Pettifer HL, MullerJIJ, De KockJPS, Zambatis N. 1982. The experimental relocation of cheetahs from the Suikerbosrand Nature Reserve to the Eastern Transvaal Loweld.

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An adult female and three sub-adult cubs were live-trapped on the Suikerbosrand Nature Reserve. The female was radio-collared. Their movements were plotted directly onto a map. All relevant data on time of movement, weather conditions, hunting attempts and successes were recorded onto pocket recorders. The most important factors in ensuring that cheetahs will remain in reasonable proximity of their release site is the prior quarantining of the animals. Game proof fencing is regarded as the most serious hazard for relocated predators.

TRANSVAAL PROVINCIAL ADMINISTRATION
DIVISION OF NATURE CONSERVATION
HANS HOHEISEN WILDLIFE RESEARCH STATION

# THE EXPERIMENTAL RELOCATION OF CHEETAHS (*ACINONYX JUBATUS*) FROM THE SUIKERBOSRAND NATURE RESERVE TO THE EASTERN TRANSVAAL LOWVELD.

## SECOND PROGRESS REPORT

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## 1. INTRODUCTION

With the continuing decline of blesbuck and other potential prey species on the Suikerbosrand Nature Reserve due to predation by cheetahs, it was decided to drastically reduce the cheetah population. During April 1981 an adult female (Mary) with her five 16-month old cubs was relocated to the Eastern Transvaal Lowveld and her release closely monitored (Pettifer et al 1981). From this study it was found that the cheetahs remained within an approximately 20 km radius of the release point, that they were hunting successfully and that the release in general was successful.

Since drawing conclusions from such a small sample size is not acceptable, a second release of an adult female with three 16-month old cubs was monitored during April 1982. This second group was released in the Klaserie Private Nature Reserve.

## 2. METHODS

The group of cheetahs consisting of an adult female (Purdey) and three sub-adult cubs was live-trapped on the Suikerbosrand Nature Reserve and held in quarantine on the reserve for several months pending their ultimate fate. On 9 March 1982 it was eventually decided to relocate the group. They were held in a 30m x 30m quarantine enclosure on the Klaserie Private Nature Reserve for 30 days before release. The adult female was radio-collared with an AVM transmitter on 148,400 MHz frequency. The sex ratio of the cubs was 2 ♂♂ : 1 ♀.

AVM LA12 receivers and hand-held 4-element yagi directional antennae were used as aids in maintaining 24h continuous surveillance on the cheetahs. The cheetahs' movements were plotted directly onto 1:50 000 topocadastrial maps. All relevant data on time of movement, weather conditions, hunting attempts and successes etc. were recorded onto pocket recorders.

Since the cheetahs were seldom seen after release, activity was taken as being when the cheetahs had moved position. When the

cheetahs/.....

cheetahs vacated an area a quick search for possible carcasses was made. when possible.

Periodic searches for the cheetahs, after the continuous survaillance study was completed, were made.

## 3. RESULTS AND DISCUSSION

### 3.1. Movements after release

The cheetahs were released from the quarantine enclosure on 6 April 1982 and continuously followed until 8 May 1982. The route followed by the cheetahs over this period is portrayed in Fig. 1. It will be noted that the cheetahs started a wide circle, but turned eastwards on reaching the boundary fence of the Klaserie Private Nature Reserve, after which they moved southwards into southern Timbavati Private Nature Reserve, Sandringham and Guernsey. Throughout their wanderings the cheetahs were adversely effected by game-proof fencing, this being clearly evident in Fig. 1.

In contract to the previous group of cheetahs (Mary + cubs) and the experimental release of captive-bred cheetahs (Pettifer, 1981 a) this group of cheetahs did not complete any circles in their movements, but rather tended to move in a southerly direction. This is clearly illustrated in Fig. 2 From this figure it will also be noted that the cheetahs spent most of their time between 20 - 35 km south of their release point.

Of particular importance is that the cheetahs remained most of the time in nature reserves and were only briefly on farmland. Unfortunately the owners of one of the nature reserves has a negetive attitude towards predators emphasizing that even natural areas may not be safe sanctuary for relocated predators.

### 3.2. Prey selection

The cheetah group was sighted on several occasions after release, but no carcasses were retrieved. The major reason for this was

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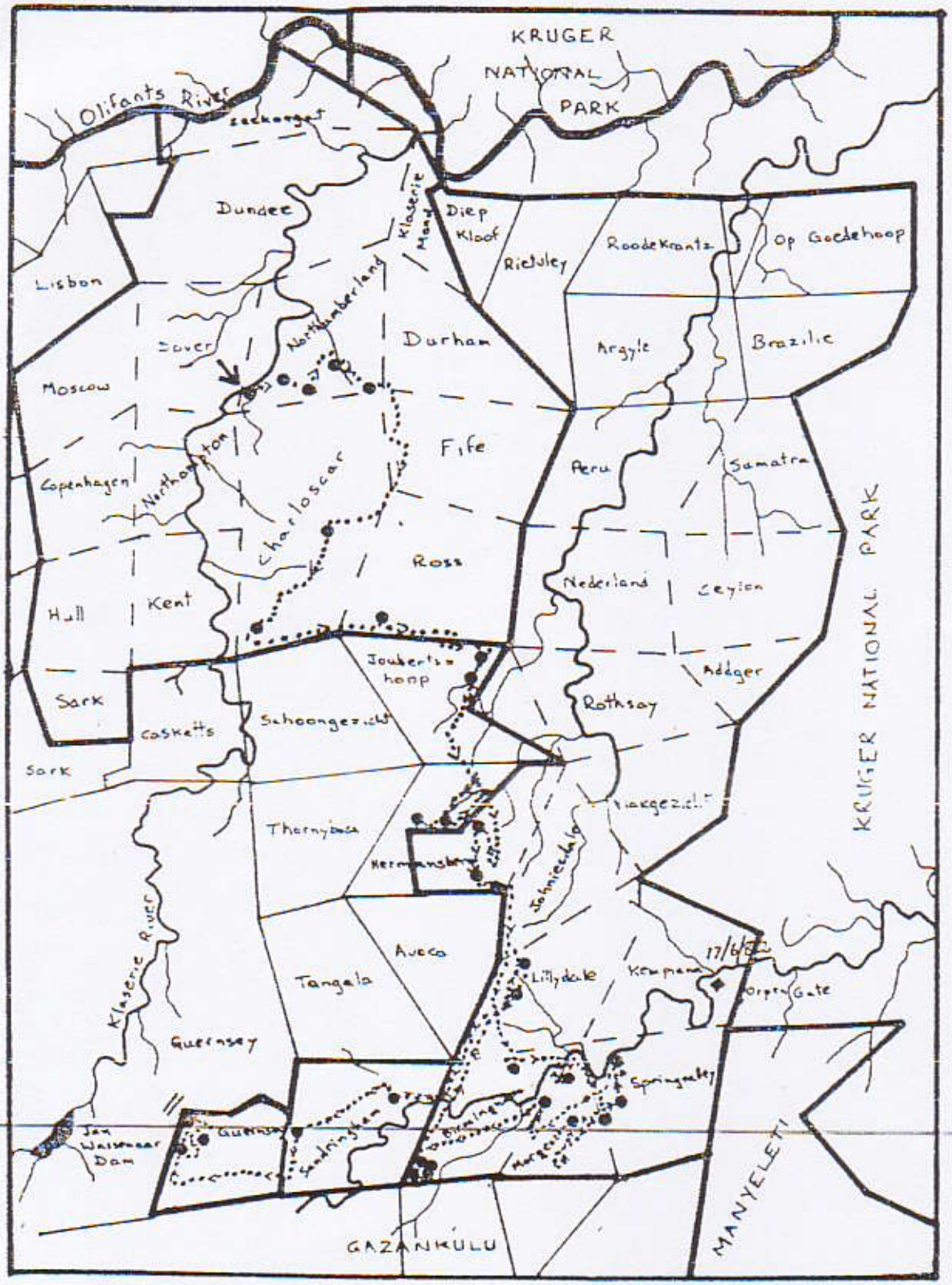
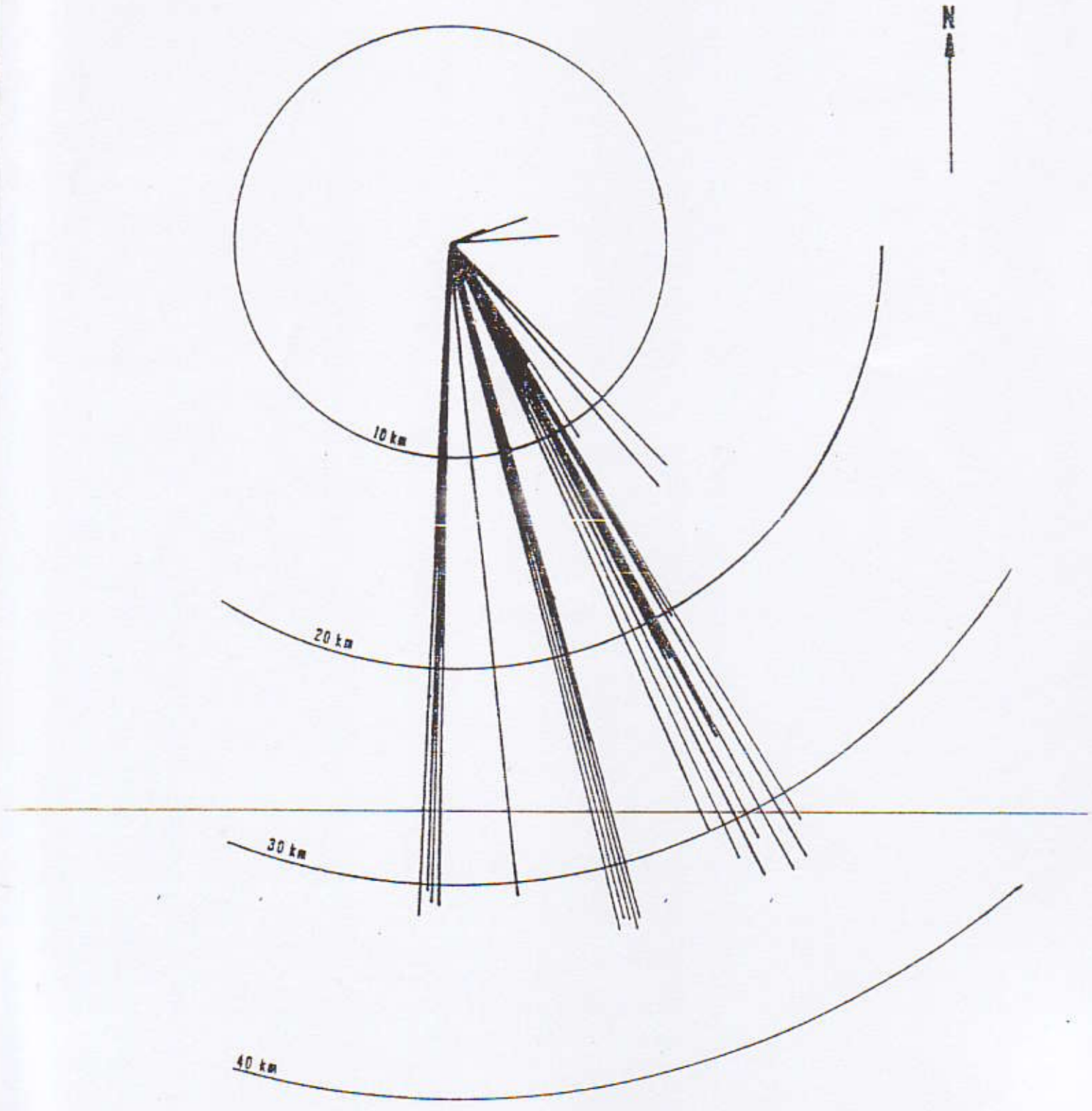



FIGURE 1: The route followed by an adult female cheetah and her three sub-adult cubs released in central Klaserie Private Nature Reserve. Bold farm boundaries indicate game-proof fencing.

FIGURE 2: Dispersion diagram of an adult female cheetah accompanied by her three sub-adult cubs released in central Klaserie Private Nature Reserve.



that they normally moved very fast once they vacated an area. Since we did not want to influence their behaviour or movements in any way, searches for carcasses could only be made once they vacated an area. All sightings of the cheetahs showed them to be in excellent condition and it must be concluded that they were hunting successfully.

3.3. Group cohesion

From studies conducted on the Suikerbosrand Nature Reserve, it was determined that cheetah cubs separate from their dam at the approximate age of 16,5 - 17 months (Pettifer et al 1980, Pettifer 1981 b). During the study the cubs remained constantly with Purdey even though they had reached the age in which a separation could be expected. On 17 June 1982 the group was again sighted and still the cubs had not separated (age 19,5 months). A similar finding was reported for Mary and her cubs (Pettifer et al 1981). This can be once again ascribed to the stress of capture, the period in quarantine and their subjection to a new environment.

3.4. Activity patterns

Fig. 3 shows that the cheetahs were predominantly diurnal with a large early morning peak in activity and a smaller late afternoon peak, coinciding with previous activity patterns for cheetahs in the Lowveld (Pettifer 1981 a, Pettifer et al 1981). Night movements were rare in constrast to the activity patterns of the same group on the Suikerbosrand Nature Reserve (Pettifer, in prep.). This can possibly be ascribed to the superior predators lions and spotted hyaenas in the present study area and their absence at Suikerbosrand.

4. CONCLUSIONS

This study has confirmed that an area of approximatey 50 km radius is necessary for the successful relocation of cheetahs. It would appear that one of the most important factors in ensuring that cheetahs will remain in reasonable proximity of their release site is the prior quarantining of the animals. In the present study the fact that the cheetahs were quarantined for a long period on

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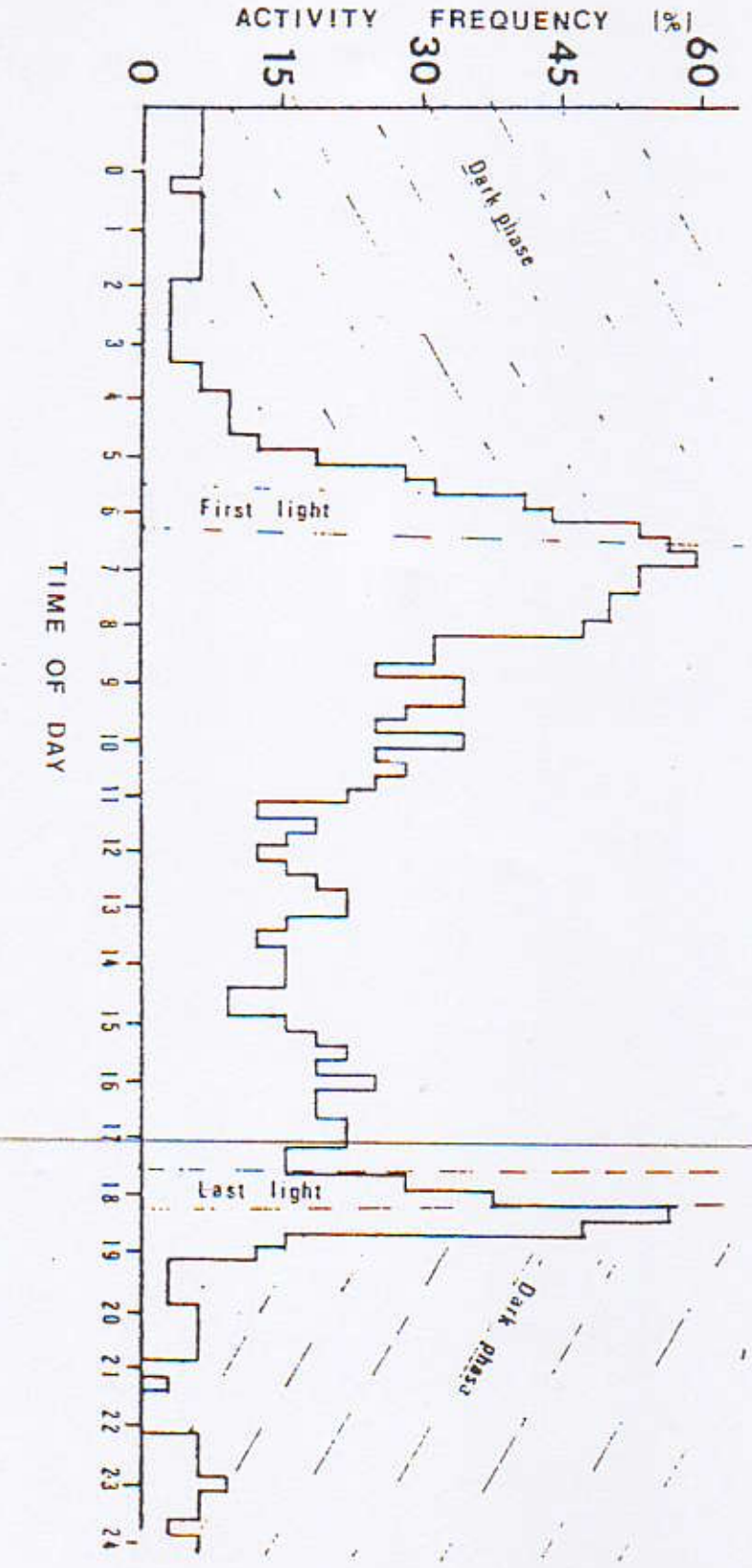
FIGURE 3: Activity frequencies of an adult female cheetah and her three sub-adult cubs released in central Klaserie Private Nature Reserve over a 31 day period. Activity intervals recorded to the nearest 15 minutes.



Suikerbosrand could explain the initial southward trend of movement.

Game proof fencing is regarded as the most serious hazard for re-located predators. Unfortunately these fences are being erected at such a phenomenal rate thet the future conservation status of the larger predators looks dim.

At present only the large private nature reserves can contribute to the conservation of the larger predators outside the large National Parks.

REFERENCES

PETTIFER, H.L., J.I. DE WET & P.J. MULLER 1980. The ecology of the cheetah (Acinonyx jubatus) on the Suikerbosrand Nature Reserve. Tvl. Div. Nat. Con. Mimeo report: 25pp.

PETTIFER, H.L., J.I. DE WET & P.J. MULLER 1981. The experimental relocation of cheetahs (Acinonyx jubatus) from the Suikerbosrand Nature Reserve to the Eastern Transvaal Lowveld. Tvl. Div. Nat. Con. Mimeo report: 13pp

PETTIFER, H.L. 1981a. The experimental release of captive-bred cheetahs (Acinonyx jubatus) into the natural environment. In: Worldwide Furbearer Conf. Proc. (J.A. Chapman & D. Pursley, eds.) R.R. Donnelley & Sons, Co., Falls Church, Virginia pp 1001 - 1024.

PETTIFER, H.L. 1981b. Aspects on the ecology of cheetahs (Acinonyx jubatus) on the Suikerbosrand Nature Reserve In: Worldwide Furbearer Conf. Proc. (J.A. Chapman & D. Pursley, eds.) R.R. Donnelly & Sons, Co., Falls Church, Virginia. pp 1121-1142.