



RCP UPDATE – DECEMBER 2014

Expansion of the RCP Livestock Guarding Dog programme

In 2013, RCP initiated East Africa's first trial of specialised livestock guarding dogs, to see if this method could help prevent livestock losses and carnivore killings. Supported mainly by the Taronga Conservation Society Australia and the Cleveland Metroparks Zoo, and in partnership with the Cheetah Conservation Fund (CCF), we placed pedigree, working-line Anatolian Shepherd dogs with local herds. Our current livestock guarding dogs are now over a year old and are doing very well, so we decided that it was time to expand the programme. Therefore, this month we sent our colleague and research assistant Mgogo to the CCF headquarters in Namibia to get trained in all aspects of guarding dogs, and he had a wonderful time. We want to thank CCF very much for their fantastic cooperation in training and hosting Mgogo (as well as Msago in 2013), and for giving advice and organising the export and transport of the puppies.



Mgogo (second from left) with CCF Director Laurie Marker (far left) and CCF staff with all six of RCP's new puppies

The new arrivals meant that camp was very busy this month, as we had the six new Anatolian Shepherd puppies as well as a training herd of six goats roaming around. While Mgogo was in Namibia, Msago and the rest of the team had carefully selected the best

candidates for receiving one of the new puppies – we were looking for local livestock keepers who had experienced significant livestock losses in the bush, in the hope that the dogs would lead to a substantial reduction in conflict. There is lots of local demand for these dogs now, but we selected five families which, excitingly, included the first Barabaig household to receive a guarding dog. We will be keeping one intact female Anatolian puppy at camp so that, if all goes well with this next phase, we can eventually set up our own breeding programme.



The new puppies resting with the goats in their temporary enclosure at the RCP field camp

After a couple of days of acclimatisation at camp, we held a seminar to inform the new dog owners about how to best care for their dog and how to train them to become good guarding dogs. Finally the dogs were handed over to their new Maasai and Barabaig owners, who named them and took them to their new homes.



During the “puppy day” seminar

If these dogs are to become effective guardians, it is critically important that they receive very good care and nutrition, especially in the first year. Therefore, we have an intensive monitoring programme where we check all puppies at least twice a week to monitor their

health, ensure they are taken care of properly and help with the training. So far, the five new placed dogs – ‘Chui’ (which means leopard in Swahili), ‘Duma’ (which means cheetah), ‘Simba’ (which means lion), ‘John’ and ‘Special’ are all doing well. We are excited to watch them grow and we hope that they will soon effectively protect their herds against large carnivores, as this should reduce both attacks and retaliatory carnivore killings. The success of the programme is by no means guaranteed, but it is vital that we trial this method, and then we will be able to determine whether it is a valid, cost-effective technique. If so, it could potentially be applied in many other locations where conflict is a major problem for both people and predators.



Mgogo (far left) and Msago (second from left) show the new dog owners how to feed and care for their puppies



The RCP staff show the owners how to weigh the puppies, which is a vital part of their ongoing monitoring



The handing-over ceremony, where puppies are given to their new owners – we were lucky enough to have two guests of honour: The Village Executive Officer and the Village Chairwoman of Kitisi



Welcoming 'John' to his new home: this was the first dog placed at a Barabaig household – a pastoralist tribe similar to the Maasai although they tend to be secretive and are often reluctant to try new methods. After working with Barabaig for years we are proud to have gained their trust and therefore are particularly happy to place a puppy in a Barabaig family.



Being with livestock 24 hours a day is crucial to the bonding process between the dog and his herd. Here is 'Special' with young members of his new herd.



RCP's Research Assistant Mgogo visiting 'Special' for the first check-up at his Maasai home. At first, the puppies are placed at night in temporary, secure shelters with young goats, so they are safe from predators and can bond with their new charges 24 hours a day



'Chui' bonding with his new owner as they spend time in the livestock boma

The female who is being kept at RCP has been named 'Busara', which means 'wisdom' – in addition to being a future breeding female, she will act as an ambassador for the programme, so visitors can learn more about Anatolians and RCP's guarding dog programme in general. There is huge local interest in this initiative, so we are excited about this new phase and hope that it is the start of a successful, long-term conflict mitigation strategy.



Msago (RCP's Community Liaison Officer) holding Busara, our new livestock guarding dog programme ambassador and hopefully the future dam of RCP-bred Anatolian puppies

Preventing depredations at night - the 'Lion Lights' trial

Carnivore attacks upon livestock cause serious problems around Ruaha, both for local communities who bear the costs, and carnivores who suffer retaliatory or preventative killings. We hope that the guarding dogs will help protect livestock while out grazing in the bush, but around two-thirds of attacks occur at night, usually in poorly-protected livestock enclosures (known locally as bomas). To target this problem we established our predator-proof fencing programme, where bomas are fortified with strong wire, on a cost-sharing basis with the household concerned. This has proved 99% effective at reducing attacks, but is not applicable to all bomas – for instance, wire bomas can be hard to move, and can also be expensive for the livestock keepers. Another potentially useful technique is 'Lion Lights', where solar-powered lights are installed at bomas – if movement is detected by the devices, it triggers flashing lights and a high-pitched alarm for a few seconds. The lights and noises might be enough to scare off a predator from the boma, and can also alert the livestock keepers of a potential threat, so they can respond before an attack occurs.



Michael, one of RCP's Research Assistants, explaining the function of a Lion Light

In collaboration with Nicholas Mitchell, Sarah Durant and other colleagues from Tanzania's Conflict Utilization and Trade (CUT) Project, we started the first trial of these lights in the Ruaha ecosystem. Michael Kimaro, one of RCP's Research Assistants, attended a CUT meeting in Arusha and came back with 60 Lion Lights to test at high-risk local bomas. We have placed all the lights at bomas with high depredation rates, with 4 lights installed at each boma. The lights are checked once or twice per every week, and data is collected on attacks at those households, as well as at bomas without Lion Lights.

The initial trial will last for three months, but got off to an unpromising start when one of the trial bomas suffered a spotted hyaena attack the night after the lights were installed. This created some antagonism in the community, as there were suspicions that the new technology had somehow led to the attack, and demonstrates how difficult trialling new methods can be. Happily RCP has worked within the local villages for years now, and has

built up considerable trust, so we could have open discussions about peoples' concerns, and the trial of the Lion Lights is continuing.



Michael discussing placement of the Lion Lights at one of the trial households

New paper published by RCP team on risks of livestock predation

RCP staff monitor stock losses at over 400 local bomas every month, so that we can develop a detailed understanding of which areas seem at particularly high risk of carnivore attack. Our resources, in terms of funds, staff time etc, are limited, so it is vital that we can target our conflict mitigation efforts most efficiently, by dealing with the highest-risk households first. RCP collaborated with Leandro Abade from the University of Oxford to develop a risk map for carnivore attacks across village land, and to assess whether landscape or husbandry features seemed more important in determining risk. This has led to the recent publication of a paper in *Biological Conservation* by Leandro, Amy and David Macdonald, which can be accessed here:

<http://www.sciencedirect.com/science/article/pii/S0006320714003863>

The results of the paper suggest that the traditional forms of husbandry used by many households are insufficient to outweigh landscape features, highlighting the need to help local villagers improve their husbandry techniques. Our programmes, such as the wire bomas, guarding dogs and hopefully the Lion Lights, have been developed with this in mind, with the aim of reducing attacks in all target households, even for those located in particularly risky areas.

Publicity for RCP in *Getaway* magazine

The work of the Ruaha Carnivore Project has been featured in the December 2014 issues of popular South African travel magazine, *Getaway*. This kind of coverage is extremely important for raising awareness not only of RCP, but also of the entire Ruaha landscape, and will hopefully encourage more people to consider visiting this incredible area.



Camp life: Environmentally friendly cooking

The domestic staff at our camp, Mama Bora and Mama Danieli, do a great job, preparing three meals a day for at least eleven people as well as four camp dogs. That amount of work takes a lot of fuel, and although we use gas for cooking when we can, we sometimes have to find local fuel, and the only locally available sources tend to be firewood and charcoal. As a conservation project try to operate as environmentally friendly as possible, and are very aware that the use of wood and charcoal can have considerable negative impacts in the local area. Therefore, we have built a fuel efficient mud stove, which is low-tech, cheap, and constructed from local materials. This stove can reduce fuel consumption by two thirds – this is not only important for reducing RCP’s environmental impact, but also acts as a demonstration cooker for other villagers, who can save time, money and energy by using these stoves instead of firewood or charcoal.



Mama Danieli demonstrating the use of the mud stove, which can cook two meals simultaneously, while only slowly burning one piece of wood

Camera trapping

Our camera-trapping programme has been continuing, with a permanent grid of camera-traps placed within Ruaha National Park, as well as additional comparative grids in other land use zones. This work is being done in collaboration with PhD student Jeremy Cusack, whose fieldwork will end this summer. The data are already being written into papers, which will provide invaluable insights into mammal ecology in the Ruaha landscape, and we hope that Jeremy will continue to work with us as our camera-trapping programme expands.

The camera-traps produce a vast number of images – Jeremy has examined over 3 million so far! – so we are hoping to get them uploaded onto a public web portal, so that anyone who is interested can play an important role by helping us classify the species seen. Jeremy is working on that with colleagues now, and we will keep everyone informed once there is a way to get involved. In the meantime, some of our good recent images are shown below.



A lioness walking on a path and probably inspecting the birds in front of her



A lioness carrying a cub during the night



Elephants showing social behaviour in front of the camera-trap



Spotted hyenas seem to be naturally curious - we frequently get close-up images like this, which can result in chewed-up camera-traps!



A pair of porcupines passing by

Collecting data through direct sightings

RCP works with Park drivers, tourists and other colleagues to collect photographs of large carnivores both within and outside Ruaha National Park. This has provided the first reliable data on carnivore distribution across the landscape, which was written up in a publication by Leandro Abade earlier this year (the article can be accessed through the link below: <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0096261#pone-0096261-g004>).

The highlight this month was a set of photos taken by Ruaha's Lion Guardian coordinator Sean Mc Eney, who was lucky enough to get a wonderful sighting of elusive African wild dogs. These amazing animals are the second most endangered type of wild dog on the continent (after the Ethiopian wolf) and Ruaha holds one of the most important remaining populations in the world, with an estimated 500 dogs in 35 packs. However, the Park drivers also continued to do a wonderful job, and have captured great images of carnivores, which allow us to collect data on group size, distribution, habitat use, reproduction, ranging patterns and some indices of population size. In early 2015, we will be running a competition on Facebook to select the best sightings photographs from the past year, so please look out for that, and vote for your favourites!



African wild dogs are extremely social, and play is a vital part of their daily life © Sean McEnery



Despite Ruaha having a relatively large population of endangered African wild dogs, they are very hard to see, and sightings like this are always a cause for celebration © Sean McEnery



A lovely sighting of some young black-backed jackal pups, by Teophil Myinga of Jongomero Camp



This young hippo provided some much-needed meat for these lions, who were looking thin (taken by Gadmel Kimaro of Jongomero Camp)



A leopard watching tourists from the safety of a treetop perch (taken by Teophil Myinga of Jongomero Camp)



This beautiful shot of a resting leopard was taken by Vincent Kavaya of Mwagusi Safari Camp

Happy New Year to all our friends and supporters – we wish you all the best for a happy and productive 2015!