VigiaVespa

Towards efficient mitigation of invasive hornet *Vespa velutina nigrithorax* (du Buysson, 1905), in PORTUGAL

The national **Active Surveillance Network** within the scope of the *Vespa velutina* Surveillance and Control Plan in Portugal

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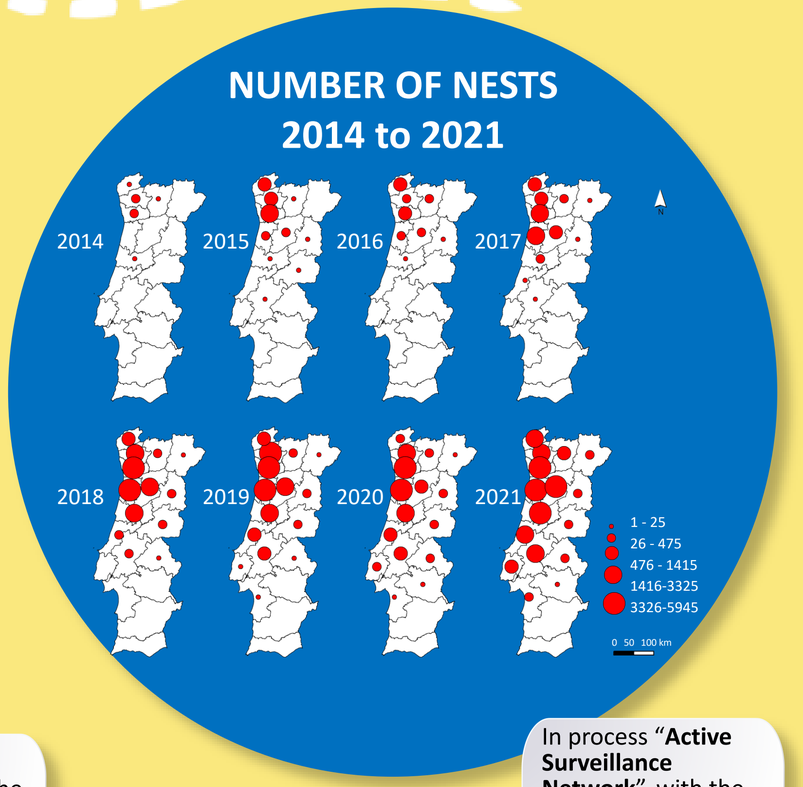
INTRODUTION

Invasive species are considered one of the greatest threats to the conservation of biodiversity and ecosystem services, putting at risk human health and economic activities. An example of a successful invasive species is the yellow-legged hornet, *Vespa velutina nigrithorax* (hereafter *V. velutina*). Originally from China, this species was first found in Europe in 2004 in the Bordeaux region of France. Since then, it has been expanding, being now present in ten western European countries, including Portugal. *V. velutina* was listed in the EU list of invasive alien species in 2014 (Regulation EU No 1143/2014 of the European Parliament and of the Council) and activities directed to its control can be carried out within a national management program of the Member States concerned. Since 2016 *V. velutina* has been considered by the European Union an invasive that requires monitoring and control.

After the detection in November 2011, of the asian hornet in Portugal, it rapidly dispersed throughout the northern coastal zone of the country, adapting easily in both rural and urban areas.



2011 – First detection of the Asian hornet - north-western province of Minho

2013 – Creation of an online platform (www.sosvespa.pt)

2014 – Since 2014 invasion spread at a rate of about 30 km/year

2015 – The government established an Action Plan for the Surveillance and Control of the Asian hornet

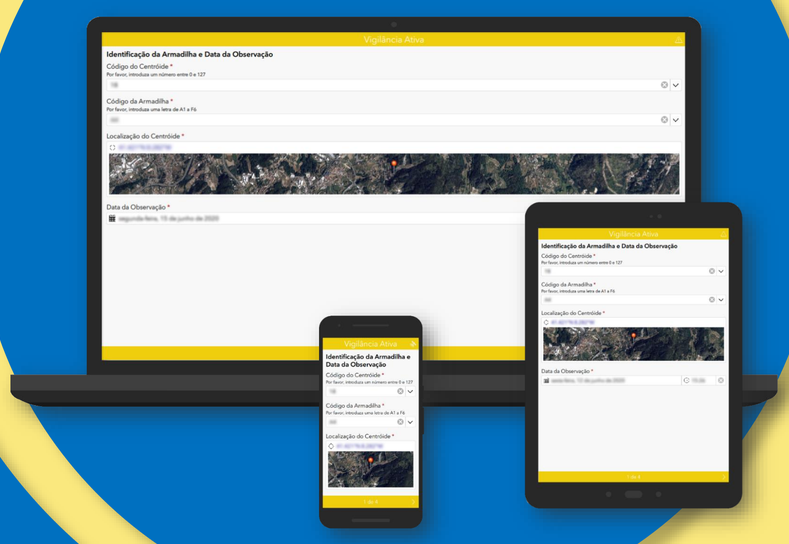
2017 – Creation of the Commission for the Monitoring, Prevention and Control of *V. velutina*

- **Passive surveillance** (nests detection and destruction)
- **Active surveillance** (insect monitorization)

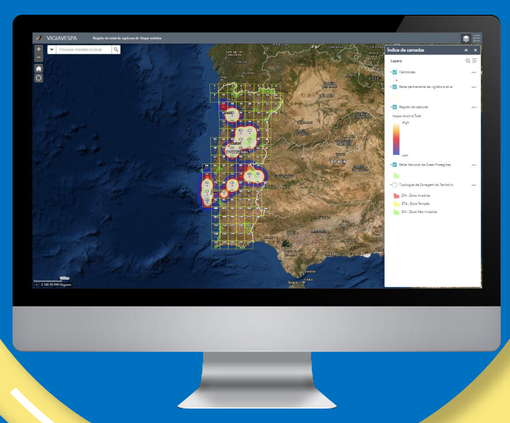
2019 – Government allocates funds for nest destruction - engagement of beekeepers associations in the beekeeping program

2021… – In process "**Active Surveillance Network**", with the identification of centroids, where it intends to install traps for *V. velutina*

APP FOR MOBILE DEVICES



INSIGHTS, DASHBOARDS, AND THEMATIC CARTOGRAPHY



https://www.iniav.pt/vigiavespa

VESPA VELUTINA ACTIVE SURVEILLANCE NETWORK

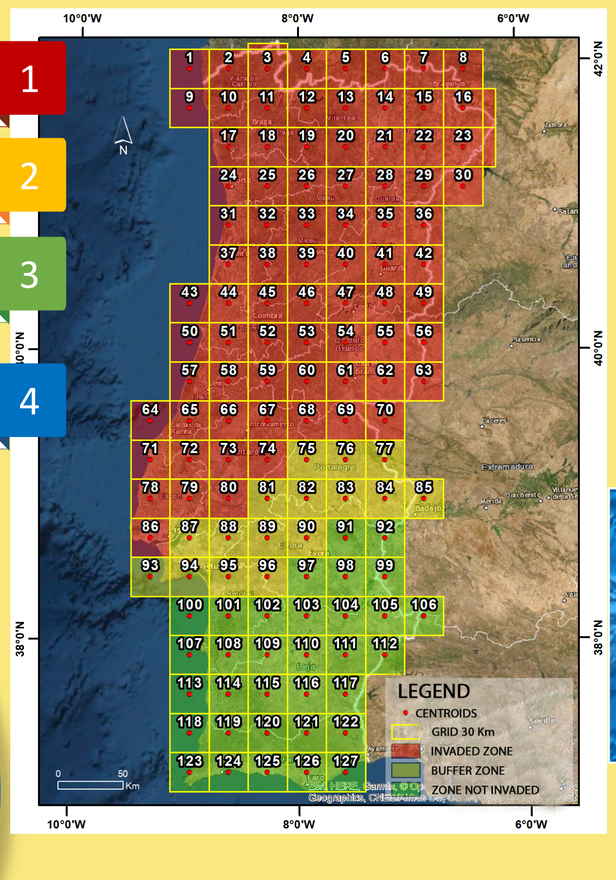
Installation of the National Active Surveillance Network within the scope of the Action Plan for the Surveillance and Control of *Vespa velutina* in Portugal

INVADED ZONE 1
2 traps per square (156 traps)

BUFFER ZONE 2
10 traps per square (160 traps)

ZONE NOT INVADED 3
4 traps per square (132 traps)

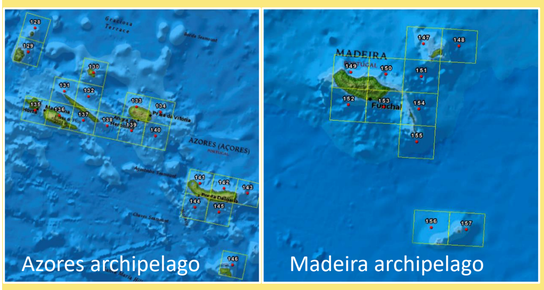
TOTAL of 448 traps on the national network 4



At September 2022 the network has:

- **3500** records
- **185** georeferenced traps
- **45** participating entities

PORTUGUESE ATLANTIC ISLANDS



CONCLUSION AND PERSPECTIVES

To the present and until de future, it's important improve information and technology through a multi-actor and multidisciplinary approach in adition with global polices in order to keep improving technology and the collection of new data on the invasive *V. velutina* to help and reinforce the actual Action Plan:

i) better knowledge of the species biology,

ii) more selective traps,

iii) more sustainable methods of monitoring and control.

The synergistic collaboration between scientists and the different stakeholders is crucial to advise local authorities to prioritize the implementation of early detection/eradication efforts like spring trapping for queens, nest removal and early detection and control of possible nascent populations.

National Institute for Agrarian and Veterinary Research

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