

# The Role of Grey Wolf (*Canis lupus*) in the Transmission of *Sarcocystis* spp. in Lithuania

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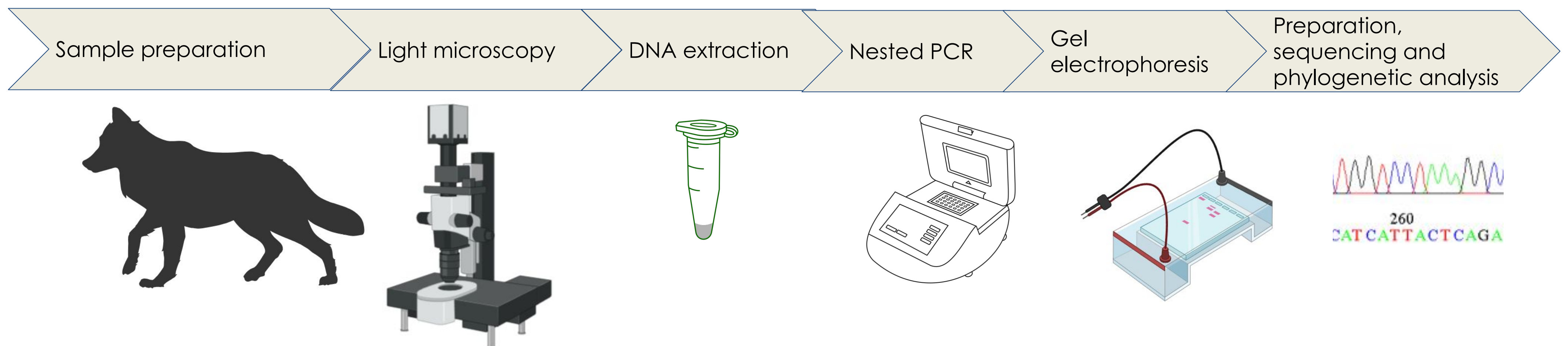
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## INTRODUCTION & AIM

The genus *Sarcocystis* are worldwide distributed unicellular parasites known for their two-host prey-predator life cycle. Globally, research efforts tend to concentrate on domestic dogs, cats, and other carnivores due to the challenges associated with studying grey wolves (*Canis lupus*), such as their lower population density and legal protections. Understanding the role of grey wolves in parasite transmission is crucial, particularly in regions where they serve as apex predators.

## METHODS

During 2021–2023, 13 intestinal samples from hunted grey wolves were collected in Lithuania and were analysed by the means of microscopy and molecular analysis.



## RESULTS & DISCUSSION

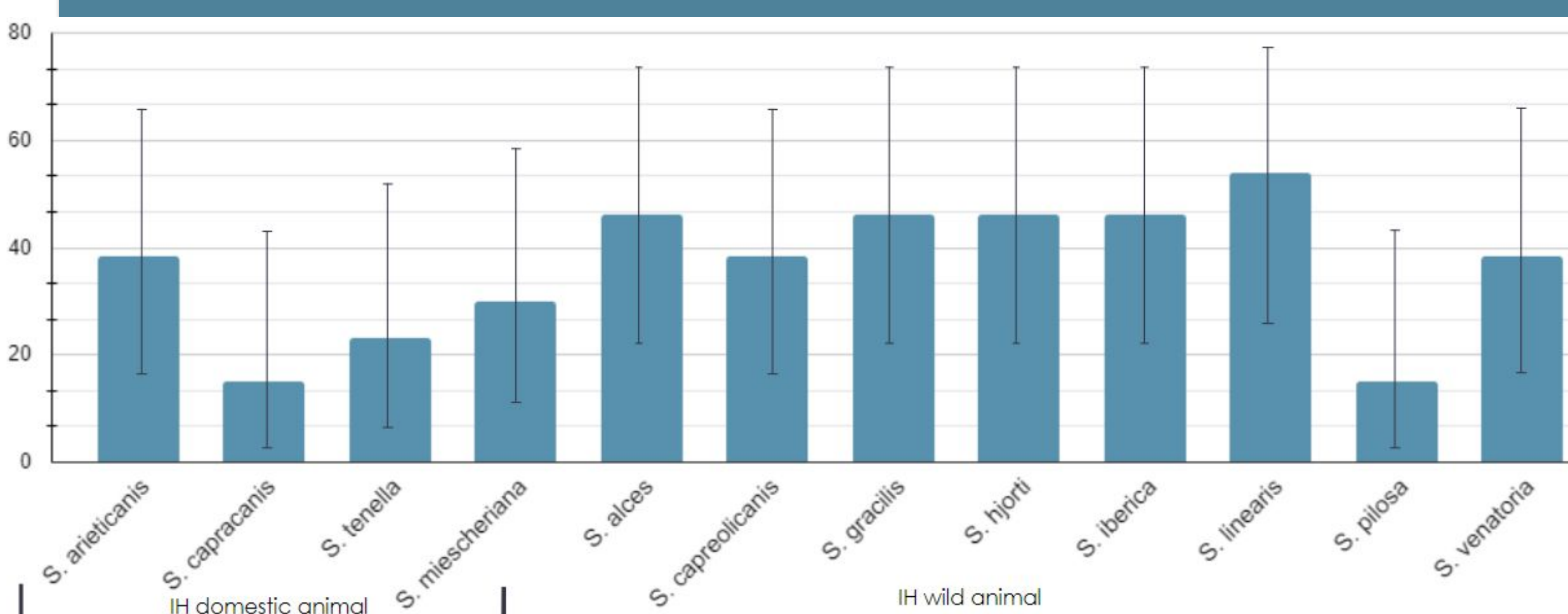


Figure 1. Prevalence of *Sarcocystis* species in grey wolf samples. Bars indicate confidence level of 95%.

Light microscopy revealed that 92.3% of the samples were positive for the presence of *Sarcocystis* spp. sporocysts and oocysts.

Molecular results showed that there are more species transmitted through cervids, probably due to the dietary peculiarity of grey wolves in Lithuania.

## CONCLUSION

Methodology in this study allows a detection of multiple *Sarcocystis* species within a single wolf specimen.

It is the first report of grey wolf as a definitive host for *S. alces*, *S. iberica*, *S. pilosa* and *S. venatoria*.

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