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Epidemiological study of *Blastocystis* spp. parasitism, alone or in association with other pathogens, in free – range domestic pig

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Abstract: *Blastocystis* spp. is a commensal protozoan of the large intestine with a cosmopolitan distribution, found in a wide range of hosts, including humans and various animal species, among them domestic pigs. The aim of this study was to assess the presence of *Blastocystis* spp. in pigs in Gorj County and to identify associated risk factors. Faecal samples were examined using the flotation method (Willis) and by the molecular method of polymerase chain reaction (PCR). The results revealed a high overall prevalence of gastrointestinal parasites in extensively reared pigs (59.75%), with *Blastocystis* spp. being the most common (44.9%). Infections were more frequent in young animals, peaking in the 6 - 12 month age group (82.6%) and declining significantly after 12 months. Approximately one-third of positive cases involved mixed infections, suggesting exposure to multiple sources of infection. The study highlights a clear trend of decreasing infection frequency with age, with notable variations among different pathogen species.

Keywords: *Blastocystis* spp.; flotation; PCR; domestic pigs; associated pathogens

• Introduction

Blastocystis spp. is a commensal protozoan of the large intestine, first discovered by Alexieff in 1911, and later identified in a wide range of hosts, including humans and numerous animal species. Although more than a century has passed since this parasite was first documented, there is still insufficient data to provide a clear profile, with much of its pathogenicity and biological cycle remaining shrouded in mystery.

It colonizes the large intestine, and its excretion into the external environment occurs through the feces of the infected host.

The aim of the present study was to evaluate the presence of *Blastocystis* spp. in pigs in Gorj County and to identify certain associated risk factors.

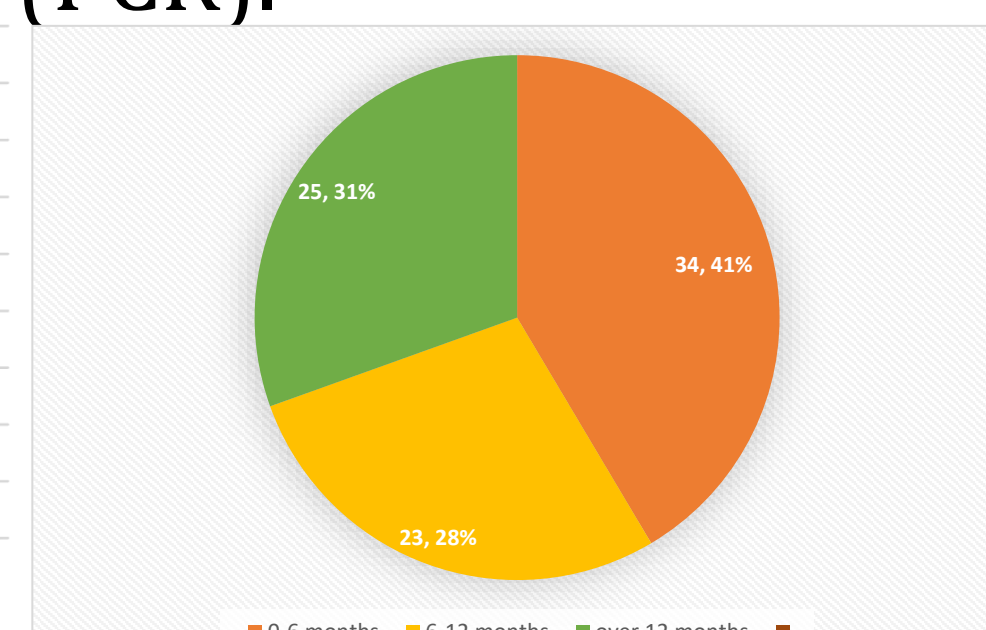
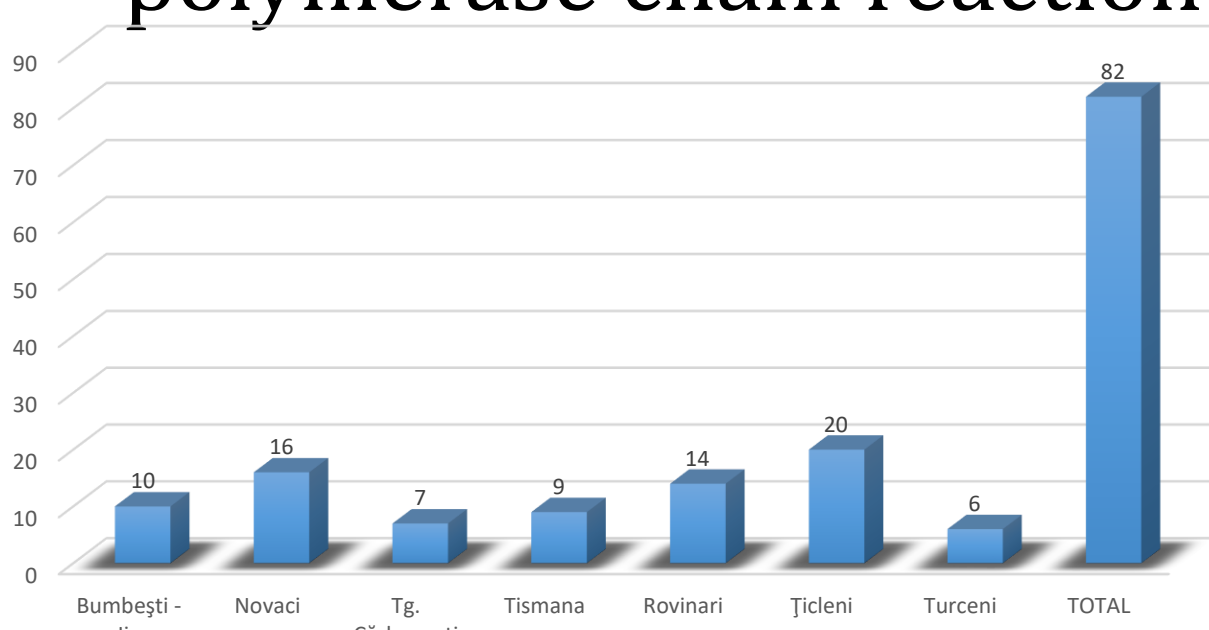
• Material and method

The samples consisted of faeces collected from pigs between April 2024 and May 2025, from the localities of Bumbești-Jiu, Novaci, Târgu Cărbunești, Tismana, Rovinari, Țicleni, and Turceni in Gorj County.

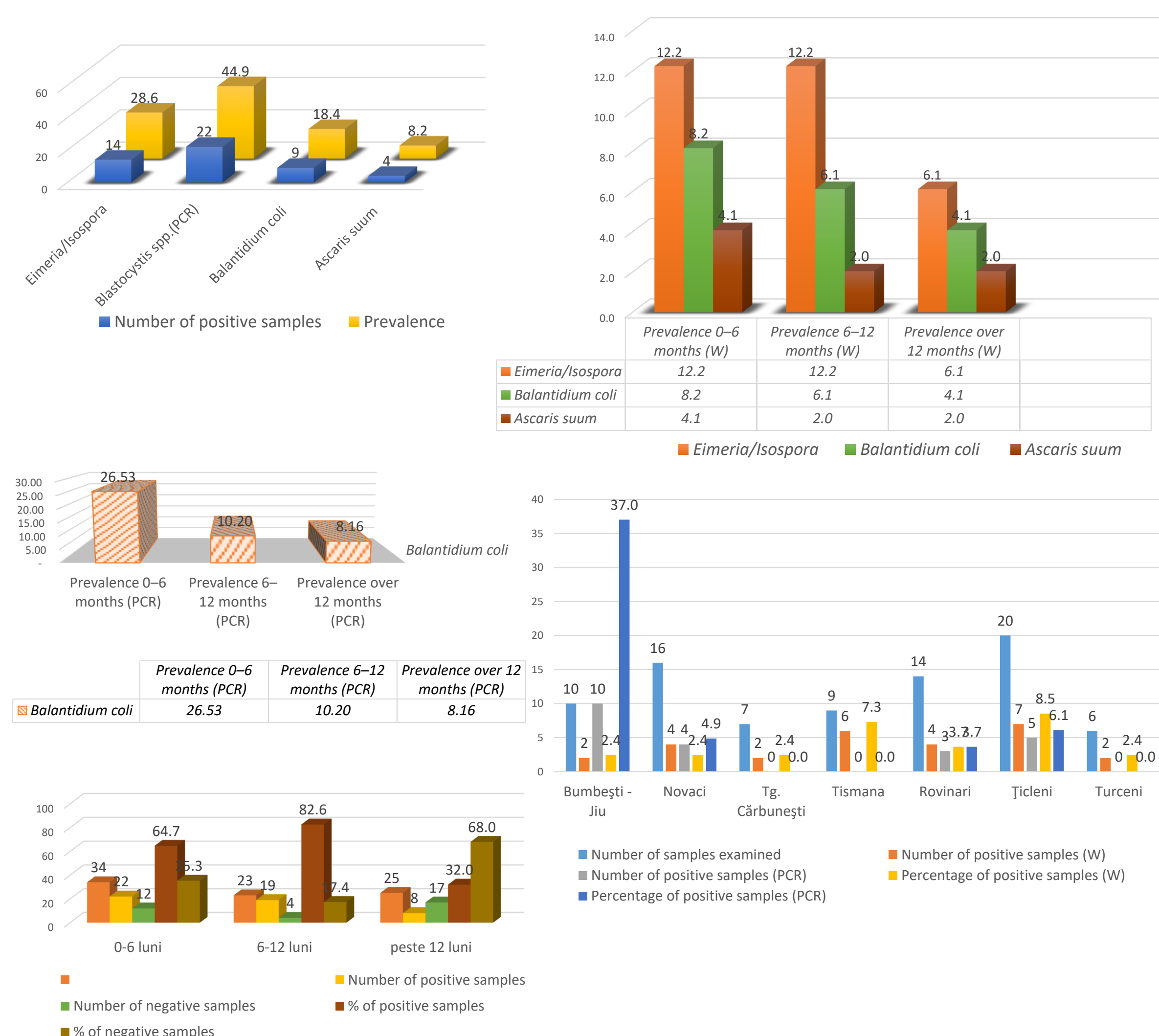
The study group comprised 82 pigs, crossbreeds of Landrace, Duroc, Pietrain, and Large White, including both males (37 individuals) and females (45 individuals).

The pigs were raised under an extensive system and were aged between 4 and 40 months.

Faecal samples were examined using the flotation method (Willis) and by the molecular method of polymerase chain reaction (PCR).



• Results and discussions



• Conclusions

- ✓ This study highlights a clear trend of decreasing frequency of gastrointestinal parasite infections with increasing age, with notable variations among different pathogen species.
- ✓ The overall prevalence of gastrointestinal parasites in pigs raised under extensive conditions in Gorj County was high (59.75%), with *Blastocystis* spp. being predominant (44.9%).
- ✓ Infections were more frequent in young animals, peaking in the 6–12-month age group (82.6%) and decreasing significantly after 12 months.
- ✓ Approximately one-third of positive cases showed mixed infestations, indicating exposure to multiple sources of infection.