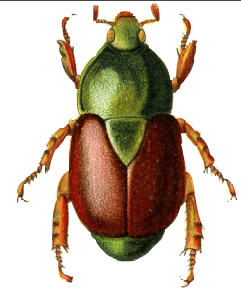


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Collecting in Belize May/June 2006

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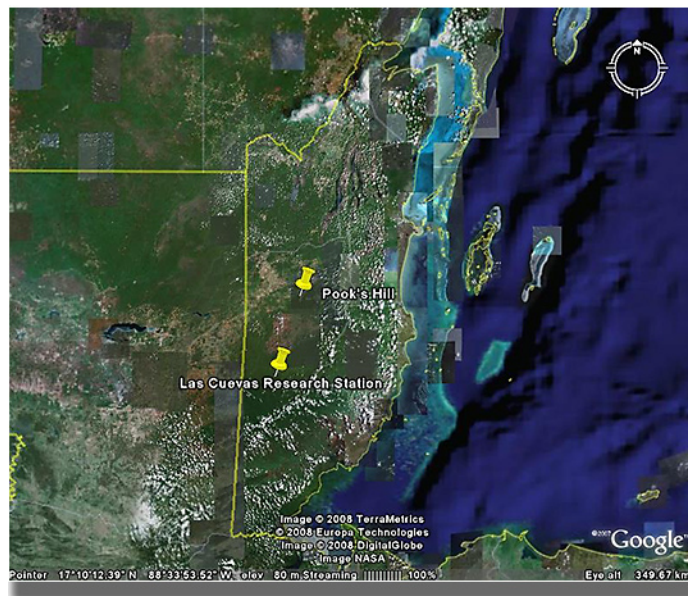
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I was about halfway through my Master's degree at Imperial College in London in January 2006 when I began to give serious thought to my thesis project. In particular I was keen to go out and actually see some biodiversity rather than learning about it in the classroom. As it turned out the Natural History Museum used to have a field station in Belize

where several past students had gone to undertake fieldwork, so this seemed like a good option, especially as it is the Neotropics which have always fascinated me. After five months of continuous organisation and preparation with my classmate James Kitson, also an avid entomologist, we set off... for Mexico! We had managed to secure flights from British



Collecting localities in Belize.



Figure 1. *Enema endymion* male.



Figure 2. Covered in *Enema*!

Airways under a conservation scheme, but the closest they flew was Mexico City! And so we ended up travelling by bus from Mexico City to Chetumal on the northern border with Belize. Throughout this day-long journey my face was glued to the window - all those amazing habitats we were just rushing past, all those fields of cattle full of *Phanaeus*! I vowed then and there that some day soon I would return to Mexico to sample its entomological delights. After another lively bus journey on one of the old American school buses so popular in Belize (with the distinctive jovial sound of the local radio blaring out) we arrived in San Ignacio, in Cayo province of western Belize. This was to be our base for some time as an unforeseen eventuality prevented us from travelling directly to the field station further south in the Chiquibul forest reserve.

One of the first things which I found a little strange to get used to was the fact that we were in Latin America, but in an English speaking country! However it soon became apparent that culturally modern Belize is influenced more by the Caribbean countries than it is by its Spanish-speaking neighbours, Guatemala and Mexico. The people of Belize were so friendly, that at first, especially coming from the anonymity of London, I didn't really quite know what to make of their approaches and interest, but soon realised this was just due to a clash of cultures. After having rested from the long journey from London, we made

our first entomological foray that evening - an exploration of the town's street lights! It was on this night that we encountered for the first time a species that would become a staple for us on this expedition - *Enema endymion*... by the hundreds! Since this was my first trip to Central America and it had been a long time since I had seen fairly big dynastids in Brazil, this was a treat in itself (Figures 1 and 2)!

We quickly filled up our tubes and boxes with *Enema* and with other smaller scarabs including *Cyclocephala*, *Tomarus* and *Phyllophaga* as well as a nice *Calosoma* and a few other beetles. The next day we walked up to the nearby Mayan ruins at Cahal Pech (Figure 3) - very impressive testimony to an ancient civilisation, but not nearly as impressive as the cicindelids which were running about in abundance in the courts amongst the ruins!

I didn't have a net with me so had to use the more trying and exasperating stalking followed by hand-lunge method, but managed to collect three species of *Cicindela* nonetheless. Also amongst the ruins we came across a recently dead *Acrocinus longimanus* and *Callipogon* (probably *barbatus*) - there could now be no doubt in our minds, we were in the Neotropics!

The following day we received some good news - accommodation had been arranged for us at Pook's Hill, a private reserve where we could undertake some collecting



Figure 3. Cahal Pech – ancient Mayan site and cicindelid haven.



Figure 4. Cabanas at Pook's Hill.

over the next week before reaching our final destination at the Las Cuevas field station. We had started to fret because we only had four weeks in total in Belize to finish our fieldwork, so it was crucial to get this work started, somewhere, anywhere, making the move to Pook's Hill most welcome. In fact initially this was better news for James than for me, as his project involved putting up many malaise traps to sample



Figure 5. Forested trail at Pook's Hill.



Figure 6. Malaise trap at Pook's Hill.

pompiliid wasps and to sweep for their spider prey - all possible at Pook's Hill. But my own project, which was to have looked at cerambycid host-specificity to several species of trees, was not possible at Pook's Hill because the first thing I had to do was chop down 6 trees - something that the owners of Pook's Hill would understandably not have been keen on! Upon arrival at Pook's Hill (approximately 17°09'N 88°50'W, 85 meters altitude, <http://pookshillodge.com/>) we were met by the owners, Ray and Vicki Snaddon, who were extremely friendly and interested in our research projects. Over the course of our week-long stay with them at their lodge, their hospitality and assistance was absolutely marvellous. Pook's Hill is set amidst lowland tropical forest, about five miles south of Teakettle village. There are several trails through the forest (Figure 5) and James had no problem finding sites for his Malaise traps (Figure 6), although I gave up upon any idea of chopping down trees here, satisfying myself with collecting as many Cerambycids as I could by whatever other means I had available. We were housed in absolutely beautiful and very comfortable cabanas (Figure 4) enveloped by the forest and its sights, sounds and smells - this was certainly the most luxurious of tropical collecting experiences!

I had noticed as soon as we arrived that at the bar area there were several cases of pinned insects on display (Figure 7),

these had been collected by Jake Snaddon, Ray and Vicki's son, who was undertaking a PhD at Cambridge. The case contained several nice scarabs including *Megasoma elephas* and *Inca clathrata*, as well as other Neotropical classics such as *Euchroma gigantea* and *Acrocinus*. The prospect of being able to collect such creatures in this place was exhilarating! Over the next days apart from helping James set up his malaise traps, we set out many pitfall traps baited with dung and carrion, placed banana traps in trees, set up a synthetic spider web (cryldé) and generally spent a lot of time wandering around collecting. In the evenings we would set up our M.V. light and collected many nice scarabs including *Strategus longichomperus* (which appeared to be the most common *Strategus*!), *Strategus aloeus*, more *Enema endymion*, several smaller dynastids, including females of a *Spodistes* sp., two or three *Pelidnota* spp. and *Macropoides crassipes* (which was collected in another spider web trap placed near the light). On one evening James and I were asked to give a 'live' biodiversity talk (Figure 8) at the M.V. light to a group of American school students who had been staying at the lodge - it was difficult concentrating on giving the talk when our eyes were constantly on the look for the next scarab to land on the sheet, but hopefully the students got an idea of what biodiversity is all about!

The dung and carrion traps yielded excellent results (Figure 9), with around 25 species of



Figure 7. Specimen cases at Pook's Hill



Figure 8. James and Conrad in full 'National Insect Week' regalia.

Scarabaeinae being captured in just a few days, including *Dichotomius maya*, recently described from the Yucatan peninsula of Mexico (details of this new country record are in preparation). Other notable dung beetles were *Phanaeus sallei* (green, blue and red forms), *Phanaeus endymion*, *Coprophanæus telamon corythus*, *Dichotomius amplicollis*, *D. satanas*, *Megathoposoma candezei*, *Copris laeviceps*, several *Deltochilum*, *Eurysternus*, *Canthon*,



Figure 9. *Phanaeus sallei* and friends.



Figure 10. Las Cuevas, main building.

Onthophagus, *Canthidium*,
Ateuchus etc.

The banana traps were not so successful and in fact the single cetoniid that I saw (a black and yellow *Gymnetis sallei*) made good their escape before I could get the trap down, but at least it showed us that they were around! Apart from scarabs, I collected many cerambycids at the lights and even caught a *Euchroma gigantea* in my

sweep net when I spotted it landing on a tree trunk! Overall our time in Pook's Hill was extremely enjoyable and we made many friends there including a group of botany students from the University of Edinburgh who were always to be found with their long metal poles, taking samples of flowers or leaves from high up in the canopy. In fact these metal poles would lead to the most humorous incident of the expedition.

One evening as we were returning to Pook's carrying these long poles after having been out with the botanists, we were questioned by some local youths at Teakettle village. "Are you the British team of anaconda hunters?" they asked. This was very confusing, especially as we were all very aware that anacondas do not occur anywhere near Belize. As it transpired, there had been a rumour spread around the entire country that some anacondas that were being bred by a Chinese group in Belize, escaped from captivity and were now at large in the rivers and streams of Cayo! Evidently the locals thought that we (some of us clad in British army surplus shirts) had been sent in to capture the snakes, the long metal poles appearing to them to be some snake-catching apparatus! The funny thing was that we of course insisted that we were not there to catch anacondas – but it was to no avail. The more we denied this, the more they were convinced that we were a hunting party and soon we were surrounded by dozens of locals all shouting out questions about the escaped snakes. At the time we did

not think much of it but about two days later a small film-crew from Belize T.V. turned up at Pook's Hill wanting to interview the 'Anaconda Hunters' – and although we tried to speak to them about our own research projects, to our shame we buckled and answered their questions about anacondas, acting out the part of our reluctant alter-egos on camera!

Eventually the time came for us to move to the Las Cuevas field station (approximately 16°44'N 88°59'W, 500 meters altitude, <http://www.mayaforest.com/>) (Figure 10), which involved a few hours drive into the Chiquibul forest reserve, through the mountain pine ridge (whose pine trees had been absolutely ravaged by a scolytid several years previously) and into the Mayan mountains. Upon arrival we discovered that we would be the only researchers there for a couple of weeks, so in a way we had the whole forest to ourselves, save for the small group of Belize Defence Force (BDF) guards who were stationed there and who sometimes escorted us into the forest armed with M-16 automatic rifles. The reason for their presence was to act as a deterrent to illegal ornamental palm tree collectors, who at that time were regularly crossing into Belize from Guatemala, though luckily we never stumbled across anyone during our forays into the forest.

After getting settled into our quarters next to the lecture room, we began to put out James' malaise traps and an assortment of baited pitfalls, bottle traps, flight intercept



Figure 11. The splendour of the forest.



Figure 12. M.V. light.

traps and any other sort of trap we could think of. It was clear whilst we were doing this, that the forest was wilder than where we had collected at Pook's Hill – here we were certainly in a forgotten Mayan jungle and occasionally we would stumble across some small Mayan ruins along the forest trails (Figure 11). Belize has the highest concentration of jaguars in the world and there was evidence for



Figure 13. *Strategus jugurtha* male.

this fact at Las Cuevas in the form of a photo album full of images of jaguars, pumas, jaguarundis and ocelots taken from motion sensitive camera traps in the forest immediately surrounding the station. I would be a liar if I said that my thoughts never turned to jaguars when I kneeled down to put out pitfall traps, or when I walked in the forest at night!

Early June in the Maya mountains is the beginning of the rainy season, which as any seasoned scarabaeologist knows, is the most rewarding time for collecting

these beetles. Normally the days would be sunny, hot and humid until some time in the afternoon, when the skies would open for a couple of hours.

On one of the first days we were there, I decided to set up my host-specificity experiment, which effectively involved identifying and cutting down six species of tree (aided by one of the station managers) and sawing each of them into logs. Piles of these logs were placed at 3 different sites around the forest and the logs were monitored for Cerambycidae. Very unfortunately for me, this proved to be an utter waste of time. I did not collect a single beetle from these freshly cut logs, let alone cerambycids! Eventually after several days, during which time panic was setting in and I worried whether I would have any data at all for my thesis, I decided to place the cryldé spider web material over the logs in case I was missing any specimens by disturbing them as I approached the logs. This proved to be useless too, so I decided to change my project entirely – now I would collect cerambycids by any way possible in order to get as many species and specimens for a molecular phylogenetics analysis of the component subfamilies. Thankfully this proved to be more successful.

Our M.V. light was set up at one end of the main building (Figure 12) and from the very first night we collected good scarabs, longhorns and all sorts of other insects, both at the M.V. and at the various other lights around the station

buildings. Unfortunately for us, the main generator at the field station was turned off at about 9 PM every night, so our light trapping was quite limited because our very meagre student budget did not allow us to pay the extra cost of keeping the generator running longer into the night. Nevertheless, our results were good. Again, *Enema endymion* was hugely abundant, followed by three *Strategus* species: *S. longichomperus*, *S. aloeus* and *S. jugurtha* (Figure 13). Oddly (and rather disappointingly for us) the male *Strategus* were much less common than the females, which was also true for other dynastids we collected such as *Spodistes mnizechi* (Figure 14) and *Heterogomphus mnizechi*. Whether this was because the males flew later in the evening after we had shut down, or whether the males appear more commonly later in the season, or whether it was just bad luck, we don't know!

Other large dynastids present in lower numbers were *Homophileurus tricuspis* and *Coelosis biloba* – a pair of the latter being found dead on the road leading to the station. This road (Figure 15) would prove to be a good place to look for scarabs, providing us with a specimen of one of the most beautiful beetles I have ever seen: *Dialithus magnificus* (Figures 16 & 17), the strange trichiine covered in magnificent opalescent green-blue stripes and spots. The road also provided us with some of our most memorable 'charismatic megafauna' sightings, including a



Figure 14. *Spodistes mnizechi* female.



Figure 15. The road leading to Las Cuevas.



Figure 16. *Dialithus magnificentus*.



Figure 17. Some 'posed' scarabs!

whole herd of collared peccaries, a fer-de-lance viper and best of all, an ocelot. Of the smaller dynastids at the lights, there were several *Cyclocephala* species, the most distinctive of which were *C. mafaffa* and *C. prolongata*, and several other species in the genera *Aspidolea*, *Stenocrates*, *Tomarus* etc. We did not collect the two largest species of dynastids to be found at Las Cuevas, *Dynastes hercules* and *Megasoma elephas*. However the former was recorded

there several years previously by a former student at Imperial College and the latter is supposed to occur later in the year (around September), although we were given two specimens caught the previous year there by Andrew Matthews of the University of Edinburgh, who also helped us out immensely during our stay.

But it was not only dynastids that proved to be diverse at the lights. The rutelids were also very impressive and consisted among others of *Macropoides crassipes*, *Macropoidelimus mnizechi*, the newly described *Epichalcoplethis monzoni* (a few of our specimens were subsequently designated paratypes), *Pelidnota belti*, *Pelidnota centroamericana*, *Pelidnota prasina* (or similar species) (Figure 17). On one occasion we were able to take a portable battery powered light quite deep into the forest and this yielded *Chrysina (Plusiotis) diversa*, which I believe is also a new country record. Of course many other families were collected at the lights, including many cerambycids notably the prionid *Strongylaspis* sp., a very large species of *Distenia* and a whole range of Lamiinae spp. and *Eburia* spp. Other families well represented at the lights included Carabidae, most obviously *Agra* and *Callida* spp., but also harpalines and pterostichines. One other distinctive carabid which is very abundant at Las Cuevas and easily caught in pitfalls is the large scaritine *Pasimachus purpuratus* adorned with opulent metallic purple elytral and pronotal borders. Elaterids, chrysomelids, lampyrids

and many other families were also collected at the lights.

Our dung and carrion traps had yielded very good numbers of species and specimens, mostly similar to the fauna of Pook's Hill mentioned above, with a few additions and omissions, but all three phanaeines were accounted for which certainly made me happy! The fruit baited bottle traps (Figure 18) also performed admirably – they had been mostly placed on trees along the road leading to the station and around the main clearing. The cetoniid fauna was particularly impressive with no less than nine species being captured (*Gymnetis vandepolli*, *G. sallei*, *Amithao haematopus*, *A. cavifrons*, *A. metallicus*, *Balsameda pulverulenta*, *Hoplopyga liturata*, *H. ocellata*, *Euphoria lesueuri*) together with a few rutelids (*Lagochile collaris*), cerambycids (including two beautiful *Callichroma* spp.), nitidulids and staphylinids.

I managed to collect quite a few cerambycids on and under the bark of fallen trees and stumps (including several *Taeniotes* spp., *Cosmisoma* sp., *Steirostoma* sp., *Acanthoderes* spp. and a *Carneades superba*) which combined with the specimens collected at the M.V. light and traps meant that I had sufficient material for my project, which was a real relief! Other notable beetles that we collected using general techniques or just by chance included a couple of other *Euchroma gigantea*, several other buprestids which were normally found on logs and fallen

trees (especially a *Chrysobothris* sp.), many cicindelids on the dirt road leading to the station, an interesting zophorid which has recently been described (again, some of our specimens became paratypes) and plenty of chrysomelids swept or beaten from foliage.



Figure 18. Banana-baited bottle trap.

James' malaise traps yielded many interesting Coleoptera in addition to the Hymenoptera he was after, including several small Cerambycinae. Throughout our stay in Belize, James had a particular interest in seeing and catching the large tarantula-hawk wasps of the genus *Pepsis*. These were quite regularly seen flying



in their idiosyncratic hopping fashion close to the forest floor, but catching them proved to be rather more difficult, especially as we were aware of their notoriously painful sting! In fact for several consecutive days during the mid afternoon when we would sit on the terrace for a break, one or other of us would spot a very large all-blue *Pepsis* flying around the station clearing (no doubt looking for the tarantulas which occur commonly around the buildings). To the amusement of the station staff we would immediately scramble, running in an undignified manner with nets in hands, in an attempt to catch the specimen. In our minds it was always the same individual which would come by daily to tease us – we never did catch it! However we did capture the most incredible *Pepsis*-mimicking reduviid bug, whose subterfuge was so convincing that we were both rather scared to pick it up!

Towards the last several days of our stay at Las Cuevas we were joined both by a large group of students from the University of Manchester and by a regiment of British soldiers on training. We were quite glad to have their company and James and I ended up helping out some students with their short entomological biodiversity projects. This was also a bonus to us as the Manchester group was able to set up a second generator-powered light trap a short way along the road, which meant we could benefit from the specimens at

both lights. Indeed the light along the road yielded some very good specimens including the only males of *Spodistes mnizechi* and an exquisite cerambycid of the genus *Deliathis* (which landed on one of the student's backs, causing a little panic!). One of the students worked on the hawk-moths, which I should mention here are extremely diverse at this site, with at least 30 species being easily observed. On one of our last days, the soldiers decided that as a leaving gesture they would fire off a lot of their training explosives at dawn, which certainly got everyone at the camp out of bed early that morning!

We left Las Cuevas satisfied that we had given our best shot at exploring some of the biodiversity of the country and certainly happy at having seen some superb insects along the way. We sorted out all our export and phyto-sanitary permits in Belmopan, the capital of Belize, but not before spending one final evening collecting beetles at the lights of San Ignacio. After having captured our last *Enema*, *Cyclocephala* and cerambycids (including a nice *Brasilianus* sp.) we retired to a restaurant for dinner, where the waiter surprised us by excitedly announcing in a thick local accent 'Hey man, you two are those anaconda hunters from T.V!!!!'

Many of the scarabs and other beetles collected on this expedition are now housed at the Natural History Museum collection in London (BMNH).

I would certainly highly recommend Belize as a possible destination for anyone interested in Neotropical scarabs. It is obvious that much remains to be discovered in this country, which has received relatively little attention by entomologists when compared to neighbouring areas, and whose territory still contains a very good proportion of undisturbed forest. In addition to the natural history riches, Belize has many excellent Mayan archaeological sites and of course has a fantastic coastline and coral reefs, which unfortunately I was unable to visit on this occasion.

At the time this article was submitted to *Scarabs* (late May, 2008), Brett Ratcliffe and members of 'Team Scarab' from the University of Nebraska were collecting in Belize. I would like to personally wish them every success!

Information for permits.

To collect in Belize you will require a research permit from the Belize Forest Department;

<http://www.chm.org.bz/forestdepartment/belizeFD/belizeFD.htm>

This permit can be downloaded and completed online at the following address:

<http://www.mayaforest.com/forestpermits.htm>

In 2006, the cost for this permit was \$100.00 U.S. (\$200.00 Belizian). You will also need an export permit and a phyto-sanitary permit to take specimens out of the country. Again, these can be arranged through the Forestry Department and there is a small cost involved (about \$50.00 U.S. if I remember correctly).

Acknowledgements

I would like to thank James Kitson (University of East Anglia) for his companionship in the field and for the use of a few of his photographs, and Richard Preziosi (University of Manchester) for the use of photos in this article.



Left to right: Conrad Gillett, Andrew Matthews and James Kitson in San Ignacio, Belize.

Book Announcement

by the Editors

Zdzislawa T. Stebnicka's long-awaited iconography *The Genus *Ataenius* Harold, 1867 (Coleoptera: Scarabaeidae) of New World* is now available. This tome is a must-have for those interested in the Aphodiinae. Editor Bill contacted Zofia Malcher for ordering instructions, and received the following reply:

The price for countries beyond Europe is EUR 40. Yes, we can give you a discount - for example 10%. Cost of airmail postage is included in the price. If you agree, please pay the amount ($n \times \text{EUR } 36$; "n" = number of copies) to our bank account:

Pekao S.A., O/Krakow, Pijarska 1,
31-015 Krakow
IBAN : PL 97 1060 0076 0000
3200 0046 8148
BIC (SWIFT): BPHK PL PK.

or send a cheque (but please - NOT "postal" cheque!), the best kind is "Money Order" (to us) to our Institute address:

Institute of Systematics and
Evolution of Animals
Polish Academy of Sciences,
Slawkowska 17, 31-016 Krakow,
Poland

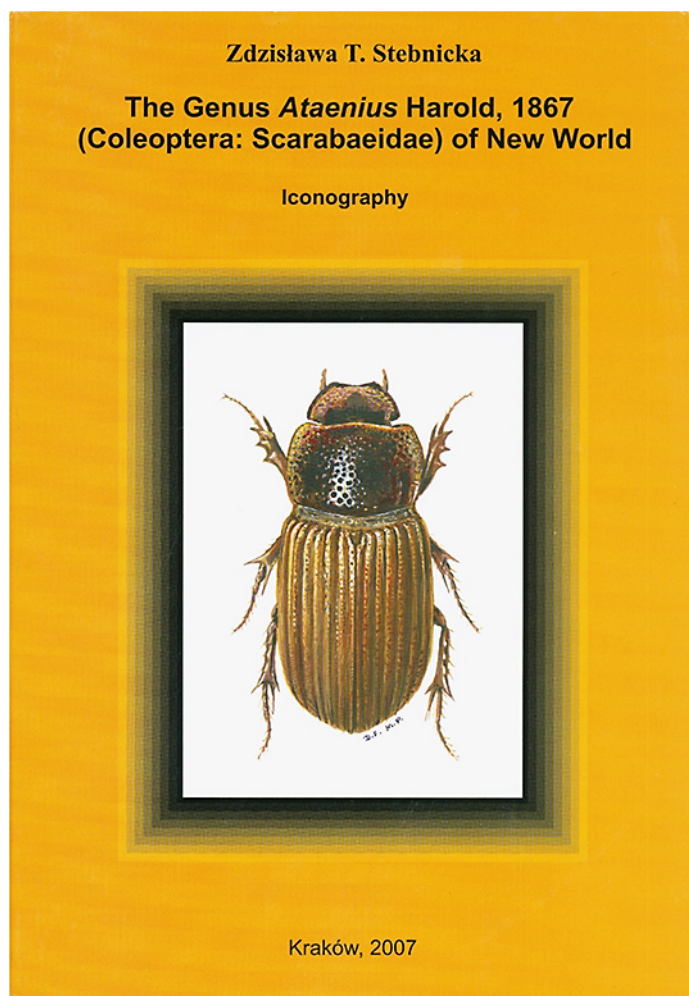
As soon as the payment (transfer or cheque) arrives, we will send you a parcel with copies of the book.

Please let me know, if you need a proforma invoice.

Best regards,

Zofia Malcher

<malcher@isez.pan.krakow.pl>



In Past Years - XII 1970-1974

by Henry F. Howden

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During the so called “Spring Break” at Carleton, near the end of Feb. 1971, Anne and I, and several others, left to collect for ten days in northern Venezuela. We first flew to Caracas, overnighted, and then went to Rancho Grande, close to Maracay. Rancho Grande is an interesting place (Photo 1). It was started by the Venezuelan dictator Juan V. Gómez as a personal palace built on a pass on the front mountain range with a



Photo 1: Rancho Grande, Ven., near Maracay.

road leading to the coast (Photo 2). The road did not connect to any other, so if a hostile group started to come in, one could escape by boat. Before the building was completed Gómez died (1935) and the workers left that day. Only the top floor of the four story building had the floor, walls and roof completed; the rest of the main building consisted of open iron work and an outside, metal frame staircase to the top floor. Later the University at Maracay installed water and electricity to the top and fixed up bedrooms, bath, and a functional kitchen. There was a large open concrete area overlooking the forest that was great for a light trap (Photo 3). We had to get up at sunrise to beat the birds to any late flying insects that we wanted; the birds took the rest. February was dry season, but clouds were funneled through the pass and a small area remained wet throughout the year. Baited traps, Malaise traps and sifting were all very productive. Except for a narrow band on the northern slope of the front range, things were very dry and on nearby Cerro El Café we stopped collecting because we encountered many newly hatched clumps of seed ticks. While collecting was good, and we even collected a new genus of lucanid, we were told it was much better at the beginning of the rainy season. We were lucky to have gone when we did, as years later the pass and

the area near it were converted into a National Park; permission to collect is now nearly impossible to get.

On Feb. 28 we went back to Caracas, staying near the airport on the coast. The next day we took the “teleferico” (= cable car) to the top of the range on the east side of Caracas at 2,150 meters, a park called Avila. A cylindrical, 20 story hotel had been built near the top of the cable car, but never opened because the only way up was by the cable car. Good connections to the airport, etc., were not possible, so the fully furnished hotel, with the dining room fully set up, remained closed until a good road was built up the mountain. Collecting at Avila was not great, as we were above the clouds and the area was fairly dry; it was an interesting day none the less. The next day we flew back to Ottawa, not without a problem. One of us had the return part of the Caracas-New York ticket accidentally pulled in New York. The airline did not want to accept the unused part (it probably meant some paper work) and it took an hour’s argument to finally get them to do so. After that all went well.

At Carleton, teaching finished by mid-April and Stewart Peck and I left for El Salvador on April 28, 1971. We overnighed in Mexico City and flew on to San Salvador the next morning. It was an interesting flight; the drink cart appeared just after take-off and some passengers took full advantage during the hour or so



Photo 2: Beach just north of Rancho Grande; reached only by road past building.



Photo 3: Eugene Munroe at light on top floor of Rancho Grande; moths made beetle collecting difficult!

we were in flight. In San Salvador three passengers had to be helped off of the plane! El Salvador has the densest population of any mainland country in the New World and was not an easy country to collect in, the land being mostly cut over or used for growing coffee or cotton. We collected mostly in three areas. One night, near Los Chorros, we ran a black light on an old, unused bridge over a steep ravine that had some native vegetation left. The catch was surprisingly good, 13 genera comprising 31 species of scarabs; half the number of genera we took



Photo 4: New motel at top of volcano Santa Anna, El Salvador.



Photo 5: Reason for motel: overlook (with Stewart Peck) of volcano that was erupting regularly until motel was finished; eruption stopped, so motel didn't open!



Photo 6: Monte Cristo Biology Field Station; we have had better lodging.

for the entire trip! Another good locality was on top of Cerro Verde, a volcano near Santa Anna. It had remnants of the original forest and a newly built motel (Photo 4); unfortunately the motel, while fully furnished, never opened. It had been built to overlook a nearby volcano that had regularly erupted for several hours each day (Photo 5). The motel was finished at the same time the volcano stopped erupting, so the motel never opened. Good reason?

The only patch of lowland rain forest that people could tell us about was near La Libertad; unfortunately it was also near some large cotton fields. We were told that as many as 40 applications of Parathion were used to control the cotton pests; it also seemed to get rid of most insects in the forest as well as some of the workers! For several days we visited the Monte Cristo Field Station (Photo 6) at the junction of the borders of El Salvador, Guatemala and Honduras. Collecting was good, the housing primitive. We kept a broom in the room to swat the pig if it came in; all the other animals were kept under our room, including one very noisy rooster. Cooking was on an iron plate over a fire and there was a typical clay oven. When I took my camera out, everyone disappeared; it was an interesting place. We did find that the large areas of shade grown coffee had a litter fauna that differed only slightly from the few more natural habitats. Some of the results of our collecting in El Salvador were published in *The Coleopterists Bulletin*, vol. 26, 1972.

On May 15 we flew to Oaxaca, Mexico. It was an early morning flight, but the drink cart came out as soon as we were off the ground; the results were about the same as before, some passengers had to be helped off the plane upon arrival! In the city of Oaxaca we joined two other entomologists who had driven down in the CNC (Agriculture Canada) camper; as soon as we met, one of the CNC members left to fly back to Ottawa. The three of us then set off down Route 175 toward Valle Nacional in Veracruz. It was the same road that I had been down before, the main difference was that it was now paved and some of the forest near the road had been cut. There were two ridges to cross before the final descent to the lowlands. Between the inner ridges there were several open oak-pine areas that had cattle leaving bait behind. The "bait" yielded several species of *Geotrupes*, *Onthophagus* and some aphodiines. On the eastern escarpment going down to Valle Nacional we had great collecting, a new *Onthophagus* and a great variety of other scarabs including *Chrysina*, 2 species of *Rhyparus*, and many other genera. In all we stayed ten days going down and back up the road, picking up traps as we returned. At one stop where we could get off the road on the eastern slope, still with good forest, we stayed two days, ran down the batteries in the camper and consequently couldn't get started. As we couldn't push the camper, we thought we might be there longer than anticipated, until our CNC colleague remembered that

we had a new battery stored with much else in the camper "wash-room". It fortunately had a charge and we were soon on our way back toward Oaxaca. We spent one day in Oaxaca cleaning up and getting supplies, then left to go south on Route 131 to 20 miles south of Juchatengo. Along the way we found a small dead dog that we thought might make good bait for some Scarabaeinae and silphids, so we put it on the top of the camper; we did not want it inside. We stopped in a good oak-pine area at 6,000 feet, south of Juchatengo, collected briefly before dark, then ran our black light at the edge of the (then) dirt road. Rarely have I seen more beetles: several species of *Chrysina*, *Xyloryctes*, *Ancognatha*, *Diplotaxis*, *Isonychus*, *Copris*, *Aphodius*, *Anomala*, *Cyclocephala* and *Strategus*, and several genera I didn't recognize at the time. I filled all of my killing bottles, then reused the first ones, hoping the contents were dead. These were emptied into the glove box of the truck until even that was full. Most disturbing when the occasional truck went by, was the number of *Chrysina*, etc., flattened on the road. The road had green patches the next morning! We spent four days working along that road to about 115 miles south of the city of Oaxaca, then turned back. About then we noted a foul smell, traced it down to the air vent in the camper and then remembered the dead dog on the roof. The dog was too far gone to use for bait, so we rid ourselves of our lofty passenger and suffered with the residual smell for several days until the next hard rain. From Oaxaca we went south

on Route 175 stopping near the Rio Molino. We collected in the area for five days, collecting at least three species of *Geotrupes* and a number of other genera under dung. It was the first week of June and we were into the rainy season; collecting was good except when it rained hard. On June 8 we left Oaxaca and headed for Mexico City, collecting for several days along the way. We survived the fumes and traffic of the "City" and drove on to Durango.

We took the road going from the city of Durango to Mazatlan, the same one I had taken in 1964 when ten of us spent the summer camping west of El Salto. It is often a mistake to go back to a favorite collecting area after a few years, since it rarely stays the same. Many of the larger pines that had lined the road had been cut and our camp area with the spring and meadow was fenced. Fortunately there were still places that were not fenced and where we could drive well off the road. Collecting was good, despite frequent rains, and Stewart's traps were very productive. Few species turned up that I hadn't collected in 1964; one cremastocheiline turned out to be a new genus, and several *Onthophagus* were also new. After five days we drove east with the intention of going up Cerro Potosi. Unfortunately, when we arrived near the base of the mountain it was raining so hard that we gave up the idea and headed north, crossing into the US at Laredo. The first thing we did in Laredo was to call home, then we went to a restaurant for salads, milk shakes and junk food that we missed during our stay

in Mexico. After a night in a motel in Laredo and an oil change for the camper, we drove the 2,145 miles back to Ottawa in three days.

I had been away from the family for too long and was feeling guilty, so when we had an invitation to go to the Bahamas for several weeks, we decided to take a vacation! We left in mid August to go to Man-O-War Cay off of Great Abaco Island. The Cay was only two miles long and quite narrow; there were no cars on the island, only a few golf carts. There was a good path up the middle of the Cay, lots of scrub vegetation and small, sandy beaches behind coral reefs were plentiful. The first two days were spent exploring the island and swimming with our daughters. Anne and I became tired of sitting on the beach while our daughters were quite content to do so and were old enough to be left. Surprise! Somehow a net and beating sheet had been stowed in our baggage, along with some killing bottles. For an hour or so Anne and I beat the bushes nearly every day. I tried setting baited pitfall traps, but the land crabs were so numerous that they ate the bait and anything in the traps. I did get a few scarabs, including one *Anomala* which I still haven't identified. General beetle collecting was fair, but the biggest surprise was beating a boa constrictor out of a small tree. I was told that they were not uncommon and could reach a length of about 5 feet. The one I had found was small and now resides in a jar in the Canadian Museum of Nature. We were told

there were no income taxes, but everything on the island cost twice as much as in Florida. We had some interesting incidents, but none were entomological, except when we bought our daughters some candy bars which were full of fly maggots! However, we did have a good time and arrived back in Ottawa just before the start of school.

During late February, 1972, Anne and I took a group (50 in all) to Leticia, Colombia, which I have already written about. Not mentioned before was that we had an offer from a new airline to fly our group from Bogota to Leticia in a new turboprop plane. The price was the same, flying time was an hour faster, but since Avianca flew us from Miami, and covered hotel and ground costs in Bogota, we stayed with them. When we reached Leticia, the plane from the new air line was already there, and had been there for over a week. They had not thought to ask about fuel for a turboprop plane! Their plane was there, so we were told, for several months. We could have done lots of collecting in that time! Our lodging was great, so we could have easily stayed longer (Photo 7).

One day some of us took a boat across the Amazon to Ramon Castilla in Peru. Half way across we saw a sloth swimming and many thought that the animal must have been in a tree that had fallen in the river. So a rescue effort was mounted using a long handled paddle. It quickly became obvious that the sloth did not want



Photo 7: Leticia, Colombia, our primitive lodging; the pool was popular until an anaconda was found enjoying it one morning!



Photo 8: Peru customs shed across Amazon from Leticia; as casual as it looks.

us to bother it; with a swipe of one front claw it took a large hunk out of the paddle; it was then left alone to continue its swim. When we landed in Peru, the customs shed was just that (Photo 8). Five dollars bought us a day of collecting in the lowland forest which was very different from the Leticia side. There were not many scarabs, but most were species we hadn't seen on higher ground. On the way back we saw a number of floating "islands" of vegetation. One small "island" was pulled on to our



Photo 9: The only catch of peanut baited traps set in forest near Leticia.



Photo 10: Robert Bateman sketching a bat taken at Leticia.

boat and yielded aquatic insects, small fish and one *Ataenius*. This made us wonder if this type of rafting might explain some of the odd distributions of some species of insects along the length of the Amazon and its tributaries. One of the Carleton staff who went with us was Don Smith; he was interested in small mammals. He set lots of snap traps baited with peanut butter, but all he caught were lots of large cockroaches (Photo 9).

Among our group was the artist Robert Bateman, who, at that time, was teaching high school and came along because of his general interest in natural history. He made a number of great sketches while we were on the Amazon (Photo 10). All in all collecting was good, but light trapping was only fair - too much rain in the evenings. We left Bogota, flew to Miami and then to Ottawa. Arriving in Ottawa, we found that the checked luggage of all 50 of us had been left in Miami. We spent several hours filling out forms so that our bags could be checked without our presence. They were delivered the next day; no harm done.