



METAMORPHOSIS

JOURNAL OF THE LEPIDOPTERISTS' SOCIETY OF AFRICA

Volume 14

March 2003

Number 1



ISSN 1018-6490

ELECTED COUNCILLORS

Hermann Staude	Chairman	staude@mweb.co.za
Alf Curle	Treasurer	elruc@mweb.co.za
Bennie Coetzer	Data processing	benniec@thales.co.za
Graham Henning	Conservation	safshenn@mweb.co.za
Mark Williams	Editor	mark.williams@up.ac.za
Jonathan Ball	Western Cape Branch	jonbal@iafrica.com
Kevin Cockburn	Kwazulu-Natal Branch	Twist@futuregtn.co.za
Ernest Pringle	Eastern Cape Branch	epringle@eastcape.net
Steve Woodhall	Gauteng Branch	steve_woodhall@scottbader.co.za

CO-OPTED MEMBERS

Martin Krüger	Transvaal Museum Representative	kruger@nfi.co.za
Peter Roos	Webmaster	proos@icon.co.za
Reinier Terblanche	Youth / Education	drkrft@puknet.puk.ac.za

AREA REPRESENTATIVES

Steve Collins	East Africa Branch	collinsabri@iconnect.co.ke
Alan Gardiner	Zimbabwe Branch	gardiner@zimbix.uz.zw
Haydon Warren-Gash	West Africa	wgash@aviso.ci

EDITORIAL

Editor: Mark Williams. Scientific advisers: Martin Krüger, Rolf Oberprieler, Stephen Henning, Malcolm Scoble; Henk Geertsema, Alan Gardiner, Dick Vane-Wright, Axel Hausmann.

MEMBERSHIP

The aims of the Lepidopterists' Society of Africa are to promote the scientific study and the conservation of Lepidoptera in Africa, and to provide a communication forum for all people who are interested in African Lepidoptera. *Metamorphosis*, which is the official journal of the Society, publishes original scientific papers as well as articles of a less technical nature. Fees indicated below refer to surface postage, but if airmail is required, notify the Treasurer and – per issue – add R32.00 for Africa or US \$6.00 if Overseas. Membership of the Society is open to all persons who are interested in the study of Lepidoptera. There is no geographical limit to membership. There are four categories of membership:

South Africa	Rest of Africa	Overseas		
Sponsor Member	R600.00 pa	R600.00 pa	US\$ 200.00 pa	
Full Member	R150.00 pa	R180.00 pa	US\$ 50.00 pa	
Juniors & pensioners	R90.00 pa	R120.00 pa	US\$ 33.00 pa	
Affiliate members (Societies, Museums, Schools etc.)	R150.00 pa	R180.00 pa	US\$ 50.00 pa	

Back issues of *Metamorphosis* are still available @ R20.00 per copy or US\$12.00 for outside South Africa. Fees for outside South Africa are higher due to increased postage. Membership is annual per calendar year and fees are due on January 1 of each year.

CORRESPONDENCE

General: The Public Relations Officer, Dave McDermott, P O Box 782114, Sandton 2146
e-mail – dave@tmc.co.za

Metamorphosis: The Editor, P. O. Box 12538, Onderstepoort, 0110, South Africa.
e-mail – mark.williams@up.ac.za

Membership fees: The Hon. Treasurer, P.O. Box 477, Jukskei Park, 2153, South Africa.
e-mail – elruc@mweb.co.za

METAMORPHOSIS

ISSN 1018-6490

CONTENTS

Editorial	2
In the Eastern Cape with Ernest and Anne Pringle	
Steve Woodhall	3
“Lulua”	
Robert Gordon Kyle	8
New species of <i>Lepidochrysops</i> Hedicke (Lepidoptera: Lycaenidae) from north-western Zambia	
Alan Gardiner	15
Death from a butterfly in the Eastern Cape	
Ernest Pringle	33
Council comments	35

Front cover: *Lepidochrysops patricia*, Stoffberg, Mpumalanga, South Africa (photo – Steve Woodhall).

Back cover: *Lepidochrysops rossouwi*, Stoffberg, Mpumalanga, South Africa (photo– Steve Woodhall).

Editorial

I am lucky enough, through my work, to have access to the Zoological Records data base. This is available electronically and can be searched using a search engine. It provides instant access to all the publications dealing with the zoological community, including butterflies and moths. Mostly the abstract is included and, in some instances, it is possible to use links to access the full text. There are about a thousand new articles a year dealing with butterflies and thousands more on moths.

Recently I came across a publication on visual mate-searching behaviour in the evening brown butterfly (*Melanitis leda* (L.)). This was published by Darrell Kemp, a researcher at Arizona State University, USA, in 2002, in the *Australian Journal of Entomology*, (Vol. 41 (4): 300-305). Reading the abstract I was able to divine that he had spent five months of gloomy evening observations trying to discover how "... males [of crepuscular species] deal with markedly different visual and thermal conditions." He was able to discover, amongst other things, that males defend territories from perches after sunset, much as many diurnal nymphalids do during day-time. In the five months of his study he was able to observe only a single mating event – such is the dedication that is required to do research! He ends his abstract with the following sentence: "This species is an excellent candidate for further research into the evolution of mating tactics in crepuscular butterflies."

It struck me, as it often does when I read papers such as Darrells, how little we know about the creatures we collect; how much collecting effort on the one hand and how little basic research on the other, we do. It always makes me a little sad to see that so many highly intelligent and dynamic people appear to be afflicted by a life-long case of 'collecting fever'.

Mark C. Williams (E-mail: mark.williams@up.ac.za)

In the Eastern Cape with Ernest and Anne Pringle

Steve Woodhall

132 7th Avenue, Edenvale 1609

E-mail: steve_woodhall@scottbader.co.za

Earlier this year Ernest phoned me and asked me if I would like to come down to his haunts and photograph *Aloeides clarki* and *Lepidochrysops bacchus*, amongst other things. Of course I accepted... I had always wanted to go into the heart of the Eastern Cape mountains and look for some of the special things that fly there. I had also read about 'Huntly Glen' and had met Ernest and Anne on several occasions, I was looking forward to seeing them on home turf.

Off I went early in Brutus on Saturday morning the 28th of September 2002, intending to stop off at one or two spots on the way, stay overnight at a B&B, and turn up at Huntly Glen on the Sunday evening. Unfortunately, as I neared Bloemfontein the weather started to get a bit grotty, and seeing a line of clear weather to the south, I decided to abandon plans to go to Lootsberg Pass, and head south to Queenstown. That wasn't a good plan either, it got worse and in desperation I detoured off to Lady Grey to see what was about on Joubert Pass. The sunshine there lasted about five minutes, so I conceded defeat and phoned Anne, and arranged to go straight there.

Turning right to Tarkastad at Queenstown, then taking the back road to Adelaide and Bedford I realized that these Pringles really are in the gramadoelas. The scenery got wilder and wilder and the roadside farmhouses got older and older, and eventually I reached a picturesque miniature church and turned off to 'Huntly Glen'. There was a distinct feeling of time slowing down.

The peace and quiet were shattered by Brutus' diesel clatter and at last I had reached one of the most tranquil places I have ever been to. The wind howled around the farmhouse as we sat and chatted over a few beers...

The next day brought some more really cold weather and howling wind, so we settled down to look at the Pringle collection, which is not only butterflies. As Anne says, a Pringle never throws anything away. I have never seen such a fascinating collection of *objets* – Anne calls it junk but I noted she has carefully cleaned a lot of it up

and there was not a cobweb to be seen. Strange Victorian veterinary instruments still in their original boxes... old Caltex oil bottles (I never knew oil used to be sold in elegant Coca-Cola type packaging!) and even an old Tower musket that came across with the 1820 settlers and dates back to Waterloo. Serious junk... even old Lion Lager Big Five series beer cans dating back to the 1970's (Ernest donated one to the Woodhall Arms). And in the bedrooms there are copies of all the old Boy's Annuals my folks threw out years ago – Dean's, Look and Learn etc, I wallowed in childhood memories every night before sleep!

Monday saw us off to PE (Port Elizabeth), me following Ernest and Anne to Coega. Plan was to stay in PE for a couple of days and collect Johan Greyling from the airport on Weds morning. I remember going to Coega some time ago with Paul Liversedge years ago and sweating hard to get a couple of *bacchus* among the dry bossies. What a difference. This time everything was green and verdant and the flowers rivaled Namaqualand. At Butterfly Valley, the reserve Ernest has got the developers to set aside near the salt works, we found loads of *Aloeides depicta* and two – just two – perfect, freshly emerged *Aloeides clarki*. The Nikon was set up and lots of pix taken. Ernest was convinced I would never get a lens within ten feet of a *clarki* – “those things are *wild*, man!” but he had never seen Woodhall's *kruiping* ability. We even managed to follow a female *Tsitana uitenhaga* into the devilish thorn thickets at the bottom of Butterfly Valley, under which its foodplant *Stipa dregeana* grows. I got a shot of her ovipositing.

Next stop was the flats near Coega rail station, which will form the other part of the reserve. This is a really rich patch of veld, with several butterflies I really needed to get specimens of, let alone photograph, darting about. Within minutes of getting out of Brutus I had several shots of *bacchus* in the bag, and the little butterflies were everywhere. *Pseudonympha magus* were common and all sorts of interesting pierids, and so on, were around. I got seriously sore knees creeping about trying to photograph a *Spialia satespes*. These are probably the most agile of the genus – the males zoom around, settling for seconds only, their wings a blur like a little fly. Their foodplant, *Hermannia*, was all over but they were not common.

Finally we tore ourselves away from this *smorgåsbord* and set off for Addo to search for the elusive *Alenia sandaster*. Ernest and Anne had searched all over for this little beastie, finally finding this colony and a larger one near Tarkastad, which operates later in the

season. They were very kind to show me where to find them; I had seen its Namaqualand cousin more than once and was keen to see how different they are. They are certainly as hard to photograph! On hands and knees I painfully crept among the spiny low growing *Blepharis* foodplant, following these tiny black things whizzing about. Eventually they got used to my presence and allowed me to get some quite good shots. Triumph! I could see that although very similar, the two species are definitely different – *sandaster* is a warmer colour on the upperside than *namaqua* is, and the underside has less white.

With that we said *au revoir* and I set off for my B&B in Amsterdamhoek, Riverside Lodge. This is where I stay on business in PE, and it was nice to stay there on holiday, especially as a couple of colleagues turned up and treated me to a nice steak at the Ranch. The next day, nursing a mild dose of cocktail flu, I set off for Jansenville and hopes of *Durbania clarki belladonna*. Despite copious cellphone instructions I managed to go up the wrong ridge and instead found a few *Chrysoiritis beulah* – really beautiful fresh males. I remembered how wild they had been several years ago on an earlier visit, so was pleasantly surprised to find one posing ever so prettily on a green shrub. The green set off the fiery orange and intense blue of his wings perfectly.

The next day, Johan arrived and we set about retracing our steps of Monday. Only snag was, no sign of *A.clarki*! A Hesperidae fan, Johan was very pleased to find species he has never seen before, and we had a lot of fine fun stalking *sataspes*. Then we went to Addo and found, besides the *Alenia sandaster*, just on the other side of the reserve fence, a much bigger animal – *Loxodonta africana*! Eventually we set off from Addo to ‘Huntly Glen’ and found a place that sells cold beer and nice biltong. By the time we got there, we were feeling no pain...

The wind howled again during the night and Thursday saw racing grey clouds and a freezing wind. Johan expressed a desire to look at the rare cycad that grows on the farm, *Encephalartos cycadifolius*. I asked Anne where they grew. She pointed to a distant peak and said – “d’you see those rocks just below the summit... there! Not a bad walk!” I let everyone know I would walk there on a sunny day to catch butterflies, but for cycads Johan was on his own. Then Ernest admitted he had built a 4x4 track up another hill to a point where we could find these plants. Off we went in Brutus... and we needed him. Eventually we climbed a high ridge with stunning views all around, and we could

see these little grey-green cycads huddled down in the rocks. Why are they huddling? I thought. Then I opened the door and found out. An Antarctic gale nearly blew me off my feet. Poor Johan had come dressed for warm weather and I thought Brutus had thrown a little end until I realized it was just Johan's teeth chattering... and then it started to snow! Ernest said later it was only sleet but as far as I am concerned if it's white and comes in a squall across a bare mountainside, it's snow.

It was a pleasure to sit in Ernest's study that night, discussing the proper way to arrange the species of the genera *Thestor*, *Aloeides* and *Chrysoritis* among Victor's trophies of sheep-stealing *Rooikats*. He kindly allowed me to take pix of set specimens of lots of butterflies I either will never see or won't sit with wings open. This is all for my book project – Murphy's Law dictates that if I go to all the trouble to photograph a set specimen I usually get a wild live shot not long afterwards. A bit like the San painting an animal as a totem to make sure they get one the next day. So I made sure I photographed *Chrysoritis phospor*, just in case...

Luckily Friday brought sun, so off we went to the famed Witmos. This needed a lot of cellphone piloting from Ernest and Anne, as Witmos is not easy to find. Eventually find it we did, and out we got with high hopes of getting *Crudaria capensis*. Well – we did find lots of funny looking *Crudaria leroma*, none of which look like the ones from the North and very variable, but none with the “salt and pepper” underside of *capensis*. Every trip has to draw at least one blank, but unfortunately for Johan the fabled hordes of *Chrysoritis beulah* were absent too. I had been hoping to photograph a female, but no dice. We did find the incredibly agile *Phasis braueri*, and a few *Stugeta bowkeri bowkeri*, males of which I had never seen. So the day was a partial success.

Friday night was our last at 'Huntly Glen', so after a night of good cheer we hit the sack to get an early start to Jansenville on Saturday. There was a belt of high cloud about but as we got past Pearston into the Plains of Camdeboo we left it behind and it got seriously hot, but with a strong wind. This time we had exact directions from Ernest and we found the huge boulders with red lichen easily. Lots of *Durbaniella clarki belladonna* were about, but there were not easy to follow in the high wind. I went walkabout and found more *beulah*, and got a *Phasis braueri* for Johan.

That night was Johan's 40th birthday celebration for the morrow, so we hied ourselves to PE's new Kyoto Japanese restaurant to pig out on Sushi and Tempura. It brings home to one how far South Africa has come when we have world class *Tatami* rooms in a town that used to be regarded as a bit of a backwater... We were very tired (especially after the industrial strength G&T's Garth fed me at the B&B) and got an early night.

Sunday was our last day, which we spent lazing around Coega with the *Spialia sataspes* and *Tsitana uitenhaga*. It was a glorious hot day and a perfect end to a great trip. Finally we sat and drank a fine cold beer whilst listening to Grace Jones on Brutus' stereo system – as on our trip to the Swartberg a few years ago, there are worse ways to spend an afternoon.

Our thanks to Ernest and Anne for their superb hospitality. 'Huntly Glen' is in a time warp – in a few days there I got about three weeks' rest. Wonderful!

“LULUA”

Robert Gordon Kyle

E-mail: rkyle@iafrica.com

I collected my first specimen of *Iolaus lulua* (Riley) a few years ago at Mkuze Game Reserve and ever since then it has been at the top of my Wish List. Ernest Pringle was in the same situation - only one specimen! We spent many hours talking and theorising about how we were going to come to terms with what must be the prettiest of Zululand's endemics and the upshot was that we decided to plan a campaign of action to collect in False Bay, at Lake St. Lucia. We had read up as much as we could find about the insect, but there is a shortage of information in general. Judging by the dates that it had been collected in the past, October seemed to be the best month to try for it. We decided to plan our trip for the end of October, and held thumbs that the timing would be right. Even if we didn't get *lulua*, there were a few other little gems that we were hoping to lay our sticky little paws on. The main one was *Iolaus diametra natalica*, but we were hoping to bag a few *Hypolycaena lochmophila* as well. I have collected *H. lochmophila* from Tembe Elephant Park in the past, but we wanted to get some from False Bay so that we could compare the individuals from the different localities.

As it turned out, Ernest spent two nights with us at Kosi before moving down to False Bay. Unlike myself, Ernest isn't fortunate enough to have a tree in his garden that has a strong colony of *Deloneura millari* in it (not that Ernest has any shortage of other bugs on his front doorstep that turn me green with envy). It was for this reason that he decided to spend a day up here first. Unfortunately, we only managed to rattle two specimens out of the tree, but we also discovered some final instar larvae in the ant trails on the stem which he took back with him (they have subsequently pupated). Hunting *millari* can be a dangerous past-time!!!! A few days prior to Ernest's arrival, I was up the very same tree trying to find larvae in the dead branches. Everything was going well and I had already bagged two *millari* pupae and two other pupae, which later proved to be *Aphnaeus hutchinsonii*. I was making my way along a dead branch, minutely examining every little

crack or hole for an unfortunate larva when, to my horror, I heard a cracking noise behind me. A split second later I was lying on my back on the ground below the tree gasping for air. Fortunately, I landed on my head, so no permanent harm was done. EISH!! – the things we do in the name of science.

The following day, we headed down to False Bay, arriving at about 11h:00. The wind was blowing fairly strongly, but the skies were clear and the sun was hot. The first thing we did was to book in at the office, and then we headed off to the “rustic” chalets to dump all our gear. On arrival at the accommodation, we found that our keys had been mislaid, and a frantic search followed. Eventually, it was decided that they must have been left on the counter back at the reception office, which was closed for lunch. To kill time Ernest took me to “Badenhorst Koppie”, which is another *Deloneura millari* locality. We didn’t find any *millari*, but managed to nab a few nice female *Colotis pallene*, which were feeding on little white flowers in the grass, instead. I also pulled a nice male *Iolaus mimosae rhodosense* off the top of an acacia tree. Great excitement resulted when we spotted a couple of dark objects flying at high speed around a tree. I was hoping that they would prove to be *Anthene minima*. After much extension waving, one was finally brought to ground and to our disgust found to be a male *Lachnocnema bibulus*.

By the time we had finished patrolling the koppie, it was mid-afternoon, and we headed back to the Reserve. Fortunately, the keys were still lying on the counter and, after putting them in a safe place, we took a walk around some of the camp sites. In one of the first trees that we investigated we found a ‘Loranthus’, which we carefully searched, but it produced nothing at all. A bit further along there was some more Loranthus, which we again carefully searched. It wasn’t long before Ann, Ernest’s wife, found some fresh “eat marks” and then a few seconds later a shout of “Got one!” let us know that she had cornered a poor, defenceless little larva. Its leaf was then carefully removed, and the larva was carried in triumph to Ernest who took one look at it and declared it to be a “verminous” *I. sidus*. A mere by-product. Unfortunately, I haven’t had the chance to breed out hundreds of *I. sidus* like Ernest, so the fact that it was declared verminous didn’t prevent it from going into one of my plastic containers. By this time it was getting late and we decided to head off back to our chalets. On arrival Ernest introduced me to Renzo Perissinotto and his wife Lynette, who had

arranged to meet up with us for one night. I always thought that lepidopterists were a breed apart, but I was pleased to discover that coleopterists are just as mal!! We spent a very enjoyable evening sitting round a braai, discussing anything and everything from the new species of *Ichneustomas* that Ernest keeps discovering, to the troubles in Zimbabwe. “Rustic” was definitely a good word to describe our accommodation. There was no electricity – which blew my moth-light idea out the water (it’s the thought that counts, hey Joe?) – and the shower was a bucket with holes in the bottom. It would be a great experience for a foreigner, but for an exhausted lepidopterist, who has spent the whole day battling “darkest Africa”, a hot shower is definitely preferable. In spite of this, we thoroughly enjoyed our stay and the chalets were very clean and comfortable.

We were up bright and early the following morning, eager to start our quest for the elusive *lulua*. After a good breakfast, we said goodbye to Renzo and Lynette, who were heading back to Mtunzini where they were in the process of investigating a new species of fruit chafer that he has just recently discovered.

We then went for a walk in the sand forest. About 1km along the path, Ernest flushed up a *Hypolycaena*, which promptly landed on an *Ochna*, right in front of me. With a quick swipe, I bagged it, and only once it was in the net did I tell Ernest. At least this way, if I had missed it, I could have carried on and pretended that I hadn’t seen a thing. I was pleased to note that, on closer inspection, there was a very definite kink on that line on the underside of the wing! Not a bad way to start the day!! After beating around in the vicinity, we succeeded on flushing another *Hypolycaena lochmophila*, which took off through the forest at a leisurely pace. Fortunately, there isn’t too much undergrowth under the sand forest canopy, and after a short chase over branches and through creepers, Ernest netted it. It proved to be *H. lochmophila* as well, a female this time. Unfortunately, we couldn’t find any more, so we gave up and decided to go ‘big game hunting’ instead.

According to Swanepoel, “*lulua* comes to the edge of the bush along the shores of the bay and especially about the steep banked gulleys where they feed on the white flowers”. This was just about all the information that we had to go by, so, off we set. The area was very, very dry, and there were hardly any flowers that we could see anywhere. Eventually, after about two hours of walking in the roasting heat, we were beginning to flag. Of course, we hadn’t thought about minor

details such as taking sufficient water to last a whole day in the sun (the lake was too salty to do much good - I tried!!!). I was just contemplating what on earth had made me take up butterfly collecting as a hobby when a biggish, *Iolais*-like lycaenid took off from under my nose. My mongoose-like reflexes came into action just too late, and a high-speed pursuit through the undergrowth followed. Finally, I managed to bag it, with a very undignified swipe, which ended with my net being well and truly stuck in a *Scutia myrtina*. At least I had the little blighter. As it turned out, it wasn't *lulua*, but a nice fresh specimen of *I. diametra natalica* instead. A short distance further along, we came upon a bush that had some serious action going on around it. At first, we couldn't work out what the attraction was, but on closer inspection, we discovered that there were tiny, insignificant flowers all along the stem. *I. diametra natalica* was positively swarming around this bush, and as soon as you netted one, another was there to take its place within seconds. Both sexes were equally abundant. Several of the specimens were really wrecked, but the majority were in good condition, and a few were scale perfect – you couldn't have bred better. There was just one problem with the whole business – this attractive little bush not only had flowers, but it also had the most evil, hooked thorns that I have ever encountered. The thorns spent most of their time concealed in the foliage, but as soon as the net came within a few centimetres they sprang out and embedded themselves deep in our brand new nets. They were definitely on a par with the acacias of Witsand.

Ernest and I were fully occupied with bagging every *I. diametra* that made the mistake of venturing more than a few centimetres out of its thorny haven, when Ann drew my attention to a large, white *Iolais* with red lines on the underside that was sitting on some flowers about a metre from where I was standing. On seeing this, I froze, and all I could do was shout to Ernest that “There is a #%^\$ *lulua* sitting right in front of me!”. On hearing this, he shouted back that jokes like that weren't funny any more, and that I should rather use my limited mental capacity to try and figure out where we could find the real thing. I replied that I was dead serious, and that if he didn't get his butt around to my side of the tree with all possible haste I would be forced to try to net it myself. This would have been anything but easy as I had all three extensions up. Unfortunately, before he could get to me the specimen took off into the middle of the tree. At least we now knew that we were ‘in the right place at the right time’.

A short while later we did find another specimen, this time flying about in the branches of an acacia. The delightful bush that was attracting all the butterflies was a scrambling shrub, which had gone up into the branches of the acacia, and our *lulua* kept settling on the flowers, where it was quite safe. It had the thorns of both the acacia and the creeper to protect it. Ernest and I had decided from the beginning that whatever specimens we managed to catch would be divided evenly, so it didn't matter who actually caught it. It was just a matter of waiting for it to make the mistake of moving out of cover. This it did for split second intervals – just too short to afford us any sort of chance of a successful strike. Eventually, after about half an hour of patient waiting and watching, it did make the fatal mistake of landing on something that wasn't thorny, and a split second thereafter, it found itself in the net. I could write another couple of pages about how we got them, as each specimen was a story in itself, but I'll save you the agony. Suffice to say that we got another five specimens, all very fresh, and all having played very hard to get. On the way back to camp, I netted a male specimen of *Chloroselas pseudozeretis*, which was a new species for me. What a day – *lulua*, *lochomophila*, *diametra* and *pseudozeretis*!

Unfortunately, the next two days were cloudy and slightly drizzly, but we still managed to pick up another six *lulua* along the edge of the lake. *Lulua* is by far the most difficult butterfly I have ever had the pleasure of trying to catch – they spend their lives inside acacia trees. On one occasion, after chasing a specimen around inside the tree for over an hour, we actually gave up and admitted defeat. Even though the specimen was in plain view, there was just no way that we could get it. It makes life easier if there are two people, one to chase it out of the tree with an extension stick, and the other to net it as soon as it shows its face.

I think that we can happily say that our campaign was a complete success. We got all the species that we were hoping to get, plus a few more unexpected ones. I would like to say a very big thanks to Ernest and Ann for putting up with me for three whole days. It was definitely one of my best collecting experiences yet, and I hope that we can do something similar in the near future. I would also like to acknowledge all the effort that Dad put in to make the trip possible.

I had fully intended ending my story with the last paragraph, but a trip to Ndumo a few months ago, gave me more to write about. It was an overcast day, and I had put my net into the back of the Isuzu,

more out of habit than anything else. We were slowly driving around the edge of Nyamiti Pan, looking at the birds that were feeding on the mud banks, when out of the corner of my little eye I spied a large whitish *Iolaus* flitting in typical *lulua* fashion around a flowering bush. All thoughts of birds evaporated from my mind, and I frantically beat on the roof for Dad to stop. Before the Isuzu had come to a halt, I was out and running back to the spot trying to assemble my darn extension as I went. The little spring thingie that holds the extensions up had gone inside one of the aluminium tubes, and I had to spend a few minutes trying to hook it out with a blade of grass. The bug was no longer in view, but fortunately a little bit of tree-rattling persuaded it to take to the air again before it settled, just out of sight, on a leaf. I knew roughly where it was, so all I could do was swat the whole branch that it had settled on. Fortunately, in amongst all the plant matter, was my *lulua*.

A further search in the vicinity didn't reveal any more adults, so I decided that a change of tactics was needed. I was fairly sure that its food-plant would be within a 100m radius of the tree that I had caught my specimen on, so I enlisted the family to help me search for it. It wasn't long before I spotted a 'loranthus', which I didn't recognise, right up at the top of an acacia tree. Eventually, after being punctured full of holes, I managed to make my way up to the loranthus. A careful examination of the leaves didn't produce anything, but on the way back down the tree mom shouted across to me that she had found another loranthus with red flowers. This sounded more interesting, and I made my way over to where she was. It was about ten minutes before I found the first larva; a small, plain-green, slug-like creature. This was not quite what I was expecting, as Ernest had told me that the larva would most likely be completely different from any *Iolaus* larva that I had ever seen before. I transferred the larva into a plastic container, and continued my search. It wasn't long after that, that I found what I was looking for – an *Iolaus* larva that was nothing like anything I had ever seen before. Now that I had a search image, it didn't take me long to find another two larvae. I was fairly sure that I was onto the right thing, and an excited phone call to Ernest confirmed my suspicions. The larvae were final instar when I found them, and within a few days, all three had pupated. The "little green slug" took about two weeks, but, eventually, it too pupated. Ernest warned me that the butterflies would probably only emerge the next season, so you can imagine my surprise

when about two and a half weeks later I found a newly emerged female *Iolaua lulua* hanging from the pupal case. Quite a sight!!

The second *lulua* emerged a few days later. The third pupa, I, in a moment of weakness, donated to Steve Woodhall so that he could get photos for his book. The “little green slug’s” pupa didn’t do anything for ages, and in the meantime I returned to Ndumo with the Coetzers, and together we accounted for another four *I. lulua*. Andre also netted what he at first thought to be a *lulua*, but on closer inspection proved to be *Iolaua aemulus*. This turned me green with envy.

As it turned out, the “little green slug” was actually an *I. aemulus* larva. Unfortunately, when the time came for it to emerge, something went horribly wrong, and its wings didn’t open at all. I was heart-broken, but at least I still have the specimen.

The ‘loranthus’ that *lulua* uses Ndumo would appear to be a member of the genus *Tapianthus*, but, as yet, I haven’t been able to get any further than that. No one seems to know much about them at all. We did discover eggs on a ‘Loranthus’ in False Bay, which could possibly have been *lulua*’s, but it was not in flower, so we were unable to even attempt an identification.

Ndumo has more species of *Iolaua* than anywhere else that I know of: *Iolaua silarus*, *Iolaua sidus*, *Iolaua pallene*, *Iolaua bowkeri tearei*, *Iolaua diametra natalica*, *Iolaua aemulus*, *Iolaua lulua* and *Iolaua mimosae rhodosensae*. I am fairly sure that *Iolaua alienus* will be in there as well, as I have caught it within 60kms of the Reserve. Ndumo is the *Iolaua* capitol of the country. I have subsequently had the fun of breeding through most of the above-mentioned Iolauses except *pallene*, *diametra* and *alienus*. There is nothing quite like seeing a mint *Iolaua* hanging from its pupal case!!

Having now caught *I. lulua* at Mkuzi, False Bay and Ndumo, I am convinced that it has a much wider distribution than previously thought. Almost certainly its distribution extends up into southern Mozambique. In conclusion, I would just like to say how good it feels to have *lulua* under the belt and to wish those less fortunate members of Lepsoc good luck in their pursuit of this wonderful Maputaland endemic.

New species of *Lepidochrysops* Hedicke (Lepidoptera: Lycaenidae) from north-western Zambia.

Alan Gardiner

P.O. Box GD608, Greendale, Harare, Zimbabwe.

E-mail: agard@ecoweb.co.zw

Abstract

Three new *Lepidochrysops* are described and figured from north-western Zambia; *L. erici* sp. n., *L. michaeli* sp. n. and *L. evae* sp. n. The female of *Lepidochrysops heathi* is described and figured for the first time.

Introduction

Lepidochrysops is a large genus comprising more than a hundred and twenty species (Ackery, Smith & Vane-Wright 1995 and D'Abrera 1980). Probably because of it being a large genus there have only been a few major works on the group (Bethune-Baker 1923, Murray 1956, VanSomeren 1957, Tite 1959, 1964 and Cottrell 1965). Hopefully this paper will be useful as an incremental contribution to our knowledge of the group, as have other smaller papers (e.g. Swanepoel & Vari 1983). This paper describes the female of *Lepidochrysops heathi* and three new species *Lepidochrysops evae* sp. n., *L. erici* sp. n. and *L. michaeli* sp. n. from north-western Zambia. In the description of the male genitalia I follow the terminology of Cottrell (1965). There is little morphological difference between the genera *Lepidochrysops* Hedicke (1923) and *Euchrysops* Butler (1900) (Gardiner 1998). The main difference appears to be in their life histories; *Lepidochrysops* being ant associated, while the *Euchrysops* are not. The females of *L. erici* sp. n. and *L. michaeli* sp. n. have been observed laying eggs on *Becium*, a foodplant often used by *Lepidochrysops*. Although the female of *L. evae* sp. n. has not been observed ovipositing it was also caught in an area containing many *Becium* plants. It is likely that the new species are ant associated as the localities had a large number of terrestrial ants. All of the new species probably have a wider distribution than is presently known, in north-western Zambia, and the neighbouring parts of adjacent countries.

Lepidochrysops heathi Gardiner, 1998 (Fig. 1a-b)

MATERIAL

At the time this species was described it was known only from males collected at the type locality, 122 km west of Kitwe. It has now been collected at a further two localities in north-western Zambia. One female and two males were taken 90 km east of Solwezi, 3.x.2000, A.J. Gardiner. A further male specimen was taken 40 km west of Solwezi (all in Gardiner private collection, Bulawayo, Zimbabwe).

DESCRIPTION Adult

Female (Fig. 1a-b): Forewing length 29.7 mm; antenna-wing ratio 0.44:1. Head white with two longitudinal black lines between the eyes, directly behind the antennae is a patch of black-brown hairs. Frons with black and grey scales. Antennae black, incompletely ringed with white below the club and at the base of each segment; underside of club orange-brown, dorsally black-grey with white scales midway and towards the apex, apex brown, apiculus blunt, club flat and twisted. Palpi: first and second segment black above, white below, second segment black near apex, terminal or third segment black. Thorax: black above with numerous grey and beige hairs, white below with a few beige scales. Legs: femora, tibia and tarsi white below and white-beige above, femur slightly longer than tibia, femur-tibia ratio (foreleg 1.19:1, middle leg missing, hind leg 0.85:1). Abdomen: grey-brown above becoming whitish to creamy white below. Each segment distinguished by a lighter band of scales. Light blue scales scattered on the dorsal surface of the thorax and along the length of the abdomen.

Forewing: upperside, sublustrous grey-brown, a large dark brown-black discal cellular spot, almost circular in shape. Another spot in the cell but smaller in size. Light blue scales surround basal half of both spots. A submarginal line of darker brown-black, margin brown-black, cilia with their distal portion light grey-white and proximal part grey-black. Discal area of wing, from space 4 to inner margin, a paler grey colour, and a faint brown-grey post discal line. Underside, forewing changing from white near the base to dark beige towards the margin and costa, a large discal spot, postdiscal spots in spaces 2 to 6 slightly curved inwards, the spot in 6 darker than the rest, the spots brown in colour and white ringed. Submarginal line bordered by white on either side, the white in each space

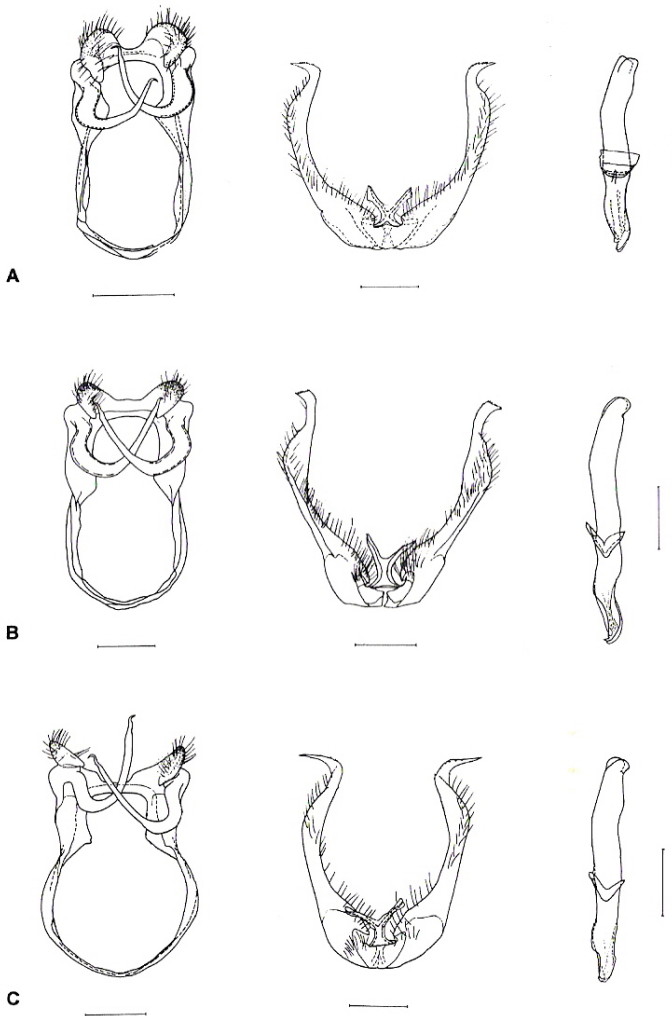


fig. 3 Male genitalia of *Lepidochrysops* spp. showing ventral view of uncus and valves and lateral view of aedeagus (scale line = 0.5mm). (a) *Lepidochrysops erici* sp.n.; (b) *Lepidochrysops michaeli* sp. n.; (c) *Lepidochrysops evae* sp. n.

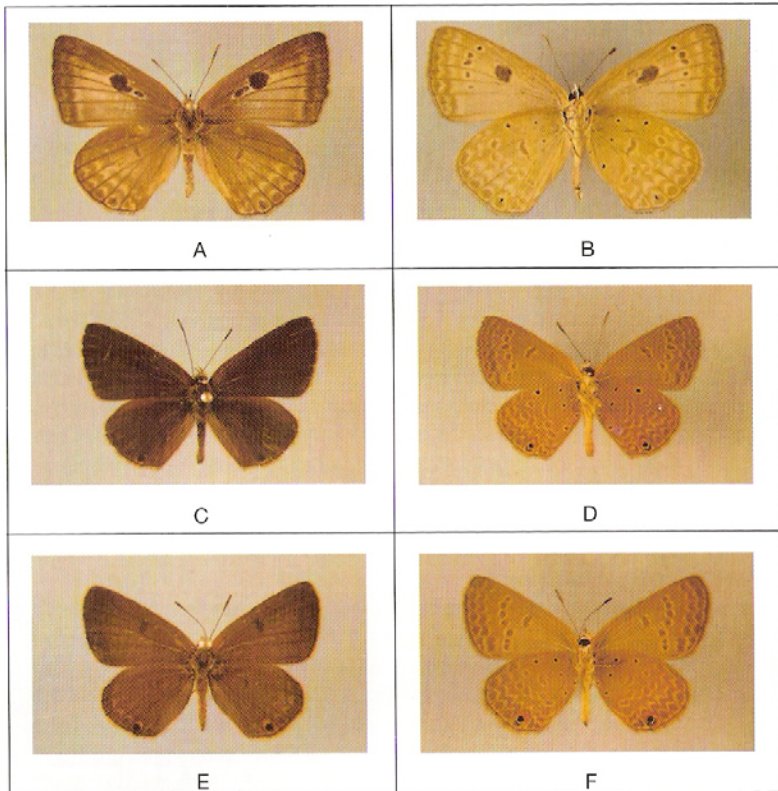


fig. 1 *Lepidochrysops* spp., upper and undersides. *Lepidochrysops heathi*: (a, b) female. *Lepidochrysops erici* sp. n.: (c, d) male; (e, f) female.

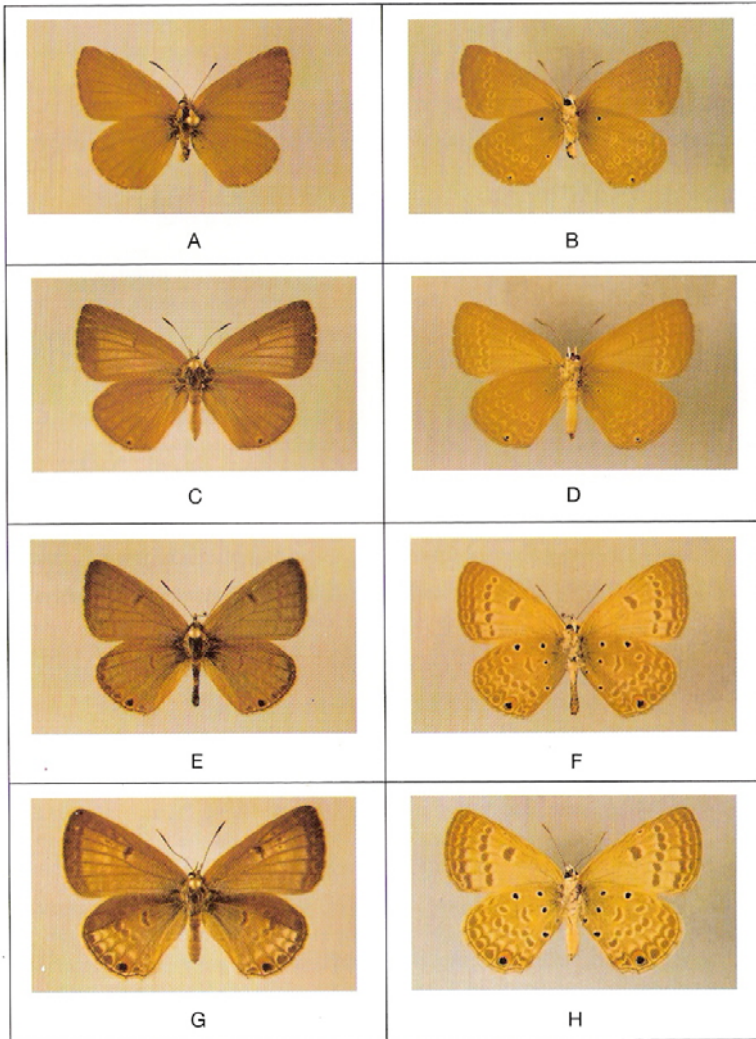


fig. 2 *Lepidochrysops* spp., upper and undersides. *Lepidochrysops michaeli* sp. n.: (a, b) male; (c, d) female. *Lepidochrysops evae* sp. n.: (e, f) male; (g, h) female.

being roughly sagittate. A faint white line down the margin of the wing. Margin brown, cilia grey, beige and brown.

Hind wing: tailless; upperside, grey-brown with an indistinct longitudinal spot across end of cell and a faint black lunulate spot at the margin of space 2, spot at end of cell surrounded by a few light blue scales. Two rows of faint submarginal white lines broken at each vein, giving them a sagittate appearance in each space. A faint white marginal line, running from 1b-6. Margin dark brown-black, cilia with distal part cream-white, proximal part brown. Underside, beige. Discal area with a row of seven rounded spots all of a slightly darker colour to the background, except the one in space 7, which is black and isolated from the rest, spots white ringed, the spots in 1b and 2 slightly dislodged towards the base. Cell closed by a longitudinal discocellular mark edged by white. Subbasal area with a row of three rounded spots ringed with white and arranged as follows: space 1a, in the cell, and space 7; the spots in 1a and 7 being black and the one in the cell dark brown. Two submarginal white lines broken at each vein giving them a sagittate appearance. A small black spot at the margin of space 2 with a few white and light blue scales. A faint white line runs along the margin being broken at each vein and ending in space 6, cilia distal portion beige-brown, inner part cream-white.

DIAGNOSIS

The large discal spot on the forewing readily identifies this tailless species. It is evident on both the upper and under surface of the male and female.

HABITAT

The female was collected feeding at *Becium* flowers on the edge of a dambo. Males were caught feeding at flowers and flying rapidly through a few scattered *Brachystegia* trees and *Combretum* shrubs. Within their flight path males had certain small areas where they circled and spent more time.

Lepidochrysops erici sp. n. (Figs 1c-f, 3a)

TYPE MATERIAL

Holotype male, Zambia: N.E., 90 km east of Solwezi, 3.x.2000, A.J.Gardiner (in Natural History Museum, London). Paratypes: 14 males, 19 females, 90 km east of Solwezi, 3.x.2000, A.J.Gardiner; 1 male same data but 14.x.2000; 1 female same data but 13.x.2000; 1 male 80 km east of Mwinilunga, 4.x.2000, A.J.Gardiner (1 in Natural History Museum, London; 1 in Bulawayo Natural History Museum, Zimbabwe; 2 in Transvaal Museum, Pretoria, South Africa; 29 in Gardiner private collection, Bulawayo, Zimbabwe).

DESCRIPTION Adult

Male (Fig. 1c-d): Forewing length 13.5-16.1 mm (n = 15); antenna-wing ratio 0.48:1. Head white around the eyes, two longitudinal black lines between the eyes with grey between them, black and grey directly behind the antennae. Frons with black and grey scales. Antennae black with incomplete narrow white bands below the club and positioned at the base of each segment, white bands wider on ventral surface, underside of club orange-brown, upperside black with grey-white on one lateral side, apiculus blunt, club flat and twisted. Palpi: black-brown above, white below; first segment with a black stripe below. Thorax: black above with a blue reflection, posteriorly and laterally numerous grey and beige hairs, white below with white and beige hairs, some white, light blue and black scales laterally. Legs: femora white with a bluish tinge below, laterally beige, tibia and tarsi white-beige below with outer lateral edge grey, femora, tibia and tarsi white-beige above, femur-tibia ratio (foreleg 1.17:1, middle leg 1.35:1, hind leg 0.87:1). Abdomen: black-brown above becoming creamy white to white below, the white extending up the lateral edge of each segment. A few light blue scales on dorsal surface of thorax and abdomen.

Forewing: upperside, black to almost lead grey, a faint discocellular mark slightly darker than the surrounding colour, margin slightly darker, cilia with distal portion white-beige and the proximal part grey-black. Underside, forewing costa bronze-brown, grey near the base and space 1a going to a bronze-brown along the margin, a spot at the end of the cell with white along its lateral margins. Brown postdiscal spots in spaces 1b-6, the spots in 1b and 2 dislodged towards the margin and white ringed, the spot in 2 clearly separated from the one in 3, the spots

3-6 ringed by white laterally, the spot in 4 elongated towards the margin. A slightly darker submarginal line bordered by white on either side, the white in each space being roughly sagittate and interrupted at the veins, the last marking of this line in space 1b is more proximal than the rest. A faint white line, interrupted at the veins, runs down the margin of the wing. Margin brown-black, cilia: distal portion white-grey, proximal part grey-black.

Hind wing: tailless; upperside, black to almost lead grey, a faint black spot at the margin of space 2 and with a white mark at its distal end. Spaces 1 and 1a of a slightly lighter shade than the rest of the wing. Margin black, cilia: distal part white-beige, proximal part grey-brown. Underside, bronze-brown. Discal area with a curved row of eight spots, the ones in 1b-6 of a slightly darker colour than the background and almost completely surrounded by white, spots in space 1a and 7 black with a few brown scales, surrounded by white and isolated from the rest, the spot in 2 is slightly dislodged towards the base, the one in space 4 is more elongate than the others, the spot in 6 also isolated from the others and positioned halfway between the one in 5 and the one in 7. The cell is closed by a longitudinal discocellular mark edged laterally by white. Subbasal area with a row of three rounded spots ringed with white and arranged as follows: space 1, in the cell, and space 7; the spots black with a few brown scales on their outer margins. Two submarginal white lines present, except in space 2, where there is one line, broken at each vein, giving them a sagittate appearance. A small black spot at the margin of space 2, on the proximal side surrounded by an orange-copper lunulate mark and its distal side by a curved row of scales, turning from light blue and black to brown. A faint white line along the margin being broken at each vein and ending in space 6, margin brown-black, cilia with distal portion white-beige, inner part grey-brown, becoming lighter towards the anal angle.

Male genitalia (Fig. 3a). Uncus of two lobes laterally fused to tegumen; subunci long, curved, tapering gradually towards the distinctly hooked apex. Lower fulcrum of two small arms fused to base of valves. Valves long, bow-shaped, narrowing towards the apical third, apex sickle-shaped, with pointed ends. Valves and uncus lobes with long fine hairs. Aedeagus long and cylindrical, anellus broad, fused to and sheathing the aedeagus. Distal lateral pieces fairly short, giving the aedeagus a smooth appearance.

Female (Fig. 1e-f): Forewing length 15.4-16.8 mm (n = 19); antennawing ratio 0.45:1. Head similar to male except the two longitudinal black lines between the eyes indistinct and club of antennae more rounded. Thorax: black above with a slight blue reflection, light blue-grey scales present towards the base and laterally, laterally numerous grey and beige hairs, white below with a few black scales laterally and white and beige hairs. Legs: femora white-beige, outer lateral edge grey with a bluish tinge, tibia and tarsi white-beige below with outer lateral edge grey, femur slightly longer than tibia, femur-tibia ratio (foreleg 1.3:1, middle leg 1.35:1, hind leg 1.1:1). Abdomen: black-brown above, a lighter shade than the male, becoming creamy white below.

Forewing: upperside, lighter than in male, dark lead grey, some specimens with a bronze tinge, a discocellular mark slightly darker than the surrounding colour, a faint submarginal line. Some specimens have a scattering of grey scales on either side of the submarginal line, giving a slightly lighter appearance. Margin darker than ground colour, cilia with distal portion beige and the proximal part grey-black. Underside, similar to male but of a slightly lighter hue and the spot in 2 may touch the spot in 3, spot in 4 not always elongated towards the margin. Cilia: distal portion beige, only slightly lighter than the proximal part.

Hind wing: tailless; upperside, as in the forewing, a black-lead grey with an indistinct longitudinal spot across end of cell and a black spot at the end of space 2. Two rows of faint submarginal white-grey lines, broken at each vein, giving them a crescent shape, outer mark in space 2 may be orange and adjoins the black spot. Margin black, cilia: with distal part beige, proximal part grey-brown with a white line at the junction from spaces 1b-6 and an additional faint grey line from 1b-3. Underside, similar to male but slightly lighter. The spot in space 4 of the discal area may be rounded or elongate. Two submarginal white lines, apart from in space 2 where the outer line is replaced by a broader orange mark which adjoins the spot at the end of space 2, broken at each vein giving them a sagittate appearance. There may also be a faint orange spot at the base of space 1b. A white line along the margin, broken at each vein and ending in space 6, margin brown-black, cilia: distal part grey-white, proximal grey with a white line at the junction from spaces 1b-6 and an additional faint grey line from 1b-3.

DIAGNOSIS

This is a small dark tailless species, the male being almost black and the female slightly lighter; the forewing is noticeably elongated. The underside is bronze brown, unlike in any other *Lepidochrysops* species with a dark upperside.

HABITAT

The males of this species are territorial and can be seen sitting on grass stalks, or similar vegetation within its territory. From present observations the territory appears to be a few square meters in extent. They 'fight off' intruding males. They are also seen flying from one territory to another and, when doing so, fly rapidly and close to the ground in a fairly straight line. Because of its dark colour and relatively small size the males are difficult to observe and capture. The females are slower and appear to fly more randomly, they stop often at *Becium* flowers to feed and oviposit, laying eggs near the base of the flower-buds.

ETYMOLOGY

The species is named after a budding entomologist, Eric Gardiner, who at the age of seven months accompanied me and was present at the site of collection.

Lepidochrysops michaeli sp. n. (Figs 2a-d, 3b)

TYPE MATERIAL

Holotype, Zambia: 90 km east of Solwezi, 13.x.2000, A.J.Gardiner (in Natural History Museum, London). Paratypes: 14 males, 8 females, same data but all 3.x.2000 (1 in Natural History Museum, London; 1 in Transvaal Museum, Pretoria; 20 in Gardiner private collection, Bulawayo, Zimbabwe).

DESCRIPTION Adult

Male (Fig. 2a-b): Forewing length 15.4-16.6 mm (n = 15); antenna-wing ratio 0.47:1. Head white with two thin longitudinal black lines between the eyes, behind the antennae a patch of grey-black scales followed by brown hairs. Frons with grey to light grey scales. Antennae black with narrow white bands below the club and positioned at the base of each segment, white broader on the ventral surface, underside of club orange-

brown, upper surface black with some grey and brown scales, apiculus blunt, club flat and twisted. Palpi: first and second segment black above, white below, second segment with a black line below and towards the apex, terminal or third segment black with a narrow line of white scales below. Thorax: black above with numerous grey hairs, white below with white and beige hairs, light blue scales scattered on dorsal surface. Legs: femora, tibia and tarsi white below, femora and tibia with some grey scales above, tarsi grey above, femur-tibia ratio (foreleg 1.25:1, middle leg 1.7:1, hind leg 0.9:1). Abdomen: light grey-green (Khaki green) above becoming whitish below.

Forewing: upperside, grey-green, a faint mark at the end of the cell. Margin slightly darker grey-brown and cilia with distal portion light grey and the proximal part grey-brown. Underside, forewing similar colour to upperside but slightly lighter especially along the inner margin, an elongated spot at the end of the cell, with faint white along its lateral margins, and postdiscal spots in spaces 1b-6, the spot in 2 slightly dislodged towards the base, all spots white ringed, the spots are only slightly darker than the background colour. A slightly darker submarginal and marginal line. Cilia of a similar colour to the margin.

Hind wing: tailless; upperside, grey-green, a faint spot may be present at the margin of space 2, of one or a combination of the following colours: light blue, black, and white. Margin a darker grey-brown, cilia distal part grey and pale grey-white, proximal grey-brown. Underside, similar colour to upperside. Discal area with a row of seven rounded spots, all of a slightly darker colour to the background, except the one in space 7 which is black and isolated from the rest, spots ringed with white, the spots in 1b, 2 and 7 are slightly dislodged towards the base. The cell closed by a longitudinal discocellular mark edged by white. Subbasal area with three rounded black-dark brown spots: in the cell, 1a and space 7; ringed with white, these spots may be faint or absent. Two faint submarginal white lines broken at each vein giving them a sagittate appearance. A small spot at the margin of space 2, containing black then blue and again black scales. Cilia: light grey with a darker grey-brown line down the middle.

Male Genitalia (Fig. 3b). Uncus of two lobes laterally fused to tegumen; subunci long, curved tapering gradually towards the apex and with a distinct hook at the apex. Lower fultura of two arms fused to base of valves. Valves long, broad, widening towards apex to form a flat portion and then narrowing abruptly to form a trunk-like end, slightly

curved outwards distally. Valves and uncus lobes with long fine hairs. Aedeagus long and cylindrical, anellus strongly sagittate, fused to and sheathing the aedeagus. Distal lateral pieces long and fairly sharp giving the distal end of aedeagus an undulating appearance.

Female: (Fig. 2c-d): Forewing length 15.9-18.5 mm (n = 8); antennawing ratio 0.7:1. Head similar to male, but palpi with first segment white, with a black stripe above, and second and third segment black with a narrow white line below. Thorax: black above with light blue and grey scales and numerous grey-brown hairs, white below. Legs: femora, tibia and tarsi white above and on inner lateral surface and below, femora and tibia with some grey scales on outer lateral surface, tarsi mostly grey on outer surface, last five segments brown underneath, each tarsus dorsally with a ring of white scales at their terminal end, femur-tibia ratio (foreleg 1.36:1, middle leg 1.2:1, hind leg 0.8:1). Abdomen: light grey-brown with scattered light blue scales above becoming whitish to beige below.

Forewing: upperside, a delicate mauve, a faint mark at the end of the cell. The mauve surrounded by a dark brown-black costal area, inner margin, marginal and submarginal areas. The mauve stops at the subapical area. A black mark present at the end of the cell. Cilia: distal portion light grey, proximal part brown-black. Underside, forewing a grey-brown. An elongated spot at the end of the cell with faint white along its lateral margins. Postdiscal lines in spaces 1b-6, curved within each space giving the appearance of spots, the lines in 6 are slightly dislodged towards the base. Two faint submarginal white lines, the white in each space being slightly sagittate and interrupted at the veins, the last marking of this line in space 1b more proximal and straight compared to the rest. Margin a darker brown-black. Cilia: distal portion grey, proximal half of a similar colour to the margin.

Hind wing: tailless; upperside, brown-black with a scattering of mauve from the base of the cell and space 1b to just beyond the cell from spaces 1b-5. End of cell with a faint mark. A black spot at the end of space 2, inner edge of spot orange and a few white scales on the outer edge. Margin a darker brown-black, cilia with four bands, from the margin; dark brown-black, white-grey, a darker brown-black and finally a white to grey band. Underside, grey-brown, markings similar to male except: the spot in 6 is slightly dislodged and the one in 7 strongly dislodged towards the base and an orange colour replaces the submarginal white

mark on the inner margin of the spot in space 2. Cilia with four bands, from the margin; grey-brown, grey, a darker brown-black and a grey band.

DIAGNOSIS

This tailless species is close in size to *L. kitale* and *L. cinerea*, the male differs in being a lighter grey-green and the postdiscal spots on the underside are in a straight line. In *L. cinerea* and *L. kitale* the postdiscal spot in 2 is distinctly dislodged towards the base. The female upperside of *L. michaeli* sp. n. has blue and is not brown as in *L. kitale*. The female of *L. michaeli* sp. n. differs from that of *L. cinerea* by being lighter in hue on the upperside and the underside spotting does not contrast strongly with the underside colouring as in *L. cinerea*. *Lepidochrysops cinerea* and *L. michaeli* sp. n. were caught at the same locality.

HABITAT

The males of this species flew rapidly, close to the ground and seemed to randomly change direction in flight. The males of this species, as in the previous species, were difficult to see. The females were slower and stopped at *Becium* flowers to feed and oviposit.

ETYMOLOGY

This is named after Michael W. Gardiner a naturalist who has made invaluable contributions to the collection and study of this group of butterflies.

Lepidochrysops evae sp. n. (Figs 2e-h, 3c)

TYPE MATERIAL

Holotype: Zambia: Mwinilunga dist., 30 km N. Mwinilunga, 12.x.2000, A.J.Gardiner (in Natural History Museum, London). Paratypes: 4 males, 4 females, same data (1 in Natural History Museum, London; 7 in Gardiner private collection, Bulawayo, Zimbabwe).

DESCRIPTION Adult

Male (Fig. 2e-f): Forewing length 16.0-16.3 mm ($n = 5$); antenna-wing ratio 0.45:1. Head white around the eyes, two longitudinal black lines between the eyes, grey and black directly behind the antennae. Frons with black and grey scales. Antennae black with narrow white bands below the club and positioned at the base of each segment, white bands wider on ventral surface, underside of club orange-brown, upper surface black, apiculus blunt, club flat and twisted. Palpi: first segment black above, white with black scales below, second segment black above, white below with a thin line of black hairs, third segment black with traces of a white line below. Thorax: black above with dark blue reflective scales, numerous long hairs with their distal half golden brown and proximal half grey-white, white below with a few black scales laterally and white hairs. Legs: femora, tibia and tarsi white with grey-black scales on the outer lateral edge, hind tarsus grey with a white band at the end of each segment, femur-tibia ratio (foreleg 1:1, middle leg no sample, hind leg 0.9:1). Abdomen: black-brown above becoming white below.

Forewing: upperside violaceous blue with a dark discocellular mark, marginal area brown to almost black, margin slightly darker, cilia with three bands, proximal part black followed by grey and distal portion a light grey. Underside brown-beige along costa becoming lighter grey towards the inner margin, a large spot at the end of the cell, with white along its lateral margins, and postdiscal spots in spaces 1b-6, the spots are in a straight line apart from the one in 6 which is slightly dislodged towards the base, the spots edged by broad white lines (almost white ringed), the spots brown and distinctly darker than the surrounding colour. A darker submarginal line bordered on the inner margin by white and a further white line towards the margin, the white in each space interrupted at the veins, the last marking of this line in space 1b more proximal than the rest. A faint white line, interrupted at the veins, runs

down the margin of the wing. Margin brown-black, cilia distal portion a slightly lighter grey-brown than the proximal part.

Hind wing: tailless; upperside, violaceous blue apart from space 7 which is black and 1a which is grey-brown, the end of the cell with a faint mark, a row of marginal spots from 1b to space 6, at times this row of spots forms a line, particularly from 4-6, the spot in 2 larger, forming a lunulate spot, the inner edge is orange followed by black with a few blue scales. Margin black, cilia light brown distally, black-brown proximally. Underside, grey brown. Discal area with a curved row of eight spots, the ones in 1b-6 of a slightly darker colour to the background, the spots in space 1a and 7 black with a few brown-bronze scales, the black spots and the one in 6 surrounded by white the other spots edged by white on their inner and outer surfaces, the two black spots isolated and noticeably dislodged towards the base, the spots in 2 and 6 also dislodged towards the base, the one in 6 separated from the others. A white mark in 1a in line with the outer edge of the spot in 1b. Cell closed by a longitudinal discocellular mark edged laterally by white. Subbasal area with a curved row of three rounded spots ringed with white and arranged as follows: space 1, in the cell, and space 7, the spots black with a few brown-bronze scales on their outer margins. Two submarginal white lines, broken at each vein giving them a sagittate appearance, the inner line runs from 1a-7, the outer from 1b-7. In space 2 the outer mark is replaced by a black spot with an orange band on its inner edge and blue scales on its outer edge. A small orange mark towards the end of space 1b. A white line along the margin, broken at each vein starting at 1b and ending in space 6, margin brown-black, cilia with three bands, proximal band a light grey, becoming lighter towards the anal angle, followed by a brown-black band and the distal band a light grey-white.

Male Genitalia (Fig. 3c). Uncus bilobed laterally fused to tegumen; subunci long, curved, tapering gradually towards the distinctly hooked apex. Lower fulcrum of two small arms fused to base of valves. Valves long, bow-shaped, narrowing towards the distal third, recurving and forming a slender point. Valves and uncus lobes with long fine hairs. Aedeagus long and cylindrical, anellus sagittate, fused to and sheathing the aedeagus. Distal lateral pieces broad giving an abrupt ending to the aedeagus, in lateral view the dorsal surface at the beginning of the lateral pieces has a ridge-like appearance.

Female (Fig. 2g-h): Forewing length 17.4-18.2 mm (n = 4); antennawing ratio 0.42:1. Head as in male except palpi slightly different: first segment white, sometimes with black scales above and laterally, second segment black above, white below except towards the apex which is black, third segment black with traces of a white line below. Thorax: black above, at some angles the black scales reflect dark blue, light blue-white scales laterally and towards the base, numerous long hairs with their distal half golden brown and proximal half grey-white, white below with a few black scales laterally and white hairs. Legs: femora, tibia and tarsi white with grey-black scales on the outer lateral edge, tarsus, grey portion with a white band at the distal end of each segment, femur-tibia ratio (foreleg 1.3:1, middle leg 1.5:1, hind leg 0.9:1). Abdomen: grey-brown above becoming white below.

Forewing: upperside: submarginal area and costa a violaceous blue colour on a brown-black background, costa, marginal and submarginal areas brown-black, in some specimens the brown-black at the apex may encompass the subapical area, there may be a pale line down the submargin. A dark discocellular spot which may have a few lighter scales laterally, there may be some additional spots in the discal area, beyond the cell, from six to two, the size and number of these vary individually, they are sometimes pale spots and in other cases a brown-black surrounded by pale blue-white scales. Margin slightly darker than the marginal area; cilia with proximal part black-brown and distal portion a light grey-brown. Underside colour and markings similar to male except in some specimens an additional spot in space 8 lies between the other discal spots and the spot at the end of the cell. Margin brown-black, cilia distal portion a light grey-white and proximal part a grey-brown becoming lighter towards the tornus.

Hind wing: tailless; upperside, violaceous blue from 1b to 5 and base of 6 on a background of black-brown. In some specimens 1, 1a most of 6, 7 and marginal area a dark brown-black, submarginal area may also be dark brown-black, occasionally the dark marginal area forms a row of spots from 1b through to space 5. The inner edge of these spots with white-pale blue scales, the spot in 2 black and the white is replaced by orange, near the margin of 2 there may be some light blue scales. In specimens with marginal spots there is a further white-pale blue submarginal band from 1b-5. Cell closed with a mark; there may also be a row of dark discal spots from 2-5, the number varying individually. A white marginal line from 1b-6, getting fainter towards 6, in some

specimens this line is absent. Margin black, cilia distal part a light grey-brown to white, proximally black-brown. Underside, similar to male except the outer black spot in space 2 has a broader orange band on its inner edge.

DIAGNOSIS

This is one of the smaller blue *Lepidochrysops* species and it is tailless. This, in combination with its unusual violaceous blue colouring, is diagnostic.

HABITAT

Both males and females were captured flying rapidly, and in a straight line, over grass burnt approximately four weeks earlier. Amongst the grass were many flowering *Becium* plants. There were scattered *Brachystegia* and *Combretum* trees and shrubs. The ground was sloped and rocky, and ran parallel to a stream.

ETYMOLOGY

This species is named after Eva Gardiner who has accompanied me on many collecting trips, made useful contributions to our observations on butterflies, and is making a substantial contribution to the photography of butterflies in their natural environment.

Acknowledgements

Foremost I would like to thank my family who have put up with the vagaries of the butterfly collector. My wife, Eva, and my son Eric accompanied me on the trip to north-western Zambia. They sat in the car or, where possible, in the slight shade of a *Brachystegia* tree and watched me collect the butterflies. Martin Krüger, of the Transvaal Museum, Pretoria gave me assistance on taxonomic issues. I would also like to thank Mark Williams for photographing the adults, and Dick Vane-Wright, Phillip Ackery and Kim Goodger for sending me information on other species of *Lepidochrysops* housed in the Natural History Museum, London.

References

- ACKERY, P.R., SMITH, C.R. & VANE-WRIGHT, R.I. 1995. *Carcasson's African Butterflies*. CSIRO Publications, Australia.
- BETHUNE-BAKER, G.T. 1923. A Monograph of the genus *Catochrysops* Boisduval (Auctorum). *Transactions of the Entomological Society of London*, 1922 **III, IV**: 275-366, 21 pls.
- BUTLER, A.G. 1900. On a new genus of Lycaenidae hitherto confounded with *Catochrysops*. *The Entomologist* **XXXIII** (440): 1-2.
- COTTRELL, C.B. 1965. A study of the *methymna*-group of the genus *Lepidochrysops* Hedicke (Lepidoptera: Lycaenidae). *Memoirs of the Entomological Society of Southern Africa* **9**: 110pp., 3pls.
- D'ABRERA, B. 1980. *Butterflies of the Afrotropical Region*. Lansdowne Editions in association with E.W. Classey, Melbourne.
- GARDINER, A.J. 1998. Description of a new species of *Lepidochrysops* Hedicke (Lepidoptera: Lycaenidae) from north western Zambia. *Metamorphosis* **9** (1): 33-39.
- HEDICKE, H. 1923. Nomina Nova. III. *Deutsche Entomologische Zeitschrift* **1923**: 226.
- MURRAY, D.P. 1956. The species of *Lepidochrysops*, *Euchrysops* and *Cupidopsis* of Southern Africa. The genitalia (Lepidoptera: Lycaenidae). *Annals of the South African Museum* **43**: 109-121.
- SWANEPOEL, D.A. & VÁRI, L. 1983. Three new species of *Lepidochrysops* Hedicke from the Cape Province (Lepidoptera: Lycaenidae). *Annals of the Transvaal Museum* **33** (21): 323-336.
- TITE, G.E. 1959. New species of, and notes on, the genus *Lepidochrysops* (Lepidoptera, Lycaenidae). *The Entomologist* **92** (1155): 158-163.
- TITE, G.E. 1964. The *Lepidochrysops ortygia* Complex (Lepidoptera: Lycaenidae). *The Entomologist* **97** (1208): 1-7.
- VAN SOMEREN, V.G.L. 1957. Revisional notes on *Lepidochrysops* (Lycaenidae: Lampidinae) of Kenya and Uganda, with descriptions of new species and subspecies. *Journal of the Entomological Society of Southern Africa* **20**: 58-78.

Death from a butterfly in the Eastern Cape

Ernest Pringle

Huntly Glen, Bedford, Eastern Cape Province, South Africa

E-mail: epingle@eastcape.net

On Saturday, 7th December 2002, a girl of nine years old was playing with friends in the garden of her parents' home in Ostrich Road, Rosedale, Uitenhage. It was a sunny morning and they were chasing and trying to catch butterflies. Shortly after 8h00, she entered her parents' house, stating that she had swallowed a butterfly and that there was something stuck in her throat. Her parents then gave her water to drink and some bread to eat; she managed to swallow both, so there appeared to be no serious obstruction in the throat. However, her condition continued to deteriorate and she appeared to be slowly suffocating: by the time they got her to hospital, by 10h00, she was dead.

When I was telephoned ON Monday by a reporter for my views, I was informed that medical doctors in Port Elizabeth had come to the conclusion that she had died from some sort of an "allergic reaction". I, however, recalled an article written a few years ago by Dr Torben Larsen, in his well-known "Hazards of Butterfly Collecting" series, published in the *Entomologists' Record*. In this article, Dr Larsen states that, while collecting butterflies in Madagascar, he decided to catch butterflies to taste them, in order to discover what was meant by "distastefulness" in certain butterflies. This is to take eccentricity to a breathtaking level, to which the rest of us can but pay homage. Having caught and tasted a few butterflies, he came upon one which had a genuine reputation, namely *Danaus chrysippus aegyptius* (Schreber) (African Monarch butterfly). Not daunted, he caught it and put it to his tongue.

The results were regrettable as, according to Dr Larsen, his whole tongue swelled up and blistered to the extent that, for some time afterwards, he was unable to eat any solid food. It is evident from this that the toxin secreted by this butterfly has properties of which, up till then, we were totally unaware. If the girl had swallowed one of these, it

would be highly probable that it would induce a terrific reaction in the soft tissues of the gullet, possibly even to the extent of closing it.

I therefore told the reporter that, in all probability, the girl had swallowed an African Monarch butterfly and that its toxins had induced this reaction in the throat. This butterfly is probably the most widely distributed species in the country and the most likely one to be encountered in a Uitenhage suburb.

Although this was a freak incident, it does highlight the need for an analysis of the secretions given off by our "distasteful" butterflies. It would be useful to know about the nature of these toxins. History has also been made, in that this is probably the world's first case of a human death caused by a butterfly.

Council comments

The executive council of your society meets every second month to discuss policy and management issues. We had meetings on 21 January and 18 March 2003. Here are some extracts from the minutes of these meetings:

Chairman: H.Staude said his objective for the year was to resolve satisfactorily permit issues with Cape Nature Conservation and to then use this agreement model to achieve a similar status quo with the nature conservation (NC) authorities in all provinces.

Editor: M. Williams set a goal to produce the four issues of *Metamorphosis* on time, every time. It was suggested that councillors who know people that are actively achieving progress in field studies should submit information for publication – even handwritten articles/observations are welcome.

Treasurer: Fees for the year are unchanged and remain at the 2002 level. The money-in-the-bank position is good as there has been little spending. The goal for the year is to get the new financial control/membership system up and running successfully.

Membership: It was noted that the membership list has been updated and that it is currently with the treasurer for checking.

Public Relations: The objective for the year is to spread the word about Lepsoc's research and conservation activities and to upgrade educational visual aids and other informative material.

Councillors suggested that media queries (e.g. the incident where a *Belenois aurota* was erroneously thought to have caused a young child's death by choking/asphyxiation) be dealt with centrally through D. McDermott. Queries can then be referred to the person best qualified to respond. S Woodhall was asked to contact Radio 702 so that steps can be taken towards fulfilling an invitation to take part in a talk show.

Youth & Education: An objective for the year is to produce by the end of the year a preliminary provisional checklist of Lepidoptera for the Vredefort Dome. Another aim would be to obtain air time on children's TV/radio programmes, an area where D. McDermott can assist. Progress is also being made on participation in co-operation with WESSA in a nature education project for previously disadvantaged groups. It is an opportunity to push *C. aureus* as a shining example of invertebrate conservation and there are also opportunities around *M.*

meninx. Pamphlets about Lepsoc are required for the Friends of Rietvlei project.

Conservation: The main objective for the year is to progress Lepidoptera “atlasing” programmes in the Gauteng, NW, Limpopo and Mpumalanga Provinces. Phase One checklists (predicted and actual) will be completed for Gauteng and NW by the end of March. A secondary objective is to locate *Erikssonia acraeina*. The Ruimsig reserve (*Aloeides dentatis*) has been upgraded with a new picket fence. M. Forsyth (Gauteng NC) has spoken to the Roodepoort City Council and it has been confirmed that the land has been formally proclaimed as a reserve and is therefore safe from development. *A. margaretaea* is present at Black Forest near Haenertsburg in early January. G. Henning has written to the forestry company concerned about the threat posed to the colony by gum plantations. Lepsoc has been assisting Cheryl Tosh and the landowner regarding the *E. acraeina* colony at Waterberg. The area has been visited regularly during December and January but no specimens have been sighted.

Website: The site is making good progress and is being updated from time to time. Regular reports of field trips are also being posted. The goal for the year is to persuade other branches and members to post items of interest.

Data Processing: The species list has been updated and considerably improved with assistance from M Williams. Some 15 000 records are now contained in Lepibase. The goal for the year is to get these records entered into the database recognised by NC, as well as to commence a list of moths.

Transvaal Museum: The museum checklist has been completed and the collection is being data based. Taxonomically sound areas have already been processed and others will be processed as they become sound. R D Stephen has become a major asset to the Museum and is doing excellent work in a number of fields.

Gauteng Branch: Goals for the year include raising attendances at meetings and, greater participation in presentations and slide shows and to obtain email addresses and cell phone numbers for all branch members.

Eastern Cape Branch: An Eastern Cape branch now formally exists under the chairmanship of Ernest Pringle. Current membership is 10.

KZN Branch: Progress is being made on the formalisation of a branch.

EDITORIAL POLICY (SCIENTIFIC ARTICLES)

Manuscripts dealing with any aspect of the study of Afrotropical Lepidoptera will be considered.

Manuscripts not conforming to the instructions below may be returned to the author. All manuscripts of scientific papers will be evaluated by at least one reviewer. Proofs will be returned to the author if necessary, and only printers errors may be corrected. Ten (10) offprints are provided free to the author or senior author on request, and only if the manuscript has been submitted on computer diskette in a word processing format that the editor/s are able to convert. Authors should contact the editor to enquire if the software that they are using can be converted by the editor, as the situation changes constantly. Additional offprint numbers can be ordered, at cost, at the proof stage.

A hard copy of the manuscript, the originals of illustrations, and the computer diskette must be submitted to the editor. The text should be printed on A4 paper, with double lined spacing, and a margin of at least 2 cm on each side. The pages should be numbered consecutively, beginning with the title page, and including those carrying references, tables, and legends to figures. All figures, tables and references must be referred to in the text. If a computer diskette is not available, then tables are to be typed on A5 paper, exactly as found in the printed journal. To facilitate proper alignment of tables, or landscape orientation, even if a diskette is used, it would be appreciated if these can be arranged in A5 format (text dimensions having a width 4,5 inches and length 6,5 inches).

Figures must be boldly drawn in black waterproof ink, and arranged in clear and logical plates on stiff, white, preferably A4-sized board. All the figures must be numbered in a common sequence in Arabic numerals, irrespective of whether they are line drawings, photographs, diagrams, graphs or maps. Magnifications should be indicated by scale bars on the figures.

Any opinions expressed in *Metamorphosis* are those of the contributors and not of the Editor or the Lepidopterists' Society of Africa.

Additional, expanded author instructions are available on request from the editor.

NOTE: The *International Code of Zoological Nomenclature* (ICZN), Ed. 4, states that infrasubspecific names applied to a taxon are invalid and have no standing in terms of the Code. However, some forms and aberrations—curiosities—are of general interest to our readership. Articles utilising such terms may occasionally be published in *Metamorphosis*; however, this does not imply that *Metamorphosis* or the editor accept or endorse such descriptions. To the contrary, these names remain invalid, and should not be italicised when in print and when applied to a particular “taxon” of infrasubspecific status.

COPYRIGHT: All copyright for contributions published in this journal belongs to *Metamorphosis* and/or the individual contributor, but authors bear sole responsibility for the factual accuracy of their articles. Text extracts may be used with prior, written permission from the editor and the author. The journal name, volume, number and date of publication must be acknowledged together with the author and title of the article.

