

Recovery of *Sarcocystis* oocysts from a free-ranging wild dog (*Lycaon pictus*)

A terminally-ill subadult female wild dog (*Lycaon pictus*) from Madikwe Game Reserve, Northwest Province, was euthanased for necropsy. A section of small intestine was submitted for parasite recovery to the Department of Veterinary Tropical Diseases, Faculty of Veterinary Science, University of Pretoria. Scrapings of the intestinal mucosa revealed a few thin-walled, sporulated oocysts and many free sporocysts, consistent with a *Sarcocystis* species. Shortly after these had been found, a positive diagnosis of rabies was made and all specimens were destroyed, precluding a detailed investigation of the material. The following measurements had been made using an ocular micrometer:

Oocysts: 2 were measured, the measurements being 21×15 and $19 \times 16 \mu\text{m}$, respectively.

Sporocysts: $14\text{--}17 \times 9\text{--}11 \mu\text{m}$ (mean: $15.67 \times 10.20 \mu\text{m}$; $n = 12$).

Sporozoites: $9\text{--}11 \times 2 \mu\text{m}$ (mean: $10.25 \times 2.00 \mu\text{m}$; $n = 4$).

Routine histological examination revealed large numbers of thin-walled, sporulated oocysts, with 2 sporocysts and 4 crescentic sporozoites with prominent nuclei in the caudal third, in the lamina propria at the tips of virtually all small intestinal villi. No accompanying inflammatory reaction or tissue necrosis was associated with these oocysts (Fig. 1).

Sarcocystis is an obligatory heteroxenous parasite with a predator-prey life-cycle. Although at least 18 *Sarcocystis* species have been described with the domestic dog as definitive host, none have been described from wild dogs³. Unnamed *Sarcocystis*-like organisms have been reported from the musculature of wild dogs in Kenya². In that case, the wild dog was the intermediate host.

Many wild herbivores harbour sarcocysts in their muscles, but very few of these have been named. In the Kruger National Park, for instance, 59 % and 86 % of buffaloes examined were positive for sarcocysts¹⁴.

Madikwe Game Reserve covers c. 72 000 ha. The coordinates of the 4 corners of the reserve are: NW: 24.696°S , 26.239°E ; NE: 24.650°S , 26.412°E ; SW: 24.850°S , 26.177°E ; SE: 24.866°S , 26.400°E . The wild dog population in Madikwe Game Reserve was established from 3 males translocated from the Kruger National Park and 3 captive-bred animals from the De Wildt Cheetah Breeding Centre, west of Pretoria. The wild dogs range freely in a c. 60 000 ha game-proof-fenced section of the reserve. Three quarters of their prey consists of impala (*Aepyceros melampus*), kudu (*Tragelaphus strepsiceros*) and waterbuck (*Kobus ellipsiprymnus*). The remainder comprises eland (*Taurotragus oryx*), bushbuck (*Tragelaphus scriptus*), common reedbuck (*Redunca arundinum*), mountain reedbuck (*Redunca fulvorufula*), springbok (*Antidorcas marsupialis*), blesbok (*Damaliscus dorcas phillipsi*), blue wildebeest (*Connochaetes taurinus*), steenbok (*Raphicerus campestris*), grey duiker (*Sylvicapra grimmia*), warthog (*Phacochoerus aethiopicus*), plains zebra (*Equus burchelli*) and springhare (*Pedetes capensis*). Domestic livestock are excluded from the reserve. The oocysts recovered



Fig. 1: Multiple sporulated oocysts of a *Sarcocystis* species in the lamina propria of a small intestinal villus of a wild dog (*Lycaon pictus*). Note the absence of inflammatory cells (HE; $\times 1000$).

may be an undescribed species with any of the above as intermediate host.

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