



Unusually Early *Dipylidium caninum* Infection in a 4-Week-Old Kitten: A Case Report and Mini-Review

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Abstract: *Dipylidium caninum* is a cosmopolitan zoonotic cestode commonly reported in domestic carnivores, particularly cats and dogs. Its indirect life cycle involves fleas, mainly *Ctenocephalides* spp., as intermediate hosts and infection is typically characterized by the shedding of motile gravid proglottids and egg packets in the feces of infected animals. Although dipylidiosis is frequently encountered in companion animals, reports in very young kittens are scarce, especially in relation to early exposure to fleas and the parasite's prepatent period. A 4-week-old kitten was presented for clinical examination with severe flea infestation and a poor general condition. Upon inspection, multiple small, whitish, rice-like structures were observed in the perianal region and in the feces. These structures were collected and analyzed using both macroscopic and microscopic parasitological methods, including direct smear and flotation techniques. The material was identified as gravid proglottids, while microscopic examination revealed characteristic egg packets containing hexacanth embryos, confirming infection with *D. caninum*. The occurrence of infection at only 4 weeks of age is noteworthy and strongly suggests very early ingestion of infected fleas. This finding underscores the key role of ectoparasite infestation in the epidemiology of this parasite, even during the neonatal period. This case report, together with a brief review of the literature, highlights the importance of considering dipylidiosis in very young kittens presenting with flea infestation, poor body condition, and the presence of perianal or fecal proglottids. Early diagnosis, routine parasitological evaluation, and the prompt implementation of effective flea control measures are essential for preventing infection and reducing the associated zoonotic risk.

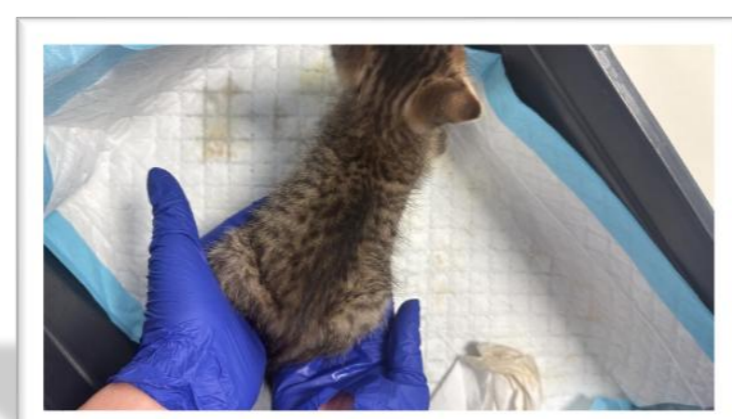
Keywords: Flea infestation, *Ctenocephalides felis*, Proglottids, Neonatal kitten.

• Introduction

Dipylidium caninum is one of the most widespread intestinal cestodes affecting domestic carnivores worldwide, with cats and dogs serving as the main definitive hosts. Transmission occurs through the accidental ingestion of infected fleas, predominantly *Ctenocephalides felis*, during grooming behavior. Clinically, infection is characterized by the presence of motile proglottids around the perianal region or in feces, while most animals remain asymptomatic or show only mild digestive signs. Young animals are considered particularly susceptible due to inadequate ectoparasite control and early environmental exposure. Despite the high prevalence of feline dipylidiosis, documented infections in neonatal or very young kittens remain uncommon, especially in relation to the parasite's short prepatent period and intense flea infestations.

• Material and method

A 4-week-old kitten was presented for clinical evaluation in a poor general condition, showing marked lethargy and an extensive flea infestation covering most of the body surface. The young age of the animal and the unusually high number of ectoparasites suggested an early and severe exposure to infestation.

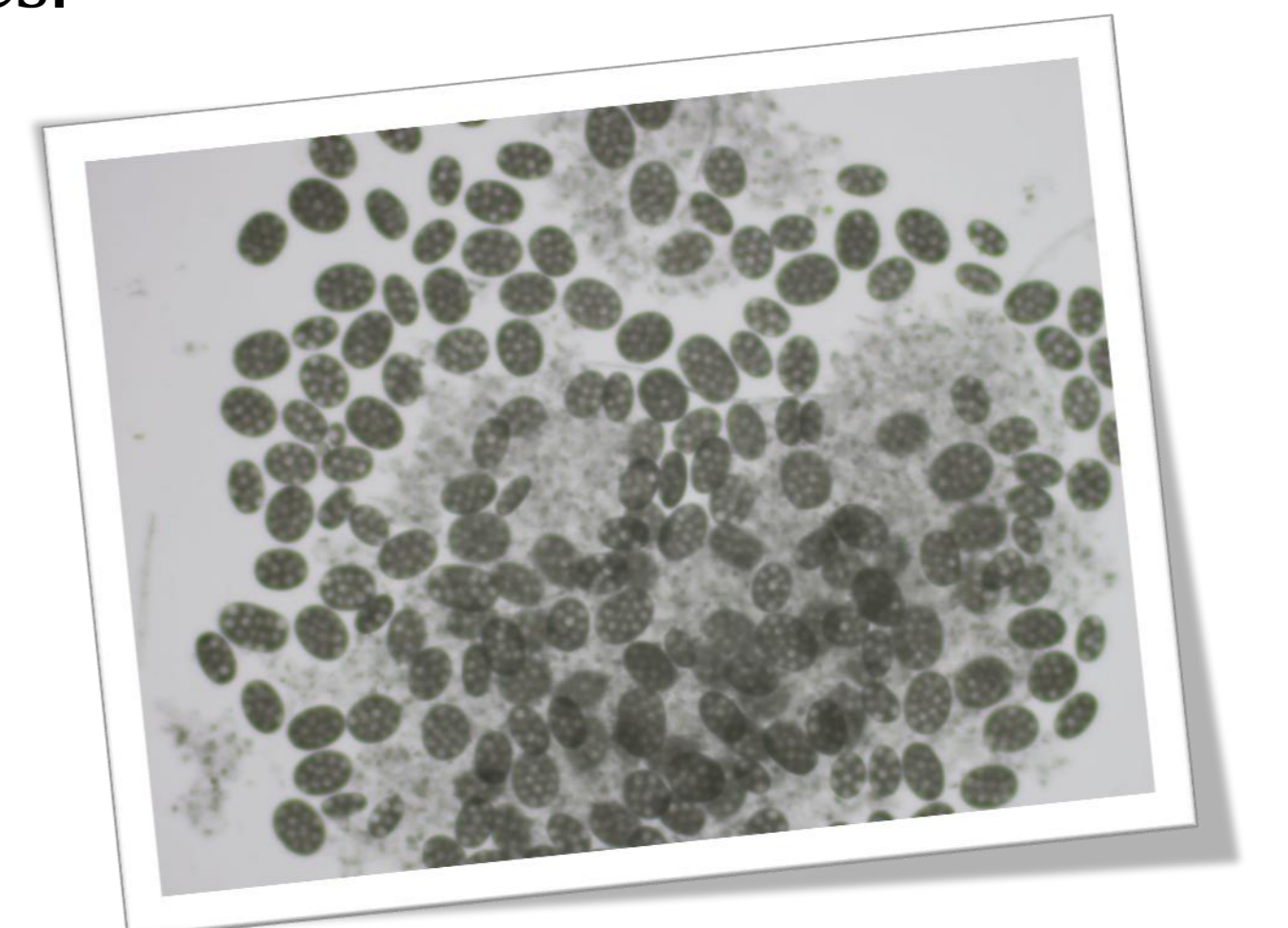
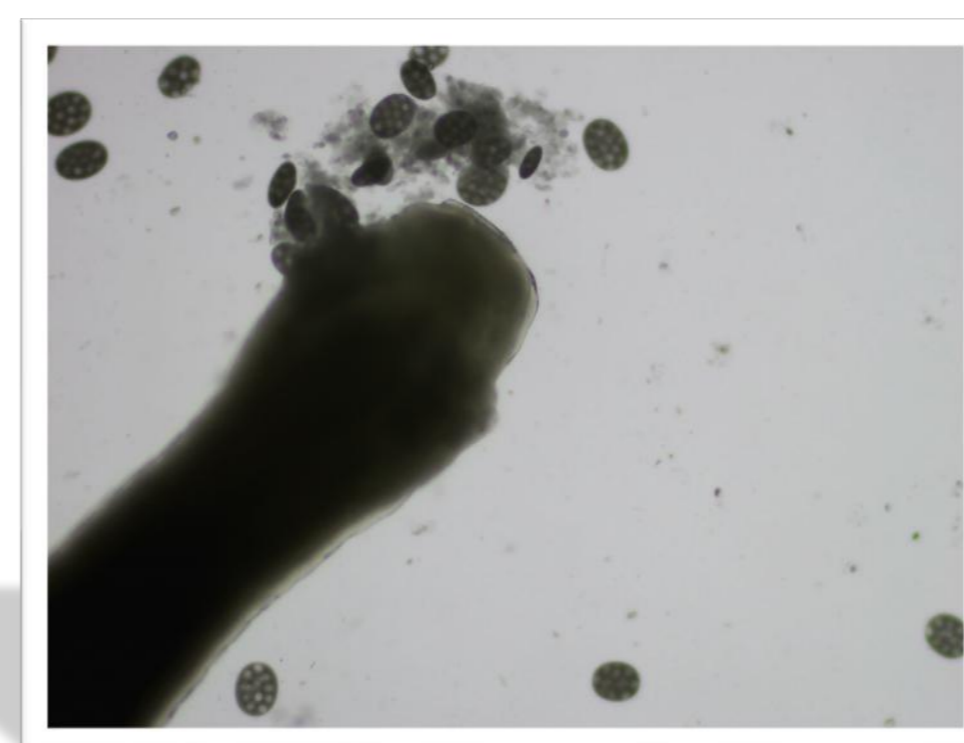


During examination, numerous small, whitish, rice grain-like structures were observed both attached to the perianal area and dispersed throughout the feces. These parasitic segments were collected for further investigation and examined using standard parasitological methods, including macroscopic assessment, direct smear, and flotation techniques.

• Results and discussions

Macroscopic examination identified the observed structures as gravid proglottids, while microscopic analysis revealed typical egg packets containing hexacanth embryos, confirming *Dipylidium caninum* infection. The diagnosis in a kitten only 4 weeks of age highlights an exceptionally early exposure to infected fleas and demonstrates how severe ectoparasite infestations can facilitate transmission even during the neonatal period.

The global distribution of *D. caninum* reflects the worldwide presence of flea intermediate hosts, with reviewed studies originating from 50 countries.



• Conclusions

This case emphasizes the need to include dipylidiosis in the differential diagnosis of very young kittens presenting with massive flea infestation, poor clinical condition, and rice grain-like structures in the feces or perianal region. Early parasitological diagnosis and effective flea control are essential to prevent infection and minimize the zoonotic risk associated with *D. caninum*.