalte kry.

En *Deloneura millari* is juis so eienaardig. Hulle trek ons aandag met hulle idiosinkratiese roerloosheid. Dié einenskap maak hulle interessant en terselfdertyd moeilik om to bestudeer.

Daar is ander opvallende verskynsels: die unieke vlerkvorm en die snaakse sterk pootjies – hierdie vormlike kenmerke van die volwassene en bowendien: *D. millari* se eetgewoontes, die bome waarin hulle woon, hulle gedragfatsoene ... dit wat onder die uiterlike, onmiddelik sigbare oppervlak van wat aan ons bekend is, gebeur en waaroor ons 'educated guesses' maak: die geheimsinnigheid van *D. millari*.

Omdat ek so graag die onsigbare stuk ysberg, die etomologie, wil begryp en omdat *D. millari* se gedrag 'n mens so spontaan opval (nogal omdat daar iets onskoelapperagtigs aan is!) het ek die enkeles wat ek gewaar het by Ngweni Quarry (die bekende skoelapperomgewing naby Hluhluwe) met min wysheid en baie nuuskierig dop gehou; en ek was gelukkig.



Deloneura millari female (Del. S.F. Henning)

Die enkele vroeëre insae in die siklus van *D. millari* het Pennington nege en veertig jaar gelede te beurt geval. Sy bevindinge is gepubliseer in *The Journal of the Entomological Society of Southern Africa - Volume III*, September 1940. Pennington het larwes

gevind op 'n ander soort boom as die boom waarop ek my papies gevind het. Syne was 'n doringboom (*Acacia*), of die umgulugulu (*Strychnos* sp.). Ek het my papies gevind teen die bas van 'n huilboerboon (*Schotia brachypetala*). Die feit dat ons hulle op verskillende soorte bome gevind het, laat 'n mens seker voel dat die voedsel van *D. millari* iets anders is – soos die ligene (my broer dink so), of bykomstig uit die sg. coccids – dit word reeds lank vermoed.

Dit sou wonderlik wees as ek foto's van die papies en hulle ontpopping kon neem. Dit was vir my onmoontlik. Al wat oorgebly het is 'n klompie aantekeninge, 'n stukkie bas met die twee leë papiedoppies, een gespalkte volwassene (die ander is deur miere gebreek) – en, natuurlik, 'n storie.

Soos baie versamelaars maar moet maak, is ons in die middel van ons alledaagse bedrywigheid vir 'n naweek Zululand toe; en dit is met die intuïsie wat baie versamelaars het, dat ek geweet het die papies is *D. millari* nadat ek hulle ontdek het.

Op die tweede April vanjaar het ek, my broer, Gussie en Arina weereens die halftoegegroeiende pad teen Ngweni Quarry uit geloop. Ek is 'n luierige versamelaar en omtrent halfpad teen die koppie uit het ek onder die huilboerboon gaan sit waar ek die vorige Desember twee *D. millari* gevang het, om te rus – daar was destyds net die twee, tot die spyt van my maats.

Ek was so luierig dat die ander my daar op die klip after gelaat het om boontoe te gaan soek na *Iolais* en *Aphnaeus*. Ek het nog 'n ruk in die huilboerboonkoelte gebly en nadat ek my verbeel het ek sien uit die hoek van my oog 'n *D. millari* vlieg, het ek besluit om in die boom te klim en te kyk of 'n mens die eksentrieke skoelapper se geheime enigsins kan besweer. Die boom het moeg gelyk – daar was spoortjies van 'n ryk verskeidenheid diertjies vir wie die boom ook 'n eiland tussen die acacias is. In die Desembermaand waarin ek my twee voorbeelde gevang het, moes die boom juis swaar dra aan 'n klomp oogpistertipe kewers. Noudat ek in die boom was, kon ek teen die bas baie tekens sien van verbruik: ligene, en uitskeidinge van insekte.

(Chris Ficq is in hierdie opsig doodreg met sy aanmerking: as jy *D. millari* soek, soek na die siekste boom in die omgewing).

Dit was met die afklim, toe ek naby kyk, dat ek in die eerste vurk 'n stukkie bas sien opstaan het met daarbinne die twee harige papies. Ek was opgewonde en het nog net 'n klein rukkie voortgesoek voordat ek my vonds na die ander daar bo geneem het.

Die papies was aan die binnekant van die bas, met die bultjie in elke kassie waar die pootjies van die volwassene lê, na die stam gerig. Terug in Potchefstroom, waar ons studeer, het een van die papies begin verkleur: vanaf 'n witgrys tot 'n ryp geelperskegeel waar die vlerkies lê, en oorwegend donker rooibruin in die res van die papie. Dinsdagoggend die vyfde April het ek die papie oopgeskeur gevind – op die bodem van die bakkie het die volwassene gelê, die eerste van twee mannetjies, op sy sy; besig om dood te lyk. In my onkunde het ek gedink hy is regtig dood. Hy was baie lewendig toe ek aan hom raak. Ek het die gaasdeksel van die houer vinnig toegemaak – hy het twee rondtes regop rondom die stukkie bas geloop, opgevlieg en onderstebo aan die gaasdeksel kom hang. Hy het nie gereageer op verdere aanraking nie. Teen die aand het ek hom gespalk – later sou die miere hom, nog in die monterbakkie, breek.

Teen die negende April het die ander papie begin verdonker. Teen die tiende April het hy nes die eerste papie gelyk. Toe eers merk ek 'n drooggeworde bruin vlek op die bodem van die bakkie op – wat dit was, weet ek nie. Ek merk ook op dat, hoewel die 'vlerkies' van die papie van bo af en selfs van die kant af die minste sigbaar is, hulle houtagtig lyk.

Teen die elfde April was die papie donker, met dieselfde aspekte (die skoelapper daar binne was nooit deursigtig nie). Tussen 2:30 en 7 nm. die dag was ek weg uit my warm-warm kamertjie in die dak van ons huurhuis en in die interum het my tweede *Deloneura* ontpop – groter as die voorganger, al was die papies min of meer ewe groot. Die vlerke was alreeds ontplooi en gebruik en effens oorhellend – hulle het so gebly tot met die spalk toe. Tot 8:10 nm. het ek hom bekyk en

bly het net so sit op die plastiekbodem. Minute later het ek geluidjies daar binne gehoor en gesien dat hy sy opvallend-groot tweede paar pote roer, 'n bietjie rondfladder en op sy 'sy' gaan lê, met die pootjies ingekrul – presies nes ek die vorige een aangetref het. Waarom gaan lê hulle so op hulle sy? Is die toevallig, of is dit 'n soort 'bluff'?

Ek het die bakkie gewikkel om hom 'n entjie van die rant af te kry – dit het hom laat opstaan en wankelrig tot by 'n grassie in die houer laat loop waar hy regop, merkbaar klouend, gebly het. Teen 9:25 nm. het hy weer op sy 'sy' gaan 'lê' – hierdie keer met die grassie in sy pootjies. Die volgende oggend agt uur was hy nog in presies dieselfde posisie en lewendig; ek het hom toe gemonteer.

Ek was nie gelukkig genoeg om hulle te sien ontpop of om foto's te neem nie. Beide het op die 'sy' gaan 'lê' (net een keer wyl klouend, so ver my aantekeninge sê – ek het nie spesifiek daarna opgelet nie). Waar ek dus voor my ontdekking gewonder het oor die lewensiklus van *D. millari*, was ek toe, na die tien dae met my papies, seker van min:

- a) dat ek hulle gevind het op *Schotia brachypetala* (en dat dit 'n ander boom is as die soort waarop Pennington sy larwes gevind het);
- b) dat die papies binne-in 'n uitstaande stukkie bas gelê het, vertikaal, met die pootjies wat na die stam wys;
- c) dat die papies aanvanklik witgrys was, met lang swart haartjies, en houtagtige patrone by die vlerkies, asook swart merkies waar die pote van die skoelapper 'n bultjie maak (en soos Pennington ook beskryf);
- d) dat die papies voor ontpopping verkleur en verdonker.

Dit, en ander klein vormlike detail wat nog in die leë doppies sigbaar is, weet ek nou: maar 'n vraag is bygewoeg. Gaan lê *D. millari* op sy 'sy' in die natuur? As dit so is – is dit 'n vorm van verdediging? (Ek dink nou aan Graham Henning se waarnemings van sekere *Aloeides*.)

Die geheimsinnigheid van *D. millari* het dus entlik meer enigmaties geword. Met kennis van die boom en in die hoop dat 'n mens hulle

weer daar sal aantref soos wat 'n mens ander skoenlappers altyd weer by dieselfde plant kan kry, behoort iemand verdere ondersoek te gaan instel. Die boom is nie moeilik om te kry nie – halfpad teen die halftoegegroeide paadjie teen Ngweni Quarry uit staan die huilboerboon, die enigste in sy omgewing, duidelik teen die kant van die pad, op die linkerhand as jy boontoe op pad is. Hy is nogal groot. En hy lyk moeg.

Costa Rica - Nature's best

Simon Ellis
Transworld Butterfly Company

Imagine, in a country the size of Wales, the equivalent of the beaches of Florida, the jungles of the Amazon, the wildlife of two continents, the volcanoes of Hawaii, world famous for birdwatching, butterflies and other wildlife, and sport fishing on both its Pacific and Atlantic coasts!

Costa Rica's natural beauty is well-known. Over 11% of the country is designated National parks. A remarkable range of habitats exist, including lowland tropical rainforest, montane rainforest, tropical deciduous forest, savannas, cloud forests, tropical alpine vegetation, plus sandy beaches and coral reefs along its coastline. All this in a small country of 19,000 square miles.

Costa Rica is very different to other Latin American countries. Most countries in the region have a large poor class, while most of Costa Rica's 2.6 million people are middle-class and well educated, charming, hospitable, and love to make visitors welcome!

Life in Costa Rica is very different from the rest of Latin America. It is Latin America's oldest democracy, with elections held every four years. It is safe and peaceful. It has the highest standard of living, excellent health care and a modern infrastructure of top quality hotels, modern highways, and excellent communications worldwide.

Costa Rica is a world center for tropical biology research, and it is hard to name a tropical field biologist who has not worked in Costa Rica. In this small country over 1,500

species of butterflies, 9,000 species of moths, 850 species of birds, 400 species of reptiles and amphibians can be found!

At our Naturalists Ranch and Lodge, located near Turrialba, just two hours from the Capital (San Jose), we offer butterfly enthusiasts, birdwatchers, naturalists and photographers the chance of a lifetime to experience the fauna and flora of tropical montane rainforest, and other habitats. Experience the rainforest by hiking, horseback, or jeep.

Our ranch lodge offers all modern conveniences including 24-hour electricity, with rich green tropical montane rainforest just 100 yards away offering hundreds of species of birds, butterflies and other wildlife. See beautiful Toucans playing amongst the treetops, Hummingbirds sipping nectar from colourful flowers, and beautiful Orchids blooming in the forest!

Butterfly enthusiasts will find hundreds of species, including giant metallic blue *Morpho*, *Caligo*, Papilionidae, Heliconiidae, Ithomiidae, Satyridae, Nymphalidae, Pieridae, Lycaenidae. At night, using a black-light or mercury vapour lamp, the whole sky will be filled with thousands of moths – from small micros to giant Saturniidae and Sphingidae. Lights will attract giant beetles like *Acrocinus longimanus* and *Dynastes hercules*.

Birdwatchers will get the chance to see in the area around 300 species including Black Cowled Oriole, *Montezuma oropendola*, many species of Tanager, Variable Seedeater, Blue-black Grosbeak, Flycatchers, Masked Tityra, Motmots, Black-faced Solitaire, Kingfishers, Grackles, Toucans, Hummingbirds, Parrots, Parakeets, Hawks and many other species.

Costa Rica has many volcanoes (most are inactive) and these offer the chance to find rare butterflies, birds, and plants that inhabit just the tops of these volcanoes. Near to our Naturalists Ranch and Lodge, two volcanoes can be visited – Volcano Irazu (3,432 meters) and Volcano Turrialba (3,328 meters).

Like other Tropical countries, Costa Rica has a wet and dry season. The location of our Naturalists Ranch on the Atlantic side of Costa

Rica gives it an excellent climate (70-80 degrees F year-round) and we do not have a prolonged dry season, everything stays green year round. The wet season runs from June to November, with generally sunny mornings and rain late afternoon or at night. Our altitude is 980 meters.

The biggest thrill for many naturalists is a visit to the Tortuguero Canals, a network of canals and inland waterways on the Atlantic Coast, going through Amazon-like jungle. You'll see lots of wildlife, and in season (June - October) you will see giant 300 lb Green Turtles coming ashore to lay eggs.

Another famous location for naturalists is the famous Monteverde Cloud Forest Nature Reserve. Many rare species of fauna and flora inhabit this reserve.

If you want to see so much and experience unspoiled tropical paradise, come and visit Costa Rica!

NATURALISTS RANCH AND LODGE: 7/14 day packages including accommodation, meals, field-trips and airport collection are available. Write for our brochure to: TRANSWORLD BUTTERFLY COMPANY (SA), Apartado 7911, San Jose, COSTA RICA.

New Members interested in exchanging specimens

Enric Macias Güell. Apartado 105, 17800 Olot Girona, Spain. Wants to exchange Lepidoptera, Coleopter, Mantis, Saltamontes, Stick insects, Diptera, Hemiptera, etc and any kinds of spiders and scorpions. Wants any African species in exchange for species from America, Asia and Europe.

Kenji Kamigaki. 4-32 Hiroyokoro, 4 chome Kure-shi, Hiroshima 737-01, Japan. Interests are Lycaenidae and Nymphalidae. Can exchange specimens from Japan and Asia.

D. Knoop. Rysberkamperweg 7, 8392 T.P. Boyl, The Netherlands. Interests - African Lepidoptera, Zoogeography, Conservation and South African Natural History Literature.

Jacques Nicat. 18 Allee Jean Baptiste, Clement 93190, Livry Gargan, France. Very interested in exchanging European butterflies etc. for *Charaxes*, especially *Ch. Pelias*, *Ch. druceanus entabeni* and *Ch. d. cinadon*, *Ch. xiphares* all subspecies, *Ch. jahlnusa jahlnusa*, *Ch. jahlnusa rex*, *Ch. marieps*, *Ch. karkloof*, *Ch. alpinus*, *Ch. brainei* - all needed good or bad condition.

Helmut Probst. Augsburg Str. 7, D8939 Turkheim, West Germany. Interested in exchanging live or dried material of Saturniidae (Emperor moths) and photographs.

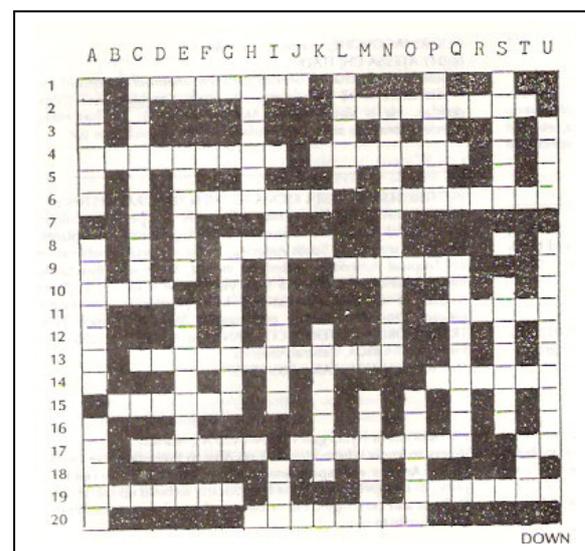
Kurt Rumbucher. 89 Augsburg, Daucherstrasse 16, West Germany. Interested in exchanging especially *Charaxes*.

Yazaki Yasuyuki. Toko 13-3, 6-15 Asahigawa City, Hokkaido, Japan. Would like to exchange butterflies from Japn or S.E. Asia, Formosa, Phillipines, Sri-Lanka, Indonesia, etc. (all perfect with full collecting data) for specimens from South Africa, especially Lycaenidae and Satyridae of Cape Province.

Juan Ortiz Salmerón. Auda Barcelona 217 - 1^a 08222, Terrassa (Barcelona), Spain. Exchnage butterflies of the world, and moths (only Saturniidae). I can send you videocassette of the Saturnid *Graellsia isabellae* (endemic of Spain) in VHS system for Papilionidae and Saturniidae. Send for list of Spanish butterflies available.

Butterfly crossword

John Joannou



The answers are all scientific names of butterflies. The **G** or **S** in parentheses [brackets] is a further clue denoting genus or species/subspecies, respectively. Spelling *per* Kroon & Vári's *Cross Referenced Indices*. Have fun!

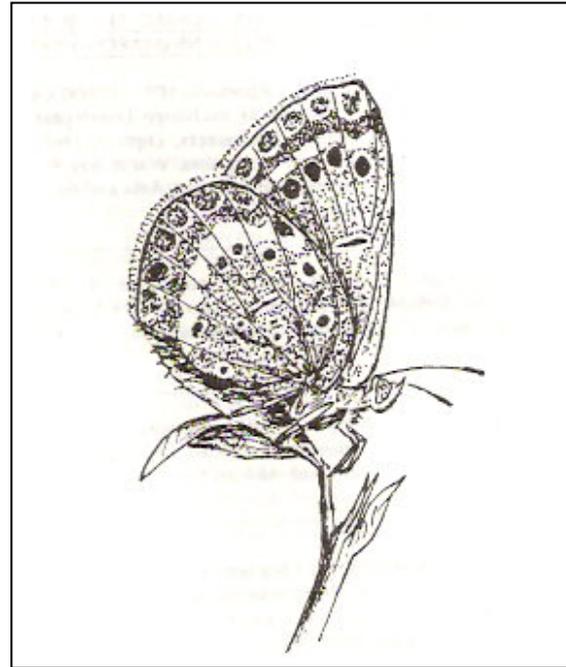
ACROSS

- 1C (G) - Bitter March for Julius.
 2L/8S/17T (G) - Tiny bug with monstrous name.
 4A (G) - Start the plane for the boy's sake to catch this beauty.
 4K (G) - Scrambled tape and nothing else can replace this yellow lycaenid.
 6E (G) - The family is named after this one.
 6N (G) - The cleaning lady uses the fireman's door breakers to get to this strong flier.
 8G (S) - Single subspecies represents the entire S.A. family.
 9L (G) - This pierid likes doing things the Venetia (n) (s) way.
 10A (S) - Living in unison with this common skipper.
 11P (G) - I replace Miss Gabor's A's with sodium to form this little blue.
 13C (G) - False mythological maiden.
 14P (G) - African king.
 15B (G) - This black and white chap somehow is inept without me.
 17C (G) - The heartless capital of Ghana is enough to expose this slow flier.
 17J (G) - We follow a small two wheeler.
 19A (G) - In my path I find a confused satyrid.
 19O (S) - A rained out ant lover.
 20H (S) - Sips cane crudely.

DOWN

- A1 (G) - Symbolic gold in upturned soil reveals the sapphires.
 A8 (S) - This forest skipper can alter soup.
 A16 (G) - Emblem eater.
 C1 (G) - An old Italian leader flirts with this skipper.
 E4 (S) - The Free State's only blue copper.
 E11 (G) - This drab lycaenid can be found in the story book.
 G8 (G) - When palms die they become ubiquitous blues.
 H1 (G) - I aid ex converts to pierids.
 16 (G) - This mocking lycaenid was discovered by a Viking's ancestor.
 J18 (S) - Juggle a Scots negative for this brown.
 K12 (G) - Nothing in French love is replaced by a well known model.
 L1 (S) - Swallowtail meets a serene end in Cape Town.

- M15 (S) - Turn lousy X rated movies from blue to brown.
 N2 (G) - Using rope on the waterfall provides a different way out for a pirate.
 O15 (G) - Another social to introduce this fodder feeder.
 P1 (S) - It's a danaid exclaims the Scot before spilling ale.
 Q9 (G) - Different turns conceal gibberish said the Bard.
 S1 (S) - The other Metisella twin.
 S10 (G) - A follower of the Zulu king's slayer.
 T17 (S) - This copper plays the pipes.
 U3 (S) - Set sail for this orange-tip.
 U8 (G) - Although poisonous, the new mate is best for this forest dweller.



Directory of Lepidoptera Conservation Projects

T.R. New
 Department of Zoology, La Trobe University,
 Bundoora, Victoria 3083, Australia.

The IUCN/Species Survival Commission's Lepidoptera Specialist Group is aware that there are many individuals and groups fostering the conservation of butterflies and moths, in many parts of the world. Many of these projects are being undertaken in relative isolation or on a very local scale, and are not widely known elsewhere. Many could perhaps benefit from increased opportunity to exchange information.

We plan to prepare a 'Directory' of Lepidoptera Conservation Projects, including both current projects and those which have been completed but for which results remain in private or unpublished reports. This will include projects such as distribution mapping, butterfly ranching, and surveys, as well as taxon targetted, population-targetted and habitat-related conservation activities in many parts of the world. Both amateur and professional projects are welcome for inclusion and we hope to include a wide representation of current activities in these areas.

This flyer is being widely distributed, with the request that each recipient brings it to the notice of other relevant individuals and organisations. Would people please submit details of projects, as follows:

- i) Title and objectives of project
- ii) Specific activities
- iii) Locality and duration
- iv) Contact person, with address (+ phone nos., FAX, if available)
- v) Status: current, completed, planned, etc.
- vi) (A few lines on the project)
- vii) Funding source and budget (if not confidential)
- viii) A list of any reports or publications from the project.

The information should be sent to: Dr T.R. New, Chairman, LSG, Department of Zoology, La Trobe University, Bundoora, Victoria 3083, Australia, before the end of August 1990. It is hoped to produce the Directory within a few months of that deadline, and all contributors will receive a gratis copy.



Report on day trip to Doorndraai Dam

R.T. Warren

P.O. Box 915-1153, Faerie Glen, Pretoria 0043.

Date: 27/01/1990.

Time: 09:00 to 15:30.

Permit number: G 4526 T.N. 8/2/5/1 (1988 to 1989) and G 4567 T.N. 8/2/5/1 (1989 to 1990).

Weather conditions: Warm; partly cloudy becoming cloudy; slight breeze.

Area(s) and grid references: B) North eastern side, 24° 16.2' S 28° 45.3' E. Rocky hills; wooded to densely wooded with grass between and under the trees. Bare cliff faces and some kloofs. Western side of some hills mostly grassy. Altitude about 1,300 m.

Species recorded:

Abbreviations in table: X = Not recorded on previous visits; P = patrolling; H = Hilltopping; C = Colonial; M = Mudpuddling; Q = Perching; T = Territorial; F = Feeding at flowers.

TAXON	NUMBER SEEN	BEHAVIOUR
DANAIDAE		
<i>Danaus chrysippus aegyptius</i> (Linnaeus)	15	P
SATYRIDAE		
<i>Henotesia perspicua</i> (Trimen)	6	P
ACRAEIDAE		
<i>Acraea obeira burni</i> (Butler)	1	XP
<i>Acraea eponina manjaca</i> (Boisduval)	2	P
<i>Acraea axina</i> (Westwood)	1	P
<i>Acraea zetes acara</i> (Hewitson)	1	XP
CHARAXIDAE		
None seen		
NYMPHALIDAE		
<i>Hamanumida daedalus</i> (Fabricius)	15	PH
<i>Byblia ilithyia</i> (Drury)	10	P

<i>Catacroptera cloanthe</i> (Stoll)	8	P
<i>Junonia archesia</i> (Cramer)	4	PH
<i>Junonia hierta cebrene</i> (Trimen)	20	PH
<i>Junonia oenone</i> (Linnaeus)	10	PH
<i>Vanessa cardui</i> (Linnaeus)	5	P
<i>Phalanta phalantha aethiopica</i> (R. & J.)	6	P
LYCAENIDAE		
<i>Myrina silenus ficedula</i> (Trimen)	1	Q
<i>Hypolycaena philippus philippus</i> (Fabricius)	30	M
<i>Axiocerses tjoane</i> (Wallengren)	5	QH
<i>Axiocerses amanga</i> (Westwood)	2	QH
<i>Spindasis ella</i> (Hewitson)	4	H
<i>Gonatomyrina henningi</i> (Dickson)	4	PH
<i>Crudaria leroma</i> (Wallengren)	4	XP
<i>Lampides boeticus</i> (Linnaeus)	10	P
<i>Anthene definita definita</i> (Butler)	3	M
<i>Anthene amarah amarah</i> (Guer.-Men.)	4	P
<i>Tarucus sybaris sybaris</i> (Hopffer)	8	F
<i>Cyclyrius pirithous</i> (Linnaeus)	8	P
<i>Castalius hintza hintza</i> (Trimen)	4	P
<i>Cupidopsis cissus cissus</i> (Godart)	6	XP
<i>Cupidopsis iobates iobates</i> (Hopffer)	2	P
<i>Eicochrysops messapus mahallokoena</i> (Wall.)	30	P
<i>Freyeria trochylus</i> (Freyer)	6	P
<i>Azonus jesous jesous</i> (Guer.-Men.)	8	P
<i>Zizula hylax</i> (Fabricius)	6	P
PIERIDAE		
<i>Colias electo electo</i> (Linnaeus)	4	P
<i>Catopsilia florella</i> (Fabricius)	15	P
<i>Eurema brigitta</i> (Cramer)	20	P

<i>Colotis eris eris</i> (Klug)	8	XP
<i>Colotis subfasciatus</i> (Swainson)	4	P
<i>Belenois creona severina</i> (Stoll)	20	P
<i>Mylothris rueppellii haemus</i> (Trimen)	30	XP
<i>Mylothris agathina</i> (Cramer)	30	P
PAPILIONIDAE		
<i>Papilio demodocus</i> (Esper)	6	P
<i>Papilo nireus lyaeus</i> (Doubleday)	4	XP
<i>Graphium antheus</i> (Cramer)	3	P
HESPERIIDAE		
<i>Coeliades pisistratus</i> (Fabricius)	10	P
<i>Spialia dromus</i> (Plötz)	1	XP
<i>Platylesches moritili</i> (Wallengren)	1	XP

Observations:

- Ovipositing: None.
- Eggs: None.
- Larvae: None.
- Food plants: Loranthaceae - *I. trimeni trimeni* found on leaves. The plant has now been keyed out and is *Tapinanthus leendertziae*.

Not seen: Not applicable.

Participants: Mr R.T. Warren, Mrs H.A. Warren, Mst. R.R. Warren, Miss D.N. Warren.

Summary of statistics: 47 species recorded; 9 species not recorded previously. Total number of specimens seen - 392. Five most common species: *Mylothris agathina* (30+), *Mylothris rueppellii haemus* (30+), *Hypolycaena philippus philippus* (30+), *Eicochrysops messapus mahallokoena* (30+), *Junonia hierta cebrene* (20+).

General remarks: This is the ninth working visit to Doorndraai Dam. We thank the Transvaal Nature Conservation Division for their assistance during our visits.

Checklist for Doorndraai Dam Nature Reserve

R.T. Warren

As at: 27/01/1990.

Permit number: G 4256 T.N. 8/2/5/1 (1988 to 1989) and G 4567 T.N. 8/2/5/1 (1989 to 1990).

Area(s) and grid references:

- A) Northern side - 24° 15.6' S 28° 45.3' E.
Rocky koppies, wooded to densely wooded with grass between and

under the trees. Altitude about 1, 240 m.

- B) North eastern side - 24° 16.2' S 28° 48.3' E. Rocky hills, wooded to densely wooded with grass between and under the trees. Altitude about 1, 300 m.

- C) North western side - 24° 17.4' S 28° 44.0' E. Range of hills along western side of dam - wooded to densely wooded and heavily grassed - very rocky in areas. Altitude about 1, 300 m.

Species recorded:

TAXON	AREAS (A, B, C)	MONTH (JFMAMJJASOND)
DANAIDAE		
<i>Danaus chrysippus aegyptius</i> (Linnaeus)	ABC	JFMA---ASON-
SATYRIDAE		
<i>Henotesia perspicua</i> (Trimen)	BC	JF----A----
<i>Physcaeneura panda</i> (Boisduval)	AB	JF-----ND
<i>Coenyropsis natalii natalii</i> (Boisduval)	B	J-----D
<i>Stygionympha wichgrafi wichgrafi</i> (van Son)	B	--MA-----
<i>Ypthima impura</i> (Elwes & Edwards)	AC	J-----AS-D
ACRAEIDAE		
<i>Acraea neobule neobule</i> (Doubleday)	A	-----S--
<i>Acraea axina</i> (Boisduval)	AB	JF-----S--
<i>Acraea eponina manjaca</i> (Boisduval)	BC	JF-----A----
<i>Acraea obeira burni</i> (Butler)	B	JF-----
<i>Acraea zetes acara</i> (Hewitson)	B	JF-----
CHARAXIDAE		
<i>Charaxes jasius saturnus</i> (Butler)	ABC	JFMA---AS---
<i>Charaxes jahlusa rex</i> (Henning)	ABC	JF-----AS---
<i>Charaxes achaemenes achaemenes</i> (Felder)	AB	JFMA----S---
<i>Charaxes vansoni</i> (van Someren)	A	-----S---
NYMPHALIDAE		
<i>Hamanumida daedalus</i> (Fabricius)	ABC	JFMA---ASOND
<i>Byblia ithyia</i> (Drury)	ABC	JFMA---ASOND
<i>Precis octavia sesamus</i> (Trimen)	A	-----S---
<i>Hypolimnas misippus</i> (Linnaeus)	B	JFMA-----D
<i>Catacroptera cloanthe</i> (Stoll)	B	JF-A-----OND
<i>Junonia archesia</i> (Cramer)	B	JF-----
<i>Junonia hierta cebrene</i> (Trimen)	ABC	JFMA---ASOND
<i>Junonia oenone</i> (Linnaeus)	AB	JF-----S-D
<i>Vanessa cardui</i> (Linnaeus)	AB	JFMA---SOND
<i>Phalanta phalantha aethiopica</i> (R. & J.)	B	JF-----D
LYCAENIDAE		
<i>Alaena amazoula ochroma</i> (Vári)	AB	JF-----N-
<i>Lachnocnema durbani</i> (Trimen)	B	J-----D
<i>Cnodontes penningtoni</i> (Bennett)	A	-----S---
<i>Deudorix dinochares</i> (Grose-Smith)	A	-----S---
<i>Myrina silenus ficedula</i> (Trimen)	B	JF-----ND

<i>Stugeta bowkeri teari</i> (Dickson)	ABC	JF----ASOND
<i>Iolais trimeni trimeni</i> (Wallengren)	ABC	JF----AS-D
<i>Hypolycaena philippus philippus</i> (Fabricius)	AB	JF-----ND
<i>Crudaria leroma</i> (Wallengren)	B	JF-----
<i>Spindasis natalensis</i> (Westwood)	AC	-----AS--
<i>Spindasis ella</i> (Hewitson)	AB	JFMA-----D
<i>Aphnaeus hutchinsonii</i> (Trimen)	A	-----S--
<i>Axiocerses tjoane</i> (Wallengren)	AB	JF-----ND
<i>Axiocerses amanga</i> (Westwood)	AC	JF----AS--
<i>Capys disjunctus</i> (Trimen)	B	-----ON-
<i>Aloëides taikosama</i> (Wallengren)	B	J-----D
<i>Gonatomyrina henningi</i> (Dickson)	ABC	JFMA---ASOND
<i>Lampides boeticus</i> (Linnaeus)	ABC	JFMA---ASOND
<i>Anthene amarah amarah</i> (Gue.-Men.)	B	JF-A-----
<i>Anthene butleri livida</i> (Trimen)	AC	JF----A----
<i>Anthene definita definita</i> (Butler)	B	JF-----OND
<i>Tarucus sybaris sybaris</i> (Hopffer)	B	JF-----OND
<i>Cacyreus lingeus lingeus</i> (Stoll)	B	--MA-----
<i>Cacyreus virilis</i> (Aurivillius)	B	J-----D
<i>Castalius melaena melaena</i> (Trimen)	AC	-----AS--
<i>Castalius hintza hintza</i> (Trimen)	B	JF-----
<i>Cyclusyrius pirithous</i> (Linnaeus)	AB	JF-----S-ND
<i>Lepidochrysops plebeia plebeia</i> (Butler)	B	J-----D
<i>Lepidochrysops patricia</i> (Trimen)	B	J-----ND
<i>Lepidochrysops glauca</i> (Trimen)	B	-----N-
<i>Euchrysops osiris osiris</i> (Hopffer)	B	J-----ND
<i>Euchrysops malathana malathana</i> (Boisduval)	B	JF-----ND
<i>Pseudonacaduba sichela</i> (Wallengren)	B	J-----OND
<i>Euchrysops dolorosa</i> (Trimen)	B	J-----OND
<i>Eicochrysops messapus mahallokoaena</i> (Wallen.)	AB	JFMA-----ND
<i>Freyeria trochylus</i> (Freyer)	AB	JFMA-----ND
<i>Zizula hylax</i> (Fabricius)	AB	JFMA-----D
<i>Azanus jesous jesous</i> (Gue.-Men.)	B	JF-----OND
<i>Azanus ubaldus</i> (Stoll)	B	-----N-
PIERIDAE		
<i>Pinacopteryx eriphia</i> (Godart)	A	-----S--
<i>Colias electo electo</i> (Linnaeus)	B	JF-----ND
<i>Catopsilia florella</i> (Fabricius)	B	JFMA-----ND
<i>Eurema brigitta</i> (Cramer)	ABC	JFMA---ASOND
<i>Colotis euippe omphale</i> (Godart)	B	--MA---S--
<i>Colotis subfasciatus</i> (Swainson)	BC	JF----AS--
<i>Colotis eris eris</i> (Klug)	B	JF-----
<i>Belenois creona severina</i> (Stoll)	B	JF-----ON-
<i>Belenois aurota</i> (Fabricius)	B	J-----ND
<i>Mylothris rueppellii haemus</i> (Trimen)	B	JF-----
<i>Mylothris agathina</i> (Cramer)	ABC	JFMA---AS-D
PAPILIONIDAE		
<i>Papilio demodocus</i> (Esper)	AB	JFMA---S-ND
<i>Papilio nireus lyaeus</i> (Doubleday)	B	JF-----
<i>Graphium morania</i> (Angas)	A	-----S--
<i>Graphium antheus</i> (Cramer)	AB	JF-----S--
HESPERIIDAE		
<i>Coeliades pistratus</i> (Fabricius)	B	JF-----D
<i>Leucochitonea levubu</i> (Wallengren)	AB	JF-----
<i>Eretis umbra umbra</i> (Trimen)	B	--MA-----
<i>Abantis tettensis</i> (Hopffer)	B	J-----D
<i>Abantis paradisea</i> (Butler)	AB	JF-----S--

<i>Abantis venosa</i> (Trimen)	AB	JF-----S---
<i>Parosmodes morantii morantii</i> (Trimen)	AB	JF-----S---
<i>Tsitana tsita</i> (Trimen)	AB	JF-----D
<i>Spialia dromus</i> (Plötz)	B	JF-----
<i>Platylesches ayresii ayresii</i> (Trimen)	ABC	J-----AS-D
<i>Platylesches moritili</i> (Wallengren)	B	JF-----
<i>Gegenes pumilio gambica</i> (Mabille)	AB	JF-----S---
<i>Pelopidas thrax inconspicua</i> (Bertolini)	B	JF-----

Summary of statistics: 92 species recorded; 9 species not recorded previously.

General remarks: This is the ninth working visit to Doorndraai Dam.

Report on day trip to Percy Fyfe Nature Reserve

R.T. Warren

P.O. Box 915-1153, Faerie Glen, Pretoria 0043.

Date: 10 to 11/12/1988.

Time: 09:00 to 16:00 and 08:30 to 12:00.

Permit number: G 1785 T.N. 8/2/5/1/ (1987 to 1988) and G 4526 T.N. 8/2/5/1 (1988 to 1989).

Weather conditions: 10/12/1988: Cool; overcast; slight breeze. 11/12/1988: Warm; partly cloudy; slight breeze.

Area(s) and grid references: A, B, C and D - See checklist for descriptions.

Species recorded:

Abbreviations in table: X = Not recorded on previous visits; P = patrolling; H = Hilltopping; C = Colonial; M = Mudpuddling; Q = Perching; T = Territorial; F = Feeding at flowers.

TAXON	A	B	C	D	BEHAV.
DANAIDAE					
<i>Danaus chrysippus</i> (Linnaeus)	4	6	3	7	PF
SATYRIDAE					
<i>Henotesia perspicua</i> (Trimen)	-	-	-	4	XM
<i>Coenyrta rufiplaga</i> (Trimen)	8	-	-	2	P
<i>Physcaeneura panda</i> (Boisduval)	4	-	-	2	P
ACRAEIDAE					
<i>Acraea rahira</i> (Boisduval)	-	-	-	3	XP
<i>Acraea esebria</i> (Hewitson)	-	-	-	1	XP
<i>Acraea caldarena</i> (Hewitson)	3	5	6	1	P
<i>Acraea oncaea</i> (Hopffer)	-	-	1	3	P
<i>Acraea axina</i> (Westwood)	4	-	-	4	P
<i>Acraea anemosa</i> (Hewitson)	1	-	-	-	XP
<i>Acraea violarum</i> (Boisduval)	2	-	1	1	P
CHARAXIDAE					
<i>Charaxes jasius saturnus</i> (Butler)	2	-	-	-	P
NYMPHALIDAE					
<i>Hamanumida daedalus</i> (Fabricius)	2	1	2	5	PQ
<i>Byblia ilithyia</i> (Drury)	-	-	-	2	P

<i>Junonia hierta cebrene</i> (Trimen)	2	3	2	1	Q
<i>Junonia oenone</i> (Linnaeus)	2	1	1	2	P
<i>Vanessa cardui</i> (Linnaeus)	3	1	2	4	Q
<i>Phalanta phalantha aethiopica</i> (R. & J.)	-	-	-	3	P
LYCAENIDAE					
<i>Cnodontes penningtoni</i> (Bennett)	-	-	-	1	Q
<i>Lachnocnema durbani</i> (Trimen)	-	-	-	2	XQ
<i>Deudorix antalus</i> (Hopffer)	1	-	-	-	XP
<i>Axiocerses tjoane</i> (Wallengren)	-	-	-	1	Q
<i>Leptomyrina gorgias</i> (Stoll)	2	1	2	7	Q
<i>Lampides boeticus</i> (Linnaeus)	4	4	3	5	P
<i>Lepidochrysops plebeia plebeia</i> (Butler)	2	4	5	4	P
<i>Syntarucus brevidentatus</i> (Tite)	1	3	2	4	Q
<i>Cyclus pirithous</i> (Linnaeus)	2	4	3	1	Q
<i>Aloeides trimeni</i> (Tite & Dickson)	9	-	-	1	C
<i>Anthene definita definita</i> (Butler)	-	-	-	1	XQ
<i>Castalius hintza hintza</i> (Trimen)	5	-	-	3	Q
<i>Euchrysops malathana malathana</i> (Boisduval)	1	-	-	-	XP
<i>Azanus jesous jesous</i> (Gue.-Men.)	2	1	3	6	P
<i>Azanus moriqua</i> (Wallengren)	2	-	-	4	P
<i>Cupidopsis iobates iobates</i> (Hopffer)	-	-	-	2	P
<i>Zizula hylax</i> (Fabricius)	-	-	-	1	P
PIERIDAE					
<i>Pinacopteryx eriphia</i> (Godart)	-	1	-	2	P
<i>Colias electo electo</i> (Linnaeus)	2	-	-	6	P
<i>Eurema brigitta</i> (Cramer)	8	4	6	2	P
<i>Catopsilia florella</i> (Fabricius)	2	2	6	5	P
<i>Colotis vesta</i> (Reiche)	1	-	-	-	XP
<i>Colotis euippe omphale</i> (Godart)	2	-	-	-	XP
<i>Belenois aurota</i> (Fabricius)	6	8	6	10	P
<i>Mylothris agathina</i> (Cramer)	2	-	2	4	P
PAPILIONIDAE					
<i>Papilio demodocus</i> (Esper)	2	1	1	6	P
HESPERIIDAE					
<i>Coeliades pistratus</i> (Fabricius)	-	-	-	1	XQ
<i>Abantis tettensis</i> (Hopffer)	-	-	-	1	XQ
<i>Spialia diomus ferax</i> (Wallengren)	1	-	3	4	P
<i>Metisella willemi</i> (Wallengren)	9	-	-	6	P
<i>Tsitana tsita</i> (Trimen)	6	4	8	12	XP
<i>Gegenes pumilio gambica</i> (Mabille)	2	-	-	2	P

Observations:

- e) Ovipositing: None.
- f) Eggs: None.
- g) Larvae: None.
- h) Food plants: None.

Not seen: Not applicable.

Participants: Mr. R.T. Warren, Mrs H.A. Warren and Miss D.N. Warren.

Summary of statistics: 50 species recorded; 13 species not recorded previously. Total number of specimens seen – 384. Five most common species: *Tsitana tsita* (30+), *Belenois aurota* (30+), *Eurema brigitta* (20+), *Lepidochrysops plebeia* (15), *Catopsilia florella* (15).

General remarks: This is the seventh working visit to Percy Fyfe.

Checklist for Percy Fyfe Nature Reserve

R.T. Warren

P.O. Box 915-1153, Faerie Glen, Pretoria 0043.

As at: 11/12/1988.

Permit number: G 1785 T.N. 8/2/5/1 (1987 to 1988) and G 4526 T.N 8/2/5/1 (1988 to 1989).

Area(s) and grid references:

- A) Southern camp - 24° 2.6' S 29° 8.7' E. Undulating slopes of open grassveld sparsely wooded with high, wooded rocky outcrop. Altitude from about 1,250 m to about 1,450 m.
- B) Southern camp - 24° 2.1' S 29° 7.7' E. Open grassveld slopes, sparsely wooded, from stream up to high, wooded outcrop. Altitude from about 1,350 m to about 1,460 m.
- C) Northern camp - 24° 1.8' S 29° 10.9' E. Undulating grassland, wooded especially on the rocky koppies. Altitude from about 1,350 m to 1,550 m.
- D) Middle camp - 24° 2.5' S 29° 10.1' E. Undulating grassveld slopes, sparsely wooded up to rocky koppies; rocky ground. Altitude from about 1,400 m to about 1,480 m.

Species recorded:

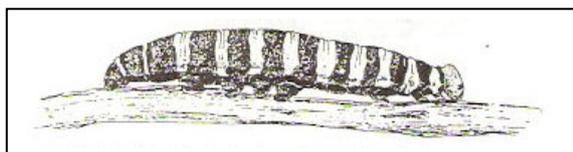
TAXON	AREAS (A, B, C, D)	MONTH (JFMAMJJASOND)
DANAIDAE		
<i>Danaus chrysippus</i> (Linnaeus)	ABCD	JFNA – JASOND
SATYRIDAE		
<i>Henotesia perspicua</i> (Linnaeus)	D	-----D
<i>Coenyrta rufiplaga</i> (Trimen)	ABD	JFM-----D
<i>Physcaeneura panda</i> (Boisduval)	ABD	-FM-----D
<i>Ypthima impura</i> (Elwes & Edwards)	AB	-FMA----S---
ACRAEIDAE		
<i>Acraea neobule neobule</i> (Doubleday)	AB	JFM----S---
<i>Acraea natalica</i> (Boisduval)	AB	-FMA-----
<i>Acraea rahira</i> (Boisduval)	D	-----D
<i>Acraea esebria</i> (Hewitson)	D	-----D
<i>Acraea caldarena</i> (Hewitson)	ABCD	J-MA – JASOND
<i>Acraea axina</i> (Westwood)	ABD	JFMA----SOND
<i>Acraea anemosa</i> (Hewitson)	A	-----D
<i>Acraea obeira burni</i> (Butler)	A	J-----
<i>Acraea violarum</i> (Boisduval)	ACD	--MA----S – D
<i>Acraea alglaonice</i> (Westwood)	C	-----JA----
<i>Acraea oncaea</i> (Hopffer)	C	-----JA----
CHARAXIDAE		
<i>Charaxes jasius saturnus</i> (Butler)	A	J-----S – D
<i>Charaxes jahlusa rex</i> (Henning)	C	-----JA----
<i>Charaxes achaemenes achaemenes</i> (Felder)	C	-----JAS--
<i>Charaxes vansoni</i> (van Someren)	C	-----S---
<i>Charaxes phaeus</i> (Hewitson)	C	-----S---
NYMPHALIDAE		
<i>Hamanumida daedalus</i> (Fabricius)	ABCD	J-MA – JASOND
<i>Byblia acheloia</i> (Wallengren)	A	-----D
<i>Byblia ilithyia</i> (Drury)	ABCD	JFMA – JA-OND
<i>Catacroptera cloanthe</i> (Stoll)	B	-FM----S---
<i>Hypolimnas misippus</i> (Linnaeus)	AB	JFMA-----
<i>Junonia archesia</i> (Cramer)	AB	JFMA-----
<i>Junonia octavia sesamus</i> (Trimen)	A	J-----

<i>Junonia hierta cebrene</i> (Trimen)	ABCD	JFMA--JASOND
<i>Junonia oenone</i> (Linnaeus)	ABCD	JFM---JASOND
<i>Vanessa cardui</i> (Linnaeus)	ABCD	J-MA – JASOND
<i>Phalantia phalantia aethiopica</i> (R. & J.)	ABD	JFM-----D
LYCAENIDAE		
<i>Cnodontes penningtoni</i> (Bennett)	AD	J-----D
<i>Deudorix antalus</i> (Hopffer)	A	-----D
<i>Deudorix dinochares</i> (Grose-Smith)	C	-----JA---
<i>Myrina silenus ficedula</i> (Trimen)	AD	J-MA-----N-
<i>Iolaus silas silarus</i> (H.H. Druce)	C	-----JAS--
<i>Spindasis ella</i> (Hewitson)	C	-----JAS--
<i>Spindasis natalensis</i> (Westwood)	D	-----ON-
<i>Axiocerses tjoane</i> (Wallengren)	AD	J-----S – D
<i>Gonatomyrina gorgias</i> (Stoll)	ABCD	J----JA-OND
<i>Anthene amarah amarah</i> (Gue.-Men.)	B	-FM-----
<i>Anthene butleri livida</i> (Trimen)	C	-----JAS--
<i>Anthene otacilia otacilia</i> (Trimen)	B	-FM-----
<i>Anthene definita definita</i> (Butler)	D	-----D
<i>Aloeides trimeni trimeni</i> (Tite & Dickson)	AD	J-----ND
<i>Aloeides swanepoeli</i> (Tite & Dickson)	C	-----S--
<i>Aloeides molomo molomo</i> (Trimen)	C	-----S--
<i>Tarucus sybaris sybaris</i> (Hopffer)	A	J-----S--
<i>Lampides boeticus</i> (Linnaeus)	ABCD	J-MA – JAS – D
<i>Lepidochrysops plebeia plebeia</i> (Butler)	ABCD	-----OND
<i>Lepidochrysops patricia</i> (Trimen)	D	-----ON-
<i>Castalius hintza hintza</i> (Trimen)	ABD	-FM-----D
<i>Castalius calice calice</i> (Hopffer)	AC	--MA – JA----
<i>Castalius melaena melaena</i> (Trimen)	AC	--MA – JA----
<i>Cylyrius brevidentatus</i> (Tite)	ABCD	-FM-----D
<i>Cylyrius pirthous</i> (Linnaeus)	ABCD	J----JASOND
<i>Euchrysops malathana malathana</i> (Boisd.)	A	-----D
<i>Eicochrysops messapus mahallokoeaena</i> (W.)	B	-FMA-----
<i>Freyeria trochylus</i> (Freyer)	AD	J-MA----ON-
<i>Azonus jesous jesous</i> (Gue.-Men.)	ABCD	J-----SOND
<i>Azonus moriqua</i> (Wallengren)	AD	-----OND
<i>Zizeeria knysna</i> (Trimen)	A	J-----
<i>Cupidopsis iobates iobates</i> (Hopffer)	CD	-----SOND
<i>Lachnocnema bibulus</i> (Fabricius)	C	-----S--
<i>Lachnocnema durbani</i> (Trimen)	D	-----D
<i>Zizula hylax</i> (Fabricius)	D	-----ON-
PIERIDAE		
<i>Pinacopteryx eriphia</i> (Godart)	ABD	J-MA----OND
<i>Colias electo electo</i> (Linnaeus)	AD	J-----OND
<i>Catopsilia florella</i> (Fabricius)	ABCD	J-MA----SOND
<i>Eurema brigitta</i> (Cramer)	ABCD	J-MA – JASOND
<i>Colotis pallene</i> (Hopffer)	A	J-----
<i>Colotis antevippe gavisia</i> (Wallengren)	D	-----ON-
<i>Colotis subfasciatus</i> (Swainson)	D	-----ON-
<i>Colotis vesta</i> (Reiche)	A	-----D
<i>Colotis euipe omphale</i> (Godart)	A	-----D
<i>Belenois aurota</i> (Fabricius)	ABCD	J-MA-----D
<i>Mylothris agathina</i> (Cramer)	ACD	-----JAS – D
PAPILIONIDAE		
<i>Papilio demodocus</i> (Esper)	ABCD	J-MA – JASOND
<i>Papilio nireus lyaeus</i> (Doubleday)	AD	J-----ON-
<i>Graphium antheus</i> (Cramer)	C	-----S--
<i>Graphium angolanus angolanus</i> (Goeze)	D	-----ON-

HESPERIIDAE		
<i>Coeliades anchises</i> (Gerstaecker)	B	-FM-----
<i>Coeliades forestan</i> (Stoll)	A	J-----
<i>Coeliades pisistratus</i> (Fabricius)	D	-----D
<i>Abantis tettensis</i> (Hopffer)	D	-----D
<i>Eretis umbra umbra</i> (Trimen)	B	-FM-----
<i>Sarangesa phidyle</i> (Walker)	C	-----JA---
<i>Spialia delagoae</i> (Trimen)	C	-----JA---
<i>Spialia colotes transvaaliae</i> (Trimen)	A	J-----
<i>Spialia diomus ferax</i> (Wallengren)	AD	J-----D
<i>Spialia abscondita</i> (Plötz)	A	--MA-----
<i>Spialia mafa mafa</i> (Trimen)	C	-----S---
<i>Spialia asterodia</i> (Trimen)	C	-----S---
<i>Metisella willemi</i> (Wallengren)	AD	J-----D
<i>Tsitana tsita</i> (Trimen)	ABCD	-----D
<i>Borbo gemella</i> (Mabille)	B	-FM-----
<i>Gegenes pumilio gambica</i> (Mabille)	ABCD	-FM---JAS-D

Summary of statistics: 98 species recorded; 13 species not recorded previously.

General remarks: This is the seventh working visit to Percy Fyfe.



Report on day trip to Verloren Valei Nature Reserve

R.T. Warren

P.O. Box 915-1153, Faerie Glen, Pretoria 0043.

Date: 23/12/1989 and 07/01/1990.

Time: 09:30 to 16:00.

Permit number: G 1785 T.N. 8/2/5/1 (1987 to 1988); G 4526 T.N. 8/2/5/1 (1988 to 1989); G 4567 T.N. 8/2/5/1 (1989 to 1990).

Weather conditions: Cool to warm; partly cloudy; windy.

Area(s) and grid references: Area B was visited. Refer to checklist for description of this area.

Species recorded:

Abbreviations in table: X = Not recorded on previous visits; P = patrolling; H = Hilltopping; C = Colonial; M = Mudpuddling; Q = Perching; T = Territorial; F = Feeding at flowers.

TAXON	NO'S SEEN	BEHAVIOUR
DANAIDAE		
<i>Danaus chrysippus</i> (Linnaeus)	6	P
SATYRIDAE		

<i>Meneris tulbaghia</i> (Linnaeus)	15	PF
<i>Dingana dingana dingana</i> (Trimen)	10	P
<i>Dingana bowkeri clarki</i> (van Son)	4	P
<i>Pseudonympha magoides</i> (van Son)	50	P
<i>Pseudonympha paludis</i> (Riley)	20	P
<i>Pseudonympha swanepoeli</i> (van Son)	10	P
ACRAEIDAE		
<i>Acraea zetes acara</i> (Hewitson)	6	XP
NYMPHALIDAE		
<i>Hamanumida daedalus</i> (Fabricius)	8	PH
<i>Junonia archesia</i> (Cramer)	6	XP
<i>Junonia octavia sesamus</i> (Trimen)	20	PH
<i>Junonia hierta cebrene</i> (Trimen)	15	PH
<i>Junonia oenone</i> (Linnaeus)	8	PH
<i>Vanessa cardui</i> (Linnaeus)	15	PF
LYCAENIDAE		
<i>Durbania amakosa ayresi</i> (van Son)	12	P
<i>Gonatomyrina gorgias</i> (Stoll)	10	P
<i>Aloeides henningi</i> (Tite & Dickson)	6	T
<i>Aloeides</i> sp. (under investigation)	8	C
<i>Aloeides</i> sp. (under investigation)	10	C
<i>Harpencyreus noquasa</i> (Trimen)	20	P
<i>Poecilmitis aethon</i> (Trimen)	12	F
<i>Poecilmitis</i> sp. (under investigation)	1	P
<i>Cacyreus palemon</i> (Stoll)	20	P
<i>Cacyreus virilis</i> (Aurivillius)	1	XP
<i>Cycluspirius pirithous</i> (Trimen)	4	XP
<i>Lampides boeticus</i> (Trimen)	20	P
<i>Lepidochrysops lacrimosa</i> (Bethune-Baker)	8	P
<i>Lepidochrysops</i> sp nr. <i>lacrimosa</i>	5	P
<i>Azanus jesous jesous</i> (Gue.-Men.)	4	P
PIERIDAE		
<i>Colias electo electo</i> (Linnaeus)	4	P
<i>Catopsilia florella</i> (Fabricius)	6	P
<i>Eurema brigitta</i> (Cramer)	20	P
<i>Colotis subfasciatus</i> (Swainson)	2	XP
<i>Belenois aurota</i> (Fabricius)	30	P
<i>Pieris helice</i> (Linnaeus)	10	P
PAPILIONIDAE		
<i>Papilo demodocus</i> (Esper)	6	P
HESPERIIDAE		
<i>Metisella aegipan aegipan</i> (Trimen)	30	P
<i>Gegenes niso niso</i> (Linnaeus)	6	P

Observations:

- i) Ovipositing: None.
- j) Eggs: None.
- k) Larvae: None.
- l) Food plants: Not observed.

Not seen: Not applicable.

Participants: Mr. R.T. Warren, Mrs H.A. Warren, Miss D.N. Warren, and Master R.R. Warren.

Summary of statistics: 34 species recorded; 5 species not recorded previously. Total number of specimens seen – 460. Five most common species: *Pseudonympha magoides* (50+), *Belenois aurota* (30+), *Pseudonympha paludis* (20+), *Eurema brigitta* (20+), *Junonia octavia* (20).

General remarks: These were the eleventh and twelfth working visits to Verloren Valei Nature Reserve. We thank the Transvaal Nature Conservation Division for their assistance during our visits.

Checklist for Verloren Valei Nature Reserve

R.T. Warren

P.O. Box 915-1153, Faerie Glen, Pretoria 0043.

Permit number: G 1785 T.N. 8/2/5/1 (1987 to 1988); G 4526 T.N. 8/2/5/1 (1988 to 1989); G 4565 T.N. 8/2/5/1 (1989 to 1990).

Areas and grid references:

- A) Open grassveld -25° 18.3' S 30° 05.7' E. Over undulating slopes down into a marshy valley. Rocky koppies and hills.
- B) Open grassveld - 25° 17.3' S 30° 09.0' E. Over undulating slopes down into a marshy area.
- C) Open grassveld - 25° 18.5' S 30° 09.8' E. Over undulating slopes down to streams - rocky koppies.

Species recorded:

TAXON	AREAS (A, B, C)	MONTH (JFMAMJJASOND)
DANAIDAE		
<i>Danaus chrysippus</i> (Linnaeus)	ABC	JF-----SOND
SATYRIDAE		
<i>Meneris tulbaghia</i> (Linnaeus)	AB	JF-----D
<i>Dingana dingana dingana</i> (Trimen)	ABC	J-----OND
<i>Dingana bowkeri clarki</i> (van Son)	AB	-----ND
<i>Pseudonympha magoides</i> (van Son)	AB	J-----D
<i>Pseudonympha swanepoeli</i> (van Son)	AB	JF-----D
<i>Pseudonympha paludis</i> (Riley)	AB	J-----ND
<i>Pseudonympha narycia narycia</i> (Wallengren)	B	JFM-----
<i>Pseudonympha poetula</i> (Trimen)	ABC	-----SO--
<i>Stygionympha wichgrafi</i> (van Son)	ABC	JF-----OND
ACRAEIDAE		
<i>Acraea terpsichore neobule</i> (Doubleday)	A	JF-----
<i>Acraea horta</i> (Linnaeus)	ABC	-F-----SOND
<i>Acraea rahira</i> (Boisduval)	A	-----SON-
<i>Acraea anacreon anacreon</i> (Trimen)	A	-----SON-
<i>Acraea zetes acara</i> (Hewitson)	B	J-----D
NYMPHALIDAE		
<i>Hamanumida daedalus</i> (Fabricius)	A	-----SO--
<i>Byblia ilithyia</i> (Drury)	AB	JF-----
<i>Precis archesia</i> (Cramer)	B	J-----D
<i>Junonia octavia sesamus</i> (Trimen)	ABC	JF-----SOND
<i>Junonia ceryne</i> (Boisduval)	B	-F-----
<i>Junonia hierta cebrene</i> (Trimen)	ABC	JF-----N-
<i>Junonia oenone</i> (Linnaeus)	AC	JF-----N-
<i>Vanessa cardui</i> (Linnaeus)	ABC	JF-----SOND
LYCAENIDAE		
<i>Harpenderis noquasa</i> (Trimen)	ABC	JF-----SOND
<i>Durbania amakosa ayresi</i> (van Son)	B	J-----
<i>Gonatomyrina gorgias</i> (Stoll)	AB	JF-----SON-
<i>Capys alphaeus</i> (Cramer)	B	J-----

<i>Aloeides</i> sp. (undescribed)	A	J-----ND
<i>Aloeides henningi</i> (Tite & Dickson)	A	-----SON-
<i>Poecilmitis aethon</i> (Trimen)	ABC	-----SOND
<i>Poecilmitis</i> sp. (under investigation)	B	J-----
<i>Cacyreus palemon</i> (Stoll)	B	J-----
<i>Cacyreus virilis</i> (Aurivillius)	B	J-----
<i>Lampides boeticus</i> (Linnaeus)	ABC	JF-----OND
<i>Lepidochrysops lacrimosa</i> (Bethune-Baker)	ABC	-----SOND
<i>Lepidochrysops tantalus</i> (Trimen)	A	-----SO--
<i>Cupidosis cissus cissus</i> (Godart)	A	-----SO-D
<i>Cychyrius pirithous</i> (Linnaeus)	B	J-----D
<i>Azanus jesous jesous</i> (Gue.-Men.)	A	-FM-----
<i>Actizera lucida lucida</i> (Trimen)	B	-FM-----
PIERIDAE		
<i>Colias electo electo</i> (Linnaeus)	ABC	JF-----SOND
<i>Catopsilia florella</i> (Fabricius)	ABC	JF-----OND
<i>Belenois aurota</i> (Fabricius)	AB	JF-----SO-D
<i>Eurema brigitta</i> (Cramer)	AB	JF-----SO-D
<i>Colotis subfasciatus</i> (Swainson)	B	J-----D
<i>Pieris helice</i> (Linnaeus)	AB	J-----SOND
PAPILIONIDAE		
<i>Papilio nireus lyaeus</i> (Doubleday)	A	J-----
<i>Papilio demodocus</i> (Esper)	AB	JF-----ND
HESPERIIDAE		
<i>Gegenes niso niso</i> (Linnaeus)	B	JF-----D
<i>Kedestes barberae barberae</i> (Trimen)	A	-----SON-
<i>Metisella aegipan aegipan</i> (Trimen)	AB	J-----D

Summary of statistics: 50 species recorded; 5 species not recorded previously.

General remarks: These are the eleventh and twelfth working visits to Verloren Valei. *A. dryas* caught on the 26th November 1988 appears to possibly be an undescribed species and is now under investigation. *P. swanepoeli* caught on the 26th of November 1988 has now in fact been identified as *Pseudonympha paludis*. This appears to be the first record north of Golden Gate for this species. We thank the Transvaal Nature Conservation Division for their assistance during our visits.

What's in a name? Another comment

Rolf Oberprieler
National Collection of Insects, Private Bag
X134, Pretoria 0001.

Further developments in the *Thestor yildizae* saga require me to follow up my comment on the matter in *Metamorphosis* 1 (24). But before I do, I must correct some errors which have crept into my first comment through the hand of the transcriber of my manuscript. Some are trivial, others serious, but since this is not the first time that such mistakes have occurred in my contributions, as well as in those of other members where I presume the authors were not at fault either, I feel that I should use this opportunity to appeal to the Editor to introduce a more stringent way of

proofreading articles that are published in our *Metamorphosis*.

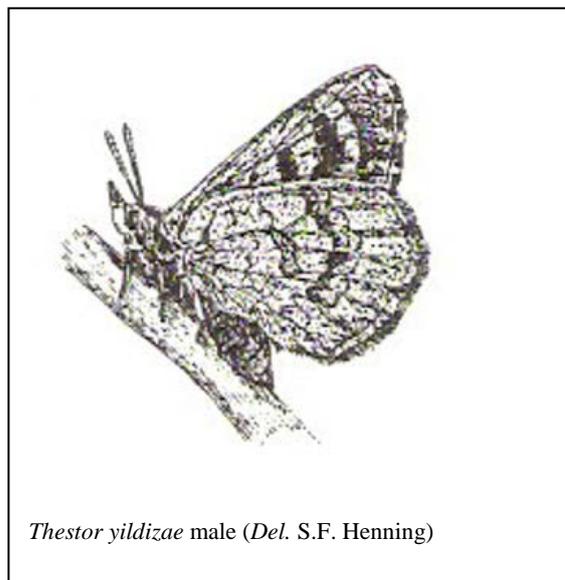
1. The name of the author of *Thestor nogelii* var. *obscura* is Rühl not Ruhl. This mistake, trivial as it may seem, occurs throughout my contribution.
2. Much more serious is the substitution of infraspecific for infrasubspecific in my quote of Article 45(g) of the International Code of Zoological Nomenclature (ICZN), as these two terms have totally different meanings, which are particularly relevant in this context. In all six instances of my point 1) of page 5 where the word "infraspecific" occurs, it should read "infrasubspecific"; later on in the text it is written correctly.

3. The last sentence in my antepenultimate paragraph on page 6 should read: 'Only if we have additional evidence, alternative methods of analysis etc. and can demonstrate in a published form that Hancock's conclusion is not necessarily the only one possible, as James Miller has done in his 1987 phylogenetic studies on Papilionidae, only then are we justified **not** to follow Hancock's treatment. In this case we now have a choice, we can follow either Hancock or Miller, but whoever one we follow, we have to motivate this choice by stating reasons, only then is it a scientifically acceptable and justifiable choice.'
4. The last sentence in my penultimate paragraph on page 6 should read: 'The mere fact that insect names change is an indication that the science of insect systematics is alive and progressing, that we are amassing new information and reaching new insights, and if we categorically ignore such advances, we are killing our science. This is, of course, not to say that we should blindly accept all proposed changes at face value only - I accept the analogy of the flock of sheep here -, but if our critical examination of the case reveals that we do not possess any evidence refuting the conclusion, then we have to accept it.'

To the issue of *Thestor yildizae*, then. Following my request for Rühl's original description of *Thestor nogelii* var. *obscura*, Professor Koçak himself has sent me a copy of this work, from which it is quite clear that Rühl did indeed intend his 'var. *obscura*' as a geographic form of *Thestor nogelii*. Rühl writes that var. *obscura* is larger and darker with slightly different colouration, and that it occurs in 'Russian Armenia' whereas typical *nogelii* is found in Rumania, Asia Minor and Armenia.

According to Art 45(f) (ii), a taxon whose name is the third of a trinomen and which is characteristic of a particular geographic area, is to be regarded as a subspecies. The content of Rühl's work certainly does not reveal that he meant 'var. *obscura*' to be of infrasubspecific

rank, on the contrary. But even if he did, the fact that *obscura* Rühl has apparently been treated as a valid subspecies by some subsequent authors before 1941 (*teste* Koçak, I haven't seen these papers) clearly fixes it as of subspecific rank from the date of its establishment [Art. 45(g) (ii) (i)]. Koçak also writes that *Thestor nogelii* "is an endemic species in Turkey, and *obscura* Rühl is a well established subspecies of it, living in the mountains of S.E. Turkey".



Thestor yildizae male (Del. S.F. Henning)

So there is little doubt that *obscura* Rühl must indeed be regarded as a valid subspecies, in which case it competes in homonymy with *Thestor obscurus* van Son and renders the latter a junior primary homonym which is permanently invalid for nomenclatorial purposes. Koçak was therefore perfectly justified in replacing it with another name, and one cannot go on using *obscurus* van Son until such time that perhaps the Commission for Zoological Nomenclature places both *obscura* Rühl and *yildizae* Koçak on the Official List of Rejected and Invalid Specific Names in Zoology. In order for this to happen, however, someone must first make such an application to the Commission, and, in my opinion, such a case would stand on very shaky legs indeed, as nomenclatorial stability is hardly threatened by Koçak's new name.

Looking at the whole issue objectively, then, it appears to be mostly one of sentiment and emotion, but not of critical scientific analysis (Ernest Pringle's contribution excluded, that is

largely objective). What is all the fuss really about? That it was someone in Turkey that changed the name? Perhaps we local lepidopterists (students of lycaenids in particular) should have picked this up long ago and not waited for a foreigner to do it, then we could also have selected a name of our choice. That it is a van Son name that sinks? Perhaps van Son should have been more thorough in checking the literature before using the name *obscurus*. That Koçak named the species after his wife or whoever? What people or places do we ourselves name species after, and for what reasons, and what concoctions of names result from this at times? And finally, dear fellow lepidopterist, ask yourself what stance you would adopt if you were living in Turkey or wherever and had a cherished butterfly around whose name had later also been given to another in the far Cape Province? Would you scorn van Son in such a way for 'usurping' the name of 'your' butterfly?

I find it very lamentable that people let their emotions and sentiments cloud their judgement to such an extent as to ridicule fellow scientists. That serves neither the cause in question nor the image of lepidopterology in South Africa.

Attacus. A major new publication on Lepidoptera

Rolf Oberprieler
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Richard Peigler's long-awaited study of the genus *Attacus* (Saturniidae), the largest moths in the world, has been published towards the end of last year. It is entitled "*A Revision of the Indo-Australian genus Attacus*" and is available from the Lepidoptera Research Foundation, 9620 Heather Road, Beverley Hills, California 90210, USA at \$30.00.

This work presents the first-ever comprehensive taxonomic treatment of these enormous moths in a book comprising 155 pages of text and 20 pages of illustrations, including colour reproductions of all 14 recognized species of *Attacus*. It covers simply every aspect of these moths, from history and literature over systematics, biology and

ecology to zoogeography, phylogeny and speciation. So whether one wants to find out something about names, characters, foodplants, distribution, relationships, hybridization, or whatever other aspect of *Attacus*, Peigler has attended to it. This alone makes the book highly attractive for any lepidopterist, but coupled with a useful conspectus of the theory and practice of phylogenetic systematics (cladistics if you like), an extremely circumspect and commendable treatment of intraspecific variation, and an extensive and thorough bibliography, the book is an absolute must for the serious lepidopterist, no matter whether he specializes in Saturniidae and whether *Attacus* occurs in his region or not. This book certainly sets a high standard of what a modern revisionary study is all about, and Ric Peigler must be warmly congratulated for this fine piece of work, which will undoubtedly remain the reference work on atlas moths for quite some time. A more detailed review of this book appears in the *Journal of the entomological Society of southern Africa* **53**(1): 113-115.