# **Titre d’article**: Infection with Babesia canis in dogs in the Algiers region: Parasitological and serological study

**Abstract :**

Background and Aim: Canine babesiosis is a vector-borne disease transmitted by ticks of the Ixodidae family. The effects of infection in dogs can range from the subclinical to the severe lethal form. This study aimed to make an original contribution to the knowledge of circulating species of Babesia spp. in dogs in the region of Algiers as well as mechanisms and risk factors for their transmission. Materials and Methods: An epidemiological study was carried out on 189 blood samples taken from dogs from April 2015 to January 2016. The samples taken underwent parasitological by Giemsa-stained blood smear and serological analyzes by indirect fluorescent antibody test (IFAT). The ticks were looked on all the dogs taken. Results: Giemsa-stained blood smears revealed the presence of two groups of parasites of the genus Babesia: Large Babesia (3/25, 12%) and small Babesia (22/25, 88%). The IFAT at a dilution of 1/32 showed an overall seroprevalence with Babesia canis of 17.98% (95% confidence interval 11.53-22.46). The distribution of the antibody titers for the positive samples showed that of the 34 positive sera with a titer ≥1/32, 28 sera remained positive at a dilution of 1/64 (14.81%), 22 at a dilution of 1/128 (11.64%) and 15 sera remained positive at a dilution of 1/256 (7.93%). Although seroprevalence varied according to canine population (20% and 19.49% in pet dogs and canine pound dogs, respectively, and 6.66-0% in farm dogs and hunting dogs, respectively), statistical analysis showed no significant differences between populations. The antibody titers obtained after several dilutions showed that 22 canine pound dog sera remained positive at a dilution of 1/128 compared to pet dogs and farm dogs which ceased to be positive at the dilution of 1/64. The comparison between the two diagnostic methods showed a strong agreement between the parasitological examination by blood smear and the serological method by IFAT. However, IFAT was much more sensitive. The analysis of risk factors, which may influence B. canis seroprevalence, has shown the influence of age, tick presence, and season. Finally, of the 242 ticks collected from a total of 59 dogs, only one tick species was identified, Rhipicephalus sanguineus.