E-SOVE

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Arthropod Vector Science for the benefit of society: Educate, Empathize, Engage

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PROGRAM AND ABSTRACTS

Update in the geographical distribution of the invasive tick *Hyalomma marginatum* in South of France: first attempts to identify factors favoring its establishment

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Hyalomma marginatum, the main tick vector of Crimean-Congo Hemorrhagic Fever virus (CCHFv) in the Mediterranean Basin, has been reported for several decades in Corsica Island. However, its establishment in continental France is much more recent. Viable tick populations were observed for the first time in 2015; previous mentions only concerned isolated specimens that could have been likely introduced through bird migrations or terrestrial ungulate translocations. In order to investigate the current geographical distribution of this tick species in south of France, two sampling campaigns were conducted at spring in 2017 and 2018. More than 80 horse structures were visited, since recent study conducted in Corsica demonstrated that horses are the most likely hosts for adult parasitic stages *of H. marginatum* and constitute good sentinels to detect its presence. We targeted structures with shrubby and grassy pastures for horses as they are considered suitable habitats for free-living stages of *H. marginatum*. During visits, the sampling pastures and the surrounding natural habitats were described and animal owners were questioned concerning their tick control practices, as well as animal movements as possible pathway for tick introduction. Combined with climatic conditions (at least temperature and humidity), all these parameters were considered as explanatory variables for modelling the occurrence and relative abundance of *H. marginatum*. Against all expectations, *H. marginatum* was detected among the entire Mediterranean region from the Pyrénées-Orientales (Spain border) to Var at the east. Local heterogeneity was highlighted with main presence hotspots around Perpignan, Montpellier, and Hyères, where the tick was fully absent from Camargue and Plain of Crau. Modelling analyses are under progress and results will be presented at the E-sove conference. As *H. marginatum* may have not filled yet its entire ecological niche, possible approaches to monitor this invasion process will be discussed.