Role of wild animals as a zoonotic reservoir of Cryptosporidium and Giardia protozoa with particular focus on Warsaw urban areas

The main objective of the project is to define the role of rodents and foxes which occupy the area of Warsaw agglomeration as a reservoir of intestinal protozoa of *Cryptosporidium* and *Giardia* genus dangerous for people's and animals' health.

Destroying natural habitats as a result of urbanisation is unfortunately already a common phenomenon. To survive animals had to learn to live in a close approximity of man in specific conditions, which a city creates. Species which get by well in urban surrounding are rodents and the red fox. These animals are a potential source of infection with dangerous parasites. One of them are intestinal prozoa such a *Cryptosporidium and Giardia*. They are responsible for cases of intensive diarrhoeas of severe course, which lead to dehydration of the organism and as a consequence even to death. Infections with these prozoa are especially dangerous for the elderly people and small children as well as for persons with decreased immunity.

I put forward a hypothesis that rodents and foxes are an important source of contamination of the environment with (oo)cysts of intestinal prozoa including urban areas. I expect to detect a greater number of species/genotypes of prozoa in foxes than rodents. In refers to a high share of rodents in the diet of these predators and as a result a possibility of a transmission of parasites from prey to the predator on an alimentary track. A big impact on potentially greater diversity of *Cryptosporidium*/ Giardia in urban foxes in comparison to predators living in natural habitat has also the use of new food sourses available in cities (dumping sites, scraps, dogs/cats food, fleshment).

The reasearch material (feaces) comes from rodents and foxes acquired from natural habitats and urban area of Warsaw. To detect prozoa in feaces specimen as many as three different research methods will be used: Ziehl-Nielsen study of feaces smear, immonofluoroscent test (IFA) *(Cryptosporidium/Giardia)* as well as molecular methods.

In respect of the intensive explatation of green areas in Warsaw by the inhabitants (walking with dogs, playing with children, etc.), the knowldge of a possibility of contamination of these areas with (oo)cysts *Cryptosporidium* and *Giardia* by rodents and foxes is incredibly important. The results of the project will be used to asses an epidemiological risk of occurance of cryptosporodiosis/giardiosis in the cities inhabitants. They will also contribute to extend the knowledge about the particiption of rodents and foxes in prozoa's circulation in the natural and urban habitats.