

Jewell PA. 1982. Conservation of the cheetah: Should cheetah be moved to distant areas? A discussion held in Cambridge on 27th July 1982: 7 p.

Keywords: 1Afr/1NA/Acinonyx jubatus/cheetah/conservation/conservation strategy/farm/re-introduction guideline/translocation

Abstract: A discussion, held in Cambridge on 27th July 1982, over the International Fund for Animal Welfare prospect of saving as many as possible of the cheetahs that are trapped or killed by farmers by translocating them to other places where they are scarce or have become extinct, led to wary conclusions. More consideration on long-term benefits to the remaining cheetah populations, or to local farmers, and on the effects on the regions that receive new animals are required.

CONSERVATION OF THE CHEETAH:

SHOULD CHEETAH BE MOVED TO DISTANT AREAS?

A discussion held in Cambridge on 27th July 1982

INTRODUCTION

There is great concern amongst conservation organisations about the future of the cheetah. It is an endangered species, on Appendix I of the Red Data Book. In some parts of its former range the cheetah is now extinct or very scarce, and in most parts it is persecuted. In South West Africa, however, cheetahs are "too numerous" and are frequently trapped or killed by farmers.

The International Fund for Animal Welfare has for some time been contemplating the prospect of saving as many as possible of the cheetahs that are otherwise caught and killed by translocating them to other places where they are now scarce or have become extinct. Such action, however, would raise many fundamental biological problems, and it seemed a good idea to get together a few biologists with knowledge and interest in this field to discuss the issues and offer their views to IFAW. Accordingly, Ian MacPhail, the European Co-ordinator of IFAW, initiated the meeting reported below.

Professor P.A. Jewell convened the meeting and collated the report. The participants who joined the discussion were Dr. P. Bateson, Dr. E. Bertram, Dr. K. Eltringham, Mr. S. Hall, Dr. M. Murray and Dr. A. Rodgers. Written comments were received from Dr. D. Jones and Dr. R. Pellow.

In the discussion we attempted to expose the main biological issues at stake. We are aware that many other issues will have to be weighed - political, financial and social.

Ian MacPhail opened the proceedings by presenting the relevant background. In essence some 200 cheetah are shot each year on farms in S.W. Africa; cheetah can be captured, held and transported with ease and safety; Kenya have expressed willingness to receive 100 cheetah a year for release in northern regions.

THE DISCUSSION

Behaviour on release and homing

Little information is available on the movements of translocated cheetah after release. Experience with leopards suggests that released animals disperse widely soon after release, and movements of 50 miles or so have commonly been recorded within a week of release. The leopard homes strongly after displacement and an instance has been recorded, in the Cape Province of South Africa, of one returning from 300 miles away. Although conclusions from the study of leopards should not be applied uncritically to cheetah, the two species are alike in being strictly territorial in both sexes.

It is stated by the South West African authorities that cheetah releases have been carried out successfully but it is not known what criteria were used to judge "success".

Lessons from elsewhere need attention: for example successful releases may simply build up a locally high population, as has occurred with orang utangs in Asia, followed by dispersal into human settlements and death from shooting.

In principle, cheetah releases might be successful because under natural conditions young animals disperse widely as litter mates, usually of the same sex. In view of the large size of the territory and low density of cheetah, it is possible that dispersing animals can infiltrate and carve out territories between existing ones but evidence is needed. Released cheetah may similarly be able to insinuate themselves into an existing population. However, the mortality of both the new arrivals and the residents might be high as a result. Joy Adamson at Meru National Park, Kenya, apparently had some success in establishing cheetah in the wild although she was rehabilitating cheetah not translocating them. A case was brought to our notice of the attempted rehabilitation and release of an adult female cheetah on the Serengeti plains that was temporarily abandoned because of savage attacks and maulings by resident animals. Adult cheetahs have been recorded by George Frame killing dispersing juveniles.

Kenya Wildlife Management and Conservation Division informed IFAW that suitable release sites were available but details were not available to us. That Kenya could have absorbed the 100 cheetah a year for three years as originally agreed is by no means certain.

It is concluded that as the financial costs of translocation are high, the likely survival of most of the animals after release must be assured. A further reservation to be kept in mind is that the translocation of cheetah might not solve the original problem. It is not known whether all cheetah are equally likely to be livestock raiders and if the practice is limited to a few only, there is no guarantee that the animals responsible would be removed.

Selection of prey by cheetah

By reference to felid behaviour in general, we can expect cheetah to specialize on particular prey species in particular habitats. This leads to two cautionary notes concerning their translocation from ranches in Namibia. First, animals which have developed a preference for livestock may on translocation become pests in their new area. Secondly, if denied access to livestock in the new area, behavioural adjustments to wild prey species may be too slow to avoid starvation.

Care must also be taken when selecting a release area for cheetah that no endangered species of gazelle or other small animal are present.

Further, other large predators are known to displace cheetah. For instance lion, leopard and hyaena are probably responsible for the inability of cheetah to colonise the Ngorongoro Crater. Areas which

contain a large population of any of these two competitors are not considered suitable to receive translocated cheetah, unless the areas be very large indeed.

Basic research on the prey selection and hunting behaviour of cheetah on ranches in Namibia is recommended to assess the proportion of livestock in the diet.

Genetic considerations

Genetic considerations would seem, in general, to weigh against long-distance translocations. Genetic reasons against long-range cheetah translocations were discussed and were seen to be of two kinds, both arising when some cheetah still survive in or near the proposed reception area:

- (1) local adaptations, whether behavioural, morphological or physiological, might be swamped: alternatively lacking such adaptations, the introduced animals might not thrive;
- (2) future scientific research might be vitiated if the genotype had been interfered with.

The nature of local adaptation, whilst it is likely to exist, is unknown. Similarly, whether or not barriers to long-distance migration (particularly the Miombo woodland formation of East and Central Africa) form impassable divides is not known. It was unanimously agreed that nothing should be done to interfere with possible geographical variation that might exist even in a comparatively limited area like Namibia unless the survival of the species as a whole were at stake. Once animals had been moved and had started to interbreed an irrevocable step would have been taken.

The possibility of future scientific research being prejudiced was not seen as an over-riding objection to translocation. Genetic objections were not raised to translocations of cheetahs to areas where they no longer occur, and from which they cannot disperse to areas where they do still occur.

The need for careful planning

The uncertainties involved in moving animals from one area to another are very great. All too easily delicate balances could be upset at many different levels and, if that were the case, the net contribution to welfare and conservation would be negative. If translocation is the only way of saving a species, it ought to be preceded by pilot experiments and these should be done well before the species is near a danger point. The experiments require very careful planning and monitoring. Furthermore, as much information as possible needs to be collected on the species before any animals are moved. Is its survival and reproductive success dependent on the maintenance of its social structure? How opportunistic is it when feeding? Would translocation endanger the survival of a local race? Is it likely to endanger the fauna or flora at the release area? Our conclusion is that until such questions can be answered it would be

irresponsible to plan hasty and ill-considered translocations since irrevocable damage could so easily result from such well meaning actions. Investment in good research in the present would be a major contribution to welfare and conservation in the future.

Selection and suitability of areas for release

After considerable discussion on ecological, genetic and ethical considerations the meeting reached a broad consensus of opinion as follows:

- (1) Areas that have had no cheetah within historic times and are now being managed as National Parks and Reserves should not receive introductions on the grounds of good conservation practice.
- (2) Areas which have cheetah populations which are assumed to be close to carrying capacity would not be suitable for release, as introductions would lead to further mortality of either resident or introduced animals and, ecologically, no conservation benefit would result.
- (3) Areas with lowered populations would not be suitable for the introduction of cheetah on genetic grounds (see above).
- (4) Areas where the conservation status of animals is not secure are not suitable.
- (5) It is better for conservationists to err on the side of caution when not faced with the extinction of specific and valued populations.

Whilst we understand that cheetah have been "successfully" introduced in three areas in Southern Africa, we have not seen the outcome of follow-up studies and so we know little about long-term survivorship and dispersal, or effects on prey populations, except that in one case, Kruger, cheetah are now thought to be a major factors in preventing the recovery of wildebeest populations that had been reduced by culling.

It is of interest to note that the Southern African authorities feel there is nowhere feasible for even small scale introductions.

Asia was discussed as possibly holding suitable release sites, but we had little factual information, and anyway considered that cheetah perhaps should come from populations with no history of predation on livestock. Numbers involved would be low in any case.

In conclusion, on these criteria, there is nowhere known to be suitable for the receipt of several hundred cheetah; the problem can only be solved by local activity within South West Africa.

Information needed from South West Africa to assist IFAW to formulate a sound policy on the potential value of translocation

Where are the problem areas in which farmers' stock are harassed and killed by cheetah?

What losses do farmers actually suffer? Is it a significant proportion (economically) of any individual farmer's stock?

What is the loss to a farmer from cheetah compared with other causes of loss? Are cheetah taking prey that might be lost anyway? (We have in mind here studies on golden eagles in Scotland and foxes in Wales which have shown that although both these predators do feed on lambs, the lambs were largely taken as carrion or as sickly individuals.)

Can the conservation authorities in South West Africa identify any alternative means (other than by shooting or translocation) by which the perceived ravages of cheetah might be offset? Could avoidance conditioning be applied to cheetah? (The method has had success with coyotes in U.S.) Would a scheme of compensation to farmers be workable? In what circumstances would farmers accept some losses? For example, if trophy hunting were permitted and skins exported individually in this way.

Regarding translocation, are there areas in South West Africa itself to which cheetah could be moved?

Information is urgently needed on the methods of predation used by individual cheetahs. It may be that small changes in ranching practice could dramatically reduce the level of predation by cheetahs on domestic stock, by transferring their hunting pressure to wild species.

If animals can be trapped rather than shot, emetics might be used to detect whether those individuals really are the stock raiders causing the problems.

Information on the numbers of cheetah and their distribution in the state would be valuable to assess the significance for conservation of this whole problem.

Wider information needed

If cheetah are being destroyed in South West Africa it would seem sensible to gain as much information from them as possible. The skull and lower jaw bone of each individual should be preserved to provide information on population age structure and longevity. Post-mortem examination could provide information on parasites and reproductive condition. The information would be valuable in building a sound conservation policy.

Regarding areas that might receive translocated cheetah, basic information is required. In particular it must be asked: "What is the status of the cheetah population in the country or area of proposed release? If the area is believed to be understocked with cheetah, why is that so?"

Generally, have radio collars been used on cheetah, particularly translocated cheetah, and with what results?

CONCLUSIONS

Our discussion left us in no doubt that, in the present state of knowledge, we would advise against the long-range translocation of cheetah. The costly effort of moving several hundred cheetah would be a brave endeavour whose immediate effect would be to save many animals from being shot. Larger and longer-term benefits to the remaining cheetah population, or to local farmers, would by no means be assured. The effects on cheetah in regions that would receive the translocated animals require most careful consideration. At this stage we would be very wary of such movement while there are still hopes of protecting existing, if small, surviving groups of cheetahs in the depleted areas north of the Zambezi.

25th August 1982

Contributors to the discussion on translocation of cheetah

- Dr. Patrick Bateson, Director, Sub-Department of Animal Behaviour, Cambridge. Ethologist and experimental animal behaviourist. Research on behaviour of cats. Former research student, T. Caro, now working on cheetah in Tanzania.
- Dr. Brian Bertram, Curator of Mammals, Zoological Society of London. Research in E. Africa on lions and ostrich.
- Dr. Keith Eltringham, Department of Applied Biology, Cambridge. Research in E. Africa on ecology of elephant and large mammals generally.
- Mr. Stephen Hall, Mary Marshall and Arthur Walton Laboratory, Physiological Laboratory, Cambridge. Geneticist. Current research on free-ranging domestic animals.
- Professor Peter Jewell, Mary Marshall and Arthur Walton Professor of Physiology of Reproduction, Cambridge. Research on topi in Uganda and projects in Kenya and Tanzania, especially ecology of herbivores.
- Dr. David Jones, Senior Veterinary Officer, Zoological Society of London. Extensive experience in West and North Africa and in the translocation of animals.
- Dr. Robin Pellow, Mary Marshall and Arthur Walton Laboratory, Physiological Laboratory, Cambridge. Extensive experience in East and Southern Africa and four years residential study of giraffe in the Serengeti, Tanzania.
- Dr. Martyn Murray, Mary Marshall and Arthur Walton Laboratory, Physiological Laboratory, Cambridge. Research on impala in Zimbabwe, interests in ecology and population genetics.
- Dr. Alan Rodgers, Department of Zoology, University of Dar es Salaam. Research on ecology of large mammals, long experience in Tanzania.

25th August 1982