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Article:

A brief graphical history of sengis in captivity

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The International Species Information System (ISIS) is a database that was established in 1973. It currently includes records of nearly two million animals submitted by 700 member institutions in 72 countries (mostly zoos, but some universities). Out of the 15 species of sengi currently recognized, only nine are represented in the database and only two are currently in captivity. In Figure 1 we present data from three commonly held species.

Although there had been scattered early successes in breeding sengis in captivity, the first widespread success was with the rufous sengi (*Elephantulus rufescens*). Indeed, numerous popular and scientific papers were produced based on the founding 14 animals at the National Zoological Park in Washington, D.C. and their subsequent multiple generations in zoos across North America. However, after about 15 years this species completely disappeared from captivity. We believe that this "boom and bust" cycle was due to the initial novelty of captive sengis eventually being lost and the lack of any institution taking the lead in developing and maintaining a genealogical history of the captives ("studbook").

The round-eared sengi (*Macroscelides proboscideus*) has been successfully kept in captivity well before ISIS began compiling data, but not until relatively recently has the population of captives shown a boom – mostly in Europe. Similar to the rufous sengi, the large number of captives has resulted in a bloom of publications on this species. However, given the large number of institutions keeping this species, but the comparatively small total number in captivity, and the lack of a studbook, we wonder if a bust is on the horizon.

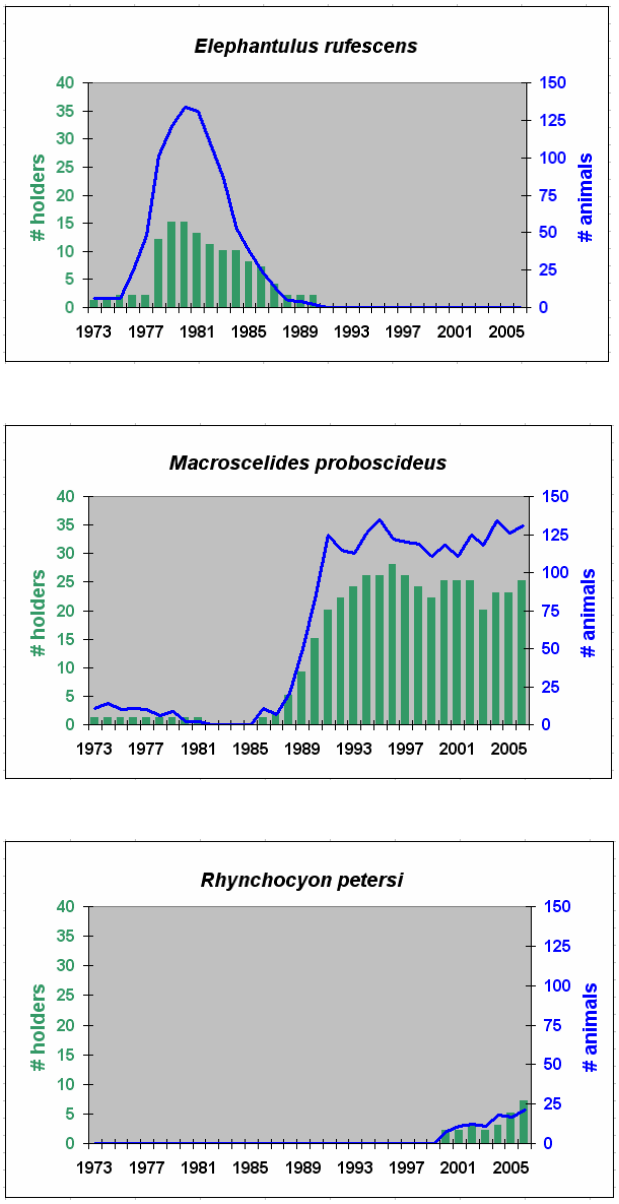

Figure 1: ISIS data on three species of sengi held in captivity.

The giant sengis (genus *Rhynchocyon* with three species) are large, strictly diurnal, and very appealing animals – arguably one of the more charismatic small mammals in the world (yes, we are biased). They all are threatened or near-threatened on the IUCN Red List. Most attempts at maintaining them in captivity have failed. The Frankfurt Zoo, however, was the first to succeed by keeping golden-rumped sengis (*R. chrysopygus*) for many years - but they never bred. Alan Root, the well-known African cinematographer, kept chequered sengis (*R. cirnei*), which were featured in a National Geographic Society film "*Heart of Africa – Forest Primeval*".

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A black and rufous sengi (*Rhynchocyon petersi*) female with infant in Philadelphia Zoo.

The greatest success, however, has been with the black-and-rufous sengi (*R. petersi*), which is now held by several zoological parks in North America. As reported in *Afrotherian Conservation* issue 3, the Philadelphia Zoo has been particularly successful in breeding this species. The captive population is still small and it is probably too soon to predict whether this species will go through the boom and bust cycle. Because it is an excellent display animal, and a studbook has been established, perhaps there is hope that these animals will persist in captivity and continue to be a showcase for sengis.

We view captive breeding of great importance for three main reasons. First, the husbandry skills developed may prove to be critical in preventing extinctions. Secondly, displaying captives has immense educational potential, especially for raising awareness of rare and threatened species. Thirdly, maintaining captives often produces invaluable scientific knowledge, including insights that are difficult to gather from free-living animals. We hope that the boom and bust cycle can be avoided, especially with unusual, rare, and threatened species, which includes a large proportion of the afrotheria.

Afrotheria News

Survey of the golden-rumped sengi planned north of the Tana in Kenya

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A new study aimed at establishing the status of the golden-rumped sengi (*Rhynchocyon chrysopygus)* is being developed by the University of Nairobi's conservation biology programme. It is intended to cover the forests north of the Tana River along the Kenyan coast.

According to available records, the historical distribution of the sengi extended all along the eastern African coastal forests, stretching from northern Mozambique to southern Somalia. This was once a continuous swathe of forest, or closely interconnected forest patches.

Throughout recent history, human encroachment has seriously impacted on sengi habitat as a result of uncontrolled logging, clearing for cultivation and urbanisation. Rapid human population growth has also led to sengis being extensively hunted for meat. They are also exposed to severe predation pressure, including by feral dogs. Consequently the species has suffered a drastic reduction in both numbers and distribution. Currently, it is only known to occur in small isolated coastal forests north of Mombasa. It is only in the Arabuko Sokoke Forest (ASF) and five smaller patches around it that its status is reasonably well known from recent studies. There is ample reason, however, to believe that the sengi occurs in the forests north of the Tana River where habitats are still relatively intact and human impact is low.

In the new survey, which is expected to commence with a hands-on training for field researchers within the ASF, we hope to update out present knowledge of the species' conservation needs in ASF, and establish authoritatively the presence of sengis in the forests further north, including the Boni and other forests between the delta and Kiunga.

Site visits, live-trapping, and interviews with local residents will be used to determine the presence of sengis and the conservation status of forest habitats found to be occupied by sengis. The survey methodology will follow that developed by earlier researchers, with appropriate modifications to suit local conditions. Survey efforts will be directed towards establishing the relative densities and other attributes of the species' ecology in different habitats.

Golden-rumped sengis create leaf nests on the forest floor and previous studies have shown that the abundance of leaf nests is related to sengi density. It is proposed to carry out transects in different habitats to compare nest abundance and therefore, sengi abundance in different habitats. It is hoped that information on the distribution of these habitats from aerial or satellite photographs will then help to establish an approximate estimate of the current distribution of the sengi.

An assessment of the distribution and relative abundance of the golden-rumped sengi in suitable habitats in areas north of the Tana River would have considerable bearing on its conservation status. The findings of this survey will also be critical in further underscoring the importance of the ASF as a biodiversity hotspot, home to six endangered bird species, two of which are endemic, and to three rare mammals.

A graduate student from the University of Nairobi is developing a proposal for this survey. The survey is expected to commence in October 2007 and end before the next major rains in March-April 2008. The results will go towards the student's MSc thesis and is expected to be published in scientific journals.

The golden-rumped sengi has been selected as one of the focal species for the Zoological Society of London's recently launched EDGE (Evolutionarily Distinct and Globally Endangered) programme. EDGE species have few close relatives and therefore represent a disproportionate amount of unique evolutionary history. Many of them are on the verge of extinction and yet are receiving little or no conservation attention. It is hoped that the University of Nairobi student will be selected as an EDGE fellow, and thereby receive funding and support from this programme. However, we will need to raise further funding to enable the survey to be completed. Any suggestions for funding sources would therefore be gratefully received.