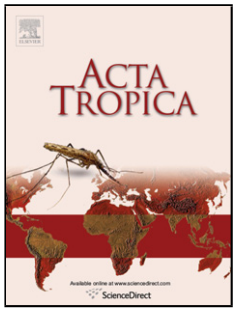


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# Unraveling cryptic epizootiology of equid trypanosomosis in Punjab state of India by parasitological and sero-molecular techniques

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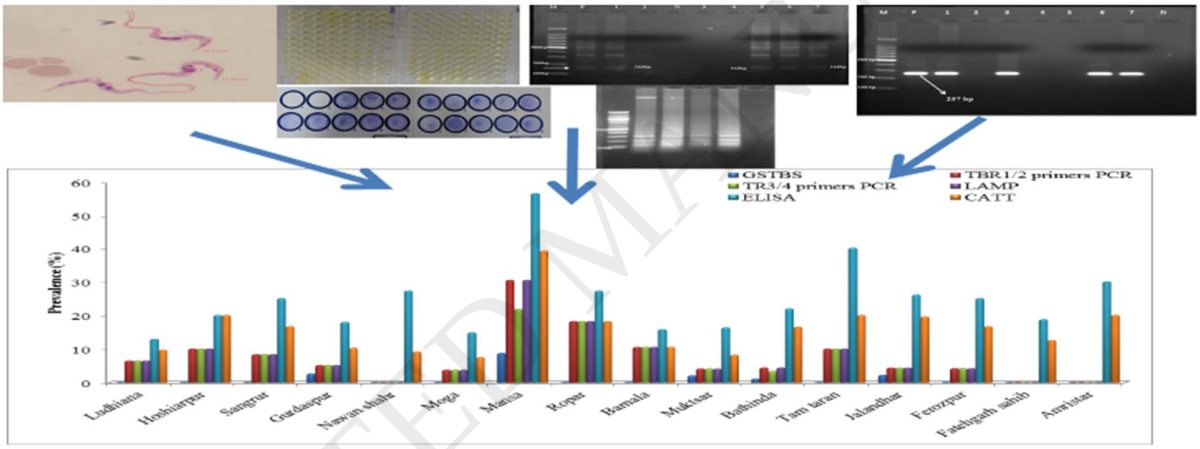
**Graphical abstract:** A first report to utilize classical, serological and molecular diagnostic tools for unraveling cryptic epizootiology of *Trypanosoma evansi* infection from all agro climatic zones of Punjab. LAMP assay proved to be a field oriented easy diagnostic test for time and cost effectiveness and also indicate that equine population of unorganized farms with poor managemental practices were at higher risk of *T. evansi* infection.




## Abstract

To unravel equid trypanosomosis caused by *Trypanosoma evansi* in Punjab state of India, a cross sectional study was designed by utilizing parasitological and sero-molecular tools with objective to assess the prevalence of *T. evansi* in association with various risk factors in all agroclimatic zones of Punjab state of India. Parasitological Romanowksy stained thin blood smears (RSTBS) to detect patent infection, molecular techniques polymerase chain reaction I (PCR I; TBR 1/2 primers; targeting minichromosomal satellite DNA of *T. evansi*), polymerase chain reaction II (PCR II; TR 3/4 primers; targeting variable surface glycoprotein region DNA of *T. evansi*) & LAMP (Loop mediated isothermal amplification) assay to detect latent infection and serological assays card agglutination test (CATT/*T. evansi*) & ELISA (Enzyme linked immunosorbent assay) to detect exposure status of trypanosomosis were utilized in the present study. A total 429 equid blood and serum samples from all the five agroclimatic zones of Punjab