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Detection of *Rickettsia africae* in ticks and cattle in Côte d'Ivoire by real-time PCR

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ABSTRACT
Objective: Since ticks capable of transmitting *Rickettsia africae*, which causes African tick-bite fever, are present in Côte d'Ivoire, this study aims to investigate the circulation of this bacterium in ticks and cattle in Côte d'Ivoire.
Methodology and Results: Ticks and blood samples collected from cattle in all cardinal points of Côte d'Ivoire were tested for the presence of *Rickettsia africae*. Samples were tested for the presence of *R. africae* by real-time PCR using a primer and probe set targeting the *poT15-dam2* gene. Although no blood sample tested positive for *R. africae*, 43.67% (138/316) of the tick pools were positive for the same pathogen. The majority of positive pools came from Korhogo (53/138), followed by Bondoukou (39/138), and Abidjan (33/138). On the contrary, Bouaflé (6/138) and Man (7/138) had the lowest number of positive pools. Of the positive tick pools, 69.56% were *Amblyomma variegatum*, 13.77% *Rhipicephalus (Boophilus) microplus*, 10.86% *Rhipicephalus sanguneus*, 0.72% *Hyalomma impeltatum*, 0.72% *Rhipicephalus (Boophilus) decoloratus*, 1.45% *Hyalomma spp* and 1.45% *Rhipicephalus spp*.
Conclusion and applications of results: The results of this study show that *Rickettsia africae* circulate in a wide range of tick species from the five geographic areas of the Côte d'Ivoire and clinicians should be aware that this rickettsia has the potential to cause febrile illness in the human population. Indeed, better diagnostic capacities such as rapid tests, which could be used in high-risk rural areas, would make it possible to detect and treat these rickettsioses. It would also reduce the morbidity associated with febrile illnesses and overtreatment with ineffective drugs used for the treatment of febrile illness syndrome, such as antimalarials and arboviruses in Côte d'Ivoire. In addition, it is necessary to strengthen collaboration between veterinarians and clinicians and biologists while contributing to the dissemination of the so-called « One Health » approach. Finally, make people at risk aware of the role of tick vectors.
Key words: *R. africae,* tick, bovine, zoonotic, Côte d'Ivoire