

# Carnivore

## News Bites

### The newsletter of the Tanzania Carnivore Program

#### PROGRAM UPDATE

By Alexander Loiruk Lobora and  
Rose Arthur Masha

Dear esteemed readers, once again we would like to welcome you to the program update corner. First and foremost, we would like on behalf of Tanzania Wildlife Research Institute (TAWIRI) to thank you all for your support and contribution you have been bestowing to the Carnivore Program since the program inception in 2002. Since the 7th issue of Carnivore News Bites, we have been undertaking various activities to implement the Carnivore Conservation Action Plan in Tanzania. Just to reiterate, a key objective of the carnivore program was to develop a Conservation Action Plan for Carnivore Conservation for the country, the objective which was accomplished in 2006. The document is now ready and awaiting endorsement by government. The greatest work ahead of us now is to see that this plan is implemented and not left to gather dust on our bookshelves.

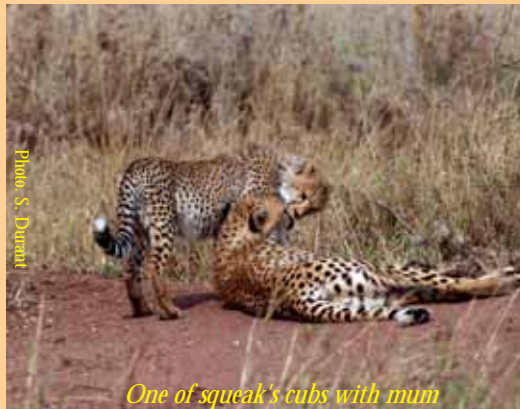
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#### CHEETAH PROJECT FIELD UPDATE:

By Laura Simpsons

All is going very well with the cheetahs of the Serengeti. Over the last couple of months many cubs have reached independence and are now doing a great job of looking after themselves.

Tiramisu's cubs were seen recently carefully avoiding a pride of Lions by Makoma hill. They were very alert, moving away with their heads kept down, and at the same time watching the lions very carefully. It was clear that they were aware of the possible danger. Taitinger's male cubs have been seen exploring the Serengeti now that they were on their own. They were found as far south east as Zebra kopjes, and a couple of days later they were back in bustling Seronera.



*One of squeak's cubs with mum*

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- The status and distribution of wilddog in Tanzania



Alexander Lobora  
Sarah Durant  
Maurus Msuha  
Rose Masha

## Program Update

To ensure proper follow up of the plan, in January 2008, the program recruited Ms Rose A. Moshia as coordinator for the Action Plan. Since then a number of several activities have been undertaken including: Liaising with all stakeholders to ensure that the priorities of the plan are achieved, helping with the process of endorsement by government and

### CHEETAH PROJECT FIELD UPDATE:

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Although many cubs have reached independence there are new cubs on the scene! Squeak, who can often be seen in the Makoma area, has introduced us to her 4 fabulous cubs that are about 6-7 months old. We can expect more cubs as Lady Godiva who we haven't seen since January has popped up at Simba Kopjes and is very clearly lactating. Fingers crossed we'll see her cubs soon!

There are plenty of cheetahs to be seen as well as many other carnivores within the Serengeti. Just to give you an idea, I was in the field on the 7th of September and apart from seeing 2 cheetah groups, I also saw striped hyena, a caracal, and a leopard with 2 cubs, making it a fantastic day!!

News and information on the cheetahs live in the Serengeti can be found on the meet the cheetah pages of the carnivore program website. [www.tanzaniacarnivores.org/cheetahs/meet-the-cheetah](http://www.tanzaniacarnivores.org/cheetahs/meet-the-cheetah)

representing the program at fairs and meetings. Many of you may have seen the article about the plan in the Daily News Paper of July 8, 2008, read about it in Mammals News Bites or met Rose during her visits to our many stakeholders. Our new Carnivore Conservation Action Plan Stakeholders Database brings together scientists, researchers and organizations working with carnivores through out the country to share information with each other and helping us to work together to conserve carnivores in Tanzania. If you would like to join the group please don't hesitate to contact us through [carnivoreaction@habari.co.tz](mailto:carnivoreaction@habari.co.tz).

Tanzania Carnivore Program together with its sister project, the Tanzania Mammal Atlas Project (TMAP), has so far conducted 18 surveys of Carnivores biodiversity in protected areas. These are: Mahale Mountains, Arusha National Park, Serengeti National Park, Minziro Forest, Coastal Tanga, Zoranginge Forest, Ukaguru-Mamiwa Forests, Muhuwesi Forest Reserve, Moyowosi South, Ufiome Forest, Uimba Forest, Minziro Forest, Burigi Forest and Gelai Game Controlled Area. Others are Maswa Game Reserve, Uluguru Forest, Ugalla Game Reserve, Lukwika Lumesule Game Reserve and Mbangala Forest. Furthermore the carnivore website has been reviewed and updated and currently possesses a new look with up to-date information including new distribution maps for carnivores.

The carnivore website has moved and has been completely updated

with new look and up to-date information including new distribution maps for carnivores - please take a look on [www.tanzaniacarnivores.org](http://www.tanzaniacarnivores.org). The Carnivore Conservation Action Plan can as well be downloaded from the site. You can also browse through the Cheetahs of Serengeti and find information on the 35 species of carnivores known to live in Tanzania. We have also accumulated a library of literature on carnivores and other mammals which are available to people visiting the program offices located at Njiro opposite the Arusha Institute of Accountancy.

Hopefully we will see you soon during subsequent site visits to promote the action plan in the coming year. We will also be going to some new sites to survey for carnivores, and we will continue to compile information about carnivores at the centre.

We look forward to the official endorsement of the Action plans, making Tanzania the second country in Africa to have such plan. Please keep sending us information on carnivores from any where in the country this information is really important in guiding conservation planning for benefit of the current and future generations.

The Tanzania Carnivore Program is grateful to Wildlife Conservation Society (WCS) for funding this issue of Carnivore News Bites.

**We wish you  
Happy New Year 2009!**

## UPDATE ON HUMAN - CARNIVORE CONFLICT STUDY AROUND RUAHA NATIONAL PARK

Amy Dickman

This year marked the end of my PhD fieldwork into examining the intensity of human-wildlife conflict on village land around Ruaha National Park, with a particular focus on lions, cheetahs, leopards, spotted hyenas and African wild dogs. We have now interviewed over 260 local pastoralists from 19 different villages on the southern border of the Park, and have monitored stock losses in 180 households for an entire year. This has given us some very important insights into the magnitude of conflict in this important area for carnivores, as well as helping us to determine which are the key factors making people feel hostility towards these animals.

We found a high level of hostility towards wildlife in this area, more than was documented by Tom Maddox during his study in northern Tanzania. People were particularly antagonistic towards the five carnivore species that we were focusing on, mainly because they felt they posed a considerable risk to livestock or sometimes even to humans themselves. This hostility was not groundless – over 70% of the respondents had



*Amy conducting field research interview at Ruaha*

suffered attacks on their stock by at least one of the focal predator species, and 62% had experienced attacks by several different carnivores. Attacks occurred relatively frequently, with around 10% of our study households suffering attacks every month. Despite this, losses to predators were far outweighed by those to disease, theft and accidents – disease and accidents accounted for around 60% of stock losses, theft accounted for 27% and predators were responsible for no more than 12% of losses. However, even relatively small proportions of loss can clearly have a significant impact on household wealth, and depredation events are spread patchily across the landscape, so even if the average level of loss to

carnivores is relatively low, some people suffer large and very damaging losses. Additionally, livestock often have important social value in traditional pastoralist societies, so depredation can have effects that go beyond the immediate economic costs. Even if people lose more stock to disease, carnivores are undoubtedly still having an impact, and it is important to try to work out which strategies people could use to try to minimize their risk of depredation.

We examined livestock husbandry techniques used and found that although almost all respondents claimed that they had an adult herder and a dog present with their stock all the time while grazing, most attacks in the bush

occurred when neither an adult nor a dog was in the vicinity. The presence of an adult herder was particularly successful at deterring cheetah and African wild dog attacks, but worked with all carnivore species to some extent. Having a dog with the stock also helped to deter cheetah and wild dog attacks in particular, but had no effect on leopard, lion or hyena attacks. We also found that the method of boma construction could be important in terms of reducing the likelihood of attacks, with tall, thick, wide boma walls, ideally reinforced with poles, helping to reduce stock attacks. Some pastoralists had been particularly innovative in methods of scaring away predators, with jerry cans mounted on posts, which rattle when the stock move, and the placement of scarecrows outside the bomas, all helping to deter predators from approaching and trying to take stock.

The likelihood of suffering any predator attack did not change substantially with distance from the National Park boundary, although there were changes that could be seen for individual species. Lion, hyena and wild dog attacks were much more likely within

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## Human-Carnivore Conflict

5km of the boundary, while the likelihood of cheetah and leopard attacks was actually lower closer to the Park. This kind of information can help people focus their livestock husbandry techniques in the most appropriate way to reduce the likelihood of attack by high-risk predators in the particular area where they live.

In January, there appeared to be a problem lion taking stock around Malinzanga, with 12 bomas in a small area all attacked over a short period of time. We went and distributed noise-makers to help scare predators away at night, as well as providing relevant advice on boma reinforcement and other husbandry techniques. None of the bomas that we visited suffered stock losses again, although in several cases a lion did approach but was scared away using the noise-makers.

One of the priorities of the project is to provide information back to the local people concerned. We have produced and distributed several guides to local communities, helping people distinguish between different predators, identify what has killed their stock, and improve their livestock husbandry techniques. We have also given presentations in the villages about living with predators, and these have all been received very well.

Not all the conflict is driven purely by personal experiences of livestock attacks, however. Other factors play an important role in affecting people's attitudes towards conflict, with income from wildlife and education about conservation all being linked to more positive attitudes. Therefore, although learning how to minimize stock losses is a very important component of the project, encouraging the development of more conservation-related benefits, and promoting wildlife education, will be key to improving peoples' attitudes towards wildlife in this very important area.

I was very sad to leave Tanzania at the end of my field season, but hope to be back as soon as possible, ideally to develop a larger project around Ruaha based on the findings of my PhD. In the meantime, I will be continuing analysis of the results, and will feed them back to as many people as possible when they are complete. The project has been fascinating for me, and I hope the results will have important impacts for easing human-carnivore coexistence in the Ruaha ecosystem. I would like to thank everyone involved with the project, both in Tanzania and the U.K., as it would have been impossible without all your help and support. Thanks!

## CHOOSING WHERE TO ROAM DEPENDS ON AGE AND FAMILY COMMITMENTS IN CHEETAH

By Nathalie Pettorelli & Sarah Durant

Understanding why animals choose different habitats helps explain the distribution of species, and provides key information to conservation planners and protected area managers.

Recently, we made use of the long term data on movements of individual cheetah from the Serengeti Cheetah Project to increase our understanding of how cheetahs living on the plains use their environment, and how this is affected by their age, sex and reproductive status. Surprisingly, females tended to be more selective in their choice of habitats when they were young than when they were older. Perhaps young females are more cautious, selecting features and habitats that they perceive as less risky, and gain more confidence as they get older, making use of a greater diversity of habitats.

We also found that individual cheetah females were more selective when they had young cubs than when they were without cubs. This result was more expected, and supports some of our previous findings. Cheetah cubs are confined to a den during their first two months, and the mother



leaves the den each day to hunt, returning at dusk to provide them with milk. Even once the cubs have left the den at two months, right up until they are at least four months, they are not noted for their agility, and continue to hamper their mother's freedom, restricting the distance she can cover each day. This limits their mother's movements, and restricts the choices she can make about which habitats she uses.

So, some cheetahs are freer than others in choosing where to roam.

For more information on this, keep an eye out for the article which is about to be published in the Journal of Zoology!

## UNDERSTANDING & DEVELOPING SOLUTIONS FOR HUMAN CONFLICT WITH LIONS IN SOUTHEASTERN TANZANIA

By Hadas Kushnir

Human-wildlife conflict is one of the greatest threats to wildlife conservation worldwide. As human populations expand, not only has conflict increased but so has retaliation against offending species. This is particularly true for African lions, which not only threaten peoples' livelihoods through livestock depredation but also peoples' lives. Tanzania provides one of the most striking examples of human-wildlife conflict in the world; between 1990 and 2004, almost 600 people were killed and more than 300 injured by lions. These are not chance encounters, but examples where lions actively hunt people. Over half the attacks occurred in the southeastern portion of the country, and within this region, particular areas experienced intense conflict while others were conflict-free. These differences are so pronounced that a village plagued by attacks could be less than five kilometers away from a village that has never experienced an attack. My research on human-lion conflict in southeastern Tanzania has been



*Hadas and Harunnah at work*

conducted over the last four years in collaboration with Dr. Craig Packer, Dennis Ikanda, and Harunnah Lyimo.

The specific objective of our most recent research project was to better understand risk factors linked to attacks by determining how human activities and wildlife presence differ between villages with and without a history of attacks. Such information is critical to understanding what puts people at risk for attacks and allows for the identification of appropriate village-level prevention measures. We conducted research in the two Tanzania districts with the highest number of lion attacks, Rufiji and Lindi. To provide a framework for understanding attacks, we used historical records from 274 cases to collect data on the timing,

location, and activity of victims. In addition, we conducted interviews in four villages per district, two with attacks and two adjacent without attacks. Interviews collected information on daily activities, wildlife presence, and prevention of attacks.

Our results identify seven important factors that characterize people living in attack villages: more frequent sighting of bush pigs, sighting of fewer other types of lion prey such as zebra, wildebeest and gazelle, longer walking distances to resources, fewer material

assets, weaker shelters in villages and agricultural fields, and greater likelihood of sleeping outdoors for traditional ceremonies such as weddings and funerals. Bush pigs are major nocturnal crop pests that not only create the need for people to sleep in their agricultural fields, but also draw lions into human dominated areas. Attacks are also more common in areas where lions have a harder time surviving on wildlife. In addition, specific human activities increase the likelihood of attacks.

This information is being used to advise villagers and national/local government on ways to prevent future attacks. Excluding bush pigs from agricultural fields, building stronger houses and huts, erecting fences and clearing vegetation around homes, and walking in larger groups, may all help to mitigate the problem.



Photo: H. Kushnir

*Lion*



Wild dog in Tanzania as any other nation suffers potential threats to their conservation. Possible threats to Wild dog have include:

**Conflict with subsistence livestock farmers –**

There is little information on the importance of persecution to wild dog conservation. However, it is known that wild dogs do occasionally kill livestock and conflict does exist in some areas. Some communities are also known to use poisons on carnivores whilst snaring is common in many areas. Veterinary officers in Iringa have in the past reported attempts to poison wild dogs outside Ruaha, though it is not known how successful these attempts were.

**Diseases** - Infectious diseases are recognised threats to wild dogs across Africa and have contributed to the extirpation of at least one population. The importance of this threat is often difficult to assess especially as disease outbreaks are often part of a natural process causing population fluctuations. However, when disease is a consequence of manmade factors, there is an argument that it is not part of a natural process and intervention may be justified. The common diseases include Rabbits, Canine distemper and Anthrax.

**Habitat loss and Lack of connectivity** - Habitat loss and land use change put extra pressures on wildlife, particularly species like wild dogs that live at low densities and range across vast areas. Ensuring that sufficient habitat remains and that corridors between protected areas are maintained are a priority. There is currently little information on wild dog distribution and movement patterns between areas.

**Accidental snares** – These are usually laid out for game to be used for meat. Wild dogs are frequently attracted to such snare lines due to the presence of trapped game in these areas. However the impact on snaring at the population level is not well understood. The presence of snares and the species of animals caught in snare lines are recorded during anti-poaching patrols by rangers and game scouts working for Tanzania National Parks (TANAPA) and Wildlife Division (WD).

**Road or rail accidents** - Wild dogs have been reported as being victims of road kills particularly on the main road going through Mikumi National

Park. Road kills are also a potential problem on the Arusha-Nairobi and Arusha-Dodoma roads. However, apart from these specific areas, road kills are probably currently of limited importance to wild dog conservation due to the lack of tarmac roads across the country.

**Ecological constraints to wild dog conservation -**

Wild dogs are vulnerable to competition from Lions and Spotted hyenas which can take their kills and kill pups and occasionally adult and hence their number in Protected Areas are likely to be limited by these species. Lions are thought to have the largest impact on Wild dog and have been reported as killing both adult and young Wild dogs. Whilst Inter-specific competition is natural and inherent component of functioning ecosystem it can be a major constraint to the effectiveness of conservation. Of particular importance to Wild dogs are the relative densities of Lion and Spotted hyenas in a Region.

TAWIRI through the Tanzania Carnivore Program, helped develop the Tanzania Carnivore Conservation Action Plan which addresses conservation issues for Wild dog in Tanzania.



*WILD DOG*

*Tanzania is a home of at least 35 carnivore species, half of Africa carnivore species. Wild dog is among the six species which are globally threatened.*

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From page 7

### The status and distribution of Wild dog in Tanzania

There is agreement among the species specialists that there is currently very little information on wild dogs, and that there is an increasingly urgent need to gather data relevant to wild dog conservation across the country. National priorities on Wild dog research activities include obtaining baseline information on the distribution of wild dogs in Tanzania, information on trends and abundance; provide training to wildlife stakeholders in survey techniques e.g. game scouts; and setting priorities for Wild dog conservation in the country. Tanzania Carnivore Program has a database for carnivores including Wild dog. Visitors and Tanzanians have played a significant role in contributing information to this database.

We welcome all additional information on these priority species.



*Coordinator for Action Plan addressing Sokoine University of Agriculture (SUA) students on Wild dog Action Plan.*

## From Database and GIS Desk

*By Eliamani Godwin*

*Dear readers, Carnivore News Bites once again is in touch with you... Hopefully we are keeping you up to date with carnivore conservation and research in Tanzania. The Tanzania Carnivore Program is very grateful to all of you for your views and comments which you have been sending to us over the last year.*

*Can you guess who are going to be our gold star contributors over 2008?*

*The following are the top 10 data contributors for the year 2008*

1. Camera trapping survey (Carnivore Centre)
2. TAWIRI, CIMU
3. Ingela Jansson, Serengeti Lion Project
4. Janemary Ntalwila, Oikos
5. Claire Lewis, Grumet River Reserve
6. Jules Knocker, Nomad Safaris
7. Anne Hilborn, Serengeti Cheetah Project
8. Sarah Durant, TCP
9. Ryan Shallon, Kilombero Valley
10. Kristen Skinner

*Well done to them and many thanks to all of you who sent in your sightings. Please keep them coming!*