

Tortoises and training in Africa: what could possibly go wrong?

John E Cooper and Margaret E Cooper

Introduction

As British Chelonia Group (BCG) members will be aware, we run training workshops about chelonians and other reptiles in Kenya. Reports on these have appeared in previous issues of *Testudo* (Cooper & Cooper 2012; 2014). We regularly present lectures to the BCG about our work, most recently at its Spring Symposium in 2016, when we gave a presentation entitled '*Kinixys*, Kobe and Kenyans: Four Decades of Progress in East Africa'. This report is based largely on that lecture and represents our contribution to celebrating the fortieth anniversary of the founding of the BCG.

Our own four decades of working with chelonians and other reptiles in East Africa

We first lived in Kenya from 1969 to 1973 and during those years we were fortunate enough to meet and work with some of the great names in East African herpetology and other fields of natural history. For four years John served as honorary veterinary surgeon to the Nairobi Snake Park and provided advice and assistance to Jonathan Leakey who, at that stage, was running a commercial snake farm in the Rift Valley, at Baringo, and had previously been the first Curator of the Nairobi Snake Park. Our involvement during that time in studies on chelonians and other reptiles led to several seminal scientific papers about reptiles and their health (see, for example, Cooper 1971a,b; Cooper 1974a,b; Cooper & Leakey 1976; Cooper & Nares 1971). It also attracted attention in locally produced lay texts about reptiles (Skinner 1973; Hodges 1983). We then spent several years back in Britain where the study of reptile diseases was growing apace and John was able to join forces with other pioneers such as Fredric Frye (USA), Oliphant Jackson (UK), Elliott Jacobson (USA) and Peer Zwart (the Netherlands). The developments in herpetological medicine during those exciting times were reflected in the two-volume, multi-author, book *Diseases of the Reptilia*, edited with Oliphant Jackson a few years later (Cooper & Jackson 1981).

We retained our links with East Africa and in 1981 John received a scholarship to visit Kenya where, amongst other things, he did research on reptiles in the Nairobi Snake Park. In 1991 we returned to live again in Africa – first to Tanzania (1991-1993) and then to Rwanda (1993-



Fig. 1. Shell repair with Dr Kimani, Kenyan veterinary surgeon.

1995). This reignited our interest in the health and welfare of local reptiles, especially chelonians (see, for example, Cooper & Cooper 1995).

Since 2002 we have been returning to Kenya two or three times a year in order to provide teaching and training, usually in the form of lectures, seminars and workshops. Our formal workshops have covered a range of subjects from domestic livestock and comparative pathology to birds of prey and forensic medicine. However, a particular focus has been upon reptiles, especially chelonians. To date we have organised eight reptile workshops in Kenya and two in Uganda. In all our East African activities over the years we have laid particular emphasis on working with local people, ranging from the training of young veterinary surgeons and students (Fig. 1) to instructional activities for community workers in rural areas. We are largely self-funded – we cover our own flights and much of our in-country expenses, but we have been able to expand our work on chelonians as a result of the generosity of the BCG and the Dr Robert Andrew Rutherford Trust (see later).

We have two main geographical locations for our work. The first of these is 'up-country' – at the University of Nairobi and the National Museums of Kenya with excursions to reptile collections in the Rift Valley and further afield. Our second location is at the coast, both north and south of the

city of Mombasa. In this report we discuss our two most recent coastal workshops, held respectively at Mnarani in February 2014 and at Gedi in November 2015.

Preparation and organisation

Our reptile workshops usually occupy one day (occasionally two) but each necessitates weeks of planning before we leave Britain and then intensive attention in Nairobi and *in situ* on the days preceding and following the event. We work closely with a local organiser, and ensure that, in addition to opportunities to learn, there will be ample refreshments on the day – always important in Africa! We put together for participants (and include extra copies for dignitaries) a file of course notes and ‘goodies’ in the form of colourful pens, paper, rulers and plastic magnifying glasses. Most of these items are kindly supplied by companies in the UK (see later).

In-country courtesies, contacts and authorisation are essential when working overseas, perhaps particularly in Africa (Cooper, 1999). John is still registered as a veterinary surgeon by the Kenya Veterinary Board (KVB) and is a member of the Kenya Veterinary Association (KVA). With the help of our affiliations we can ensure that our workshops have the approval of the National Museums of Kenya (NMK), the Kenya Wildlife Service (KWS), the KVB and KVA and any appropriate local authority. In addition, a level of experience can help one to keep calm and carry on when the inevitable ‘what could possibly go wrong?’ moments that are inherent in Africa erupt. We have learnt that the line between success and disaster is often no more than a fine thread.

The historical sites at Mnarani and Gedi, both on the north coast, are administered by the National Museums of Kenya from its headquarters in Nairobi. At both places there is a reptile collection that is an adjunct to the historic site; visitors, especially school children, are encouraged to see local reptiles at close hand in addition to touring the monuments and learning about Kenyan history. The aim of our workshops in 2014 and 2015 was to help raise the standards of management of these reptile collections.

Mnarani workshop 2014

Mnarani is the site of a 14th-17th century Swahili settlement, now consisting of two mosques and a group of tombs set in a forested area overlooking the Kilifi Creek. Preparations in February 2014 included a preliminary visit to Mnarani to work out a suitable location and arrange facilities for the workshop. We were enchanted by the site (Fig. 2) and chose three outdoor places for the workshop after a tour of the ruins by the Curator, Mr Hashim Hinzan who, as a Muslim imam, movingly sang for us the *muezzin* (call to prayer) in the *mihrab* (prayer niche).



Fig. 2. The Mnarani ruins date back at least to the 16th century and provided a historical and picturesque location for the workshop.

Our preparation included staying at a local hotel, liaising with the Curator and his staff and making courtesy calls on other people in the community to explain, with the aid of posters (Fig. 3), what we, apparently the only two *wazungu* (Europeans) in the vicinity, were doing in their village. We also had to plan the refreshments, reviewing the price of each ingredient with the Curator's assistant, fortuitously a Christian pastor experienced in providing feasts for his flock.

After a couple of weeks we returned to Mnarani for the workshop certain that all was ready for the day. However, our early morning arrival in our *tuk-tuk* was greeted by unexpected raindrops from a large black cloud and our confidence was suddenly dented as we had no cover. We received reassurance from our first participant, a Congolese traditional healer, who was certain it would pass. Participants gradually arrived, mainly on foot – reptile keepers and handlers, museum staff and members of the community. So also did colleagues who were to assist us with the teaching. We started the workshop overlooking the blue waters of the creek (Fig. 4) watching the receding black cloud that had threatened the proceedings. Chaired by the Curator, we began with prayers, naturally provided by our imam and pastor, in English and Swahili.

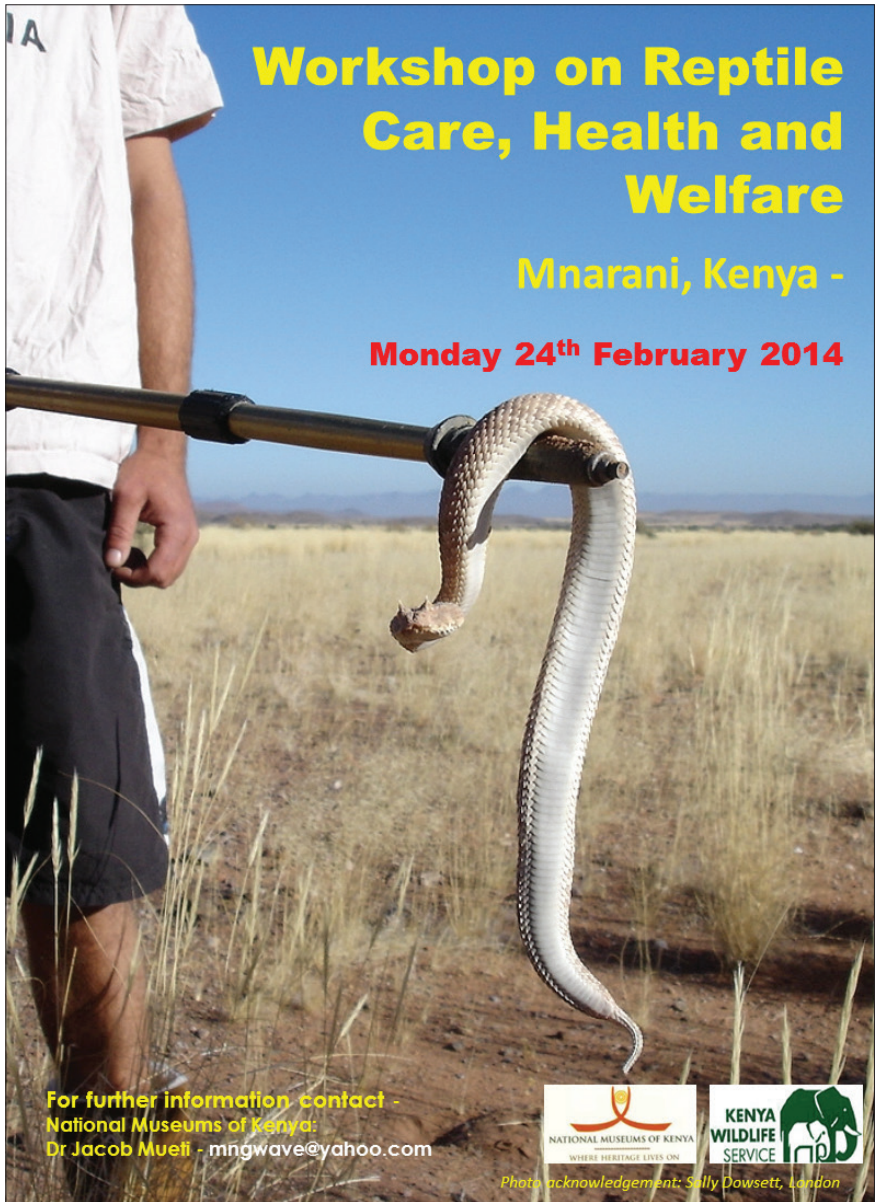


Fig. 3. Workshop poster, designed and produced by Sally Dowsett.



Fig. 4. Lectures by the creek as the unexpected threat of rain receded.



Fig. 5. Shadrack Kombe discusses reptile management issues in a shadier spot under the trees.

The lectures were started by Mr Jacob Mueti, the Curator of the Nairobi Snake Park whose task was to describe the biology and ecology of East African reptiles. Jacob was not immune from the 'what could go wrong?' syndrome. After a 500km bus journey from Nairobi, he stayed awake for several hours that night preparing a PowerPoint lecture, only to find the next morning that there was nothing digital at Mnarani and that, on account of the intensity of the equatorial sun, we could not see the screen on his laptop. As ever, a solution was found – we had in one of our tin trunks (our highly portable, relatively secure, teaching kit) a chart depicting Kenyan reptiles that we could hold up for the audience while Jacob talked. After some more lectures, including our own, on health and the law respectively, and an excellent presentation by Geoffrey Kepha (from Bio-Ken) about reptile identification and first aid for snake bites, we broke for 'bitings' (the Kenyan term for snacks) and beverages.

The sun came out, as promised, and we moved into the shade of tall trees for the session on handling. As we started we were surprised by the arrival of large screen, projector and generator – sadly, too late for the lecture. This session was on reptile handling and welfare assessment, together with disease control measures, and practical demonstrations led by John Cooper and Geoffrey Kepha (Fig. 5). For this session we used live tortoises (Fig. 6) and model snakes and, as part of emphasising the importance of health monitoring, demonstrated the Newton field microscope (Fig. 7).

As we neared lunch time, a progress report of *bado tayari* (not yet ready) from the improvised field kitchen was hardly surprising and the trainers had to keep talking. Eventually lunch, *wali na mbuzi* (rice and goat), appeared and, with impeccable timing, the local administrative chief arrived to participate, complete with a substantial entourage. What could possibly go wrong? Is there enough food for these 'angels' (unexpected visitors – referred to in the Koran and the Bible) who must be welcomed in Africa?

After a delicious lunch, prepared over an open fire in a clearing in the bush, we went on foot to the area where the live reptiles are kept in simple enclosures and locally constructed vivaria. We were first given a tour of the collection by the Curator and his staff. We then divided the participants into groups for a practical session. Delegates rotated around three stations, each manned by veterans of earlier workshops – Geoffrey Kepha demonstrating collection and microscopical examination of faeces (Figs 8 & 9), veterinary assistant Mohammed performing a *post-mortem* dissection of a green turtle (Fig. 10) and Jacob Mueti conducting a systematic health assessment of the collection's tortoises and terrapins (Fig. 11).

Everyone enjoyed the practical session but it was exceedingly hot in this unshaded area and we were glad when, after nearly two hours of work, tea and biscuits arrived. This signalled time for a discussion of the findings in the



Fig. 6. Veterinary assistant Mohammed discusses examination of tortoises.



Fig. 7. A participant tries out the Newton field microscope.



Fig. 8. Geoffrey Kepha prepares a microscope slide from a faecal sample.



Fig. 9. Examining the slide under a microscope.



Fig. 10. Performing a post-mortem examination of a green turtle.



Fig. 11. Jacob Mueti conducting a systematic health assessment of the tortoises and terrapins.



Fig. 12. Discussion of findings.

practical (Fig. 12), to assess the workshop as a whole, to thank everyone, to present certificates to the participants and, always required on such occasions, to take pictures of the presentations.

Gedi workshop 2015

The ruins at Gedi, about 80 kilometres north of Mnarani, are also the remains of a Swahili town but on a far larger scale. Gedi traces its origins to the 12th century but was rebuilt with new town walls in the 15th and 16th centuries. It now comprises a conglomeration of mosques, the remains of a palace and numerous houses, all nestled in 45 acres of primary indigenous forest. In addition to being a very important archaeological monument, Gedi National Monument is a sacred site for traditional rituals and sacrifices for the surrounding community. It includes a museum and a reptile collection, 'Gedi Historical Site Snake Park'.

The Curator of Gedi, Mr Ali Mwarora, had asked us some months earlier to run one of our workshops at this reptile collection and we knew that he and his reptile keeper/snake handler Shadrack Kombe are efficient and reliable. An advantage was that Gedi has both a conference room and a covered dining area, so the possibility of heavy rain in an El Niño year was not critical. What could possibly go wrong? We set in motion a similar programme to that in 2014 at Mnarani and Mr Mwarora started to plan the facilities and refreshments and issue invitations to possible participants. As this was to be



Fig. 13. Pauline welcomes participants at the reception table with the yellow cloth.

a grassroots workshop, serving mainly local villagers, we were asked if the primary language could be Swahili.

In Nairobi, prior to getting our bus to the Coast, we were putting the finishing touches to our lectures, course notes and other plans when we received a shattering text from our kingpin, Mr Mwarora: 'Hi Professor. Jambo I just wanted to tell you that Madam Saida shall represent me [at the workshop] I hope you will bear with the situation but you have all my blessings.' Blessings usually help when things start going wrong in Africa and Mama Saida, despite her dislike of snakes and unfamiliarity with reptiles and how our workshops are organised, took over.

We spent a busy day preparing for the workshop. We encountered a few hitches, including a last-minute change in the catering arrangements set up by Mr Mwarora, but also some unexpected pluses from students on work experience at Gedi who efficiently helped us to fill the participants' study packs and to lay out the literature.

We decided to hold the workshop out-of-doors (where it was cooler) in a pleasant, shady area close to the reptile enclosures. Nearby stood an old baobab tree fit for a group photo, complete with a resident Verreaux's eagle owl (*Bubo lacteus*) – considered a bad omen by many Africans but a delightful 'extra' as far as we were concerned.

On the day we again had lots of help from staff and students. One student, Pauline Elisha, handled reception for the event (Fig. 13), helping attendees to



Fig. 14. Demonstrating a modern tick removal hook.

register and get their packs. Later she wrote out the attendance certificates. Attractive Swahili-style chairs and tables were brought to the workshop area. To cover the registration table we bought from a nearby village *duka* a vivid yellow *kitengi*, a cloth generally worn by African ladies. Back in Britain four months later, at the March 2016 Spring Symposium, we presented it to Mrs Henny Fenwick, Chairman of the BCG.

The Gedi workshop unfolded similarly to Mnarani, but, as explained earlier, was primarily conducted in Swahili. Introductory lectures, again under the trees, were given by John Cooper, Margaret Cooper and Geoffrey Kepha. After another tasty version of bitings and beverages we moved on to a handling and sampling session with contributions from several of the handlers and herpetologists in the audience (Figs 14, 15 & 16).

We broke for lunch (Fig. 17) on time, and having a dining area helped delegates to meet, mingle and look at an extensive display of literature, including BCG publications; however, we had to be vigilant in fending off Sykes' monkeys (*Cercopithecus albogularis*) (Fig. 18), that, seeing the generous spread of food, tried their best to join us. After lunch we had a tour of the collection, led by Shadrack Kombe, who used his experience to demonstrate – from the depths of the reptile pits – the different species and how they should be handled. At this point the group photo was taken (Fig. 19).

Next we transformed the workshop area for the practical session; we established three stations as before. They comprised tortoise health



Fig. 15. Handling and sampling of a tortoise.



Fig. 16. Demonstrating methods of handling snakes, using a specimen of *Spotiferus pseudophidianensis* (an attractively painted, life-like model, made of wood).



Fig. 17. Lunch: enough to share with 'angels' (unexpected visitors – for whom one must always cater in Africa).



Fig. 18. A Sykes' monkey awaits an opportunity to join us.



Fig. 19. Group photo.



Fig. 20. The distribution of certificates is always an enjoyable part of any workshop. Here Mama Saida and Margaret Cooper make the presentation to a local community reptile handler.

monitoring once again (always popular as everyone can join in and handle animals), a snake *post-mortem* examination and the use of field microscopy to examine faeces of chelonians, sloughed skins of snakes and diverse parasites from several reptile species. We wound up with tea, group discussion, completion of questionnaires and the presentation of certificates (Fig. 20).

We returned next day to collect our equipment and to convey our thanks but were also offered a tour of the Gedi ruins by a senior member of staff, Mr Mohammed Luoga, an excellent guide and very knowledgeable about wildlife as well as antiquities. He showed us a rare golden-rumped elephant shrew (*Rhynchocyon chrysopygus*) and we heard monkeys bothering the eagle owl. Butterflies, including *Papilio*, *Graphium* and *Charaxes* spp, were out in large numbers. Prompted by these sightings of butterflies, we paid a visit to 'Kipepeo', also in the forest on the Gedi site. Kipepeo is a locally-run, conservation-based enterprise that rears a variety of Lepidoptera for export (of pupae) to butterfly houses overseas, including Britain.

The workshop over, we travelled to the south coast to store our equipment, before returning by bus to Nairobi. This was followed by an obligatory visit to the National Museums of Kenya to report to the Director General. We also thanked others such as the staff of Nature Kenya (who always provide us with literature for the course notes) and informed official bodies (KWS, KVB and KVA) that the workshop had gone well.

Return to Britain

Once back in Britain we compiled reports on our trip, sent further emails of thanks to Kenyans, collated the questionnaires and had photos printed to take back to the participants. We reported on the workshop to the BCG and the Dr Robert Andrew Rutherford Trust. Then, with growing excitement, we prepared to recount our activities and adventures (including whatever went wrong) to BCG members at the Spring Symposium.

Purpose and value of workshops

We are sometimes asked whether such short training sessions are of any practical value. Are they 'sustainable'? What are the long-term effects? Do the chelonians and other animals benefit?

It is not easy to answer these questions. However, it is quite clear from the questionnaires and the many expressions of thanks that we receive that participants both enjoy the workshops and gain knowledge from them. Many also speak of the opportunity to meet and learn from other people. From the point of view of the well-being of the animals, our return visits usually show that some of the lessons learned on the workshops have been applied to the care of chelonians and other reptiles and that staff have been

sensitised to such matters as the need to provide fresh water (not always easy in a poor, often drought-ridden country) and the value, both to their charges and to themselves, of improved hygiene. Most encouraging of all, as we have mentioned earlier, is the fact that some Kenyans have absorbed sufficient of what we have taught that they are now able to play an active part as tutors on subsequent workshops.

Despite the many challenges that face Kenya, the future may not be as bleak as some suggest. There are increasing numbers of Kenyans who realise that their wildlife and natural resources are a national asset. It is good to note that this attitude extends in some quarters to reptiles. Although the standard textbooks are still largely authored by expatriates (see for example Spawls *et al.* 2004), a small but enthusiastic group of Kenyan nationals is focussing on reptiles and amphibians, surveying them in the wild and publishing both scientific and lay articles about the need to conserve them. An excellent example of the work of such people is to be found by reference to the Kenya Reptile Atlas <http://www.kenyareptileatlas.com/> which is not only scientifically accurate and highly educational, but also available free of charge to any interested persons.

Acknowledgements

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None of what we do in Kenya would be successful without the support, collaboration and good humour of local friends, colleagues and institutions.

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