

MISCELLANY

The role of diet in a disease of captive black rhinos

Black rhinos in zoos often suffer from a variety of diseases not seen in their wild conspecifics, including a highly prevalent and sometimes fatal skin condition known by several synonyms, including mucocutaneous ulcerative syndrome (MCUS). Large skin lesions across the body and mouth are symptomatic of MCUS; they may spontaneously regress, or persist to become chronic ulcers that are difficult to treat. Despite the syndrome prevailing in over 50% of black rhinos in U.S. institutions, and certain cases in U.K. zoos, little is known about the aetiology of this disease. Dietary differences between captive and wild rhinos may offer a case for the role of nutrition in MCUS and other diseases of this species. Black rhinos are strict browsers, feeding on leaves and twigs of a variety of plant species. This diet cannot be re-created in captive situations due to cost and availability of browse, so instead most zoos offer commercial dry pellets and alfalfa hay – a diet more suited to the white rhino, which is a grazer and rarely shows clinical signs of MCUS.

Comparison of wild and captive diets showed the former to contain appreciable quantities of essential fatty acids (EFA), whereas captive diets show disproportionate measures of EFA. EFA have long been associated with a range of skin conditions, and with health responses to dietary fatty acid supplementation (linseed oil) shown in certain cases of zoo-housed rhinos, the role of EFA in MCUS makes for a convincing argument.

In order to investigate the possible role EFA may play in the aetiology of MCUS in black rhinos in U.K. zoos, a pilot study of EFA supplementation via linseed loz-

enges was carried out at Paignton Zoo in summer 2005. Digital photographs and condition scores were used to help quantify whether the supplement was affecting skin condition in any way, while dietary intake studies at Paignton, Port Lympne and Chester Zoo have since been organised. Browse samples will be sent to the University of Manchester for EFA determination, with the aim of showing the seasonal and institutional variation of fatty acids in the diet. Condition scores will again reveal any correlation between dietary EFA and skin problems, and recommendations regarding nutrient composition of browse may be gained.

Data collection and analysis are presently underway, and this project aims to shed some light on what is a relatively unfamiliar, yet important, factor in successful captive black rhino conservation.

Jacqui Caine, Matthew Cobb, Andrea Fiddett and Amy Plowman in *BIAZA Research Newsletter* Vol. 7, No. 1 (January 2006), published on the BIAZA website (www.biaza.org.uk)

Animal theft, a serious problem for zoos

In the period 2000–2004, at least 580 animals were stolen from EAZA member institutions. Birds and reptiles were the most likely victims, but there was even an (unsuccessful) attempt to steal a lion. These are some of the results of a survey carried out in 2005, to which 187 members took the time to contribute.

The theft survey aimed not only to get an idea of the size of the theft problem, but also to find out whether there is a need for an EAZA theft policy or reporting structure. There is currently no standard reporting procedure within EAZA.

Sometimes other institutions in the region and/or the EAZA Executive Office are informed, but many incidents probably remain unknown to the zoo community or the outside world. This decreases the chance that stolen animals will ever be recovered.

The results clearly show that theft is a major problem. Over the years 2000 to 2004 one or more cases of animal theft occurred in almost 40% of the responding institutions. The majority reported one to three incidents, but eleven institutions suffered up to eight thefts in the five-year period. Most animals were never recovered: only 9% of all stolen animals were found and returned to the zoo.

It seems that just as many animal thefts occur during opening hours as at night, when the zoo is closed. The possibility exists that these are two different types of theft, professional theft carried out in a planned action at night and more impulsive actions occurring when a zoo is open, i.e. a visitor taking away an easily accessible single animal when no one is around. The percentages and exact numbers of stolen animals per class were as follows:

Mammals – 17% (96);
Birds – 44% (251);
Reptiles – 34% (200);
Amphibians – 4% (25);
Other/unknown – 1% (8).

This shows that the most likely victims of animal theft are birds (especially parrots) and reptiles (mainly turtles and tortoises). Mammals are less often targeted, with the exception of primates (mainly callitrichids) and rabbits and guinea pigs, which are stolen relatively often. Reptiles are more often taken during opening hours, while mammals (and to a lesser degree also birds) are mainly stolen when the zoo is closed. The most remarkable incident was the attempt to steal a lion. The animal was tranquilised and its claws removed. Fortunately the thieves were caught in the act and the animal could be saved.

Only 13% of the stolen animals had

some kind of identification (e.g. chip, leg band, tattoo). Interestingly, the presence of a means for identification does seem to increase the chance of recovering an animal – the recovery rate was 24% for animals with an ID against a mere 6% for those without. This suggests that using a method of identification on (vulnerable) animals can help fight the problem of animal theft.

Many institutions that suffered from animal theft have taken measures to prevent further thefts, ranging from increased security (personnel) to better protection of the enclosures. It might be a good suggestion for all EAZA members to evaluate their vulnerability to theft and if necessary take preventive measures, rather than taking measures after theft has occurred.

The final conclusion of the report is that an EAZA reporting structure for animal theft would be very much appreciated by the membership. Many victims already inform the local authorities, other zoos and/or the press if an animal is stolen. There is, however, no single reporting point or database where all stolen animals can be reported. The possibilities of creating such a database will be considered by EAZA in the near future.

Adapted from Jill Vega and Martijn Los in *EAZA News* No. 53 (January–March 2006)

A loss to the science of animal reintroduction

Angelo d'Arrigo, who died in March in an aviation accident, achieved the most remarkable success so far in the training and reintroduction of captive-bred migratory birds. In 2003 Russian scientists placed Siberian crane eggs beneath the wings of d'Arrigo's hang-glider. When the birds hatched they imprinted on the glider and grew up regarding it as their surrogate parent. In the migrating season he was able to coax them into flying along-