

# Strongyloidiasis in semi-captive baboons at Knowsley Safari, in UK



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**SUMMARY** During the summer of 2021, as part of an animal welfare and public health assessment investigation, a coprological survey of baboon stools, obtained upon cars and sleeping areas, was conducted. The most salient finding was noting the presence and natural transmission of *Strongyloides fuelleborni* in the UK.

## Background

Knowsley Safari's unique attraction is to offer a close-up encounter with their semi-captive olive baboons (*Papio anubis*). In the safety of their own cars, or park minibuses, visitors can view these animals whilst they explore vehicles, often in search of seeds or food items.

In so doing, baboons often defaecate, leaving behind their stools, on various vehicle surfaces. As the parasitological status of this baboon colony is unknown, we used this faecal material (and that from their sleeping areas) to make an animal welfare/public health assessment.



**Figure 1** Baboons on cars.

## Objective

The primary aim was to investigate the presence, composition and prevalence of gastro-intestinal parasites harbored in the Knowsley Safari semi-captive baboon population.

## Methods

Intensive faecal sampling was conducted, augmented with video analyses of vehicle entry-exit times and baboon-vehicle behaviors. Faecal material was examined by standard parasitological methods inclusive of: QUIK-CHEK RDT (*Giardia*), Kato-Katz coproscopy (*Trichuris*) and charcoal culture (*Strongyloides*).

## Results

A total of 700 stools were obtained and 2,662 vehicles observed.

Overall prevalence of trichuriasis was 48.0%, giardiasis was 37.4% and strongyloidiasis was 13.7%. It was later judged, however, that QUIK-CHEK RDTs were false positives as no faecal cysts of *Giardia* could be seen. A sub-set of parasite material was subjected to DNA characterization, confirming the presence of *Trichuris trichiura* and *Strongyloides fuelleborni*.

Vehicles that spent more than 15 minutes inside the enclosure were 1.5 times more likely to be defecated upon than those spending less than 15 minutes inside the enclosure.

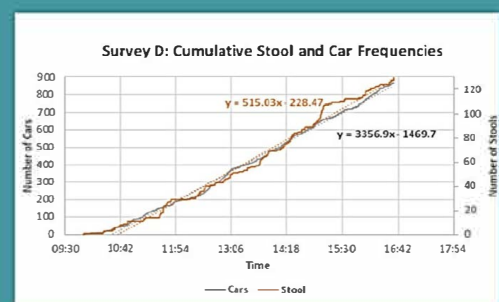
## Conclusion

Our findings are to be used to improve animal welfare upon future blanket administration of anthelmintics.

**Figure 2** *Strongyloides* adult female (A) and larva (B).



**Figure 3** Cars with baboon stools.



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