# Study of Factors Affecting Growth and Development of *Leishmania* in Cultures



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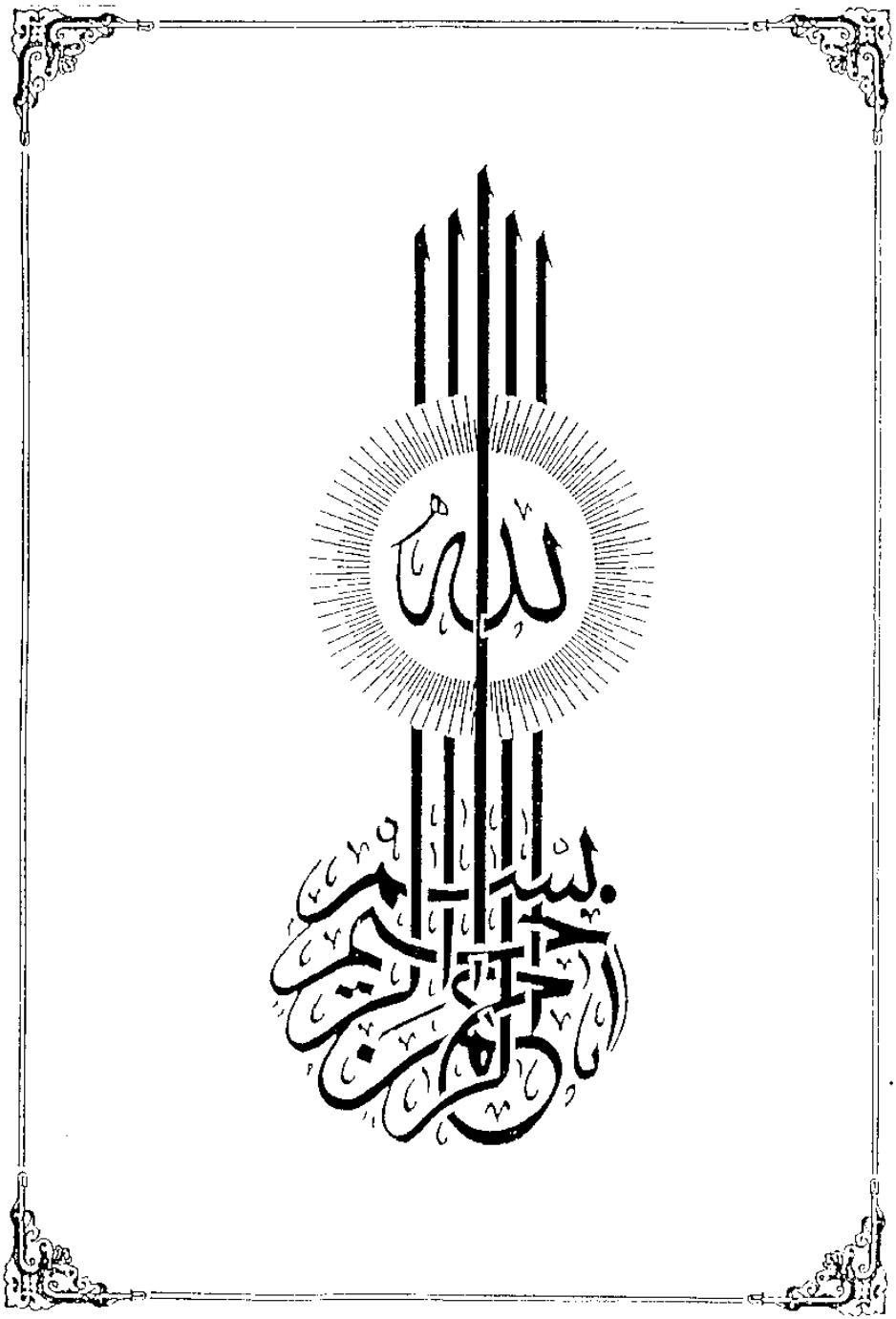


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## ABSTRACT

The aim of the present work was to study "in-vitro" the rate of growth and morphological forms of both *L.major* and *L.infantum* in El-ON's culture media supplemented with human, dog, rat, avian as well as rabbit blood which was used as a control. The effect of culture with these types of blood on the infectivity of both *Leishmania* strains to albino mice was also studied. In addition, the effect of both *Leishmania* strains inoculated into the chorio-allantoic membrane of chick embryo was also evaluated.

The results of the present study showed that good yield of both *L.major* and *L.infantum* parasites can be obtained in culture by using avian blood as substitutes for rabbit blood in El-ON's medium. In addition, rat blood gives good results with *L.infantum*. The morphological forms of *L.major* and *L.infantum* on all types of blood supplemented media: elongated promastigotes, spindle promastigotes, paramastigotes and amastigotes were present all through the culture period with variable percentages. Paramastigotes were seen in a dividing state only with *L.infantum* cultured on rat blood supplemented medium.

Out of the two *Leishmania* strains used, *L.major* is infective for the chick embryo. Also, infectivity to experimental animals is not affected by culture of both *Leishmania* strains on rabbit, human, rat, dog as well as avian blood supplemented media.

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# LIST OF ABBREVIATIONS

| | |
|---|---|
| **CAF:** | Chorio-allantoic fluid. |
| **CAM:** | Chorio-allantoic membrane. |
| **CL:** | Cutaneous leishmaniases. |
| **DAT:** | Direct agglutination test. |
| **DNA:** | Deoxyribonucleic acid. |
| **ELISA:** | Enzyme linked immunosorbent assay. |
| **EM:** | Electron microscopy. |
| **HIV:** | Human immunodeficiency virus. |
| **IFAT:** | Indirect immunofluorscent antibody test. |
| **IHAT:** | Indirect haemagglutination test. |
| **VL:** | Visceral leishmaniases. |
| **YS:** | Yolk sac. |

# LIST OF FIGURES