The potential impact on Cape Griffon *Gyps coprotheres* populations due to the trade in traditional medicine in Maseru, Lesotho

Nadine Beilis & Johan Esterhuizen

Summary

The use of vulture parts by traditional healers in the public market in Maseru was investigated. Only Cape Griffon *Gyps coprotheres* parts were noticed in the market, and all parts of the birds seemed to be used. Observed results were extrapolated to indicate the extent of trade and potential impact of this on Cape Griffon populations in Lesotho. Although interviews with traditional healers indicated that each healer uses one vulture per year, determining actual numbers of Cape Griffons used per year was not possible. Using an estimate based on results obtained, a mathematical extrapolation was done, and indicated an alarming threat to Cape Griffon populations in Lesotho.

Introduction

The use of raptor, and specifically, vulture parts in the traditional medicine arena is well documented (Mundy *et al.* 1992, Beilis 1997, Boshoff *et al.* 1997, Cunningham 1997, Williams 2003, Hengari *et al.* 2004). Various vulture species are utilised, including the Cape Griffon *Gyps coprotheres*. In South Africa and neighbouring Lesotho, there are isolated breeding colonies of the endangered Cape Griffon (Mundy *et al.* 1992), and the populations in Lesotho are not increasing (Maphisa 1997). Several factors and threats are contributing to this, including powerline electrocution, poisoning, disturbances at nests, direct persecution and trade in traditional medicine (Boshoff *et al.* 1997). The role which vultures fill in the traditional medicine system is explicit: these birds are seen as being endowed with mystical and magical properties and are revered as symbols of power and insight (Mundy *et al.* 1992).

Traditional medicine forms a large part of the vibrant informal trading sector in southern Africa, and more than 80% of the South African population consults traditional healers and uses their pharmacoepia (Williams 2003). The definition of traditional medicine implies a culturally appropriate ethnic health care system which makes use of plant and animal (and sometimes mineral) material in its healing and consulting pharmacopoeia to treat physiological and/or psychological ailments. It also includes the use of these items for ceremonial, spiritual and religious purposes associated with the ethnic healing practices.

This paper reports on a study that determined the extent of use of vulture parts in the traditional medicine system in Lesotho and the potential impact of the trade on the Cape Griffon populations of this mountain kingdom.

Materials and methods

The study area was the city of Maseru (29°20'S; 27°40'E), the capital of Lesotho, where in Kingsway Street, a vibrant informal market exists in a relatively confined area. Observations were carried out on opportunistic visits to Lesotho between July 1997 and October 1999. On each visit, a predetermined route was followed through the Maseru informal market area and each stall where a traditional healer traded was numbered and mapped and the presence/absence and types of vulture parts were recorded for each stall. Where traders and language barriers allowed, questions were asked pertaining to the trade and use of vulture parts. It was assumed that the majority of vulture parts observed during the study originated within Lesotho, and the results were used for mathematical extrapolation.

Results and discussion

Vulture parts used

Many vulture parts were observed to be utilised. Parts observed in the traditional healers stalls ranged from feathers to brains (Table 1). Many other parts are also used, for example the heart, eyes, beak, skull, feet, and leg and wing bones (Mundy *et al.* 1992, Hengari *et al.* 2004).

Table 1. Vulture parts observed in traditional healers' stalls in Maseru, Lesotho.

Date	Vulture parts
10 July 1997	Vertebrae
10 July 1997	Oesophagus, attached to feathered neck skin
10 October 1997	Brain (powdered and bottled)
10 May 1998	Wing, head
13 July 1999	Wing
31 July 1999	Wing
12 August 1999	Wing
24 August 1999	Loose primary feathers
6 September 1999	Loose primary feathers
24 September 1999	Loose primary feathers
7 October 1999	Loose primary feathers
29 October 1999	Loose primary feathers

During the study period, just one new healer with vulture parts was noted in the market area, indicating a relatively slow increase in the number of healers in Maseru. The more regular visits done in 1999 also indicated an apparent low turnover of certain parts, as the wing and primary feathers remained unsold for two to three months (Table 1). Presumably, the more 'unique' parts such as brains or eyes are in higher demand and will sell faster, but at a higher price. During this study it was determined that a single loose vulture vertebrae sold for R30.00, while dried, powdered vulture brains were sold from small glass bottles for R50.00 per gram. All parts were observed dried and separated (i.e. not mixed with other ingredients, e.g. animal fat), and in the case of brains, crushed to a powder. The information gathered from the interviews indicated that the healers acquired dead vultures from local inhabitants close to Cape Griffon colonies and roosting sites. These birds may have died from natural causes, or were deliberately killed by stoning or trapping.

Extent of trade

Eighteen stalls along the route sold traditional medicine with, on average, only two (11%) of these dealers having vulture parts present in their stalls. The majority of the traditional healers stocked only plant and/or non-vulture animal material. According to the Lesotho Traditional Healers Association, 318 traditional healers were registered in Lesotho in 1998. If this is extrapolated to the number of traditional healers dealing in animal parts and therefore likely to stock vulture parts, a total of 35 (11%) registered healers trade in vulture parts in Lesotho. The number of non-registered healers is unknown.

From personal interviews done over a two-year period with two healers, it appears that turnover was not more than one vulture per trader per year (Table 2). However, the answers need to be evaluated with some scepticism, as the healers may not have been completely honest, and it may be that healers that live close to Cape Griffon roosting/breeding sites, may actually use more birds.

Table 2. Results from interviews with traditional healers.

Interviewee	**Question: how many vultures do you use per year?**	**Question: is there fluctuation in demand for vulture parts, and when?**
Trader 1, 1997	One	Yes
Trader 2, 1997	One	Yes
Trader 1, 1999	One	Yes, before big events (e.g. horse races)
Trader 2, 1999	One	Yes, during political elections

This information indicates that if each of the estimated 35 registered healers trading in animal and vulture parts utilise one vulture per year, then a total of around 35 birds are used each year. This is certainly an underestimation of the situation, as not all healers in Lesotho are registered and fluctuations in demand for vulture parts, depending on social or political events, will further influence the number of vultures taken for trade.

Further mathematical extrapolation was done to determine the predicted rate of decline of the Lesotho Cape Griffon population due to the trade in traditional medicine, assuming that all vulture parts came from within Lesotho. For the purposes of this extrapolation, it was estimated that only 5% of Cape Griffons reach sexual maturity (documented estimates of reproductive success are 8% (Mundy *et al.* 1992)). Further, an estimated starting breeding population of 552 Cape Griffon pairs in Lesotho (Maphisa 1997) was used, coupled to an annual human population increase of 2.5%, and a corresponding increase in the requests for vulture parts of one extra bird every year.

Results from this extrapolation showed birds lost annually to registered traditional healers alone, would constitute nearly 7% of the total Cape Griffon breeding population in Lesotho. Alarmingly, the results indicated that an increase of just one extra vulture lost annually to the trade would result in the Lesotho vulture population having no viable breeding pairs by 2012.

Conclusions

Results from this study indicated that there was a relatively low turnover of vulture parts and that, on average, a traditional healer used only one bird per year. During the time of the study, there were at least 35 registered healers trading with vulture parts in Maseru, and an unknown number of unregistered healers throughout Lesotho. The mathematical extrapolation, although theoretical and calculated at a low reproductive rate, clearly and alarmingly illustrates the potential impact of harvesting only a few birds annually on the population of the endangered Cape Griffon.

The use of vultures in traditional medicine and the potential impact thereof on vulture populations is a real and present threat. Traditional medicine and the use of vulture parts is an intrinsic part of the Basotho culture, as well as many other traditional African cultures, and will continue to be so for many more decades. This study focused only on the impact of the traditional medicine trade on vulture populations but, obviously, the combined impact of other threats such as electrocution and poisoning would further increase the annual mortality rate.

Clearly, more quantitative information is needed on the impact of the trade in traditional medicine on endangered species, as well as the extent of use among unregistered healers as well as the methods of acquiring birds. The possibility of substitution of an endangered species such as the Cape Griffon with a more abundant species (e.g. African White-backed Vulture *Gyps africanus*), should be investigated, but will require intensive education of and co-operation between conservation authorities, traditional healer associations and individual healers.

Acknowledgements

This study was done as part of a Master's degree in Environmental Management at the University of the Free State, South Africa, and as such we would like to express gratitude to the lecturers and supervisors involved. We also thank the informal traders in Maseru, who answered our questions and allowed us to look through their stalls.

References

Beilis, N. 1997. The use of vultures for traditional medicine ('muti'). In: Vultures of the 21st Century: Proceedings of a workshop on vulture research and conservation in southern Africa. Boshoff, A.F., Anderson, M.D. & Borello, W.D (Eds). p. 109. Vulture Study Group, Johannesburg.

Boshoff, A.F., Anderson, M.D. & Borello, W.D. (Eds). 1997. Vultures in the 21st Century: Proceedings of a workshop on vulture research and conservation in southern Africa. Pp 1-170. Vulture Study Group, Johannesburg.

Cunningham, A.B. 1997. Vultures and the trade in traditional medicine. *Vulture news* 24: 3-10.

Hengari, G.M., Cunningham, P.L. & Adank, W. 2004. The use of vultures by traditional healers in Namibia. *Vulture News* 50: 23-28

Maphisa, D.H. 1997. Vultures in Lesotho: past present & future. In: Vultures of the 21st Century: Proceedings of a workshop on vulture research and conservation in southern Africa. Boshoff, A.F., Anderson, M.D. & Borello, W.D (Eds). Pp 93-96. Vulture Study Group, Johannesburg.

Mundy, P., Butchart, D., Ledger, J. & Piper, S. 1992. The Vultures of Africa. Russel Friedman Books, Halfway House.

Williams, V. 2003. The traditional medicine trade – a challenge for protected areas management. Walking with Nature, Michael Bateman.

Keywords: Traditional medicine, trade, potential impact threats, population decline, Maseru, Lesotho.
Cape Griffon *Gyps coprotheres.*

Authors' addresses: Nadine Beilis, P.O. Box 15723, Bain's Vlei 9338, South Africa; E-mail address: nbeilis@telkomsa.net; Johan Esterhuizen, Hellsgate Tsetse Research Station, P.O. Box 1072, Mtubatuba 3935, South Africa; E-mail address: helsgate@iafrica.com