Chapter 7. Ungulates of Byespoort Game Park

An ungulate is according to Alden *et.al.* (1995) a mammal that has hoofs, and not claws as an adaptation for running.

The ungulates that occur in the Bynespoort Game Park all have distinctly different feeding methods, habits and preferences (Skinner & Smithers, 1990). These differences will have an influence on the way that the resources of the Park are utilised. The utilisation spectrum is illustrated in fig 27.

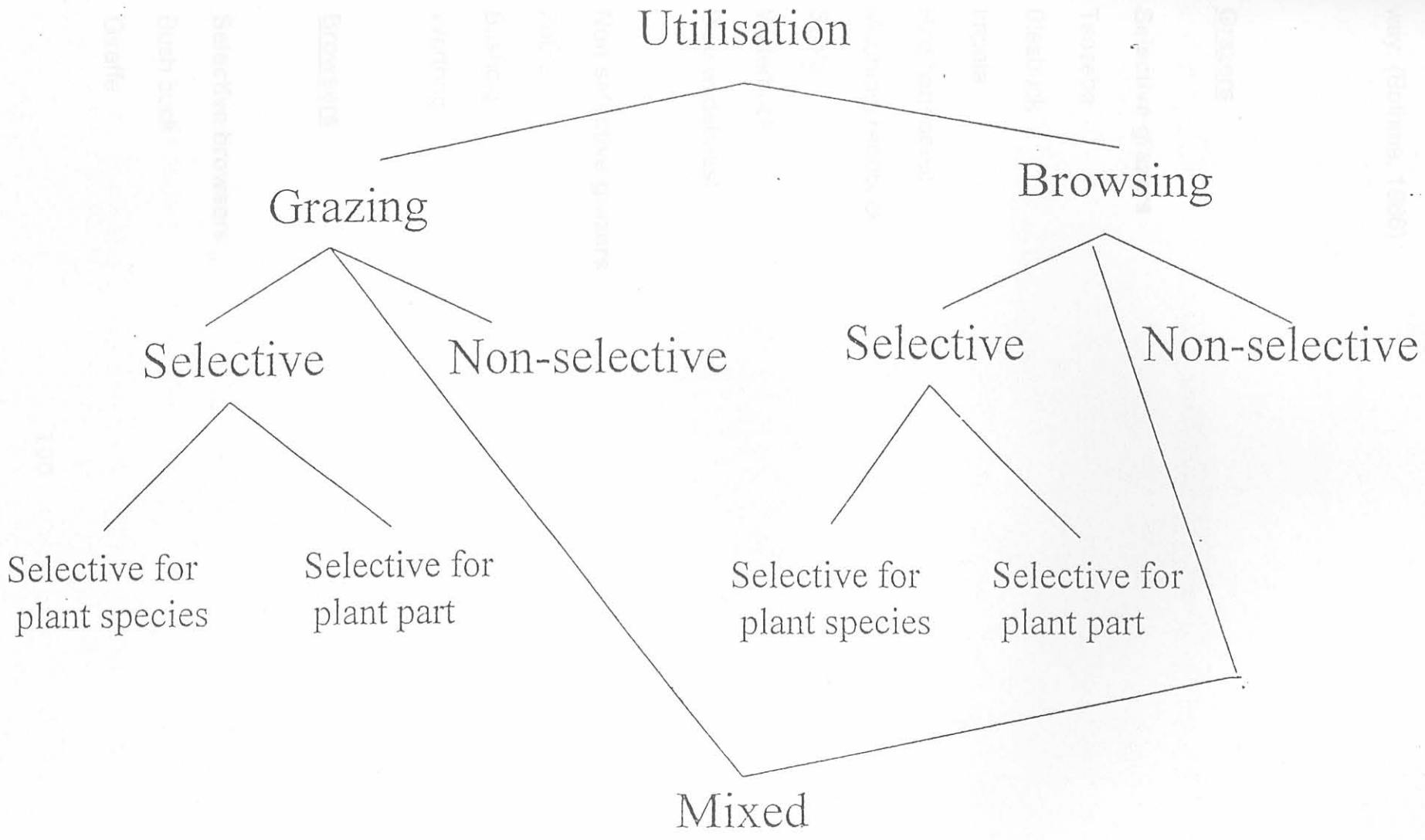

Fig 27: Utilisation spectrum of ungulates

The ungulates of Bynespoort Game Park can be classified in the following way: (Bothma, 1986)

Grazers

Selective grazers

Tsesebe

Blesbuck

Impala

Red hartebeest

Mountain reedbuck

Sable

Waterbuck

Blue wildebeest

Non selective grazers

Zebra

Bushpig

Warthog

Browsers

Selective browsers

Bush buck

Giraffe

Kudu

Nyala

Steenbuck

Non selective browsers

Eland

Impala

Mixed (Grazers & Browsers)

Impala

Bushpig

Bushbuck

Eland

Nyala

Red Hartebeest

Mountain reedbuck

Steenbuck

Waterbuck

Utilisation of the Veld

As a result of the very wide spectrum of habitats and niches in the Game Park, it is important to have a variety of herbivores to fill all these niches. The differences in diet, spatial distribution and activities will cause animals

that seemingly utilise the same resources to co-exist (Bothma, 1986). This is all part of forming a dynamic ecosystem in which the food resources will either adapt to the herbivores or vice-versa.

The herbivores show specific spatial ecological separation (Bothma, 1986). These are illustrated in Fig.28.

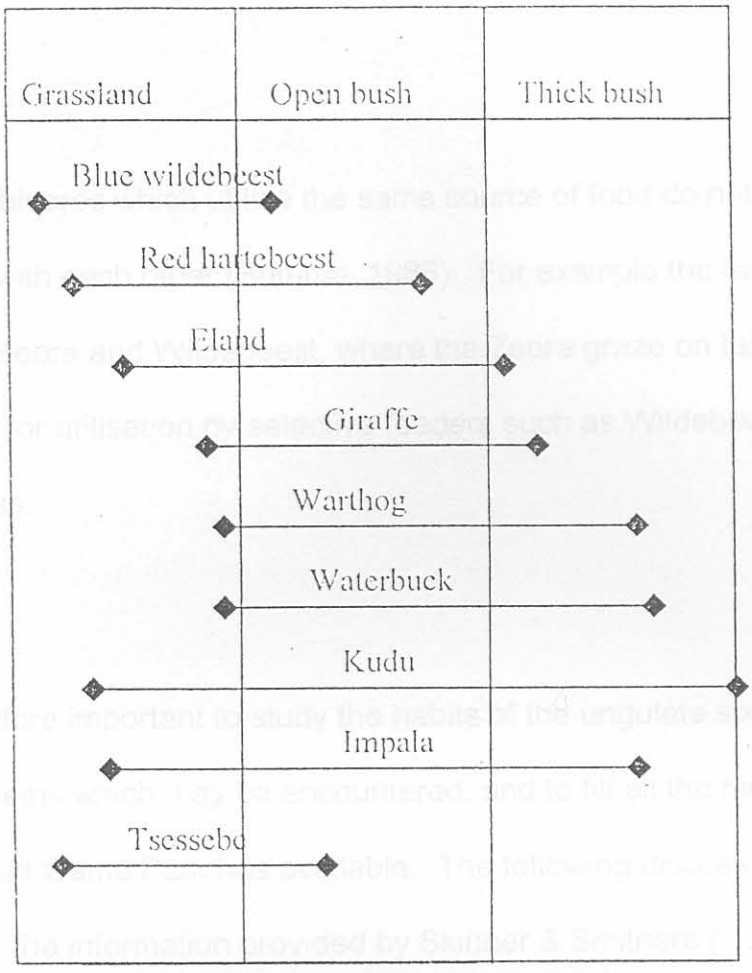

Fig **28:** Ecological separation of habitats for 11 species of ungulate

Large herbivores which utilise the same source of food do not necessarily compete with each other (Bothma, 1986). For example the facilitation between Zebra and Wildebeest, where the Zebra graze on tall grass and shorten it for utilisation by selective feeders such as Wildebeest which prefer short grass.

It is therefore important to study the habits of the ungulate species, to identify any problems which may be encountered, and to fill all the niches that Bynespoort Game Park has available. The following discussion is mostly based on the information provided by Skinner & Smithers (1990).

Impala

Aepyceros melampus (Lichtenstein, 1812)

Impala are associated with woodland, preferring light open associations. They are commonly associated with *Acacia, Combretum* and *Terminalia* woody species. They usually avoid open grassland and montane areas.

Impala are browsers and grazers (mixed feeders), the intensity of each however depends on the locality in which they occur, and the season of year.

Studies done in the former Transvaal have shown that in this area they are predominantly browsers (Skinner & Smithers, 1990).

In the dry season they focus on riverine areas, and in the growing season they partially feed on flush or fresh green grass.

The leaves or twigs of the following woody species are eaten:

*Acacia spp., Combretum spp., Maytenus spp., Ziziphus spp., Dichrostachys cinneria, Grewia spp.*and *Terminalia spp.*

The following grass species are commonly eaten:

Digitaria eriantha, Themeda triandra, Cynodon dactylon, Panicum maximum

Eragrostis spp. and *Urochloa spp.*

In Bynespoort Game Park the impala herds can be found mostly in the *Cynodon dactylon - Acacia karroo* community. Impala are coping well in the Game Park and provides the opportunity for hunting which produces a healthy income.

Red Hartebeest

Alcelaphus buselaphus (Pallas, 1766)

Red hartebeest are associated with open or semi-open grasslands. They do not occur in dense woodland. These animals are not very dependent on water.

They are gregarious antelope, that is, they occur in herds of up to about 20 individuals in a herd, when total numbers in an area are not too large.

They are grazers, but in some situations, also browse. Grass species eaten by this antelope are:

Eragrostis spp., Panicum spp., Themeda triandra, Cynodon dactylon and *Sporobolus spp.*.

In Bynespoort Game Park the herds occur over the entire park. They were observed to frequent the old land grasslands and the disturbed areas in the north east of the park. The species has adapted well to conditions in the Park, and is also a species used for hunting.

Eland

Taurotragus oryx (Pallas, 1766)(Fig 34)

Eland are very adaptable antelope, occurring in virtually all habitats, from dry arid places to montane grasslands.

They are predominantly browsers and therefore require trees and shrubs for their feeding requirements, and prefer to drink water regularly. They are also a gregarious species and can occur in herds of up to 1000 individuals. They are generally docile and tractable and are therefore very valuable for game viewing.

As mentioned before. Eland are predominantly browsers, but will feed on sprouting grass after a fire.

Plant species utilised are:

Combretum molle, Combretum spp., Burkea africana and *Acacia spp.*.

All of the above mentioned plant species are found in the Game Park and this underlines the success of eland. The weed species *Tagetes minuta* and

Bidens pilosa are also eaten by the Eland, and these occur widespread throughout the Park.

In Bynespoort Game Park Eland are most commonly encountered on the Quartzite hills in the south west of the Game Park, and a herd of up to 40 individuals was commonly encountered. During the winter, however, they tend to break up into smaller herds and search for available browsing. Their movements also differ in summer and winter, as their preference for grass and tree leaves changes.

Kudu

Tragelaphus strepsiceros (Pallas, 1766)(Fig 29)(Fig 31)

Kudu are mostly found in woodland savanna and avoid the open grassland. They prefer the rocky and broken terrain with nearby woodland and water. They are also commonly found in *Acacia* and *Terminalia* woodland. Kudu occur in small herds, usually up to about a dozen individuals.

This species of antelope is a browser and will only occasionally feed on fresh green grass. They prefer the leaves and twigs of the following species:

Acacia spp., *Combretum apiculatum* and *Dichrostachys cinnerea*.

They are also known to feed on plants which are distasteful to other species, such as certain species of *Aloe*.

In the Park the kudu are found in the densely wooded areas, and have a fairly good browse available throughout the year.

Blesbuck

Damaliscus dorcas phillipsi (Harper, 1939)

These antelope are very versatile in their requirements, but sweet grasses and water are essential to their survival.

Blesbuck are gregarious, diurnal and predominantly grazers. Because of their habit to walk in single file, they can often cause the formation of footpaths, which are a source for erosion and veld degradation. They are territorial and males defend their territories vigorously.

They are grazing herbivores, but are known to browse occasionally. They are fond of sprouting grasses which appear after a burn. They also have the ability to minimise their activity in the late winter before the seasonal rains,

and only graze lightly in this time, when stress on the environment is usually at its greatest.

Grass species preferred by this antelope are:

Themeda triandra, Eragrostis curvula, Eragrostis chloromelas and *Setaria spp.*

In Bynespoort Game Park this species is often encountered in the old land grassland in the south west, and the surrounding *Acacia* savanna. All the most preferred grass species mentioned occur in the Game Park and the Park therefore provides an ideal habitat for this antelope.

Zebra

Equus burchellii (Gray, 1824)(Fig 33)

This is a savanna species, and they prefer open grassland where there is enough water available. It was found that this species had a definite preference for habitat.

They are gregarious and occur in family groups of one stallion, one or two mares and their foals. They are not territorial and move freely through large areas.

Zebras are grazers. They most commonly prefer the following species: *Themeda triandra* and *Cynodon dactylon*.

They do however feed on a wide variety of grasses as a wide variety of grass structures, but also prefer flush grass after a burn.

In Bynespoort Game Park the Zebra are found in herds of up to 20 individuals and graze freely throughout the park. They perform an important role as they are the only bulk grazers in the park.

Waterbuck

Kobus elipsiprymnus (Ogilby, 1833)

As the name of these elegant antelope suggests they are associated with water. Apart from this requirement they can be found in open reedbeds of vleis and also woodlands.

They are favourable antelope to have as they do not overgraze or over-utilise available resources. They are predominantly grazers but are known to also browse.

Grass species commonly eaten are:

Cynodon dactylon, Panicum maximum, Heteropogon contortus, Digitaria spp., Andropogon amplectens and *Themeda triandra*

They have also been seen to eat reeds (*Phragmites spp.*) and bulrushes (*Typha capensis*), and this could be particularly useful as the wetland community is under-utilised and therefore has to be burned frequently.

As a result of their small numbers in Bynespoort Game Park, and the fact that they do not compete well with other animals such as Impala and Nyala, they need to be watched carefully, to ensure their success in the park.

Blue wildebeest

Connochaetes taurinus (Burchell, 1823)

Blue wildebeest are particularly associated with savanna woodland and occur near water.

They are gregarious, and occur in herds of 20-30. These herds consist of territorial males, female herds and bachelor herds.

Blue wildebeest are grazers, and prefer feeding on short green grass. They very rarely feed on grass which is more that $10^{-1}5$ cm tall. For this reason

they show an association with Zebra which feed on the taller grass, and then shorten it for the wildebeest to feed on.

Grass species often utilised are:

*Panicum spp., Themeda triandra, Digitaria spp.*and *Cynodon dactylon.*

In Bynespoort Game Park blue wildebeest occur throughout the park, but show preference for the disturbed areas where *Cynodon dactylon* is dominant.

Giraffe

Giraffe camelopardalis (Linnaeus, 1758)(Fig 30)

Giraffe occur in a wide variety of savanna areas, ranging from scrub to woodland. As they are so tall they utilise a niche that no other animals are capable of, and are therefore not in competition with any other animals for their food resources. They therefore do not play a part in the general degeneration of veld condition.

Giraffe are browsers, but will occasionally graze on fresh green grass shoots. They mainly prefer the following tree species:

Acacia spp., Combretum spp., Terminalia serricea, Ziziphus mucronata and *Dichrostachys cinerea.*

In Bynespoort Game Park the Giraffe frequent the *Acacia* associations but all their favourite food occur in the park, and they are therefore successful animals.

Warthog

Phacochoerus aethiopicus (Pallas, 1766)(Fig 32)

Warthog are particularly associated with open ground, grassland, floodplain, vleis and also open woodland. These animals are diurnal, spending their nights in burrows in the ground.

Warthogs are generally vegetarians. They live on short swards of grass, and also freshly sprouted grass and underground rhizomes. They are very selective feeders, and push aside unwanted grass to get at the favourable ones, and can therefore be considered as messy and destructive feeders. They will also eat the flowers and seeds of grass.

Grasses preferred are:

Urochloa spp., Panicum maximum, Chloris virgata, Digitaria spp. and *Cynodon dactylon.*

They will also feed on the fruit of certain other plant species:

Ficus spp., Sclerocarya birrea and *Strychnos spp.*.

In Bynespoort Game Park their burrows are frequently found in the deep sandy soils of the south west, and were often seen feeding on the grasses on the edge of the old land grassland in this area. They also move outside the park into neighbouring farms where they forage for cultivated crops.

Tsessebe

Damaliscus lunatus (Burchell, 1823)

The availability of sweet grasses, water and shade are all the requirements for this antelope's habitat.

They are known to sometimes frequent grasslands, especially if there is woodland fairly close, to satisfy the shade requirement. Bush encroachment is also know to result in a reduction of the species in an area (Skinner & Smithers, 1990).

Tsessebe are gregarious and occur in small herds of about 8 to 12 individuals. They are grazers and studies have found that they prefer grass less than 60 cm tall and also show preference for burned patches, and will graze heavily on such areas.

In Bynespoort Game Park there are many areas which present a suitable habitat, especially the south western area of the Game Park, where the old land grassland meets the *Acacia* woodland.

These rare antelope are successful in the Game Park and are popular hunting specimens, and fetch good prices at game auctions because of their rare status.

Nyala

Tragelaphus angasii (Gray, 1849)

These attractive antelope are most often associated with thickets in dry savanna woodland. Riverine forests also provide a suitable habitat for these antelope. They do however use open grassland, but in areas where there is a constant disturbance, will only venture into the open at night. Areas which have been invaded by thickets pose an acceptable habitat for the species. They are territorial antelope and are usually found in two's or three's.

They are predominantly browsers, feeding of leaves, twigs, flowers and fruit.

Important food sources for the species includes:

Acacia spp., Spirostachys africana, Strychnos spp. and *Ziziphus mucronata.*

They do however also graze on fresh green grass, often after rains or fire. In Bynespoort Game Park nyala seem to keep to the thickets nearer the mining area in the north east. They are most often seen at night.

Sable antelope

Hippotragus niger (Harris, 1838)

These are described by Smithers (1983) as a savanna woodland species, dependent on cover and the availability of water. They were found to show a definite preference for open woodland with nearby wetlands with tall grass and reeds. They do not occur in areas of over-utilisation or in highly wooded areas.

These are territorial antelope which are gregarious. They are predominantly grazers, selectively at that, and prefer fresh grass of medium height.

Some of the grass species preferred by sable include: *Panicum maximum, Heteropogon contortus, Eragrostis spp., Themeda triandra, Urochloa spp., Hyparrhenia hirta* and *Eragrostis gummiflua.*

Sable are very dependent on water, and seldom stray far from it. In Bynespoort Game Park they are mostly found in the vicinity of the slimes dams, and adjacent to the wetland. They seem to have formed one herd, and the presence of a number of young confirms their success in the Park.

Mountain reedbuck

Redunca fulvufula (Afzelius, 1815)

They are known to frequent dry, stony, grass covered slopes of hills, which have trees and shrubs to provide cover. The availability of water is also an essential requirement for its habitat.

They are gregarious and are usually found in herds of three to six.
They are grazers, which feed selectively. They almost exclusively feed on the greenest freshest leaves of grasses.

Grass species commonly eaten are:
Themeda triandra, Hyparrhenia hirta, Aristida spp., Cynodon spp. and *Eragrostis spp.*.

Mountain reedbuck are commonly encountered on the slopes of the quartzite hills, especially on the southern slopes in the *Protea* and *Faurea* dominated vegetation.

Steenbok

Raphicerus campestris (Thunberg, 1811)

These small antelope do not occur in forests or in thick woodland, and prefer open grassland. They are also found in open woodland, or in clearings in woodland. They are often found along roads or fire breaks.

Steenbok are as much browsers as they are grazers. Of the species browsed are:

Acacia nigrescens, Colophospermum mopane, Grewia spp., Terminalia serricea, Ziziphus mucronata, Faurea saligna and *Solanum spp.*.

Bush Pig

Potamochoerus porcus (Linnaeus, 1758)

Bush pigs are associated with forests, thickets, reed beds or very tall grass with abundant water.

They are predominantly nocturnal and this in combination with their habitat makes them difficult to come across.

They use their snouts to dig up roots, which they eat, as well as browsing. They mainly feed on the underground rhizomes of grasses as well as roots and tubers. In the process of digging for roots, they will eat any underground fauna which they come across.

In Bynespoort Game Park the bush pigs are found in the thicket on the eastern side of the Park, but are seldom seen during the day.

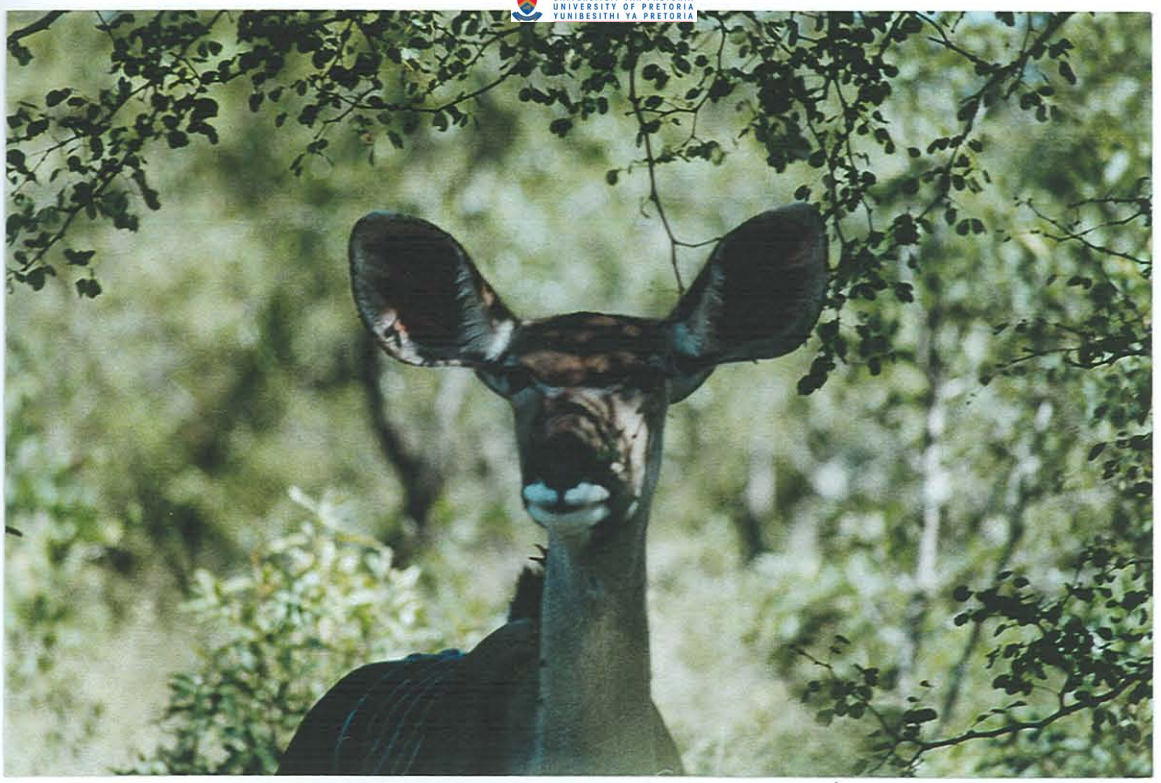

Fig 29 : A kudu cow

Fig 30: Giraffe mother and calf in the Game Park

Fig 31: A kudu bull

Fig 32: A warthog in the Game Park

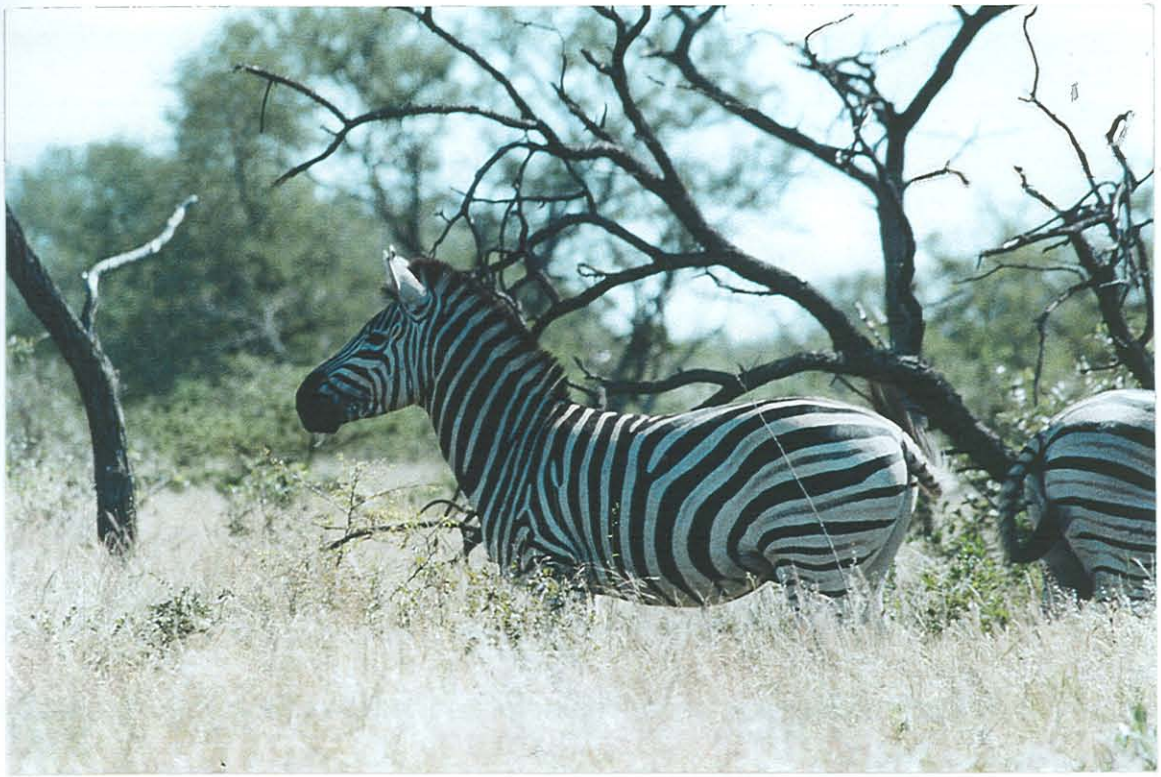

Fig 33: Zebra are unselective grazers and found throughout the Game Park

Fig 34: A herd of eland in the mountain grassland of the Game Park