Caprivi Carnivore Project

Newsletter – April 2013

The Mudumu Clan of the east Caprivi

In order to identify all the members of a spotted hyaena clan it is necessary to locate their den. However, spotted hyaenas regularly change den sites and each clan in the Caprivi appears to have up to four, which they will use repeatedly over time. Over the last year the Mudumu Clan has been particularly difficult to monitor as they have moved dens at regularly and without warning. Generally I locate the dens by looking at the clumping of the locations from the satellite collars, which are downloaded from the internet. I then go in on foot to the general area. I then track the spoor of hyaenas until I identify what looks like an active den (based on spoor and dung). Then I put up a camera trap at various den holes so to get as many photos of as many individuals as possible. Over time, with repeated photos of the same hyaenas, I am able to build up records of the structure of the clan including the number and age of even very small cubs.

After many attempts to identify den sites of the Mudumu Clan, I eventually managed to locate four dens. But I had very little luck in getting any photos of the hyaenas as I always seemed to find a den just after the hyaenas had already vacated it. Two of the dens that I found are on the northern side of Mudumu National Park, with one situated relatively closely to the airstrip and the other two are situated just outside the park in the Mashi Conservancy. As Caprivi spotted hyaenas appear to be very wary of people, the dens in the Mashi Conservancy are located miles away from human habitation. It was here that I finally managed to catch up with the Mudumu Clan and got some incredible photos of the various members. With these I have managed to piece together the structure of the Mudumu Clan.

Two adult female hyaenas at the den entrance

An adult female calls to her young cub at the den entrance

These cubs of different ages are the only cubs in the clan

The collared female hyaena is mother to the larger cub

Using over 30 000 infra-red photos taken at den sites and baiting areas, Derek Dwane, a zoology student from the UK volunteered to develop a spotted hyaena identifying system based on spot patterns and individual markings. This exercise will contribute to developing a baseline of identities to monitor spotted hyaenas and other large carnivores through camera trap capture/recapture. The spotted hyaena population in the Caprivi are in need of long-term monitoring, which will be best achieved through camera trap capture/recapture. This method will also contribute to the natural resource monitoring systems of Caprivi Conservancies as it is cost effective and repeatable, and can be carried out by trained Community Game Guards.

Camera Trap Capture/Recapture by Derek Dwane

Following the ground breaking work of Karanth & Nichols (1998) using camera traps to estimate tiger densities in four reserves in India, the camera trap has become an important tool for wildlife conservation and management (O'Connell et al. 2006).

Pittet (2007) concluded how his use of cameras for wildlife surveys in Bandipur Tiger Reserve proved to be effective, resulting in a photographic database of more than 18,000 useable records covering more than 30 different species. Srbek-Arajou & Garcia Chiarello (2005) stated that the sampling of medium to large size mammals by camera traps is a practical, non-intrusive and after initial set up, a cost effective method of wildlife conservation study.

Not only can camera trap photography be used to study species that are difficult to monitor using traditional methods, they can also produce impressive photographs to be used for conservation and educational purposes (Cutler & Swann, 1999). The case for the use of camera trap methods has increased significantly in the last decade with the introduction of newer technology, reduction in cost, ease of use, and the publication of new papers outlying the success of camera trap usage in conservation.

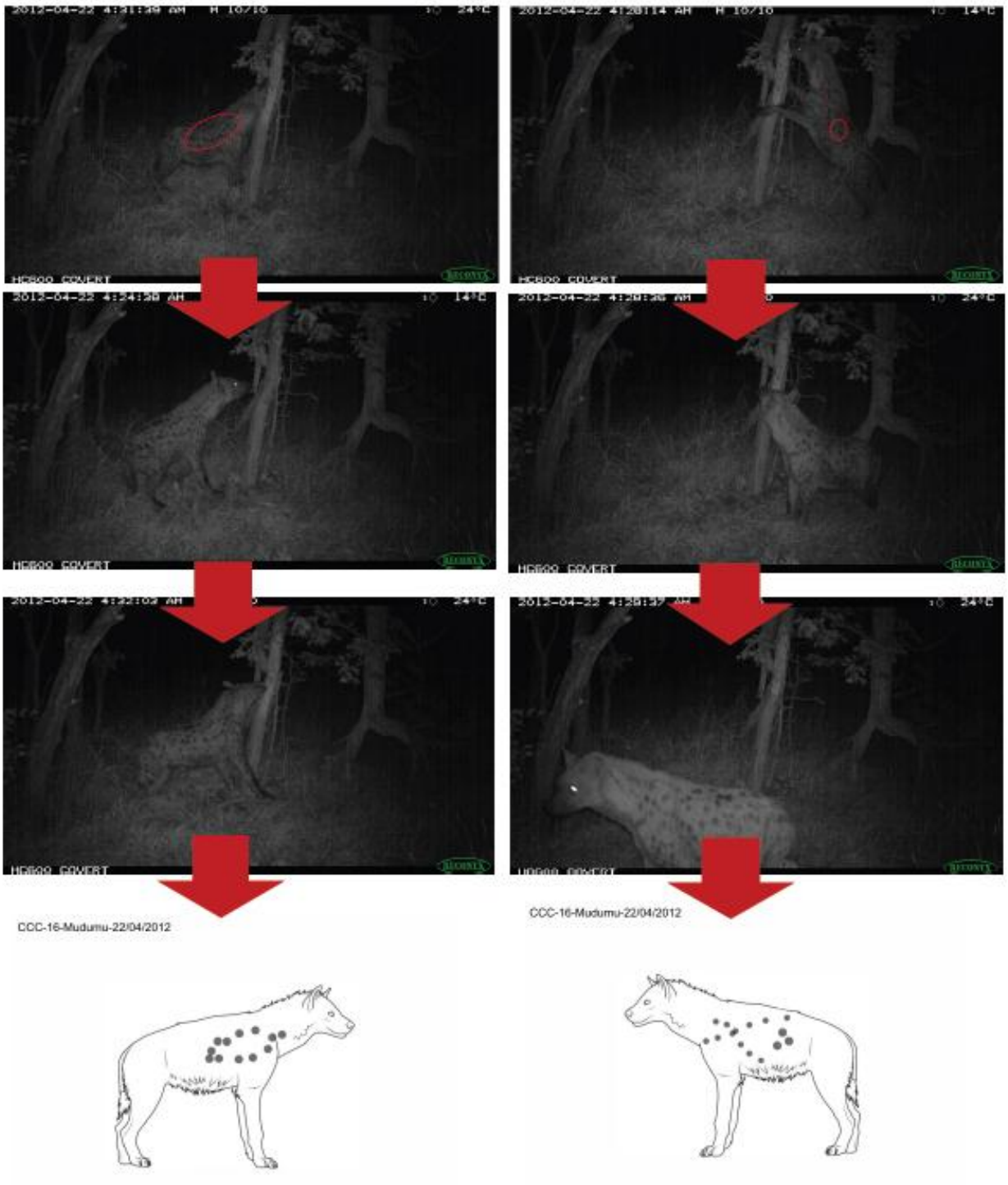
Capture-Recapture models rely on the individual recognition of certain individuals and have predominately been successful on spotted or striped species (Silver et al. 2004). Using capture/recapture models researchers are able to gain far more robust and unbiased population estimates that are comparable across habitats (Wilson & Delahay, 2001).

In this project over 30,000 individual camera trap photos have been processed and the final stages are underway for the individual identification of spotted hyaenas for the Caprivi Carnivore Project.

These have been filtered down to only those photographs in which the spotted hyaenas are viewed with no obstructions, are in focus and with adequate lighting. The method used for individual spotted hyaena ID is by identifying spot patterns on the fur, distinctive features and ear damage. As a safety measure while identifying the hyaena' s spot patterns/features, a confirmation of three separate photographs, displaying the individual patterns/features were found for both the left and right hand side of the hyaena. This is vital, especially with spot pattern recognition, due to the subtle changes in patterns through movement and light reflection. Once there is enough photographic evidence to be able to determine the identification of the individual it is catalogued, and the identifying features placed on a hyaena ID sketch.

The importance of the sketch is to be able to create a portable ID book to be easily carried in the field, easily accessible with easily recognisable patterns for identification purposes. Along with the distinguishing features any other relevant data such as last know location, den sites, condition, behaviour etc. can be recorded to keep as up to date a record as possible.

With this information and further implementation of camera traps throughout the Caprivi it will be possible to continue a non-intrusive study on spotted hyaenas, and to gather a more complete picture of population densities, abundance, movement and behaviour.



Identifying spot patterns with three confirmation photographs are then placed on a hyaena ID sketch to build up individual ID records for Caprivi spotted hyaenas.

Are there resident hyaenas in the Mamili National Park?

The Mamili (Nkasa Lupala) National Park lies in the extreme south of the east Caprivi and is made up mostly of the floodplains of the Kwando and Linyanti River systems. Being slightly less than 20 km away from the southern boundary of the Mudumu National Park and with losses of livestock to spotted hyaenas occurring close to Mamili's boundary, it was assumed that Mamili National Park had a resident population of spotted hyaenas. Despite copious baiting and camera trapping during 2012 by both myself and Dr Ortwin Aschenborn (MET) on separate occasions, there were no photographic records of spotted hyaenas in the park. In addition no scat has been found within the park and only two records of spoor have been recorded in the past 15 months, one at a week old elephant carcass. From this I have concluded that Mamili National Park does not currently have any resident spotted hyaenas, with only occasional visits from hyaenas that come from somewhere outside the park. Although the reasons are unknown, I speculate that this is likely

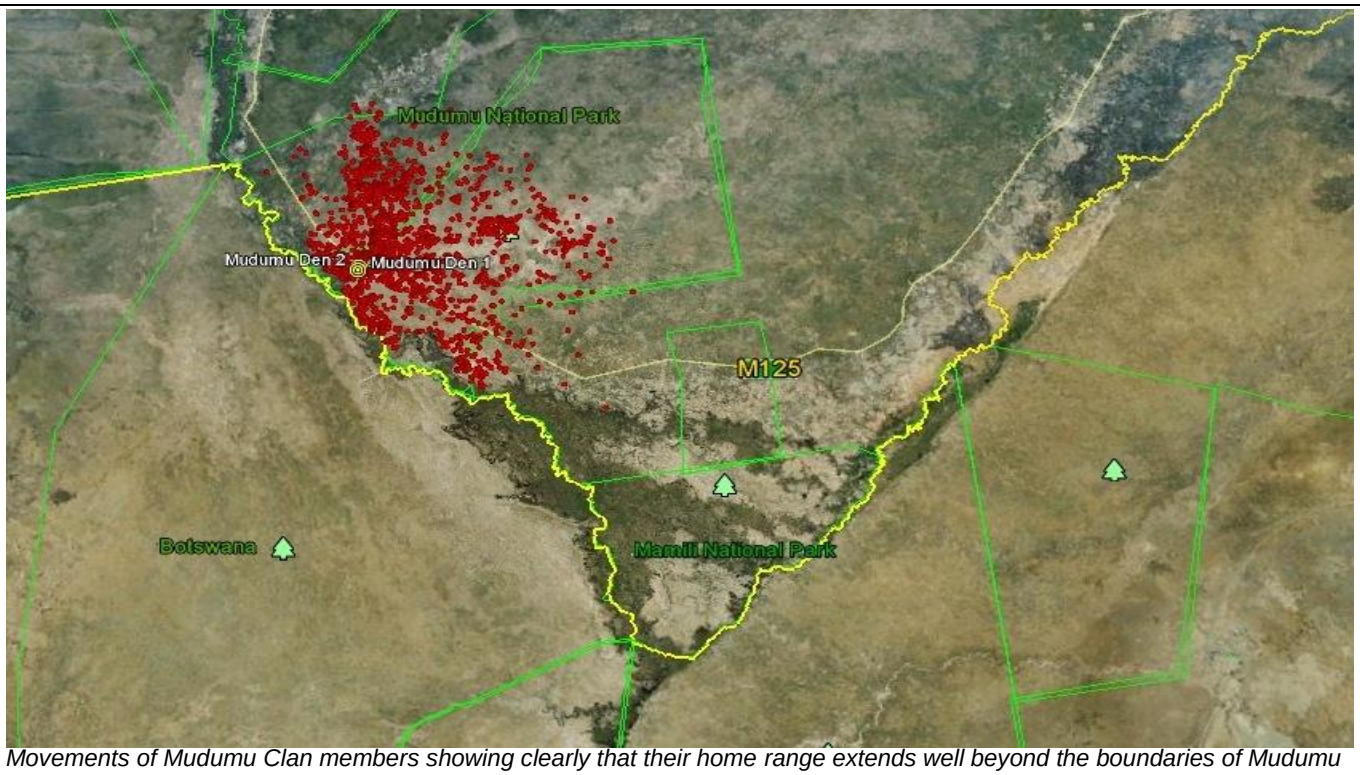
due to a number of factors. First and foremost is that Mamili NP is essentially a large floodplain and swamp, and until recently was flooded extensively leaving only smaller islands available for wildlife. This is likely to affect the number and movements of resident wildlife. In addition, this flooding leaves little space for denning, which is central to hyaena society. Dens would either be very damp or quickly fill up with water during periods of high flood. Another possible factor is the high human density and intensive settlement between Mudumu and Mamili National Parks, which forms an almost impenetrable barrier for animals like spotted hyaenas to move through. This might results in only the odd hyaena visiting Mamili National Park.

Human-wildlife conflict (HWC)

In terms of explaining spotted hyaena HWC in villages that lie right on the northern boundary of Mamili, and the common perception that hyaenas causing problems originate from this park, I decided to hang baits monitored with infra red cameras within the conservancies in order to identify any visitors. I was most surprised when the very first visitor was CCC-10, a spotted hyaena that was captured and collared in the north of Mudumu National Park and had spent quite a bit of time in Mashi Conservancy, which is far to the north of the Wuparo Conservancy, where it was presently foraging.

CCC-10 who was captured and collared in the extreme north of Mudumu National Park is the first visitor to a bait placed near the northern border of Mamili National Park in the Wuparo Conservancy.

Looking at the location points from two spotted hyaenas collared in the north of Mudumu, we found that they regularly foraged outside the boundaries of Mudumu. Hyaena spoor that is recorded in Mashi, Sobbe, Balyerwa, Wuparo and even Mayuni Conservancy, which is 20 km north of the Mudumu, were all from the Mudumu Clan. Livestock losses to spotted hyaenas have been relatively few and all incidents, except for one inside a kraal in Mayuni Conservancy, were due to unguarded livestock wondering around at night. These were often close to the proximity of the Mudumu National Park boundary and well within the home range of the Mudumu Clan.



Movements of Mudumu Clan members showing clearly that their home range extends well beyond the boundaries of Mudumu National park into human settlement areas including areas just north of Mamili National Park.

The bad guys of HWC for this year are most certainly the Mamili pride of lions. The lion population in all the protected areas of the Caprivi, i.e. Mamili, Mudumu and Bwabwata National Parks are recovering and growing steadily. Unfortunately the Mamili pride, with a large number of sub-adults to feed has taken to feasting on cattle in neighbouring villages. Overall, lions kill very little livestock when compared to incidences and numbers of livestock taken by other large carnivores in the Caprivi Region, but because the incidences are dramatic, causing fear in people, and are currently mostly confined to only three conservancies, the perception within the community is that lions are the worst culprits. Options are being explored by Ministry of Environment and Tourism for short- and long-term management of lions and a community-based predator mitigation project in collaboration with Panthera is planned.

Obicious, facilitator for the MSC, Community Game Oscar Guard and livestock owner examine claw and bite wounds around the throat of the carcass.

The evidence: lion tracks in the sand leading away from the village where the village where a cow and a calf were killed

Trophy hunting quotas for spotted hyaenas and lions in Caprivi

Towards the end of 2012, Michelle Kastern and I had the opportunity to attend conservancy trophy hunting quota setting meetings in the Mudumu South Complex. The process was facilitated by the Ministry of Environment and Tourism (MET) who travel to each conservancy over the course of a month. Quotas for each conservancy are based on game count results as well as incidences of human wildlife conflict. Conservancies receive financial benefits from trophy hunting, which provides some compensation for losses of livestock or crops and therefore goes a long way to improving tolerance towards wildlife and protected areas. We were able to share results of our work on lions and spotted hyaenas and demonstrated that all these conservancies were sharing the same carnivores and in fact there are far fewer than originally thought. Spoor frequency and regular observations of large carnivores by the Community Game Guards is thus rather a function of their extensive daily movements rather than their abundance. Furthermore wildlife in these carnivores is shared with neighbouring countries. An example of this is a male lion collared in the Caprivi that in 2012 forded the Kwando River and headed far into Botswana. Management decisions on a local level can thus have far reaching impact and based on this, despite conflict with these animals, the community and MET decided to remove them from the trophy hunting quota for 2013. Lions are no longer on the quota for the entire Caprivi Region and spotted hyaenas have been removed from the quota for the west Caprivi and the MSC Conservancies.

Road mortality in the Caprivi Region

Recently a one year old male spotted hyaena cub was killed by a truck in the Kwando Core Area in the early hours of the morning. The trans-Caprivi highway runs through Bwabwata National Park and is a major trade access route to central Africa. Due to transit times of large trucks coinciding with the nocturnal foraging of spotted hyaenas, and the early morning habit of wild dogs sunning themselves next to the tar road, large trucks are a major cause of spotted hyaena and wild dog mortality in the Caprivi Region. Last year MET placed wild dog warning signs at road kill hot spots, which could possibly have made a difference. However, I have observed that cars and trucks continue to speed in these areas, although only one wild dog was reported killed by a vehicle toward the end of last year compared to over ten the previous year. To slow the trucks further it is worth considering other traffic slowing measures, such as speed bumps, in areas of high carnivore mortality.

A young male hyaena killed by a truck the Kwando Core Area of BNP.

Wild dogs are often found sunning themselves or crossing the road in the late afternoon

Wild dog warning signs have been in placed at road kill hotspots.

Sijwa Environmental Centre

Thanks to IRDNC, who have allowed me to base myself at the Sijwa Environmental Centre on the Kwando River, I have had many opportunities to share the results of the field work at workshops and meetings that are regularly held at the Centre. These groups have included the Polytechnic Nature Conservation CBNRM groups, the University of Namibia, Conservancy human-wildlife conflict policy development workshops, quota setting workshops and Community Game Guard training workshops. Recently the Centre hosted a meeting between the Caprivi Carnivore Project, Ministry of Environment and Tourism, IRDNC and the management of all conservancies within the Mudumu North and Mudumu South Complexes, along with Dr

Paul Funston from Panthera, discussed initiating a program to develop a community strategy for large carnivore human wildlife conflict mitigation in the Caprivi Region.

A meeting between Panthera, MET, IRDNC, CCP and Conservancy Management was held at Sijwa Environmental Centre on the 8th April to discuss the development of a community-based strategy for large carnivore conflict mitigation.

Panthera Carnivore Monitoring Project by Paul Funston

Panthera is the world leader in wild cat conservation. I was recently appointed as the director of Panthera's African lion program and have just moved to the Caprivi where I am based at the Sijwa Environmental Centre. Although I will oversee Panthera's various programmes throughout Africa, I have a special interest in initiating a Community Game Guard carnivore monitoring and conflict mitigation project in the Caprivi. Panthera already has two similar programmes running in Ruaha, Tanzania and Hwange, Zimbabwe; based on the Lion Guardian Programme developed in Kenya. This will hopefully be Panthera's third site in this initiative and the long-term vision is to expand this programme to the KAZA TFCA. Although the project will hopefully be managed by Lise Hanssen from the Caprivi Carnivore Project I will help direct the necessary close working relationship with MET, IRDNC, WWF and the various community stakeholders to develop this community-based programme to minimize lion and large carnivore conflict. The envisaged plan would be to equip and train a dedicated team of Community Game Guards to monitor lions and large carnivores and respond to conflict situations. This team would also work closely alongside their community to improve kraals to make them lion-proof and to investigate livestock management systems that are likely to result in less carnivore attacks.

Predator Conservation Trust trip to the UK

At the end of 2012, I travelled to the UK for a period of two weeks to give a series of presentations around the country. This trip was funded and arranged by the Predator Conservation Trust, a long-term supporter of the Caprivi Carnivore Project. Organisations that I presented to included the Royal Geographical Society, Flora and Fauna International (NE) and the Yorkshire Animal Park. Topics covered included large carnivore conservation efforts in Namibia, spotted hyaena research and conservation in the Caprivi, Community-based natural resource management in Namibia, as well as historical background on the Caprivi Region and the Caprivi's role in Transfrontier conservation through KAZA. Thank you so much to Jean May, Simon Marsh and Helen Turner from the Predator Conservation Trust for all their support over so many years and for giving me the opportunity to share information about large carnivores and Namibia's conservation efforts.

Facebook

The Facebook page of the Caprivi Carnivore Project is regularly updated with news and photos. The Facebook address is: http://www.facebook.com/pages/Caprivi-Carnivore-Project/172030466142464

Project partners for 2012 and 2013

I would sincerely like the following sponsors for their support of the conservation work being undertaken by the Caprivi Carnivore Project, without which none of these efforts would have been possible.

- Wilderness Trust based in South Africa that fund conservation projects throughout southern Africa
- Nedbank Namibia's Go Green Fund that contribute to three conservation projects annually in Namibia
- Raymond Van der Meer and the Trustees of DierenPark Amersfoort Wildlife Fund in the Netherlands
- Ministry of Environment and Tourism for their generous support and guidance
- IRDNC for providing me with a home in the Caprivi and for all their support in so many ways
- WWF in Namibia for their guidance, support and assistance in the field
- Predator Conservation Trust in the UK
- Panthera
- Namibia Nature Foundation for undertaking the administrative support for the project
- Mark and Charlie Paxton and Shamvura Camp in Kavango for all their support
- John Inglis from Area 51 Productions in Cape Town
- Derek Dwane for his incredible effort in developing an ID system for Caprivi spotted hyaenas
- Fransje Van Riel for all her time
- Tosco Trust

A special thank you goes to the communities, conservancies and game guards of the Caprivi. This project truly is a team effort.

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