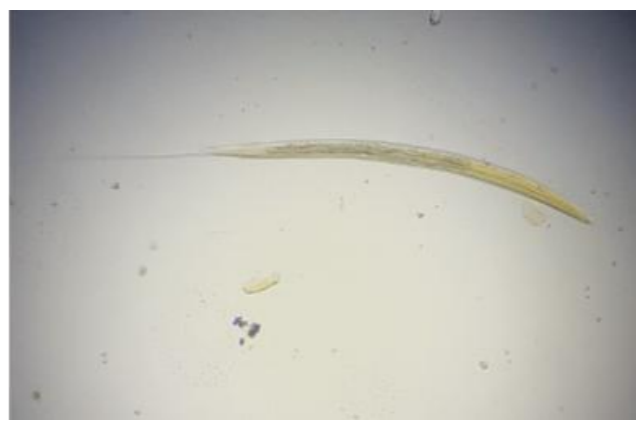




ULST Timisoara

# Multidisciplinary Conference on Sustainable Development

21-22 May 2026



## Etiological Investigations in Equine Strongylidosis in the Locality



Maria-Elena Cristescu<sup>1</sup>, Ion Oprescu<sup>1</sup>, Corina Badea<sup>1</sup>, George Andrei Călugărița<sup>1</sup>, Vâjaică Alexandru-Constantin<sup>1</sup>, Purec David<sup>1</sup> and Adrian Stancu<sup>1</sup>

<sup>1</sup> University of Life Sciences "King Mihai I" from Timisoara, 300645, Calea Aradului No. 119, Timisoara, Romania  
Correspondence: Maria.Cristescu.IOSUD@usvt.ro Tel.: +40745946956, <https://orcid.org/0009-0001-8135-8535>

**Abstract:** Equine strongylidosis is a helminth infection of the large intestine caused by parasites belonging to the *Strongylidae* family. The chosen topic aims to complement the data known so far regarding the monitoring of strongylidosis in this area of the country and to highlight the infrapopulations of strongyles involved in equine pathology. Statistical analyses carried out using the multiparametric ANOVA test complement the obtained results and confirm the value of these helminthological investigations. Based on the identification keys developed by Madeira de Carvalho, LM, seven types of larvae were identified.

### • Introduction

✓ The paper entitled *Etiological Investigations in Equine Strongylidosis in the Locality of Cornereva, Caraș-Severin County* was conducted to elucidate the issue of strongylid helminth infections in horses, as no such investigations have been carried out during the last three decades. The helminthological research was performed between October and December 2023 on a population of 22 horses. The investigated animals originated from private households in the locality of Cornereva, Caraș-Severin County.

### • Material and method

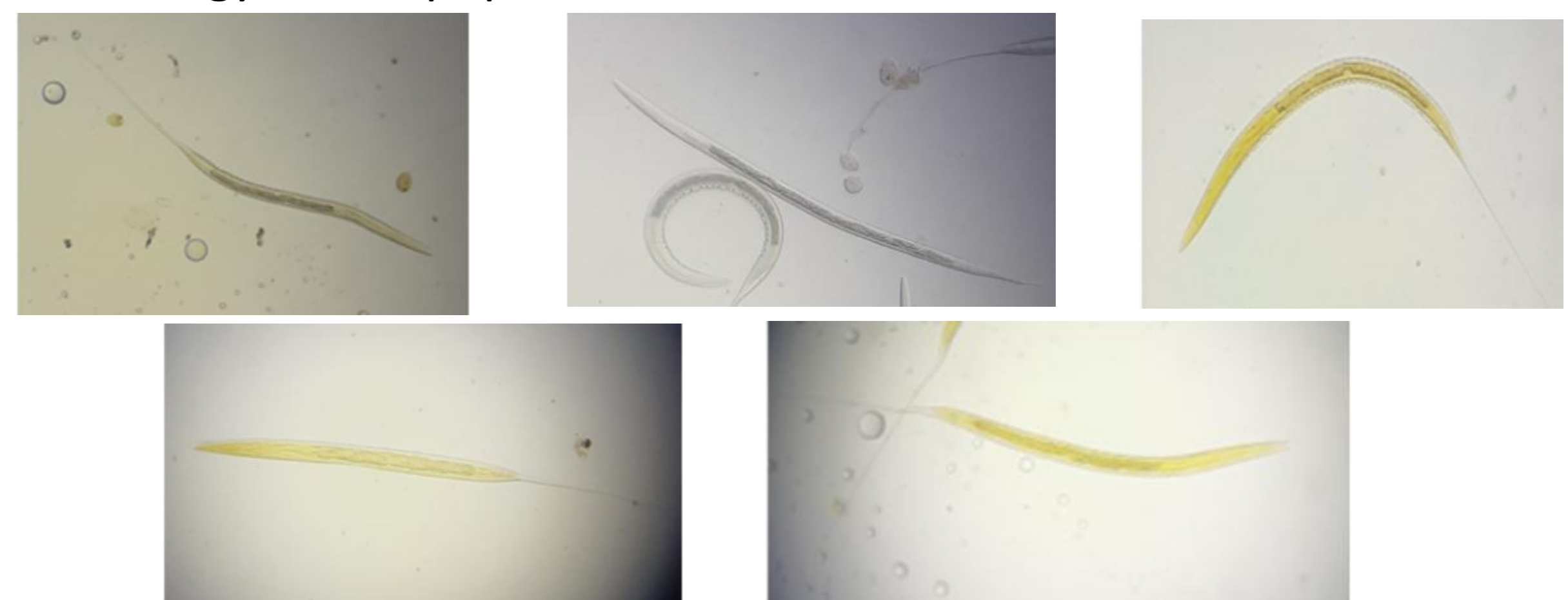
- ✓ All fecal samples were collected individually, each sample consisting of approximately 150 g of feces. The samples were placed in plastic bags labeled with the name of the horse and the owner and then stored in an insulated container. The coprological samples were transported and examined coproscopically in the Parasitology Laboratory of the Faculty of Veterinary Medicine in Timisoara.
- ✓ All fecal samples were subjected to quantitative coproscopic examination using the McMaster method, a technique accepted by European and international associations of parasitologists for monitoring the number of eggs per gram of feces.
- ✓ Larval cultures were performed for the purpose of establishing the etiological diagnosis in the examined horses. The fecal samples collected from the horses included in the study were placed in plastic cups covered with aluminum foil, which was subsequently perforated to ensure the oxygen supply necessary for the further development of the larvae. These containers (plastic cups) were maintained in the laboratory for 14 days, after which the cups were filled with tap water, covered with a Petri dish, and inverted onto a tiled laboratory surface, where they were left undisturbed for 24 hours
- ✓ After this period, the liquid from the Petri dishes was collected into conical glasses and allowed to sediment. The supernatant was then carefully decanted, and the collected sediment was examined. A sample of the sediment was taken using a Pasteur pipette, spread onto a glass slide, and a drop of Lugol's solution was added in order to kill the larvae. The larval examination was performed using a light microscope with a ×10 objective, observing the appearance, shape, and number of intestinal cells of the larvae, as well as the length of the esophagus and tail, according to the identification key developed by Madeira de Carvalho, L.M.

### • Results and discussions

- ✓ The anthelmintic study of strongylid infrapopulations in horses was carried out during the period October–December 2023. The initial coproscopic examination of the samples was performed using the McMaster method, and following these investigations, digestive strongyle eggs were identified in all analyzed samples.
- ✓ Based on the identification keys developed by Madeira de Carvalho, L.M., the following larval types were identified: *Triodontophorus serratus*, *Cyathostomum A*, *Trichostrongylus axei*, *Cyathostomum D*, *Cyathostomum H*, *Strongylus vulgaris*, and *Oesophagodontus robustus*.
- ✓ The concurrent presence of these species confirms the polyparasitic nature of equine strongylidosis in the Cornereva area and suggests continuous environmental contamination with infective stages. The identification of *Strongylus vulgaris* is of particular epidemiological importance due to its high pathogenicity and its role in vascular lesions caused by larval migration in the mesenteric arteries. Moreover, horses infected with this species showed clinical signs, including episodes of colic, consistent with the known pathogenic effects of larval migration.
- ✓ A relevant epidemiological aspect is the detection of *Trichostrongylus axei*, which can be explained by the co-grazing of cattle and horses in the studied area, thus facilitating interspecific transmission of the infection. This situation contributes to the maintenance of the parasite's biological cycle in the pasture environment.

### • Conclusions

- ✓ The study conducted in Cornereva locality confirmed the presence of digestive strongyle infections in all examined horses, indicating active parasite circulation within the studied population.
- ✓ Larval culture analysis revealed significant etiological diversity, including large strongyles (*Strongylus vulgaris*, *Triodontophorus serratus*, *Oesophagodontus robustus*), cyathostomins, and *Trichostrongylus axei*. The detection of *Strongylus vulgaris* is of major clinical and epidemiological relevance.
- ✓ The predominance of cyathostomins is consistent with the current epidemiological profile of equine strongylidosis, where these species represent the principal component of intestinal infections.
- ✓ The diagnostic approach employed proved suitable for etiological identification and characterization of strongylid infrapopulation structure.



**Acknowledgement:** The author wishes to express sincere gratitude to the co-authors and all mentors for their guidance and support throughout the study, as well as to the horse owners from Cornereva, Caraș-Severin County, for their collaboration and assistance during sample collection.