UNIVERSITY OF LIFE SCIENCES "KING MIHAI I" FROM TIMISOARA
"YOUNG PEOPLE AND MULTIDISCIPLINARY RESEARCH IN APPLIED LIFE SCIENCES"

5-6 November 2026



Coproscopic Detection of Eimeria spp. in Pigeons: Prevalence and Temporal Distribution in Fecal Samples

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ABSTRACT

This study assessed the occurrence and temporal distribution of Eimeria spp. in pigeon fecal samples examined by flotation microscopy. Between January and September 2025, 92 samples (76 pooled; 16 individual) were evaluated. Eimeria spp. oocysts were identified in 24/92 samples (26.09%; 95% CI: 18.20–35.89%), exclusively in pooled samples (24/76; 31.58%). Detection varied across sampling dates. The findings support routine coproscopic monitoring while highlighting limitations of pooled sampling and genus-level identification.

INTRODUCTION & OBJECTIVE

Coccidiosis is an important gastrointestinal parasitosis of domestic pigeons (Columba livia domestica). Infection occurs after ingestion of sporulated Eimeria oocysts in contaminated environments.

Objective: assess sample positivity, compare collection types and describe changes across the sampling period.

MATERIALS AND METHODS

Study period: January–September 2025.

Samples: 92 fecal samples from multiple pigeon populations (76 pooled and 16 individual).

Diagnostic method: saturated NaCl flotation; 2–3 g feces homogenized in 10 mL; 15-minute coverslip flotation; microscopy with 10× and 40× objectives.

Analysis: descriptive proportions and Wilson 95% CI.

OVERALL DETECTION

92	24	26.09%
SAMPLES EXAMINED	POSITIVE SAMPLES	SAMPLE POSITIVITY

95% confidence interval: 18.20–35.89%

68/92 samples (73.91%) were negative.

No cestode or nematode elements were detected.

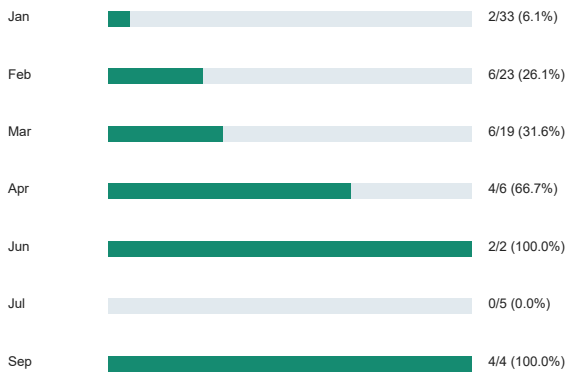
RESULTS BY SAMPLE TYPE

Sample type	Examined	Positive	Positivity
Pooled	76	24	31.58%
Individual	16	0	0.00%

RESULTS & DISCUSSION

After aggregation by month, sample positivity remained variable throughout the study period. The highest monthly proportions were recorded in June and September (100.0%), but these values were based on only 2 and 4 samples, respectively. January showed low positivity (6.1%), whereas March and April reached 31.6% and 66.7%. These findings describe the sampled collections and should not be interpreted as population-level seasonal prevalence.

TEMPORAL DISTRIBUTION



CONCLUSIONS

- Eimeria spp. oocysts were present in 26.09% of the examined fecal samples.
- All positives occurred among pooled samples; findings cannot be extrapolated to individual pigeons.
- After monthly aggregation, positivity varied across sampled months, with small sample sizes in several months.
- Periodic coproscopic screening and improved loft hygiene are relevant for monitoring and control.
- Sporulation, morphometry and molecular testing are needed for species-level identification.