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## INTRODUCTION

Equine piroplasmosis is a disease caused by *Theileria equi* and *Babesia caballi*, which affects horses, donkeys and mules in tropical and subtropical regions worldwide<sup>(1)</sup>. The disease is transmitted mainly by tick vectors such as *Rhipicephalus microplus*, *Amblyomma cajennense* and *Dermacentor (Anocentor) nitens*. Infection can also occur via iatrogenic blood transfer (Figure 1)<sup>(2)</sup>.

This disease causes significant economic losses in the equine industry associated with high costs of treatment, poor athletic or working performance, restriction in national and international mobilization and death of infected equids in the acute phase of the disease<sup>(3)</sup>.



Figure 1. a. *Theileria equi* and *Babesia caballi*, b, c, d. Equids, e. Tick infestation, f, g, h. Iatrogenic blood transfer.

## OBJECTIVE

The objective of this research was to determine the seroprevalence and risk factors associated with equine piroplasmosis in the regions of Sotavento, Papaloapan and Los Tuxtlas in the state of Veracruz, Mexico.

## MATERIAL AND METODS

• **Study site:** The study was conducted in a total of 36 municipalities in the southeastern state of Veracruz; 12 municipalities in the region of Sotavento, 20 municipalities in the region of Papaloapan and 4 municipalities in the region of Los Tuxtlas.

• **Samples:** A total of 364 blood samples were collected from apparently healthy horses of different breeds, age and gender. Blood samples (7 ml) were collected by venipuncture of the jugular vein using sterile vacuum tubes (Vacutainer®). (Figure. 2. a, b).

• **Serological diagnosis** for *T. equi* and *B. caballi* was performed with commercially available competitive enzyme immunosorbent assay kits (cELISA, VMRD®, Inc., Pull-man, USA) (Figure. 2. c, d, e, f)<sup>(4)</sup>.

• **Statistical analysis:** Seroprevalence was analyzed by means of descriptive epidemiology and risk factors were estimated by odds ratios and logistic regression with the statistical software STATA ver. 11.0

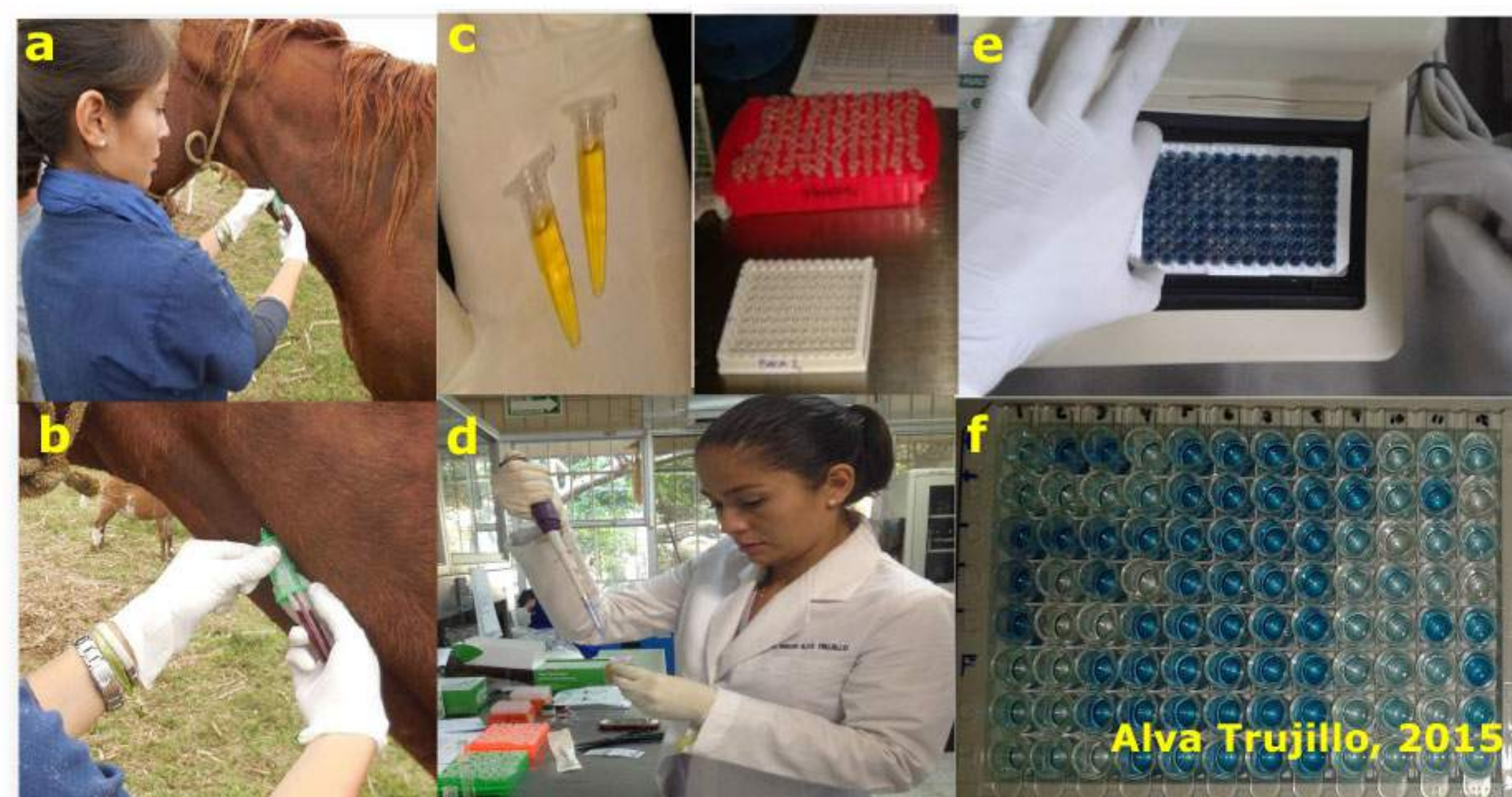


Figure 2. a, b. Sampling, c, d, e, f. Competitive ELISA.

## RESULTS

### Overall seroprevalence of equine piroplasmosis

No. animals	Positive	Seroprevalence
364	307	<b>84.3%</b>

### Seroprevalence of *Theileria equi*

No. animals	Positive	Seroprevalence
364	271	<b>74.4%</b>

### Seroprevalence of *Babesia caballi*.

No. animals	Positive	Seroprevalence
364	209	<b>57.4%</b>

### Seroprevalence of equines positive to both species of parasites.

No. animals	Positive	Seroprevalence
364	173	<b>47.5%</b>

Risk Factors	OR	IC 95%	p
Female	3.2	1.7-5.9	0.000
Grazing	1.9	1.1-3.5	0.022

## REFERENCES

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