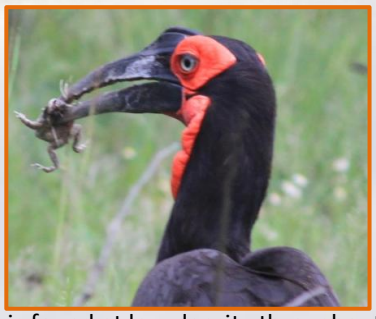
# Southern Ground Hornbill research



Scientific Name: ***Bucorvus leadbeateri***
Species Authority: ***Vigors, 1825***
English: ***Southern Ground-hornbill***
Status: ***Vulnerable A4bcd ver. 3.1***
Population trend: ***Decreasing***

## Habitat and Ecology

It inhabits woodland and savannah, also frequenting grasslands. It is found at low density throughout mesic woodland savannas from the equator southwards and regularly occurs in family groups (Vernon & Herremans 1997)

## Behaviour

This species is a cooperative breeder that spends all of its time in groups of two to 11 birds (mean of three to five birds: Kemp 1995). Laying occurs in large cavities in trees or cliffs, mainly from September to December, with a clutch of 1-3 (usually 2) eggs, although only one survives to fledging (del Hoyo et al. 2001; Kemp and Webster in litt. 2008).

## Diet

Groups spend long periods (70 percent of the day) walking through grassland habitat searching for a wide range of prey (Kemp & Kemp 1978). Their diet is mainly made up of arthropods, and, especially during the dry season, snails, frogs and toads, and sometimes larger prey such as snakes, lizards, rats, hares, squirrels or tortoises. It will on occasion feed on carrion, taking scraps and associated insects (Kemp 1995).

## Threats and persecution

It is considered Vulnerable in South African Red Data assessments (Kemp 2000) because of an assumed decline over the last three generations of 10 percent. In South Africa where more extensive work has been done, Kemp (1987) found that the species had disappeared from parts of its former range in the north and east of the country due to direct persecution through shooting and poisoned baits. In Zimbabwe, however, decline was attributed primarily to habitat destruction (Chiweshe 1994, Msimanga 2000, Vernon and Herremans 1997). Loss of large hollow tree-trunks used for nesting is the major threat in settled unprotected areas, mainly the densely populated communal lands. Now hornbills face alterations that come from human activity—including rapid, devastating changes both to habitat and to the global climate change, fragmenting many of their habitats and populations into dangerously small units, in this way threatening their survival (Kemp & Kemp, 2006). Ground hornbills are persecuted in developed areas, where their aggressive territoriality leads to attacks on and shattering of their reflection in window panes, often leading to the birds being destroyed (Kemp 2000). Such threats are exacerbated by the slow reproductive rate and maturation, longevity and social structure of the species (S. Thomsett in litt. 2010).However among local populations it is taboo to kill or persecute Southern Ground Hornbill, which is held sacred due to the belief that it is involved in rain-making (Msimanga 2000).

# Previous work on Ground hornbills (2007-2009)

Previous ground hornbill research in rural Matobo was conducted by a team of three, Elspeth Parry, Bruce McDonald and (myself) Evans Mabiza, see (http://www.zddt.org/projects.html). Zelda James played a role in the pioneering stages of the project; helping in acquiring all the relevant permits and briefing the local leadership on the project's aims and objectives. Known as the Matobo Schools and Community based Environmental Southern Ground hornbill Project, the project encompassed the Matobo and Umzingwane districts. The research involved establishing group distribution, group compositions, behaviour and the breeding performance of the ground-hornbills. The main objectives were aimed at long term monitoring to determine reproductive performance between groups and establish populations as well raise awareness in the local communities.

During this period, over 20 Ground hornbill nests were discovered and monitored, with some highly successful groups that bred and fledged a chick every year. Known groups were regularly sought and compositions checked and recorded. Of the identified nests, nesting was almost evenly distributed between trees and granite out crops, with breeding activities common between September and January. Focus was also on trying to establish territories for known groups, seeing the birds was always exciting and recording every sighting of the birds and mapping their location extremely vital. Focus was also on determining the environmental conditions that promote the survival and successful reproduction of the birds.

## Community involvement

Although our research work was begun with a scientific approach, our regular contacts with the communities, homesteads made us aware of the dire social and economic circumstances of these marginalised communities. We realised that conservation is as much about people as about the environment and that the primary beneficiaries of any conservation work must be the people whose ancestral land is being addressed. The project supported the locals with, food, clothing, stationery and replaced window panes broken by the birds at schools. We learnt that as long as these communities received sustainable economic benefits that exceed alternative land uses, they had a powerful reason to commit to long-term conservation. A positive and encouraging observation was that the southern ground hornbill was still protected by local culture, confirming previous finding by (Msimanga 2000). Historically there are strong taboos against killing of this species. The Ndebele tribe in Matobo associates the ground hornbill with calling for the rains; its deep call is believed to mimic the sound of thunder and killing it is believed could result in long drought spells.

During the period of research, only 2 ground hornbill death incidences where recorded, the initial incident being associated with a man identified only as "a man from Egoli" (South Africa), he succeeded in snaring and killing three hornbills, which were discovered by villagers and given a traditional burial in Silobi rural under chief Mathe, an event which saw the chief, his local leadership and villagers all attending. The second recorded was that of three birds that had been killed by fish mongers who had contaminated water in a bid to catch fish.

Unfortunately at the peak of its progress, and with so many questions unanswered and many discoveries made, the project came to a closure in the late part of 2009, due to financial constraints and also partly ill health in the part of Elspeth Parry (Project co-ordinator). Elspeth has since relocated to South Africa and took with her all the original scientific data collected over the research period, which i believe efforts are underway to publish the findings in a scientific paper.

## Action

The CNCZ programme was born out of the desire to continue the work on Ground Hornbills in Matobo. Encouragingly Paul Hubbard and Mother Africa Trust have begun work in this area too. In future CNCZ hopes to financially support any projects targeted at the conservation of this species. Currently the status and breeding success of Ground hornbills in Zimbabwe are not well documented; consequently this calls for combined efforts to come up with reliable statistics. There is a need for intensive fieldwork to determine aspects of breeding habits such as breeding success and nestling periods. Particularly important for sound management and conservation strategies is relative breeding success in different land

tenure systems (A.Msimanga 2004). There is a clear need to understand Southern Ground Hornbill biology in Zimbabwe, to implement conservation and management plans for both the bird and its habitat (A Msimanga 2004). Previous work in Zimbabwe included analyses of spatial distributions but not the general ecology or breeding biology (Chiweshe 1994, Hustler et al.1990, Vernon and Herremans 1997).

## CNCZ aims:

- To gain scientific understanding of the environmental conditions that promote the survival and successful reproduction of ground hornbills as well as identifying key strongholds of this species and help prevent further habitat degradation.
- To monitor the populations and breeding performance of ground hornbill groups identified.
- To study the density, mean group size, territory and home range size.
- To raise awareness through school workshops and involving participation of the local people.
- Publication of material
- Uniting stakeholders to one goal
- To gradually empower and uplift the local people.


## Methodology

To identify roosting sites, nesting sites and common foraging grounds, the project will rely on the knowledge of the locals. This will be done through environmental workshops at local schools and interaction with the villagers. The workshops will help extract reliable data from the children who walk from different directions to and from school. Certain children will be provided with note books and pencils so they can record sightings and activities of the birds. More time will be channelled towards fieldwork to establish group distribution, compositions, behaviour and the breeding performance of the ground-hornbills. Concrete data collection and monitoring systems will be employed and research work will be carried out over a period of 5 to 10 years and finding published.

## Acknowledgements

I would like to thank Elspeth Parry and Bruce McDonald who gave me the opportunity to take part in the research carried out period 2007-2009, their energies and dedication motivated me and i carry on the “press on Parry spirit”. Professor Peter Mundy (NUST University) for his words of encouragement. Andrew Connolly for his inspiring (Lion rehabilitation Programme ALERT), which i was part of for 1 year. Ngoni Chiweshe who i partnered on the birdlife Zimbabwe rock dassie survey for 2 years and he shared his rich knowledge on birds. The department of National Parks and Wildlife Management Authority and the Natural History Museum where i worked for over ten years, with access to research documents. I would also like to thank everyone who has supported me to continue with the valuable work on ground hornbill conservation setting up the CNCZ project.

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