

PREVALENCE OF INFECTIOUS AND PARASITIC DISEASES IN WILD CARNIVOROUS

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Introduction

The presence of wild carnivores (foxes, jackals, martens etc.) in urban and suburban areas searching for food has become more frequent in the last few years. Wild animals represent a major reservoir of many pathogens in nature. Their close contact with domestic and stray companion animals, especially in living areas and feeding spots, contributes to the transmission of infectious and parasitic diseases among them.

The purpose of this study was the investigation of the prevalence of significant infectious and parasitic diseases in wild carnivores through immunological tests.



Materials and Methods

The Association for the Protection and Rehabilitation of Wildlife "ANIMA" take care of more than 6.000 wild animals annually. Among them, many wild carnivorous mammals are presented. For the purpose of the present study, immunological tests in blood serum samples from thirty four (34) wild carnivores were conducted by the specialized veterinary laboratory «VET IN PROGRESS PLUS» in Athens. These carnivores were admitted to "ANIMA" during the period 2020 to 2022. More specifically, two (2) European badgers (**B**) (*Meles meles*), four (4) golden jackals (**J**) (*Canis aureus*), twenty-seven (27) red foxes (**F**) (*Vulpes vulpes*) and one marten (**M**) (*Martes foina*) were included in this study. The animals were examined via immunofluorescence (IFA – IgG και IgM) for *Leishmania infantum*, *Neospora caninum* and *Toxoplasma gondii*, whilst ELISA method was used to detect the *Dirofilaria immitis* antigen. As for microbial factors, the samples were examined via immunofluorescence (IFA-IgG και IgM) for *Erlichia canis* and *Distemper virus*.

Results

The percentages of positive animals for the pathogens studied vary (see **table**), since 5,9% of the examined animals were marginally positive (**MP**) for Leishmaniosis (IgG 1/100) and 70,5% of the carnivores were tested positive for Toxoplasmosis. In addition, 29,4% of the animals were tested positive for Erlichiosis and 82,35% of them were tested positive for Distemper virus. None of the examined animals was tested marginally positive or positive for Dirofilariosis and Neosporosis.



Carnivore	Leishmaniosis	Dirofilariosis	Toxoplasmosis IgG	Toxoplasmosis IgM	Neosporosis IgG	Neosporosis IgM	Erlichia canis IgG	Erlichia canis IgM	Distemper virus IgG	Distemper virus IgM
F 235.2	-	-	1/400	-	-	-	-	-	-	-
F 220.9	-	-	1/200	1/100	-	-	-	-	-	-
F 87.10	-	-	-	-	-	-	-	-	-	-
F 78.10	-	-	1/200	-	-	-	-	-	1/200	-
F 256.9	-	-	1/400	1/100	-	-	-	-	1/200	-
F 25.10	-	-	1/400	1/100	-	-	-	-	-	-
F 72.10	-	-	1/200	-	-	-	-	-	1/200	-
F 135.10	-	-	-	-	-	-	1/200	-	-	-
F 613.7	-	-	1/200	1/100	-	-	-	-	1/200	-
F 528.7	-	-	1/200	1/100	-	-	1/400	1/100	1/200	-
F 239.12	-	-	1/400	1/100	-	-	1/200	1/100	1/200	1/100
F 90.12	-	-	1/400	1/200	-	-	1/400	1/100	1/200	-
F 131.11	-	-	1/200	-	-	-	-	-	-	-
F 84.1	-	-	1/400	1/100	-	-	-	-	-	1/100
F 136.12	-	-	1/400	1/100	-	-	1/200	1/100	-	1/100
F 79.12	-	-	-	-	-	-	-	-	-	1/200
F 155.2	-	-	1/400	1/100	-	-	-	-	-	1/200
F 41.1	-	-	1/400	1/100	-	-	-	-	-	0.495 (ELISA)
F 96.1	-	-	1/200	-	-	-	-	-	1/200	1/200
F 905.6	-	-	1/200	1/100	-	-	-	-	-	1/100
F 36.3	-	-	1/400	1/200	-	-	-	1/100	1/200	-
F 342.8	-	-	1/400	1/100	-	-	-	-	1/800	1/100
F 26.3	-	-	1/400	1/100	-	-	1/200	1/100	-	1/100
F 175.2	1/100 (MP)	-	-	-	-	-	1/800	1/200	1/200	1/100
F 110.3	1/100 (MP)	-	1/200	1/100	-	-	1/1600	1/400	-	1/100
F 452.5	-	-	1/400	1/200	-	-	1/200	1/100	1/400	1/100
F 1227.5	-	-	1/200	1/100	-	-	-	-	1/200	-
J 41.12	-	-	-	-	-	-	-	-	1/200	-
J 385.10	-	-	-	-	-	-	-	-	-	-
J 632.9	-	-	-	-	-	-	-	-	1/200	-
J 263.12	-	-	-	-	-	-	-	-	1/200	1/100
B 49.4	-	-	-	-	-	-	-	-	-	-
B 306.10	-	-	1/200	-	-	-	-	-	-	1/400
M 66.12	-	-	-	-	-	-	-	-	-	1/100

Discussion

Given the results of this preliminary study, further investigation of the role of the presence of wild carnivores in urban areas is essential. The transmission of infectious and parasitic diseases between companion animals and wild carnivores as well as its consequences on public health need additional research too.

