

APPENDIX 1

Ethical clearances and permissions of authorisations to conduct my experiments.

Species	Ethics clearance	Authorisation
Impala (<i>Aepyceros melampus</i>)	2002/24/5	Zoological Research Committee, National Zoological Gardens, Pretoria, South Africa
Blesbok (<i>Damaliscus dorcus phillipsi</i>)	2002/24/5	Johannesburg Zoological Gardens, Johannesburg, South Africa
Tsessebe (<i>Damaliscus lunatus</i>)	2003/61/5	AfriVet, Karina, South Africa
Angora goats (<i>Capra aegagrus</i>)	2000/27/4.	Hopedale farm, Steytlerville, South Africa
Mixed breed goats (<i>Capra hircus</i>)	2003/51/3	N/A
White rhinoceros, blesbok, elephant, black buck	2002/41/4	Various capture teams (see Table 2.1)

APPENDIX 2

General capture and transport procedures used in my study

All capture and transport of wild animals were carried out by professional capture teams. The capture process varied from chemical capture (darting) to mass capture using nets or bomas. During chemical capture, animals were immobilized using a dart gun. Once immobilized, they were carried or walked to the transport vehicle and placed inside one of the compartments. The animals then were injected with a narcotic drug antagonist, so that they were not sedated during transport, but were still tranquilized. Mass capture involved chasing the animals with a helicopter into a net or boma in the field. Animals trapped in a net were handled individually, injected with a tranquillizer, and lead into the transport vehicle. Those that were caught in a boma were not handled, but chased into the vehicle, where they were then tranquilized. Horned animals, namely the impala males, tsessebe and blesbok, had their horns covered with plastic piping to prevent them from harming themselves and the game capture operators. In addition to measuring air temperature during capture, I also measured globe temperature, using a globe thermometer attached to the exterior top of a ventilated metal box. The globe thermometer consisted of a globe painted matt black, where air and globe temperatures were measured using a data logger (see sections 1.3 and 4.1.3). The globe thermometer was placed on the ground, in an area with the least amount of cover, so that the globe was facing upwards and away from the shade.

Transport containers

The transport containers used in my study were all designed specifically to transport animals, and included an open pick-up truck, a trailer attached to a towing vehicle and an enclosed container or wooden crate on the back of a truck (Appendices 3.a and 3.c). The open pick-up truck had guardrails on its sides and straw on the floor. The trailer and the container on the truck had two compartments, so that the animals could be divided into two smaller groups. The trailer compartments each had dimensions of 1.8 x 1.6 x 1.6 m. The trailer and container both had ventilation holes and man-holes on the roof, while the floor and walls were covered with rubber matting. The wooden crate (2.5 x 0.6 x 1.4 m) was suited only for the transport of an individual animal. It had ventilation holes, and straw, instead of matting, on the floor. During transport, the globe thermometer was placed inside the transport vehicle, out of the reach of the animals. Most animals were transported on single lane roads at speeds of about 80 km/h, though on occasion some were transported on dual carriageway highways at speeds of about 120 km/h. There were occasional stops on route, lasting no more than ten minutes each.

APPENDIX 3.A

Different types of containers on vehicles used to transport animals in my study. The top picture shows a container used for rhino transport, while the bottom picture shows a container used for elephant transport.



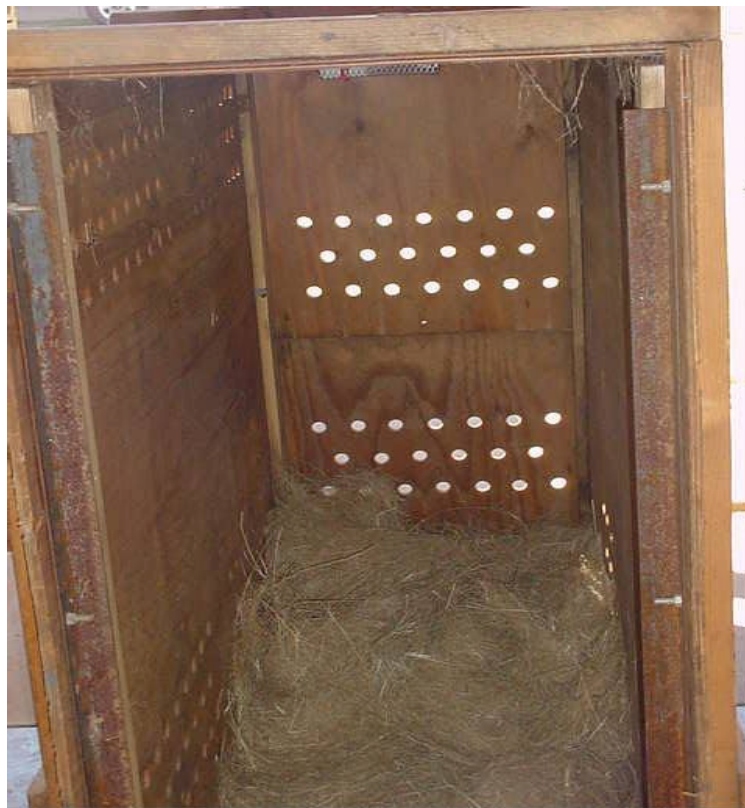
APPENDIX 3.B

Two different ways of loading animals, used in my study. The top picture shows a blesbok being loaded into a trailer, while the bottom picture shows an elephant being loaded into an enclosed container on the back of a truck.



APPENDIX 3.C

Examples of a trailer and a crate used to transport animals in my study. The top picture shows a trailer that was attached to a towing vehicle to transport impala, blesbok and tsessebe. The bottom picture shows a crate used to transport individual animals, such as an adult impala ram and a black buck.



APPENDIX 4

Generic name, brand name and supplier of the drugs used in my study

Type of drug	Generic name (concentration)	Brand name	Supplier
Anaesthetics	halothane (2-8%)	Fluothane	Zeneca, Johannesburg, South Africa
	ketamine hydrochloride (200mg/ml)	Ketamine	Kyron Laboratories, Johannesburg, South Africa
	lignocaine hydrochloride (4-8mg/kg)	Lignocaine	Centaur Labs, Johannesburg, South Africa
Tranquillizers	azaperone (40mg/ml)	Stresnil	Janssen-Cilag (Pty.) Ltd., Johannesburg, South Africa
	haloperidol (20mg/ml)	Haloperidol	Kyron Laboratories, Johannesburg, South Africa
	perphenazine enanthane (100mg/ml)	Trilafon	Schering-Plough (Pty.) Ltd., Johannesburg, South Africa

	zuclopenthixol acetate (50mg/ml)	Clopixol Acuphase	H.Lundbeck (Pty.) Ltd., Johannesburg, South Africa
Alpha-2- adrenoceptor- agonists	medetomidine (1mg/ml)	Domitor	Novartis, Johannesburg, South Africa
Alpha-2- adrenoceptor- antagonists	atipamezole hydrochloride (5mg/ml)	Antisedan	Novartis, Johannesburg, South Africa
Opioid agonists	etorphine hydrochloride (9.8mg/ml)	M99	Logos Agvet, Johannesburg, South Africa
	fentanyl citrate (30mg/ml)	Fentanyl	Kyron Laboratories, Johannesburg, South Africa
	thiafentanyl oxalate (10mg/ml)	A3080	AfriVet, Karina, South Africa
Opioid antagonists	diprenorphine hydrochloride (12mg/ml)	M50/50	Logos Agvet, Johannesburg, South Africa

	nalorphine hydrobromide (20mg/ml)	Nalorphine	Kyron Laboratories, Johannesburg, South Africa
	naltrexone hydrochloride (20 part of naltrexone to 1 part etorphine)	Naltrexone	Kyron Laboratories, Johannesburg, South Africa
Anticholinergics	biperiden lactate (5mg/ml)	Akineton	Knoll Pharmaceuticals South Africa (Pty.) Ltd., Midrand, South Africa
Antiparasitics	doramectin 1% (1ml/50kg)	Dectomax	Pfizer Laboratories SA (Pty.) Ltd., Johannesburg, South Africa
	Invermectin (1ml/50kg)	Ivomec	Merck (Pty.) Ltd., Midrand, South Africa
Anti- inflammatories	ramiphenazone, sodium phenylbutazone, dexamethasone, cinchocain HCL, benzalkonium chloride	Dexa-Tomanol	Centaur Labs, Johannesburg, South Africa

Antibiotics	procainbenzylpenicillin, benzathine benzylpenicillin, methylparaben, propylparaben (0.5-1ml/10kg)	Peni la Phenix	Phenix SA (Pty) Ltd., Midrand, South Africa
Vitamins and minerals	vitamin B ₁₂ , Na- selenite, K-aspartate, Mg-aspartate, ATP (2-5ml)	Biosolamine	Rhône-Poulenc, Johannesburg, South Africa
Ancillary drugs	adrenaline (1mg/ml)	Adrenaline	Kyron Laboratories, Johannesburg, South Africa
	hyaluronidase (150iu/ml)	Hyalase	Fisons Pharmaceuticals, Chloorkop, South Africa

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