

An eye-opening case: South American camelids are new hosts for *Parafilaria bovicola* - Intraocular infection in an alpaca

Carmen Luginbühl¹, Gaston More², Teresa Bilotta³, Patrik Zanolari¹, and Walter Basso^{2,*}

¹ Clinic for Ruminants, Department of Clinical Veterinary Science, Vetsuisse-Faculty, University of Bern, Bremgartenstrasse 109a, 3012, Bern, Switzerland

² Institute of Parasitology, Department of Infectious Diseases and Pathobiology, Vetsuisse-Faculty, University 11 of Bern, Länggassstrasse 122, 3012, Bern, Switzerland

³ Institute of Ophthalmology, Department of Clinical Veterinary Science, Vetsuisse-Faculty, University of Bern, Länggassstrasse 128, 3012, Bern, Switzerland

* Corresponding Author: walter.basso@unibe.ch

Abstract

Parafilaria bovicola is a fly-transmitted filarial nematode (in Europe mainly *Musca autumnalis*), which localizes in subcutaneous nodules and produces serosanguineous exudative lesions in cattle. While cutaneous manifestations are well documented, intraocular involvement is extremely rare. In fact, intraocular migration of *P. bovicola* has only recently been described in a heifer in Switzerland. Here, we report the first case of *P. bovicola* infection in a South American camelid (SAC) with intraocular localization.

A 3-year-old female Huacaya alpaca was admitted in October 2024 to the Clinic for Ruminants, Vetsuisse Faculty, University of Bern, presenting a motile, live nematode in the anterior chamber of the right eye. Aside from mild ocular discomfort, the clinical examination was unremarkable. The parasite was surgically removed under general anesthesia using a stab incision and passive outflow of aqueous humor, using a technique similar to that recently described in a bovine case with a favorable outcome. Species identification was confirmed through microscopic examination and by PCR-sequencing of a fragment of the mitochondrial cytochrome oxidase subunit 1 gene (*cox1*). The worm was an adult female, and the obtained DNA sequence (649 bp, primers trimmed) was 100% identical to *P. bovicola* sequences available in GenBank.

This is the first documented case of *P. bovicola* infection in a SAC. Moreover, this case broadens the known spectrum of ophthalmic parasitosis in both cattle and SACs, highlighting the importance of including filarial infections in the differential diagnosis of intraocular nematodes.