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First Serosurvey of Peste des Petits Ruminants, Rift Valley Fever and Brucellosis in Tiris-Zemmour Region, Mauritania

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Abstract

The Tiris-Zemmour Region, in the North of Mauritania, is one of the less investigated areas of the country in terms of animal health even if it is epidemiologically interesting due to high animal presence mainly related to seasonal transhumance movements.

The aim of this study was to investigate the seroprevalence of Peste des Petits Ruminants (PPR), Rift Valley Fever (RVF) and Brucellosis in sheep, goats and camels in this region. Even if the first two were already reported in Mauritania, no data are available for the north of the country whereas Brucellosis was absent since 2014.

From September 2016 to February 2017, 916 blood samples (229, 277 and 410 from sheep, goats and camels, respectively) were collected in the departments of Zouérat, F'derick and Bir Moghrein. Frozen sera were sent to the National Centre of Animal Researches of Nouakchott, for laboratory analyses. Presence of PPR antibodies were investigated using the ELISA kit ID Screen® PPR Competition (IDVet); IgG antibodies against RVF Virus were tested by the ELISA ID Screen®RVF Competition Multi-species (IDVet) and Rosa Bengal Test (RBT) was used to reveal *B. abortus* presence. Sixty-seven out of 158 sheep (42,4%;95 % CI:34,6%-50,5 %) and 88/232 goats (37,9;95 % CI: 31,7%-44,5 %) tested positive to PPR while all camels resulted negative. The seroprevalence of RVF IgG was 7,7 % for goats (95%CI:3,6%- 14,1 %) and 11,8 % for camels (95%CI:6,4%-19,4 %). None of tested sheep was positive.

Regarding Brucellosis, all samples resulted negative in all species investigated. This study reveals a PPR seroprevalence in line with previous studies performed in Mauritania. This data could be overestimated since this country has taken part of the global eradication programme of PPR which also include animal vaccination and this test is not able to differentiate between infected and vaccinated ones. The only RVFV IgG presence indicate a previous contact with the virus, but not an active infection. Finally, the absence of *B.abortus* was confirmed. This study shows the importance to keep on monitoring health status of animals in Tiris-Zemmour since animal transhumance South-to-North could increase infectious diseases presence raising concern for both human and animal health, also considering some of them are zoonosis.

Keywords: Brucellosis, peste des petits ruminants, Rift Valley fever, seroprevalence

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