

Update on *Leishmania* spp. infection in horses (*Equus caballus*)

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INTRODUCTION

Leishmaniasis is a worldwide widespread parasitic disease, that can affect multiple mammals, including humans. Horses are closely human-related, and following the cases detected in them, there is the suspicion that they may be involved in the biological cycle.

OBJECTIVES

- Review the available bibliography to date of *Leishmania* spp. infection in horses.
- Try to clarify its possible involvement in the cycle and transmission of this pathogen.

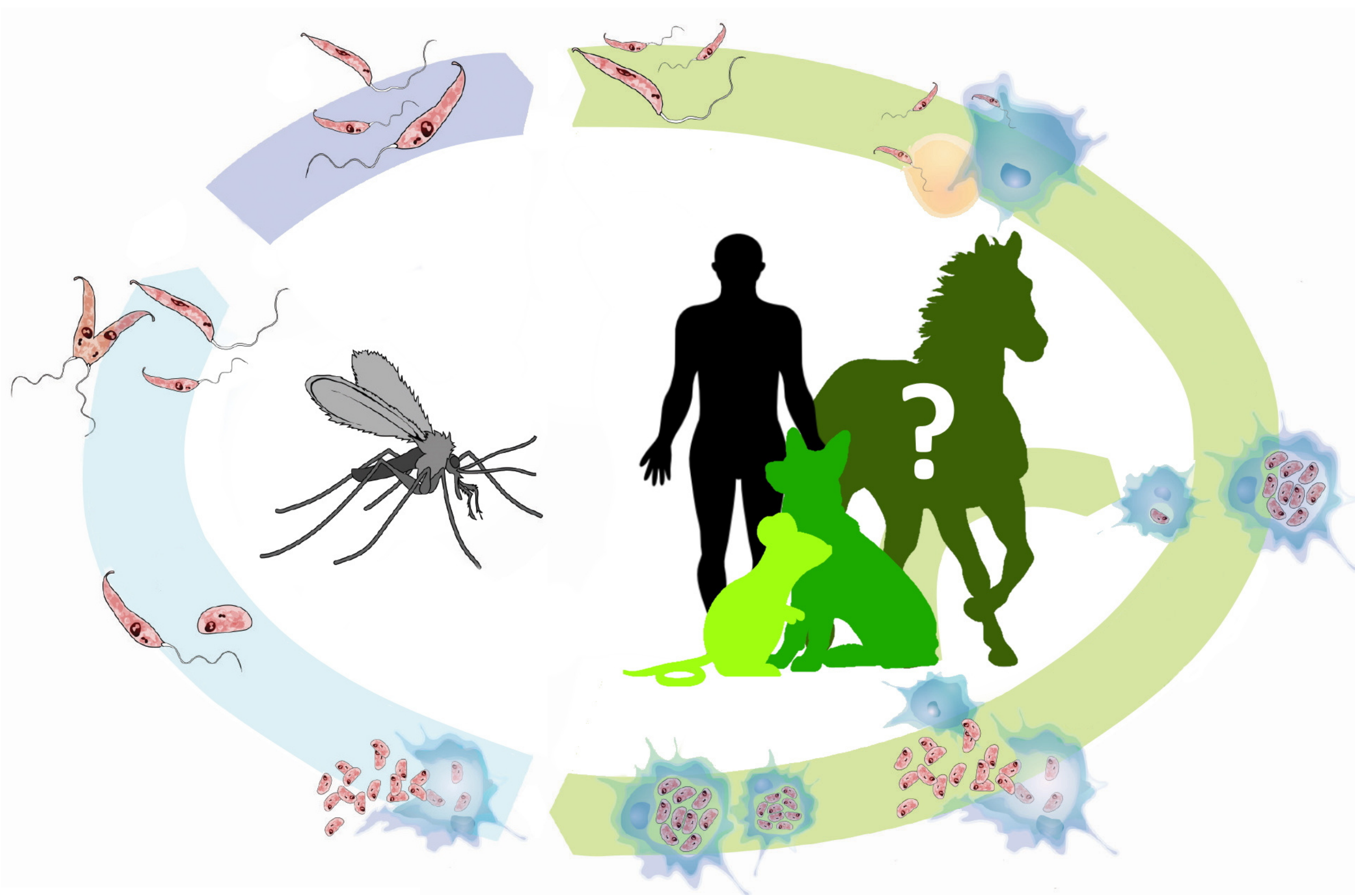


Figure 1. *Leishmania* spp. biological cycle assuming the involvement of horses

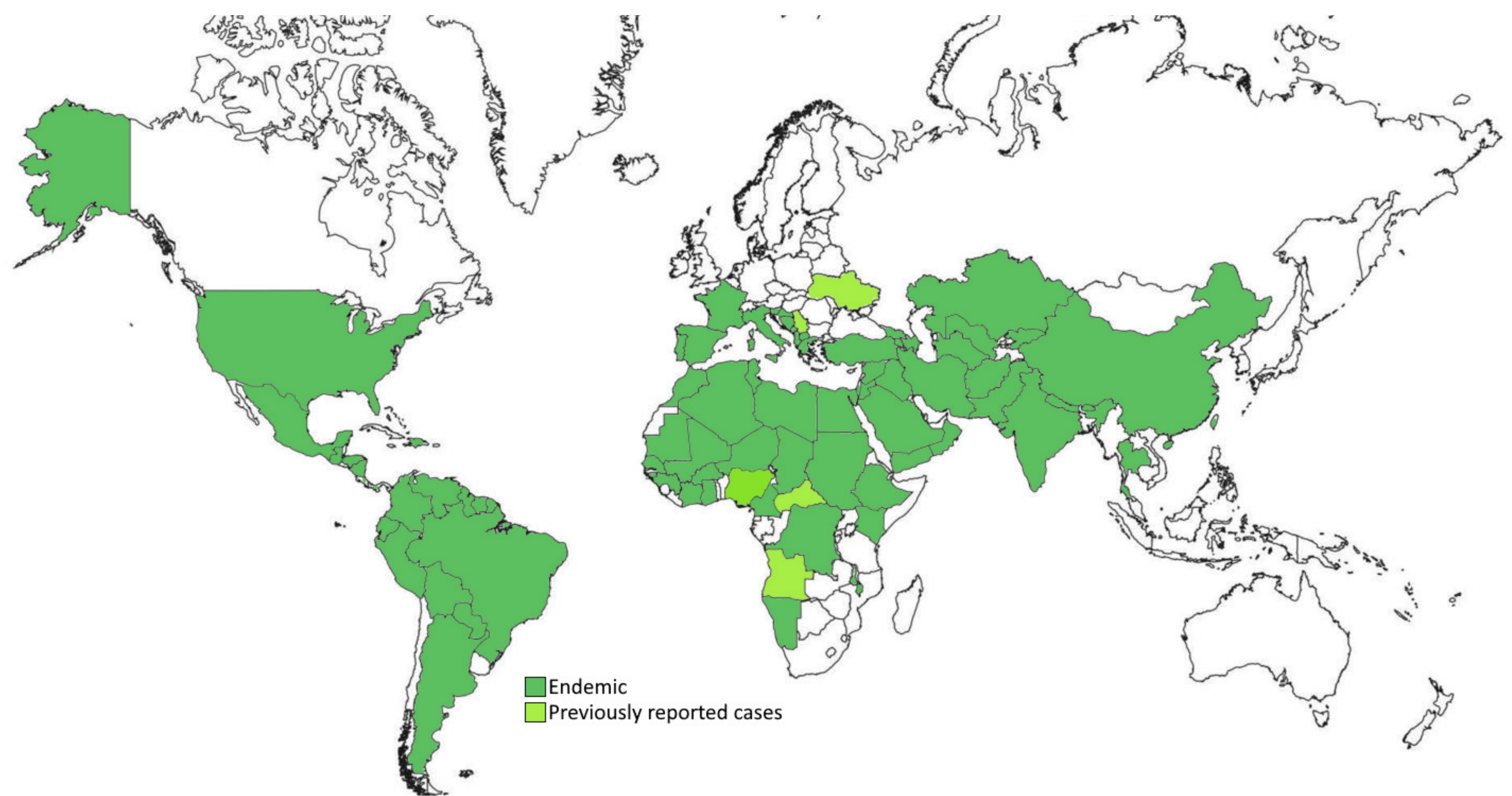


Figure 2. Leishmaniasis worldwide distribution. Based on WHO

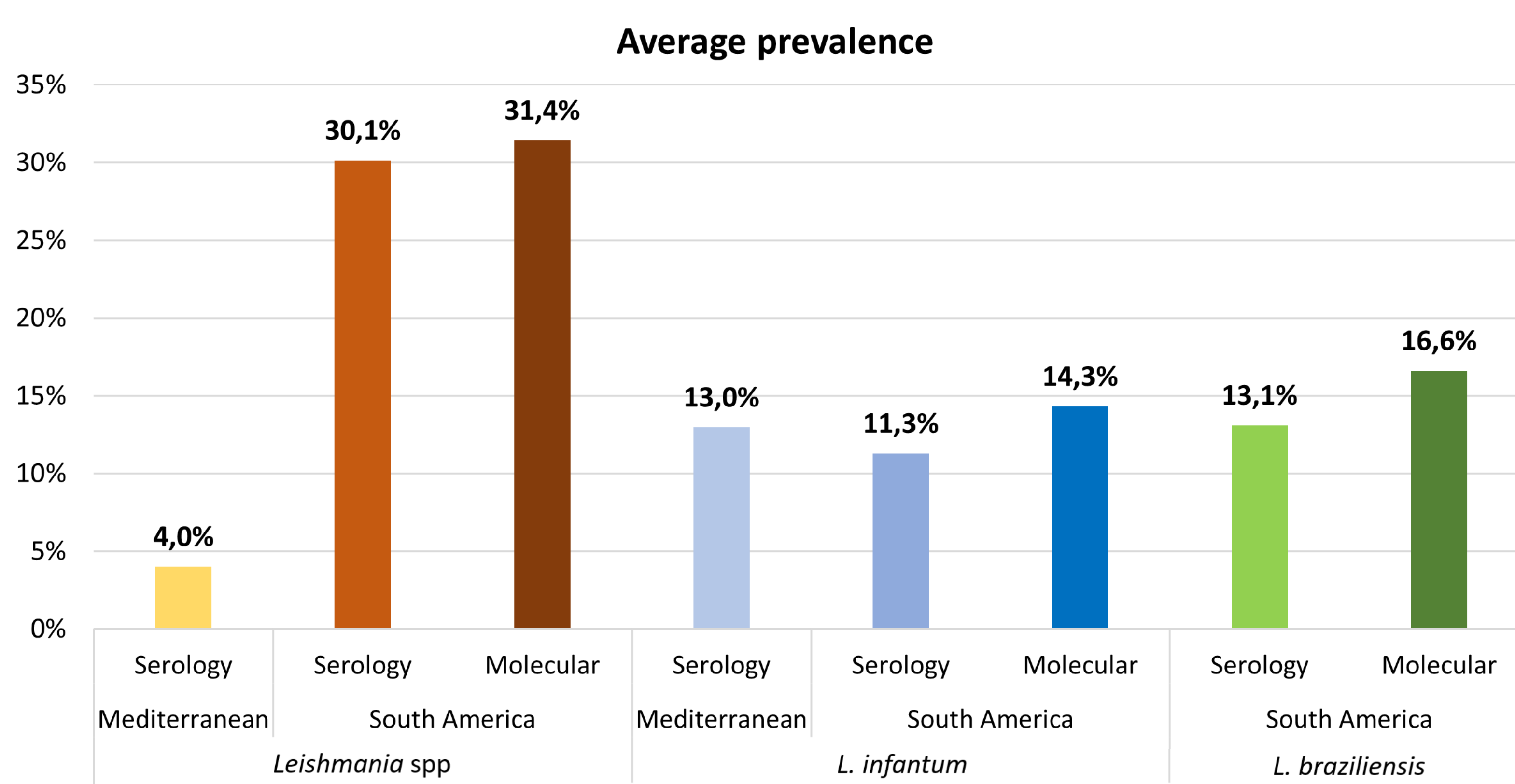
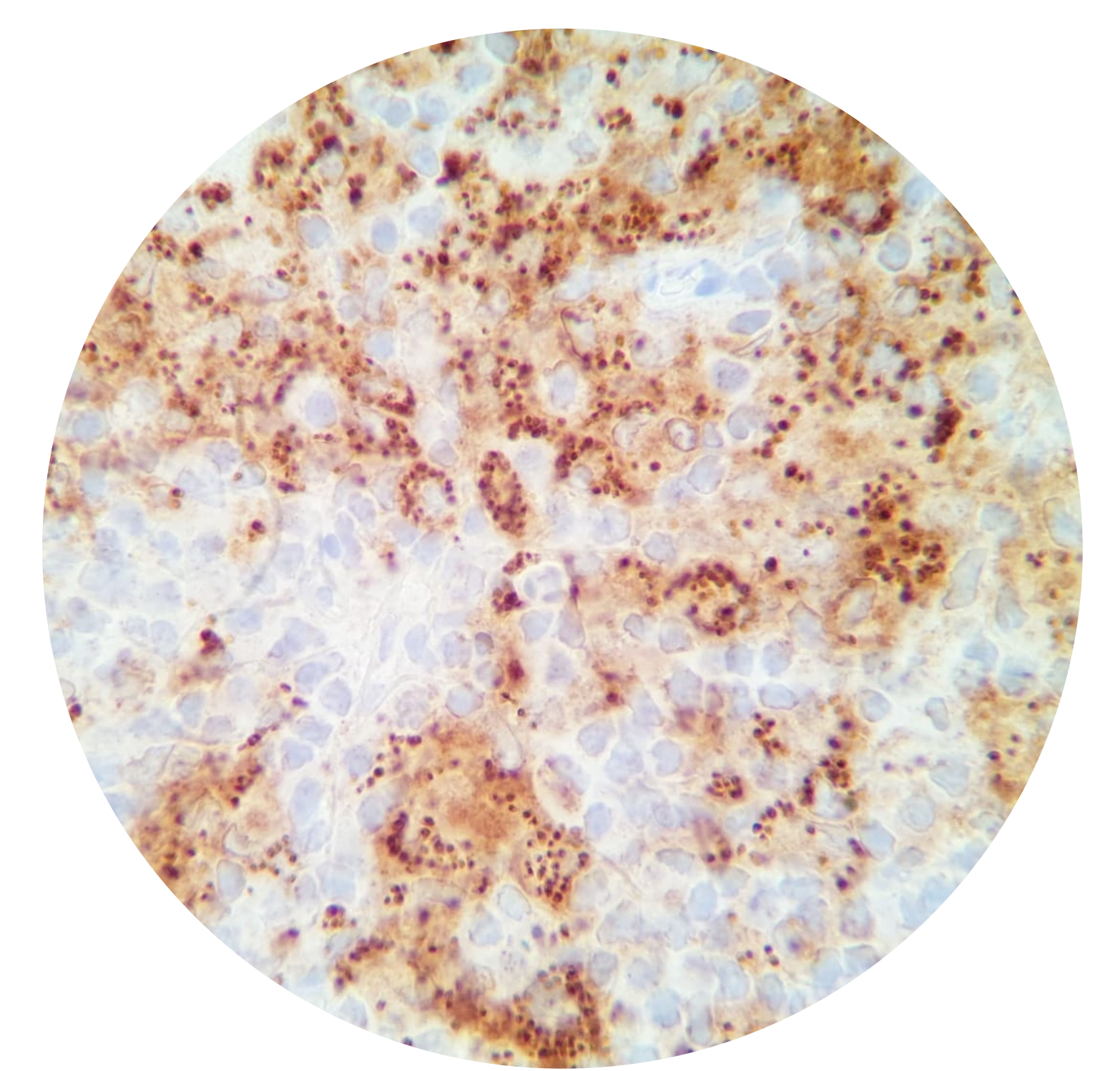
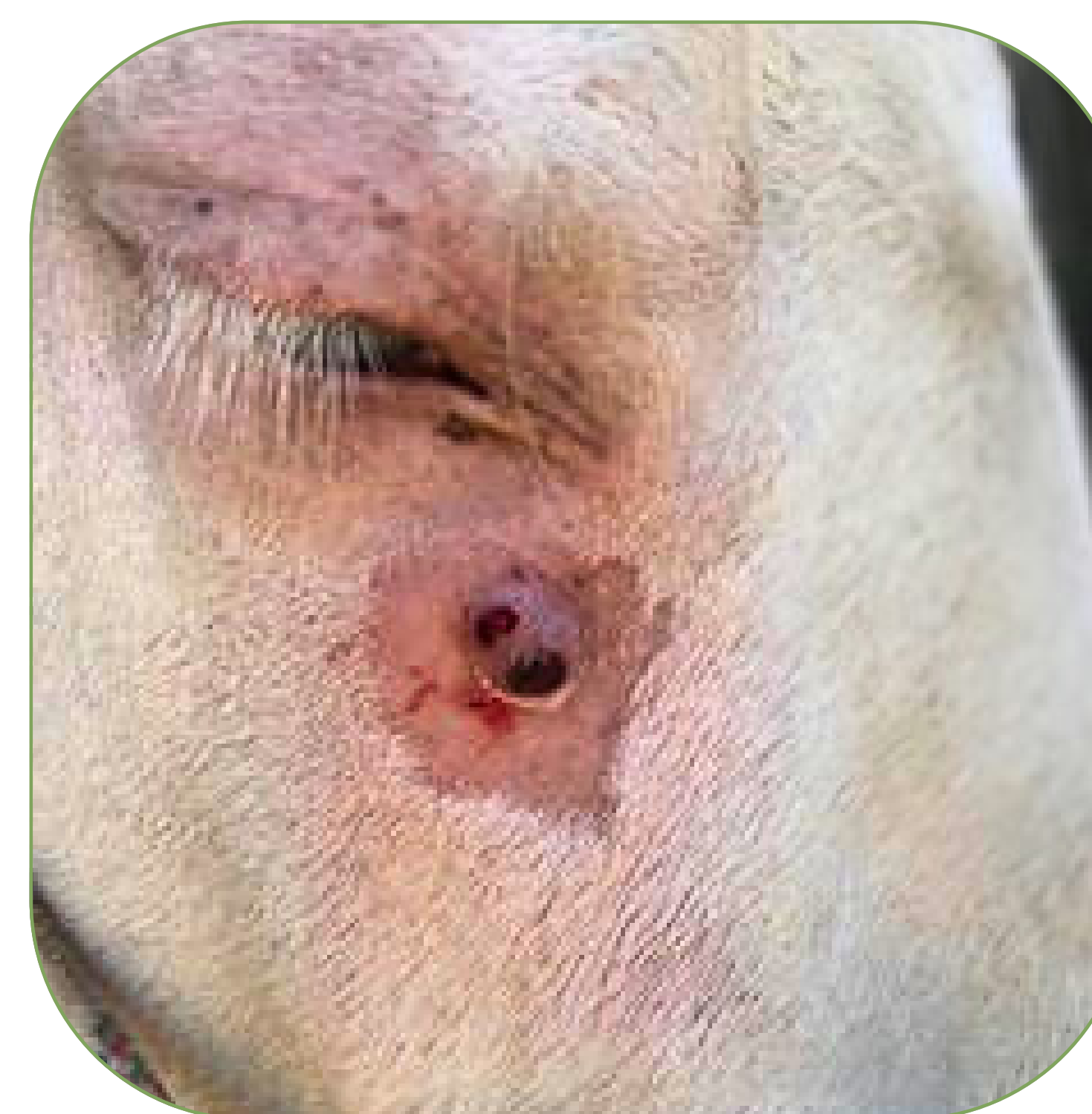


Table 1. Prevalence detected, according to species, technique and geographical area.

The cases detected in the different studies show a higher prevalence in South America, although the variability of techniques and criteria increase the heterogeneity of the results.

Among the techniques, molecular (PCR) seems to be able to detect cases of active infection in a greater proportion.



Photos provided by the vet Jordi Figueres Garcia

Although many horses are asymptomatic, lesions usually present are persistent nodules or papules, which resolve without treatment in 3-6 months.

Immunohistochemistry of skin lesions can show positive reaction to *Leishmania* spp. using a hyperimmune serum from a dog naturally infected with *L. infantum* as primary antibody.

CONCLUSIONS

- The role of horses in maintaining or spreading *Leishmania* spp. can not be clarified so far.
- Horses can be affected by *Leishmania* spp., and can be a risk of possible transmission to other mammals, including humans.
- It is necessary to deepen its relationship with the vector and the parasite.
- There is no consensus on which is the most appropriate diagnostic method, nor the appropriate serological titers.
- More studies should be done to establish more homogeneous diagnostic criteria, especially in those endemic areas.
- A possible way of working would be the serological evaluation of those horses that are close to people or other reservoirs such as dogs.

BIBLIOGRAPHY

