

EXPERIENCES WITH ESTABLISHING A “SEMI-FREE” RANGING POPULATION OF ARABIAN ORYX IN UNITED ARAB EMIRATES

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Summary

In 1998 a new semi-free ranging population of Arabian Oryx (*Oryx leucoryx*) was established on the premises of Al Maha Desert Resort (AMDR). A total of 72 animals were introduced into a 25 km² fenced desert ecosystem. Animals were donated from different private and governmental establishments. The aim of the project was to establish a healthy population of the Arabian Oryx living in an ideal environment and to create a nucleus of animals for future reintroductions. The population reached 200 individuals in 2003 and the resort area was expanded by an additional 120 km². The population is managed with minimum human interference. The AMDR, named after the Arabic translation of the name of the Arabian Oryx, also serves as an eco-tourist site and aims to promote Arabian wildlife and to encourage environmental protection. The author describes the stages of the field work, as well as difficulties related to management and veterinary care during the reintroduction process.

Introduction

After great conservation efforts the world population of Arabian Oryx has become stabilized at the beginning of the new millennium and serves as a good example of how to save a species that almost became extinct. The United Arab Emirates (UAE) probably holds the largest part of the world population of Arabian oryx. Thanks to a suitable desert environment and environmental awareness programs, the idea of establishing a free living Arabian Oryx population exists at all levels of society in the country. The first idea was to manage surplus animals from different existing and expanding collections and to create a genetically diverse population living with minimum human interference. Because most of the collections are located near to premises with domestic animals, the risk of transmissible disease threatened existing populations. Cases of brucellosis and tuberculosis have been transferred from domestic animals to captive herds of Arabian Oryx (Flamand *et al.*, 1994 ; Ostrowsky *et al.*, 2001).

The Environment of Al Maha Desert Resort

The area was predominantly used for grazing camels in the past and had relatively abundant natural vegetation represented by akacia “salam” tree (*Acacia tortilis*), ghaf tree (*Prosopis cineraria*) and Sidr tree (*Ziziphus spina-christi*) providing shade for the introduced oryx. Large sand dunes as well as hard ground covered with gravel comprise 2/3 of the area. A sufficient amount of easily accessible underground water provides suitable irrigation sources for additionally planted indigenous trees. Twenty five square kilometres were fenced by galvanized wire game fences. Four animal grids were placed on each side of the resort. Six feeding spots and two water pools were built around the places with abundant vegetation to provide food and water for the animals.

Introduction of the Arabian Oryx

Seventy two animals selected from different privately owned UAE collections and imported from overseas zoological gardens represented the nucleus population. Donating collections were known to be free from infectious disease. All animals were acclimatized for desert conditions and had been in the country for more than 6 months before arriving at AMDR. Oryx arrived in winter months in mixed groups of 15-25 animals and were released into holding enclosures. Socialization, adaptation to the new food and environment were the aims of the 1 month stay in the holding enclosures. To increase body condition alfalfa pellets and hay with mineral supplements were provided before the release from holding pens. Quarantine and health screening protocols were introduced (Woodford, 2001 ; Griffith *et al.*, 1993). A serology survey for brucellosis and tuberculosis was conducted prior to release and all animals were negative. All animals were dewormed and vaccinated with a polyvalent clostridium vaccine on the day of arrival. One of the main objectives of the project was to leave and observe the animal's behaviour with as little human interference. Wounded or diseased animals were removed from the population. All dead animals were collected and examined post-mortem.

In the first stages the biggest problem was to prevent animals from escaping by maintaining the integrity of the fence. During strong desert storms the sand was blown from under the fence pylons and large gaps occurred. From the veterinary point of view heavy infestation by ticks was the first problem that

was noticed, mainly in sub-adult animals whose condition markedly deteriorated during the hot summer period. Food supplementation with higher energy intake helped some individuals. All animals formed 2 large groups which started to split after the first calving period. Thirteen animals, mainly weakened sub adult individuals, died during the first year. A few adults died due to ingestion of different foreign objects including plastic bags, ropes, irrigation pipes and rubbish left over from of previous camel farms. Later the most common cause of mortality was traumatic injuries of males, which fought for positions in the social hierarchy around feeding spots. The redistribution of feeding sites to remote places reduced the contact time and consequently the chances for conflict between individual groups. A few cases of calves killed by dominant males were reported as well. Only 1 known fetus malposition case occurred during 4 years of observation. Translocation of sick or wounded individuals was successfully carried out by darting the animals with mixture of 1 mg/kg xylazine and 1 mg/kg ketamine, reversed with 1.5 ml atipamezole im/pro toto. This anaesthesia procedure was introduced after recurrent cases of capture myopathy and mortalities due to hyperthermia using etorphine (IMOBILON) in hot summer months (Vassart *et al.*, 1992; Molnar *et al.*, 2002). During the first 4 years the population has grown, reaching more than 200 individuals at the time of writing. Food supplementation with hay was important during summer months to prevent extensive damage on the vegetation and severe deterioration of body conditions in young, poorly adapted animals.

Results

The project shows that Arabian Oryx, even after a long time in captivity, can easily establish back into natural conditions. There are few health risks if the animals are separated from domestic live stock. The biggest challenge for reintroduction of animals back into free ranging in conditions in the UAE will be to find a suitable environment that is large enough to provide sufficient diverse vegetation for shade and grazing. Around 850 kg dry matter of food is required per animal per year, so it will be difficult to find places with suitable abundant vegetation for large groups of oryx. Permanent food supplementation will be probably be necessary to avoid extensive overgrazing. Management guidelines accepted by all parties involved in Arabian Oryx breeding will be essential in the future to coordinate the diversity of the population.

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