

Fascioliasis in semi-captive vicuña at Knowsley Safari Park in UK

Alexandra Juhasz^{1,2}

E. Chapman¹, L. Cunningham¹, S. Jones¹, B. Johnson², J. Quayle², J. Cracknell², J. LaCourse¹ and R. Stothard¹

¹ Department of Tropical Disease Biology, Liverpool School of Tropical Medicine (LSTM), Liverpool, UK; ² Knowsley Safari Park, Prescot, UK



SUMMARY As part of a general coprological and malacological survey for snail-borne diseases within ungulates at Knowsley Safari Park (KSP), all vicuña were found shedding eggs of *Fasciola hepatica*. A first report in these UK-exotics, we are developing a fluke management plan for these animals, and are assessing environmental risk within their current enclosure.

Background

Vicuña (*Vicugna vicugna*) are the smallest member of the Camelidae, with numerous wild herds found at high altitudes along the Andes. Being an attractive animal, and highly valued for its wool, vicuña are prized exotics within many conservation parks and zoos worldwide.

The European liver fluke (*Fasciola hepatica*) can be common in South American camelids, either in natural or in semi-captive settings. Today, fasciolosis poses a considerable economic burden in UK farms and in NW England, this disease is endemic in both livestock and wildlife.

Knowsley Safari Park, Prescot opened in 1971 and houses numerous ungulates within its 550 acre enclosure. As part of the *Equatorial Trial*, the KSP maintains 5 male vicuñas. Since fascioliasis is present within bordering sheep farms, checking park animals for fluke and snails is part of their welfare plan.

Objective

To conduct a detailed coprological inspection of vicuñas at KSP

Methods & results

During July 2021, various faecal material was collected from the ground and also upon direct catch from observed animals defecating. Egg-filtration and sedimentation parasitological methods were each used, with detected eggs photographed (see Figure 1).

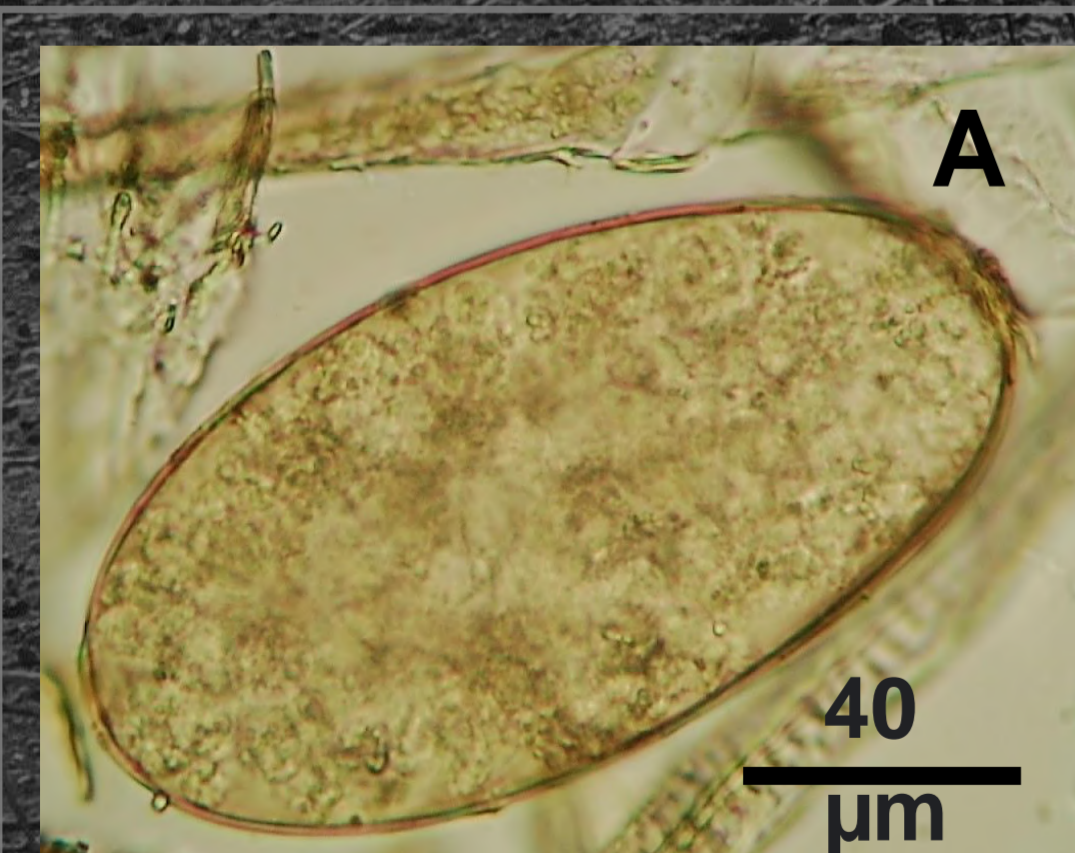
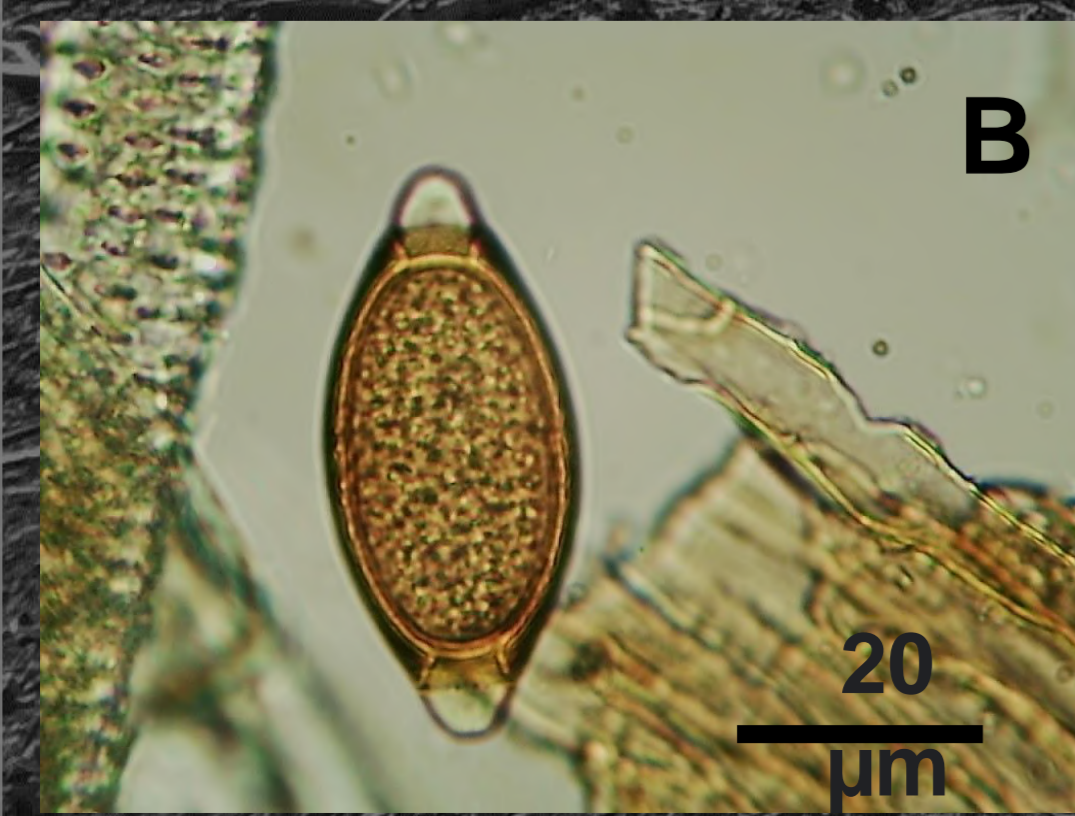


Figure 1 Eggs of *Fasciola hepatica* (A) were found in all animals, with an epg range of 1 to 8. Other helminth eggs were noted, *Trichuris* sp. (B) and a strongylid (C).



The occurrence of fascioliasis here is of concern as such semi-captive exotic animals could be more vulnerable to disease than their wild counterparts. The vicuña have been de-wormed with *Fasinex 240* administered individually within their pelleted feed. The animals are being monitored more closely.

In summer 2022, the vicuña will undergo a prospective ultrasound examination for liver disease. Accurate diagnosis of fascioliasis, and fasciolosis, is important to help KSP develop a fluke-management plan within their current enclosure, inclusive of snail surveillance.

Acknowledgements

The help of KSP keepers and support staff.