



Science comes to the rescue of elusive Bongo

In the Jan – Mar 2008 SWARA article “On the Trail of the Mountain Bongo”, we were given an interesting insight into the field expeditions of the Bongo Surveillance Project (BSP) team, led by Mike Prettejohn. It had been a widely held view that the Mountain Bongo (*Tragelaphus euryceros isaaci*), if not extinct already in the wild, was likely – at best – to be on the verge of extinction.

But over the last five years, the BSP team has discovered Bongo surviving in small isolated groups on Mt. Kenya, Eburu, in the Mau and the Aberdares. This Eastern Bongo subspecies occurs only in Kenya. With concern rising over loss of habitat and poaching issues, it is good news that Bongo have been traced, but how long will they survive?



PHOTO BY: ROB PRETTEJOHN

also a small group of some 12 animals surviving in the southeast of Mt Kenya, the same on Eburu (once contingent with the Mau) and a similar group in the southwest Mau forest.

In July 2010 a milestone workshop was held in Nyeri, Kenya, coordinated by ICUN/Species Survival Commission and the Kenya Wildlife Service (KWS). The workshop was attended by the various stakeholders from Kenya and overseas. Following this workshop a strategy was developed to increase the groups of Bongo in the wild through a meta-population plan for captive and wild populations, to promote the species recovery by maximising genetic diversity. It is hoped to repopulate other areas such as the Cherengani mountain range and other areas of the Mau and eastern Mt Kenya, areas where Bongo were plentiful in recent times and where there still exists some prime forest cover and ample food plants.

With this objective in mind, the BSP team has continued to gather data about these wild subpopulations. Prettejohn and his team of expert trackers have led field expeditions to all of the above areas. Bongo evidence has been collected from all these areas with the exceptions of Cherengani, Londiani Crater and east Mt. Kenya, thus, leading us to believe that no Bongo currently exist in these three locations, although the habitat is entirely suitable in all. Vital scientific data has been collected from the expeditions, and has started to form a baseline of information about Bongo existence, habitat utilisation, and threats to Bongo conservation.

No conservation plans can be possible without the goodwill of the communities. To this end, the BSP also runs an outreach conservation education programme, which includes nine schools selected for their proximity to the Bongo groups identified. Bongo Wildlife Clubs have been set up and are sponsored by the BSP. Over 700 children have visited various National Parks, such as the Aberdares, Hellsgate and education centres in the last four years. The estimated outreach through the schools is around 10,000 people. A number of projects have been initiated within the schools, involving alternative energy sources, such as solar, cooking devices with better use of firewood and alternate fuels. Tree nurseries and various agricultural projects, including fish ponds, have

about Bongo

The Mountain Bongo (*Tragelaphus eurycerus isaaci*) or Eastern Bongo is a critically endangered antelope subspecies endemic to Kenyan montane forests. It is the largest and heaviest African forest-dwelling antelope, weighing up to 400 kg. Its colour is bright chestnut-red, becoming darker with age, and it has 12-14 transverse narrow white stripes on the shoulders, flanks and hindquarters. Both sexes have massive spiral horns with light yellowish tips that measure up to one metre in length, and are usually thinner, longer and more parallel in the females. Adult males can be solitary while females and young used to form large groups that could have been useful in the communal defence of the young ones.

Bongo populations have declined in the last decade. Currently there are approximately 100 Bongo left, mostly restricted to the Aberdares Mountains in Kenya. The dramatic decline of these populations, it is said, has been due to a combination of hunting, disease and habitat.

also been created and tree planting encouraged. All these initiatives have helped the schools and communities become more sustainable. They also have the potential to generate alternative income for the pupils and their families.

Understanding the current distribution of the few remaining Bongo populations is crucial for an ongoing multi-phase recovery plan. Fresh dung samples for the mucus have been collected from all the above areas where Bongo still exist. With modern technology, and effective training, the teams in the field have collected data to

BY JULIETTE SHEARS

Prettejohn has studied Bongo for more than 60 years. He has lived close to these high Kenyan forests for most of this time, and has developed an immense knowledge and passion for both the species and the preservation of its habitat.

The species has undergone a drastic decline over the last four decades. Exact numbers are currently not known, but inferential figures suggest there may be fewer than 100 individuals remaining, mainly confined to the Aberdares, where three small groups, each comprising 6-15 animals, are being monitored. There is

CONSERVATION

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PHOTO BY: WOBURN PICTURES

Group of woburn bongos grazing.

enable scientists to assess the presence and abundance of this forest-dwelling antelope. To enhance the reliability of pellet counts and tracks, other methodologies have been used in the analysis such as camera trap images, and DNA processing.

The BSP team has collected 331 wild Bongo dung samples during their tracking expeditions and also now have 61 samples from the captive Bongo population located at Mt Kenya. The aim is to conduct a comprehensive molecular DNA analysis with the aid of 'markers'. The American Museum of Natural History, under the guidance of George Amato in collaboration with Rare Species Conservatory Foundation (RSCF) is developing Bongo primers to facilitate microsatellite analysis. Some of the samples have also been shipped to the Evolutionary Biology Centre at Uppsala University of Sweden where scientist Henrik Svengren will do some of the analysis. The team's research is collated by Adam Mwangi, a co researcher in the BSP.

The DNA processing (first study 2007/2008) using faecal mucus has been key to establishing the identification of Bongo. By analysing dung mucus it has been possible to establish the presence of this elusive animal in four of the montane forests in Kenya. With the exciting new development in 2011 of the Bongo - specific primers and "markers" this will assess their sexes, relationships and genetic variations, leading to more accurate density figures and relationship data, with loss of genes or otherwise. Understanding relatedness information is fundamental to the bongo recovery effort, because the genetic variation across wild and captive bongo groups and genetic similarity between the fragmented wild populations, are presently unknown. Since bongo antelope have been maintained in captivity (with an international studbook) since the

1970's there exists pedigree information for captive animals but no independent analysis to determine how much genetic variation exists. Captive bongo may comprise of genes that have long disappeared from the wild or vice-versa - only a comparative genetics assessment can tell.

The bongo's sustainable recovery in the wild hinges upon practical management decisions that conserve both genetic diversity and integrity. Genetics can guide reintroductions and translocations designed to boost numbers and genetic diversity by helping to determine which animals compliment existing sub-populations, or which sub-populations can be mixed or integrated. An immediate goal is to assess which bongo are of the greatest genetic and demographic value to the overall recovery effort, and prioritize actions that preserve existing diversity and maximise conservation yield across populations.

It will be essential to validate the field observations and to input this habitat knowledge into distribution models. This knowledge of both wild and captive populations is essential to support the meta-population plan to increase Bongo populations and in order to promote the species recovery by maximising genetic diversity.

Key partners that have been involved in this process include the KWS, the University of Nairobi, International Livestock Research Institute (ILRI) that facilitated the study, Rare Species Conservatory Foundation, Kenyan-Swiss bilateral institution CETRAD (Centre for Training and Integrated Research in ASAL Development), the African Fund for Endangered Wildlife (AFEW), Rhino Ark, Eden Wildlife Trust, Tusk, Woburn Safari Park and the Rufford Foundation.

It has been an amazingly steep learning curve for the BSP "On the Trail of the Mountain Bongo". This journey required persistence and determination and has led to a groundbreaking scientific study that is grabbing attention worldwide. ●

JULIETTE SHEARS is a BSP UK volunteer coordinator and fundraiser.



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