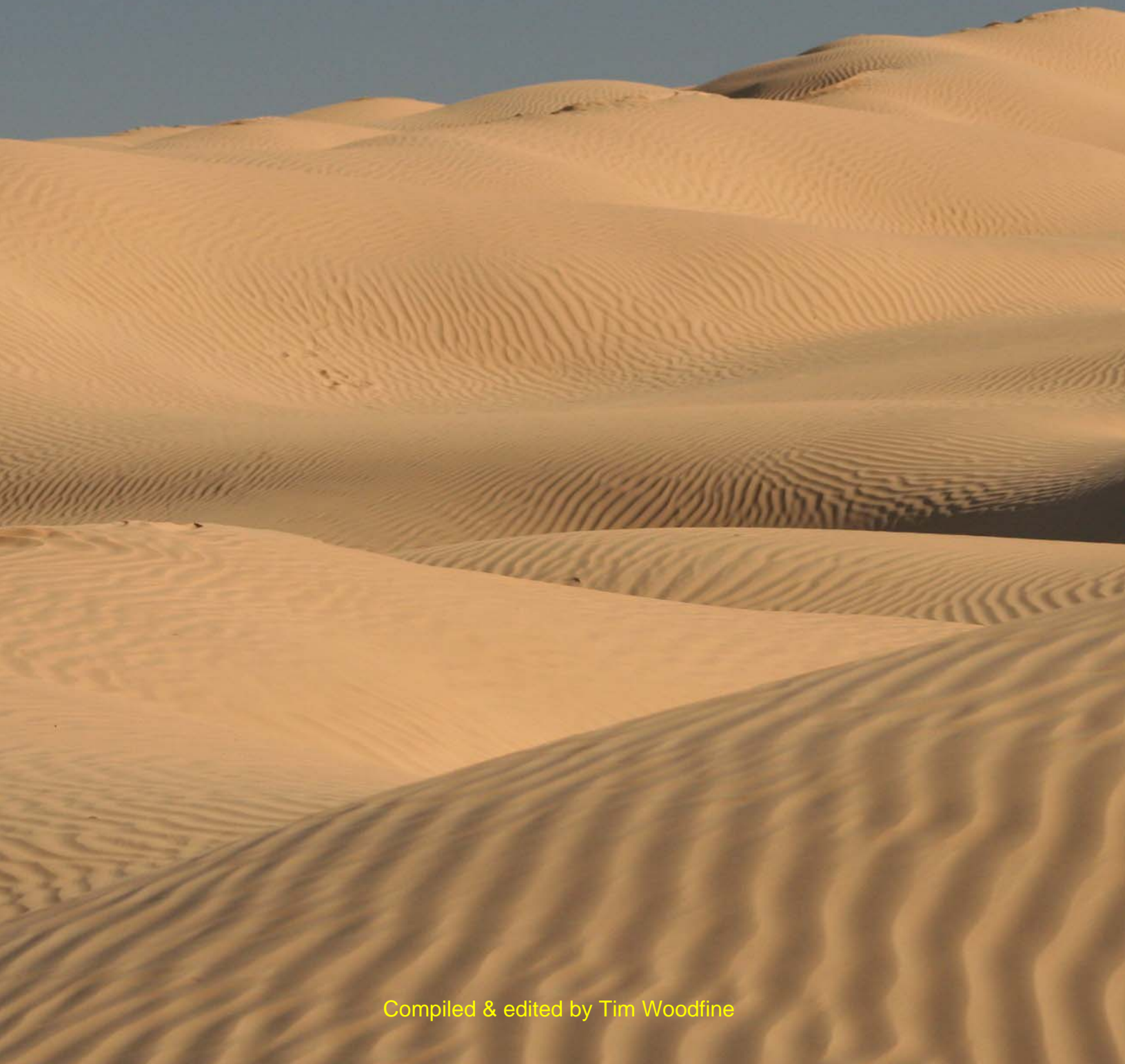


Sahelo-Saharan Interest Group meeting

Hotel Mouradi Douz, Tunisia, 8th -11th May 2006



Compiled & edited by Tim Woodfine



ON THE STATUS OF WILD UNGULATES IN THE OGADEN REGION OF ETHIOPIA

Friedrich Wilhelmi, Xassan Yussuf Kaariye, Sven Hammer, Catrin Hammer, Jens-Ove Heckel

IUCN/SSC/ASG – Regional subgroup for Northeast Africa

Key words: ungulates, Ogaden, Ethiopia, diversity, habitat degradation, protection

Introduction

The Ogaden region as central part of the Somali Regional State in South-eastern Ethiopia, is well known among zoologists and wildlife conservationists as a main part of the endemism centre at the “Horn of Africa“. Its species diversity is remarkable and the fauna is well adapted to the semi-arid and arid environment of the Ogadeni-Somali plateau.

Several ungulate species endemic to the Horn of Africa and actually considered as endangered or vulnerable (IUCN Red List), such as the members of the Bovidae family, the Dibatag (*Ammodorcas clarkei*), the Speke's gazelle (*Gazella spekei*) or the Soemmering's gazelle (*Gazella soemmeringi*), extend or extended their range into the Ogaden. More widely distributed animals, like the Gerenuk (*Litocranius walleri*), the two Kudu species (*Tragelaphus strepsiceros*, *Tr. imberbis*), the Beisa oryx (*Oryx gazella beisa*) or Dikdiks (*Madoqua spec.*) also occur in this vast area. The sparsely populated area of the Ogaden, where agriculture plays a minor role in land use, may still bear the potential as a recovery area for these and other wildlife species.

Despite the outstanding importance of the Ogaden for biodiversity conservation, neither a national park, a sanctuary nor even a controlled hunting area is established. One reason was certainly the political unrest that made the area inaccessible to scientific investigation and wildlife conservation measures during the last decades. In addition to this, the overwhelming presence of weapons, the uncontrolled shooting of animals, the lack of enforced wildlife

conservation laws as well as environmental degradation give reason to suspect the decline of most of the larger game species in the region. Some are now considered to be locally extinct or endangered.

Existing references are scarce and literature review reveals that data are almost nonexistent on the present population status of most of the species. Hence there is urgent need to conduct wildlife surveys in the Ogaden region as a requirement for future conservation measures for these taxa in the Ogadeni-Somali plateau. This is particularly important, because protection activities in the adjacent Somalia will not function for unforeseeable time due to the continuing civil war.

Information about the overall situation in the Ogaden encouraged the German Zoological Society for the Conservation of Species and Populations (ZGAP) in 1996 to start with the preparation of a first extended field survey. The objectives of this and following missions were:

- To collect data on wildlife species, particularly endemic ungulates
- To identify important wildlife areas within the Ogaden
- To establish an information network and initiate first awareness programs with local collaborators for the conservation of wildlife.
- To evaluate the general conditions for long-term wildlife conservation activities

Since the first mission the main project-executants, Friedrich Wilhelmi and Xassan Yussuf Kaariye, as well as the further co-authors have conducted a series of further field surveys mainly of the Northern, Central and Eastern Ogaden region. Significant support to this program is provided by Al Wabra Wildlife Preservation, Qatar. Additional funding has been provided by St. Louis Zoos' Conservation Fund, Naturschutzbund Deutschland (NABU) and Zoo Landau in der Pfalz.

Characterisation of the study area

The Federal Republic of Ethiopia is divided in 9 administrative regions. The Somali Regional State embraces the entire Ogaden area up to the border of Somalia (resp. Djibouti) and parts of the western adjacent highlands. The regional government is seated in Jigjiga in the North of the region. Towns with district administration offices are Degeh Bur, Kebri Dehar, Warder or Gode.

Compared to other parts of Ethiopia the human population density is very low. In the Northern part it is estimated at 10-30 ind./km². In the Southern and Eastern parts it is less than 10 ind./km². The population belongs almost entirely to the ethnic group of the Somalis, which in turn are divided in family clans and sub-clans. Certainly all Somalis are Moslems.

The economy of the overwhelmingly nomadic society is based on livestock. Figures from the early 1970's estimate the livestock population at about 6 million animals, which is less than 10% of all livestock in Ethiopia (WCMC, 1991). Agriculture still plays a minor role in the economy and occurs mainly around larger settlements or in close vicinity to river beds.

The Ogaden region as well as whole Ethiopia belongs to the „Horn of Africa“; that is the Eastern part of the African continent projecting into the Indian Ocean. From an ecological point of view the Ogaden relates to the greater complex of the Zonobiom III, described as the arid subtropics (WALTER & BRECKLE, 1984).

The Somali region can be differentiated into two altitude-thermal or agroclimatic zones. The Northern and Western part belongs to a zone called 'Kolla', the Southern and Eastern part, resp. the lowland of the Ogaden is assigned to the 'Bereha' zone. The Upper Kolla is a mountainous area covering the North and West of the region with elevations ranging from 900-1.700 m. From a significant step down to the hilly Lower Kolla the land gradually drops away to the East and South into the level Bereha region with scattered inselbergs and an average height of around 500 m a.s.l.

The Ogaden is a former sea basin that is now covered with marine Mesozoic-tertiary sediments. The Western, more mountainous part shows also tertiary volcanic layers of the Magdala group. The relief is determined by an extended drainage system. Mostly North-

South stretching plains or deep valleys are carved into the horizontal sediment layers by water erosion. Nearly all elevations appear as table mountains.

The prevailing soils are a mosaic of calcaric and eutric regosols, calcic xerosols and gypsic yermosols. The soil phases are mostly lithic or petrogypsic. In hilly areas the surface is covered with scree and gravel whereas in flat parts deep sand layers are predominant. Alluvial soils like vertisols with a sandy-loamy texture can be found in the flood plains of larger river beds.

The climate of the Northern part from Jigjiga down to Degeh Bur can be classified as hot semi-arid with a mean annual rainfall of 400 - 800 mm. In the lowlands the climate is hot arid with an average precipitation between 200 to 400 mm. The mean annual moisture deficit is more than 900 mm (soil moisture storage assumed nil) and the water surplus is less than 100 mm. Hence the country is very vulnerable to drought. The regime of the rainy seasons is closely related to the conditions in Somalia. The main rainy season ('GU-season') lasts from March to May, with light rains ('DER-season') from September to October. The higher locations produce a mean temperature of 25 - 30 °C. In the Eastern and Southern lowlands the temperature exceeds 30 °C. Gode, a town in the south, is called one of the hottest localities in Ethiopia.

Although the land is heavily dissected by an extended water drainage system, the Shabelle is the only permanent river. It has its source in the eastern wall of the Rift valley. After a leg to the Northeast it turns to the Southeast and crosses the Ogaden region in the Southern part flowing into Somalia. The majority of the dry river beds are North-southerly orientated and flooded only during the rainy seasons. The most important seasonal river is the Fafen, which reaches from Jigjiga down to the Shabelle valley. Its flow off developed a reasonably wide plain that is water logged during the rains. Rainwater may also remain in shallow depressions for several weeks. Larger man-made water ponds, so-called 'Waro' that are quite common in Somalia, are generally not found in the Ogaden. The main water sources during the dry season are hand-dug cisterns or groundwater wells. A large number of these contain saline water.

Corresponding with the elevation and the mosaic of soils there are two main vegetation structures in the Ogaden. The 'dry thornbush savannah' is a more densely 'wooded bushland' or 'shrubland' with trees in canopy contact and a sparse grass undergrowth. The 'bushy shrub or wooded grassland' has scattered trees with herbs and grass undergrowth interspersed with patches of open herbs and grassland. Trees or shrubs in both formations rarely exceed a height of 4 m. Generally the whole landscape appears as uniformly covered with a thorny bush vegetation.

The deciduous bushland and thickets belong to the *Acacia-Commiphora* plant community, sometimes also called the Acacia-Resin bush because of the use of commiphora species for incense production. Characteristic species are *Acacia bussei*, *A. melifera*, *A. ziziphospina*, *Commiphora hoday*, *C. ogadensis* or *Boswellia neglecta*. In the grass cover *Chrysopogon* and *Dactyloctenium* species are prevalent.

Bush and grasslands are used as pastures for cattle, goats, sheep and camels as well as for charcoal production. Arable land is only found in the plains of the larger dry river beds and along the Shabelle. Most of it is rainfed sorghum cultivation and only at the Shabelle is irrigated maize and sesame cropping possible.

Ungulate diversity (Bovidae) in the Ogaden

Table 1: Giraffe, buffalo and antelopes occurring or once occurring in the Ogaden/Somali region including their regional status and trend.

<i>Species</i>	<i>Scientific name</i>	proposed regional status	trend
Giraffe (Reticulated)	<i>Giraffa camleopardalis</i> >reticulata	EN	↓
Buffalo (Savannah)	<i>Syncerus caffer</i> >caffer >aequinoctialis	EN; possibly EX	↓
Lesser Kudu	<i>Tragelaphus imberbis</i> >imberbis	LR (cd)	→
Bushbuck	<i>Tragelaphus scriptus</i> >meneliki ?	LR (cd); (DD)	→
Greater Kudu	<i>Tragelaphus strepsiceros</i> >chora	VU	↓
Common Duiker	<i>Sylvicapra grimmia</i>	VU; (DD)	↓
Guenther's Dikdik	<i>Madoqua guentheri</i>	LR (nt)	→
Salt's Dikdik	<i>Madoqua saltiana</i> >phillipsi >hararensis >lawrenci	LR (nt)	→
Silver dikdik	<i>Madoqua [swaynei] piacentinii</i>	LR (cd)	→

Swayne's Dikdik		<i>[Madoqua swaynei]</i> > <i>citernii</i> > <i>erlangeri</i>	Not listed as a species	?
Waterbuck (Ellipsen)		<u><i>Kobus ellipsiprymnus</i></u> > <u><i>ellipsiprymnus</i></u>	EN; possibly EX	↓
Soemmering's (Somali)	Gazelle	<i>Gazella soemmeringi</i> > <i>berberana</i>	VU	→
Speke's Gazelle		<i>Gazella spekei</i>	EN; possibly EX (DD)	↓
Dibatag		<i>Ammodorcas clarkei</i>	VU	→
Gerenuk		<i>Litocranius walleri</i>	LR (cd)	→
Hartebeest (Swayne's)		<i>Alcelaphus buselaphus</i> > <i>swaynei</i>	EX	↓
Oryx (Beisa)		<i>Oryx gazella</i> > <i>beisa</i>	VU	↓

EX	Extinct
EW	Extinct in the wild
CR	Critically endangered
EN	Endangered
VU	Vulnerable
LR (cd)	Lower risk (conservation dependent)
LR (nt)	Lower risk (not threatened)
LR (lc)	Lower risk (least concern)
DD	Data deficient

Giraffe (*Giraffa camelopardalis*)

Formerly being widely distributed in the Western and Southern lowlands of Ethiopia, giraffes have suffered from a great decline in population density since the 1970s. BLOWER (1968) mentioned the occurrence of the Reticulated giraffe (*Giraffa camelopardalis reticulata*) in the Southern Ogaden. The giraffe is known but not seen since more than at least 10 years in the Ogaden region. WILHELM I suspected because of hearsay, that the giraffe still occurs in the Awdher zone, south of the Shabelle River (WILHELM I 1997; WILHELM I & KARRIYE pers. comm.. 2000 5 & 2006).

Conclusion: The giraffe occurs only sporadically in some protected areas in Ethiopia, like Borana Controlled Hunting Area, in Omo and Mago National Parks and maybe in Gambella National Park. Recent interviews with herdsman in Awdher and Moyale region of the southern Ogaden revealed that giraffes still occur in this area in few numbers.

Buffalo (*Syncerus caffer*)

Before the rinderpest epidemic in 1890s, the buffalo occurred in the valleys of the Awash River and the Webi Shebelle, probably in substantial numbers. Now it is confined to relatively well watered parts of the western and southern lowlands (YALDEN *et al.* 1984, cited in SCHLOEDER *et al.* 1997). WILHELM I found no trace of buffalos during his surveys in the Eastern Ogaden region which confirms this theory (WILHELM I 1997; WILHELM I & KARRIYE pers. comm.. 2000 5 & 2006).

Conclusion: The buffalo is now restricted to the South-western part of the country and survives in comparatively low number in protected areas like Omo-Mago National Parks and adjacent regions. It is likely that the species has disappeared from its former ranges in the Ogaden region.

Lesser Kudu (*Tragelaphus imberbis*)

The Lesser kudu occurs in the Eastern and Southern parts of the country. Large numbers of these animals were found in the Awash National Park (BLOWER 1968). BOLTON (1973b) also mentions its occurrence in the Southern region of Ethiopia. In the 1960s, it was still fairly widely distributed in the Ogaden region. Lesser Kudus are still found in the Ogaden region. According to recorded tracks, sightings and trophies found in villages, the species occurs still

in viable numbers although frequently hunted in some areas. In the far southern AwDhere zone the Lesser Kudu is perhaps the only remaining larger antelope (WILHELM 1997; WILHELM & KARRIYE pers. comm.. 2005 & 2006).

Conclusion: The Lesser kudu population appears to be stable in Ethiopia including the Ogaden region.

Greater Kudu (*Tragelaphus strepsiceros*)

The Greater kudu occurs patchily throughout Ethiopia's lowland and foothills (HILLMAN 1988, cited in SCHLOEDER *et al.* 1997). In the 1960s, the Awash National Park includes large numbers of this antelope (BLOWER 1968), but this has decreased since then to low to moderate numbers. THOULESS (1996a,b) gives population estimates for Murule and Borana Controlled Hunting Areas of about 220 respectively 400, and small numbers in the Awash National Park, established by aerial surveys in 1995. Like other species, aerial surveys tend to underestimate its numbers. The Greater kudu is a preferred game in the Ogaden region because of its plentiful yield of meat. But the hunters regretted that it is far less than the Lesser kudu there (WILHELM 1997). It may be now endangered by hunting. Reliable information on Greater kudu is limited to the area between Degeh Buur and Kebri Dehar and Southern parts of the Ogaden region (WILHELM & KARRIYE pers. comm.. 2005 & 2006). The available population estimates indicate that its total numbers are at least in the thousands in whole Ethiopia, but its populations are assessed as decreasing in areas such as Awash, Mago and Ogaden (SCHLOEDER *et al.* 1997).

Conclusion: The Greater kudu still occurs in reasonable numbers, but its population is decreasing even in protected areas mainly because of overhunting. It seems to occur in low but maybe viable numbers in the Ogaden.

Bushbuck (*Tragelaphus scriptus*)

The Bushbuck is locally common in areas such as Bale Mountains, Nechisar National Parks and the Omo-Mago-Murule region (SCHLOEDER *et al.* 1997) with the largest concentration in Mago National Park (about 735). It was observed by WILHELM (1997, 2005) in dense riverine forest on the Webi Shebelle, west of Karinka Eegy. In this area, the habitat was restricted to a 7 km strip of riverine forest along the Shebelle, and WILHELM found no evidence for

occurrence elsewhere in the Ogaden region. Due to its preferred habitat of dense thickets and wood, the bushbuck is not hunted very frequently (WILHELM 1997; WILHELM & KARRIYE pers. comm.. 2005 & 2006).

Conclusion: The bushbuck is abundant in protected regions, like Bale Mountains, Nechisar National Parks and the South-western parts. It also occurs in smaller numbers in the eastern part of Ethiopia, such as riverine habitat in Ogaden.

Waterbuck (*Kobus ellipsiprymnus*)

The Ellipsen waterbuck (*K. e. ellipsiprymnus*) formerly occurred locally in riverine vegetation in the Southeast mainly on the Webi Shabelle which is the only permanent river in the eastern lowlands, but it has disappeared from its former habitat in the Ogaden region on the river. Even the local people cannot remember its former occurrence (WILHELM 1997). The large swamps along the Shabelle, which were probably important wildlife habitats in the past for water-dependent species, are now drained and extensively cultivated. Much of the riverine forest has also been destroyed (EAST 1998).

Conclusion: The Ellipsen waterbuck is probably extinct in Ethiopia.

Common/Grey Duiker (*Sylvicapra grimmia*)

The grey duiker is still common in many areas in Ethiopia and its numbers are satisfactory (WILSON 2001). It is present in most protected areas, the Rift valley and the Southern and South-western lowlands, e.g., in Omo and Mago National Parks (EAST 1998). As well in the highlands like Bale Mountains National Park, where current populations in Gaysay are estimated at approximately 100 duiker (STEPHENS *et al* 2001). The grey duiker is said to be absent from arid and semi-arid areas, the Danakil region and most of the Ogaden (HILLMAN 1988, cited in SCHLOEDER *et al.* 1997) which matches with WILHELM's observations: He found no evidence of this duiker (WILHELM 1997; WILHELM & KARRIYE pers. comm.. 2000 5 & 2006).

Conclusion: Most of the populations are assessed as stable, but with unknown numbers (SCHLOEDER *et al.* 1997). Its status in the Ogaden is unclear.

Swayne's DikDik (*Madoqua swaynei*)

The taxonomic status of this species is unclear. Usually to current taxonomy this small Dikdik is not listed as a separate species anymore, but as a subspecies of Salt's dikdik. The current taxonomic status of several Dikdik species or subspecies appear unsatisfactory to the authors. However, HALTENORTH and DILLER (1977) indicate the distribution of *M. s. erlangeri* in the Eastern Arussi region and Western Ogaden.

Conclusion: The taxonomic and conservation status of this species is unknown.

Silver Dikdik (*Madoqua [swaynei] piacentinii*)

This species was regarded to occur only along the Somali coast line (African Antelope Database 1998, KINGDON, 1997). WILHELM (1997) collected descriptions of hunters of a third Dikdik species occurring in the Ogaden region. At that time and with respect to the cited literature he assumed it as Swayne's dikdik. Repeated observations and photographs in the Southern Ogaden now proofed the occurrence of the Silver dikdik with regard to their phaenotype. It occurs in dense to semi-dense Acacia-Commiphora bushland sympatric with Guenther's and Salt's dikdik. All three species can be observed simultaneously in an area of less than 2.000 m². In transect counts it is difficult to separate from other Dikdik species but time-point-counts revealed a density of 1-2 Ind./km². As known so far, its distribution range starts about 60 km south of Kebri Dehar and stretches to the South until the Shabelle river. To the East it may reach the Somali border but this area his heavily poached by gangs crossing the Somali-Ethiopian border (WILHELM 1997; WILHELM & KARRIYE pers. comm.. 2005 & 2006).

Conclusion: Although less frequent than other Dikdiks and more restricted in range, the status seems to be stable.



Salt's Dikdik (*Madoqua saltiana*)

These Dikdiks are quite frequent in the surveyed area and dung heaps and footprints can be found almost everywhere in the bush. The animals can be seen during the whole day while crossing the road in some distance to the car or resting in the shade close to the road. It is possible to distinguish possibly two subspecies (*M. s. phillipsi* and *M. s. hararensis*) by field observation. However, further research will be necessary to confirm the taxonomic status of Dikdiks. Skins, skulls or horns for a detailed investigation are not easily available although Dikdiks are hunted very frequently. The people use only the meat and the remnants left in the bush are quickly dispersed by scavengers. In Shilabo a fresh skin was found and pictured with the colour pattern matching the description of the subspecies *M. s. lawrencei*, mentioned in HALTENORTH & DILLER (1977) for the Midjertain, Nogal and Obbia region (centre and northern parts of Somalia). Generally, the Phillip's dikdik is more frequent than the Guenther's, especially in areas with deep sandy soils (WILHELM 1997; WILHELM & KARRIYE pers. comm.. 2005 & 2006).

Conclusion: Representatives of the Salt's dikdik family are rather common over many parts of the surveyed areas in the Ogaden. However, the taxonomic status of different phaenotypes remains unclear.

Guenther's dikdik (*Madoqua guentheri*)

This species is well distinguishable from the other Dikdik species in the region. Although occurring sympatric with Phillip's dikdik, Guenther's seems to be dominant on hilly terrain with gravelled soils. This impression was also confirmed by the interviewed hunters. Members of the federal wildlife department (former EWCO) called the Guenther's dikdik the most frequent small antelope in other parts of Ethiopia (WILHELM 1997; WILHELM & KARRIYE pers. comm.. 2005 & 2006).

Conclusion: The Guenther's dikdik is among the very common species over large parts of the Somali Region.

The combined transect and point counts of Salt's and Guenther's Dikdik south of Kebri Dehar gives an estimate of about 23 individuals/km².

Soemmering's gazelle (*Gazella soemmeringi*)

The Soemmering's gazelle with all of its three subspecies was described as locally common in the northeastern, eastern and southeastern lowlands. In the Ogaden region, WILHELM (1997) found that numbers of Berberana-Soemmering's gazelle (*Gazella s. berberana*) are greatly reduced. He was informed that in the 1960s it was said "to go like cattle" on the plains and in open bushland, counted in thousands, but it was slaughtered in huge numbers with automatic weapons during political unrest. Some local hunters had the impression that its numbers have begun to recover in recent years, but WILHELM regarded it as far from being secure because of continuing arbitrary shooting by Ethiopian military in the Ogaden region. Hunting by local communities almost ceased in recent years. In 2004 several small herds were observed totalling to about 75 individuals on the large plain south of Kebri Dehar. Other small groups are known from open areas South of the Shabelle river (Banka Holac) and Southwest of Kebri Dehar (Nogob area). In addition to the Awash/Danakil population, probably at least a few hundred to a few thousand Soemmering's gazelles may survive in the Ogaden region (WILHELM 1997; WILHELM & KARRIYE pers. comm.. 2005 & 2006).

Conclusion: The Soemmering's gazelle is locally common, but in areas like Ogaden, the numbers are greatly reduced.



Speke's gazelle (*Gazella spekei*)

There is a single certain record of this species' occurrence in Ethiopia, from the northern Ogaden region (HILLMAN 1988, cited in SCHLOEDER *et al.* 1997). Speke's gazelle was completely unknown by people interviewed by WILHELM (1997) in the Ogaden region. But recent reports from herdsman collected close to the Somali border give reason to assume that some survived in that area. A survey to the North-eastern corner of the Ogaden to confirm these reports is currently in progress (WILHELM 1997; WILHELM & KARRIYE pers. comm.. 2005 & 2006).

Conclusion:

It is thus still not sure whether Speke's gazelle is extinct in Ethiopia or not.



Dibatag (*Ammodorcas clarkei*)

The Dibatag is confined to the Ogaden region of Ethiopia and parts of adjoining Somalia. WILHELM (1997) revealed that the Dibatag is now rare or absent in the northern Ogaden which has a relatively high density of settlements and concentrations of armed pastoralists and their herds. But it still occurs locally within a reasonable large area in the Southern Ogaden, where it appears to be quite common in some localities. In this region, there are lower human densities and extensive areas with the natural flora appearing to be largely intact. In Jigjiga and Degeh Bur in Northern Ogaden, local hunters had little knowledge of the Dibatag, and it is likely to have disappeared from this region. Herdsmen indicated that it occurs sporadically along the Fafen River in an area 50 km southwest of Degeh Bur. It was also said to be very rare to the east of Degeh Bur. However, in the area around Kebri Dehar further south, local people are familiar with the Dibatag and describe it as very rare to the Southwest but more common in the densely bushed area to the East and Southeast. In Madeedle and Tayen, an area with a relatively high proportion of green bushes and trees, local hunters reported that the Dibatag can be found at all times in the surrounding bush, with its distribution extending 90 km northeast to Warder and south to Shilabo. WILHELM AND KARRIYE spent up to now many months on field observation, transect counts and point counts in the area between Kebri Dehar, Warder and Shilabo. The results on the Dibatag in the Ogaden region are surprisingly better than expected. Even though there has been a lack of reported sightings since about 20 years, the finding that this species still occurs in a considerably large area sounds encouraging. Estimates according to observations and counts reveal a population of about 1.500 Individuals if extrapolated to the totally surveyed area. But this again has to be taken with care. Observations were concentrating on areas with a known higher population density. They revealed that Dibatag obviously avoids gravel

or rocky soils but can be found only in areas with deep red sand. Since these soil areas are mosaic like interspersed by gravelled terrain suitable habitat areas may be considerably smaller than the overall area size applied for estimation. The population of the Dibatag should still be considered as endangered in view of its restricted occurrence in the Ogaden as well as there are no protective measures for wildlife. Previously mentioned Dibatag areas, like the region east of Jigjiga can already be omitted as potential habitats (see also THOULESS 1996b). In the densely bushed area south of Kebri Dehar the alertness of the species and the difficulties to hunt it is probably still a good protection to retain a population of Dibatag (WILHELM 1997; WILHELM & KARRIYE pers. comm.. 2005 & 2006). We assume a total remaining range of 10,000 km² and an average population density of 0.1-0.3 per km², for example, that would suggest a total population in the low thousands.

Conclusion: The surviving population of the Dibatag is unknown, but is clearly not large. The species should be considered as vulnerable or regionally endangered

Gerenuk (*Litocranius walleri*)

The Gerenuk is widespread in arid thornbush in the Awash valley and the eastern and southern lowlands. It is absent from Awash National Park but occurs at low densities in the central and southern parts of the Awash valley to the east of the Awash river (THOULESS 1996b). It was observed by THOULESS north and south of Aysha, and it is quite common throughout the Ogaden region from Jigjiga to south of Kelafo (WILHELM 1997; WILHELM & KARRIYE pers. comm.. 2005 & 2006). There, the Gerenuk is frequently seen and well known to local hunters and pastoralists, where it is called the "preferred game" and is likely to be found in any bushed area or plain with scattered thickets in fewer settled regions. Gerenuk can be seen quite frequently in the Nogob area west of the Fafen seasonal river. This area is very low populated since a lack of watering places even prevent herdsmen to enter the area with their livestock (WILHELM & KARRIYE, pers. comm.. 2005 & 2006). Given the relatively high level of undercounting of this bush-preferring species from the air and its widespread occurrence elsewhere, e.g., in the Ogaden, its total numbers are likely to be more than 10,000.

Conclusion: Populations are tentatively assessed as stable in areas such as the Ogaden but may be decreasing in the more heavily hunted parts of its range.

Hartebeest (*Alcelaphus buselaphus*)

Swayne's hartebeest (*Alcelaphus buselaphus swaynei*) formerly occurred throughout the Rift Valley eastward into northwestern Somalia. It is now reduced to isolated populations in three known localities in the southern Rift Valley of Ethiopia: in Senkelle Sanctuary, Nechisar NP and Maze NP. During the extended surveys in the Ogden region there was no evidence that Swayne's hartebeests may still exist in this area (WILHELM 1998) .

Conclusion: Swayne's hartebeest is in verge of extinction. A larger relic population of about 200 animals can be found in the Senkelle Sanctuary and a even smaller population in Nechisar National Park only.

Beisa oryx (*Oryx gazella beisa*)

The species occurs locally in arid savannah and semi-desert throughout most of the eastern and southern lowlands. It is common in Awash National Park and occurs in reasonable numbers throughout most of the Awash valley (THOULESS, 1996b). Oryx also occurs in small numbers northwards to the Danakil region (MOEHLMAN in *litt.* August 1997, cited in SCHLOEDER *et al.* 1997). Some oryx in moderate numbers are observed during a trip from Mille to the Afar region (CHARDONNET, pers. comm. 2002, cited in LAURENT 2002). In the Ogaden region, its numbers have been reduced greatly by overhunting and continue to decline. In 1997 WILHELM made no direct sightings of Oryx, but found one horn in a village near Kebri Dehar and observed footprints and droppings in the mountains north of Karinka Eegy, where this species hides during the day in caves and in the shade of rocks on steep slopes. Interviews with local hunters and pastoralists indicated that it is now rare to the West of Degeh Bur and absent to the East, but that it still occurs widely in low to moderate numbers south and west of Kebri Dehar where it has now been seen by WILHELM several times in small groups of up to 5-10 individuals (Wilhelmi & Kaariye, pers. comm., 2005). It is still a preferred game which might have forced remaining groups to dwell in densely bushed areas rather than occupying open plains in the Ogaden.

Conclusion: The summarized information indicates that the total population in Ethiopia at least reaches 4.000 - 5.000, with numbers generally in decline. It is a rare species in the Ogaden.

General remarks on the conservation of ungulates in the Ogaden region

In the Northern Ogaden, the area between Jigjiga and Degeh Bur and probably towards the Djibouti-Somalia border habitats show significant signs of degradation of the grass and bush cover, because of agriculture and high livestock densities. There are comparatively high densities of settlements and concentrations of armed pastoralists with their herds. Larger species such as Lesser kudu are available in lower numbers. Phillip's and Guenther's dikdik are available in viable numbers.

In the Southern parts of the Ogaden agriculture plays a minor role. However, swamps along the Shabelle are now drained and extensively cultivated or used as pasture. Little wildlife occurs within about 40 km of the larger towns with a similar situation where livestock is concentrating. Hunting is carried out by some local communities and by members of the Ethiopian military. The influence of these activities to the overall status of the targeted species is difficult to assess, but surely does not benefit the conservation status of endangered species. More frequently occurring antelope species are Lesser Kudu, Beisa Oryx, Soemmering's gazelle, Guenther's dikdik, Phillip's dikdik, Silver's Dikdik, Gerenuk and Dibatag.

There are plans to establish a protected area in the Southern part of the Somali Regional State in Moyale District. According to the Ethiopian Wildlife Department (former EWCO) site surveys were conducted and a preliminary management plan is already prepared. Main reasons are the "occurrence of giraffe and other larger ungulates in higher densities". An interrogation of members of the wildlife department of the Somali Regional State revealed that the previous regional state minister for agriculture and natural resources belongs to the main clan living in this area. This may be a significant reason why a protected area is intended in this remote and poorly developed area.

Acknowledgements

The authors would like to thank Al Wabra Wildlife Preservation (AWWP) in Qatar for significant support over the past years, without the extended work in the remote Ogaden area would not have been possible. Further thanks go to St. Louis Zoos' Conservation Fund, the Zoological Society for the Conservation of Species and Populations (ZGAP,)

Naturschutzbund Deutschland (NABU) and Zoo Landau in der Pfalz who further helped with their contributions to realise parts of the wildlife surveys in the Ogaden region.

The authors have much benefited from the assistance of the Ethiopian Wildlife Conservation Organisation (EWCO) and the Ministry of Agriculture office at Jigjiga and many local communities who graciously provided them with information as well as advice and support in administrative affairs.

References

BLOWER, J. (1968). The Wildlife of Ethiopia. *Oryx* 4:276-285.

BOLTON, M. (1973a). Hartebeest in Ethiopia. *Oryx* 12:99-108.

BOLTON, M. (1973b). Notes on the current status and distribution of some large mammals in Ethiopia (excluding Eritrea). *Mammalia* 37:562-586.

DUCKWORTH, F. & E. (2002). Regional Rundown Ethiopia. An Assessment of the Wildlife Situation – November 2001. *Gnusletter* 21(1):14-17.

EAST, R. (1998). African Antelope Database 1998. IUCN/SSC Antelope Specialist Group Report.

EWCO (1999). pers. comm..

HALTENORTH, T. & DILLER, H. (1977). Säugetiere Afrikas und Madagaskars. BLV Bestimmungsbuch. BLV Verlagsgesellschaft mbH, München.

KINGDON, J. (1997). The Kingdon Field Guide To African Mammals, Academic Press, San Diego.

MALCOLM, J. (2003). Ethiopia. Mountain Nyala Survey. *Gnusletter* 22(1):8-10.

SCHLOEDER, C. *et al.* (1997). Ethiopia. *Antelope Survey Update* 6:23-49.

SHIBRU TEDLA. (1995). Protected areas management crisis in Ethiopia. *Walia* 16:17-30.

STEPHENS, P.A. *et al.* (2001). Impact of livestock and settlement on the large mammalian wildlife of Bale Mountains National Park, southern Ethiopia. *Biological Conservation* 100:307-322.

THOULESS, C. (1996a). Regional Rundown Ethiopia. Aerial Survey for Wildlife in Omo Valley, Chew Bahir and Borana Areas of Southern Ethiopia. *Gnusletter* 15(1):20-25.

THOULESS, C. (1996b). Regional Rundown Ethiopia. Aerial Survey for Wildlife in Eastern Ethiopia. *Gnusletter* 15(1):25-28.

WALTER, H. & BRECKLE, S.-W. (1984): Ökologie der Erde, Bd.2. UTB, Gustav Fischer Vlg.

WCMC (1991): Biodiversity guide to Ethiopia. Prepared by the World Conservation Monitoring Centre, Cambridge, UK.

WILHELMI, F. (1997). Ground Survey on Wildlife in the Ogaden Region in Eastern Ethiopia. Report to the Zoological Society for the Conservation of Species & Populations, Munich.

WILHELMI, F. (1998). Mission on Conservation Measures for the Swayne's hartebeest (*Alcelaphus buselaphus swaynei*) in Ethiopia. Report to the Zoological Society for the Conservation of Species and Populations, Munich.

WILHELMI, F & KARRIYE, X.Y. (2005 & 2006). pers. comm..

WILSON, V.J. (2001). Duikers of Africa. Masters of the African forest floor. Bulawayo. Chipangali Wildlife Trust.

YALDEN, D.W. & LARGEN, M.J. (1992). The endemic mammals of Ethiopia. *Mammal. Rev.* 22:115-150.