

Report on the outcomes of a Short-Term Scientific Mission¹

Action number: CA17108

Grantee name: Giovanni Marini

Details of the STSM

Title: UK suitability for *Ae. koreicus* and *Ae. japonicus*

Start and end date: 03/10/2022 to 14/10/2022

Description of the work carried out during the STSM

Description of the activities carried out during the STSM. Any deviations from the initial working plan shall also be described in this section.

(max. 500 words)

The activities carried out during the STSM followed the initial working plan, there were no particular deviations. We first reviewed the available literature regarding the influence of temperature on *Ae. koreicus* and *Ae. japonicus* mosquitoes. We then decided how we will implement the future modelling activity and the sources we are going to use to collect temperature data to be used in the models. More specifically, we decided to carry out our planned model simulations using the “dynamAedes” R library, which was developed also thanks to the AIMCOST initiative. Temperature data will be collated from a free-to-use online global climate dataset compiled by Imperial College researchers.

Furthermore, I gave a seminar at the hosting department (Infectious Disease Epidemiology) presenting the main latest studies I carried out at my institute (Fondazione Edmund Mach) on *Aedes* invasive mosquitoes. This was an interesting chance to discuss about mosquito biology and *Aedes*-borne pathogens with several infectious diseases’ experts.

Description of the STSM main achievements and planned follow-up activities

¹ This report is submitted by the grantee to the Action MC for approval and for claiming payment of the awarded grant. The Grant Awarding Coordinator coordinates the evaluation of this report on behalf of the Action MC and instructs the GH for payment of the Grant.

Description and assessment of whether the STSM achieved its planned goals and expected outcomes, including specific contribution to Action objective and deliverables, or publications resulting from the STSM. Agreed plans for future follow-up collaborations shall also be described in this section.

(max. 500 words)

We are going to collate temperature data and carry out the planned modelling efforts in the next months, aiming at presenting them in a scientific publication. Our findings will help to better identify areas potentially suitable for invasion from new *Aedes* species in the United Kingdom. Such findings might be crucial to design mosquito surveillance in not-yet invaded areas and plan possible intervention strategies.

The STSM achieved fully its planned goals. We are starting a new scientific collaboration which in the future might be expanded to cover other mosquito species and related transmitted pathogens of European interest, such as West Nile virus. We plan to co-supervise together some master and PhD students, enrolled at Imperial College, during the next years. In particular, to the latter will be offered the chance to spend some time abroad visiting Fondazione Edmund Mach to carry out some laboratory experiments on mosquito biology which will be planned in the future.