



The spread of *Aedes albopictus* in Portugal: an update of its geographic and seasonal distribution

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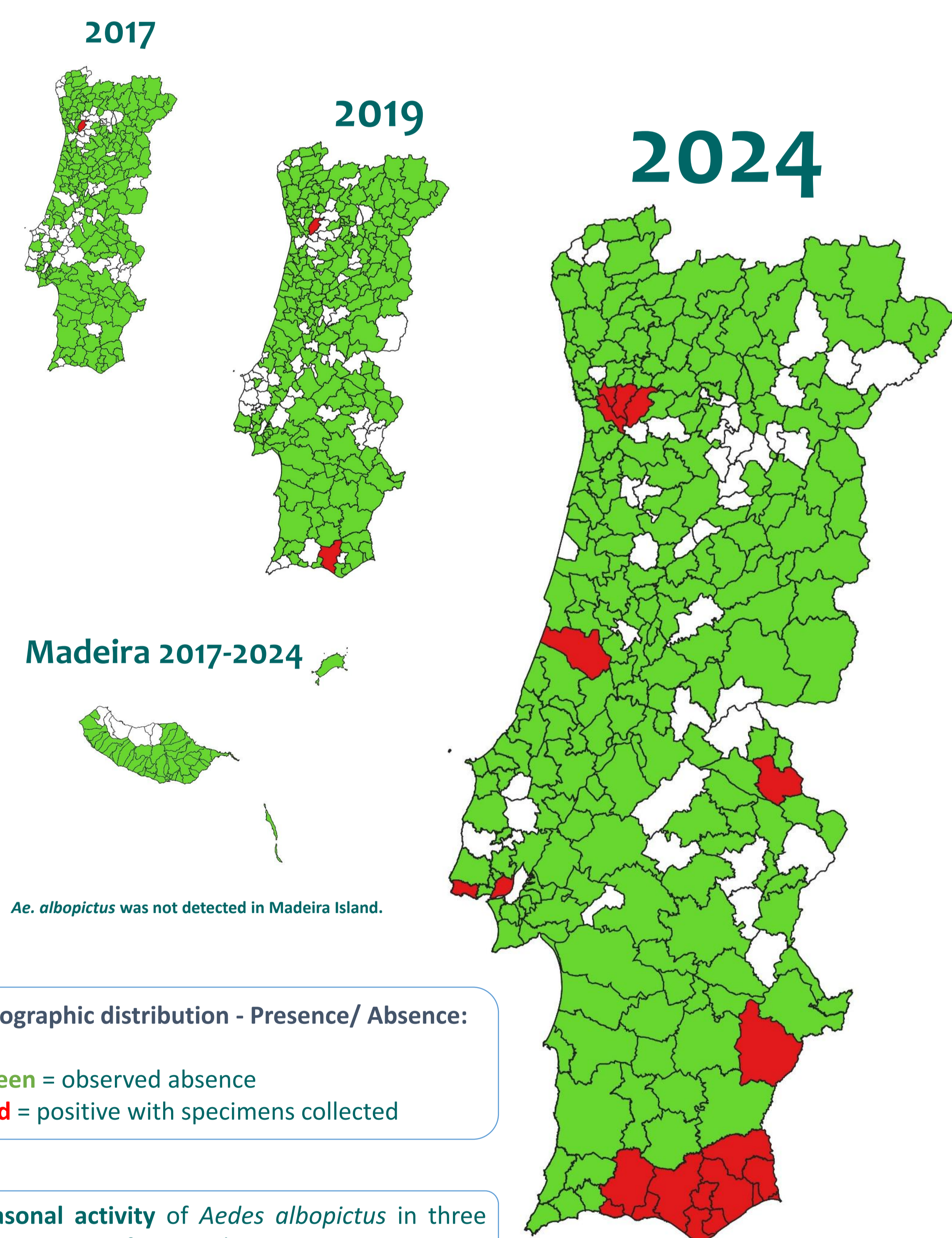
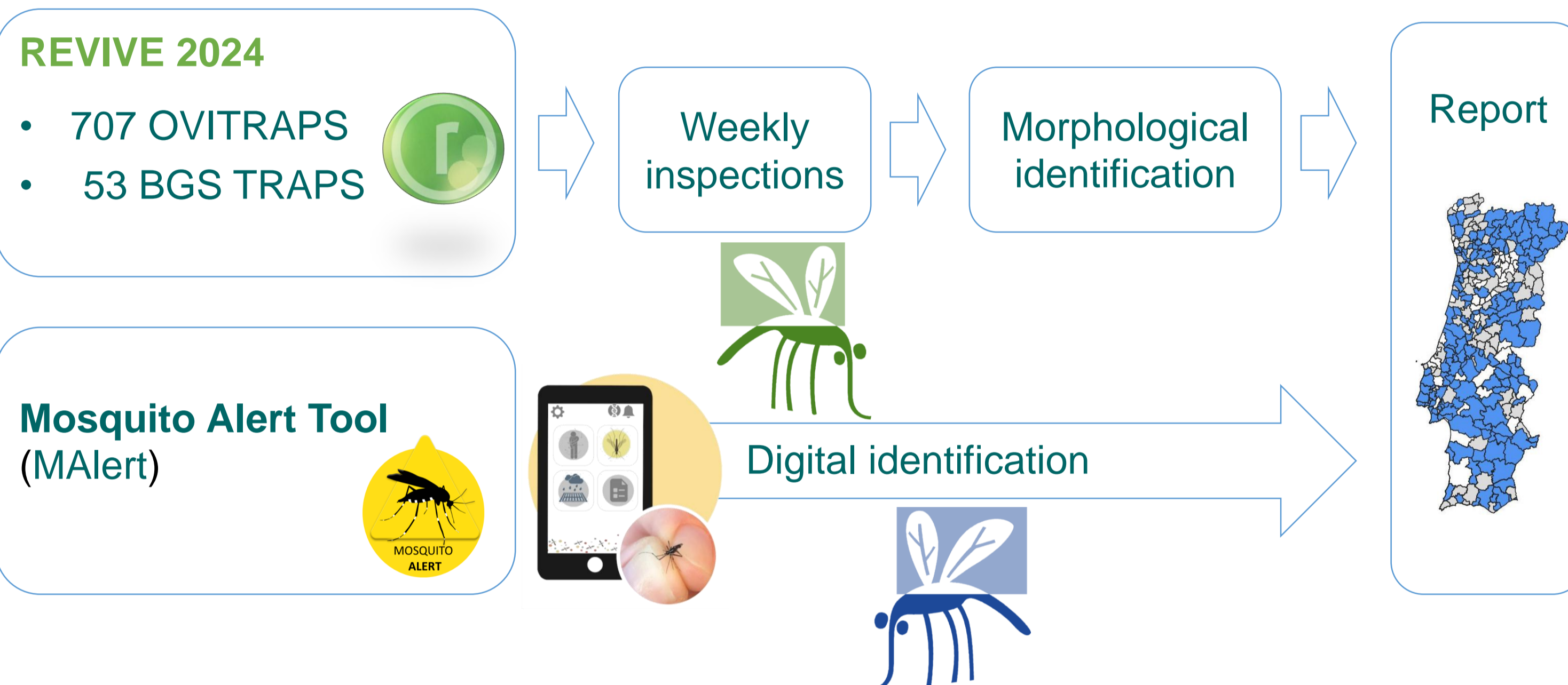
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INTRODUCTION

Over the last two decades, the invasive mosquito *Aedes albopictus* has spread across Europe. Portugal was the last country in southern Europe to report this species, which was first detected in 2017 under the National Vector Surveillance Network—REVIVE. Despite all the measures taken, its distribution has increased rapidly and in 2023, it was introduced in Lisbon, a major urban centre. As *Ae. albopictus* is a competent vector for dengue, Zika and chikungunya viruses, monitoring its geographic distribution and seasonal dynamics is crucial for public health risk assessment.

METHODS

Aedes albopictus populations have been monitored by REVIVE since 2017 in mainland Portugal and Madeira Island using an ever-expanding network of ovitraps and adult BG Sentinel traps (BGS, Biogents) placed with predefined criteria. Mosquito samples were collected on weekly inspections and sent to the laboratory for identification, processing and arbovirus screening.



MAIN RESULTS 2024

- ✓ 55,366 eggs and 2,143 adult *Ae. albopictus*
- ✓ 20 positive municipalities
- ✓ Establishment in Lisbon
- ✓ Malert reported activity in 3 municipalities
- ✓ Mosquito activity:
 - May – November = North region
 - April – November/ December = Central region
 - April – December = South region
- ✓ No pathogenic arbovirus found in mosquitoes

Years	Eggs	Adults	Arbovirus screening
2017		63	41
2018		119	9
2019	19004	449	160
2020	103465	534	196
2021	52000	797	589
2022	32711	1110	982
2023	56634	1282	682
2024	55366	2143	1257
Total	319180	6497	3916

DISCUSSION

Aedes albopictus is spreading in densely populated urban areas in Portugal, posing an increasing public health challenge. Community-based surveillance and innovative vector monitoring and control approaches for rapid response are essential to reduce the risk of mosquito-borne diseases. The positive effect of temperature on the seasonal activity of the adult population highlights the importance of climate change in affecting the bionomics of this species. Ongoing surveillance activities indicate that populations of *Ae. albopictus* established throughout the country are spreading to other regions of Portugal, raising concerns about future outbreaks of *Aedes*-borne diseases,

Given the ongoing spread of *Ae. albopictus* in mainland Portugal, it is essential to raise awareness of mosquito-borne diseases among the general public, healthcare professionals, and travellers and to implement an integrated management strategy to control *Ae. albopictus* abundance and dissemination.

REGION	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
NORTH (Porto Region)	2024					8th May						27th Nov	
	2023					10th May						11th Nov	
	2022					1st Jun						16th Nov	
	2021					5th May						10th Nov	
	2020							15th Jun				14th Oct	
	2019							5th Jun				23th Oct	
CENTER (Lisboa Region)	2024				23th Apr							28th Nov	
	2023									26th Sep		5th Dec	
SOUTH (Algarve Region)	2024				16th Apr								23rd Dec
	2023				5th Apr								18th Dec
	2022					6th May							6th Dec
	2021				20th Apr								20th Dec
	2020				29th Apr								17th Dec
2019					30th May							19th Dec	