Factors influencing productivity in sympatric populations of Mountain Reedbuck and Grey Rhebok in the Sterkfontein Dam Nature Reserve, South Africa

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ABSTRACT

Productivity of grey rhebok and mountain reedbuck was studied at Sterkfontein Dam Nature Reserve (eastern Free State) between September 1999 and May 2002. Within a study area of 550 ha, all herds of grey rhebok and all territorial male mountain reedbuck were identified, and general population dynamics were monitored. Lambs of both species were born seasonally between September and February, while most deaths occurred between June and November. Population levels appeared to be controlled in both species mainly by the eviction of young males, but the effects of extreme weather conditions were significant, being demonstrated by the deaths of 27 % and 51 % of the grey rhebok and mountain reedbuck populations respectively during heavy snow in September 2001. Disease and predation played no role in population control. Grey rhebok formed stable harem herds with home ranges varying between 23 ha and 104 ha (95 % MCP), with an average of 57.9 ha. Home ranges in areas with extensive steep slopes tended to be smaller than those in flatter areas. The ecological density was 1/15.7 ha. Territorial male mountain reedbuck were often solitary, and only accompanied by females when these moved into their territories. Home ranges of males varied between 7 ha and 21 ha (95 % MCP), with an average of 14.8 ha, and all had areas of steep slopes within. Females showed strong preference for steep slopes and used much greater areas than males. The ecological density was 1/8.7 ha.

Grey rhebok rested less than mountain reedbuck, but did not feed for longer. Grey rhebok were active intermittently all day and night, but tended to be more active in the early morning and late afternoon than in the middle of the day. During the day, mountain reedbuck were most active in the late afternoon, rested for longer periods in the middle of the day, but were also very active at night. Body condition was investigated seasonally in mountain reedbuck at Sterkfontein and also Tussen die Riviere Nature Reserve. Kidney fat indices and leg fat percentages were lowest at the end of winter before the rains started and when the nutritive value of the veld was at its lowest. Endoparasites were investigated in both antelope species, but primarily in mountain reedbuck. Seventeen species of helminths, including fifteen nematodes, one trematode, and one cestode were recovered from mountain reedbuck at Sterkfontein and TdR. The most prevalent and abundant species were *Cooperia yoshidai*, *Longistrongylus schrenki* and *Haemonchus contortus*. Five nematode species were recovered from four grey rhebok at Sterkfontein.

Key words: Grey rhebok, *Pelea capreolus*, mountain reedbuck, *Redunca fulvorufula*, productivity, population dynamics, home ranges, behaviour, body condition, nematodes.

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