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## Letter to the editor

# Serological evidences suggest *Borrelia burgdorferi sensu lato* infection in Cuba

Dear Editor,

We would like to thank Dr R. Dessau for his letter to the editor and his interest in our work.

One of his points is that there is no evidence presented in the article to suggest the presence of a relevant tick vector in the Cuban village. We agree that no mention of potential tick vectors appeared in the article. *Rhipicephalus sanguineus* and *Amblyomma cajennense* are the ixodid ticks that could be implicated in human health in Cuba.<sup>1</sup> *A. cajennense*, a three-host tick, is the tick species that we suspect to be the vector of *Borrelia burgdorferi sensu lato*, because it feeds on a large spectrum of hosts such as the known vectors of *B. burgdorferi sensu lato* that belong to the *Ixodes* ticks, and because borrelial DNA has been reported in this tick species in Mexico and Brazil.<sup>2,3</sup> However, we are aware that its vectorial capacity has not been demonstrated to date. Another possible vector could be *Ixodes capromydis*, the only species of the genus *Ixodes*

reported in Cuba. This tick species feeds on autochthonous rodents (*Capromys* spp.).<sup>1</sup>

The low prevalence of antibodies estimated in the population at risk may be due to low exposure to infected ticks, to the possibility that the Cuban ticks could be infected at a low rate with spirochetes, or the presence of a new *Borrelia* species.

Since the article in question was published, we initiated another study comparing the IgG antibody response measured in the population at risk with the response in a blood donor cohort from Havana (n = 114) using the same test. We observed important differences in the number of bands and in the frequency of recognition and intensity of the borrelial protein bands on the immunoblots [Figs. 1 and 2 (compare Fig. 2 with Fig. 1 from Braz J Infect Dis 2012; 16(1): 82-5)]. This demonstrates that the population at risk had contact with *Borrelia* spp., and that the detected antibodies are not part of a non-specific background reactivity.

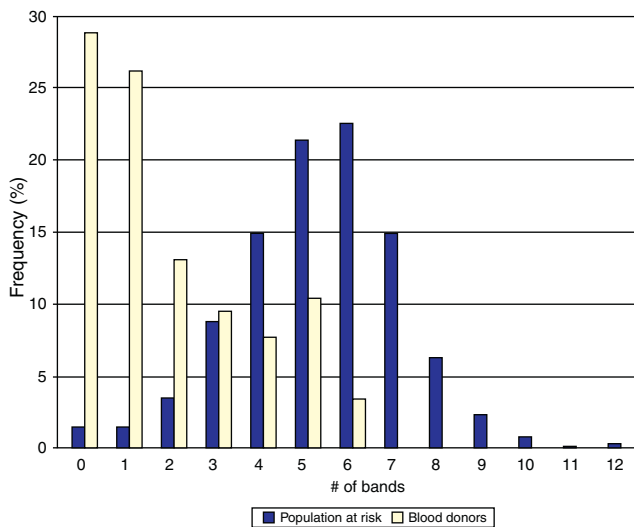


Fig. 1 – Frequency of the protein band number recognized by Western blot on the sera from population at risk and from blood donors.

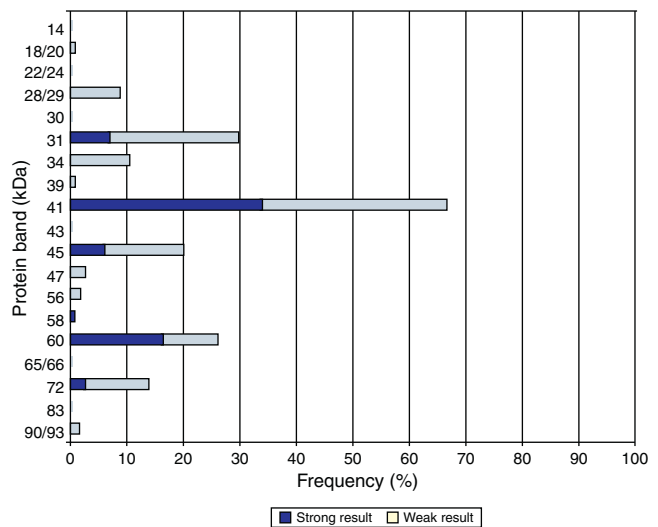


Fig. 2 – Frequencies of recognition and intensity of the borrelial protein bands on immunoblots (n = 114) using sera from blood donors.

Although it was mentioned in the article that relapsing fever is not observed in Cuba, this does not mean that relapsing fever spirochetes are not present in ticks, considering that various species of *Argasidae* have been reported in this country.<sup>1</sup> The presence of anti-*Borrelia* antibodies in a population at risk encouraged us to pursue our investigations at the ecological level.

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### Conflict of interest

All authors declare to have no conflict of interest.

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