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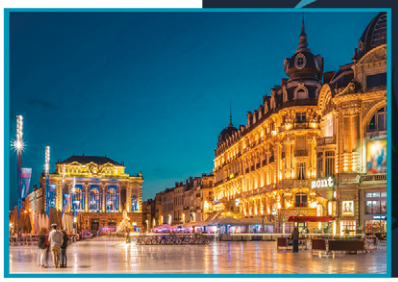

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INRAE

TROPICAL VETERINARY MEDICINE IN CHALLENGING TIMES

BOOK OF ABSTRACTS

S1-P03

Do Malagasy dogs sound the epidemiological alarm bell?

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Introduction & Objectives:
The canine population is remarkably abundant in Malagasy communities, with the majority of dogs roaming freely without any restriction. Given the country's limited investment in the health sector, this study aims to investigate dogs as indicators of potential zoonotic pathogen circulation, contributing to the enhancement of early warning systems. Rift Valley fever virus (RVFV) and West Nile virus (WNV) were considered as first models.
Methodology:
Blood samples were collected from dogs in the Ifanadiana and Fianarantsoa I districts and analysed at the Virology Unit of the Institut Pasteur de Madagascar. ID Screen WNV ELISA Competition Multi-species kit was used for the detection of antibodies directed against Flaviviruses and ID Screen RVFV ELISA Competition Multi-species kit for the detection of antibodies directed against RVFV. A first identification of factors influencing dogs' exposure to these pathogens was then carried out using logistic regression.
Results:
These screenings revealed a flavivirus seroprevalence of 56.55%, significantly higher in rural areas (410/577) than in urban areas (56/247): p = 2.2e-16. RVFV seroprevalence was 3.39%, notably higher in rural areas (27/578) than in urban ones (1/247): p = 0.001. Dogs' exposure to these pathogens increased with age, suggesting an endemic transmission.
Further serological analysis based on Luminex technology will enable to distinguish results specific to WNV from other flaviviruses. Furthermore, calculating force of infection and comparing the results with human serological data in the same study area will enable to assess dogs' utility as sentinel animals for monitoring these zoonotic pathogens.