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ASG NEWS

FUNDING FOR THE ASG

Thanks to the good offices of Simon Stuart, the People's Trust for Endangered Species has offered to raise funds for the Antelope Specialist Group. This very welcome news was conveyed in a letter (11 Mar 1988) from William J. Jordan, Director of the Trust.

In order to illustrate the Trust's fundraising mailings to supporters, good photos of rare and endangered antelopes are needed. So far we have on hand only my photos of giant sable (which aren't that great), and the duiker stamps reproduced from Patty Wilson's fine paintings, which include the Jentink's and zebra duikers. Any readers who have suitable pictures of other species which could be used for fundraising would be making a valued contribution to antelope conservation. If you would send them to me as soon as possible, I shall forward a selection to Mr. Jordan without delay.

In response to my appeal for financial assistance to help cover the costs of publishing the *Gnusletter*, WWF—US has contributed $500. Adding this generous support to the $255 received from subscriptions , it looks as though the ASG newsletter may break even for the year. However, a considerable number of individuals and institutions have not yet sent in their subscriptions.

Herewith my thanks to all those who havesubscribed, especially those who doubled (a few even tripled or quadrupled) the $5.00 individual rate.

NOTEWORTHY BOOKS

Gnu Book, by David Bygott, published by David Bygott and Jeannette Hanby, distributed by Ines May Publicity, P. O. Box 47577, Nairobi, Kenya.

Sooner or later it was bound to happen. Someonewould write a punny book about the words you can make out of gnu. That someone was David Bygott and he sent me a copy, leading to a review in the world's most appropriate place for this book. Never mind the somehow sinister fact that he is a lion person, David is a great cartoonist and this is a hilarious book. A sample of his art and humor appears at the end of this *Gnusletter.*

Under Acknowledgements, David explains how it all started. "This book was conceived around a campfire in Ngorongoro Crater, with the help of the Park, Randall and Anixter families, Peter Jones, plenty of Safari Lager and about 12,000 gnus...Among others "whose ingenuity yielded some absolutely wildebeastly jokes," I noted the name of Alan Root, whose flair for this kind of humor is famous—or notorious. To cite a trivial example of his wit, Alan changed the insignia on his Range Rover to Roll Over (suiting the word to the deed, as it happened).

Here are a few of the witticisms from the *Gnu Book* which, with their illustrations, made me laugh, starting with the subtitle on the cover: *"Soon to be released as a major motion picture starring Paul Gnuman and a cast of millions!" : Gnulyweds, gnurotic, gnuveau riche;* two lions reading a menu out loud: *"Mmm! chicken gnudle soup, or Gnu England clam chowder...roast Gnu Zealand lamb...or mignute steak with gnu potatoes...; ignundated* (a wildebeest underwater); *gnudist colony; a gnumatic blonde*; a Tv Gnuscaster: *"and now—the really bad gnus...; gnubile;* Hells Angels gnus on motorbikes, entitled *"Bad gnus travel fastest;" gnusflash* (a gnu flashing); *high gnun* (pistol-packing gnu) ; *Vegnus* (Venus with a gnu's head): : the Statue of Liberty with a gnu's head: *"Welcome, gnucomers to the gnu world!; Gnu Jersey* (gnu wearing sweater); An Arab gnu wearing a *burgnuse*; a lampoon of *Spiro T. Aggnu*; *Roman gnvmerals*; and finally, a sea of wildebeest, labelled *ignumerable.*

Mammals of Malawi, An annotated check list and atlas, by W. F. H. Ansell and R. J. Dowsett. The Trendrine Press, Trendrine, Zennor, St. Ives, Cornwall, England. TR26 3BW. 1988. £12.00.

The Mammals of Malawi provides an up- to -date list of the 187 wild mammals known to occur in the country formerly known as Nyasaland. An introductory section gives an outline of the physical features, zoogeography, systematics, and habitats. In the main section each species is listed, along with regional synonymy, museums known to have specimens from Malawi, indefinite and rejected locality records where applicable, brief notes on habitat and habits, distribution and taxonomy. There is also a chapter on conservation of mammals. The annotated gazetteer includes the type localities of species and subspecies described from Malawi, and there are indexes of orders and families, scientific and English names. The map section at the end includes 180 maps showing the known distribution of each species plotted by quarter-degree square locus.

ANTELOPE SURVEY PART III

By the time Part II of the Antelope Survey went to press in March, Rod East had already finished drafting quite a number of the chapters for Part III, West and Central Africa. He has now sent me draft chapters on nine of the 19 countries. The completed accounts, and the authors who furnished most of the background information, include:

Cameroon, F. Lamarque, J. S. Gartlan, and M. A. Stark;

Central African Republic, C. A. Spinage, M. Fay;

Chad, J. E. Newby, J.-P. Thomassey;

Congo Republic, Innocent Nganga, Makosso Vheiye;

Ghana, B. F. Ofori-Frimpong, N. K. Ankudey;

Liberia, A. L. Peal;

Mali, A. C. Heringa;

Niger, J. E. Newby, J. E. Grettenberger;

Zaïre, W. Richter, F. Germi. R. Minne, K. Smith, F. Smith, J. Verschuren.

Some of the accounts make depressing reading, bringing home just how far the destruction of wildlife habitat and species has proceeded in much of West Africa. But there are some bright spots, too. Here are two samples to illustrate the bad news and the good news.

•NIGER: Current Status of Antelopes. "Over the last two decades the wildlife of Niger, especially medium-sized to large mammals, has suffered a catastrophic reduction. This has resulted from increasing competition with domestic livestock for forage, habitat destruction through overgrazing by domestic stock and tree-felling by pastoralists and cultiva-

tors, and extensive illegal hunting (Jones 1973; Newby 1980). The great sahel drought of 1968–73 affected wildlife as severely as man and domestic livestock and greatly increased pressures on the remaining wildlife habitats...The situation has worsened with the droughts of the 1980s. While good rains fell in 1985 and 1986 in much of the savanna, sahel and subdesert zones of Niger, the Air/Tenere and other regions of the northern deserts remained dry, severely reducing the available food supply of addax and other desert herbivores.

"The surviving remnants of Niger's antelopes and other large mammals are now concentrated mainly in isolated or mountainous and hilly tracts in the Saharan and sahel zones, notably in the regions of the Air and Termit Massifs, and in the W National Park and the contiguous Tamou Reserve in the southwest. Fifteen of the 17 antelope species which occurred in Niger in historical times are now classified as extinct [sitatunga], endangered [red-flanked duiker, scimitar-horned oryx, addax, korrigum *(Damaliscus lunatus)*, slender-horned gazelle, dama gazelle], rare or vulnerable."

The Air and Tenere National Nature Reserve. Still, the conservation of wildlife in Niger is not beyond all hope. Thanks in part to the efforts of John Newby and John Grettenberger, "The proposed Air and Tenere National Nature Reserve is currently being established. It comprises a vast area (>77,000 km²) of the Air Massif and Tenere Desert. The western part of the reserve is dominated by the Air Mountains, which consist of granitic massifs and outcroppings bisected by temporary watercourses or wadis. The eastern part is a mixture of ergs (sand dunes) and regs (gravel plains). The reserve is sparsely vegetated. Most of the vegetation is concentrated along wadis, which support perennial grass and forb communities (primarily *Panicum turgidum* and *Aerva javanica* with an overstory dominated by *Acacia* spp. and *Balanites aegyptiaca*). Extensive areas in the eastern part of the reserve are devoid of vegetation except in years of good rainfall. This reserve is of major international importance for the conservation of saharo-sahelian wildlife, affording protection to dorcas and dama gazelles, addax, and other species such as barbary sheep..., cheetah..., striped hyaena..., and ostrich...The slender-horned gazelle also occurs but the area is slightly too arid for scimitar-horned oryx. A management plan has been prepared for the Air and Tenere Reserve which attempts to strike a balance between the requirements of conservation of the fauna and flora, rational exploitation of the reserve's natural resources by the local nomadic people, and the development of tourism (Grettenberger & Newby 1984)."

• ZAIRE "There are extensive regions of the country with very low densities of inhabitants, including much of the equatorial forest zone and parts of the peripheral savannas, e. g. in the southeast. The natural habitats in these areas are consequently under little pressure from agricultural development. The eastern transitional forests have been largely cleared for agricultural use, especially tea and coffee plantations, and clearance for rice cultivation is now affecting some of the Zaïre basin swamp forests, but the country still retains about 50% of its original forest cover (MacKinnon & MacKinnnon 1986).

"Current Status of Antelopes Zaïre's forest and savanna habitats support a diverse and spectacular fauna, including about 30 species of antelopes..., the number varying according to taxonomic treatment. Characteristic antelopes of the equatorial forests include bongo, sitatunga, and seven or eight species of duikers, with bushbuck widespread on forest edges. The forests east of the Zaïre-Lualaba River,.which are believed to have been an important Pleistocene refugium, contain many endemic plants and animals, such as the okapi... Bates' pigmy antelope is confined to this area and to the Cameroon-Gabon refugium in west-central Africa.

"Antelopes currently or formerly widespread within suitable habitat in Zaïre's savanna zones include bushbuck, sitatunga, blue, yellow-backed and gray duikers, reedbucks, roan, and oribi. Giant eland, kob, and lelwel hartebeest occur in the northern savannas. Greater kudu, common eland, sable, Lichtenstein's hartebeest, Sharpe's grysbok and impala are confined to the southeastern *Brachystegia* woodland zone, where puku and lechwe also occur locally on riverine grasslands and floodplains.

"The major threat to antelopes and other wildlife in Zaïre is hunting, especially uncontrolled commercial poaching (Verschuren 1975). Hunting has eliminated most forest wildlife along the larger navigable rivers, but the overall status of forest antelopes remains satisfactory...This reflects the extensive remaining areas of sparsely inhabited equatorial forest, as well as the existence of several large forest national parks at varying stages of development. Nevertheless, the numbers of forest antelopes are severely reduced in the environs of populated areas."

"Many of the savanna antelope species are now threatened, especially those which are confined to the southeast..., as a result of overhunting. *Brachystegia* woodland species generally occur at low densities and are very susceptible to hunting pressure. Despite relatively low human population density, antelope populations in Shaba have been reduced to low levels by widespread poaching for meat, much of it by hunters from the mining towns. The wildlife of extensive areas of the northern and southern forest-savanna mosaic zones has also been severely depleted by heavy poaching."

WHERE TO GET PART I

Copies of *Antelopes: Global Survey and Regional Action Plans*, Part I, East and Northeast Africa, can be obtained for $20 apiece from IUCN, Ave. du Mont-Blanc, CH-1196 Gland, Switzerland.

This publication is highly recommended for anyone who desires the latest information about wildlife conservation in any or all of the following countries: Sudan, Ethiopia, Djibouti, Somalia, Uganda, Kenya, and Tanzania. Range maps and information for every antelope species that occurs in each country are included. The descriptions of the biomes, the assessments of wildlife conservation in each country, accounts of conservation measures taken and proposed, and the regional action plans should prove valuable for all who are concerned with the conservation of African wildlife and natural habitats.

A REPORT ON THE CONSERVATION MONITORING CENTRE

Paul Joslin, Project Director of the International Snow Leopard Trust, has sent Rod East a report of a visit he made last October to the Conservation Monitoring Centre in Cambridge, England. His comments on the Protected Areas Data Unit (PADU) and the Species Conservation Monitoring Unit are of interest to ASG workers.

PADU "This unit is outstanding as a source of up-to-date information on reserves world wide. The data base contains a listing of over 11,000 areas, the majority of which have been documented with respect to pertinent details, including size, location, physiography, primary flora and fauna, management classification, staffing, budget, causes for concern, and the address of the agency or person in charge. The information has been synthesized into about 1 1/2 pages for each reserve. As the data compilation is completed for each major region of the globe it is circulated to the respective government agencies, experts and NGO representatives within the region for comment, thus ensuring that the information is of a high degree of accuracy, and likely to be well received after publication.

"The data base is so constructed that it is possible to print out just the information on reserves occurring within the snow leopard's range, and to further define it, if desired, according to size of reserve, country, biogeographical province, and a host of other parameters...PADU maintains extensive files on each country pertaining to the subject at hand. Thanks to the guidance of Jeremy Harrison, Dr. Michael Green, and Zbigniew Karpowicz, it was possible to extract and photocopy approximately 1100 pages of filed reports and correspondence concerning the countries which have snow leopards.

"Equally valuable was the opportunity to be able to prepare a list of creditable contacts. This was especially helpful for those areas where the Trust has been weakest, notably Afghanistan, Bhutan, China, Mongolia, Pakistan, and U. S. S. R.

"The PADU personnel felt that it was a valuable exercise to have their data base put to use by a member of a specialist group concerned with species matters. While those involved with reserves are aware of the important contribution which PADU is making, few specialist groups would seem as yet to know of its potential. If more specialist groups used the service, more could be done for the conservation of species. Increased involvement of the specialist groups with PADU would lead to the specialist groups contributing relevant information to PADU , so that the benefits could be mutual."

SCMU In contrast to these enthusiastic comments on PADU is what Joslin has to say about the Species Conservation Monitoring Unit.

"In essence the mammal red data book established a level of credibility whereby the majority of the world's organizations concerned with mammalian species conservation looked to the IUCN as the logical source of current information concerning status. However no mechanism was developed whereby the users of the service contributed towards the upkeep of the red data book mammal series, while the former sponsors ceased to provide funds. The nominal fee for publications produced by the unit does not go to aid those responsible for gathering the information. There has been a shift away from continuing to monitor the status of mammals in favor of gathering badly needed data on plants, reptiles, amphibians, fishes, and other groups. There has also been a fundamental shift away from a preoccupation with species and towards strengthening the data base on habitats.

"Today no work is being done on general updating of the data base on mammals at CMC. Jane Thornback, the head of [SCMU], contrary to the probable opinion of most outside agencies, does not receive any monies from IUCN. This situation has apparently existed for the last few years. She survives by depending on outside contracts pertaining to conservation related matters that have nothing to do with updating of the data base on mammals."

WANTED: WWF SUPPORT FOR ASG PROJECTS

Two surveys considered of high conservation priority by the Antelope Specialist Group have been turned down by WWF-International and a third is in limbo: Harald Roth's request for funding to complete a species-by-species survey of Ivory Coast forest antelopes that he began in 1978 (see January 1987 *Gnusletter);* Vivian Wilson's survey of Tanzanian forest duikers, an important part of his Pan-African duiker survey; and a still-undecided proposal by the Chad Ministry of Tourism and the Environment to survey the Ouadi Rime-Ouadi Achim Faunal Reserve (see the report on Chad in the Regional Rundown).

In a 29 April 1988 letter to Simon Stuart querying whether WWF is making a policy of not funding survey projects, Rod East makes a strong plea for the importance of such surveys, and especially the one in Chad.

"As you are no doubt aware, and I have stressed in my draft Antelope Survey report on Chad, surveys are an essential first step to the recovery of the Ouadi Rime-Ouadi Achim Reserve following the retreat of Libyan-backed forces from the area. These surveys have extremely high priority in international antelope conservation, since Ouadi Rime-Ouadi Achim is the last chance of saving a naturally occurring population of scimitar-horned oryx, and probably also of addax (although this species may also be saved in Niger's Air and Tenere Reserve, if the remnant population there can recover with protection and a return to normal rainfall patterns). Both scimitar-horned oryx and addax are globally endangered, and I am certain that there is no higher international priority in the Antelope Specialist Group's Action Plans than the protection of viable natural populations of these two species."

Jean-Paul Thomassey, ASG member and Technical Adviser to the Ministry of Tourism and the Environment, writes (in lit. to Rod East, 31 Mar 1988) that Profs. Pierre Pfeffer and Hubert Gillet of the Paris Natural History Museum have agreed to carry out the survey, if funding can be arranged. "Apropos of the oryx," he writes, a herd of some dozen individuals including several young have been seen in the Salal region, at the 16° parallel."

After so many years of civil war and chaos, the survival of any wildlife in Chad

seems nothing short of miraculous. That no funds can be found to help the Government in its efforts to pick up the pieces and reinstitute protection for several of the world's most endangered mammals is nothing short of absurd.

ANTELOPE NEWS

JENTINK'S DUIKER

Karl Kranz, Curator of Mammals at the Philadelphia Zoo, writes (10 Feb 1988) that he and Vivian Wilson have decided to pool their information and jointly publish a paper on *Cephalophus jentinki*, found only in Liberia, which shares the distinction of rarest duiker with Abbott's duiker, *C. spadix*, found only in Tanzania.

ROOSEVELT SABLE

While in Tanzania in February and March, I learned that it was Markus Borner who spotted sable antelope near Tanga, while flying to the coast to visit his daughter in boarding school. Dr. P. Schachenmann, General Manager of Amboni Limited, the Swiss company which owns the land where the animals were sighted, has asked for precise characteristics of the Roosevelt sable to verify that indeed they belong to this rare subspecies. Meanwhile, he plans to visit the Shimba Hills to see for himself what *Hippotragus niger roosevelti* looks like.

With an area of some 400 km², Mkwaja Ranch preserves an important remnant of wildlife habitat south of the Pangani River, and adjoins the Sadani Game Reserve on the south. There may be as many as 60–70 sable in four herds, as well as wildebeest, giraffe, buffalo, eland, and lesser game (probably duikers, bushbuck, suni, etc.). In addition to the wildlife, Mkwaja includes a large stretch of seashore. Clearly it has great potential as a game preserve and tourist resort.

CAPTIVE BREEDING

ANTELOPE STUDBOOKS

Alan Shoemaker (address: Riverbanks Zoological Park, 500 Wildlife Parkway, Columbia, SC 29210), in his capacity as Studbook Advisor for the American Association of Zoological Parks and Aquariums (AAZPA), has sent a list of all the studbooks maintained in North America, a list of international studbooks maintained elsewhere in the world, and a list of regional studbooks maintained in the UK and Australia. In addition, he has offered to write a synopsis for the *Gnusletter* of living specimens, founder size, etc. of antelopes maintained in closely managed conditions.

"For your interest," he writes (in lit. 9 Feb 1988), I anticipate 2–3 new studbooks on antelopes in the coming year, hopefully to include gerenuks, Eastern giant eland, and perhaps dama gazelle or yellow-back duiker.

"Regarding giant eland, the recent importation consisted ultimately of 9 (3.6) animals, all from Central African Republic. They are owned jointly by the Cincinnati and Los Angeles Zoo, and the animal dealer who imported them. The cost was staggering. They are the same race maintained in Pretoria and an embryo transfer project is being investigated.

"I understand that addax have been transferred from the San Diego Wild Animal Park to Tunisia for release."

ADDAX AND SCIMITAR-HORN ORYX IN TUNISIA

By coincidence, information about the reintroduction of addax to Tunisia, mentioned by Alan Shoemaker above, and on scimitar-horned oryx was sent in by Bertrand des Clers, President of the International Foundation for the Conservation of Game. I. J. Gordon of Station Biologique de la Tour du Valat and the Zoological Society of London has written a report (No. 5, October 1987) on the reintroduction of scimitar-horned oryx from the United Kingdom to Tunisia, from which the Summary is included here.

"Ten scimitar horned oryx (*Oryx dammah*) were revisited at the Bou-Hedma National Park, Tunisia, in October 1987, almost two years after their reintroduction and four months after their release into the 1500 ha Total Protection Zone. Observations were made on the condition of the animals, their social behavior and activity patterns, the behavior of the oryx calf (born to female No. 7 on the 28th of July), the vegetation in the Park, and on the social behavior and activity patterns of eight addax, *Addax nasomaculatus*, which share the Park with the oryx.

"The animals now ranged around the Park, the oryx spending most of their time on the stony terrain on the west side of the Park whereas the addax used the sandy soils to the east. The oryx and addax still came to the pens to be fed on pelleted concentrates although this was rather irregular.

"The oryx were generally in good condition and had fared well since the last visit in May, 1987. There is a pronounced dominance hierarchy which had changed little since May. The males were clearly dominant to all females and initiated most of the interactions. Female No. 7, who was lactating, had dropped from the top of the female hierarchy to the bottom and was being harassed by several of the other females in the herd.

"The addax interacted far less than did the oryx and because of this their dominance hierarchy was less easy to define. One female, No. 4, appeared to be in estrus and was intensively courted by the dominant male No. 1. The two addax calves have fared well and their mothers have coped with the burden of lactation.

"The oryx showed a two-bout activity rhythm, resting during the middle of the day and feeding in the early morning and late afternoon. The addax had a three-bout activity rhythm, feeding for a short while during the middle of the day. Both the oryx and the addax fed primarily on grasses.

"The aggressive interactions between the addax and the oryx escalated during this visit. Two very serious fights occurred between the dominant male addax and oryx in which both sustained injuries. This situation will require careful management if serious injuries or even fatalities are to be avoided."

FIFTH WORLD CONFERENCE ON BREEDING ENDANGERED SPECIES IN CAPTIVITY

The conference will be held in Cincinatti, Ohio , 9-12 October 1988, co-sponsored by the Cincinnati Zoo and Botanical Garden, Kings Island Wild Animal Habitat, and the Fauna and Flora Preservation Society. The IUCN Captive Breeding Specialist Group meeting will be held just

conservation awareness. The existence of this body offers hope that something may yet be done to stop the downward spiral of Somalia's wildlife resource, as detailed in Part I of *Antelopes: Global Survey and Regional Action Plans*. The magnitude of the problem is indicated by the opening paragraph of the SES newsletter:

"Somalia's environment has suffered greatly in recent years, along with its wild plants and animals, many of which are unique to the Horn of Africa. It has been subject to severe poaching and exploitation and many problems have arisen from the mismanagement of the natural resources. This has contributed to erosion, deforestation, desertification, drought and famine. Flora and fauna are threatened with extinction. People are having to travel further and further for food and fuel. There is now an urgent need to reverse this trend."

"Various antelope, as well as elephant, rhinoceros and giraffe once roamed in abundance throughout the country. These are now restricted to a few areas in the south. The outlook for endemic herbivores such as the beira, dibatag, and Somali wild ass is particularly worrying. These are all confined to specific localities in the central and northern regions."

As their first project, the SES established the Balcad Nature Reserve on the Shebelle River, only 35 km from Mogadishu. A Field Centre has been built within the reserve for education, display, and research, staffed by two British Conservation Volunteers, Tim Dodman and Yvonne Guinan, who also wrote and illustrated the Newsletter.

"The Balcad Nature Reserve protects a remnant of riverine forest, the like of which once extended for hundreds of kilometres along the Shebelle River...The forest has been protected since August, 1985, with a major extension of bush-covered sand dune area in April, 1987, which includes the Balcad Field Centre. There is now a total area of nearly 200 hectares. Before its protection the Reserve was subject to grazing and woodcutting. Since these activities have been halted, the vegetation is already changing rapidly with the forest extending and the bush becoming thicker. This will provide more cover and food for birds and other animals...Establishment of the Reserve has been carried out with considerable assistance from the Somali Government's National Range Agency" (which has jurisdiction over both livestock and wildlife). To protect the reserve, a fence was put around it and an effective guarding system was installed.

The SES is hoping to protect another larger and more valuable patch of forest on the Juba River. As explained in the newsletter, "Somalia riverine forest is a distinct vegetation type, flanking rivers with tall trees and lush growth in a land dominated by drier, open bushland. This high forest is dependent on the river for its water supply, and supports both plants and animals not found in the surrounding drier uplands. Nearly 60 woody plant species have been found in the riverine forests of the Juba, with the tallest emergent trees reaching 25 m high."

"...The riverine forests of Somalia represent the northernmost examples of this type of vegetation in East Africa, the closest large river to the south of the Juba is the Tana River in northeastern Kenya, and the closest in the north (also in Somalia) is the Shebelle River, which has been greatly changed by agriculture on its banks."

"Much interest was generated in Mogadishu about conservation of riverine forest in the Juba Valley following research by the Somalia Research Project of University College, London (SRP) in...1986. That project worked mainly in two forests...and recommended immediate conservation measures to protect them." Thirty-eight species of mammals have been recorded in the forests, including Harvey's duiker, and (occasionally in the dry season) lesser kudu and oryx.

"A month after the SRP, an aerial survey by the Juba Environmental and Socioeconomic Survey...revealed that sections of these reserves were being cleared for agriculture. The Juba forests are disappearing rapidly. Appropriate actions must be taken now if some sections are to be conserved. Without such action, it is possiblethat there will soon not be any areas of riverine forest worth conserving.

"When the Baardheere Dam is constructed on the Juba River it will cause many hydrological changes downstream. Most significant for floodplain vegetation will be changes in the flood regime. The riverine forest composition will change without periodic floods, and people and livestock will have access to floodplain areas throughout the year."

It is encouraging to know that several international organization/agencies are involved in surveying Somalia's remaining natural resources. The Juba Environmental and Socioeconomic Study, a project of USAID, involves field surveys on the vegetation, ethnobotany, forestry, socioeconomic factors, land tenure, aerial photography, and aerial censuses. The final report, due this year, will include recommendations for conservation in the area, giving highest priority to the two largest remaining patches of riverine forest on the Juba: Barako Madow (100 ha) and Shoonto (150 ha). The Somalia Research Project plans to send a research team back to the field this year to continue and expand upon their work in the forests, and help in drawing up management plans for the reserves. In July, 1987, the Somalia Ecological Society organized an aerial reconnaissance of current and potential reserves in southern and central Somalia, with special attention to the potential reserves recommended by Alberto and Jacopo Simonetta in their 1983 report (see Part I of the Antelope Survey). Hugh Lamprey, Regional Director of WWF-US flew the survey.

"Areas seen to be of particular importance in the south for wildlife were the Boja Swamps on the Lower Shebelle and the Shoonto and Barako Mado Forests...The Bush-bush National Park contained an alarmingly high proportion of livestock and is in obvious need of management. This was very discouraging considering the area's status as a National Park and its once abundant wildlife. In the Central Rangelands a number of Speke's and Soemmering's gazelles were seen and bushland in places such as the Haradere area are reported to contain the rare dibatag. However, much livestock was seen throughout the rangelands, and there is an obvious need for habitat protection since this part of the country supports some rare and endemic herbivores."

Having established the urgency of the problems confronting Somalia, the question is, what material help can these and other international agencies and NGO's provide to improve the situation? "In 1987 the SES, in partnership with WWF, submitted a proposal to USAID's Biological Diversity Programme to conserve these remaining forests. However as yet no positive response has been forthcoming and we are losing valuable time in which to launch our programme. Ecologists predict that even by next year the last forest stands may be reduced to mere remnants and unworthy of conservation. We would therefore welcome any further initiatives that might give impetus to our project.".

KENYA

IUCN's Regional Office for Eastern Africa, headed by Rob Malpas, has published its first annual report, in which there is much that is of interest for antelope specialists. Here is abrief summary.

IUCN has undertaken to establish a Biological Resource Monitoring Centre at Kenya's National Museum. A standardized system will be used to make the information on the fauna and flora of Eastern Africa exchangeable with similar centers around the world. The initial emphasis will be on plant species and forest habitats, using a nucleus of existing information already held by the Museum, the Kenya Forestry Research Institute, and the IUCN Conservation Monitoring Centre. The Swedish International Development Agency has been asked to provide funding.

TANZANIA

A Wildlife Utilization Study is underway with the objective of formulating a comprehensive national wildlife utilization plan. Collaborating agencies include the Wildlife Division of the Tanzania Ministry of Lands, Natural Resources and Tourism, and the International Trade Centre, with funding from UNDP. The study "will examine existing utilisation practices, reviewing four aspects in particular:

- ways of making current schemes more cost-effective and of increasing revenues;
- the impact on wildlife populations and the scope for increasing utilisation on a sustainable basis;
- the potential for increasing local involvement in existing wildlife utilisation schemes; and
- the potential for introducing new schemes, in which local communities play a central role and directly benefit."

The raison d'etre for this project is given in the final paragraph. "While Tanzania's fundamental conservation philosophy must not be compromised, it should be recognized that the best way of securing the future of wildlife is for it to pay its own way. The main goal of this study, and the subsequent implementation programme, is to establish the wildlife industry as a major economic asset both nationally and locally. The potential for such an industry, based on sustainable utilisation principles rather than short-term mining, is considerable."

UGANDA

It appears that the European Economic Community, having played a major role in destroying Botswana's wildlife resource through subsidizing the cattle industry, is now doing quite a bit to clean up its act. According to the IUCN Regional Office Annual Report (p. 17), "Through an ever-increasing number of projects financed by the European Development Fund, the EEC is now one of the major forces for effective conservation action in Africa." For instance, it is presently engaged in a Natural Resources Conservation Project for Uganda, for which IUCN is providing logistical support.

"The aim of the project is to rehabilitate three national parks—Queen Elizabeth, Murchison Falls and Kidepo Valley—and the Uganda Institute of Ecology. Equipment and materials are being provided for the rehabilitation of roads, workshops and buildings such as offices and staff accommodation. The project will also be rehabilitating schools, dispensaries and drinking water facilities in a number of adjacent villages.

"IUCN's direct involvement centres on the Uganda Institute of Ecology. The project aims to revitalise the Institute's role as the scientific wing of the Parks organisation, which will include re-initiation of a systematic ecological monitoring programme, using the latest aerial survey and computerised geographical information systems technology."

ZAMBIA

Geoffrey Howard and Richard Jeffery conducted another aerial census of the Kafue lechwe population in November, 1987. According to the report prepared for the Director, National Parks and Wildlife Service, the results indicate that "the lechwe population has probably not declined since 1983 and may have increased in that time." However, because of an unusually clustered distribution (aggregations of large numbers of females and young) and one relatively unmaneuverable aircraft (a Cessna 206), the estimated total of 50,715 lechwes could be off by 17,520 animals. (95% confidence limits). They conclude, "Only a more accurate census with a smaller overall variance will elucidate this conjecture [of no significant change in the population] and provide the information needed for future management and possible utilisation of the Kafue lechwe."

ANGOLA

The fact that UNITA forces have overrun the Kangandala National Park, and the allegation that giant sable were being shot was reported in the last *Gnusletter*. In the meantime, Brian Huntley, who served as Ecologist for the Serviços de Veterinaria in the early 1970's, has heard some reassuring news about the giant sable from his Angolan contacts. In a 29 April 1988 letter to Jim Thorsell, Executive Officer of the Commission on National Parks and Protected Areas, Brian reports that his contact had confirmation from the Kangandala ranger, who is now based in Malange, that the giant sable is all right. Although direct contact has been broken both with Kangandala and the Luando Reserve, apparently the game guards are still present in both places.

As for Angola's other parks, reports suggest that conditions range from bad to completely chaotic. Kisama, closest to the capital city of Luanda, is in the former category, whereas Bikuari, Iona, and Luiana seem to be unadministered and un-

guarded, their rangers restricted to the provincial capitals. "Regarding Threatened Protected Areas," Brian concludes, take your pick. All the protected areas are as much or far more seriously threatened than any of those on your list.." Apart from the continuing civil war, the most pressing problem is lack of trained personnel in the National Directorate of Nature Conservation.

ASIA

PAKISTAN

Michael Green, who maintains the Protected Areas Data Unit at the Conservation Monitoring Centre, sent Rod East (in lit 21 Jan 1988) part of a report on his 1986 visit to Pakistan containing interesting information about antelopes in the Kalabagh Game Reserve.

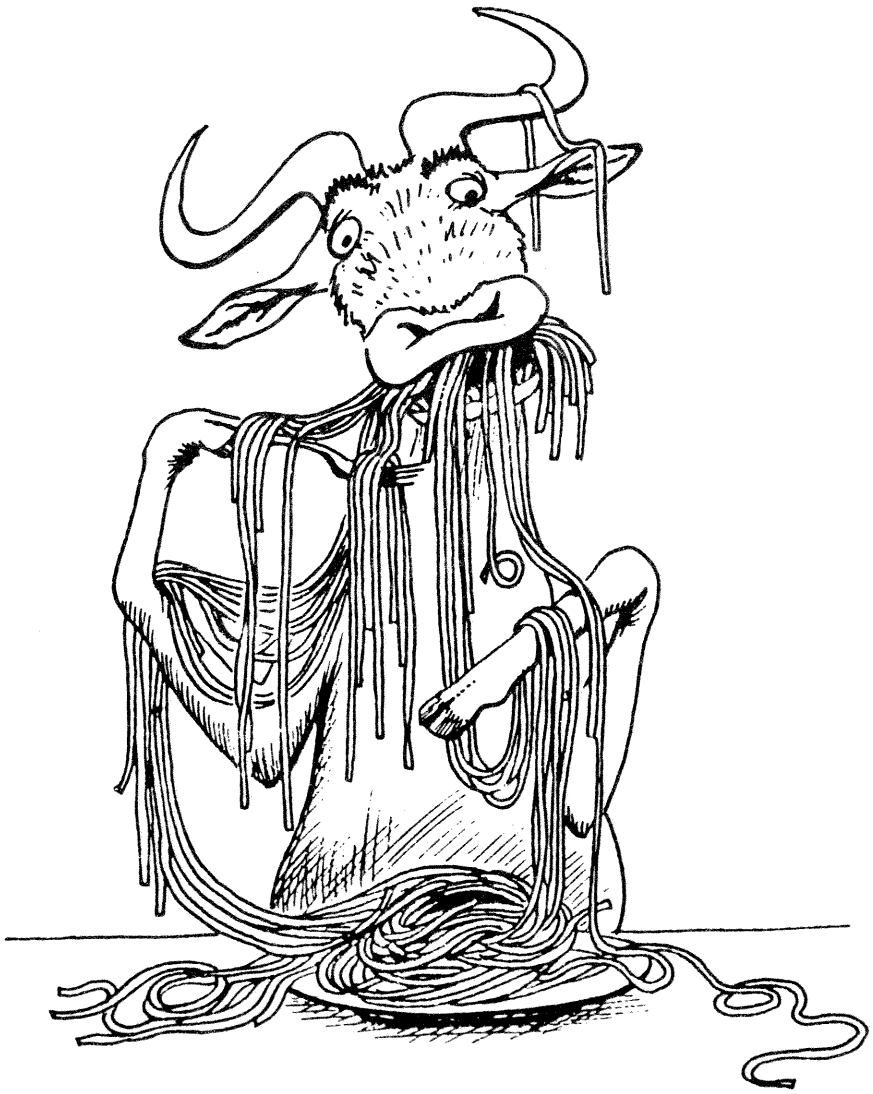
"This private reserve, leased from the government by the Nawab of Kalabagh, lies in the western extremity of the Salt Range some 130 km south of the town of Kalabagh. Livestock belonging to the Malik family are raised in the reserve but they are managed in the interests of the wildlife. This is evident from the good condition of the vegetation within the reserve, in sharp contrast to the adjacent overgrazed areas. Management practices include the removal of unpalatable grasses and re-seeding of heavily grazed areas in the lowlands.

"The reserve is noted for its sizeable populations of Punjab urial...and chinkara *[Gazella gazella bennetti]*...Both species have been reduced in number or exterminated throughout much of their former range in Pakistan...Good numbers of urial and chinkara were seen during my two-day visit."

"...My visit coincided with the arrival of a shipment of blackbuck (8 females and 3 young males) from Copenhagen Zoo. These animals were released into a couple of large enclosures, where they will remain for several months prior to being set free in the reserve.

"It is suggested that the introduction of blackbuck to Kalabagh might be the subject of a long-term study. Not only is this a rare opportunity to study the dispersal of an introduced species, but it may be important to monitor blackbuck and chinkara populations and examine the extent of interspecific competition. It would also be useful to investigate competition between domestic livestock and wild ungulates, with respect to habitat use and diet, and to assess the carrying capacity of the different habitats."

One may wonder about the long-term viability of these antelopes and of the reserve itself, however, for in the concluding paragraph Green writes:

"Kalabagh Dam, the world's largest dam, is to be constructed on the Indus just above Kalabagh at an estimated cost of U.S. $5 billion. The project is a joint Government of Pakistan/World Bank venture. Access to the construction site will be via the reserve and this route will be heavily poached unless the access route can be fenced off, as originally recommended by a World Bank consultant. To date, no provision has been made for the necessary 22 km or more of fencing."

Would it be expecting too much for the World Bank and/or the Pakistani Government to include the costs of fencing in their budget?