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Abstract: Large felids defend their territories rigorously from conspecifics of the same sex. Occasionally such encounters result in the death of combatants but cannibalism in these clashes appears to be rare. The research on cannibalism in male cheetahs is part of an ongoing project examining the behavioural ecology of re-introduced cheetahs and lions in the Phinda Resource Reserve in northern Natal Province, South Africa.
Man Strangles Leopard

A South African exploratory drifter strangled a leopard which attacked him in Botswana's Kalahari Desert in July.
The man told Reuters newsgatherers that the leopard pounced on him as he was walking to his office in the Kute Reserve, 250 km from Gaboone. He punched the leopard without dislodging it.

"Then the survival instinct took over," he added. "I did not know what I was doing, but I managed to grab its throat and strangle it."
He suffered minor scratches and bites.

Snow Leopard Conservation in Mongolia

Snow leopards are threatened in Mongolia by poaching of prey animals, such as ibex and argali; over-utilization of supplementary prey like marmots; and the killing of snow leopards considered to be implicated in livestock predation.
The threats were reviewed at a Snow leopard Information Management System (SLIMS) Workshop and field techniques training session in Mongolia between 28 October and 29 November, 1994, organized by the Seattle-based International Snow Leopard Trust. The workshop was conducted by Rodsney Jackson and Tom McCarthy under the auspices of Project Snow Leopard (PSL), the Trust's multifaceted, multinational program aimed at conserving the biodiversity of Central Asia's high mountains.
The workshop covered a wide range of topics: field census techniques; people-wildlife conflict resolution; protected area management; biodiversity assessment and trophy hunting program management and standards; as well as community involvement in wildlife and habitat protection.
Managers from parks known or thought to contain snow leopards made presentations describing various aspects of snow leopard status, distribution and conservation.

Mongolian researcher G. Amarsaana provided an estimate of about 1,700 snow leopards left in the country, but others felt the number was less than a thousand. The status of the species in several newly-declared parks is quite uncertain.

Most of Mongolia's snow leopards are outside protected areas: for example, the vast Great Gobi National Park (encompassing an area in excess of 5,300km² and designated as a Biosphere Reserve by Unesco) supports 45-70 snow leopards, representing nearly all of those which have protection in Mongolia. Thus, it is critical to describe conservation initiatives along the corridors linking different parks, and it will require concerted effort to resolve people-wildlife conflict arising from snow leopard or wolf predation. Severe depletion of prey populations has left many snow leopards with no alternative but to kill domestic stock in order to survive.

After a four-day classroom session, the participants left for field training in the Altai Range, along the northern edge of Gobi Desert, near Bayantovor, headquarters of the Great Gobi National Park, which straddles the border with China. The park also provides critical habitat for other rare species, such as the Bactrian camel, Gobi bear and argali sheep. Using survey forms developed by Project Snow Leopard (PSL), participants practiced standard census techniques for snow leopard and large ungulate species. They found abundant fresh and old snow leopard sign and came away well versed in the survey techniques developed under SLIMS.

The Mongolian Association for Conservation of Nature and Environment (MACNE), the Ministry of Nature and Environment and the Biodiversity Project of the United Nations Development Programme (UNDP) co-sponsored the workshop.

Twenty-five people attended, representing a broad spectrum of individuals and institutional expertise focused at wildlife conservation and park management. The newly established National Park Service, the research arm of the Environment Ministry (Institute of Forestry and Wildlife), the National University, and the Institute of Experimental Biology (a research organization based in Ulaanbaatar) were all represented, along with MACNE and several journalists and newspaper correspondents. Dr. R. Shalv-damba, the Vice-Minister of Nature and the Environment, gave the opening address. A 30-minute special, arranged by MACNE, was aired on national television during the training, highlighting key issues related to snow leopard conservation as well as the activities of the workshop itself.

Workshop co-sponsors were the Mongolian Association for Conservation of Nature and Environment (MACNE), the Ministry of Nature and Environment of Mongolia and the Biodiversity Project of the United Nations Development Programme. The Bonnkaer Kruger Foundation provided additional support from UNDP and MACNE, provided funding.

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Cannibalism in Male Cheetahs

by L.T.B. Hunter and J.D. Skinner*

Among large felids, individuals appear to establish territories which may be vigorously defended from conspecifics of the same sex (see Parker, 1986 and Gittleman, 1989 for references). Contests over these territories can be fierce and occasionally result in the death of combatants (Schaller, 1967, 1972; Caro & Collins, 1987a,b). Although the consumption of a killed conspecific after such an encounter would possibly benefit the victor's by replenishing energy expended during the fight, cannibalism in these clashes appears to be rare. In the incident described, the victorious pair of cheetahs Acinonyx jubatus (Scheurel) utilized the carcass of a killed male in the manner of a typical kill.

Study Site and Subjects

The research is part of an ongoing project examining the behavioural ecology of reintroduced cheetahs and lions Panthera leo (L.) in the Phinda Resource Reserve, a privately owned reserve of 17,600 ha in northern Natal Province, South Africa. The area is within the historical range of cheetahs, the last of which were exterminated in 1941 (Rautenbach et al., 1980). Between March 1992 and May 1993, Phinda released five male and seven female cheetahs wild caught in Namibia and Botswana. Two of the males (representing all five males by their association in coalitions) and
aggression of the attackers are behaviours not seen when cheetahs deal with prey (Fenton, 1970; Hunter, pers. obs.). Accordingly, the possibility of the cheetah pair actually hunting their own species (as appears to occur occasionally in some prides, see Goodall 1986) seems very unlikely. This is particularly so when one considers that observed interactions between these two males and females (including a female with a large dependent male cub) were devoid of any atypical aggression. Accordingly, the possibility that the reintroduction process contributed to the cannibalistic behaviour seems unlikely. The two attacking males had been resident in their territory for 15 months at the time of the incident and during this time had displayed no behaviour indicating disturbance or trauma resulting from the reintroduction. It is possible that the extensive nature of the wounds inflicted on the hindquarters stimulated the cheetahs to begin feeding. In normal cheetah feeding patterns, the carcass is almost always opened at the hindquarters (Leyhausen, 1979). The mutilation of the hindquarters had left large tears in the skin and muscle layer from which blood was flowing freely. Just prior to initiating feeding, one of the males had begun to lap the blood, which may have then stimulated him to open the carcass. Unfortunately, no records exist on the extent and location of wounding in other male cheetahs killed in intraspecific fighting, so one cannot make a comparison between this case and others in which cannibalism has not occurred. Until these data become available, the motivation for this behaviour will remain unclear.

References

Discussion
The behaviour presented here is interesting as cannibalism is rarely observed in large felids, except in cases of infanticide (Packer & Pusey, 1984). The motivation for the consumption of the killed male in this incident is unclear. Pienaar (1969) mentions records of cannibalism in cheetahs in the Kruger National Park, suggesting that these stem from fights over carcasses. This does not appear to be the reason in this case as the attacking animals were hunting before encountering the third male and there were no carcasses in the area. Although fights over a resource such as territory or on an oestrus female have been known to result in the death of competing cheetahs (Stevenson-Hamilton, 1947; Kruuk, 1978; Caro & Colling, 1987b, Skinner & Smithers, 1990), such instances have not been recorded resulting in cannibalism. Similarly extreme hunger does not appear to be the likely cause here as the victorious males had together consumed a substantial impala killed less than 48 hours prior to the incident. Although the resident pair were hunting when they encountered the third male, there seems little doubt that the intruding cheetah was attacked as a competitor rather than a prey item. The repeated mutilation of the animal long after it was dead and the
Re-introduction of Cheetah in Matusadona, Zimbabwe
by M.W. Atkinson and P. Wood*

Cheetah (*Acinonyx jubatus*) are distributed throughout Zim-
babwe, both on Parks and Wild Life Estate (PWLE) land and on
commercial farmland. These populations tend to be small and
widely dispersed. However, the last decade has seen significant
increases in numbers of cheetah in certain commercial farming
areas, particularly the south and south-east lowveld areas.
The country’s total population is now estimated to be at least 1,300.

As cheetah 

have CITES Appendix II status in Zimbabwe, 50 animals

per year are allocated for sport hunting. However, several

ranches still have no animals, many of which are beginning

to kill livestock, and they have expressed a desire to see these

animals relocated within the Parks and Wildlife Estate. In 1992,

the Department of National Parks and Wildlife Management

proposed the relocation of a breeding population of cheetahs from

these farming areas to a suitable area in the Zambezi Valley in the

north of Zimbabwe.

Matusadona National Park is situated on the southern shoreline

of Lake Kariba and provides suitable habitat for cheetah. The lake

was fast at full supply level in 1981 and the water level has steadily

declined over the years since then, fluctuating from year to year

and establishing a new, radically altered ecosystem. The north-

east of the park is characterised by mixed woodland and mopane

scrub bordered by vast expanses of shoreline grassland which

have become populated by large herds of impala and buffalos.

In May 1993, a boma was established to allow the cheetah to

become acclimatized to the new area and to allow a period of

veterinary observation prior to their release. The boma consists

of a circular (200m circumference) fenced area (40m high) with

both grassland and mopane scrub areas accessible to all animals

inside. A circular water trough has been constructed under shade

and the entire perimeter is surrounded by three-strand electric

fencing. An observation platform has been established outside the

boma, adjacent to the water trough.

In May 1993, a group of four cheetah was successfully main-
tained in the boma and later released. One of these animals (adult

male) was fitted with a radio-telemetry collar allowing post-re-

lease monitoring. Another 11 animals have been subsequently

held in the boma and released (in batches of three or four), six of

which are currently radio-collared.

The cheetah were captured using helicopter and ground teams

and were either transported by road in crates or by light aircraft to

Matusadona. The designated founder population is 20 animals

and all releases will be the result of wild-to-wild translocation.

All animals spent introductory periods of six to eight

weeks in the boma prior to release. Feeding regimes have been

based on expected feeding preferences in the wild. All groups

have been offered freshly killed impala every two to three days

and it has been noticed that after release, impala constitute the

preferred prey species. The size of the boma appears adequate for

groups of three to four individuals and no stereotype behaviour

associated with boredom has been noticed. Normal diurnal activi-

ty patterns appear to have been maintained although a lack of

hunting exercise has been a concern with animals gaining body

fat during the boma period. It has been noticed, however, that after

release normal activity is resumed. Lion activity around the boma

has been a problem and several attempts by lions to gain access

have been witnessed. None has been successful, but the impor-
tance of lion-proof fencing has been highlighted.

The re-introduction project has been a valuable learning expe-

rience. It has allowed methods of cheetah capture to be designed

and refined. It has allowed the establishment of veterinary health

protocols, including general cheetah management, feeding re-

gimes and housing requirements. It has allowed experience to be

gained in radio-telemetric device fitting and monitoring and has

provided protocols for boma management and release.

Radio telemetry has provided an extremely important manage-

ment option. The radio collars are tolerant with the animals

and regular tracking from both the air and the ground has provided

much information on movement and social habits of individual

cheetah. This means of monitoring will also be instrumental in

assessing the success of the programme.

To date, one adult male cheetah has been illegally hunted in an

adjacent communal farming area. This was discovered by track-

ing the collar to a hut where the hunter had hidden both the collar and

the skin of the cheetah. One uncollared female is reported to

have had cubs shortly after release from the boma: however, their

status at present is unknown.

The success of this programme can only be assessed in time,

once the founder population has been truly established. However,

the fact that the animals translocated so far are surviving in the

face of considerable predator competition and are interacting

socially is an encouraging indicator of the programme’s potential.

This short-term success also indicated the need for a national

cheetah strategy to further expand the cheetah’s range and to

resolve problems associated with population overgrowth in cer-

tain areas. The cheetah programme continues in 1995 with a

further seven animals to be translocated.

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