FIRST SEROSURVEY OF PESTE DES PETITS RUMINANTS, RIFT VALLEY FEVER AND BRUCELLOSIS IN TIRIS-ZEMMOUR REGION, MAURITANIA

C. LOVITO[1], B. DUMBIA[2], A. BEZEID O. ELMAMY[2], M.O. ENDIDI[3], B. YAHYA[2], K. ISSELMOU[2], M. GOMARASCA[4], G. ANGELONI[1], S. DI LELLO[1,5], G. TERRACCIANO[6], M. CARMINATI[1,5]

1 SIVtro Veterinari Senza Frontiere Italia, viale dell'Università10, Padua (Italy);
2 Office National de Recherches et de Développement de l'Elevage, Nouakchott (Mauritania);
3 Delegation de l'Elevage di Zouerate, Tiris Zemmour (Mauritania);
4 Vétérinaires Sans Frontières International, Avenue Paul Deschanel 36, 1030 Schaerbeek (Belgium);
5 Africa '70 NGO, Via Missori 14, 20900 Monza (MB) (Italy);
6 Experimental Institute of Zooprophylaxis of Lazio and Tuscany, S.S. dell'Abetone e del Brennero 4, 56123 Pisa (Italy).

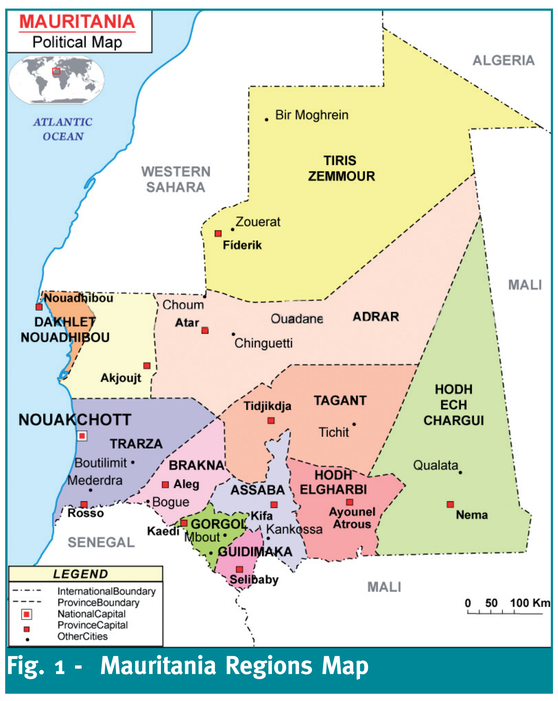


Fig. 1 - Mauritania Regions Map

Introduction

The Tiris-Zemmour Region, in the north of Mauritania (Fig.1), is one of the less investigated area 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.

Peste de Petits Ruminants and Rift valley Fever were already reported in Mauritania but no data are available for the north of the country whereas Brucellosis was absent since 2014.

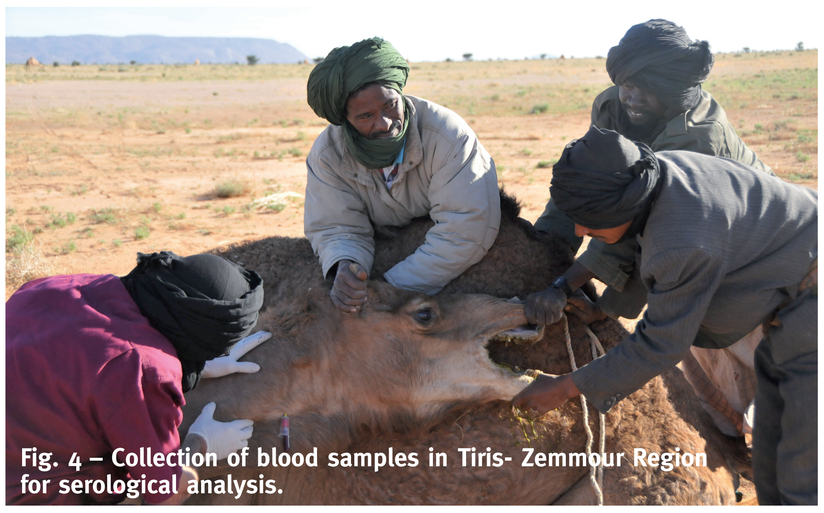


Fig. 4 – Collection of blood samples in Tiris- Zemmour Region for serological analysis.

The aim of study

The aim of this study was to investigate the seroprevalence of:
- **Peste des Petits Ruminants (PPR)**
- **Rift Valley Fever (RVF)**
- **Brucellosis**

in sheep, goats (Fig.3) and camels (Fig.2) in Tiris-Zemmour Region.

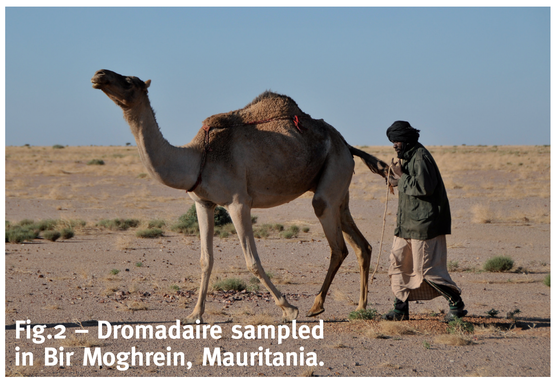


Fig.2 – Dromadaire sampled in Bir Moghrein, Mauritania.


Fig. 3 – Sheep sampled in Bir Moghrein, Mauritania.

Materials and methods

From September 2016 to February 2017, a total of 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 (Fig.4).

Frozen sera were sent to the National Centre of Animal Research of Nouakchott, for further laboratory analyses.

Presence of PPR antibodies were investigated using the ELISA kit ID Screen® PPR Competition (ID-Vet); 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 (Fig.5).

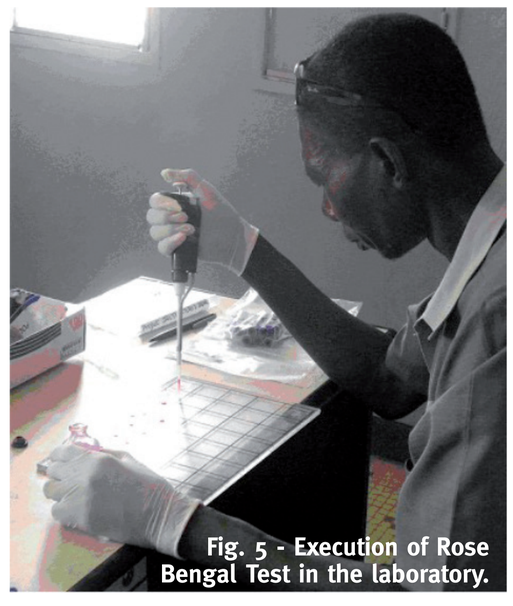


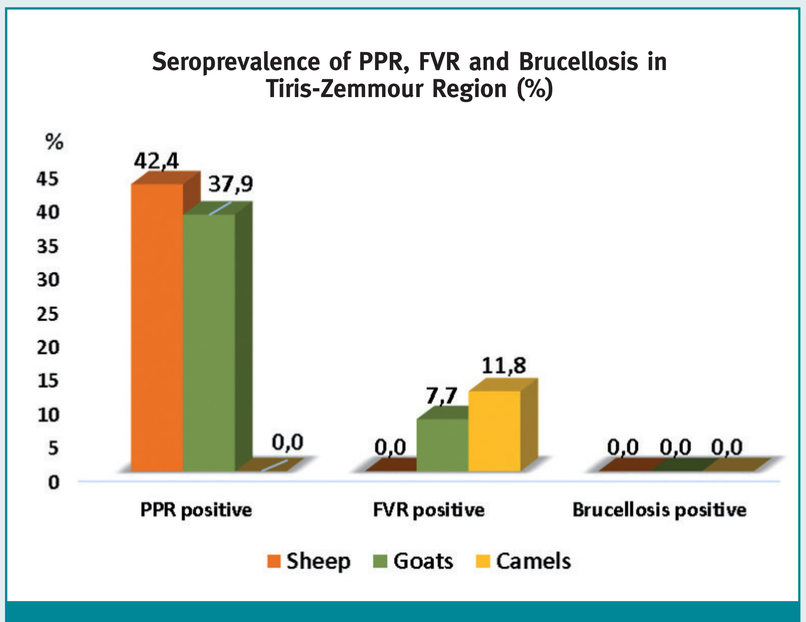
Fig. 5 - Execution of Rose Bengal Test in the laboratory.

Results

67 out of 158 sheep (42,4%; 95% CI:34,6%-50,5%) and 88 out of 232 goats (37,9%; 95% CI: 31,7%-44,5%) tested positive to PPR while all camels result negative.

The seroprevalence of RVF IgG was 7,7% for goats (95%CI:3,6%-14,1%) ad 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 (Graphic 1).



Graphic 1 - Percentage of sheep, goats and camelids positive to PPR, FVR and Brucellosis respectively.

Discussion and conclusion

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. 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, about which animal transhumance South-to-North could play an important epidemiological role.