

NOTES ON THE USE OF AZAPERONE AND FENTANYL IN THE IMMOBILIZATION OF THE BONTEBOK (*DAMALISCUS DORCAS DORCAS*) IN THE BONTEBOK NATIONAL PARK

by

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Abstract – The use of Azaperone and Fentanyl in the immobilization of the bontebok (*Damaliscus dorcas dorcas*) is briefly discussed, and the resulting reactions of the animals to the drugs noted. Measurements of body and horn values are also given for 14 male individuals.

Introduction

The bontebok population in the Bontebok National Park near Swellendam, at present totals approximately 270 animals. This number can increase at an estimated rate of about 18% annually under favourable conditions.

For marking purposes and to establish distribution patterns within the Park, some 20 odd animals were immobilized (Table 1). The project was launched on 13 May 1969 and was terminated on 10 December 1969.

Material and Methods

The first animals were darted with the "Cap-chur" pistol. Due to its poor range (only about 20 m) it was found to be inadequate. The "Cap-chur" gun was subsequently successfully used at ranges of about 30-40 metres. The drugs (the tranquillizer Azaperone (Flupyridol) and the analgesic (Fentanyl)) were injected by means of 5 cm³ dart syringes.

The animals ranged in mass from about 35 kg (juveniles) to about 90 kg (adults) and dosages administered were as follows:

Juveniles (35-45 kg)	Adults (70-90 kg)
Azaperone 40-50 mg	Azaperone 75-90 mg
Fentanyl 6 mg	Fentanyl 10 mg

The dart wounds were treated with 0,25 gm Neo-strep-chlor ointment which consisted of 250 mg Chloramphenicol, 0,25 mg Streptomycin and

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Table 1

Dosage Rates of Drugs Used for Neuroleptic Narcosis of Bontebok (*Damaliscus dorcas dorcas*) in the Bontebok National Park

No.	Date	Estimated age and sex	Body weight in kg	Tranquilizer Azaperone mg	Analgesic Fentanyl mg	Antagonist Lethidrone mg	Animal down min. after darting	Time kept under narcosis (min.)	Remarks
01	13/5/69	± 5 yrs ♂	81,7	90	10	50	6	49	Ran about 1,6 km.
02	16/5/69	± 5½ yrs ♂	73,1	1st dart 90 2nd dart 90	1st dart 10 2nd dart 10	60	5 min. after 2nd dart	27	1st dart hit in stomach.
03	17/5/69	± 8 yrs ♂	80,4	80	10	50	7	18	—
04	26/5/69	± 7 yrs ♂	79,9	80	10	50	7	21	—
05	27/5/69	± 7-8 yrs	75,5	80	10	40	7	15	—
—	4/6/69	± 10 months ♀	42,2	1st dart 50 2nd dart 40	1st dart 6 2nd dart 6	25 12	7	35	1st dart in stomach. As a result of peritonitis it died after 18 hours. Darted in digestive tract.
—	6/6/69	± 8 months ♂	—	50	6	25	12	25	—
—	11/6/69	± 8 months ♂	37,7	50	6	25	5	35	Good condition.
—	25/6/69	± 9 months ♀	—	50	6	25	4	25	Good condition.
—	25/7/69	± 9 months ♀	—	50	6	25	5	20	Good condition.
06	31/10/69	7-8 yrs ♂	—	80	10	50+30	2	25	Good condition. Few ticks on hind legs.
07	4/11/69	7-8 yrs ♂	86,8	80	10	40	6	23	Condition excellent, few ticks on legs.
08	4/11/69	± 10 yrs	69,9	75	10	50	8	13	—
09	4/11/69 5/11/69	Adult ♂	—	1st dart 75 2nd dart 80 3rd dart 80	10 10 10	— — 60	— — 10	— — 15	Dart in stomach. Dart in stomach. Gave triprophen. Recovered well.
11	12/11/69	7-8 yrs ♂	88,1	80	10	50	12	34	Dart hit above knee.
12	2/12/69	9-10 yrs ♂	71,3	80	10	50	6	24	Few ticks. Good condition.
13	3/12/69	9-10 yrs ♂	—	80	10	50	10	22	Hit in leg just above ankle.
14	3/12/69	Over 4 years ♂	87,2	80	10	50	7	20	—
15	9/12/69	± 11 yrs ♂	± 72	80	10	60	8	42	Condition fair, ticks all over.
16	10/12/69	6-7 yrs ♂	± 82	80	10	50+30	28	36	Good condition.

Table 2
Statistics of 14 Male Bontebok Dated During 1969

Serial No.	Date	Estimated Age	Measurements (centimetres)										
			BODY				HORNS						
01	13/5/69	± 5 yrs	Weight in kg	Total body length excl. tail	Tail	Chest girth	Shoulder height	Neck	Ear	Circumference round the base	Tip to tip	Length along curve	Horn rings
02	16/5/69	± 5½ yrs	81,7	160,0	48,3	—	—	—	16,5	17,1	22,2	35,6	12½
03	17/5/69	± 8 yrs	73,1	157,5	43,2	104,1	—	62,2	15,6	15,2	23,2	35,9	11½
04	26/5/69	± 7 yrs	80,4	154,9	41,9	105,4	95,3	62,2	16,5	15,9	21,3	35,9	13½
05	27/5/69	7-8 yrs	79,9	152,4	48,3	106,7	97,8	64,8	15,9	16,2	21,6	35,9	12½
06	31/10/69	7-8 yrs	75,5	149,9	50,8	108,0	97,8	61,0	16,5	14,9	23,2	34,4	13½
07	4/11/69	7-8 yrs	—	157,5	53,3	102,9	—	59,1	16,5	15,6	21,0	37,3	13½
08	4/11/69	± 10 yrs	86,8	157,5	45,7	110,5	—	62,2	16,5	15,9	22,5	34,4	13½
11	12/11/69	7-8 yrs	69,9	158,1	45,1	109,2	—	61,0	17,1	15,2	26,4	36,8	15½
12	2/12/69	9-10 yrs	88,1	153,7	43,2	109,2	—	60,3	17,1	15,9	22,5	35,6	13½
13	3/12/69	9-10 yrs	71,3	156,2	48,3	106,7	—	54,0	16,5	15,2	25,4	31,8	14½
14	3/12/69	—	—	152,4	44,5	105,4	96,5	63,5	15,2	15,2	22,5	33,7	14½
15	9/12/69	± 11 yrs	87,2	158,8	47,0	111,1	98,4	64,8	16,5	15,9	21,9	31,8	10½
16	10/12/69	6-7 yrs	± 72	151,2	47,0	102,9	100,3	61,0	15,9	15,6	21,6	34,4	14½
			± 82	144,8	53,3	106,7	—	59,7	16,5	15,6	21,0	34,9	12½



Fig. 1. The darted animal still in a standing position, while in Fig. 2 it is down and much easier to handle.



Fig. 2. The darted animal lying down.

100 mg Neomycinsulphate. In some cases larger wounds were treated with 2 000 000 units of penicillin (Triplopen).

Lethidrone was injected intravenously as an antagonist in amounts ranging from 25 mg in juveniles to 50 mg in adults while a number of animals received 80 mg each.

While the animals were immobilized, values of body and horn size of 14 rams were taken (see Table 2).

Behaviour

With a few exceptions, darted animals ran off at a fast pace. One individual ran for more than 1,6 km and another could not be relocated. The first signs of ataxia were usually evident after 4 minutes while most of the animals were completely immobilized after 7 minutes. In a few cases where the dart entered the vicinity of the lower abdomen, slight ataxia was induced, but the animals never went down.

With the onset of ataxia the animal commenced feeding on anything growing in its immediate vicinity. This reaction stopped at the stage of complete immobilization. While recovering from the drugs this reaction is again noticeable for a short period. Some of the animals remained standing while others went down completely. They were always blindfolded when being marked (Figs. 1 and 2).

After receiving the antidote, most of the animals remained calm and soon joined their respective herds.

The project was completed successfully and without any loss of animals, apart from a juvenile which died after 18 hours from peritonitis. This animal was accidentally darted in the digestive tract.

The results are summarized in Table 2.

The results achieved were excellent in all respects and Fentanyl and Azaperone, at the above dosage levels, can be recommended for any future capture of the Bontebok.

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