



Monitoring invasive rodents species expansion in Niamey City

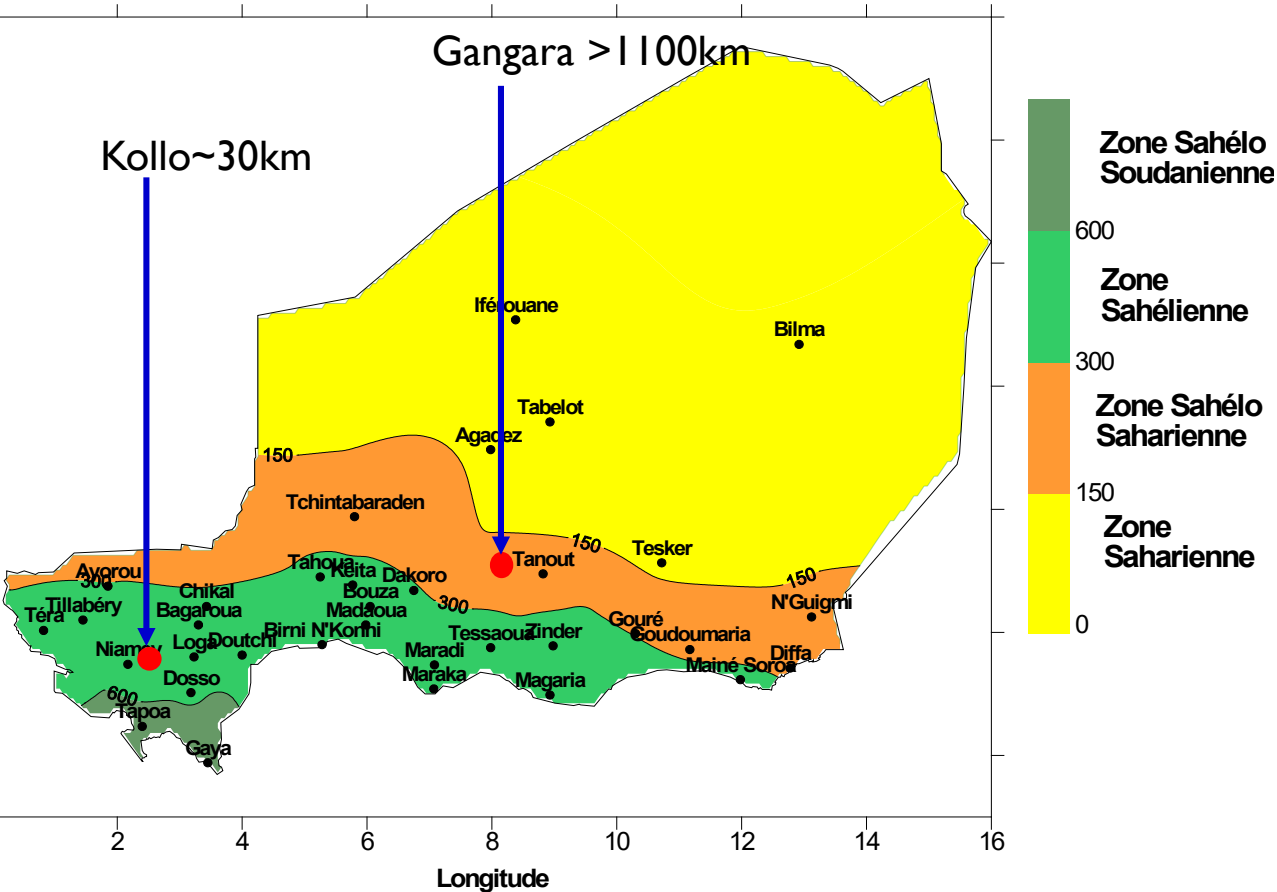
Karmadine HIMA

ObsMICE objectives

- Sustain monitoring small mammals populations/communities in various ecosystems (urban and rural) in a global change context
- Gather, analyse and enhance historical and current collected data
- Make these data available for scientific community, policymakers

It aims to help to answer current and future scientific questions, such as the impact of these changes on commensal rodent populations and communities, on the progression of invasive species and their associated pathogens, etc.

Nigerien candidates sites : rural sites



2 different eco-climatic areas

2 distinct populations of the species (chromosomal variants)

Regular and irregular monitoring data available for the same rodent species (*G. nigeriae*) for both sites

Kollo : 1999-2002 (regular) ; 2008-2010 and 2014 (irregular)

Gangara : 2007-2011 (regular) ; 2015 and 2014 (irregular)

Nigerien candidates sites : rural sites

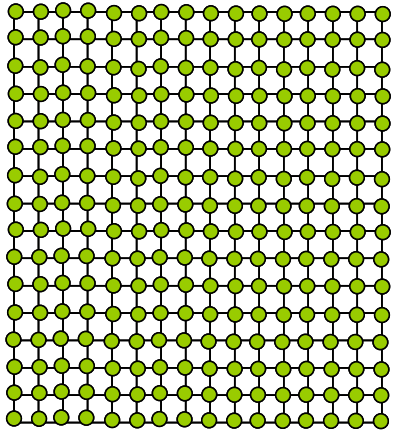


Data collected

Demo-genetic parameters (abundance, diversity, mobility and dispersion)

Local made trap (“Kornaka”) efficiency

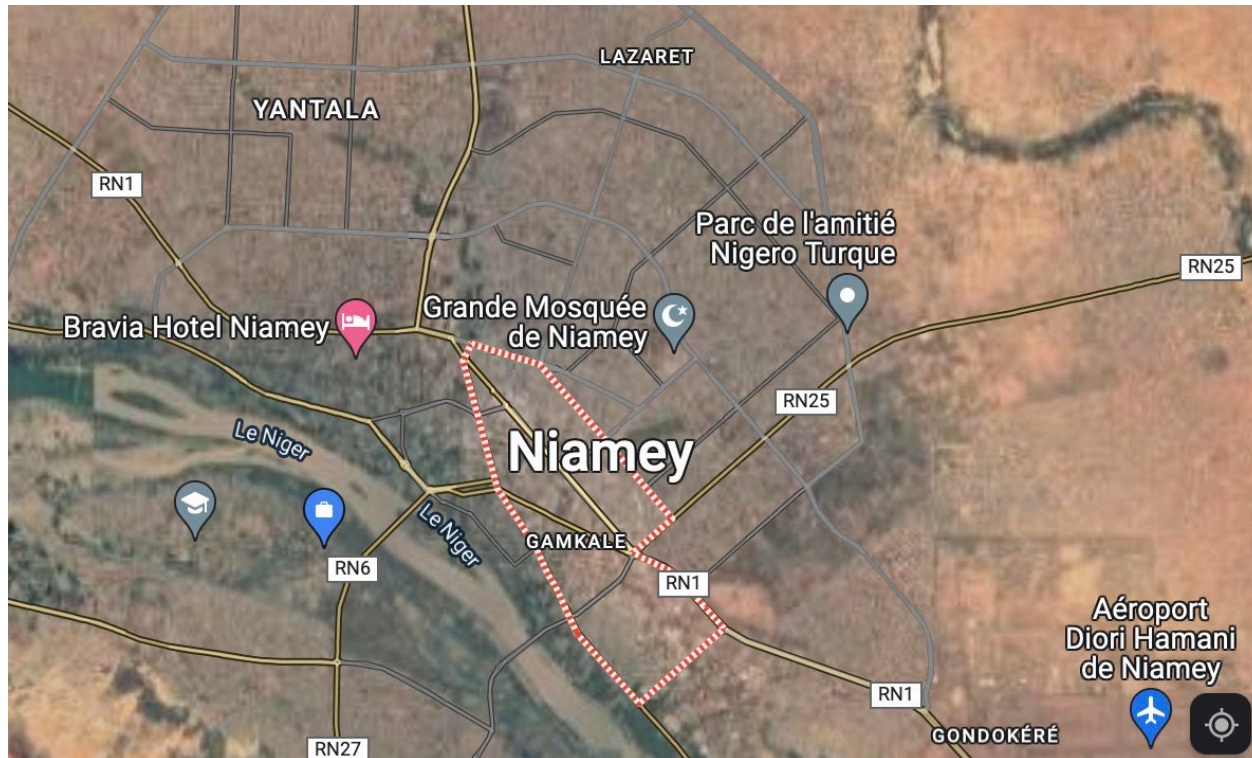
The very low population densities observed as the scarcity or even extinction of some plant species were correlated to the aridification and its subsequent degradation of local habitats



Nigerien candidates sites : urban site

Niamey City rodents community (MG PhD thesis) : 2009-2013

- Native vs invasive species
- Rodents associated pathogens
- Local perception of rodent-associated problems



~50 sites throughout the city

Nigerien candidates sites : urban site

Niamey City rodents community (MG PhD thesis) : 2009-2013

Main results

2 invasive species : *Rattus rattus* & *Mus musculus*

Relatively low abundance compared to the native

Ongoing monitoring invasive rodent species expansion in Niamey

Gross results

The number of sites where *Rattus rattus* is present has greatly increased

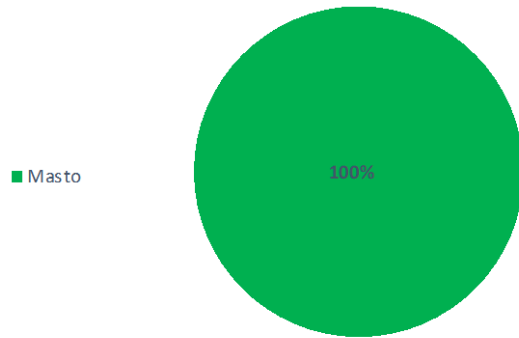
Its abundance has increased from 0% (absence) to more than 90% in some of these sites

Nigerien candidates sites : urban site

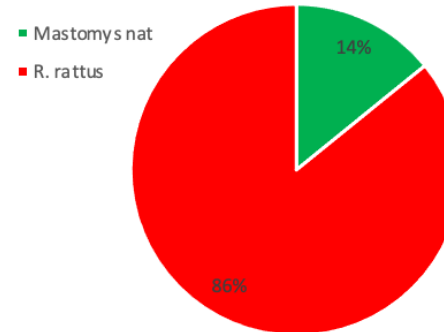
Presence/absence vs Abundance of *R. rattus* and *Mus*

From 2009-2013 (left) to 2021 (right)

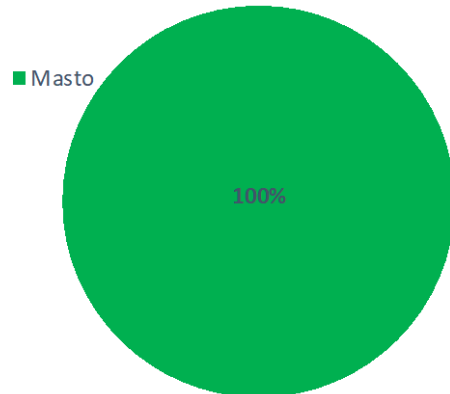
Boukoki



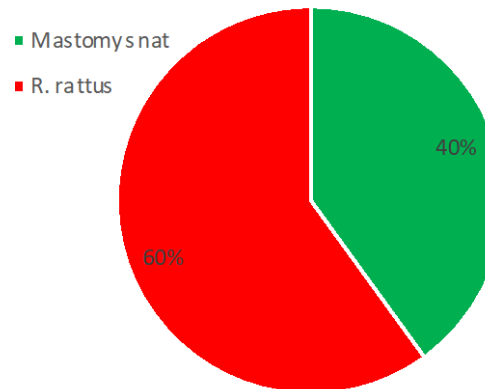
BOUKOKI



Corniche Yantala



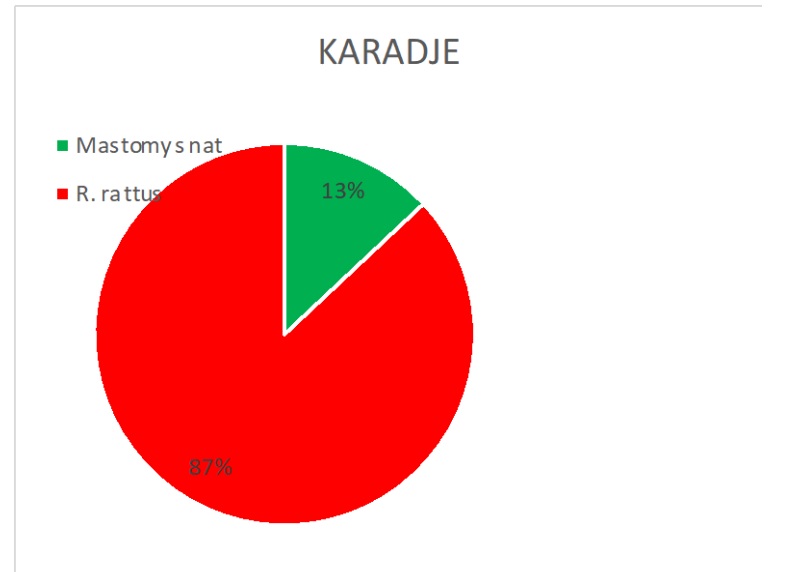
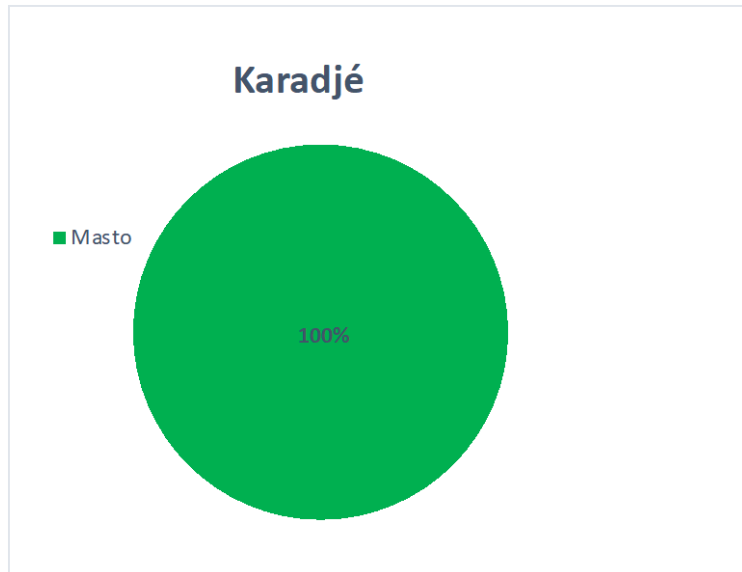
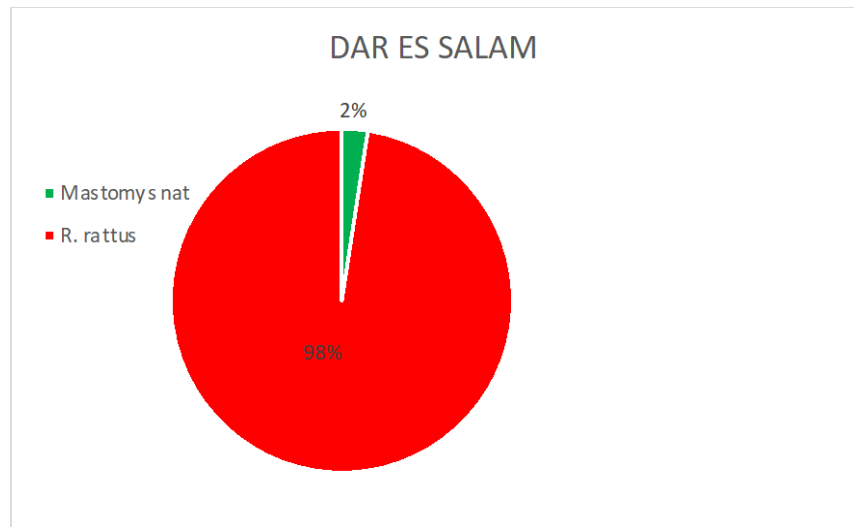
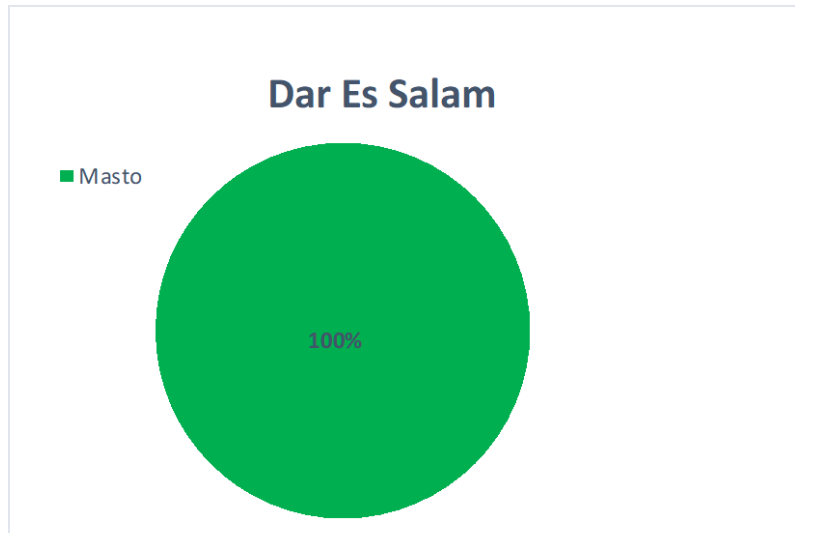
Corniche Yantala



Nigerien candidates sites : urban site

Presence/absence vs Abundance of *R. rattus* and *Mus*

From 2009-2013 (left) to 2021 (right)



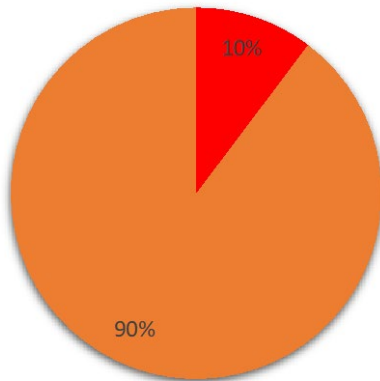
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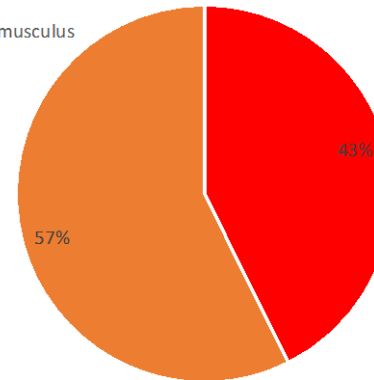
Liberté-Grand Marché

- Rattus
- Souris



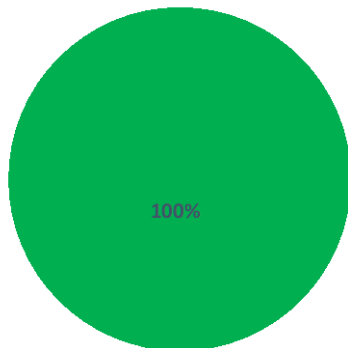
LIBERTE-GRAND MARCHE

- R. rattus
- Mus musculus



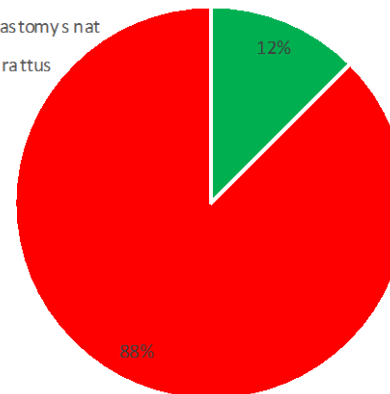
Yantala Haut

- Masto



YANTALA HAUT

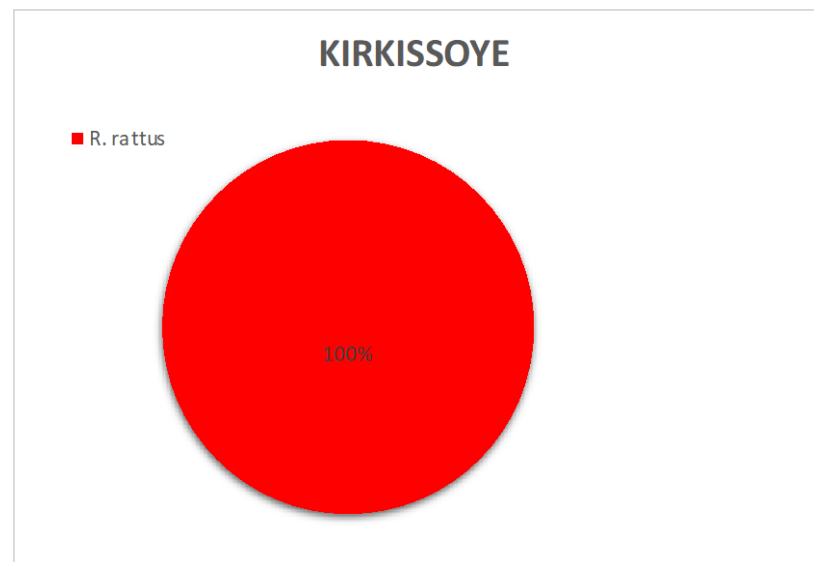
- Mastomys nat
- R. rattus



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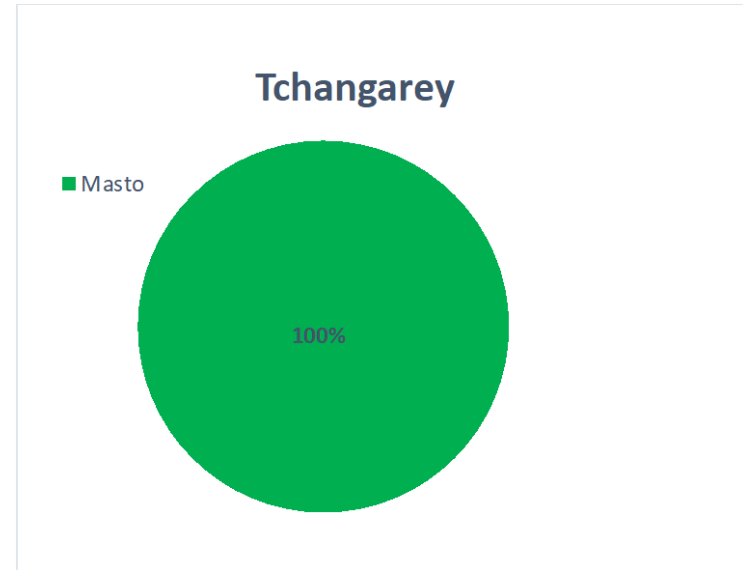
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Nigerien candidates sites : urban site

Presence/absence vs Abundance of *R. rattus* and *Mus*

From 2009-2013 (left) to 2021 (right)



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Route Filingué ; Bani Fandou ; Lazaret Nord ; Plateau

(100% Mastro)

Merci de votre attention





Thank you for your attention