

This paper is reproduced from the 2004 EAZA Conference proceedings. Citation: Woodfine, T., Gilbert, T. & Engel, H. (2005): A summary of past and present initiatives for the conservation and reintroduction of addax and scimitar-horned oryx in North Africa. Proceedings of the EAZA Conference 2004, Kolmarden. EAZA Executive Office, Amsterdam: 208 – 211.

A Summary of Past and Present Initiatives for the Conservation and Reintroduction of Addax and Scimitar-horned Oryx in North Africa.

¹ Woodfine, T., ¹ Gilbert, T.C. & ² Engel, H.

¹ *Department of Conservation & Wildlife Management, Marwell Preservation Trust, Colden Common, Winchester, Hampshire, SO21 1JH, UK.*

² *Zoo Hannover GmbH, Adenauerallee 3, 30175 Hannover Germany*

Introduction

Scimitar-horned oryx (*Oryx dammah*) and addax (*addax nasomaculatus*) are arid adapted antelope which formerly inhabited large areas of North Africa from the Atlantic Ocean to the Nile, covering countries both North (Morocco to Egypt) and South (Mauritania to Sudan) of the Sahara (Haltenorth, 1963; Schomber, 1963; Wilson, 1980; Engel & Brunsing, 1999). Both species were once widespread and abundant in the region, but have suffered catastrophic declines due to excessive and unsustainable hunting, habitat degradation, political unrest and competition with domestic livestock (Bassett, 1975; Newby, 1980; Dixon *et al.*, 1991; Gordon 1991; Devillers & Devillers-Terchuren, 2003; Beudels-Jamar *et al.*, 2003). As a result, the scimitar-horned oryx is now extinct in the wild (IUCN 2003) and the addax is critically endangered (IUCN 2003), being restricted to small populations in Chad, Niger and an area between Mauritania and central western Mali (Beudels-Jamar *et al.*, 2003).

While the protection of remnant addax populations is a priority, the restoration of this species and the scimitar-horned oryx to former range is dependent on repatriation from captive stock. Conservation of remnant addax and the reintroduction of both species will require statutory protection measures, appropriate regional and national strategies that encompass ecosystem management and socio-economic benefits. This will inevitably need to be underpinned by long-term and sustained efforts of the statutory and non-statutory international conservation bodies. Support from the global zoo community for the provision of animals, technical expertise and other resources will be of critical importance.

Protection & Regional Conservation Initiatives

Scimitar-horned oryx and addax are afforded international protection through their listings on Appendix 1 of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), and Appendix 1 of the Convention on the Conservation of Migratory Species of Wild Animals (CMS). The latter obligates member states to strictly protect species, to conserve or restore their habitats, and to mitigate obstacles to migration. In response, a number of range states are participating in a CMS Action Plan. The

Conservation and Restoration of Sahelo-Saharan Antelopes (Beudels-Jamar *et al*, 2003), caters for six species: dama gazelle *Gazella dama*, slender-horned gazelle *Gazella leptoceros*, Cuvier's gazelle *Gazella cuvieri*, dorcas Gazelle *Gazella dorcas*, and of course addax and scimitar-horned oryx. With funding available to support many of the objectives of the Action Plan through a partnership with Fonds Français pour l'Environnement Mondial (FFEM), there is cause for optimism.

A second initiative that offers great potential is the imminent launch of the Saharan Conservation Fund (SCF), an international non-governmental organisation emerging from the membership of the Sahelo-Saharan Interest Group (SSIG). The latter was created in 1999 to bring together individuals and organisations with shared goals of conserving wildlife and other natural resources in North Africa. SSIG meets annually and maintains communication between members through a dedicated list-serve. Alliances forged since 1999 are now manifest in the formation of SCF, providing a tangible mechanism to pool resources, share expertise and act collectively to achieve greater goals than otherwise possible.

These initiatives come at a welcome time. Current political priorities mean that resources for biodiversity conservation tend to be allocated to sub-Saharan Africa. While such resources are much needed in that region, North Africa's wealth of arid adapted species are often forgotten, despite their great intrinsic and economic value. The impressive addax and scimitar-horned oryx play important roles as flagships in this context.

Return of Addax & Scimitar-horned Oryx to North Africa

To date, releases of captive bred scimitar-horned oryx and addax have been undertaken in fenced reserves in Tunisia, Morocco and Senegal. The first such initiative took place in the Bou Hedma National Park in Tunisia in 1985 and 1986. Ten scimitar-horned oryx from Marwell and Edinburgh zoos in the UK were released into a total protection zone within the park together with eight addax from Hanover zoo, Germany. The addax population was genetically augmented in 1998 with a further six animals from the North American Species Survival Plan (SSP).

In 1999, a further 14 oryx were transported to Tunisia from the European Endangered Species Programme (EEP). Of these, a single male was sent to augment the population at Bou Hedma while the others were used to found populations in two other fenced protected areas. A total of 10 (1.9) were released into Sidi Toui National Park while four (1.3) were released at Oued Dekouk National Park. In 2003, two female oryx, born at Sidi Toui, were translocated to augment the group at Oued Dekouk.

By the beginning of 2004, the Bou Hedma National Park hosted populations of approximately 120 scimitar-horned oryx and 70 addax (Karem *pers. comm*, 2004). At the same time there were 33 oryx at Sidi Toui and a further eight at Oued Dekouk.

Similar projects were initiated in Morocco in 1994 when 70 (42.28) addax from EEP zoos were released into the Rokein Reserve, a fenced protected area within the boundary of the Souss Massa National Park (Engel & Brunsing, 1999). In 1995, five male scimitar-horned oryx were released into the Arrouais Reserve, also within the Souss Massa National Park, and in 1996 and 1997 a further 24 (12.12) EEP oryx were released into this area (Muller & Engel, 2004). The number of addax in the Rokein Reserve was recently estimated at 575 individuals, while the number of the number of scimitar-horned oryx in the Arrouais Reserve had increased to 91 (Haddane *pers. comm.*, 2004).

In 1999, Israel donated eight scimitar-horned oryx for a release project in the Guembeul Fauna Reserve, Senegal. In 2002, these were joined by an additional two females from Paris Zoo, and by 2003 the herd had increased to 26 individuals. In January 2003, eight (3.5) oryx were translocated to the Ferlo National Park as founders for a second population in the country. The current population in Senegal currently stands at 30 oryx: 18 at the Guembeul Reserve and 12 at the Ferlo National Park (Gilbert, 2004).

National Strategies

Addax and scimitar-horned oryx feature highly in the national strategies produced for the CMS Action Plan. Through this process, 10 range states have expressed a commitment to conserve or reintroduce addax, while 12 countries have included the reintroduction of scimitar-horned oryx in their national strategies.

Tunisia currently leads the way in terms of concerted actions. In April 2004, a technical workshop was held in Douz, Tunisia, by CMS at the invitation of the Direction Générale des Forêts (DGF) with the aim of reviewing and updating the national strategy for the conservation of Sahelo-Saharan antelopes. This resulted in a vision of developing populations of addax and oryx in fenced reserves, to be achieved through the release of additional captive bred animals and an ongoing programme of meta-population management. Once populations at each park are large enough, the fences may be taken down in at least one location, for each species, to allow animals to roam freely.

The Moroccan authorities are also in the process of reviewing and developing their national strategy and are due to host a similar planning meeting in 2005.

Global Captive Management & Reintroduction

With the process of reintroducing addax and oryx already underway in some countries and a desire to see these animals return expressed by others, participation and support is needed from the formal captive breeding programmes. The most significant global populations of addax and oryx in terms of founder representation, numbers and their formal management are those of the EAZA European Endangered Species Programme (EEP) and the AZA Species Survival Plan (SSP).

Representatives of both addax and scimitar-horned EEPs and SSPs met, together with the Chairs of the AZA and EAZA Antelope Taxon Advisory Groups, at St. Louis Zoo in October 2003. The purpose of this meeting was to

address global management issues for both species, including captive breeding and how to meet demands for reintroduction. Work began on global master-plans for both addax and scimitar-horned oryx and a series of initiatives aimed at offering support to North African countries in their efforts to conserve and reintroduce these species were discussed. Importantly, a common reintroduction policy was developed offering guidelines for zoos and range states to ensure that projects are biologically, politically and economically viable, and are based on the principles of modern conservation biology.

Representatives of this group attended the strategic planning workshop in Douz, Tunisia. A formal request was subsequently received from DGF to produce recommendations for further releases and meta-population management of addax and scimitar-horned oryx within the framework of Tunisia's national strategy. Hence the EEP / SSP team met again at Hanover Zoo in August 2004 and a document resulting from those discussions was delivered to DGF in October. Implementation of these plans is due to commence in 2005 and 2006.

The EEP / SSP team has since received a formal invitation to participate in the planning workshop in Morocco and is actively engaged in broader the process of addax and scimitar-horned oryx conservation across the region.

Conclusion

True reintroduction of addax and scimitar-horned oryx to unfenced areas within former range where each species may resume their migratory patterns is still a distant (though increasingly realistic) goal. In the meantime, national strategies must consider the need for the acquisition of appropriate founder stock, representing the global gene pools for each species, and ongoing meta-population management. Moreover, the international zoo community must be ready to meet the challenge of not only supplying founder stock, but also the provision of advice and other resources to meet the technical and financial demands of reintroduction.

References

- Bassett, T.H. (1975): Oryx and addax in Chad. *Oryx* **13** (1): 50-51.
- Beudels-Jamar, R.C., Devillers, P. Lafontaine, R.-M. (2003): Report on the status and perspectives of a species *Addax nasomaculatus*. In: *Convention on migratory species: status reports, Sahelo-Saharan antelopes. Working document*. CMS.
- CITES (2004): Convention on international trade in endangered species of wild fauna and flora. www.cites.org.uk. Downloaded on 10/12/2004.
- CMS (2004): Convention on migratory species. www.cms.int. Downloaded on 10/12/2004.
- Devillers, P. & Devillers-Terchuren, J. (2003): Report on the status and perspectives of a species *Oryx dammah*. In: *Convention on migratory species: status reports, Sahelo-Saharan antelopes. Working document*. CMS.

- Dixon, A.M., Mace, G.M., Newby, J.E. & Olney, P.J.S. (1991): Planning for the reintroduction of scimitar-horned oryx (*Oryx dammah*) and addax (*Addax nasomaculatus*) into Niger. *Symp. Zool. Soc. Lond.* **62**: 201-216.
- Engel, H. & Brunsing, K. (1999): European studbook for *Addax nasomaculatus*. Hannover Zoo.
- Gilbert, T. (2004): The reintroduction of scimitar-horned oryx to Senegal. In: *The biology, husbandry and conservation of scimitar-horned oryx (Oryx dammah)*. (T. Gilbert & T. Woodfine, Eds.). Marwell Preservation Trust: 82-83.
- Gordon, I. J. (1991): Ungulate reintroductions: the case of the scimitar-horned oryx. *Symp. Zool. Soc. Lond.* **62**: 217-240.
- Haltenorth, T. (1963): Klassifikation der Säugetiere: Artiodactyla. In: *Handbuch der zoologie* (J.-G. Helmcke, H. Von Lengerken & D. Starck, Eds.). Bd. 8, *Teil 1 (18)*: 1-167.
- IUCN (2003): IUCN red list of threatened species. <http://www.redlist.org>. Downloaded on the 01/12/2004.
- Muller, H.-P. & Engel, H. (2004): The reintroduction of herbivores to Souss Massa National Park, Morocco. In: *The biology, husbandry and conservation of scimitar-horned oryx (Oryx dammah)*. (T. Gilbert & T. Woodfine, Eds.). Marwell Preservation Trust: 77- 81.
- Newby, J. (1980): Can addax and oryx be saved in the Sahel? *Oryx* **15 (3)**: 262 - 266
- Schomber, H. W. (1963): Wildlife in the Sudan Part IV: Desert and semi-desert game animals. *African Wildlife* **17**: 117 – 124.
- Wilson, R.T. (1980): Wildlife in northern Darfur, Sudan: a review of its distribution and status in the recent past and at present. *Biological Conservation* **17**: 85-101.