

Marwell Zimbabwe Trust: Origins and Core Projects.

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Introduction/ History

John Knowles founder of the Marwell Zoo and Preservation Trust in UK had been supporting conservation and research projects Zimbabwe for several years. It was evident that there was a great deal of potential to assist in conservation programmes and that a locally administered organisation, with support from overseas, could have a more structured and sustained impact, than merely donating funds on an ad hoc basis. In 1997 Paignton Zoo was invited to partner Marwell UK in the formation and support of Marwell Zimbabwe Trust (MZT).

Both Marwell Preservation Trust (MPT) and Paignton Zoo(P Z) contribute to several international conservation projects. MPT has been involved in the reintroduction of Scimitar horned Oryx (*Oryx dammah*) to Tunisia and the Przewalski's horse (*Equus przewalskii*) to Hortobagy National Park in Hungary. Both these species had been successfully bred in European zoos.

Paignton Zoo supports the conservation of the Omo Forest Reserve and its elephants in Nigeria as well as the Philippine Owl Conservation Project. They also own and manage Slapton Ley National Nature Reserve, an important wetlands area in Devon England.

Dambari Field Station

The Trust is based at the MZT Duiker and Mini antelope Breeding and Research Institute (Dambari) Field Station on Abercrombie Road in Worringham, approximately 24 kilometres south east of Bulawayo on the road to Beit Bridge. This 50 acre property wholly owned by the Trust has been its administration and research head quarters since January 1999.

A unique collection of ten species of small antelope is held at Dambari for captive breeding and research. Dambari Field Station facilities have been developed to include accommodation for research personnel, a small laboratory, good office, administration, communication and workshop facilities. This development provides an excellent base for logistical support to local and foreign scientists.

Funding, Administration and Policy

Marwell Zimbabwe Trust's core running expenses are funded through overseas sponsorship provided by a number of internationally renowned zoological institutions. These include the Trust's main sponsor Marwell Preservation Trust (from which MZT takes its name) and Paignton Zoo in the UK.

Marwell Zimbabwe Trust is administered by an international board of trustees who are experts in various aspects of wildlife conservation and research. The Board of Trustees includes representatives from Zimbabwe, the UK and USA.

Dr Amy Plowman, Paignton Zoo's Scientific Officer, and Tim Woodfine, Head of Department of Conservation and Wildlife Management at MPT, direct the Trust's research work.

The Trust employs 21 permanent staff based at Dambari Field Station. This includes the Trust's Director, Station Manager, Animal Attendants, Maintenance, Workshop and Construction staff.

MZT policy embraces 2 primary interdependent actions, namely

Collaboration: with Government and Non- governmental agencies concerned with conservation and wildlife issues

Capacity building: wherever possible the Trust provides for capacity building at all levels of participation in MZT projects

Marwell Zimbabwe Trust has established a good working relationship with the Zimbabwe Department of National Parks and Wildlife Management (DNPWLM) as well as with several conservation NGOs over the preceding 2 years. To carry out its stated objectives the trust recognises that a mutually beneficial working relationship with DNPWLM as the statutory body concerned with wildlife conservation is essential. A Memorandum of Understanding between MZT and DNPWLM has been drawn up which outlines a working arrangement for future co-operation in research, technical training, and logistical support.

Core Projects

The Trust is engaged in three core areas of work involving large carnivores, rhinoceros and small antelope and contributes to numerous other initiatives on a local, national and international level.

Cheetah

While widely regarded as a conservation icon because of declining global populations, the cheetah is often viewed as a pest by both commercial and subsistence farmers in Zimbabwe, as the species is frequently blamed for livestock losses. Marwell is contributing to the resolution of the conflict between people and cheetah by undertaking a mandate from the National Cheetah Working Group (an advisory body representing various stakeholders put together under the auspices of DNPWLM).

The Trust is working toward a several objectives. The first stage includes the preparation and distribution of educational material for livestock farmers. A system has been developed for farmers to report 'problem cheetah' via a "hotline" to the Trust's office. The information presented by the farmers is logged onto the specially designed database, which is gradually building a picture of cheetah conflict hotspots across the country and

collating a variety of data for further analysis. An International Cheetah Workshop is planned, specifically for farmers on farmer/ cheetah conflict resolution in 2002. The second stage of the work will centre on studies of the behavioural ecology of cheetah to gain a better understanding of their movements and activities in livestock areas. As part of the process the Trust has been asked to assess the feasibility of translocating cheetah away from livestock areas to CAMPFIRE areas where they could become part of the wildlife utilisation projects in these areas. Dr Gianetta Purchase who will be joining the Trust in May 2002 will direct MZT's Carnivore research.

Rhinoceros

Working closely with the DNPWLM and partner NGOs, the Trust contributes funding, logistical and technical support for rhinoceros conservation and management in Zimbabwe. Initiatives include field research aimed at improving rhino management in the Parks & Wildlife Estate, population census and monitoring programmes, provision of emergency veterinary work when required on an ad hoc basis and assisting with the translocation of animals between isolated sites for meta-population and other management requirements. (See BFA Seminar Series Number 10 for more details on the rhino work)

Small Antelope

Small antelope, in this context, are endemic to sub-Saharan Africa and include the following genera: *Cephalophus* (inc. *Philantomba*), *Sylvicapra*, *Neotragus*, *Raphicerus*, *Madoqua*, *Oreotragus*, *Dorcatragus* and *Ourebia*. These antelope are poorly known and relatively little studied compared with their larger relatives, despite being an integral component of most African ecosystems. MZT involvement in small antelope research and conservation covers three broad areas:

Captive breeding and Research

MZT maintain one of the largest captive small antelope collections in the world, the nucleus of which was inherited from the Chipangali Wildlife Trust. The collection currently consists of 52 animals of 10 different species (7 duiker spp.). The secretive and often nocturnal lifestyles of small antelope, particularly duiker, mean that studies of free-living animals are often very difficult, hence the general dearth of literature. Captive animals allow us to gain biological knowledge under controlled and practical conditions. This knowledge will improve our ability to make effective decisions in small antelope conservation.

Research on duiker husbandry and behaviour undertaken by MZT staff show that captive animals at Dambari show similar activity patterns to their wild conspecifics. The major difference, predictably, being a reduction in time spent foraging. Most blood parameters

investigated are more similar to those of wild duiker than to other captive animals. (Bowman & Plowman *In press*).

Research on nutrient intake and apparent digestibility has improved the diet of Dambari duikers in line with recommendations from an international duiker workshop. The revised diet replaced domestic fruits with vegetables, which are more akin to the fruits available to wild frugivores (in terms of fibre and sugar content). Interestingly fibre digestion by red duikers (*Cephalophus natalensis*) was comparable to that of grey duiker (*Sylvicapra grimmia*) but unlike that of other forest duikers, suggesting red duikers are more folivorous than previously thought (Plowman *In press*).

Field Studies

MZT involvement in small antelope field biology currently focuses on grey duiker in the Matobo National Park. It is hoped that this study will succeed in establishing appropriate methods and field techniques that can be applied to other small antelope projects in the future.

The project is based in the area around Toghwana and Mtshelili Dams in the eastern part of the park. The study aims to investigate population density, habitat use and social ecology of grey duiker, a species for which surprisingly little formal research has been published given its ubiquitous nature. Population density has been attempted using dung counts and the variable width transect method. The latter proved unsuccessful due to small number of sightings possible. Habitat has been categorized for the transected areas and field sign data is collected for other antelope species, in addition to duiker, for comparative purposes. Social ecology in terms of home range size and the nature and extent of home range (territory) overlap is being investigated through the use of radio telemetry.

Preliminary results (Bowkett & Plowman 2001) indicate that grey duiker occur at relatively high densities in this area of the Matopos and occupy all types of grass and woodland. There is significant habitat overlap with steenbok (*Raphicerus campestris*) although duikers prefer densely wooded grassland and steenbok open grassland. Radio tracking has revealed relatively small diurnal home ranges comparable to those published for red duiker in Natal (mean 9.5 ha [Bowland and Perrin 1995]). Duikers are consistently found in the same locations and return to these areas following disturbance e.g. being captured. These findings indicate a strong attachment to their home ranges as reported for other duiker species (Bowland 1990). Matobo duikers also appear to suffer heavy predation from leopards (2 out of 5 collared animals)!

International Initiatives

MZT hosted “The ecology and conservation of mini-antelope: an international symposium on duiker and dwarf antelope in Africa” at the Matopos Ingwe Lodge, 12th-17th February, 2001. This was the first time scientists and conservationists had been

brought together specifically to discuss small antelope. 30 delegates attended the symposium from 10 countries, including many of the African range states.

As a direct result of the symposium the Small Antelope Interest Group was formed in order to enhance the profile of small antelope and to encourage greater research into, and conservation action on behalf, of these taxa. SAIG has since been formally invited to become a sub-group of the IUCN SSC Antelope Specialist Group. Further symposia have been planned for Zanzibar 2003 and Cameroon 2005.

The group has chosen the critically endangered Ader's duiker (*Cephalophus adersi*) as its flagship species. This duiker survives only on Unguja Island, Zanzibar and possibly on the Kenyan mainland. In 1983 the population was estimated at c5000 individuals (Swai 1983), more detailed studies using comparable methods estimated the population at <2000 in 1995 (Williams *et al.* 1996) and 614+/- 46 in 1999 (Kanga 1999). This rapid decline has led to the need for urgent conservation action and the development of a species recovery plan (Finnie 2002).

The recovery plan calls for an assessment of captive breeding as a conservation tool for this species. MZT conducted a feasibility study in conjunction with the local wildlife authorities in December 2001. A captive breeding programme on Zanzibar was considered a valid option due to the critically low overall numbers, fragmentation of the population (into five main subpopulations) and the minimum five-year period predicted necessary for habitat recovery. With extensive experience of captive duiker husbandry and research MZT has offered further assistance should the Zanzibar authorities decide to go ahead with the project.

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