SEROPREVALENCE OF PATHOGENS IN DOMESTIC CARNIVORES IN A HIGH CONTACT AREA WITH WILD CARNIVORES IN BRAZIL

Theme: Biodiversity conservation indicators

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Contact between humans and livestock with wildlife is inevitable in human-altered environments, where they occupy the same area (both natural fragments and agriculture matrix) what may facilitate the spread of diseases among them. Among the most important diseases are canine distemper and parvovirus infection. Their infectious agents are transmitted by oronasal exposure to body fluids and faeces contaminated. These diseases have been reported in all families of Carnivora mammals, an important group since it has large home range, are top predators and therefore have more contact with other species, and has led to the decline in populations of over the world. Domestic dogs are the most likely source of infection and are implicated as reservoir of these diseases, as cases of canine distemper that caused decline of *Mustela nigripes* population in the U.S., *Lycaon pictus* and *Panthera lion* in Africa. In this context, we collected blood samples by venopuncture from 12 domestic dogs for serological examination in an area of Sao Paulo State in Brazil, which is composed by eucalyptus matrix and fragments of cerrado. The presence of various carnivore species has been confirmed there as *Puma concolor*, *Puma yaguaoroundi*, *Leopardus pardalis*, *Leopardus wieddi*, *Leopardus tigrinus*, *Chrysocyon bachyurus*, *Cerdocyon thous*, *Lycalopex vetulus*, *Procyon cancrivorous*, *Nasua nasua*, *Eira Barbara*, *Conepatus sp.*, *Gallitics sp.* and *Lontra longicaudis* and, this year, efforts to capture wild carnivores was started, but with no success until this moment. The haemagglutination-inhibition tests for 4UI for canine parvovirus were positive for all animals with different titrations. The serum neutralization tests for 100 $TCID_{50\%}$ for canine distemper were positive for only three dogs. Positive results for serological tests indicate that the animals were exposed for that infectious agent in the area. Thus these diseases are reported as responsible for decline in various carnivore species and that it is possible for spillover of these pathogens from regionally large domestic populations to less dense wild populations which is already unstable by a modified landscape, it can result in disease epidemics in populations of endangered species. Whether this will occur depends on the exposure and immunological status of the wild populations, which we did not investigate yet, but our evidence does show that domestic carnivores are exposed to disease agents to which wild species are susceptible and if it happens, the survivor individuals living in this altered environment could die compromising even more the whole conservation of these endangered species.

Key words: carnivore, diseases, dogs.

Financial Support: FAPESP