Chapter 2: Kruger National Park study area

2.1 LOCATION AND CLIMATE

The field study was conducted by M.G.L. Mills in the southern district of the KNP (24°96'- 25°44'E, 31°30'- 32° 00'S) between the Sabie and Crocodile Rivers (Fig. 2.1). The southern district covers an area of approximately 3786 km^2 (Bowland 1994). Two focal study areas were located in this district: 1) the main focal study area in the south eastern region (six radio-collared cheetahs were tracked in this area), and 2) a secondary focal study area to the west of the main study site in a more central region of the southern district (one cheetah was tracked in this area). The KNP study area lies in a summer rainfall region, with a mean annual rainfall averaging 600 mm rising to 700 mm in the Lebombo Hills (Gertenbach 1980).

2.2 VEGETATION

The main study area comprises three broad habitat types, identified using the landscape system developed by Gertenbach (1983). The central landscape in main study area is classified as *Sclerocarya birrea/Acacia nigrescens* tree savanna (an area covering approximately 250 km^2) occurring on fairly flat undulating terrain (Gertenbach 1983). It is an open to semi-wooded savanna with a moderate shrub layer and dense grass layer, which is intersected by several well-defined and broad (50 – 200 m) drainage channels (Gertenbach 1983; Funston 1999). The sides of the drainage lines are lined with a denser shrub and tree layer than the rest of the open savanna (this was observed from aerial photographs taken of the study area).

The Lebombo Hills border the open savanna to the east, covering an area of approximately 148 km^2. This is an undulating, broken landscape with north/south running rhyolite ridges and bottomlands, 100 metres higher than the basalt plains in the open savanna (Gertenbach 1983). The vegetation is heterogeneous dense to moderate bush, dominated by *Combretum apiculatum*, with a less dense field layer (Gertenbach 1983; Mills & Gorman 1997).

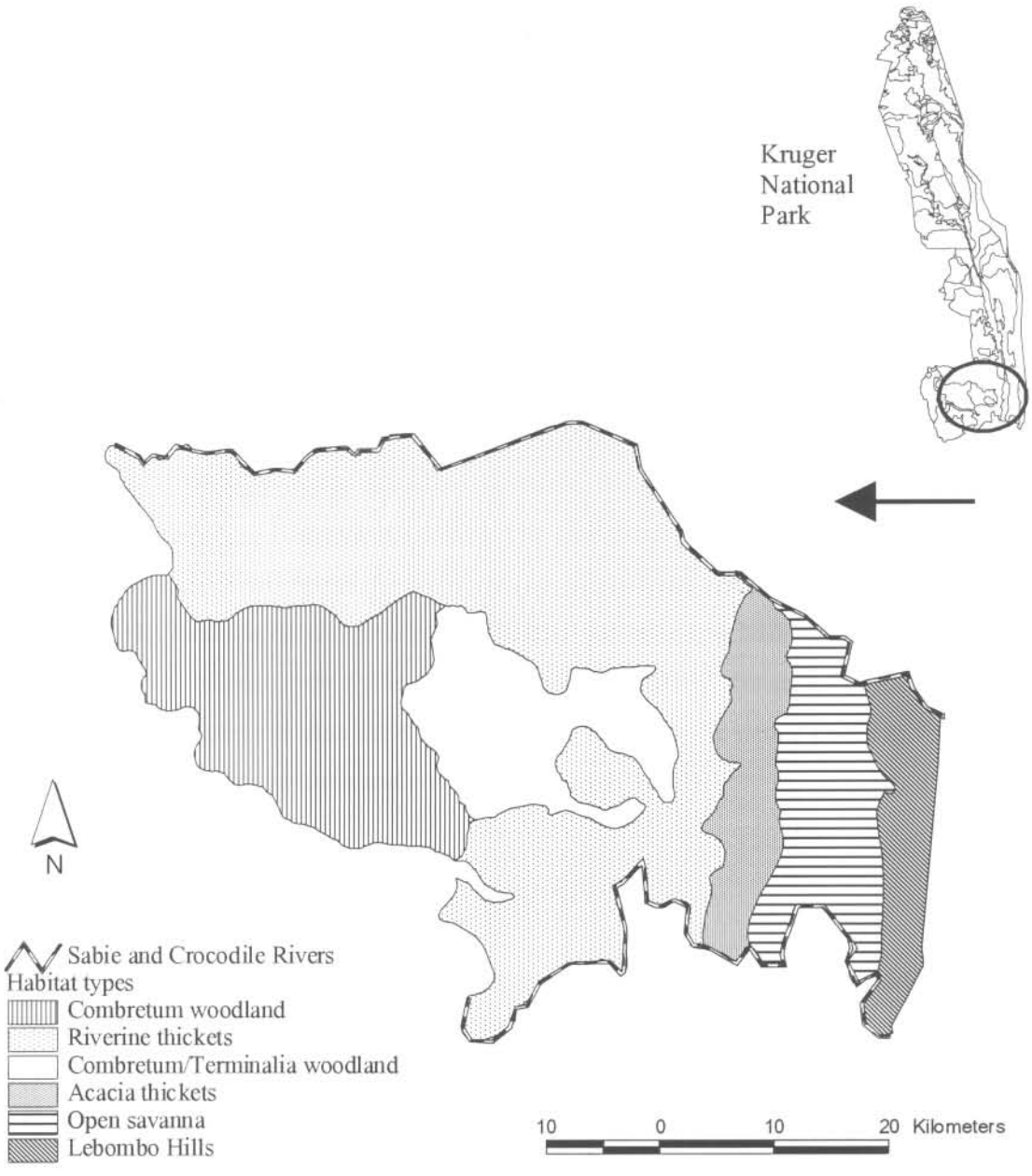

Figure 2.1. Location of study areas in the Kruger National Park showing six distinct habitat types.

The landscape bordering the open savanna to the west is the *Acacia welwitschii* thickets on Karoo Sediments (170 km^2) described as dense thorny bush thickets (Gertenbach 1983). The structure of the woody component is a moderate tree savanna with tall shrubs and sparse low shrubs (Gertenbach 1983). The grass cover is less dense and sometimes disappears altogether in the dry season (Gertenbach 1983).

The banks of Sabie and Crocodile Rivers, which cut through all three landscapes in the main study area, are densely overgrown with woody species and the grass layer is usually absent (Gertenbach 1983).

The secondary study area comprises a further three broad habitat types (Fig. 2.1). The thickets of the Sabie and Crocodile Rivers (1148 km^2) are low-lying, relatively flat areas, characterised by dense woody vegetation, with *Acacia nigrescens/Combretum apiculatum* dominating (Gertenbach 1983). The *Combretum collinum/Combretum zeyheri* woodland (454 km^2) and mixed *Combretum spp./Terminalia sericea* woodland (257 km^2) are undulating landscapes on granite with distinct uplands and bottomlands (Gertenbach 1983). In both habitat types, the uplands have relatively dense bush savanna, the bottomlands are open savanna with a dense grass layer, while dense riverine vegetation line the banks of drainage lines and rivers (Gertenbach 1983).

2.3 OTHER MAMMALS

The *Sclerocarya caffra/Acacia nigresens* open savanna is the centre of the wildebeest and Burchell's zebra habitat (Gertenbach 1983). Buffalo *Syncerus caffer*, kudu *Tragelaphus strepsiceros*, giraffe *Giraffa camelopardalis* and waterbuck *Kobus ellipsiprymnus* occur in large numbers. Lion *Panthera leo* and spotted hyaena *Crocuta crocuta* are abundant. In the Lebombo Hills, kudu, impala *Aepyceros melampus*, giraffe, buffalo bulls, waterbuck and klipspringer *Oreotragus oreotragus* are most common (Gertenbach 1983). The *Acacia welwitschii* thickets carry a large biomass of game: large numbers of impala, wildebeest and zebra occur (Gertenbach 1983). Giraffe, kudu, waterbuck, steenbok *Raphicerus campestris*, grey duiker *Sylvicapra grimmia* and elephant *Loxodonta africana* breeding herds are present. Because of the high density of prey species, lion and spotted hyaena are plentiful (Mills & Biggs 1993). The thickets of the Sabie and Crocodile

Rivers may support the largest impala population in the park while other common game species occurring are kudu, duiker, steenbok, bushbuck *Tragelaphas scriptus* and giraffe (Gertenbach 1983). Lion, leopard *Panthera pardus*, wild dog *Lycaon pictus* and spotted hyaena are the most important predators, especially the former two species, which are relatively abundant. The undulating *Combretum* woodlands support sable antelope *Hippotragus niger*, kudu, giraffe, elephant, white rhino *Ceratotherium simum* and buffalo, and smaller antelope such as steenbok and duikers are frequently encountered (Gertenbach 1983). Wildebeest and zebra occur in limited numbers and impala are restricted to the drainage lines and smaller rivers where water is available.

2.4 REFERENCES

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