

# WDA abstract

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Title:

GASTRO-INTESTINAL HELMINTHS IN THREE SYMPATRIC SPECIES, SHARING THE BOUNDARY OF THE VOLCANOES NATIONAL PARK, RWANDA

Summary (max 250 words)

Helminth infection is widely documented in the critically endangered mountain gorilla (*Gorilla gorilla beringei*) and parasites are routinely described on both *ante-mortem* and *post-mortem* examination. Indications of a transmission cycle for *Cryptosporidium parvum* infections involving cattle have been identified in the Ugandan population of these animals; the Rwandan population are exposed to more extreme agricultural pressures and a relatively large wildlife reservoir, concentrated at the park boundary. In 2010 a study was conducted to investigate the potential for gastrointestinal parasite transmission between domestic cattle, forest buffalo (*Syncerus caffer nanus*) and mountain gorilla at the boundary of the Volcanoes National Park, Rwanda. Helminth eggs recovered by faecal flotation (gorilla[n=130]; cattle[n=127]; buffalo[n=55]) included Strongylidia, Rhabditoidea and *Nematodirus* (gorilla, cattle and buffalo), Ascaridoidea (gorilla and cattle), *Trichuris* and *Capillaria* (cattle and buffalo), *Anoplocephala gorillae* (gorilla) and *Skrjabinema* (buffalo). Additionally, protozoal oocysts including Coccidia (*Eimeria* spp. from gorilla and cattle), *Buxtonella sulcata* from buffalo and a cyst morphologically resembling *Balantidium coli* (gorilla) were identified. Trematode eggs were also recovered from all three species by sedimentation. There was evidence to support transmission of helminths; the ruminant strongylid *Nematodirus* was described for the first time as an accidental infection of gorilla, and overlapping geographical ranges of buffalo and cattle shedding *Fasciola* spp. may indicate the contamination of shared water supplies. *Balantidium coli*, as yet undescribed in wild populations of mountain gorilla, may represent a protozoal cause of typhlitis in these animals. Further surveillance is

required to interpret and address parasitic transmission cycles in mountain gorilla conservation.

Key words (3-5 key words or phrases)

Mountain Gorilla, Helminths, Wildlife-domestic Interface

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