

# TTP.10

10th Tick and Tick-Borne  
Pathogen Conference



29 August–2 September 2022  
Murighiol, Danube Delta, Romania



**Elanco**

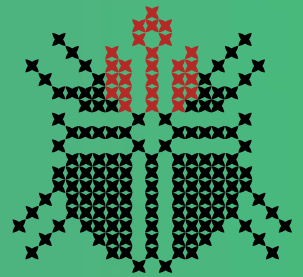
# Abstracts

[www.zooparaz.net/ttp10](http://www.zooparaz.net/ttp10)



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## Platinum



## Gold



## Silver



## Bronze

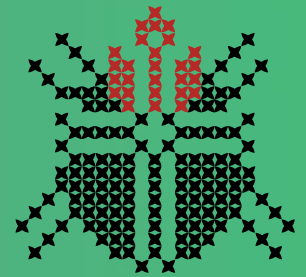


## Partner



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# POSTERS (P01-P55)



**P19 The *Hyalomma marginatum* holobiont as a part of the Holis-Tiques project aiming at establishing the invasion history, the spread and associated risks**

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*Hyalomma marginatum* is an endemic tick species in Mediterranean countries. Its area of distribution keeps expanding and has reached the South of France (region Occitanie) in 2015. *H. marginatum* is known as a vector of pathogens of interest in veterinary and human health, the most concerning *H. marginatum*-borne pathogen being the Crimean-Congo fever virus. Bacteria from genera *Rickettsia* and *Anaplasma* as well as the *Theileria equi* parasites are other pathogens *H. marginatum* is known to carry. It is within this context that reconstructing *H. marginatum* invasion history and assess associated risks has become a necessity for the tick control. The Holis-Tiques project founded by “Défi clé RIVOC région Occitanie” was built to handle this challenge. The scientific questions are spread into four work packages managed by several partner experts. Massive ticks sampling campaigns following different conditions are planned in order to provide the biological material necessary to cover the entire project. To get into the bottom of the subject, *H. marginatum* spread in Occitanie will be evaluated and mapped in time (2016-2022), and space. Key factors such as development and survival determinants -potentially explaining its invasion capacity- will be investigated according to experimental cages on the field assigned to different conditions (light, shadow, temperature, hygrometry) and will allow to feed distribution models. Moreover, potential genetic signatures associated to *H. marginatum* expansion will be highlighted by population phylogeographic and genetic studies. Since the tick is expanding, pathogen dissemination issues also raise a concern. About 40 pathogens (bacteria, virus, parasites) will be screened by the Fluidigm® technology in order to monitor pathogens distribution in space and time. On the other hand, *H. marginatum* microbiota have rarely been examined. The Holis-Tiques project will therefore assess the spatio-temporal dynamics of the *H. marginatum* microbiota. Combining all these microbial data, network analyses will be performed and studied to identify potential interactions between microbiota and pathogens on the same individual tick. Potentially positive or negative correlation patterns will help identifying how the microbiota can interfere with a given pathogen. To sum up, the Holis-Tiques projet will bring key information and knowledge about how *H. marginatum* settled in the south of France, what factors are implicated in its spread, will allow raising the sanitary risks and bring new information about the micro-organisms inhabiting the tick, potentially interfering with pathogens.