

P1327 First detection of microsporidia in deer faecal samples in England

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Background: Animals infected with human-pathogenic microsporidia (*Encephalitozoon* spp., *Enterocytozoon bieneusi*) can release spores into the environment through their faeces representing a public health concern. However, information on their presence in wild animals in the United Kingdom (UK) is very limited despite wildlife living close to densely populated urban areas. Two species of deer can be found in Bradgate Park, a public park in the northwest of Leicester (UK): the red deer and fallow deer. The aim of this study was to determine the presence of human-pathogenic microsporidia in deer as information on their presence in deer is limited in the literature.

Materials/methods: A total of 68 deer faecal samples were collected during winter 2016/17; a qualified veterinarian confirmed the source. Fresh faecal smears were immediately prepared and stained using Weber's modified trichrome stain following previous methodologies. Two microscopists screened the slides for these species.

Results: Nine of the 68 faecal samples collected (13.2%) were found to be positive for spores of *Encephalitozoon* spp. via coprological analysis. These positive results are being confirmed using PCR. These results are in agreement with a pilot study performed by our group in the same park in summer 2016 where we detected *Encephalitozoon* spp. in 25% deer faecal samples collected.

Conclusions: To our knowledge, this is the first study showing the presence of *Encephalitozoon* spp. in deer; in an English region. Previous studies have reported spores of microsporidia in deer but for *Enterocytozoon bieneusi*, in a similar study performed in faeces from sika and red deer in China (Zhao et al., 2014). Our results, although preliminary, could highlight the role of deer as a reservoir and source of environmental contamination for potential zoonotic *Encephalitozoon* spp infections. We have also detected *Encephalitozoon* spp. and *Enterocytozoon bieneusi* in faecal samples from fox, waterfowl and pigeon collected in the same period but in different parks across Leicester, which could indicate a certain distribution of microsporidia in the Leicester urban environment with different animal species involved in their life cycle. Due to their potential as human pathogens, these reservoirs represent a potential health risk for the Leicester population.

