

Updated Epidemiological Data on the Occurrence of *Trichinella* spp. in Red Foxes (*Vulpes vulpes*) from Romania

Ana-Maria MARIN¹, Dan-Cornel POPOVICI^{2*}, Maria Monica Florina MORARU¹, Sorin MORARIU¹, Răducu MARINAȘ², Narcisa MEDERLE¹

¹University of Life Sciences "King Mihai I" from Timisoara, Faculty of Veterinary Medicine, Department of Parasitology and Parasitic Diseases; ²University of Life Sciences "King Mihai I" from Timisoara, Faculty of Engineering and Applied Technologies, Department of Forestry;

ABSTRACT

Trichinellosis is an important zoonotic disease maintained in wildlife through the sylvatic cycle. This study investigated the occurrence of *Trichinella* spp. larvae in 112 red foxes from 13 Romanian counties. Larvae were detected in 26 foxes, corresponding to an overall prevalence of 23.21%, supporting the role of the red fox as a sentinel host for *Trichinella* circulation in Romania.

1 INTRODUCTION

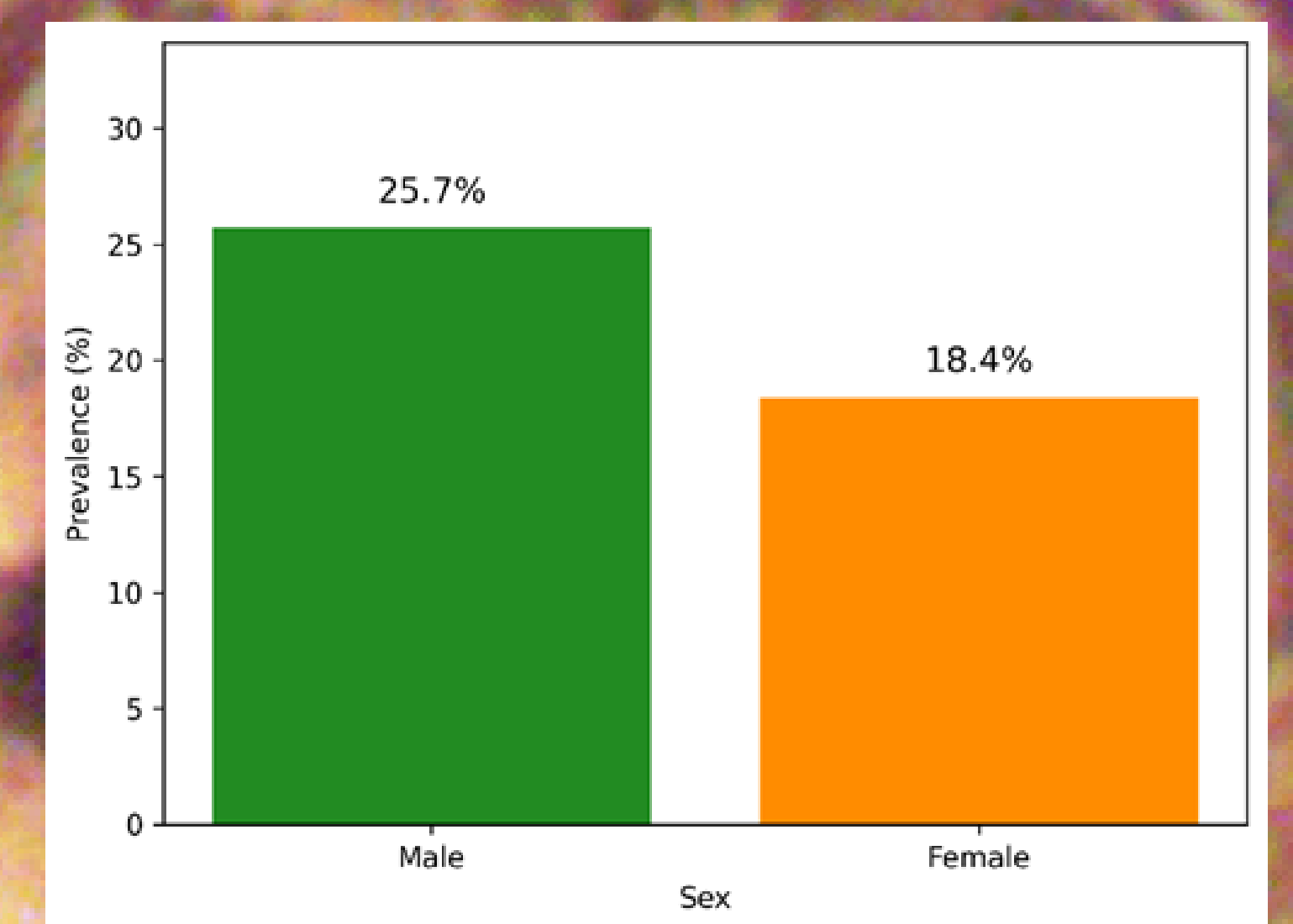
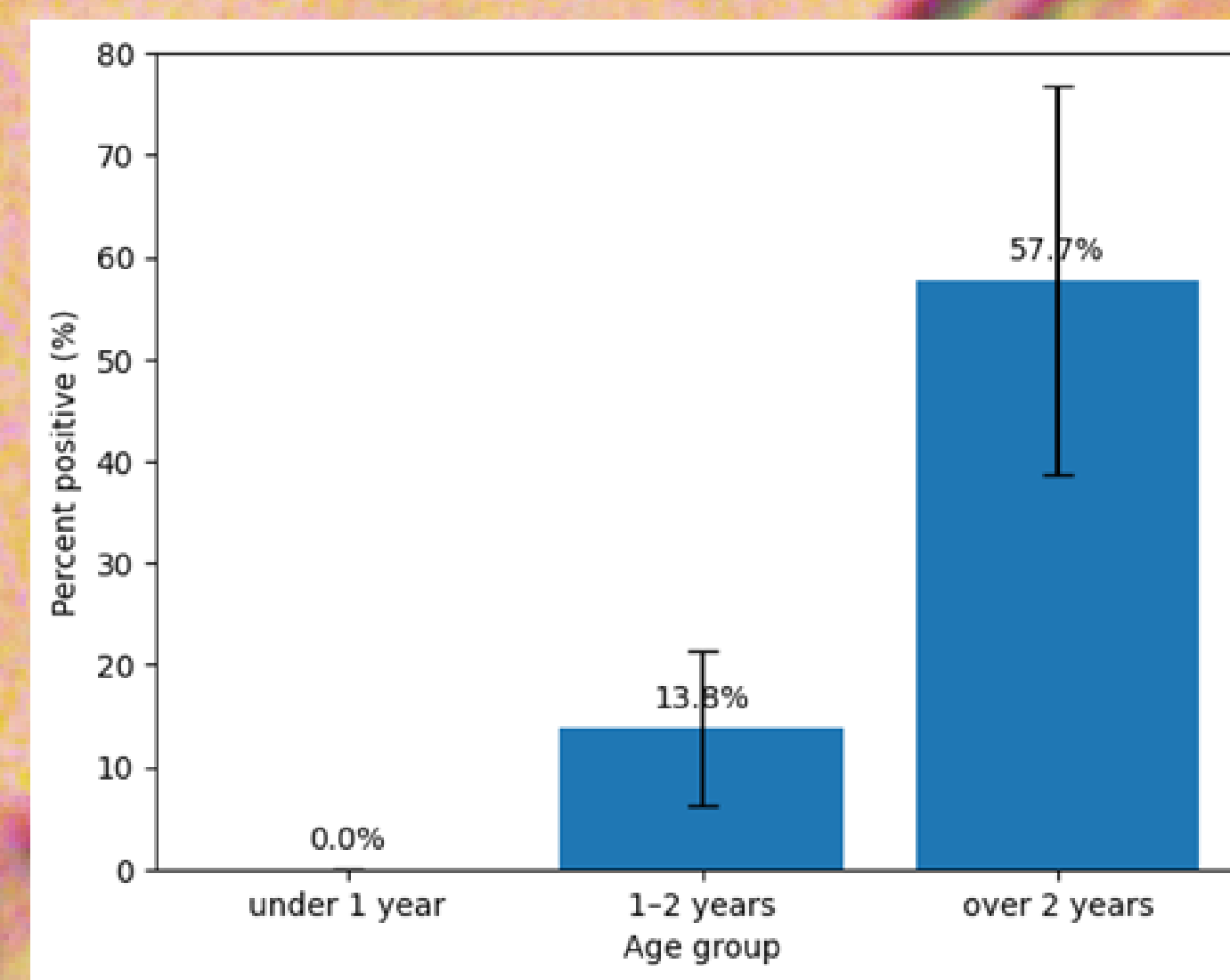
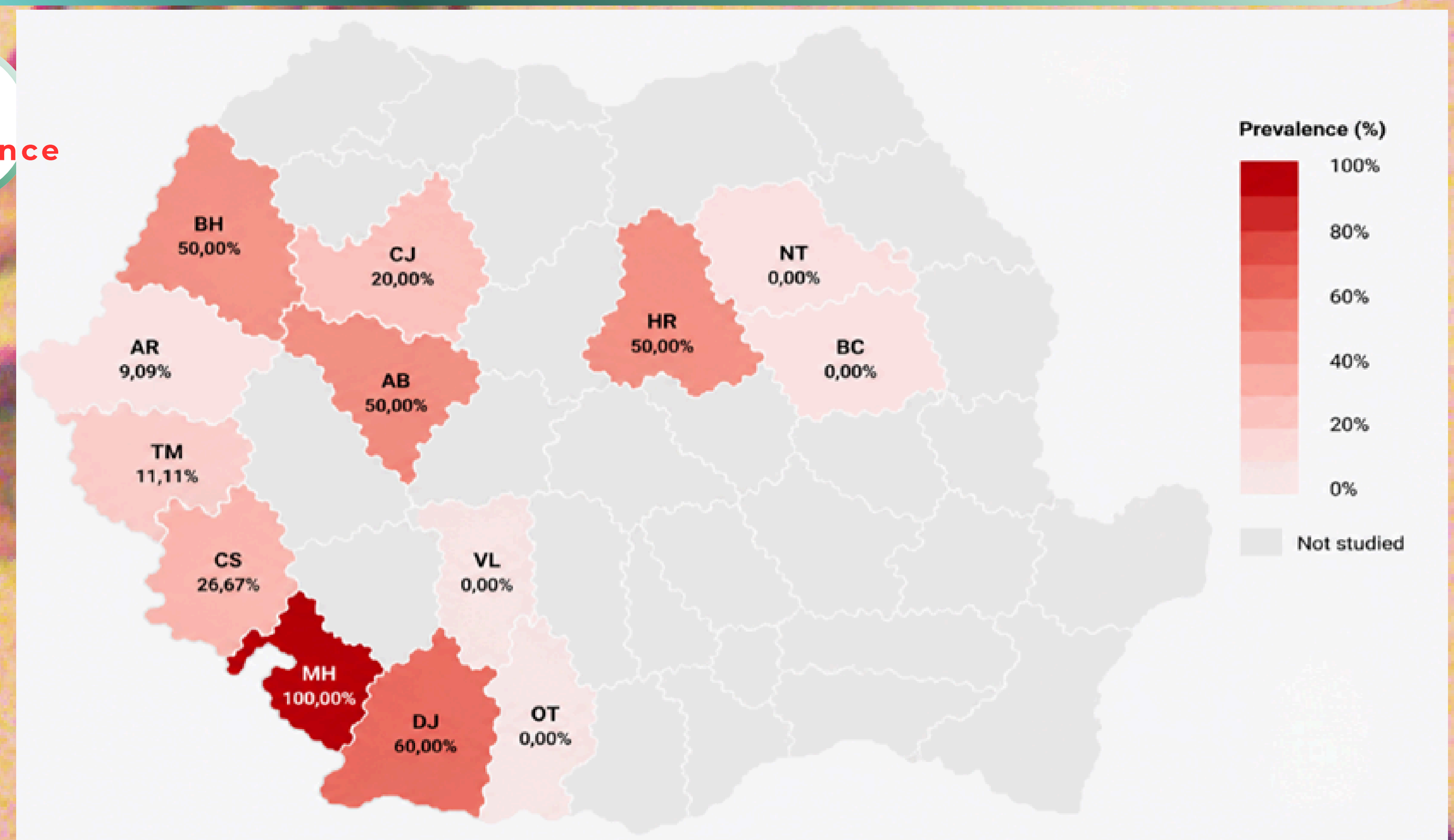
- Trichinellosis is a parasitic zoonosis caused by nematodes of the genus *Trichinella*.
- Wild carnivores are key reservoirs involved in the maintenance of the sylvatic cycle.
- The red fox (*Vulpes vulpes*) is widely distributed, opportunistic and frequently exposed through scavenging and predator-prey interactions.
- Monitoring red foxes provides useful epidemiological information on parasite circulation in wildlife.

AIM

To assess the occurrence, prevalence and geographical distribution of *Trichinella* spp. larvae in red foxes from Romania.

3 RESULTS

23.21%
overall prevalence



2 MATERIAL AND METHOD

01

- **Study period:** 2020–2023
- **Sample size:** 112 red foxes (74 males, 38 females)

02

- **Origin:** 13 Romanian counties
- **Biological samples:** diaphragm and tongue muscles

03

- **Diagnostic methods:** direct trichinostomy and artificial digestion

04

- **Analysis:** prevalence by county, age group and sex

4 DISCUSSIONS

Trichinella spp. larvae were detected in 26 of the 112 examined red foxes, resulting in an overall prevalence of 23.21%, with positive cases identified in nine of the 13 investigated Romanian counties. The highest prevalence was recorded in Mehedinți County, while infection was more frequent in foxes older than two years and in males, suggesting a possible influence of cumulative exposure and behavioral factors. These findings confirm the active circulation of *Trichinella* spp. in Romanian sylvatic ecosystems and support the role of the red fox as an important sentinel species for epidemiological surveillance.

CONCLUSION

The study revealed a 23.21% prevalence of *Trichinella* spp. infection in red foxes from Romania, confirming the circulation of the parasite in sylvatic ecosystems. The detection of larvae supports the role of the red fox as a sentinel species for monitoring *Trichinella* spp. transmission. These findings highlight the need for continuous surveillance of wild carnivores within an integrated One Health approach.

