cover would not be a reliable measure of availability as flowers represent a small proportion of the plant canopy and are also only temporarily present.

From these observations it may be concluded that Cape hares are not obligate grazers but are capable of utilizing browse, a strategy which allows this species to exploit a wide range of habitats besides grasslands. Cape hares are selective browsers, selecting a subset of the 138 plant species available at this site, and using these species intensely. More observations will undoubtedly lead to further plant species being included in the diet of *L. capensis*.

The two plant species that were dominant in the diet of hares at Tierberg (*G. fruticosa* and *O. sinuatum*) are also considered to be important forage species for the small stock industry (P. Marincowitz, pers. comm.). Similarly, sheep also only eat the flowers of *Chrysocoma ciliata*, avoiding the foliage (du Preez 1968). This may indicate competition between hares and stock farmers, although differences in foraging behaviour, browse level, muzzle size, etc. between small stock and hares need to be taken into account. An extended study of the diet of *L. capensis*, combined with density estimates, is needed to quantify the extent of this competition.

Acknowledgements

I am grateful to Sue Milton for the identification of plants and for constructive comments on an earlier draft of the manuscript. This work was funded by the CSIR as part of the Karoo Biome Project.

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Polytocy in the Cape serotine bat *Eptesicus capensis* (A. Smith 1829) from the southern African subregion

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Received 28 November 1989; accepted 17 April 1990

Polytocy is described in the Cape serotine bat, *Eptesicus capensis*, and discussed in relation to the occurrence of multiple births in other microchiropteran bat species in the southern African subregion. Although twins appear to be characteristic of the Cape serotine bat, triplets and even the occasional quadruplets occur.

Politokie in die Kaapse dakvlêrmuis, *Eptesicus capensis*, word beskryf en bespreek met verwysing na die voorkoms van veelvoudige geboortes in ander mikrochiroptera vlêrmuisspesies in die Suider-Afrikaanse substreek. Alhoewel dit wil voorkom asof tweelinge kenmerkend is by die Kaapse dakvlêrmuis, blyk dit dat drielinge en selfs die periodieke vierling voorkom.

The Cape serotine bat is a common vespertilionid in the Transvaal with a wide habitat tolerance (Rautenbach 1982). They occur in small numbers, and during the daytime two or three animals are found huddled together under the bark of trees, at the base of aloe leaves as well as in the roofs of houses, where they are tucked away between overlapping sheets of corrugated iron or between beams and rafters (Smithers 1983). They emerge before dark (Smithers 1983) and have often been reported to hunt in congregations (Rautenbach 1982). The average number of foetuses carried by females is 1,6 with a normal range of one or two (Smithers 1983). Both Rautenbach (1982) and Smithers (1983), however, have collected a single female bearing three foetuses, which the latter author regarded as unusual.

During August 1988 and September 1989, seven and five female Cape serotine bats respectively were collected at the farm Klipfontein, 30 km north-east of Vaalwater in the Transvaal (24°08'S / 28°18'E). Specimens were caught with two 30 × 10 m mist-nets (Rautenbach 1985). All specimens were brought to the laboratory alive where they were sacrificed using ether, and their reproductive tracts dissected out and preserved in Bouin's fluid. The uteri of those collected during August 1988 were serially sectioned at 5 μm for microscopic investigation, while the uteri of those collected during September 1989 were opened and examined macroscopically.

Three of the seven females collected during August 1988 each had three embryos at the morula stage in their uterine horns, while the rest each had two embryos. In two of the females with triplets the distribution of the embryos was two in the right and one in the left uterine horn whereas in the third female all three embryos were in the right uterine horn. It is not certain whether this was their final distribution as transmigration to the left

Table 1 Number of offspring recorded for Microchiroptera in the southern African subregion

Family and species	Off-spring	Locality	Author/s
Fam. Emballonuridae			
Taphozous mauritianus	1	Zimbabwe	Smithers 1983
T. perforatus	1	Zimbabwe	Smithers 1983
Fam. Molossidae			
Tadarida midas	1	Botswana	Smithers 1983
T. condylura	1	Botswana	Smithers 1983
		Transvaal	L. Vivier 1989 (pers. comm.)
T. pumila	1	Botswana	Smithers 1983
		Transvaal	Rautenbach 1982; Van der Merwe, Rautenbach & Van der Colf 1986
T. fulminans	1	Zimbabwe	Smithers 1983
T. aegyptiaca	1	Transvaal	Rautenbach 1978
		Zimbabwe	Smithers & Wilson 1979
Fam. Vespertilionidae			
Miniopterus inflatus	1	Zimbabwe	Smithers 1983
M. fraterculus	1	Natal	Bernard 1980
M. schreibersii	1*	Zimbabwe	Smithers & Wilson 1979
		Transvaal	Rautenbach 1978; Van der Merwe 1987
		Cape Province	Herselman & Norton 1985
Myotis tricolor	1	Cape Province	Herselman & Norton 1985
		Natal	Bernard 1982a
Pipistrellus kuhlii	1	Transvaal	Rautenbach 1982
P. rusticus	1–2	Transvaal	M. van der Merwe & I.L. Rautenbach (unpublished)
P. nanus	1–2	Zimbabwe	Smithers 1983
Eptesicus melckorum	2	Cape Province	Herselman & Norton 1985
E. capensis	1–3	Zimbabwe	Smithers 1983
		Transvaal	Rautenbach 1982
	2–4	Transvaal	Present study
Scotophilus dinganii	2	Zimbabwe	Smithers 1983
	2–3	Transvaal	Rautenbach 1982
S. borbonicus	2	Zimbabwe	Smithers 1983
	2	Transvaal	Van der Merwe, Rautenbach & Penzhorn 1988
Nycticeius schlieffenii	1–4	Transvaal	Van der Merwe & Rautenbach 1986,1987
Nycteris grandis	1	Zimbabwe	Fenton, Cumming, Hutton & Swanepoel 1987
N. thebaica	1	Zimbabwe	Smithers 1971; Smithers & Wilson 1979
		Natal	Bernard 1982b
		Cape Province	Herselman & Norton 1985
Fam. Rhinolophidae			
Rhinolophus hildebrandtii	1	Northern parts of subregion	Smithers 1983
R. fumigatus	1	Northern parts of subregion	Smithers 1983
R. clivosus	1	Cape Province	Herselman & Norton 1985
		Natal	Bernard 1983
		Transvaal	Rautenbach 1982
R. darlingi	1*	Transvaal	Rautenbach 1982
R. landeri	1	Zimbabwe	Smithers 1983
R. capensis	1	Cape Province	Herselman & Norton 1985
			Bernard 1985
R. simulator	1	Transvaal	Rautenbach 1982
		Natal	Bernard (*in litt.*)
Fam. Hipposideridae			
Hipposideros caffer	1	Zimbabwe	Smithers 1983
		Natal	Bernard & Meester 1982
Cloeotis percivali	1	Zimbabwe	Smithers 1983

* Twins were recorded

uterine horn could still have occurred at that stage of embryonic development. Of the five females collected during September 1989, three had two foetuses (one in each uterine horn) while one had three foetuses (two in the right and one in the left uterine horn) and one four foetuses (Figure 1). These data indicate that 42% of the females carried more than two young and as such, triplets should not be regarded as exceptional.

From Table 1 it is clear that 23 of the 33 southern African Microchiroptera for which information is available, are monotocous. Although monotocy is the rule in these species, it can be expected that the occasional twin will be found. In the Transvaal two (0,6%) out of 312 genital tracts of Schreiber's long-fingered bat, *Miniopterus schreibersii*, contained twins (Van der Merwe 1986), whereas one (0,7%) out of 150 examined in the Cape Province contained twins (Herselman & Norton 1985). In Zimbabwe, one female Darling's horseshoe bat, *Rhinolophus darlingi*, was found with twins attached to her (Smithers 1983). In general, it appears that in the southern African subregion, polytocy occurs amongst members of the Vespertilionidae only, and that twins found in any of the other species can be regarded as exceptional cases.

In the past it was thought that triplets were exceptional in those species normally carrying twins and triplets have been recorded on three occasions only. Rautenbach (1982) has collected both a female Cape serotine bat, *Eptesicus capensis*, and a yellow house bat, *Scotophilus dinganii*, carrying triplets in the Transvaal, while Smithers (1983) reported a single female Cape serotine bat carrying triplets in Zimbabwe. The present study, however, showed that triplets are quite common in the Cape serotine bat and a similar situation was found in Schlieffen's bat, *Nycticeius schlieffenii* (Van der Merwe & Rautenbach 1986, 1987). It would thus appear that triplets may be more common in some members of the Vespertilionidae than was previously thought. It is not certain whether the females carrying three morulae (in the present study) would have given birth to triplets, as pre-implantation or even post-implantation resorption of some of the embryos could have occurred. Ovum loss is not uncommon amongst bats. The eastern pipistrelle, *Pipistrellus subflavus*, and the big brown bat, *Eptesicus fuscus*, normally bear two and one or two young respectively, although both shed 2–7 ova (Wimsatt 1945). Most of these implant but those in excess of the number of young characteristically produced are eventually resorbed. However, looking at the physical condition of the advanced triplets and the quadruplets collected during September 1989 it is doubtful that any resorption would have occurred at that stage of development and that normal births could have been expected.

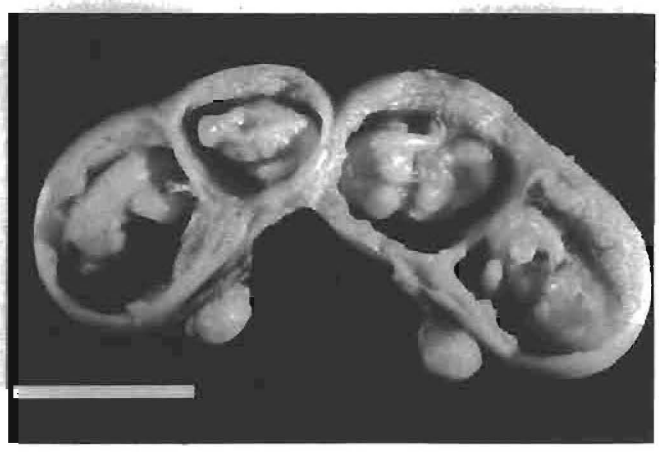

Figure 1 Open uterine horns of a Cape serotine bat collected in 1989 showing four well-developed foetuses. Bar = 5 mm.

Acknowledgements

I am grateful to Dr I.L. Rautenbach of the Transvaal Museum for kindly allowing me the use of his equipment for the capturing of specimens, as well as Mr C. Barber for allowing me free access to localities on his farm. Financial support was from the Foundation for Research Development grant-in-aid to Dr I.L. Rautenbach and a research grant to M. van der Merwe from the University of Pretoria.

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