## *29/07/2020 - Looking for Invasive Mosquitoes in Europe: AIMSURV an EU-COST funded initiative*

*Aedes* Invasive Mosquitoes (AIMs) such as the Asian Tiger Mosquito (*Aedes albopictus*) have invaded parts of many European countries in recent years. They are disease vectors – they do not carry COVID-19 but they can carry disease pathogens like Zika, dengue, and chikungunya viruses, and can be abundant enough to cause a nuisance. All AIMs are able to breed in small water containers (i.e. used tyres, jars, etc.) and their eggs can be easily transported within such a container from one place to another. Adults can also be moved around in cars and lorries. The mosquitoes can therefore easily be spread by road transport. In addition, these vector species can be brought into Europe through good trades or passenger traffic and, once established, spread disease pathogens within Europe, where these pathogens are introduced by travellers coming back from an endemic country. Knowing where these AIM have established populations and how large these population are is crucial to better control them and to prepare for any disease outbreaks.

AIM-COST Action (https://www.Aedescost.eu) is a European funded project strengthening collaboration between academics, public health professionals and citizen scientists in Europe and neighbouring countries to monitor and control these pests. In summer 2020, AIM-COST Action mobilises 46 institutions from 27 countries across Europe to implement the first simultaneous pan-European surveillance of AIMs.

### Transboundary surveillance

**AIMSurv** 2020 combines conventional field surveillance and the use of the open access Citizen Science App **Mosquito Alert**. The conventional surveys use oviposition traps to count the eggs laid by *Aedes* females and adult traps, such as BG-Sentinel traps, to collect mosquito adults. Weekly samples will be implemented by each participant team in a minimum of three sites until the end of the mosquito season. The participants are also using the tool VECMAP® (Avia-GIS) that allows to collect and upload collective data directly from the field and further analysis by using modelling.

The **Mosquito Alert App**, allows citizen to personally contribute to the monitoring effort, by using their Mobile phone to report the presence of an AIM by sending a photo to a team of more than 50 expert entomologists for identification. It can also be used to report possible breeding sites, as well as simple biting activity.

**Mosquito** Alert has received more than 19,000 photos of mosquitoes since 2015. In Spain, where it has been implemented so far, the App has allowed experts to monitor the expansion of the tiger mosquito, and to discover new invasive species. The first evidence of *Aedes japonicas* in Spain was from a photo reported to Mosquito Alert. In five years, the initiative has managed to scientifically prove that citizen collaboration is useful and reliable for studying invasive mosquitoes and is an effective partnership for administrations and managers.

The App has now been updated to be exploited at a pan-European level and is being translated into the languages of the countries that are part of the AIM Cost Action, so that citizen from any European and neighbouring country can report observations of all four invasive *Aedes* species included in AIMSurv. **Mosquito Alert** can be downloaded from Google Play and other App stores.

Our institution (NAME) is participating in the AIM Surveillance 2020 due to the current situation of *Aedes* invasive mosquitoes in our area (every group explain their own situation in regards to AIM species and outbreaks of VBD).

Results from this effort of coordinated surveillance at international level are expected to provide relevant information about the presence/absence of AIMs in the different countries, as well as to give information about the periods of higher abundance of AIM populations in different regions of Europe and the Mediterranean Basin.

AIMSurv is coordinated by Dr. Miguel A. Miranda (University Balearic Islands, Spain), Dr. Dusan Petrić (Faculty of Agriculture Novi Sad, Serbia) and Dr. Francis Schaffner (FSConsultancy, Switzerland). The Mosquito Alert App surveillance is coordinated by Dr. Frederic Bartumeus (Centre for Advanced Studies of Blanes, Spain). AIM-COST is coordinated by Alessandra della Torre (Sapienza University, Rome, Italy) (JUST in case is needed)

You can follow the AIMSurv activities in our social networks using the hashtag #AIMSurv.