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PARASITES AND DISEASES OF CAPE MOUNTAIN ZEBRA, BLACK WILDEBEEST, MOUNTAIN REEDBUCK AND BLESBOK IN THE MOUNTAIN ZEBRA NATIONAL PARK

by

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Abstract – The results of a special survey are supplemented in this report with a review of all other applicable information on the diseases and parasites of Cape mountain zebra, black wildebeest, mountain reedbuck and blesbok in the Mountain Zebra National Park. The possible significance of some of these infections is discussed and various suggestions are made which aim at the continued and successful preservation of the Cape mountain zebra and other species in this National Park.

Infectious diseases and parasites isolated from or identified in *Equus zebra zebra* (Cape mountain zebra), *Connochaetes gnou* (black wildebeest), *Redunca fulvorufula* (mountain reedbuck), *Damaliscus dorcas phillipsi* (blesbok) in the Mountain Zebra National Park (M.Z.N.P.), are summarized in tabular form.

Babesia equi was found in blood smears of three of the five Cape mountain zebra captured and sampled (Neitz, *pers. comm.*). These animals were all heavily infested with ticks but were otherwise clinically normal. Latent infections of *B. equi* are known to flare up and produce deleterious and often fatal effects in the horse when the host animal is subjected to certain stressful conditions. Similarly wild animals, pre-immune to certain protozoal infections, may fall victim to such infections under certain circumstances. The apparent high incidence of subclinical equine babesiosis in this very rare subspecies of *Equus zebra* is therefore viewed with great concern.

The interpretation of the results of serological tests for horse sickness and equine rhinopneumonitis was complicated by the anti-complementary nature of the zebra serum as well as by other technical difficulties and

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Table 1

Parasites and infectious diseases of Cape Mountain Zebra, Black Wildebeest, Mountain Reedbuck and Blesbok in the Mountain Zebra National Park

Host	Parasite/disease		Remarks
Cape mountain zebra	Endoparasites	*Gasterophilus pecorum*	"Bots" in stomach
		G. intestinalis	"Bots" in stomach
		Anoplocephala magna	Cestode in stomach and duodenum
		Trichonema (larvae)	Found in numerous cysts in the intestinal wall
	Ectoparasites	*Rhipicephalus e. evertsi*	Heavy tick infestation
		R. glabroscutatum	Heavy tick infestation
		Hyalomma rufipes	Heavy tick infestation
		Margaropus winthemi	Heavy tick infestation
	Infectious diseases	Babesiosis (*B. equi*)	Bloodsmears positive
		Horse sickness	Results indefinite (serum anti-complimentary)
		Equine rhinopneumonitis	Results indefinite (serologically suspicious)
Black wildebeest	Endoparasites	*Haemonchus* sp.	Nematode in abomasum
		Oesophagostomum sp.	Nematode in colon
		Trichinella spiralis	Microscopic examination of digested tissues negative
	Ectoparasites	*Rhipicephalus glabroscutatum*	Ticks, especially on thin-skinned parts
		Lipoptena sepiacea	Biting fly (hippoboscid)
		Gedoelstia sp.	Larvae (L II + III) in the nasal cavity
	Infectious diseases	Bluetongue	Serological tests negative
		Rift valley fever	Serological tests negative
		Wesselsbron disease	Serological tests negative
		Protozoa	Blood smears and histological preparations negative
Mountain reedbuck	Endoparasites	*Haemonchus* sp.	Nematode in abomasum
		Nematodirus spathiger	Nematode in duodenum
		Moniezia expansa	Cestode in duodenum
		Setaria boulengeri	Nematode in abdominal cavity
		Trichinella spiralis	Microscopic examination of digested tissues negative

Table 1 (cont.)

Host	Parasite/disease		Remarks
	Ectoparasites	*Rhipicephalus glabroscutatum*	Heavy tick infestation
		Linognathus reduncae	Sucking lice (Anoplura)
		Damalinia trabeculae	Biting lice (Ischnocera)
	Infectious diseases	Bluetongue	Serological tests negative
		Rift valley fever	Serological tests negative
		Wesselsbron disease	Serological tests negative
		Protozoa	Blood smears and histological preparations negative
Blesbok	Endoparasites	*Haemonchus contortus*	Nematode in abomasum
		Nematodirus spathiger	Small red nematode in duodenum
		Cysticercus tenuicollis	Cysts on mesentery
		Trichinella spiralis	Microscopic examination of digested tissues negative
	Ectoparasites	*Rhipicephalus glabroscutatum*	Ticks
		Oestrus variolosus	Larvae (L I–III) in nasal cavities and frontal sinuses
	Infectious diseases	Bluetongue	Serological tests negative
		Rift valley fever	Serological tests negative
		Wesselsbron disease	Serological tests negative
		Protozoa	Blood smears and histological preparations negative

special tests for these and other important diseases of the Equidae obviously have to be repeated and even extended.

One young zebra foal was found to be heavily infested with various internal parasites which resulted in parasitic enteritis. Nematodes (*Trichonema* sp.) could be detected macroscopically in numerous cystic lesions in the intestinal mucosa. This particular case left very little doubt that such heavy infestations may sometimes end fatally.

Since the proclamation of the M.Z.N.P. in 1937, the zebra have increased steadily in this Park from relatively few animals to their present number of about 130 individuals. Inbreeding could already have reduced the inherent resistance of these animals to diseases and parasitism by now and may even become a bigger problem in the future if the necessary provision is not made for the introduction of sufficient new genetic material. In addition trace-element deficiencies, which seem to exist in this park, may also exert some decimating effects. Domestic horses, which may harbour

infectious diseases to which the Cape mountain zebra is susceptible, are furthermore kept in this park and on adjoining farms and the possibilities of introducing and establishing new infections are therefore not excluded.

Apart from the possible introduction of sufficient new genetic material from other populations of Cape mountain zebra, the continued existence of this subspecies may expectedly be further ensured by capturing a considerable number of the animals in the M.Z.N.P., by deworming these and treating and vaccinating them against all the diseases and parasites which they may harbour or contract and to subsequently use these animals to establish a further breeding nucleus of Cape mountain zebra at another suitable and safe reserve. Decentralization of this population and active attempts at prophylactic disease and parasite control seem imperative if this subspecies is to be safely protected for the future.

Considerable numbers of other animals (i.e. more than 500 springbok) exert a severe grazing pressure on this park which was primarily proclaimed for the preservation of the Cape mountain zebra. Apart from their direct effects on the grazing and therefore the possible threat which the apparent excessive numbers of these more common species may pose to the zebra, especially during very dry years, the high population densities of these other species have already resulted in heavy parasitic infestations in themselves. This seems to be particularly true in the springbok *Antidorcas marsupialis*. Post mortem examinations on a limited number of carcasses created the impression that heavy infestations of *Cooperioides antidorci* may, under certain circumstances, be responsible for mortalities in springbok. *Nematodirus spathiger* infestations were furthermore repeatedly associated with signs of enteritis and/or intestinal catarrh in heavily infested blesbok and mountain reedbuck. *Haemonchus contortus*, which is known to infest 19 antelope species (Neitz, 1965) and can be responsible for mortalities in blesbok (own observations), has been recovered from blesbok, springbok, black wildebeest and mountain reedbuck in the M.Z.N.P.

As with the zebra, the necessary precautions should also be taken to prevent the introduction of diseases and parasites to which these other species are susceptible. Furthermore, developing problems of localized overgrazing and concomitant superinfestation of certain areas with parasites may possibly be overcome by the well planned further distribution of watering points, as well as by the provision of mineral licks at strategic places in underutilized areas. Mineral licks, if adequately utilized, may also be used as a medium for the administration of anthelmintics, should parasitism become a real threat as may be foreseen under the present circumstances.

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