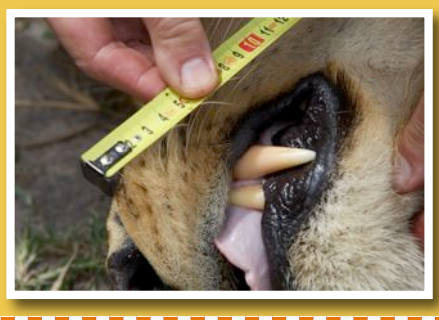
February 2013

Mombo's Maned Females – a primary examination – 14.02.2013

Simon Dures



On the 14th of February 2013 Simon Dures and Dr. Erik Verreynne led a team to dart and undertake the first ever physical examination of a maned female lion that is resident close to Mombo Camp in Moremi Game Reserve within a pride known as the 'Western Pride'. All the photo's in this newsletter of the male looking animal with the large, well developed mane are in fact of a female! The pride itself (at the time of the operation) consists of a single male, five females, two cubs approximately three months old and the maned female. Within the region three other such animals are known to exist, one other in another pride close to Mombo, and two much further south just outside the reserve. In addition there was another in the same pride who has since diseased (natural causes).

At exactly 14h16 Dr Verreynne darted the subject lion with a cocktail of sedatives and anesthetics. After approximately 3 minuites she was on the ground asleep and we began work examining her. Measurements of height, skull diameter, canine tooth length and a number of other measurements were taken. She appears to be slightly taller with a larger skull-diameter compared to other females, but this is by no means diagnostic. Blood for hormone and genetic analysis was collected and an examination of her reproductive physiology was performed confirming that she has full intact female genetalia with no evidence of a pseudopenus or anything that would otherwise suggest being a hermaphrodite. Her labia and clitoris are somewhat enlarged compared to a 'normal' female. At this stage and due to the nature of the examination we are unable to determine if she has undescended testicles.

With regards to her behavior she appears to be showing both male and female behavior, however this may warrant further observation.

Once export of the various blood, serum and genetic material has been completed and lab results returned a more accurate diagnosis will be made and circulated.

Thanks to the Department of Wildlife and National Parks for permission to perform this examination and to Dr. Rick and Barbara Neilson for funding and assisting with the differential diagnostics on this operation; also to Wilderness Safaris for logistical support. All photos courtesy of Deon DeVilliers.

For any other queries, please email simondures@gmail.com or s.dures12@imperial.ac.uk

Background Summary

Despite their iconic status the Global lion population has dropped to around 4% of what it was just 50 years ago to around 23,000 individuals across the entire continent. The Okavango and the surrounding areas are believed to be one of the last great lion strongholds

Like the global population, the lions of Botswana have, over the past century, undergone dramatic contraction in range due to human encroachment, as well as considerable population reduction from conflict with humans. This contraction in range is likely to have driven down the size of both the overall lion meta-population in Botswana and any individual isolated populations. The consequence of such changes in a population results in smaller population sizes and decreased connectivity of population fragments. These changes are well known to significantly reduce the genetic diversity of a population, increasing their susceptibility to the effects of inbreeding and disease, and in turn leading to an increased risk of localised extinction.

This project hopes to address these issues by quantifying current levels of genetic variation within the lion populations of Botswana, and to test for patterns of genetic structure across these populations. Primarily we wish to identify if there has been a significant decline in levels of genetic diversity within the population. We will also be using this information to assess the risk posed to the population by current unknown levels of inbreeding.

Importantly, the results of this project hope to determine the true conservation status of lions within northern Botswana; their risk from habitat fragmentation and anthroprogenic encroachment, any need for management interventions and the impact artificial mortality may have on the viability of the Okavango population.

Map of areas around the Okavango darted where lions have been sampled to date

Would you like to help?

As with everything in life, research takes considerable resources. If you are interested in donating to the project please contact Simon or the Wilderness Wildlife Trust (wildernesstrust.com) and mention that you would like to donate to the lion genetics project.

Are you a hunter or taxidermist? Do you have access to old lion specimens from the Okavango region and are willing to provide a small piece from which DNA can be extracted? Do you know anyone who might have such a trophy? The older the better!

Please contact Simon (s.dures12@imperial.ac.uk) regarding any of the above, or any other project related queries.

Every Little Helps!

We would like to thank all sponsors and contributors to the project, with special thanks to the Botswana Department of Wildlife & National Parks for allowing this research to happen.