

The epidemiology of *Culicoides*-borne diseases in the Indian Ocean: Examples of the Bluetongue and Epizootic Hemorrhagic Disease fever viruses in La Reunion Island**C. Garros, Y. Grimaud, L. Veron, F. Boucher, S. Benkimoun, J. Hoarau, A. Tran, H. Guis, E. Cardinale and C. Cêtre-Sossah***Cirad UMR ASTRE, CYROI, 2 rue Maxime Rivière, 97490 Ste Clotilde, La Réunion, France*

Bluetongue and epizootic hemorrhagic disease viruses are recognized worldwide as important vector-borne viruses with major consequences on livestock trade and breeding. They are both transmitted by certain small hematophagous biting midge species belonging to the *Culicoides* genus, to cattle, sheep and goats. If the epidemiological situation in epizootic territories has been recently widely studied after massive outbreaks in Europe, endemic areas have been neglected. In this presentation, we will review three studies implemented between 2016-2018 in La Réunion Island to give better insights to the local situation: (i) a virological and serological survey on cattle to identify the two virus dynamics and prevalence, (ii) an entomological study on *Culicoides* species diversity and seasonal dynamics, and (iii) a virus screening in *Culicoides* species to identify and characterize vector species of both viruses, the level of infection in wild species populations and virus dynamics in *Culicoides* populations. Altogether, these three studies helped to have a better understanding of the epidemiological situations in the island. Five *Culicoides* species are described on the island, presenting an altitudinal gradient and 4 species are implicated in both virus transmissions. Seasonal dynamics is particularly marked for 3 species. Therefore, bluetongue might be considered as an endemic disease with continuous virus circulation, limited clinical cases and high serological prevalence while Epizootic hemorrhagic disease appeared as an epizootic disease with seasonal transmission patterns.