

Ectoparasite Prevalence and Diversity in Domestic Animals from Northeastern Romania: One Health Implications

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INTRODUCTION & AIM

Ectoparasitic infestations represent a multifaceted challenge to animal welfare and public health, primarily due to their role as biological vectors for a wide range of pathogens and their ability to induce debilitating dermatological disorders. In the context of the One Health framework, understanding the local distribution of these parasites is critical for mitigating risks at the human-animal-environment interface. This study aimed to investigate the presence, prevalence, and diversity of ectoparasite taxa among symptomatic companion animals in Fălticeni, Suceava County, Romania, during the year 2024, providing essential data for regional veterinary surveillance.

METHOD

The research methodology involved a clinical and microscopic assessment of a cohort consisting of 100 symptomatic domestic animals, specifically dogs, cats, and Syrian hamsters. Each subject underwent a rigorous clinical inspection to document physical signs of infestation. Diagnostic confirmation and taxonomic identification were achieved through microscopic examination of skin scrapings and ear swabs. This systematic approach allowed for the precise identification of four distinct ectoparasite taxa, enabling a quantitative analysis of their distribution across the different host species within the studied geographical area.

RESULTS & DISCUSSION

The investigation identified four primary ectoparasite taxa: *Rhipicephalus sanguineus*, *Otodectes cynotis*, *Demodex cati*, and *Demodex criceti*. Quantitative analysis of the positive cases revealed that the brown dog tick, *Rhipicephalus sanguineus*, was the most prevalent species at 43.1%, followed by the ear mite *O. cynotis* at 28.4%.

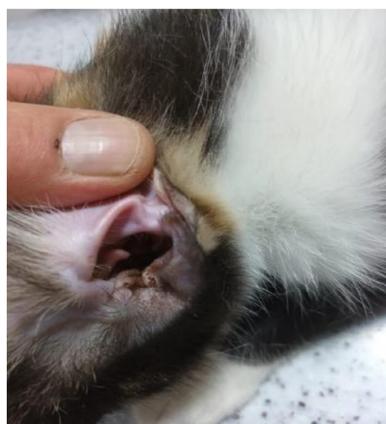


Figure 1. Clinical presentation of *Otodectes cynotis*. Feline subject displaying characteristic ceruminous auricular discharge and crusted lesions, consistent with the symptomatic profile of 28.4% of the positive case



Figure 2. Periauricular alopecia and inflammation. Localized alopecia and inflammatory response in the periauricular region, demonstrating the dermatological impact of prolonged ectoparasitic exposure within the One Health framework.



Figure 2. Microscopic validation of *Otodectes cynotis*. Taxonomic identification of an adult mite via light microscopy, supporting the clinical prevalence findings within the studied population.

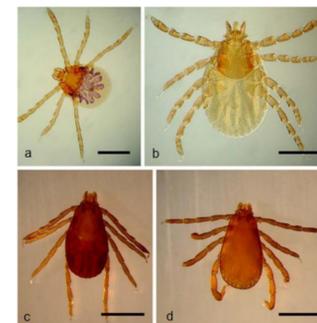


Figure 4. Developmental stages of the tick *Rhipicephalus sanguineus*: larva (a), nymph (b), adult female (c), and adult male (d). Source: Dantas-Torres F., *Parasites & Vectors*, 2013, 6:213. Reproduced under CC BY 2.0 license.

The demodicosis agents *D. cati* and *D. criceti* were identified in 18.9% and 9.6% of cases, respectively. Clinical manifestations across the cohort included varying degrees of alopecia, erythema, auricular discharge, and crusted lesions. While most identified species exhibit high host specificity, the high prevalence of *R. sanguineus* is a significant finding due to its capacity to transmit zoonotic pathogens to humans, representing a direct public health concern.

CONCLUSION

The results of this study underscore the persistent exposure of companion animals in Northeastern Romania to diverse ectoparasite taxa and highlight the necessity for integrated preventive strategies. By documenting the local presence of these species, the findings support the implementation of systematic surveillance programs to enhance animal welfare and safeguard public health. In conclusion, coordinated regional monitoring and the application of evidence-based preventive measures are essential components for managing ectoparasitic infestations and mitigating the associated risks within the One Health paradigm.

REFERENCES

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