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Vector control strategies in the framework of the fight against emerging arboviruses: The example of *Aedes albopictus* management in Spanish Mediterranean cities

Mosquitoes are considered as the most dangerous ecto-parasites of the world. The ubiquity of these insects, intense haematophagic behavior of females, high bioecological plasticity of many species and the role as vectors of a great variety of pathogens, has made this animal group a serious public health hazard for centuries. Nowadays the Asian tiger mosquito, *Aedes albopcitus*, is probably one of the best exponents of this concern. This invasive species recently detected in the last decades in new continents such as America, Africa, Oceania and Europe, is a potential vector of several arboviruses like dengue (DENV), zika (ZIKV) or chikungunya (CHIKV) in urban and periurban environments. These viruses are currently emerging worldwide, especially in tropical and temperate regions where vectors are capable of proliferating and reach high population densities. In Spain, the species was first collected in 2004 and currently is well distributed across the Mediterranean fringe. It is well established in some of the most important cities of the country like Barcelona, Valencia and Murcia, among others. Simultaneously in Spain DENV, ZIKV and CHIKV are diseases frequently imported by tourists and immigrants infected in endemic countries. This context of increasing incidence and spread of potential local vectors, high infection rates of these arboviruses in tropical countries and globalization, that facilitates quick and continuous human movements all over the world, has motivated the Spanish Ministry of Health to declare DENV, ZIKV and CHIKV as priority notifiable diseases in our country. Our presentation is focused on how this conjunction of epidemiological and entomological issues is approached based on integrative vector control strategies. The entomological interventions surrounding imported cases of DENV, ZIKV and CHIKV in order to evaluate (surveillance-monitoring) and minimize (control) the risk of disease amplification at local scale will be a mandatory topic for all public administrations involved in Municipal Public Health during the next years.

Speaker Biography

Ruben Bueno Mari finished his PhD in 2010 from the University of Valencia (Spain) and obtained the Special Doctorate Award in the field of Natural Sciences two years later. He is an active Member of several scientific associations at national and international level, highlighting his role as Member of the Board of the European Mosquito Control Association (EMCA). He also collaborates with several scientific journals as member of the Editorial Board, is an Expert Advisor of the Iberoamerican Society of Scientific Information (SIIC) and has published more than 60 scientific publications in journals related with the fields of medical and veterinary entomology, applied zoology and public health. He currently cooperates with several universities and other academic institutions in superior teaching issues related with his field of expertise (medical entomology, vector control and vector-borne diseases) and is the Head of the Department of Research and Development (R+D) of a leading company in environmental health called Laboratorios Lokímica.

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