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Pigeon parasitosis over the past decade in Europe - Review

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Abstract: *The increase in Europe's pigeon (Columba livia, Columba palumbus) population is a major source of concern for parasite dispersal Although pigeons provide the most palatable and nutritious food and provide pleasure to humans, they can pose a health risk to other animals as well as humans The current study conducted a systematic review of existing literature to determine the European prevalence of parasitosis in pigeons This review examines reports from the last ten years, focusing on the epidemiology, etiology, and identification of the most common parasites in pigeons*

Keywords: Pidgeon, Parasitosis, Europe, Prevalence

Introduction

The rock pigeon (*Columba livia*) is essentially a free-living and cliff-dwelling granivorous species, and also a direct predecessor of the domestic subspecies *C. l. domestica*. The woodpigeon (*Columba palumbus*) is a wild bird and the largest of the six species found in Europe that belong to the order Columbiformes. In recent decades, several global changes have altered the urban environment and led to an exponential increase in populations of nonanthropic animals such as wild pigeons, which can carry and spread a lot of pathogens. Thanks to their flight capabilities and high adaptability, these animals can adapt very easily to different urban habitats (nesting in abandoned buildings) and to certain living conditions that favours the transmission of diseases between animals and even the transmission of zoonotic diseases. Pigeons can suffer from a variety of health issues, but parasitic infections have been identified as a major risk factor. In Europe, pigeons are present in all cities, and their population is constantly increasing, which leads to the need to study their parasitic potential.

Results and discussions

	Eimeria spp.	*Capilaria* spp.	*Ascaridia* spp.	*Trichomonas* spp.	*Toxoplasma gondi*	*Columbicola* spp.	*Sarcocystis calchasi*	*Cryptosporidium* spp.	*Dermanyssus gallinae*	*Ornithonyssus sylvarum*	*Syngamus trachea*	*Trichostrongylus* spp.	*Echinostoma revolutum*	*Eulimdana clava*
Location	Poland Slovakia	Poland France	Poland France	Poland Slovenia Spain Germany Hungary	Spain Italy Serbian Republic	Poland Spain	Germany	Czech Republic Slovakia Poland	Hungary	Hungary	France	France	Poland	Bosnia and Herzegovina
Host	*Columba livia*	*Columba livia*	*Columba livia*	*Columba livia* *Columba palumbus*	*Columba livia*	*Columba livia* *Columba palumbus*	*Columba palumbus* *Columba livia*	*Columba livia*	*Columba livia*	*Columba livia*	*Columba livia*	*Columba livia*	*Columba livia*	*Columba livia*
Method	Morphological characteristics of oocysts and their sporulation time Flotation technique	Morphological characteristics of oocysts and their sporulation time Microscopic examination	Morphological characteristics of oocysts and their sporulation time Microscopic examination	PCR Microscopic examination	ELISA PCR Real-Time PCR	Microscopic examination	Semi-nested PCR	PCR	Microscopic examination	Microscopic examination	Microscopic examination	Microscopic examination	PCR	PCR

Conclusions

Pigeons (*Columba livia*) harbor a wide array of zoonotic agents—from coccidia (*Eimeria* spp. in up to 96% of flocks, jumping seasonally from 11% to 45% in Slovakia) and protozoa (trichomonosis up to 95% in training flocks; toxoplasmosis seroprevalence 8–10% in Europe) to cryptosporidiosis (~1% prevalence but with zoonotic *C. parvum*), helminths (*A. columbae* & *Capillaria* spp. at 9–41%, emerging *E. clava* and amidostomosis in racers), trematodes (*Echinostoma revolutum* even under strict management), and ectoparasites (lice >90% in rural flocks; mites cycling between wild and domestic hosts), highlighting their role as sentinels and reservoirs for farm and urban public-health risks.