

Immuno-electrophoretic comparison of *Trypanosoma vespertilionis* and *Trypanosoma cruzi**

by

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(Received for publication November 17, 1970)

Trypanosoma vespertilionis and *Trypanosoma cruzi* have basically the same morphological pattern and life cycle. ZELEDÓN (6) observed a striking physiological similarity between these two species. However, slight, although significant, morphological differences have been observed (6). These two species differ mainly in the vertebrate hosts infected. *T. vespertilionis* shows marked preference for bats while the host requirements of *T. cruzi* are much less specific (4).

Immunologically, some common antigens have been found by the techniques of agglutination (3) and hemagglutination (2). The present is a report of the first immuno-electrophoretic study made on *T. vespertilionis*.

MATERIAL AND METHODS

Antigen was prepared from epimastigotes (1.9×10^9 per ml) and trypomastigotes (6.9×10^7 per ml) of *T. vespertilionis* grown in Brain Heart Infusion agar (BHI) culture medium plus 10 per cent rabbit blood and overlaid with Locke's solution with 100 u of penicillin per ml. This antigen was then studied with a conventional immuno-electrophoresis technique using rabbit antisera against *T. cruzi* culture forms to identify any common antigenic com-

* This investigation was supported, in part, by Public Health Service Research Grants TW00148 and AI-05938 from the National Institute of Allergy and Infectious Diseases.

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ponents between these organisms. With these procedures, seven precipitation bands have been produced using *T. cruzi* antigen and antiserum.

RESULTS

Trypanosoma vespertilionis showed a close resemblance to *T. cruzi* with five of the above seven precipitation bands present (bands 1 and 5 were missing, Fig. 1). As a control for antiserum nonspecificity, antigen was prepared using *Leishmania braziliensis* promastigotes grown in BHI culture medium. No precipitation bands were formed with this antigen and *T. cruzi* antiserum.

DISCUSSION

The finding of five common antigenic components between *T. cruzi* and *T. vespertilionis* lends further support to the concept of close relationship between these two parasites. The presence of less than seven precipitation bands has been demonstrated in other typical strains of *T. cruzi* by identical techniques. In view of the lack of only precipitation bands 1 and 5 in the *T. vespertilionis* antigen used in these experiments, it is possible that further trials may show *T. vespertilionis* to be antigenically identical to *T. cruzi*.

ACKNOWLEDGEMENTS

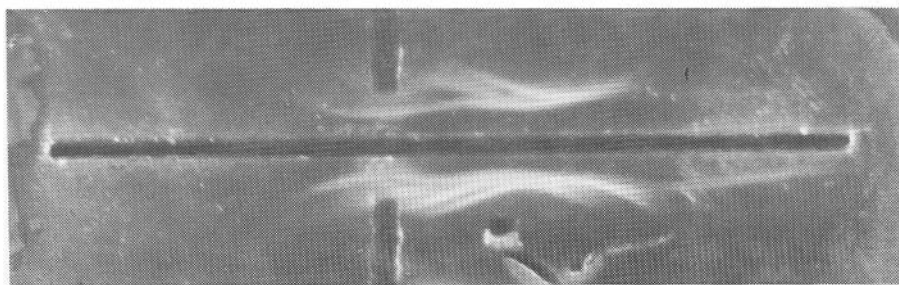
The authors are indebted to Dr. J. Clyde Swartzwelder of the Louisiana State University School of Medicine, New Orleans, Louisiana for his suggestions during the study and in the preparation of the manuscript.

SUMMARY

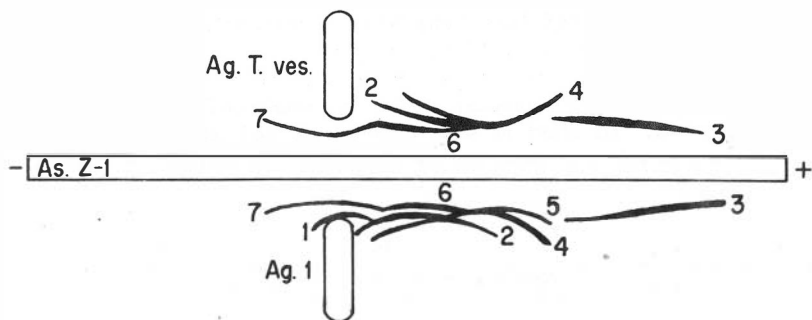
Immunoelectrophoretically, *T. vespertilionis* showed five of seven antigenic fractions found with *T. cruzi* antigen, indicating a close similarity between these two species. An antigen made of *L. braziliensis* promastigotes did not give any precipitation band against *T. cruzi* antiserum.

Fig. 1. Immunoelectrophoretic pattern of two antigens, *T. vespertilionis* and *T. cruzi* strain 1 with antiserum against *T. cruzi* strain 2-1.

Fig. 2. Interpretation of above photo.



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RESUMEN

En un estudio inmunolectroforético usando antígeno de *T. vespertilionis* y antisuero contra *T. cruzi* se obtuvo cinco bandas comunes de precipitación y dos más cuando se usó el antígeno homólogo, demostrándose gran similitud entre estas dos especies. Un antígeno preparado con *L. braziliensis* no mostró ninguna banda de precipitación con el mismo antisuero.

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