## Abstract 14:

The effect of urban greening on the distribution and abundance of wild rats and rat-borne zoonotic pathogens

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Increasing the number and surface of green (vegetation-based) and blue (water-based) spaces in cities is seen as a multipurpose investment not only to combat heat, but also to enrich urban biodiversity, improve living conditions and reduce flooding. However, urban greening could create more suitable habitats for wild rats and thereby facilitate the growth of rat populations and the dispersal of rat-borne zoonotic pathogens.
Rats are a well-recognized source of multiple zoonotic pathogens responsible for significant human morbidity and mortality worldwide. They are well adapted to close cohabitation with humans and are considered synanthropic animals. The proximity of rats and humans, especially in urban areas, can create higher risks for infection with rat-borne zoonotic pathogens.
Therefore, we are currently studying the effect of urban green on rat populations and rat-borne zoonotic pathogens in three cities in the Netherlands (Amsterdam, Eindhoven and Rotterdam). Urban areas are divided into three categories: parks (high green), green residential areas (medium green) and grey residential areas (low green). Over a period of 8 months, 6 locations per month will be studied. In every location, rats will be trapped systematically, by using 20 rat snap-traps per location during one month.
The trapped rats will be used for subsequent zoonotic pathogen analyses. The results will be corrected for and linked to a list of (environmental and socio-economic) factors, in order to assess the relation between urban greening, relative rat population size and rat-borne zoonotic pathogen distribution. These results will be translated to practical advice for municipalities to decrease rat nuisance and the risk for rat-borne zoonoses.