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Resource partitioning along multiple niche dimensions in differently sized African savanna grazers

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Appendix 1

Resource overlap values calculated between impala, warthog, wildebeest, zebra, buffalo and white rhino for three axes of resource separation (habitat, grass height and grass species) and for the dry and the wet seasons using Pianka's (1973) formula. 'Overall' resource overlap was obtained by taking the product of the overlap values for habitat, grass height and grass species in each season (Pianka 1973). Overlap values range between 0 and 1, where 0 indicates no overlap and 1 indicates complete overlap.

		Impala	Warthog	Wildebeest	Zebra	Buffalo	White rhino
Habitat							
(A) Dry season	impala	–	0.982	0.971	0.985	0.952	0.962
Average = 0.971	warthog		–	0.994	0.956	0.989	0.990
	wildebeest			–	0.937	0.995	0.990
	zebra				–	0.922	0.950
	buffalo					–	0.993
	white rhino						–
(B) Wet season	impala	–	0.984	0.913	0.992	0.987	0.984
Average = 0.972	warthog		–	0.971	0.982	0.990	0.993
	wildebeest			–	0.913	0.936	0.950
	zebra				–	0.995	0.992
	buffalo					–	0.995
	white rhino						–
Grass height							
(C) Dry season	impala	–	0.795	0.957	0.793	0.434	0.902
Average = 0.634	warthog		–	0.863	0.351	0.070	0.914
	wildebeest			–	0.684	0.319	0.971
	zebra				–	0.853	0.505
	buffalo					–	0.097
	white rhino						–
(D) Wet season	impala	–	0.886	0.995	0.769	0.597	0.872
Average = 0.799	warthog		–	0.896	0.601	0.451	0.705
	wildebeest			–	0.807	0.646	0.898
	zebra				–	0.970	0.983
	buffalo					–	0.911
	white rhino						–
Grass species							
(E) Dry season	impala	–	0.642	0.693	0.910	0.420	0.483
Average = 0.608	warthog		–	0.827	0.594	0.375	0.859
	wildebeest			–	0.801	0.345	0.636

	zebra				–	0.380	0.432
	buffalo					–	0.722
	white rhino						–
(F) Wet season	impala	–	0.906	0.863	0.772	0.796	0.899
Average = 0.734	warthog		–	0.934	0.492	0.615	0.795
	wildebeest			–	0.408	0.569	0.683
	zebra				–	0.736	0.854
	buffalo					–	0.691
	white rhino						–
Overall							
(G) Dry season	impala	–	0.501	0.644	0.711	0.174	0.419
Average = 0.398	warthog		–	0.710	0.199	0.026	0.777
	wildebeest			–	0.513	0.110	0.612
	zebra				–	0.299	0.207
	buffalo					–	0.069
	white rhino						–
(H) Wet season	Impala	–	0.790	0.784	0.589	0.469	0.771
Average = 0.582	warthog		–	0.812	0.290	0.275	0.557
	wildebeest			–	0.301	0.344	0.583
	zebra				–	0.710	0.833
	buffalo					–	0.626
	white rhino						–
