Antelope Specialist Group

I.U.C.N. S.S.C.

GNUSLETTER

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Edited by R. D. Estes, Chairman 5 Granite St., Peterborough, NH 03458, USA

AFRICA

Rinderpest in Sub-Sahelian Africa

The following information about rinderpest has been provided by Michael H. Woodford, who has been invited by SSC to set up a Veterinary Specialist Group to deal with all veterinary matters concerning SSC specialist groups. Based in Nairobi, Dr. Woodford has been keeping track of the recent alarming spread of rinderpest in African countries. As ASG members have a particular interest in this disease, Dr. Woodford was kind enough to write an article for inclusion in the Gnusletter, which I decided to run in its entirety. Please note his request at the end for additional information.

Rinderpest, probably the most lethal and potentially dangerous infectious disease which affects wild Artiodactyla, is controlled in cattle by rigorous vaccination campaigns and by the control of cattle movements in infected areas. Unfortunately, susceptible wild ungulates can neither be vaccinated nor can their movements be effectively controlled. While all members of the Order Artiodactyla are probably susceptible, the manifestations of infection with rinderpest virus (RPV) in wild species varies from acute, lethal disease as in buffalo, to very mild or subclinical, as in Thomson's gazelle. There are also marked differences in the virulence and transmissability of different virus strains and it is thus unwise to generalise on the likely effects of RPV infection in any particular species.

The following table lists the level of susceptibility of some wild ungulates to RPV infection. (from Plowright, W. 1982 Symp. Zool. Soc. Lond. No:50, 1-28).

Level of Susceptibility	Common Name	Scientific Name
Very High	Buffalo	Syncerus caffer
	Warthog	Phacochoerus aethiopicus
	Eland	Taurotragus oryx
	Kudu	Tragelaphus strepsiceros and T. imberbis

High	Giraffe	Giraffa camelopardalis and G. reticulata
	Bushbuck	Tragelaphus scriptus
	Bushpig	Potamochoerus porcus
	Sitatunga	Tragelaphus spekei
	Uganda kob	Adenota kob
	Giant forest hog	Hylochoerus meinertzhageni
	Bongo	Boocercus euryceros
	Wildebeeste	Connchaetes spp.
Moderate	Reedbuck	Redunca spp.
	Topi	Damaliscus korrigum
	Blesbok and bontebok	D. albifrons and D. pygargus
	Gemsbok	Oryx gazella
	Roan and sable	Hippotragus equinus and H. niger
	*Oribi	Ourebia ourebi
	*Impala	Aepyceros melampus
	Springbok	Antidorcas marsupialis
Low	Waterbuck	Kobus ellipsiprymnus and K. defassa
	*Duiker	Cephalophus spp.
	Oryx	Oryx beisa
	*Grant's gazelle	Gazella granti
	Dikdik	Rhynchotragus kirkii
	Hartebeeste	Alcelaphus spp.
Very Low	Thomson's gazelle	Gazella thomsoni
	Hippopotamus	Hippopotamus amphibius
	Gerenuk	Litocranius walleri

* Species whose response to infection is very variable.

The Disease

Classic rinderpest in cattle and wild ungulates of Very High or High susceptibility is characterized by a short fever, erosive stomatitis and gastro-enteritis. Incubation periods range from 3 to 15 days followed by a sudden onset of fever during which clinical signs are usually absent. Within 48 hours, signs of illness, manifested by depression and restlessness, dry muzzle, staring coat, shallow respirations, anorexia and constipation, become apparent. The next phase begins 2 to 5 days after the onset of fever with the appearance of raised, necrotic, pinhead foci on the mucosae of the mouth, nostrils and uro-genital tract. These foci abrade very easily, exposing shallow erosions. As the disease progresses the erosions enlarge and coalesce, profuse salivation follows and nasal and lachrymal discharges become mucopurulent. The breath is foetid. The affected animal is now obviously very ill. It drinks copiously and passes soft faeces at frequent intervals. The diarrhoeic phase starts as the fever falls, 2 or 3 days after the appearance of the mucosal lesions. The faeces are fluid, dark and foetid and often contain mucus and streaks of blood. Straining is severe and frequent. Respirations are laboured and painful.

The profuse diarrhoea produces dehydration, emaciation and prostration. Affected wild animals congregate near water sources which soon become foul and contaminated. Recovery, if it occurs, is slow. Pregnant animals may abort. Wild ungulates, especially kudu and Grant's gazelle may show corneal opacities and appear blind.

The postmortem changes in animals dying of rinderpest are characteristic but not diagnostic and the severity of the lesions varies with the innate resistance of the host and the virulence of the viral strain.

The carcase is dehydrated, emaciated, soiled and foetid. The muzzle and nostrils are encrusted and the nasal passages are coated with mucopurulent exudate.

Specimens required for confirmation of a diagnosis of rinderpest must be taken from several animals in the early stages of the disease. Samples taken from animals with diarrhoea or from dead animals are rarely of any use.

The specimens required for diagnosis are blood in anticoagulant, lymph nodes and spleen. These should be collected in sterile containers, stored on ice and transported to a competent veterinary laboratory as soon as possible.

Carcases of animals dead of rinderpest can be left to the vultures and hyaenas for disposal and need not be burnt or buried. The virus quickly dies out in the later stages of the disease and chemical changes occurring after death ensure that the carcase is no longer infective.

Recent Outbreaks of Rinderpest in Wildlife in Africa

TANZANIA

Rinderpest was confirmed to have been the cause of the deaths of several hundred African buffalo which died during March and April 1982 near Lobo in the Serengeti National Park, Tanzania. In June that year a similar disease killed several thousand buffalo and smaller numbers of giraffe, warthog and eland around the Ngorongoro Crater, and in September buffalo, giraffe and lesser kudu were reported to be dying near Same, southeast of Mount Kilimanjaro. Buffalo are reported to have died in large numbers in the Arusha area during 1983, but rinderpest was not confirmed.

SUDAN

Buffalo, tiang (*Damaliscus lunatus*) and Giant eland said to be affected between Wau and Ragah in Western Sudan.

NIGERIA

Yankari National Park is reported to have lost almost all its buffalo in an outbreak of rinderpest in 1982-83. Warthog and bushbuck were also affected.

BENIN

In 1981 an outbreak of rinderpest was reported in buffalo in Atakora region and in 1983 buffalo were dying in Pendjari National Park.

CAMEROON

In 1983 rinderpest killed + 4,000 Cob de Buffon and some topi, warthogs and

reedbuck in Waza National Park. Buffalo are also reported to be affected in the Reserve du Faro (1984) and in Benoue National Park (1983).

CENTRAL AFRICAN REPUBLIC

In March, 1984 buffalo are reported to be dying along the Bamigui River and also near Ouanda-Djalle.

CHAD

In March 1983, buffalo "and many other antelopes" were reported to have died in the Parc National de Zakouma.

FAO, in response to a request from the Organization of African Unity's Interafrican Bureau for Animal Resources (OAU/IBAR), has appointed Dr. M. H. Woodford, a widlife veterinarian, to investigate reports of outbreaks of rinderpest in wildlife throughout the continent of Africa. He is anxious to hear of any suspicious disease occurrences especially those affecting ungulate species of Very High or High susceptibility to rinderpest. He can be contacted at:

OAU/IBAR
P.O.Box 30786
Nairobi, Kenya
Telex:22893 OAU/IBAR
Telephone: 338576

or

FAO
P.O.Box 30470
Nairobi, Kenya
Telex 23016 FOODAGRI

Dr. Woodford is also interested in the location of any large concentrations of susceptible species and the location of small, vulnerable populations of rare species which may be susceptible - e.g. Giant sable, Giant eland.

Note: Rinderpest is not confined to Africa and although there are as yet no reports of wildlife involvement, cattle have been affected in Saudi Arabia, Oman, Kuwait, Lebanon and Syria. Rinderpest is endemic in India, Pakistan and Nepal."

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Senegal

Roland Wirth, Vice-Chairman of the Zoological Society for the Conservation of Species and Populations, of Munich (which has the giant sable as its logo) has written (26 March 1984) expressing concern about the lumping of different subspecies of the dama gazelle (Gazella dama, which he refers to as Nanger dama). The questions he raises are particularly relevant, in view of the impending reintroduction of dama gazelles bred in Spain both to Senegal's Langue de Barbarie N. P. and for restocking Moroccan reserves (see May and September, 1982 Gnusletters). ASG members and others who are knowledgeable about gazelle taxonomy are invited to express their views

in the Gnusletter. It is also important that ASG members consider the question of whether it is desirable or not to reintroduce different subspecies when representatives of the indigenous race have become extinct or unobtainable. The same question confronts the Rhino Specialist Group with regard to the two African species.

"Surely Nanger dama as a species is endangered. However, there are several subspecies (or distinct populations, whatever taxonomic status you want to give them) which must be virtually on the brink of extinction.

"Unfortunately Cano from Almeria, Spain, has, in a recent paper, united all the dark-colored forms of N. dama into just one subspecies, mhorr. As mhorr he treats the animals which he has in the breeding station in Almeria. Some of these animals have now been distributed to various zoos in Europe and USA, as your surely know. "Typical' mhorr from Morocco are, however, quite distinct from the Almeria stock and several workers have pointed to that, most recently Eigener and Schliemann in Der Zoologische Garten, Vol. 53 (3/5), 1983. Undoubtedly the breeding stock in Spain is very valuable, but the animals should be placed in the subspecies lazanoi (place of capture: Spanish Sahara).

"It seems, because of lazanoi being treated as mhorr, all zoo people (and conservationists?) have lost interest in 'true' mhorr which (if not already extinct) may occur in small numbers in Morocco and neighboring Algeria. Dr. Fred Kurt from Zurich ... told us that he saw several mhorr gazelles in private collections in Morocco about 15-20 years ago. Possibly some breeding stock does still exist. It would be a pity if the opportunity to initiate a captive breeding project would be lost simply because nobody searches in Morocco ... Do you see any chance for the Antelope Group to do anything in this field and do you have any additional information on Nanger dama mhorr?

"Cano's uniting all dark-colored dama gazelles into one subspecies did also not take into account that there is another very dark population (N. d. permista), which is separated from lazanoi and mhorr by an intervening population of very light-colored gazelles. Antonius (1930) printed some photos of permista, which were imported to Vienna zoo from Niger and Mali. These animals are, not surprisingly, somewhat distinct from the present-day captive lazanoi stock (dark nose spot and nearly white face). The permista population must also be in a very precarious situation and should receive some attention. Do you have any information on permista?"

Included herewith is a map showing the range of the different subspecies, reprinted from Andreae, P. and I. Krumbiegel 1976. Die Damagazelle, Nanguer dama (Pallas, 1767), und ihr gegenwärtiger Status. Säugetierk. Mitteil.23:268-278.

mhorr:
1 Mogador
2 Südmarokko
3 NW Sahara
4 Tafilet, Quednoon
5 W Sahara
6 Ideles

lozanoi:
7 Villa Gisneres
8 Rio de Oro, Span. Sahara

dama:
9 Chinguetti
10 Senegal
11 SW Sahara

permista:
12 Senegambien
13 Nampala
14 Niafunke
15 Timbuktu
16 Bourem bei Gao
17 Hombori
18 N Togo
19 N Dahome

(damergouensis):
20 Adar
21 Air
21a 150 km w. v. Agades
22 Damergou

23 Takukut

Mischgebiet (s. u.):
23a Oum Chaluba

ruficollis:
24 Sudan
25 Kordofan
26 Boran a. Dana (Dawa, Daua), zw. Souakim u. Dala (Tula)
27 Nub. Wüste (?)
28 Korti b. Anuga (Ambukol)
29 Bajuda

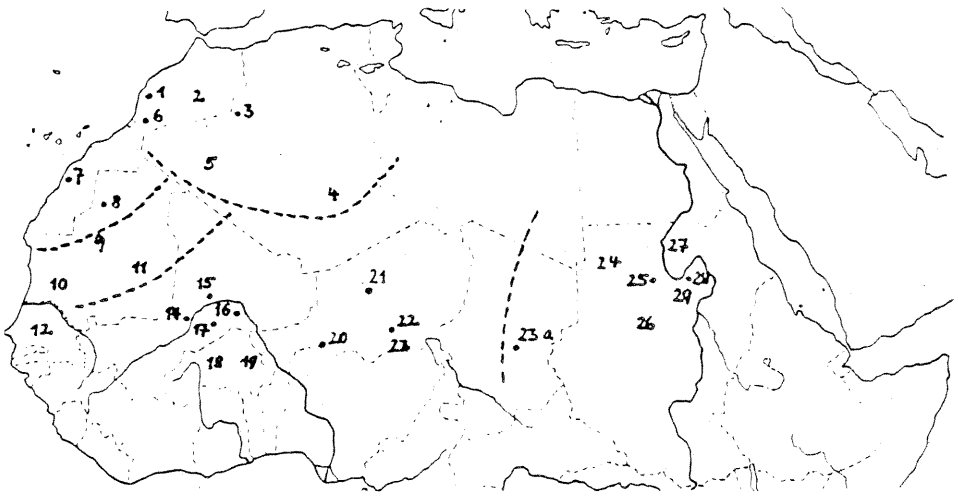

Abb. 5: Karte des (ehemaligen?) Verbreitungsgebietes von *Nanguer dama* mit gestrichelter, schmetaischer Abgrenzung der Unterarten. Fundortnummern entsprechend der Liste im Text. 23 a = refugiales Mischgebiet?

Algeria

Our Algerian representative, K. de Smet of the Department de Foresterie, has revised and updated his report (Gnusletter of May, 1982) on the status of antelopes in Algeria (in lit. 19 February, 1984).

In late 1983 the old French colonial game laws were replaced with new laws, under which all antelopes are now to be fully protected. One provision of the new legislation is for a national survey of all protected species. A questionnaire has been sent to forest guards throughout Algeria, from whom much more information has now been gained.

Gazella cuvieri - At least 15 new sites have been added to the existing places where this gazelle occurs, notably in the Alleppo pine forests of the northwest (Tlemcen-Sidi Bel Abbes). The Algerian population is now considered to number at least 400. "Poaching is still important, not by local farmers but by people from town and local authorities and military (sometimes even high-placed)." Two nature reserves have been set aside specifically for this species: one 60 km north of Ben Saada of 12,000 ha, in steppe-like habitat on the high plains, and one of 550 ha north of Mascara in the forest zone. There is little or no grazing in these reserves by sheep and goats and water will be provided in summer to keep the gazelles

from leaving the reserves.

Gazella leptoceros - Although there are few verified sightings, this may be the least endangered Algerian antelope, because its sand-dune habitat is subject to less human disturbance than formerly, now that even Saharan tribes are largely settled around towns and villages. It is more profitable to grow vegetables or work in the oil industry than to raise camels in the desert. The gazelle has been seen recently north of El Golea in the Western Erg and 30 km east and north of El Oued in the Eastern Great Erg. De Smet doubts its former distribution has changed much.

Gazella dorcas is still widespread south of the Sahara Atlas but is dispersed in small numbers. Poaching is of major importance but should decline under the new hunting laws as selling skins, horns or other trophies on the tourist market is now prohibited. Neglecta, the race that lives on the high plateaus, still exists in very limited numbers west of Air Sefra but "this zone is really the Algerian 'Wild West' and poaching is very important and law enforcement very poor."

Addax - Thought to be extinct north of the Sahara since 1936, this species has been reported from time to time south of Air Amenas at the Libyan border. One was killed by the local mayor in c. 1970 and petroleum prospectors reported sightings in 1981.

A breeding stock of oryx, addax, dorcas and dama gazelles exists in the Algiers Zoological Garden. Some of these animals might be released in one of the reserves once proper management and protection are provided.

"My last remark (in his previous report) that, 'the Forest Service is making strenuous efforts to protect the species both within and outside the state forests,' is still correct. Now that the first reserves have been created and money is available for their management, the future is becoming better for wildlife...."

Somalia

Alberto Simonetta has sent in distribution maps for 18 species of antelopes, updated to late 1983 except for some areas unvisited since late 1981. He has also included notes about the status of each species, from which remarks about species of particular interest and/or rarity are excerpted below (unfortunately space is too limited to run the full report).

Gazella soemmeringi - formerly extremely widespread and abundant; now restricted to some 10 pockets covering perhaps 1/20 of its former range, and reduced to singles, pairs or small groups.

G. granti - range somewhat reduced and numbers down by 3/4.

G. spekei - still one of the most abundant Somali gazelles with range largely unchanged, but numbers much reduced almost everywhere.

Litocranius walleri - range hardly changed but rare in most places. Found in fair numbers only in some pockets on the Lower Shebelle and between Afmedow and the Kenya border.

Ammodorcas clarkei - gone from c. half its former range. Numbers reduced even where still present. "I have, however, not enough evidence to assess either the significance of such reduction or the present numbers."

Damaliscus hunteri - the core of its range remains unchanged. Numbers have apparently always fluctuated considerably, perhaps due to migrations in and out of Kenya. "When the Badaade-Belesgogani-Afmedow areas were seen in 1982 there were

very few animals, but there was a pronounced drought and they might have moved to better grazing areas... Again, it is difficult to assess the significance of their absence there at the time of our visit."

Oryx beisa - formerly distributed practically countrywide, now reduced to perhaps 1500 in isolated small groups. They are constantly sought by poachers.

Dorcatragus megalotis - range probably unchanged although information as to numbers past and present is very meagre. Reliable informants report a marked decrease at least locally during the 1975 drought and no subsequent come-back. "The species has an extremely patchy and local distribution over its whole range and may be affected by habitat deterioration, as much of its range is overgrazed and the animals appear to be very selective feeders, although it is not known exactly what they eat."

Madoqua species and subspecies - no change in range of the various populations, though dikdiks have decreased in the more settled areas. Dikdiks are usually taken with nets rather than shot.

Cephalophus harveyi - in imminent danger of extinction because of habitat destruction. It may survive in a few patches of riverine forest on the Jubba about 40 km south of Dujuma-Boale.

Tragelaphus strepsiceros - A few may still be present in a strip about 5 km wide and 32 km long on the northern slopes of the Gaan Libah.

T. imberbis - apparently exterminated in the former British protectorate, but range in central and southern Somalia almost unchanged. Though reduced over most of its range, it is still one of the most abundant of Somalia's antelopes.

The reasons for the drastic decline of Somalia's wildlife are detailed in a recent publication by Prof. Simonetta and his son: Simonetta, A. M. and J. Simonetta 1983. An outline of the status of the Somali fauna and of its conservation and management problems. Rivista di Agricoltura subtropicale e tropicale 77:547-583. Terming the present situation "defintely alarming" and "continuously deteriorating", they blame habitat deterioration due to overgrazing, deforestation and badly planned agricultural developments, and almost uncontrolled poaching.

A letter from Prof. Simonetta dated 1 April, 1984 hints at the magnitude of the poaching problem. "I have been in Somalia for one month in October and, at the time, the government was trying to recover as many weapons as possible. Operations were in progress between Belet Weyn and Galkayu and around Adale, and had resulted in bloody clashes between the Army and nomads. It was said that the first month of operations had resulted in the capture of about 10,000 guns."

Tanzania

Issai Swai of the Wildlife Division (P. O. Box 1994, Dar es Salaam) has conducted a study of Zanzibar's antelopes and other mammals under the guidance of Alan Rodgers (who has left the University of Dar es Salaam to undertake an FAO teaching/research project in India). He has filled out an Antelope Inventory Form on the Zanzibar red duiker, Cepholophus adersi, and has promised to complete forms for the blue duiker, C.monticola sundevalli and the Zanzibar suni, Neotragus m. moschatus, as well. Included with his report was this summary of wildlife conservation in Zanzibar (in lit. 16 March, 1984):

"There has long been a lack of information on the status of wildlife in Zanzibar, despite the fact that at least four large mammal taxa are endemic: red colobus, red duiker, blue duiker and suni. This study investigated wildlife distribution patterns and evaluated threats to both habitat and the animals themselves.

Seven mammal species were included in the study of which Sykes monkey is the most abundant followed by bushpig, suni, blue duiker, red duiker, red colobus and lastly leopard.

The three sympatric Bovidae were studied in greater detail as to density, habitat and feeding preferences.

Findings from feeding trials, direct observations, and analysis of rumen contents revealed that the Zanzibar bovids are strictly browsers selecting for dicotyledonous leaves, fruits and seeds.

Uncontrolled hunting and extensive harvest of forest products for fuel coupled with habitat encroachment by shifting cultivation are major threats to wildlife status.

Generally the status of wildlife in Zanzibar is unsatisfactory and on close examination the main difficulty lies in persuading people to take appropriate action.

Based on the results of this study recommendations were made for future conservation strategies."

Zimbabwe

Vivian J. Wilson, esteemed colleague and former Director of the National Museum of Bulawayo, is the latest bovid expert to join the ASG. Viv has long had a special interest in duikers, which he has raised at home and at the Chipangali Wildlife Trust which he now runs. So he decided to undertake a 10-year study of this still largely unknown group.

"In the proposed 10-year study (of which eight years will be a field survey), which commences in January, 1984, an attempt will be made to carry out a detailed examination of the status and distribution of the duikers of Africa, and to study the tropical rain forests wherever possible.

"The survey will cover the entire 'Ethiopian Region' and distribution of the duikers will be related to the main biotic zones rather than to political divisions which are generally artificial and without biological significance.

"Many important 'discoveries' still await the biologists and botanists of Africa and we hope to unearth just a few interesting facets in the great ecological web."

He will begin field work early next year in Kenya.

ASIA

Oman

In late March, G. M. Oza, Chairman of the ASG Asian Subgroup, visited Ralph Daly to gather information for a report on the status of antelopes in Oman. He will also report on the progress of the attempt to return Arabian oryx to the wild.

India

In the next issue of Environmental Awareness, which Oza publishes, there will be a series of papers on the blackbuck, starting with one by Elizabeth Cary Mungall. Oza would appreciate any color slides of antelopes and their habitat for the preparation of his WWF/IUCN International Education AV Pack. Each photo will be acknowledged.