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DIAGNOSTIC APPROACHES TO FELINE OTODECTIC MANGE: A COMPARATIVE ANALYSIS

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Abstract: *Otodectic mange, caused by the mite Otodectes cynotis, is among the most prevalent causes of otitis externa in domestic cats and remains a frequent diagnostic challenge in veterinary dermatology. The present study aimed to perform a comparative evaluation of three classical diagnostic techniques—otoscopy, stereomicroscopy, and native microscopic examination of cerumen—in order to determine their diagnostic sensitivity and reliability. The research was conducted between December 2024 and June 2025 on a cohort of fifteen naturally infested cats (nine females and six males), aged between two months and six years, presented to the Dermatology Department of the Veterinary University Clinics in Timișoara. Each subject underwent a detailed anamnesis, clinical assessment, and sequential application of the three diagnostic methods. The results revealed that otoscopy enabled parasite detection in 66.6% of cases, stereomicroscopy in 60%, while native microscopic examination achieved 100% sensitivity, confirming its superior diagnostic accuracy. The overall prevalence of otodectic mange among cats examined for otitis externa was 42.85%. The findings emphasize the necessity of employing a multimodal diagnostic approach to ensure precise and rapid identification of *O. cynotis* infestations. Additionally, the study underscores the importance of implementing standardized diagnostic protocols and regular antiparasitic prophylaxis to reduce the incidence and recurrence of otoacariosis in feline populations.*

• Introduction

Otodectic mange, caused by *Otodectes cynotis*, is a common and highly contagious parasitic disease of the external ear canal in cats and dogs, often responsible for otitis externa. The mite feeds on epithelial debris and tissue fluids, producing intense pruritus, dark-brown cerumen, and secondary infections. Diagnosis relies on clinical and laboratory findings, most frequently using otoscopy, stereomicroscopy, and direct microscopic examination of cerumen. Although these methods are routinely applied, their diagnostic sensitivity varies and has rarely been compared under the same clinical conditions. This study aims to evaluate and compare the effectiveness of otoscopy, stereomicroscopy, and native microscopy in diagnosing *O. cynotis* infestation in cats, to establish a reliable and standardized diagnostic approach for veterinary use.

• Material and method

The study was conducted between December 2024 and June 2025 on 15 cats (9 females, 6 males) aged 2 months–6 years. Fourteen were European Shorthair and one Russian Blue. All were naturally infested with *Otodectes cynotis* and presented to the University Veterinary Clinics of Timișoara with auricular pruritus and lesions typical of otitis externa. Each cat underwent anamnesis and dermatological examination to record pruritus, lesion distribution, and cerumen appearance. Otoscopy was performed using a Heine mini 3000 otoscope to evaluate the ear canal for cerumen, mites, or inflammation. For stereomicroscopy, earwax samples collected with cotton swabs were examined under an Optica SZM-2 220AC stereomicroscope, with motile mites indicating a positive result. Native microscopic examination involved spreading cerumen on slides with mineral oil and observing it under a Bresser GMBH microscope (×10), where the presence of mites or eggs confirmed *Otodectes cynotis* infestation.

• Results and discussions

Among the fifteen cats examined, *Otodectes cynotis* infestation was confirmed in all cases. Otoscopy detected mites in 10 cats (66.6%), stereomicroscopy in 9 cats (60%), while native microscopic examination identified mites or eggs in all 15 cats (100%).

Patient no.	Otoscopy	Stereomicroscopy	Native Cerumen Exam
1	positive	positive	positive
2	negative	positive	positive
3	positive	negative	positive
4	positive	positive	positive
5	positive	positive	positive
6	positive	positive	positive
7	positive	negative	positive
8	positive	negative	positive
9	negative	positive	positive
10	positive	negative	positive
11	negative	positive	positive
12	negative	positive	positive
13	positive	negative	positive
14	positive	positive	positive
15	negative	positive	positive

The overall prevalence of otodectic mange among cats with otitis externa was 42.85%. The native microscopy proved to be the most sensitive and reliable method, confirming infestation even when otoscopy or stereomicroscopy were negative. These results are consistent with previous studies by Combarros et al. (2019) and Mahagna (2024), who also reported sensitivities between 60% and 100% for these techniques.

Although otoscopy is a rapid and practical screening tool, it can yield false negatives due to cerumen accumulation or patient resistance. Stereomicroscopy, while less sensitive, allows non-invasive detection of motile mites and complements otoscopy effectively. The combination of visual and microscopic methods therefore ensures higher diagnostic accuracy and facilitates early identification of *O. cynotis* infestations in clinical practice.

• Conclusions

The comparative evaluation of diagnostic methods for *Otodectes cynotis* in cats demonstrated that native microscopic examination of cerumen is the most accurate and sensitive technique, detecting 100% of infestations. Otoscopy (66.6%) and stereomicroscopy (60%) remain valuable complementary tools, particularly for rapid screening and preliminary assessment.