

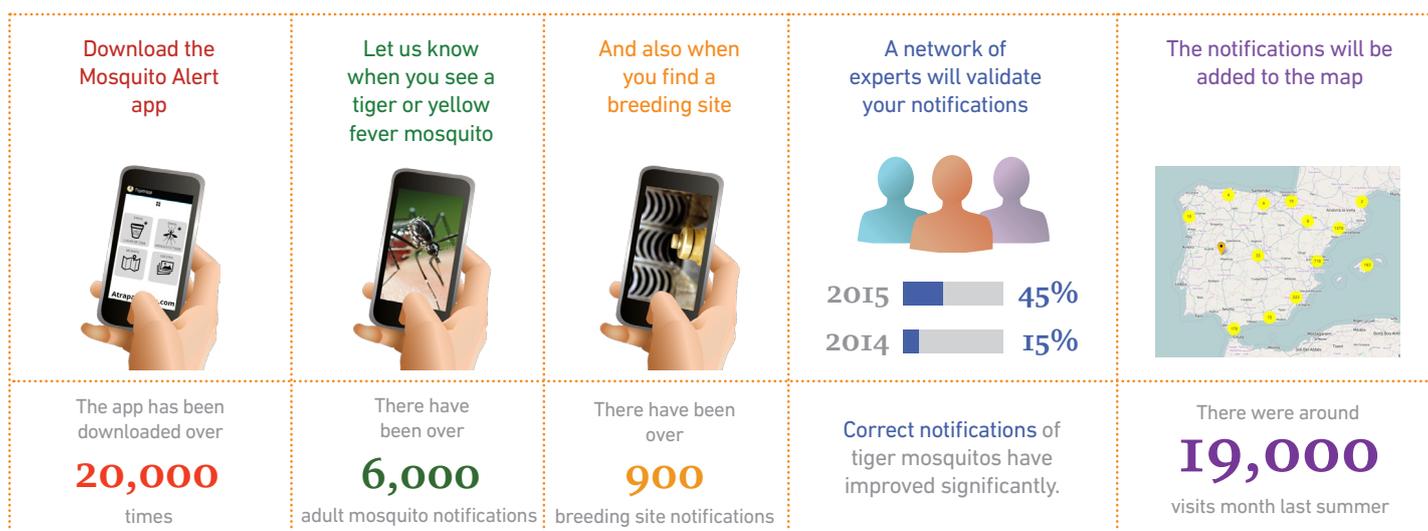
# MOSQUITO ALERT

A citizen science platform for the research, surveillance and control of disease-carrying mosquitoes



Foto: Roger Erija © 2014.

It offers a global tool to fight **Zika**, **Chikungunya**, **Dengue**, and **Yellow Fever**. With the **app Mosquito Alert** citizen scientists worldwide can report the occurrence and breeding sites of two disease-carrying mosquito species: the Asian Tiger mosquito (*Aedes albopictus*) and the Yellow Fever mosquito (*Aedes aegypti*). The project gathers citizen scientists, professional scientists and managers who ultimately work at minimizing the mosquito-borne disease risk.



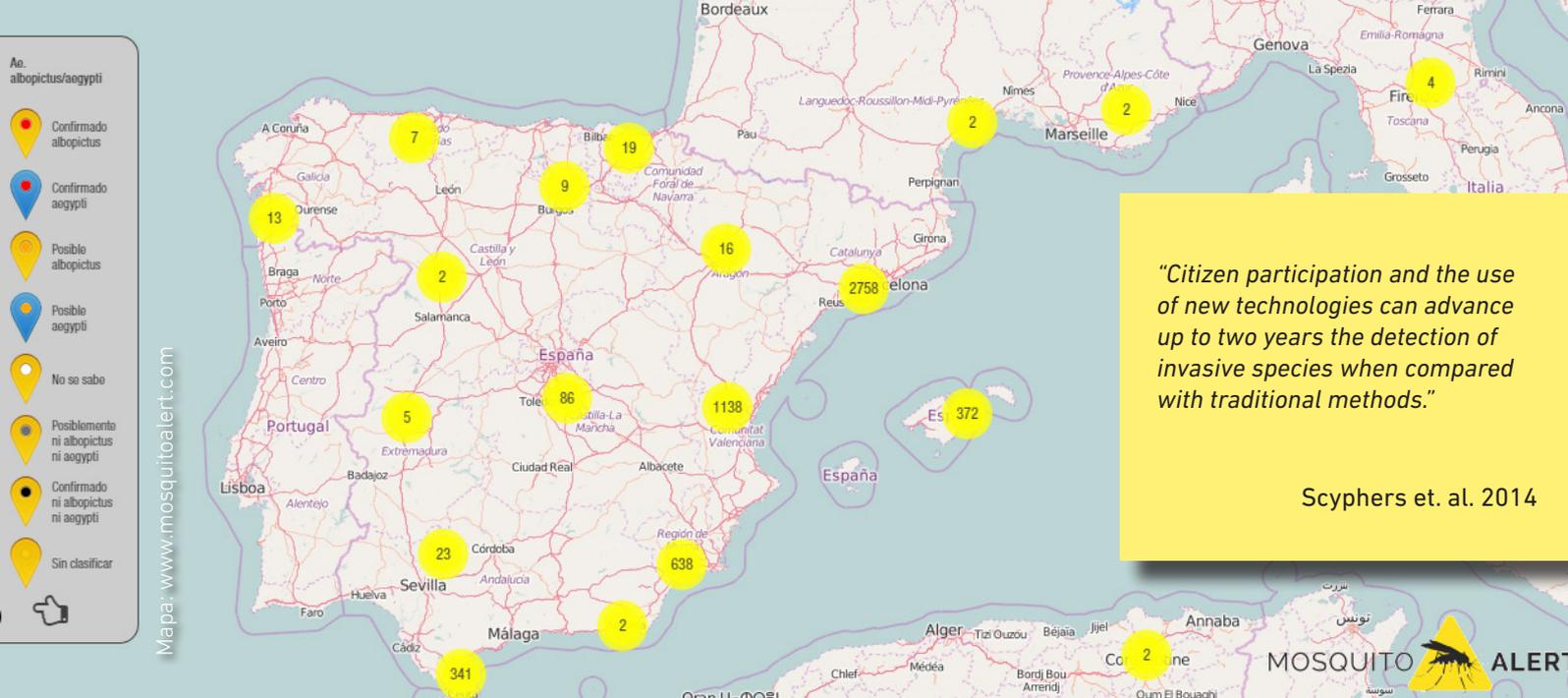
## EARLY WARNING SYSTEM AND SURVEILLANCE

Citizen scientists have sent observations of probable tiger mosquitoes in more than 360 Spanish municipalities, including many in which tiger mosquitoes had not been previously detected. One of the biggest impacts of the platform so far has been the discovery of the Asian Tiger mosquito in two major administrative regions in Spain (Andalusia and Aragón) (Delacour-Estrella et al., 2014; Delacour-Estrella et al., 2016). Combining Mosquito Alert data with mosquito trap surveillance networks in a given region significantly improves our understanding of the colonization routes and main mechanisms of local spreading.

## CONTROL AND ERADICATION

In the areas where the targeted mosquito species are established, public health and vector control agencies across Spain use real-time citizen science information in their control and eradication programs.

In 2015 20% of the Asian Tiger mosquito incidences received by the Public Health Agency of the city of Barcelona were Mosquito Alert reports, which generated specific actions of surveillance and control within the city. In Valencia 40% of the breeding sites were provided by the Mosquito Alert community.



## CITIZEN SCIENCE FOR PREDICTIVE MODELLING

Predictive modelling based on the combination of citizen science data and expert surveillance and control data offer a solid basis for long-term, cost-effective management strategies.

Citizen science adds statistical robustness and improves model predictions of the current and potential mosquito distributions and their spreading dynamics. It also helps on the prediction of the associated epidemiological risk of mosquito-borne diseases such as Zika, Chikungunya, Dengue, and Yellow Fever.



[www.mosquitoalert.com](http://www.mosquitoalert.com)

## EDUCATION AND AWARENESS-RAISING

These campaigns are necessary in the fight against these two disease vectors. Mosquito Alert promotes “learning by doing” activities and innovative workshops on corrective measures that can be taken at private households to help control their spread. Moreover, we are developing education programs to implement them at schools.

## SHARING A COMMON FRAMEWORK FOR DISEASE VECTORS

We are optimistic regarding the role of citizen science to address disease risks not only in Spain, but all around the world. Mosquito-borne diseases do not stop at borders and thus require global solutions. Thanks to a solid interdisciplinary team, we are now working to scale up the project to offer a worldwide tool. We are already collaborating with partners in Latin America, the United States and China.

If you are interested in implementing Mosquito Alert in your country or region and would like to be part of the Mosquito Alert community, please contact us.

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