NOTES ON A COLLECTING TRIP TO BELGIAN CONGO.

By T. H. E. JACKSON, F.R.E.S.

[This Diary was addressed, originally, to Prof. G. D. Hale-Carpenter, M.B.E., with whose permission it is published here. To those who have experience in the fascination of collecting in a new area, it may strike a chord, and to others who have not, it may prove, I hope, an inspiration.]

Lutoto Camp, Ankole, 13-8-1946.

Dear Carpenter,

I am going to amuse myself by writing you a diary of events on this safari—it will bore you stiff no doubt, but you have the remedy that you need not read it, and in any case it has one great advantage, that no answer is required

Well, I left the farm on the 8th, rain, clouds and arctic conditions and I had no regrets, but just to keep me humble I suppose, I had a shocking trip — a blow-out 12 miles from the house—both tyre and tubs a complete write-off—no tyres or tubes anywhere in Uganda. I managed to scrounge an old tube in Tororo, and an old tyre (very) in Kampala. Then another blow out 10 miles from Masaka, and both again rent in twain, so I spent the night in Masaka at the Rest Camp and reorganised the tyres. Really these days of ersatz tyres or no tyres at all, are not made for safari, but it's 9 years since I was in Uganda and the Congo, and I'm determined to get there. I think the hoodoo turned in Masaka, because on Monday morning when I was being met with the usual story, "Sorry there are no tyres or tubes in Masaka," up came two of the Govt. people, who had met me in the past, and one lent me an old tyre and the other a tube! So off I went again at 10.30, and did the 150 miles to Lutoto without further trouble. This is only about 120 miles from my first objective, Beni, in the Ituri Forest, so I have hopes!

13.8: This morning was dull and cloudy, and there was heavy rain during the night — it is a very wet year and has been raining solidly almost all the time — but by 10 o'clock it cleared and I went down to the Kalinzu Forest, about 7 miles, from here, and had my first day's collecting. As might be expected after 9 years, all my old paths were closed and overgrown, but a new one has been made by pitsawyers higher up in the forest.

The result of the day was interesting but not spectacular. The Kalinzu Cymothoe indamora amorinda was plentiful, the two new (to Uganda?) Bwamba Euphaedras, xypete cyanea, and eberti both turned up, neither of which I have seen from Kalinzu before, and finally I got a Deudorix (sens Auriv), which is new to me, brilliant blue above and below resembling a Hypolycaena, such as philippus, though with a much darker ground. I thought it was a Hypolycaena, until I had it in my hand.*

This evening after some much needed tea — Kalinzu is a strenuous forest, with slopes that would be the envy of Wembley directors! — I wandered down into the small patch of forest below the camp and found first a spider, which is the most wonderful ant mimic I have ever seen — it builds a thin, practically invisible web. like a small flat roof over the midrib of a leaf, fully exposed, and sits under it with its prolegs thrust out in front and angled, like the antennae of a Pheidole ant. When disturbed it runs in and out exactly as does an ant. The thorax, abdomen etc., are coloured and shaped just as in Pheidole. Next I found a Reduviid sucking a common, but very poisonous looking Chrysomelid beetle, red and orange.

^{*}This proved to be Pilodeudorix zelomima Rebel, a rare specie of which this

I am interested in the two Euphaedra mentioned above; in this particular area they were reasonably common, yet previous intensive collecting in Kalinzu has never produced either species. It is additional proof that a forest is never homogenous, but that species occur in "islands" in each forest, the boundaries of which they seem incapable of crossing successfully. The answer, of course, should be purely botanical, but although I am not a botanist myself, I am still inclined to doubt if this is the whole of it. The two species of Euphaedra were caught within ½ mile of our old old collecting grounds! The "island" habit is particularly noticeable in regard to the Nymphalinae, especially in Euphaedra, Diestogyna and Euryphene; often the "islands" overlap, for instance today I saw E. zaddachi and its form christyi and E. sarita inanoides, the common Kalinzu species of Euphaedra, but preussi was absent, and does not appear to occur in Kalinzu.

14.8: A dull cloudy day throughout. I amused myself by collecting beetles off a fallen tree, which had reached just that stage of fermentation most attractive to Coleoptera, I took Buprestids, Carabids, Curculionids and some interesting Brenthids with long curved extensions to the head.

Tomorrow then, I brave the Police and Customs on the border—you have no idea of the red-tape involved in moving these days. You need a permit to move your car, a permit to move yourself! Vaccination and yellow-fever certificates, a cancellation receipt for your ration-book, and of course, your Passport and Visa. Why, I wonder, when the War has been over a year?

15/8: Beni. Well, I am through, and what is more I have a fine brick-built Rest House in the forest all to myself!

The Customs went off all right — our people were interested only in my car; they always are, though why, exactly, escapes me. I cannot see who could be interested in my exporting a 1935 Ford! The Belgians also took an interest in the car, to the extent of several forms in quadruplicate! Also in cameras, guns, pistols, etc. I signed a form giving the Christian names of my father and mother (both deceased)! and a lot of other information and then committed a tactical error. Since it was about lunch time, I said in all innocence, in my best French, "Monsieur, will you have a drink with me?" Unfortunately he understood and said, "Monsieur, I don't drink, and what is more, do you know that the import of alcohol into the Congo is forbidden? I shall have to see all of it!!!" Since that meant unloading the whole car, with still 50 miles and a bad road to do, I was a bit disconcerted. However, just at that moment two Belgians arrived, and so I paid F. 100 and left it at that!

The road is definitely bad, for the first 35-40 miles it runs through the Parc Nationale Albert, and is quite uninhabited—low swampy country on the edge of Lake Edward, and very bad to be stranded in. I had a fine view of some elephant bathing in one of the rivers—an old cow was washing her calf and others spraying themselves.

16/8: Again a dully, cloudy day, but as I had, anyway, to report at the D.C.'s Office, it did not matter. Also, I did a very good stroke of business, and secured two new tyres and tubes and had them fitted, so now "I don't care if it snows"! In the afternoon, still very dull, I investigated some sawyers' paths and took a few things, among them a few of that lovely species Cymothoe aramis and a fine male of Euryphene rubrocostata, also a Mylothris new to me*. On the way back down one of the paths in dense forest, I caught a large greenish Cicindelid, rather a strang place for it to be?

^{*} M. nubila canescens J. and T.

Some of the flowers are new to me naturally; there are two fine Balsams out at the moment, one orange, the other crimson, and there's an interesting low-growing Acanthaceous plant with loose pyramids of mauvy-pink flowers. Unfortunately this time I had no room for botanical collecting kit.

There are some very nice people in Beni and they have been extremely good to me.

17/18: A deluge practically all day! It's funny that having travelled some 600 miles, partly, at least in order to get away from perpetual rain, I have merely succeeded in changing the scenery! In the afternoon, in a thick fog, I explored north towards Irumu and found a good side road going through the forest to the east; at least it might be good if the sun ever comes out. I spent the evening collecting Tipulidae for the B.M. and in an hour or so got about 30, comprising at least 10 different species, one of them belong to the "dancing" group with long white-tipped legs.

It's fortunate that one group likes this weather, though I don't admire them for it However "tomorrow is another day," though judging by general conditions I'm not very hopeful — there's plenty of timber about, for arks, which is something!

There's nothing so depressing as a wet forest nor, be it said, anything so enchanting as a forest in sunlight.

18/8: The morning looked better and so it proved ending in a fine sunny afternoon and evening and in spite of a good many dull, cloudy hours, I amassed quite a good collection. In the morning Euryphene, Euphaendra, Diestogyna, etc., of which E. rubrocostata appears to be common here, E. plistonax, and a new one of the absolon group; D. amaranta, goniogramma and again a new one, are worth a mention. The Euphaedra consisted of various forms of eleus, xypete, medon, and preussi, but nothing noteworthy. Then at about 2 o'clock, I found a place where a tree had been felled and sawn up; it was well-cleared around, with lots of dead wood about and looked an ideal Liptenine locality. The sun was trying to come out and it gradually got lighter, until that stage of half sunlight was reached, which Liptenines like and out they came and started laying among the dead twigs and branches. That most delicate of all African butterflies Argyrochella undifera came first and in the end I got two, also a very small Liptena, white, with smoky apex to the forewing, and a larger species similarly coloured rather like Talbot's hapale. Pentila abraxas also was in evidence. There's no doubt about it that all these small white Liptenines belong to a Mendellian association with, I 'think, Megalopalpul zymna as the dominant member, although the Pierines' may be the ultimate model* they fly much faster and quite differently and are much larger and, more important still, usually fly in different parts of the forest i.e. the more open clearings, whereas zymna flops about all over the dense shady areas and appears to be quite unconcerned as to who may be watching. I think the Oboronia are members of this group, but they appear to be rare here. Along the path, in only a few hundred yards, I took an interesting little Lycid mimetic series, which are in your box - 2 Lycids, 2 Ceram bicids, a Reduviid and a fine Asilid. The great point of interest, was that the latter in action, had two distinct modes of protection, first it buzzed like a wasp and much more striking it flew slowly, quite unlike the usual quick darting flight of an Asilid, and with its black abdomen drooping down just as does the Lycid beetle. I flushed it three or four times to make sure, before I caught it and each time it flew straight on about 4 yards and then down on the ground. Each time

^{*} See later—the true models are small black and white day-flying moths. In the absence of evidence of distastefulness "Mendelian" is not the correct term.

a display of black abdomen and rufous wings! Tomorrow I'm going to look out for the wasp, which I feel sure will also be present, also perhaps, a moth or two and you shall have them all later on.

Finally, coming back for the last time, I came across an Aletis flapping along the ground and obviously injured so I caught it and found that both forewings had been torn off, but that otherwise it was uninjured. Since the body and hindwings are fully developed, I doubt if it is a case of failure to emerge properly from the pupa and I feel sure it was caught by a bird, or mantis, and escaped with the loss of its forewings.

The night is clear and starry, so I hope to have lots more to tell you tomorrow. There was one point of botanical interest worth mentioning to day — a delicate, thin-stemmed creeper grows fairly commonly in the forest, Curcurbitaceae, it does not seem to mind even dense shade. The stem bears at intervals of about 4" the usual small marrow-like fruits, but in this species they grow first, the flower then appears from the lower end, a small green rosette and when fertilised and ripe the seed appears as 4 or 5 bright yellow fingers with scarlet tips, hanging from the end of the "marrow." The latter is clothed in maroon coloured hair. It's a most striking looking plant. I'm afraid George Taylor will never forgive me for not bringing botanical kit, but, although a press is easy enough, I doubt if there is any real substitute for blotting paper. Beni might supply.

19/8: Heavy cloud all day until 3 o'clock, much too late to do any good — I went, on the Chief's advice, and had a look at what he calls his handaki in Swahili a "trench", but in this case a cutting through the forest. It should be good, particularly as it ends in a clearing of about 3 acres, covered with felled trees and ideal for Lipteninae, but the snag is it is too populous.

There is a big Watanga Village on the outskirts and the forest itself is full of Pygmies—one is followed by hordes all day and no sooner does one get rid of one lot, another batch arrives. I like to be alone when collecting! The Pygmies are a strange and interesting little people, and must be most exciting to an anthropologist, the features, foreheads, eye-sockets, etc. are extraordinarily simian and if one watches a crowd of kids, playing in the forest, swinging on the creepers and climbing over tree trunks, it only needs some fur and a tail to make an ape! They wear nothing, but a cloth strip covering the genitals and tied up behind between the legs and I feel sure this is a recent innovation! In spite of the weather I had two noteworthy captures, a fine Hawitsonia boisduvali and a female Ps. ruhama. I also took one Liptena undina and this is the first time I have seen it since years ago in Budongo,—and that was all! Your Lycid group grows, several more models, two more spp. of Cerambicidae, and another interesting looking beetle which I can't place; it might be a Cleriid.

Lastly on the path, again, I took another escapee—this time Acraea egina, crippled as to wings, but otherwise intact—again it isn't easy to determine what was the aggressor, but this time, I think, a bird, since the tip of the one remaining forewing is nearly severed across in a straight line.

There is nothing further to report, so good-night.

20/8: In spite of my usual battle with the elements — the sun appeared for about 2½ hours—things improved in the Lepidoptera line — a male and female Abisara rutherfordi, a fine little species, which I have never seen before. The fact that the male has blue patches on the hindwing, and the female on the forewing intrigues me and seems difficult to explain. The females of the other purple species talantus, from Kalinzu, are much duller coloured than the males and since all Abisara sit with their

wings half open it seems strange that rutherfordi female should deliberately show a bright blue patch on the forewing. Then a male Ps. hostilia walburg met its match and will go down to posterity! and a little later, I saw an interesting form of, I imagine, Ps. dolomena-the f.w. had red bars and the h.w. yellow, but it never came within reach.*1.

Another interesting find was a male Euryphene congolensis. I have been looking for this for a long time, since we originally thought our brunhilda from Budongo was this species, until I took it home and compared it at the B.M. There is no doubt that this is congolensis with its large quadrate yellow spot in space 7 of the h.w. below. There remains iturina to be found, I would very much like to know, some day, when you have a few minutes to spare at the B.M., exactly how iturina differs below from laetitioides.

A new species of the mauve barred Mycalesis, *2 also came my way, M. medontias, a very distinct form, and early in the day in a clearing I came across two of my Katera Liptena rubromaculata, the Vanessula mimic, but I think this will prove to be the typical form. Unfortunately I bungled it and only got one.

Another Argyrocheila, a fine male Ch. protoclea, of the typical western form, several more E. rubrocostata, and two more Cy. aramis complete the noteworthy captures today.

On the whole, so far, I am rather disappointed with the Ituri, (I can hear you, after reading these lists of new spp.; say "why"!), but there is comparatively little about and not nearly the number of spp. different to Bwamba and Uganda generally that I expected. Of course the weather has been atroclous and I should think, judging by my one previous brief visit years ago, when the whole forest was alive with butterflies, that August is a bad month.

Perhaps, in a week or so the deluge will be over and things will begin to hatch. But whereas on that former a visit, in 3 hours I took 18 spp. new to me and one did not know which to catch first, this time one has to search for any butterfly at all and even the ubiquitous Hesperiid is rarely in evidence!

21/8: I went into Beni today to buy a few things and had an excellent lunch in the hotel. It rained all night and practically all day! On the way back I had a brief look at the forest, very dark and wet. The E. preussi race is quite different to most of Uganda, but probably the same as that at Bwamba. The male is greenish with a rather broad green sub-apical bar, indistinctly defined as to its edges and the female has pale blue markings following xpete, inanoides, etc., but with a white apical bar, I took a fresh female today, also larinopoda lagyra and D. goniogramma male, otherwise nothing of interest. Another finer species of Cerambicid however, has been added to your Lycid group and one more of that other beetle, family unknown!

22/8: My first fine day! I went again to my saw-miller's paths rather than face the pygmie hordes!

The first great capture was three males of Cymothae anitorgis, it is a lovely thing and quite distinct from aramis. The colour is half-way between the orange red of aramis and the blood-red of sangaris. On the hindwing costa, midway, is a large whitish quadrate spot above and below and the margins of both wings are beautifully scalloped and fringed with white.

^{*} This proved eventually, to be a female form of Cymothoe aramis Hew. † Now Bicyclus.

It is strange and shows the "off season" that it is at present, that although I have seen quite a number of these red Cymothoe, not a single female has appeared, whereas on that previous visit, I mentioned earlier, I took, 7 or 8 females of the two spp. aramis and anitorgis in my 3 hours!

The second insect in importance was Euryphene congolensis, again 3 males. Having got that first one off the boards, I find it is the male of my female Euryphene described on the 18" as "a new one of the absolon group." The male appears to agree with Aurivillius' description, tho' the yellow costal spot below on the h.w., is not exactly quadrate, it is, however, yellow and is square on the costal edge. My female definitely belongs to it. Either, then, this isn't congolensis, or Aurivillius has placed the wrong female to his species and put it in the wrong group. The female of this species is a catuna mimic and therefore belongs to the carshena group, but it achieves its purpose in a most interesting way. It does not depart one iota from the pattern of the male, every line and spot is faithfully reproduced, but the ground colour, instead of being black, is Catuna-brown and the red median bands on both wings are replaced by yellow.

Below it is the same, the lighter brown bands of the one replaced by the pale whitish yellow colour of Catuna, and the darker sub-basal spots of the male h.w. are in the female chocolate-brown, but each spot and line is copied exactly. Most of the females of these sexually dimorphic Nymphalinae show considerable differences in pattern, and the only safe test is usually the shape of the median line below and I believe, therefore, that this species evolved in a slightly different way, i.e. through slight colour mutations in the spots of the median bands. We shall have to wait until you can take one to the B.M. and compare it before deciding its' identity, but if it is not congolensis, it is not in Seitz.*

Thirdly I got another of the mauve barred Mycalesis, this time M. hewitsoni—an unusual and interesting species, with its mauve marginal bands on the hindwing. Other things were Hypolimnas mechowi, Anthene rufoplagata, several Larinopoda lagyra, a magnificent planemoides female of dardanus, Papilio zenobia, etc. etc.

To your Lycid group were added 3 more spp. of Cerambicids, making now 6 or 7, another of the Reduviid bugs, another small beetle, possibly Chrysomelid, with black elytra and red thorax and head and another beetle, which I know, but cannot remember!, with the caraprace widened and leaf-like behind the head. The most interesting was one of the "Longicorns", which has definitely gone one step further and modified its antennae towards the Lycidae. They are carried wide apart and straight up in front when in flight, rather than curved at the tip, as in ordinary cerambicids and are further modified to resemble a Lycid by having the first three segments broadened by a thick clothing of black, spiny hair. There is also a "kink" after the first segment, possibly to enable the insect to hold its antennae erect? It is a most interesting thing and you'll have no difficulty in recognising it in the box.

I put also in your box another Cerambicid and a Chrysomelid...At first signt there isn't much resemblance, but when in flight I cannot tell them apart and, I think, if set out, you will see what I mean.

Both are sun-loving spp. and occur commonly in the clearings, though the latter is much the commonest, of course, and occurs in many forms. The body and hindwings, which are chiefly seen in flight are in 'oth cases orange-yellow; another thing, I have included is a fine Syntomid wasp-mimile, metallic blue with red thorax, which I watched for some considerable time, flying in a clearing, before deciding it wasn't

^{*} It was Euryphene cottoni B.B. and it is in Zeitz!

a wasp! And finally 3 spp. of the common black and white, day-flying, Lymantrids, because when discussing M. zymna and its Liptenine mimics the other day, I forgot to mention these moths, which are obviously the purely Batesian models. They fly all day and all hours of the day in the thick forest, together with zymna and the Liptenines.

The boy is pestering me to have dinner, so that he can go to bed—it's 9 o'clock so perhaps he's right and in any case you'll have had enough of this! It has been a grand day!

23/8: There was one other interesting thing I forgot to tell you yesterday. On these safaris I always bring a small box of boards, a store box and a few pins and in the evenings set up anything especially interesting in order to examine them and know where I am. So the other day I set that female of Ps. ruhama. It had a chunk out of the right hindwing, but seemed otherwise undamaged. Yesterday, however, I took it off the board and right across the right forewing is a beautiful double beak-mark!—so, you will have to have this as soon as I get home. It is significant that that makes the third probable bird attack, the Aletis and Ac. egina being the others, in under a week, even more significant, I think, in a dense tropical forest such as this.

Well today dawned clear, clouded over early and then cleared again and by midday I had practically nothing at all. However I went back to a place where I had put some leopard "bait" in a strategic position for Charaxes and then occurred one of the great moments in a collector's life. There amongst about 6 or 7 other Charazes, was a magnificent male Charaxes hadrianus. I committed the usual folly, under such circumstances, of completely losing my nerve, I nearly fell over a root, I trod on a dead branch, which went off like a rifle shot, I did everything that one should not do, but I got him!! I think, of all the Charaxes, it is the strangest and most beautiful, though perhaps nobilis runs him close. He was in absolute perfect condition and I just sat and gazed at him in my hand and didn't even notice that I was practically sitting on a highly odiferous bait!! So much for him, I had the same thrill years ago, when I got another at Katera.

The day produced also 3 males and 1 female of Cymothae diphyia, which was new to me — one male and the female are fresh specimens — the latter resembles the female of Cymothae lurida hesiodotus most faithfully. Of lesser importance, 2 more males Cy. anitorgis, 1 male Cy. aramis, 1 male D. amaranta, and a female of D. tadema, the latter being new to me. Quite late in the afternoon I took another purple Abisara, which I imagined was rutherfordi, but having killed it, it was obviously not that species. I then thought it was the Kalinzu talanta caeca of Ripley, but, in setting it, I found that practically the whole hindwing is blue—it will have to wait till I can consult Riley's paper at home, but it is not in Seitz.*

I got another of those Cerambicids with the strangs antennae and two other beetles for the Lycid group, one a Chrysomelid the other unknown! The forest is literally swarming with these Lycids and their mimics and, after the common Chrysomelids, they are the commonest insects one sees in flight, I think tomorrow I shall try further afield, if the day looks at all possible. The local populace will insist on collecting for me in spite of daily protests; I come back in the evening and find tins full of mashed Acraeas, which I promptly tip out on the grass.

This evening the usual tin was produced, a few Pierines, one D. chrysippus, and masses of Acraeas; lycoa, alciope, egina, etc.

^{*} Abisara tantalus Hew, male. Once again it is in Zeitz.

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I tipped them all out on the ground, some still alive when I noticed that a pied wagtail was watching the operation with great interest. So I stepped back into the verandah and waited and sure enough up he came. He made an immediate dive at a female. A. lycoa, dropped it, had another shot and dropped it again, then tackled a female A. egina, worried it and dropped it and then lost interest altogether. So my daily penance of receiving tins of butterfly-jam, had some slight recompense in interest today. I spent a lot of time in the dull moments today collecting beetles, etc. for the B.M. and for the Coryndon—there are some amazing insects in this forest. A Reduviid, whose fore-tibiae are modified into large flat paddle-shaped organs, covered with spines and with the tarsi, fully jointed and with bifid claws, sticking out in front, but minute in size—an Ichneumon whose hind tibiae are swollen and bulbous and the tarsi are carried permanently doubled up underneath them, so that, when flying, the insect looks as if it had three abdomens!! An Elaterid with it's thorax as long as, if not longer than, the abdomen and several amazing Brenthids.

24/8: There is nothing very much to tell you today—I went as I said further away, a good deal further in fact, as you'll see! I took a side road which I had been told led to a saw-mill. It is about 20 Km. from here and I thought the mill would be a mile or so in—it wasn't, and further more it wasn't a mill, but an experimental rice growing station!, in process of clearing and the road was frightful and went straight down the side of the Rift Valley, almost to the bottom. Having started, I determined to get there and, in any case, had no option, since one couldn't turn round!

It's curious how often these "further afield" visits end in disappointment. I could have got nearly everything I saw here and probably more of them! Amongst the usual Euryphene were barce, brunhilda and zonara, which I haven't seen here, but are Bwamba spp. Two Ps. enrytus one terra and one tirikensis, however were interesting, as showing a big stride west for these forms. I'll send them to you later and finally, I saw a female Cy. anitorgis and missed it. Then I came back and since it was by then about 2 o'clock, I went down through the village and braved the pygmies! and being Saturday afternoon and no work going on, got away with it! Here I did better, a male and female Cy. herminia, typical, and a female of another Cymothoe which reminds me of the Kalinzu indamora amorinda and may be the typical race, but these black and white Cymothoe are very difficult.* Also another of the new Abisara of yesterday and a bad specimen of Deudorix otreada. Incidentally there's an interesting case of resemblance, in relation to the latter here, in the shape of an Epamera, one of which I caught earlier today-it is almost exactly the same below with the same dark border running into the red post-discal line†

It has been a very strenuous and rather abortive day, but one always has to try these things once, just to prove one isn't missing a butterfly paradise just round the next bend!

I got some fine ${\bf Buprestids}$ and ${\bf Cerambicids}$ in the rice clearing, but nothing much else in the beetle line.

I'm very disappointed in the general lack of *Liptenines* here, I had expected many new spp., and so, far have taken one and even the few that are here, are rare, I got, however, one nice *Telipna* today down the hill. Tomorrow I shall catch *antimachus* down the saw pit path!!

I stopped today on the way back to take a few photos of a pygmie village—they live, in tiny little beehive huts, in dense forest and roof them with banana leaves. The

^{*} Cy. indamora indamora Hew.

[†] Epamera sp. nov.

men were away, but the women all came out and posed amid shrieks and giggles. What amused me was that the girls paint themselves in fascinating patterns with what must surely be a type of woad, but the painting is only done on the face and on the posterior!! The eternal Eve!, should we, do you think, suggest this as a new Paris fashion?!

25/8: Very little seemed to be moving today in spite of fairly reasonable weather—I imagine everything is waiting for more settled weather before emergence, but the day was made again by my taking another magnificent male Charaxes hadrianus on my bait. It looks as if I had struck a place near the food-plant, so I shall continue to bait it—it would be very satisfactory to get a female and I think I must try a banana brew in the same spot. It's always tricky stuff and often doesn't work at all, I think, in particular, it requires a hot, damp climate, since it is always most efficient at the coast, but seldom so in Uganda. But I will try, if only to see what spp. of Euxanthe are here, it's about the only method I know of luring them from the tree-tops!

Here's another interesting thing today — I got two Liptena rubromaculata, off exactly the same stem of that common palm-like Aroid and, having set them, it turns out that the original specimen was a female! Now, incredible though it may seem, I can come to no other conclusion, but that she was gravid, and that her scent still persisted at this spot after five days!, else why did I find these two males on the exact leaf on which I caught the female? You remember, I reported two on the 20th and that I had missed one. They were chasing each other and, I thought, fighting, but I feel sure now, the other was a male and that this was a preliminary to copulation. It seems extraordinary that scent could last so long, but it is difficult to explain the occurrence in any other way. Two other points; this is the first female I have seen; among all the long series from Katera there were none;—she has two thirds of both wings orange-red — and secondly this is a different race, the male has only two red spots in the discal band of the f.w. in la and lb. and is altogether much darker above and below.*

Later I got a female of my new purple Abisara, she is quite different from the male, having two blue bars on the f.w. the discal one of which is broad and turns the corner in a right-angle towards the base at the inner-margin, and two blue streaks on the h.w.†

Later again, I missed an interesting looking Micropentila, through falling flat on my face over a root, just as I had arrived within reach. I took about 2" of skin off my right-thigh and the language was superb, but unfortunately wasted on the air!!

Collecting here, is not without its' trials, apart from the "Laws of Chance" as above; the forest is full of blood-thirsty **Tabanids** and my legs and arms are covered with lumps like chicken's eggs, they seem extremely poisonous;—also there's a small black wasp which builds small carton-nests under leaves low-down along the paths, and if one brushes against one, they attack at once and have a very painful sting. But, who cares!

I took a fine ascalaphid fly this morning; in my experience they are rare insects—this one has fine mottled wings and the last three or four segments of the abdomen below are shining white. Another fine thing was an Ichneumonid, wings blue and transparent in alternate bars; abdomen, thorax and head orange-red and an amazing ovipositer about 3" long. In your box I put another Ichneumonid which walks about

^{*} Typical Liptena rubbromoeulata rubromaculata Hk. Sm.
† This was a mistake; it is the and was taken later.

of of A. talanta ccoeca Riley; the of tantalus Hew, is dull purple

on the tips of its long legs, among and in exactly the same way as the common long legged Muscid flies one always finds on tree trunks—I feel sure there is something in the association, also in your box 'another Syntomid wasp mimic of a different sp. I will catch and include one or two of the Ichneumonids, which are very like these moths.

26/8: My boy not yet having turned up, I determined to knock off early and go in to Beni and send a wire, so I went and spent the morning amongst the pygmies. My previous displeasure has evidently had some effect, for I was left strictly alone. It may be merely, of course, that they have decided that I am obviously mad, so why worry any further!

The first event of the day occurred almost as soon as I got out of the car, when a fine fresh female of Cymothoe reinholdi came down and sat within 3 feet of me and I missed her!! Quite a new sp. to me. It seems to be an excellent area for Cymothoe for during the morning I took, sangaris female, beckeri female, anitorgis male, lurida hesiodotus male, and ciceronis male and female. Also along the "handaki" seems to be the haunt of the large Epitola and Hewitsonia, I saw many of both sexes, but only succeeded in catching one male E. honorius and one male H. kirbyi intermedia, as it was I had to get the former off the end of a 20 foot pole! But I shall concentrate on these from now on.

Nothing much to report today in the "other order" line, except a magnificent little Sesiid, with black forewings and red hindwings, bordered with black. It is only about 5 m.m. across!

I started a local boy off on bettles, bugs, etc. today and his first effort is good, so in the end I ought to have a fine lot for Riley.

Then at about 1.30 I came back, to find that my boy had arrived, so now all is well, but since we wanted various stores, I went on into Beni and on the way looked in on the hadrianus place and sure enough I got another!

I was reading Arrow's account of the Coleoptera in the "Standard Natural History" (Pycraft) — incidentally it's a first class book for a collector on safari—and in the preface he says there are probably a million spp. of beetles, many of which are destined to become extinct, before they are known, owing to the destruction of forests throughout the world! It's an unpleasant thought and goes much further than the scientific point of view.

In a sense the Belgians, as holders of the vast majority of the central African forests, hold the destiny of Africa in their hands, since it is this large area of forest and the climate it produces, which holds the desert at bay. They are preserving large areas in the National Park, but, of course, this is infinitesimal and they are wading into the rest of it here around each village. It is difficult to see how else they could feed these hordes of natives without moving them altogether, but I hope they won't wade too far. Fortunately everything grows so luxuriantly, that food is cheap and the acreages required, therefore, not large, but the process is going on all the same. Is homo sapiens destined eventually to destroy himself and the world by unrestricted increase or will we learn sense one day and control our population?

There is still so much superstition in our make-up, that I fear the latter will take a long time, but the alternative is the destruction of the world. We then presumably grow our gills again and go back to the sea, until that also dries up or grow stone-crushers inside and live on sand!

I'm hoping for great things tomorrow, the weather is much better and there was more about today.

27/8: My hopes weren't exactly fulfilled — it was one of those tantalising days, when the sun was continually being obscured by cloud, so that it never got warm enough to wake things up - also I couldn't do anything right, I either missed everything or broke them in the net! The boy did better and got a new Enryphene, which I haven't had time to look up-It looks rathe rlike female E. cutteri, but is a male and has very small apical bands—it's a fine thing with two-thirds of both wings dark bronze green and an underside like Euphoedra medon. As a matter of fact, (I had better own up to my idiocy!). I followed one for some time and eventually caught it and after glancing at the underside in the net, let it go, as just medon and of course, it opened its wings, and I immediately realised my mistake! It was one of those sort of days!, but it is on the other hand, another example of the value of protective resemblence. I caught 2 females of the second purple Abisara and a fine, freshly emerged female of Hewitsonia boisduvalis and bust them all in the net! But, later, managed to catch a male and female Epitola, which I think belong to each other and look like carcina in Seitz,* and a very nice little Anthene, which I don't know at all.† The fine male Ps. ruhama, very dark and with a much reduced postiscal band.

I have added today another Reduviid to your Lycid group, a much finer species—also a long-legged weevil, which I found walking amongst the Muscid flies on a tree-trunk and I feel sure also belongs.

The beetle-boy is doing well, he brought in a lot including some fine **Erotylids**, but the best thing seen today was an astonishing **Membracid**, which I took in a dull moment; it not only has the usual horns, but a third, long one, emerges from between them and curves right over the dorsum, ending just above the last segment. From a lateral view it looks like a harp.

The Lipteninae are improving for apart from the Epitola seen or taken, the boy got an Eresina today and I a male and female Liptena modesta. I am conscious, that this is becoming very boring reading and is developing into a daily list of captures — it's rather like those shooting safari books, which consist only of how many elephants, rhinocerus, etc. the author shot each day, usually before breakfast, — and which I loathe! As I said, earlier, this is chiefly for my own amusement, but, I now realise that you'll have to read it, because all the notes regarding the mimicry groups, etc. are included in it! I'm afraid it's one of the penances attached to the post of Hope Professor! Anyway I'll shut up for today.

28/8: It was an interesting day in that in the evening, I was paid a visit by the Director of the Sydney Zoo, a man called Brown, of all extraordinary people to meet here! He is collecting animals, birds and reptiles for his Zoo. I have promised to try and get the locals to bring in birds and to forward them via the Doctor in Beni, who has been helping the expedition. Incidentally he had told me of a New Zealander who lives near Buta and collects butterflies and since this is the way I mean to go out, I shall go and see him.

Today's collecting (not before breakfast!) produced two new Euryphene, both of the interesting Euphaedra association and both, I think, different to the species of yesterday. One is bronze-green, like that of yesterday, but is smaller and the apical band is also bronze-green, not yellow.* The other belongs to the phantasia group and is like a small spatiosa.†

^{*} They were!

[†] Anthene bipuneta J. and T. * Euryphene chloeropis B.B.

[†] Euryphene flaminia Stgr.

I did well with Liptenines also, a new Pseuderesia, a new male and female Citrinophila, and a new Epitola-also another Liptena rubromaculata, mimacraee krausei, Epitola honorius etc. I forgot to tell you yesterday that Neaveia lamborni turned up, the first I've seen since Budongo days. It was also a Psendacraea day, I took two Ps. ruhama, missed one dolomena-I think albostriata, but more important still, I saw in one spot, terra, hobleyi and schubotzoides!! So, I do not think, as you said in your last letter, that the genus and eurytus in particular is rare in the Congo.

Unfortunately none of them came within reach, but you shall have them in time. I am looking out for gottbergi, which I took here before, one perfect male, and which during the war, my boy took into his head to reset and, in the process, destroyed!! He did one or two other major errors, but, on the whole, set all the Bwamba stuff well. It was all due to not knowing just how wet to keep his relaxing tins and he erred always on the dry side and so broke wings occasionally. But I don't know how I would ever have got through the Bwamba and Amani collections without him.

There's a fine Reduviid in your box today, with its prey, an earwig. To facilitate finding these things in the box, I will always put prey under the mouth parts of the insect concerned.

I have seen various interesting Dipterous private affairs lately and I wish Edwards was still alive to tell him about them-one was a mass of Culicines copulating and feeding at the same time, on heads of a Senecio-another-today-a swarm of longlegged flies, probably Muscids, circling and dancing about a foot from the ground-the one sex, male?, has a white thorax, very conspicuous in flight and they look like Hymenopterons until one handles them.

The beetle boy bought in, amongst a "soup" of spiders Mantids and immature Acridiids, quite a fine collection, amongst them a magnificent beetle, which might be an Erotylid or a female Scarabaeid. I don't know the Coleoptera well enough to tell, but judging by its highly polished dorsal regions, I incline to the former, on the other hand the thorax is greatly flattened and enlarged. It is black, with red thorax and red, lateral, patches on the elytra.* And so goodnight and to bed.-

29/8: A bad day—it rained all night and most of the morning and I went out at about 11 o'clock into a swamp! The sun didn't really come out at all, but I managed to find a fine female of the purple Abisara, talantus or whatever it is and a small Antheme new to me.†

Talking of the Abisara, I am inclined to think this sp. is intermedia, from the description in Seitz-it is strange that so far, the common black and white Uganda sp. neavi and the rarer simulacris seem to be absent. I cannot think that they are confined to Uganda, but it is just this sort of thing I am trying to find out. I have made complete distribution lists of everything in my collection and will now keep them up-to-date, but I'm afraid many common spp. went home to you, before I made the lists, -one day some industrious person can bring them to completion by going through the Hope collections.

The Anthene today is, I think, lamprocles. I spent most of the day collecting beetles, bugs, grasshoppers, etc., but did not get anything of special interest.

I hear there is a petrol shortage, which might completely upset my safari, as I wanted to go out via Stanleyville, Aba, Yei, Juba and then back into Uganda. It's rather bad luck that this particular period has coincided with a tyre-shortage in Uganda and now petrol here-I gather also it's likely to last sometime. I have managed to buy a drum

^{*} A stag-beetle (Lucanidae). † Neuryphexina lamprocles Hew.

here, but that would not be enough and, in any case, I can't transport it. However, we'll see. I expect I shall be able to beg my way through — if necessary, I can wait for the shortage to be over in some good spot en route.

30/8: Again a terrible day, this is the sort of climate one associates with the Himalayas and such-like places, not Africa. As a matter of fact the proximity of Ruwenzori probably has a lot to do with it.

However one never knows and on the way home somewhat disconsolate, I caught a fine form of eurytus.* Until I got home I thought it was a female of gottergi, which it exactly mimics! You'll have to see this then when I get home. Also on the path I got another, new Anthene, this time I think leptines and while I was searching tree trunks for beetles, I had the great good luck to find a micropentila just emerged from its' pupa, tho' I couldn't find the latter.

So, as I say, even a really dud day, like this one, sometimes comes up to scratch.

I did well also with beetles, some fine little Curculionids, Cerambicids in variety, of which one more species went into your Lycid complex, and another is one of the largest I have ever seen, belonging to the first sub-family, whose name I forget. I also put a Dipteron among the Lycids, black body and wings and red thorax, I think it belongs, but am not sure.

One very interesting thing I found today when I was emptying the beetle boy's tin, among which was this huge Cerambicid. In the cotton-wool was a strange, whitish brown looking thing, that looks like a sack with arms ending in a bulb from which small extensions emerge, like feet, but they do not appear to have joints or claws. There is nothing recognisable in it even under a fairly strong lens, nevertheless it looks like a very degenerate dipterous parasite and if so, it must Cerambicid!

It will be interesting to hear what Riley makes of it—The Provincial Commissioner paid me a visit today; I must say these people go out of their way to help and he called to "see that I had everything I wanted." I am ashamed of myself as usual, whenever I visit another country—like most of us, I cannot really speak French, whereas all, or nearly all, the Belgians speak English well. On the whole we're a very badly educated race, don't you think?

I think I was a little hasty about my remarks on the Kalinzu forest, for today I took one of the purple Abisara off the boards and it is obviously the Kalinzu species! Now this, with the Acraea, if it is really kalinzu, and the obvious race of Cymothae indamora makes three of the species from that area, which I had thought to be definitely endemic to it.* It may be that, on comparison all the Kalinzu forms will prove to be sub-species and that, therefore, the Kivu-Ruwenzori, Kalinzu area, has been longer isolated than Katera, Budongo, and the rest of Uganda, I am rather inclined to think that this will be the case.

Kalinzu is a strange and interesting area for on the one hand it is very close to Ruwenzori and one finds things like Acroea johnstoni buttleri, Mycalesisi matuta which are typical Ruwenzori spp. and on the other, it stretches almost down the escarpment to the shores of the Lake Edward, which, via the Semiliki, is no distance at all from the Ituri Forest and so from the Central African forests as a whole.

^{*} Ps. eurytus f. ruhama Hew. * The Acroea was not kalinzu which remains endemic to the Kalinzu Forest, as does also the sub sp. of Cy indamora.

I am quite certain that Kalinzu would repay the expense of a real survey, but the trouble is that it is hardly opened up at all. There are no tracks or roads through it, no paths even, since the local natives never go in, on account, I think, of the Chimpanzees. Probably they recognize their own remote ancestors!!, but everyone is scared stiff of them. The forest goes down in steps from the fairly high altitude of Ankole, to the very-low one of Lake Edward and has, I'm sure, immense possibilities from an entomological point of view.

31/8: I had one hour's collecting today, after which a colossal thunder-storm descended on us and reduced the country to a shambles! I have now lit a fire and closed all the windows and doors; such is life in tropical Africa!

There is no doubt of the potentialities of this place, if only the weather would clear — in our brief period of semi-darkness we got an Eresina, another Liptena rubromaculata, Liptena o-rubrum, which I've looked at for many years in Seitz and hoped one day to find, and Uranothauma peggei. The latter seems to be the only one of the genus here, it is, in my experience a rare species, but I think there'll be remark under poggei?—that the figure marked poggi in plate 72 i, is either wrongly marked or a species unknown to him—it is actually rather a good plate of antinorii!

The Cupido (sens lat.), are conspicuous by their absence here—normal of course, for a forest area. A very interesting bug turned up today, a Reduviid, I presume; one of those strange Mantis mimics, but this one is even more strange in that it is procryptically coloured like lichen—I'll put it in your box—and, talking of lichen, I found yesterday an extraordinary cricket, long and flat, with long legs placed straight out fore and aft and antennae about 2" long. It sits on lichen covered tree-trunks and is mottled and coloured exactly like the lichen—I'm afraid both it and the bug will lose their colour in the box, but you can imagine the pale green ground colour and the black speckles and mottling being very hard to pick out among lichen.

I found also another of those little Sesiids, I mentioned the other day and put it among the Lycids, it might or might not belong, in flight it is of the same colouring—red and black—in any case it is a fine little insect and I'd like you to see it.

Well, we'll see what tomorrow brings forth, I should not be at all surprised if it snowed! Anyway, thank the Lord, I am not up on Ruwenzori, I often think Edwards, Taylor and I were extraordinarily lucky, when we were there, in that we scarcely had any rain at all—a very unusual occurrence on the range.

1/9: The dawn of September was one of the murkiest I have yet seen; by 11 o'clock it was just light enough to see! So I decided to go and drown my sorrows in a bottle of beer and some lunch at the Hotel—Madame, as one would expect, gives one an excellent lunch. Also I wanted a few stores and this, being a civilised country!, the shops open on Sunday for half day for the convenience of travellers and for the natives who, if at work, only get off on Sundays—no such thing, of course, in a British Colony!

So, off I went, did my shopping, had my very good lunch and then at 2 o'clock, for half to three quarters of an hour only of sunlight, I went down one of the sawyer's paths and saw more and did better than I think I have done in any one day since I arrived! Thereafter almost without warning the deluge descended once more and I got soaked to the skin! But in my half hour, I took a perfect female of Euryjhene plistonax one of the most difficult of all spp. in my experience to catch. She left the path immediately she saw me which is normal, and I virtually gave up, but followed just on the chance and in a sunny patch in the forest, I got, her! Then appeared two females of Euryphene rubrocostata, I had rather suspected we had only seen males, so far and sure enough

the female is quite a different thing—unfortunately I missed the good specimen and got an old one, but it is enough to show. Instead of being green like the male, she is brown, the h.w. entirely so, the f.w. also, except at the base which is bluegreen. The apical band is yellow as in the male, but much broader and the apex is broader white.

A fine male Abisara rutherfordi, another of my new Euryphen which I think must be Baker's chaeropis but the descriptions of this four species aren't very good and there are no plates, two Euphaedra zaddachi seen for the first time, (and it is another of the Kalingu spp., though of course, not endemic) etc., etc. — apart from these, there were many more butterflies, in general, about. My boy brought in a perfect male Hewitsonia boisduvali, another E. chloeropis and an Eresina—if only the sun would shine all would be well, but I am not complaining, since the Administrator has agreed to allow my boy to remain here for 12 months, so the final result should be good!

I hope to arrange that he can go on a bit further also and it has the advantage that he will get to know the chiefs etc. and I can then send him back, later on. It is extraordinary how susceptible some families are to cyanide—my bottle is far from strong, since it was made up before the war!, and is really only used as a receptacle, yet I have just put one of those powerful flying male Lassiocampids into it and it died instantly. An Acraea unpinched, would live, I should say half an hour, so would many beetles; there must be great differences in the tracheae and general nervous systems in the different families, though I have never seen this particular point explained.

This morning I was paid a visit, by the Territorial Agent and his wife and two grand kids, one of whom had just come from having his tonsils removed! They are charming people. My friends from Kenya, if they are coming at all, should arrive shortly, one, Malcolm Berkley, is a collector, but it will be pleasant either way, to have some companions.

I took the new eurytus form off the boards today, it is an extraordinarily good mimic of Ps. gottbergi female and, therefore, of some of the Western Bermatistes.

Strangely enough, the latter group has been conspicuous by its absences, in fact the first was caught today, a **B.** tellus schubotzi—this means nothing in a place like this and shortly, no doubt, they will be swarming. I am, however, interested, in that so far I have seen or taken the following forms of eurytus, terra, tirikensis, schubotzoides, hobleyi, and this new one, besides **Ps.** gottbergi, so you will have to await results here, before completing your Presidential address! I will send everything as soon as I get back and the boys' captures as they arrive.

2/9: I went out today about 10 o'clock to the sawyer's paths and it turned out to be our first really fine day throughout, but just as I was going to write and tell you about it last night, up came M. le Commandant, or as they call him here the Kommandaa! He has large concessions about here and is responsible for the clearings for palm-oil and rice, where I went the other day. An interesting and very nice chap—regular Belgian army—and went with their troops through Juba and Gambeia in co-operation with 2/6 K.A.R. during the advance. He stayed the night and gave me a lot of useful information.

The most notable capture yesterday was a strange large, dark blue insect with white apical bars which looked like an Euphoedra, but flopped along in front of me and then off into the forest. I followed and by great good luck caught it and it turns out

to be a Melanitis ansorgei! It is one of the most interesting butterflies I've ever seen, dark with small white apical bars and the f.ws. deeply emarginate and with black mealy spots It must, I think, be a mimic of the blue Euphaedras. I then got two fine females of Euryphene rubrocostata, which I described yesterday and others were Deudorix nomenia,* a new Liptena, an interesting Dendorix of the white underside group, resembling a Hypolycaena only this time, it is even better, since it has a long broad white tail on the h.ws. like angelita, but is not that species. I think it is the female of ctreadat†, but Aurivillius scarcely mentions the tails in this group.

Apart from these we got masses of other good stuff, all, I think, mentioned before. One interesting beetle came my way, a small Elaterid, very unusually coloured, with red-brown elytra and black head, which I took flying and I'm sure belongs to the Lycid group.

The boy brought in an insect, obviously collected dried and dead off a tree trunk. At first sight, I thought it was merely an ant, but on examination with a lens, it had two sharp horns on the thorax and, as well as the antennae, a long feeler from the top of the thorax, the pair of which has probably been broken off.

If it is not an ant, it is an extremely good mimic and, since I can't quite make it out, it is on the right hand side of Box No. 1 for diagnosis.

3/9: The Commandant left in the morning and it being very dull and trying to rain, I did not leave till 11.30.

First I took some Pygmies photos, as they had collected some "woad" and painted themselves for the purpose! I went down to their village to take them, a series of tiny beehive huts, roofed with banana leaves and right in the forest.

Then off collecting. The chief point of interest was that one of the yellow barred Euphoedras made its appearance—I saw three and got one, they are lovely things and I've never seen them alive before-I think this one is gausape. Then late in the aftermoon at the same time and place as before, I captured eurytus opisthoxantha and e. schubotzoides, but stupidly chased something else with the former in my hand and lost it in the bush! Later still and almost out in the open, on my way back to the car, my first Papilio thecrini-an interesting species, with its strange Acroea-like underside. I have been looking at various brown Euryphene during the past few days and usually leaving them since they appeared from the undersides to be loctitioides. But in the process I noticed that some had a strong violet sheen, which I don't remember in the Budongo species and today, saw one basking, which seemed to be oranged-red and so obviously so, that I decided it was time to catch a series and examine them. In the end I got 4 and 2 females, one of which I have seen about fairly often and taken to be a rather washed out female of Euryphura plautilla! But having got this one and examined it, it proves, definitely, similar and then set them; result, 2, as I say, very distinct females and at least 2, may be 3, distinct males,!! which shows how very careful one ought to be with these groups. I'll let you know, later, when they're off the boards what I make of them, but, in the meanwhile shall take every one I see.

Tomorrow, weather permitting, we shall have our first real day with banana bait, since it is now ready in sufficient quantities and we ought then to lure the rarer species out. I missed a Diestogyna today, which I think is jacksoni, it had that red underside, there is only one in the B.M., the type, and I have a paratype, so more must be found. Strangely enough the females seem commoner and I think there

[†] Hypokopelates otreada Hew. * Hypomyrina nomenia Hew.

are 5 or 6 at the B.M. or in my collection; of the other new species from Katera, chalybeata, I think I got a very worn specimen early on here; a female Epitola, with the f.w. broadly white as in batesi, but which appears yellowish below, completed the day.

Yesterday, I watched the courtship of a batch of those long-legged, long-walking Muscid flies, one or two, of which, are in your box. First males fight; they approach clasp, interlock the prolegs and then butt each other with their heads. Sometimes both fall off the log, in which case the wings are used (which they are otherwise very rarely, incidentally) and then one or both come back. The female in the meanwhile, merely waits and goes on feeding. However, when one decides he has won the day, he walks over the top of the female,—he is very much bigger and taller than she is—places his prolegs over hers and his other legs at the sides and behand, so that she cannot escape and copulation takes place, he bending his abdomen, downwards beneath the tips of her wings to meet hers'.

4/9: It was a bloody day!!, I'm sorry but that is the only adjective to describe it, rain all the morning and cold, damp, half sunlight in the afternoon, ending as usual in a fine evening, which is no use to anyone. It's really most demoralising and after a solid month of it one expects a break, but there is no such sign. A few Lipteninoe woke up about 1 o'clock and I got 3 or 4 Pseuderesia isca and one male Epitola carcina, while the boy brought a male and female Abisara rutherfordi.

One interesting observation was made, however, on a patch of wet mud (it was all wet, but this seemed attractive!) were a few Lycoenids feeding and among them an Uranothauma poggei, which I wanted. When I got close up, however, I saw that it was lying wings open, on its back and obviously dead. This seemed very strange and I wondered why and since it seemed quite a good specimen, I picked it up. In doing so, I felt a slight pull and there, underneath, was a very unpleasant looking bug, which had eaten half the abdomen.

This is a new departure in butterfly predators, in my experience at least; it must have caught the butterfly when it was feeding on the sand, since it was quite fresh and relaxed, when I found it! I have put them both, side by side, in your box—you can't mistake them—the bug is a horrible mud-coloured thing with two large eyes placed wide apart above and on either side of the head on the edge of the carapace and obviously designed for seeing upwards and outwards and with single long, sharp claws to the feet for grasping.

The head is carried right under the carapace and in general it looks more like a spirulam tick than bug! I think it has also a pair of smaller eyes on the top of the head. A very pleasant thing to meet, if one was about that size or smaller!, have you ever thought what life would have been like to a man living in the age of the Dinosaurs? Life in the insect world must be just about like that! That large handsome, highly, polished beetle I mentioned the other day is a female stag-beetle, the boy, today, produced a fine male with fully developed horns, a smaller male and another female,—it's a very fine species. He also brought two Cetoniids, one a magnificent translucent bluish-green insect, which I have never seen before. They shall go to John Gedye at the Coryndon, who specialises in the Cetoniinoe.

There are some fine Cerambicids, of the sub-family Cerabicinae, here, long bodies, long legs and long antenae and all magnificent irridescent colours. One is dark blue, and green with red legs and scarlet thorax and another bronze-green, with golden thorax. They all give off that strong scent, when caught, which is exactly the same to our scent senses as that of the Ant Lions. It is extraordinarily strong and persistent, even emerging strongly from the lid of a tin in which the insect has been killed and in my experience, is only produced by the bronzy Cemambicinoe and not at all by the Lamiinoe.

It should be an interesting substance from the chemical point of view, even, if only from its most efficient spreading properties.

5/9: I had better refrain altogether from mentioning today in case the qualifying adjective gets out of hand!, suffice it to say this time it rained all day and so I took my car into Beni and had the brakes re-lined. I also bought myself a box of cigars, 50 that during these glooming days at home, I could at least, improve my cough and so do something useful! Contrary to expectation, they were not cheap, about 30/- for 50, whereas cigarettes are about half our price. On the way home at 4 p.m., more for exercise than anything else, I went down one of the saw paths,—nothing, not even a Catuna, but right on the edge, nearly back on the road, a female Diestogyna got up and looked a bit unusual to me, so I took it and it is one of those interesting "unmarried" females; luteostriata-butleri being the other one of this group. I do not believe, as is possible, with the latter, that this is a form of ribensis, it is much too different. So somewhere we must find the males and, after my experience with the two Euryphene groups, mentioned below, I am considerably shaken and shall catch and examine all males of D. goniogramma which is the common species of the ribensis group here.

Now, the Euryphene;—first there are the two spp. belonging to the phantasia group and secondly those like lactitioides which I discussed the other day. As regards the former, both have bronze green females (I cannot quite make up my mind as to the sexes, but that doesn't matter), which are alike except that one has a narrow yellow sub-apical bar enclosing two small spots of the ground colour and in the other this bar is bronze-green like the rest of the markings, but in the cell of the forewing, there are some, prominent black spots. In the other sex, males?, both are exactly alike, brown with yellow sub-apical bar and white apices- except, again, that in the first species, the yellow bar encloses two small spots of the ground colour. Another puzzling likeness is that in males, the sub-apical yellow bar is of exactly the same width, shape and extent and only differs in this character of enclosing in the one, two small spots of the ground colour.

Below, both spp. and both sexes are practically identical. So one had to decide, were they spp. or merely forms of each other? and then, suddenly, I saw the real point of difference. The clubs of the anternae! In the female the first are white and the second black and in the males, both are white, but the first entirely so and the second only at the apical half,!! So there is, no doubt about their specific rank, but their identity is a different matter. I thought I had sorted them out below, by the fact that the smal white apical spot was broader in one species, than the other and then discovered that in one sex, the males (brown) are exactly the same!*.

Then the loetitioides group; there are again two spp., the males differ only in the ground colour, above and below, one reddish, one dark brown above; one again dull reddish, the other greenish below, but the markings are almost identical on both surfaces.†

This is carrying protective resemblance to an almost unparalled degree, since not only do the first two, in one sex, almost exactly resemble **Euphoedra spatiosa** and female **E. medon**, but they are exactly like each other and similarly the **locitioides** pair are confusingly like each other in the males and both resemble the commoner and larger **E. absolon**. The females of the latter are, of course, quite different and it is

^{*} The "males" were E. flaminia Stgr. and E. maximiana Stgr., the "females" E. chloerophis B.B., (black-tipped antennae), and E. leptotypa B.B. (yellow-tipped antennae).

† That with female like Euryphura was E. fulgurata Auriv., the other E. iturina Karsch.

interesting that, if I am right in my diagnosis of the sexes in the former pair, and I think I am, then it is the males which have evolved the greatest degree of resemblance in this case. The explanation would be, of course, that the females have followed other models, in the first group the bronze-green Euphoedras and in the second (a) others of the many females with sub-apical bars and (b) female forms of Euryphura plautilla. 1 am not boasting, in any way, when I say, that these two pairs would puzzle most entomologists, iet alone the rest of "Homo sapiens", and so what hope has a bird?!!

Next to my Lycoenidoe, I have always been especially interested in the Nymphalinoe and have always systematically collected them, wherever, I have been and so studied them fairly well. Taking the Euryphene, Diestogyna and Euphoedra, only, for the moment, though I believe other genera could be included, they conform to certain laws, one of which, in my opinion, is that, although almost always sexually dimorphic, they are seldom, if ever, polymorphic in any given area.

The plot thickens with regard to the localitoides Euryphene for today I took and set up 4 females of the latter type and there are two different forms, one brown with a white subapical bar, the other greenish with a yellow sub-apical bar! They are easy enough to separate and quite distinct.* The males are a different matter—I set 6 today and think I have sorted them, but the final decision and, also, as to which male belongs to which female, will have to wait until they come off the boards.

So there are now three spp., all exactly resembling each other below! the reddish male with its' very different plautilla-like female and these two above. The day started in great style, not a cloud in the sky and, I thought, now at last, here's a breaknot abit of it, at 11i30 a colossal thunderstorm broke over us, it rained solidly till 4 p.m. and I got soaked to the skin! But before this, with the help of lots of banana bait, I did quite well and amongst other things caught a female Charaxes hadrianus! It was great luck, she was obviously attracted by the bait, but wasn't on it and when I arrived got up off the ground before I had seen her and sat on a bush on the side of the track.' I followed, but, in spite of careful searching couldn't see her at all, so I moved nearer and up she got and went off through the forest, which shows that this very conspicuous looking pattern, isn't a bit conspicuous in nature! I then gave her up, but through the belt of forest in that direction, I knew of a large clearing and it was just possible, she would settle in it, so I followed again and right at the end, on a low bush, there she was! The female differs only from the male in the larger spots of the forewing and in having much larger or thicker sub-marginal lunules on the hindwing, it's a fine insect and a wonderful capture. On the banana bait I took a female Euryphene of another new species! She is larger than the others, with a broad, white apex and a white sub-apical bar tailing off into yellow towards the distal margin and below has a very large square white spot on the costa of the hindwing. The ground colour is mostly pale blue above and it is, altogether, a fine mimic of the blue Euphoedra. It might be phranza. I got also, two more Melanitis ansorgei, a fine male H. boisduvali, a male Liptena o-rubrum and all those locitioides Euryphene, so the two hours, I was allowed, produced good results and it was worth a ducking!

Another new beetle was added to the Lycid group; again, I am uncertain of the family, also a small Cerambicid of, I think, a new species. It is growing and should make a good exhibit. No wasps as yet, nor have I seen another of that fine Asilid.

^{*} Two species may be involved, but at the moment both are placed to E. loctitioides J. and T.

7/9: Yesterday about 4 p.m., just as I was getting down to sorting the day's catch, a party of Kitale people arrived!, and persuaded me to go back and dine with them at the Hotel, so I just had time to set a few special things and then off I went. It was quite a memorable day, though again I got wet through. I think the best thing I got was Euryphene symphona, it's a most immaculate insect, in that all the markings are so neat and precise and also one of the most interesting, I have seen; above an exact mimic of the blue Euphoedras, particularly of E. (xpete) cyanea, which it also mimics below. The underside is lovely, a sort of mahogany colour, with crimson costa and a pale blue-green spot below and round jet-black spots in the cell. Others were Diestogyna gambiae, new to me, a fine male E. plistonax and quite a lot more of the phantasia group Euryphenes, among the latter is a much larger species and a single female belonging to something else, but I will wait till they're off the boards, with some more I got today before discussing them. One however, must be mentioned,—you remember the two of this group I discussed before and was finally certain I had found the right pairs, well I was wrong, for yesterday I got a female of the all bronze one, which now turns out to be male. The one pair are alright, male brown, female bronze, * both yeliowbarred and with white antennal clubs. There remains the other male, also brown with half-white antennal clubs and with also, a yellow, sub-apical bar, but not enclosing any spots of the ground colour and he, so far, is without a mate. The bronze species, of which I got the female yesterday, both have black antennal clubs,* and it just shows that my second law, i.e. that the markings in the two sexes must be exactly the same, or they don't belong to each other, is correct and I should have been suspicious of the difference in the antennae. This new female is quite a different looking insect to the male in colour and size, but she agrees exactly in marking and antennae.

There was such a rush yesterday that I don't remember much more about it except that another Reduviid went into your box, with its prey and a small borer beetle, not a Bostrichid, however.

8/9: Apart from a shower at midday, it was fine throughout and, for once I am properly tired! I am beginning to wonder whether practically all the west African insects do not occur here in their proper times and seasons,! for today 3 more turned up, Euphoedra themis, probably vetusta, Euryphene phranza, a very fine thing with its large snow-white spot below, and Dietogyna lysandra. Then I had the great luck to take a male and female Ps. dolomena, which I think belong to the typical race,-the male had to be caught on the end of a 20 ft. pole!—and yesterday, by the way, a bad specimen of Ps. clarki. So the Pheudacroeas are all here. Ps. eurytus triata will, I'm sure, turn up, I think I saw it today[†], and, as I said earlier, I know Ps. gottbergi occus.

Finally a new Liptena, L. fatima, an interesting species with the Pierid reddish yellow basal costal patch like Citrinophila erastus, which it is extraordinarily the wing.

I put another beetle, very good mimic this time, and another Cerambicid among your Lycids today and nearly filled a tin for the B.M.! Some grand things, among them two of those Cerambicid wasp mimics, bronze with red-legs, and a very large Pentatomid, which I tipped out of the boy's tin on to the table and the room still smells of bugs! One other thing occurred today—the banana patches are always covered with those fierce little black wasps, but, if one puts a net over them to catch a butterfly. they don't seem to mind and merely fly away when released. Today, however, I took it

E. phantasia Hew perhaps, but I do not think i was right.

^{*} E. chloeropis B.B.
† It did not, nor does it occuh so far east.

into my head to stir up one patch, so I took a stick and started,—immediately I was covered with them attacking in force, and stung all over, face, neck, arms, legs, an extremely painful proceeding and I shall not be stirring any more bait in future!! And so goodnight.

8/9: I've been suffering today from my encounter with the wasps, they're evidently extremely poisonous, since both hands have been like footballs all day and irritating and burning like hell! Apart from that it has a mild sort of reaction and so I came home a bit early before, in fact, the banana bait was at its best, which is between 2 and 3 p.m. so my efforts as far as Nyphalinoe were concerned, weren't very great. The boy, however, had a gala day and though nothing new turned up he got lot of good things, including another Euryphene phranza male and another Charaxes hadrianus. It was also a Preudacrsea day, for the boy got a fine female of that new eurgtus form and I, another dolomena and a fine form of what I have been calling ruhama. Since this one has a broad bar on the f.w. and looked very different. I examined the others and none of them are ruhama! for all lack spots in the cell of the f.w. above and below and have instead a thick black streak like gottbsrgi. They vary a lot as to the formation of the f.w. bar, but according to Seitz, cannot be anything else but forms of gottbergi; on the other hand the original specimen I got near Irumu, and which the boy destroyed, agreed with the figure in Seitz, and these do not. Secondly, my new form of eurytus is, as I said, extremely like the female of ruhama and the females of gottbergi—it has the spots in the cell of the f.w. below—it might easily be the female of huhama, but I do not think so, and I feel confident it is eurytus.*

Today, I watched two interesting laying operations—first a female of Pseudacroea boisduvali, which was laying on a sapling about 10 ft. high - the fact that it was so low down, and that it was in dense shade are both interesting points-I believe most species lay low down in a forest, and so escape some of the attentions of birds which are usually prone to keep in the sunlight of the canopy. The eggs are laid on the underside of the leaves, which is quite an undertaking for a big heavy butterfly, such as this — she would investigate a leaf carefully, and then reverse and flop underneath. There's no other word to describe it; often she made two or three attempts before getting herself in the right position. I thought how extraordinarily vulnerable she was all the time, should a bird have been watching. Mark you, throughout, the Acroealike pattern was ostentatiously exposed. The eggs are very large, half as large again as those of a Charaxes, rather shallowly domed and with a broad flat base. They are vellowish-white and covered with a sticky secretion, when freshly laid. Then just opposite on a tree-trunk with a slender creeper climbing up it, was a female of Precis westermanni, also laying, and, out of 4 eggs I saw laid, only one was placed on the creeper the other three being laid among moss on the bark of the tree! So the young larva has to find its way and a fairly long way for so minute a thing, to it's feed. On the other hand I suppose the egg is safe from parasites among the moss.

It is strange how spp. suddenly appear in a big forest like this, obviously freshly emerged and then as suddenly disappear. Either they disperse or the struggle for existence is very severe and life is short. I rather incline to the latter view, since occasionally one recognises a certain insect in the same place, say with a tear in it's wings, day after day, especially where there is bait, but the majority are there one day and gone the next. I saw three fresh Euphoedra gausape, that day, which I reported catching one not one since and there are many similar cases, but no doubt both reasons are involved.

^{*} The original specimens were all forms of Ps. goltbergi Dew. and the "new" one was Ps. eurytus f. ruhama Hew. female

I had more to set to-night than the boards would hold, so have not even sorted the beetles, bugs etc. and cannot tell you about them. I had a fine view today of some of those minute flies being fed by ants. The association was (1) frog-hoppers on the end of a stem, (2) minute ants tickling them and apparently feeding from the mouth of the frog-hopper, not, be in noted, from the anus! (3) these minute Dipterons hovering over all and I think tickling the ants with their forelegs and being fed by them. At all events every now and then an ant would raise its head towards a fly, but both are so small that it was difficult to see. I will try and collect a few of each, but they are so minute, it is difficult.

It is now raining hard, but, temporarily, I don't mind!!

12/9: I have placed in a test-tube in your box No. 2 a few each of the frog hopper ant and dipteron association between two wads of cotton wool, they should, I think travel alright like that. Also next the large Asilid with prey are two small beetles and the affair is this; there's a large tree felled across a clearing, quite severed and dead, but with the one end still resting on the butt, about 4 ft. from the ground. It was a good beetle collecting spot and as I visited it day by day I saw a lot of other things Hymenoptera, Diptera, etc. and so investigated as to what they were all doing. It turned out that these small beetles bore small holes just inside the bark, in which they sit, with the anal shield just exactly blocking the exit of the hole like a stopper. And from the edges of the holes sap is oozing and attracting a whole host of other insects. I made quite sure that they were not feeding from the anus of the beetles-in every case it is from the edges of the holes. There was no point I felt in collecting and sending you all these things, it seemed merely necessary to record them and the list includes many other beeetles, including Curulionids, Buprestids, Brenthids, Elaterids and others, several Ichneumons, the small black wasp which was the cause of my downfall the other day, several spp. of ants, many flies, a female Charaxes etheocles form carpenteri, which I caught, and finally a large slug, which was travelling from hole to hole today! It seems almost incredible that such large things as a Charaxes and a slug should have been attracted by such minute quantities of sap, and the case struck me as just worth recording.

I wasn't very successful today. I ruined it as a day, by loosing a fine specimen of the rare Euryphene, I should think it is nivaria *-- distal half of wings dark green, basal half light green, and apparently no white apices. It's a most tricky thing, I've seen it twice before and its always off like a flash, but today there was one on some banana quietly feeding and by being too long about it, I lost it. I have been waiting for it, since 1 saw the first one nearly a month ago and was duly disappointed at missing this one. Although I did not scare it by having a shot yet as is the habit of the beast, it never came back. Apart from that there was little or nothing about in my part of the forest and another female Diestogyna lysandra was the only notable thing I took. The boy, however, 7 or 8 miles away in the saw-paths, did better and brought nearly as large a collection as yesterday including, Euxanthe trajalus, female; Ch. hadrianus, 2 males; Euphoedra themis male and female; Diestogyna gambioe female; Euphoedra imitans male, and another of the brown Pseudacroea gottbergi.

I am rather looking forward to moving on, a little further, I have been here nearly a month, which is enough for one safari and, in any case, the boy remains behind, so I am hoping my friends will soon arrive or let me know that they are not coming. They are rather more than due.

19/9: There is nothing to report today-I didn't get wet through because I sat under a tree, but I had to sit there for about 3 hours and my temper was shocking at the end of it!

This was correct; E. nivaria Ward.

10/9: A bad day!—it threatened heavy rain since early and since the track is so wet these days that I have to leave my car a long way off, which means a certain ducking if it rains, I decided to give it a miss. At about 11.30 a.m. I went along to one of the sawyer's paths and took a fine Melanitis ansorgei and, incidentally, the first specimen of Eurphene mardania, I've seen here, so far. The former, i.e. the Melanitis, suddenly seems to be common here, or may be it finds banana irresistable!, but either way, we have captured 8 or 9 recently. The female is also plain dark blue with whitish apical band, but is a little paler. The boy found on his bait a female of Cymothoe bonnyi* rather worn and old, but sufficiently good to show it is a fine species. An Asilid with its' prey, a small very hard, Bostrichid beetle, started off your second tin today.

Before going out today I examined the locationides group, now set up, and I cannot separate them at all, nor can I separate the females below, although above they are quite different and, when you see them, I'm sure you'll agree, look distinct spp. Of course I may still lack one male. Anyway the investigation proved the separate identity of the reddish brown species with the plautilla like female, which is one good result. Another form requiring investigation is micans, of E. absolon. I have seen it here, but I've I strongly typical absolon and, on my theory, also seen and caught several micans with its' strong purple sheen, can be a form of absolon occurring with it is the same place. I think it will undoubtedly prove to be a distinct species. I'm still enduring intense irritation from the wasp stings-all insect bites with the exception, strangely enough, of mosquitos, have this poisonous effect on me and I wish I knew of an antidote -most people, except when young, seem to be more or less impervious to them.

Another eurytus schubotzoides today and several more tirikensis have turned up. I haven't seen obscura yet, but I should think its' counterpart is this new form mimicing the West African Bematistes spp. So far all forms are here, with the above exception, in about equal proportions, but its much too soon to judge.

11/9: My first really strenuous day and by all counts the best!-I did not stop collecting till after 4 p.m. and the boy arrived back just before me between are some lovely things. The new spp. are Cymothoe reinholdl, 2 males; Diestogyna members again 2 males and two more interesting looking of my group Eurphene; more about these when they're set. Beside the latter two, quite a lot more, of those we had before, some of which I haven't yet worked out. I had been expecting Euxanthe trajanus on the bananas and it turned up today and in the same place, as I caught mine, the boy got 2 more perfect males Charaxes hadrianus. That is now 5 miles from the same spot, with one male and the female elsewhere-one would expect the females to disperse and try and colonise other parts of the forest, but this is a case of my "island" idea.

We took masses more, but I will not bore you with them—two Pseudacroeas, however, must be mentioned. First a perfect male Ps. clarki and second—I think the best capture of the day—a form of these Ps. gottbergi (or whatever they are) or may be a new species. The forewing is similar to the others with a narrow yellowish median band, but the hindwing has a white median band! Apart from that there are strange black patches filling most of the cell of the hindwings—it's a grand form and one of the most exciting things, I have caught so far.* Mention must be made of the first male Cynadra opis, common I know, but the loveliest of all African butterflies and I defy anyone to dispute it!!

^{*} Cy. infuscata J. and T.

A. form of Ps. gottbergi Dew.

In the evening, however, my friend, E. J. Tyack, from Kenya, arrived, so now all is well, and we can move out of this permanent wastering can as soon as we like! He brought me mail and amongst them was one very welcome letter from you, but I shall wait till, I'm back in Uganda, before I answer, as mails seem very uncertain from here.

14/9: My friend has brought me luck, for today, has been one of my best. I must, I'm afraid, give you the list, it was so especially good. Far and away first on the list comes a fine specimen of female Cymothoe reinholdi and I now know that it is reinholdi and not hyarbita, since it has the red transverse line on the hindwing beneath. It is a very interesting thing very like Amauris niavius and some of the female Bematistes on on the wing. Nearly equal with that, was a female Epitola, honorius, again an amazing thing, with its broad white Bematistes—like post-discal bar. This bar is quite unlike that of any other Epitola I know and is dead white. A female of Euryphene phranza was the next new thing, again a fine mimic of Euphoedra spatiosa—really, these Euryphene, in both sexes with their Euphoedra models would make a fine exhibit—this is a most unusual form of female for one of the iturina group. A female of Diestogyna gambice, another female Charaxes hadrianus, another of the Phantasia Euryphenes—suspect, again a new species!, 2 more Ps. gottbergi, and another Ps. clarki, male and female Euryphene plistonax, 3 females Cymothoe diphyia and the boy got a female. Cyanitorgis, besides masses more of lesser importance—it was a wonderful day!

Finally a very unusual and interesting beetle went into your box. It is a large Elaterid, which I caught flying; to start with this is unusual for the family by day, but what is much more unusual is that it exposes in flight a large red abdomen!, very much like one of the large Coreid bugs commonly seen flying in the clearings here. I will include one of the latter with it. When I caught it I thought I had the bug!

15/9: Another quite good day as far as weather goes and, though it did not produce the rarities of yesterday, many good things were taken. It is rather extraordinary that **Euphaoedra imitans**, one of which, I got today, and which I have also from Kalinzu and Bwamba, recorded in Seitz, only from Ogowe, should be the one of its group here, whereas **E. eusemoides**, a Congo species, I have never even seen. Another **Ps. gottbergi** and **Ps. eurytus** hobleyi will please you, but the thing that pleased me most was yet another member of the **Euryphene phantasia** group! Having little to set since my box is nearly full, I thought I would get down to these and the results are rather surprising, I did it properly this time and first sorted out the sexes by examining the fore-legs.

First then there is the bronze green species, female larger and with white subapical bar, one of Bakers species, probably chloeropis—then a small species sexes alike except that the female forewing is falcate and slightly larger, I think certainly E. flaminia. Then the two I was so sure about! One bronze-green, the other brown, both with narrow yellow sub-apical bars enclosing two spots distally, of the ground colour, are both males††, and belong respectively, I think, to two much larger insects one brown, one blue, of which I have set quite a lot and all of which, turn out to be females. Both these two spp. have white-tipped antennae, or perhaps I should say yellow, and the brown female is almost as large as E. spatiosa and a perfect mimic. This should be maximiana, but, if so, the male does not belong and I have not yet got it.

The new one today has no white apex, has black-tipped antennae and is either nivaria or a new species. The bronze male with the yellow sub-apical bar, with its blue and white female is probably another of Baker's spp. and finally I have a fifth species

small, bronze in the one sex and brown in the other, with a thin indefinite while subapical bar in both sexes, and I expect this is yet another of Baker's. So you see my perplexity was justified and there is still the one I missed the other day to come! I suspect that, although green, most of Baker's spp. belong to the **phantasia** group.

A fine collection of beetles today, particularly Cerambicids, but not of particular biological interest.

Finally we received a visit from the Manager of the Hotel with his wife and daughter and the Manager of the big S.H.U.N. Co. to see the butterflies—they are very pice people and it was kind of them to come. I propose to move on to Putnam's Camp on Friday.

16/9: I took off the board today a fine female form of Cymothoe anitorgis, with red forewing inner-marginal spot and yellow hindwing bar-the latter usually being. white. This must have been the "Form of dolomena," I saw and failed to catch early on in this safari. It might be a new species, but I don't think so, as it agrees below and has the large square white spot on the h.w. costa. I think there'll be a point of nomenclature cropping up here for aramis was presumably described from a female which according to Seit, is the red marked one. The later, however, is the female of anitorgis, as figured and described in Seitz and the smaller orange species with rounded wings, which I have always called aramis has a black and white female, also with rounded wings.* I had some more luck today in that both the boy and I caught one each of the Eurypene I have seen several times and never succeeded in capturing -with the dark green distal half to the wings below. Both were old and worn, but it is, I think E. phantasiella.† I also caught another fine Euryphene symphona. Pseudacraoeas, again, were in evidence—one eurytus terra, 2 clarki, 2 gottbergi, one of the latter having the white-barred hindwing and the other more interesting still since the hindwing is only white-barred below and yellow on top! Several Bematistes also have been arriving -epcea, female alcinoe, etc.

To your box I added one of those magnificent Longicorns, blue black with red legs, like the big wasp.

It is very satisfactory that with this Eurphene today, I have now captured some of everything I have seen and there are no outstandings, so I can leave with a clear conscience! It has been an amazing place for the genus Euryphene, which has far and away outstripped the others.

17/9: Today was dull and cloudly ending in a thunderstorm and apart from Charaxes hadrianus, which continues to turn up,—we got no less than 4 today — there was nothing interesting in the butterfly line. I spent a rather tiring day wandering about collecting bugs, beetles, etc. of which I got a lot. A nice Cerambicid mimicing a large and common weevil, both with diagonal pale yellow pattern, a Reduvild with prey, this time a Lymantrid caterpillar, and a large black Asilid with red legs to go with the wasp and a Longicorn went into your box.

I saw a very interesting spider's web today, it builds a fine mesh circular web and in the centre is a circle about $\frac{1}{2}$ " diameter, followed by two further narrow rings all filled in with opaque silk. It is placed at a slight angle from the vertical and the spider sits beneath behind its camouflage screen or above, blending with it. In passing

^{*} The red and yellow and the red and white females belong to aramis Hew; anitorgis Hew. has a black and white females similar to sangaris Godt and the smaller orange species is reginee-elizabethoe Holl. † It was E. nivaria Ward, as previously thought.

one of my patches of banana bait, I noticed a large brown looking lump on the edge of it, which turned out to be a very prettily marked toad. It was engaged, if you please, in systematically clearing the patch of those very fierce little black wasps and apart from occasional convulsive gulps, didn't seem to be suffering any ill-effects—I watched with admiration and passed on hoping it would eat a lot!

The Doctor came out from Beni today to innoculate the whole population for plague, which he did from our verandah—a seething mob of thousands of natives all day long and I was glad to escape to the forest. Apparently they have had quite a few cases in Ben. The local tribe is not very prepossessing, primative and very unwashed!

18/9: I have nothing to report today—we went into Beni and fixed up everything to go on, but in any case it was dull and rained before midday. I have been getting one or two lately of what might be Euphoedra franchina,* though this one lacks the black spot in the cell of the hind-wing and has a white costal streak below like preussi. Its a fine combination of colours.

Tomorrow will be the last collecting day here though we have to go again into Beni in the afternoon to get my friends' car, which is undergoing repairs—in spite of the weather, I have no complaints about the final results, some really fine things have turned up.

The other day when my friend arrived, he brought me a cutting of your letter to the Field about the Marsabit butterfly trap—I wonder what answer you got.

22/9: The last, few days were spent in travelling and in competing with various serious complaints of my friend's car—I doubt if he'll be able to go on, which rather upsets the safari.

We are now at Epulu at Putnam's Camp, where, before the war, an American used to live and which is now a Rest Camp. It is a lovely spot, right in the forest and built on the edge of the Ituri River. Furnished and very comfortable and costs one 40 Francs a day. Having been beautiful weather all the time we've been travelling it is now pouring with rain. Such is cussedness of things, I begin to long for Somaliland, where it never rains!

The only interesting thing I have to report is that last night I caught another of those huge Cerambicids and killed it in a killing bottle—this morning in the bottle, as well as the beetle were 3 small Chernetides; so I examined the beetle and under the wings are a lot more!—It seems an extraordinary association and I wonder if it has been recorded before. Are they parasitic? (I did not know that any of the family were) or are they using the beetle merely as transport? I shall send them to the B.M. with a note enclosed. I don't know if this is the sort of thing you like at Oxford, but if so, feel sure Riley would hand them over.

Later today. Would you believe it?, but in spite of almost continuous rain for 24 hours, I have had the second great thrill, of the safari. For about ½ hour at midday the rain let up and I went out with a net, only just outside the house and there feeding on some fallen guavas was a perfect female Charaxes nobilis—it might even be superbus, since it differs a good deal from my remembrance of the male from Kalinzu, but the descriptions of the two are so similar, that I shall have to compare them first at home. But isn't it a great piece of luck? I got also a male of another Euryphene, probably yaetitla.

^{*} E. zampa Westw.

23/9: I had a chance to see what was here today, since the rain stopped and it was quite interesting. Many things as at Beni, but some definitely new, showing the trend towards West Africa. Such were E. loetitia, of which I got both male and female*, also Euryphene comus, an insect I had always wanted to see. It has a very unusual and finely marked underside. One or two new Euphoedra, also, and several spp. of Neurelipes or Triclena; lamias, but with quite a different underside makala, I think, levis, probably typical, and one or two others. Lastly I got two of that fine Deudorix schultzei† (frons, black with white lateral margins) one of the finest of the blue one's I've so far seen. Guava bait seemed to work fairly, well—its extraordinary how with some fruit bait, an apparently completely untenanted forest becomes alive.

24/9: I do not think I shall stay here very long, the forest is not really opened up at all and although one gets some very nice things daily, there isn't sufficient scope. I took the first Euptera, I've seen, today, a female E. hirundo with pale orange bars, also a female Euryphura ochreata and a Euryphene female similar to ikelemba, but not that species.* By the way in the last few day's account read severini lactitia—it is the one with the reddish underside.

No Pseudacreas has turned up here, but, as I say, there are no open places to bring them down. Also for same reason, beetles, etc. are scarce. But it is, all the same, an extremely pretty place.

I spent some time today photographing pygmies for which they got a few handfuls of salt and were delighted!

29/9: Among a good collection today was one really exciting thing—a male Euptera, but like no species, I know, nor like anything described in Seitz. Forewing black with whitish rays, rather after the fashion of Dolomena albostriata, hindwing black bordered, but the central area pale yellow and base back, spotted. Body white spots and end of abdomen yellow tipped for at least 3 segs.

Below distally black-grey heavily streaked with white and best of all, the base of the hindwing bears a perfect brown Acroea-like aposeme, sharply defined and spotted with black! In shape it looks like a tiny Pseudacroea, but with the yellow-tipped abdomen, I think must be Euptera.† Another thing was a Diestogyna camarensis and yet another, a very worn male of Euryphene staudingeri, as well as three Euphoedra new to me, but which I haven't worked out. There is no doubt of the richness of the fauna here and one would do very well, if it was slightly more cleared. I shall stay anyway another two or three days.

The forest is full of an enormous Cicada, which sings almost like a bird and tremendously loud, but so far I've failed to catch any.

26/9: The weather is better here—each day from about 12 o'clock onwards at least is reasonably fine so one always does fairly well by the end of the day. My first Pseudathyma turned up, just plutonica, I think, but its always a nice thing to get and a new female of the Cymothoe reinholdi group, also, which I cannot quite decide upon.

^{*} Euryphene severini Auriv.

[†] Hypokopelates makala B.B.

^{*} E. ikelemba Auriv, the only specimen seen or taken.

[†] Euptera mirifica H. Carp. and Jackson, recently described.

[#] Gymothoe staudingeri Auriv.

Again, the first Pseudacroea today, Ps. eurytus opisthoxantha, so we come still further West with the Uganda forms, or, at least, with one of them, and I expect others are also present. It was interesting that the Cymothoe mentioned earlier completely took me in, I thought at first it was Hypolimuas anthedon, then that it might be Ps. eurytus tirikensis and was only mildly interested in its capture!

Another interesting thing was a Lycoenid, which is, maybe, one of those rather obscure Cupidesthes—it is white below with a few anal spots, suggestive of Anthene and plain smoky-brown above. It was behaving and looking exactly like Liptena ilama and that typical dancing flight, alernately showing the dark upperside and the silvery white underside. I took two in the same place.*

Once again today Iound a case of the Homopteron—ant-fly association—the fly looks the same, but the ant is quite different and the bug is, I think a Coccid, I will collect them tomorrow.

The Pygmie village has decamped lock, stock and barrel; I suspect they thought my piles of banana bait were potent medicine which would undoubtedly poison them! Nothing more to tell you tonight. We have a Belgian biologist staying here and between writing bits of this, he, also, writing up his notes, we are having long discussions on all the various insects coming to the light!! He is engaged on a survey of all the Research stations in the Congo and Uganda and is then attending a big conference in Accra.

27/9: Our last day here—rather spoilt by a mild thunderstorm at about midday, but, before that, I got a male and a damaged female of Euphoedra adonina, it is a fine thing and I cannot believe it can be a form of themis. I should very much like to get my boy here to collect these Euphoedra in quantity, since I have taken at least five different ones of this group. all, of course, in ones and two. Adonina was the only thing of special importance taken in the forest today; I collected the ants, flies and coccids and placed them in the same tube in your tin on top of the other lot. During the afternoon, however, the sun came out again and I got a female of Charaxes nichetes under the guava tree, so that is two outstanding captures just outside the door of the house One nice species I forget to mention the other day was Pap. illyris, of which I got one on a patch of damp sand.

We leave tomorrow and I'm sorry to go,—but I intend to come back some day. I doubt if there'll be much more collecting until we get north of Stanleyville, where I hope to stay awhile on the Aruwimi River.

28/9: Bafwasende. We drove through magnificent forest all day, 120 miles, this is indeed a wonderful country. Shortly after leaving Epulu I suddenly saw a huge male Pap. antimachus sailing slowly down the middle of the road! A quick stop, hurried search for and erection of the net—a much too hasty attempt to catch it, as usual, and off it went at about 40 m.p.h. into the forest!! But, I will say that, really, I don't mind, since it was such a marvellous sight. Later in the day, I saw another, but much too high—I should say it's a fairly common insect here By way of compensation, just after missing my antimachus, a Ps. gottbergi came and sat on the car and I got it! This is a pretty place, beautifully laid out with grass lawns and palm trees, typical of tropical Africa. It's a small administrative centre with very good buildings and a stone rest camp which we are occupying.

We crossed the Ituri River en route, just after Nia-Nia, I think the biggest river I've ever seen, about 500 yards across!, but it has a fine iron motor-ferry and one is over in no time at all. Tomorrow if all goes well we reach Stanleyville where the Congo will dwarf the Ituri, I suppose!

^{*} Cupidesthes thyrsis Hew.

29/9-7/10: A "Shaitan" has been busy with us since I wrote last — one thing after another! Our last petrol point was out of petrol and we ran out 40 miles from Stanleyville and had to spend a night at a Rest Camp, take a lift in and come out again and salvage the cars—then no room in the hotels — eventually one very dirty room between us for two days, then a holocaust of trouble with my friend's car and finally he poisoned himself somehow and spent two days in bed! We left eventually at 3 o'clock today and arrived at a small place called Bengamisa on the Buta road for the night, two more ferries en route, making now the 7th since crossing the frontier and all of them larger than any river in Kenya! Stanlevville is a pleasant and extremely pretty little town and there are some very good hotels, into one of which we eventually were admitted. The river is magnificent, about 800 yards across and the Stanley Falls on the Chopa just outside are a fine sight. I met some of the entomologists, medical and commercial, and compared notes.

This is all Simulium country and they make collecting most unpleasant, so I am not sure if I'll stay at Banalia after all—we may, however, be out of them by then.

Amauris vashti seems common along the road here and I saw one Pap. zalmoxis.

9/10 KOLE: This place although at least 350 miles further West of Epulu, seems to be almost exactly the same! I only took one different species this morning, a large white Satyrid.* Although disappointing, this is, also most interesting from a distributional point of view and means we'll get a fair sample of the central Congo forest fauna from Beni and Epulu. As a matter of fact I saw more spp. at Epulu than here, though, of course, one day in one place, isn't any criterion. Nevertheless that all of the many seen here were also seen at Epulu or Beni is significant.

11/10 YOPOLE: There was nothing interesting enough to keep us in Kole or rather at Toya, about 12 miles off the road where we stayed, so yesterday we came through here past Buta, altogether about 130 miles, on the way we passed through some really stopped for about 20 mins. and I caught Euryphura porphyrion, Charaxes laodice and some nice Euphoedra. No-one could give us any information about Rest Camps wonderful forest and I wish I had had the luck to hear of it before we stopped at Hole. at Buta so we just came on and asked as we went along — the results promising, thought it is nothing like the Buta forest. The policy here is ribbon forest has been cleared with the exception of odd bits of Forest Reserve and here is no exception. However, I explored paths with a guide this morning and found two fairly large patches of forest and baited one with banana. It was an impossible day, heavy cloud dark and cold, but, nevertheless, I got some good things-one new Eurphene, probably loetitia male, Anthene lucretilis which has always intrigued me green underside* in Seitz, 2 females of the phantasia group Euryphene, with many more. Then in the evening at about 4 p.m. the sun came out so I sallied forth again and in a little path near the road took my first Acroea vesperalis and, finally, in a space of some 10 yards, no less than 10 of the purple Abisara of at least 2 spp. (I believe 3), one quite new to me with a light blue patch around the eye spot of the H.W.† Why they were all three together, I can't imagine. This is a very comfortable Rest Camp and as things look promising, we will probably stay a week.

12/10: This has been a marvellous day in spite of dull cloudly weather—but it was warm and I suppose my bait worked well accordingly. The best new spp. was Diestogyma plagiata,†† a fine male, it appears to differ a bit from the plate and descrip-

Monotrichtis asochis Hew.

^{*} Euryphene phantasia Hew.
† † Abisara coerulea Riley.
† Diestogyna niepelti Neust.

tion in Seitz, but there is no other with that rounded blue patch on the H.W. a lovely thing in the sun, but still not equal to opis. I want to see D. schultzei, which might approach it, but I doubt if anything will. The second great catch was 2 females of Euryphene symphona—it isn't described in Seitz and I wonder if it is new, instead of the white sub-apical bar of the male, it has a yellow one, mimicing the yellow barred Euphoedra and below it has the white marks of E. preussi, though of course differently formed, I had been hoping very much to get this. Next in importance was Euphoedra imitans, of which I took 3 males and 1 female!, and Anthene thrysis, 6 males and 3 females, no less! Apart from these several Euphoedra and Euryphene, of which at least 2 are new to me, but will require working out when set, a hippoconides of dardanuc and several fine looking Bemitistes. Alas no Pseudacroeas have appeared. I think there are not enough open spaces to bring them down, and I have evidently left the area of antimachus and zalmoxis. Finally among some bugs and beetles taken today was a most unusual Curcuiionid, head and thorax snow white, and the remainder black.

13/10: Rain all day.

14/10 to 15/10: I did not write yesterday because of a very strenuous day—both days have been good, and I have collected masses of stuff—quite a few new to me, chiefly Diestogyna and Cymothoe. The West African Cymothoë coccinata occurs here in what appears to be the typical form, also Cymothoë reinholdi, 2 males and 2 females taken today, and several of the smaller species, Cymothoë beckeri is one of the commonest butterflies in both sexes, and a year or so ago, I would have tumbled over myself to get one! I also took here the females of Eurphene comus. Another interesting find is a Euphaedra—maybe E. herberti, the female which I got today is a lovely thing—closely resembles spatiosa, but with very large white apices, and a broad darker border to the h.w., it is almost as large as its model—unfortunately I missed another fine specimen.*

Of the Diestogyna, gambiae and lysandra are fairly common here — camarensis, of which I got the female today, occurs, but is rare, also plagiata†—I got one more male. We go on tomorrow, but, unlike Beni, I am left with an unsatisfied feeling, for I have seen and not taken three very distinct insects. The least important was a Diestgyna, I actually had it in the net and it got out! It was a fine insect with a large jet black round spot on the H.W. beneath, like melanops, but with a similar spot also on the F.W. Above it was dark yellowish brown with the usual black spots and a yellow subapical band. Lastly n insect as large as Euphaedra medon, with also, strangly enough similar large round black spots below. I cannot think what else it could be, but Harmilla elegans!* It is sad that these are really the only two insects, (Lepidoptera), I have seen on this safari, which might be new and I failed to get either.

I rather think we get out of the forest now and I expect Yei, will be the next collecting place, but we shall stop at the elephant farm near Faradje, which is a thing I have always wanted to see.

Pseudacraeas have been conspicuous by their absence here, but I have seen or taken quite a lot of Benatistes, of one sort or another. Ps. hostilia warburgi is the exception to the former remark. We still have about 1,200 miles to do! chiefly, I'm afraid, through dry country!!

^{*} It was. † D. niepelti Neust.

^{*} Harmilla hawkeri J. and T. Taken later by my native collector. The "Diestogyna" mentioned above, which escaped, proved to be the male.

20/10 YEI, S. Sudan: The last few days were spent in travelling, one night between Bambili and Dungu, one at Dungu and one at the elephant camp at Gangala near Farae, arriving here yesterday. There is plenty of forest and good collecting ground as far as the Uele River at Bambili, but after that, one passes through savannah all the way. Dungu is a pretty place, built at the junction of the Dungu and Uele Rivers, both thereafter, becoming the Uele; another immense river. But the elephant training camp is the really interesting thing on this road. It is run by a Belgian army Officer, Lt. Haezaert, with an assistant and 150 Bazande askaris and there are about 36 elephants in the camp at the moment.

Once a year about February, when the grass is short, the wild herds are driven into a small area and then surrounded. Apparently they then bunch together, heads innermost, like cattle when alarmed. The askari then go amongst them and attach ropes to the hind legs of the young ones and the herd is then allowed to move off followed by the askaris. As an elephant passes a suitable tree, his askari, quickly passes the loose end of the rope round the tree and ties it and the animal is caught and remains behind. Finally when all are attached, "monitor" elephants, as they are called, i.e. large fully trained animals, are sent in with their mahouts to collect the bag!! They approach a captive, shoulder him against the tree and a rope is placed round the neck and another round the body—these are then hitched onto the monitor, who then moves off, dragging the captive with him, to a large stockade, where they are kept, roped, but otherwise free, and well fed for about 3 months, after which training begins. The monitors take them daily to water, apparently they suffer severely at first from the shock and this 3 months rest is therefore necessary. We saw the present herd taken down to it's evening bath each with it's mahout,-they march into the water in an orderly line, lie down, wash, drink and then march off home again. We followed and saw them all tethered in the lines by chains attached to stout posts and then fed. There are two lines of elephants facing each other and the food is piled in the centre. Each mahout then parades in front of his elephant and the C.O. inspects;—having made this inspection he gives the word by bugle and the mahouts move the piles of food and stack them in front of their own animals. In fact it is treated exactly like the evening "horse lines" in a cavalry regiment!

They are most amusing to watch; some immediately collect a large bunch of branches and stack it on their heads to keep off the flies, others sort suitable sticks with which to scratch themselves! All of course, have already been out feeding for most of the day, so are not really hungry, but nevertheless, before morning, all is gone. Two sentries are on duty at each end of the lines throughout the night. It is not an easy job for the C.O.—the training is entirely in his hands and it is a tricky job. Often he is charged, and many elephants remain permamently difficult and badtempered. A mahout was recently killed by his elephant, probably because one day he beat it up. Besides the elephants, and the administration of the askaris, he has a huge farm to look after, growing food for the elephants, a large herd of cows and ponies and is also, in charge of the abutting immense northern game Reserve and all it's scouts! He has one assistant and no clerks and I wondered how some of our pampered beaurocrats would like it!

It was a great experience, which I wouldn't have missed for anything and I hope some of my photos will come out well enough to send you a few.

Next day we made a good run, got through the Customs at Aba and slept in Yei, staying, in fact, over the next day and being royally entertained by Duke, the D.C. Then on Monday my friend and I parted to return to Kenya, via Juba and Kampala, I to try my luck in Aza Forest in Amadi District. I slept last night at Amadi and came on today via Meridi to the nearest Rest Camp at Aza. The main roads are fair but the last 35 miles from Meridi was definitely bad and ended in three miles of track, down which I forced my way like a tank through ten foot elephant grass! Untimately,



Forest near Buta — a brief halt here produced many fine species



Pygmies: The Beauty Specialist at Work.



Pygmies: A young marksman.



The Forest at Beni.

however, I arrived at quite a pleasant little camp on the edge of the forest and propose to settle down for about ten days. One cannot, of course, this year, escape from the deluge — all the way from Yei I have travelled on soaking wet roads and it is now pouring here, I verily believe, if I had chosen Port Sudan as the next stop, or Aden, it would be pouring there. I hear the roads around Soroti, Lira, Mbale in Uganda are under water and have been for weeks, much damage has been done lower down the Nile and at Niangara, we heard that the big bridge we had crossed a few days before over the Rubi River at Buta, had been completely washed away! and so we go on! If it is still raining when I get home, I shall sell the farm!

Tomorrow, maybe I shall have some entomological news—it depends on whether I can get into the forest, whether it is a forest at all in the true sense and finally on whether someone can temporarily prevent Lake Superior from emptying itself on this poor benighted continent once every twenty-four hours!

Today is the 22nd October, I believe-

23/10. I regret to report that in spirte of a sunny day and quite a good path. I found nothing at all! Pap. dardanus, common Neptis, common Hesperiids seem to make up the present fauna here. Its disappointing, but, on the other hand proves that the connection here lies with Lotti and Uganda rather than with the Congo forests. I did take a Telipna aurivilii* which is a nice thing, but common in Budongo.

For the rest I collected Odonata, Coleoptera etc. Tomorrow I will try some Paw-Paw as bait, there are no bananas, but I am not optimistic. I think about two more days and then home—it's unfortunate that there are no other collecting spots en route—only and feel I've come a long way already! Looking after the collections and my Yambio might be interesting, 70 miles further on, but I hear it is "Gallery Forest" I found the same with the Laboni Forest, west of the Imatongs in 1939, whereas Lotti, with a road running through it, was good. It cannot, however, be entirely a matter of opening up, for places like Epulu and Yopole, quite untouched, were good. I wonder if these are new forests—they have somewhat that appearance; for instance, the undergrowth is very dense, but mostly consists of saplings and there is little or no true forest undergrowth of ferns, aroids etc. I have not even seen Catuna, along the paths, so I do not think my bait will do any good.

24-25/10: Well, I stayed on here another two days, chiefly because I was tired of travelling! and in any case, this is a pleasant little spot—but collecting has been useless—no butterflies of interest and the beetles, etc., which I got the forest guards to collect! look all normal, common, Uganda things. I made a small collection of Odonata for the British Museum but again I expect they are all cosmopolitan spp. So tomorrow we go and this time it is for home. I don't expect I shall write any more of this—it has been a grand safari, though unusually strenuous and accompanied by more than the normal number of snags, but they all sorted themselves out in the end.

I feel I have spied out another large section of Africa, which I now know, roughly how to divide up and do more intensively. There is an inner triangle roughly from Nia Nia to Stanleyville and thence to Banalia on the Aruwimi, which is lower-lying and probably a bit different and which I haven't done at all—whereas the whole outer perimeter, bounded by Beni—Irumu, Buta and Epulu seems to be very roughly homogoenous. I have collected at, again roughly, all four corners and found mostly the same spp. at each. The inner circle may again be the same, but in it I saw things like Pap. zalmoxis and Amauris vashti which did not occur, apparently outside. I shall have to overcome my dislike of Simulium and go and investigate it next year! It has certainly been a success and the catch has fulfilled even my wildest dreams, but in large measure the success has been due to the unfailing help and courtesy I have receive from the Belgians throughout the safari.

^{*} Telipna acroea Dbl. and Hew.