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NOTAS E INFORMAÇÕES / NOTES AND INFORMATION

RECOVERY OF *TRYPANOSOMA FORATTINII* COUTINHO AND PATTOLI FROM A TRINIDADIAN RODENT.

RESEARCH NOTE

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SUMMARY: *Recovery of* Trypanosoma forattinii *from natural infected* Oryzomys capito velutinus *from Trinidad, is reported. Negative results were obtained with attempts to infect experimentally, several laboratories animals, silvatyc rodents of the same ecological area and several species of triatomids bugs. Positive results were obtained only by using* O. capito velutinus *born in laboratory.*

UNITERMS: Trypanosoma forattinii*; *Rodent**; *Natural infection**; Oryzomys capito velutinus.

Trypanosoma forattinii was first described from a forest rat *(Oryzomys nigripes)* in the state of São Paulo, Brasil (COUTINHO & PATTOLI [2] 1964) Recently we have found this trypanosome in a new host *Oryzomys capito velutinus* captured in the Turure Forest, Trinidad. Heart blood smears from only two out of 192 rodents (1.04%) were positive for trypanosomes; the parasite was subsequently identified as *T. forattinii.* Parasitemia remained detectable in the peripheral blood of a rat until it died under other 60 days after the infection was first noted. Parasitemia persisted in the second *Oryzomys* for 110 days. This animal gave birth to 3 young which were all negative for trypanosomes at birth and remained so until sacrificed seven months later. Maternal infection of the newborn via the transplacental route (BITTENCURT, [1] 1963), did not appear to take place in this instance.

Unsuccessful attempts were made to propagate the parasite in NNN medium, in adult and suckling white mice, in white mice which had been previously inoculated with strain S180 sarcoma cells, and in guinea pigs. In each of these cases and in all the other experimental work where the infected blood from a host *Oryzomys* was used, the density of

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trypanosomes varied from 1 to 3 per high power microscope field of wet preparations except where otherwise stated. Fourteen 3-day old mice were inoculated intracerebrally, and 21 2-day old mice intraperitoneally. All the results were negative. Five adult white mice were inoculated with sarcoma cells and then intraperitoneally with infected blood. Serial passage of fluid from inoculated mice through juvenile and suckling mice was ineffective, as were attempts to transfer the infection to guinea pigs.

The infection was maintained by direct passage into other non-infected *O. capito velutinus* born in the laboratory. Approximately 0.1 to 0.2 ml of infected heart blood was introduced intraperitoneally into each of 9 animals, and via intracardial inoculation into 5 animals. Blood smears were made daily for the first 28 days, and thereafter at approximately 7 or 14 day intervals. Trypanosomes were detected initially in the peripheral blood of 8 of these animals between 10 and 21 days after inoculation (6 between 10 to 13 days and 2 between 14 and 21 days), and eventually in 2 more *Oryzomys* 7 and 15 weeks after inoculation. No infection could be found in four of the rodents, but one of these died on the 8th day after inoculation. The duration of parasitemia ascertained from peripheral blood smears varied from 34 to 216 days; the trypanosome level in the blood did not increase again once it had decreased to the point where the parasites were not detectable in uniformly prepared thin smears. A subpatent parasitemia appeared to persist. Blood from 2 animals, negative on blood smears, was inoculated into 2 clean specimens which become inefected after 14 days.

Unsuccessful attempts were made to infect *Panstrongylus geniculatus* (Hemiptera: Reduviidae) from a laboratory colony, the original specimens of which were captured in Trinidad. The colony was housed in an outdoor insectarium, and the temperature at the time of the experiment ranged between 75 F and 82 F. In the first experiment 3 adult females, 3 adult males, and 6 nymphs, were allowed to feed on infected *Oryzomys;* the bugs were noted to be either fully or partially engorged when removed. On days 6 and 14 these 12 insects were allowed to feed on white mice, the mice being retained for subsequent examination. The abdomen of the bugs was depressed and smears were made from the fecal fluid on days 6, 9, and 14. One adult male, 1 adult female, and 2 nymphs were dissected on day 14. Smears were made from the following organs and body parts: rectum and all parts of the intestinal tract; hemocoel fluid; head, including proboscis and salivary glands; remaining body viscera. On day 21 the remaining insects were again allowed to feed on white mice and the mice were retained. Fecal smears were made from the rectal fluid, and 1 adult female, 1 adult male, and 2 nymphs were dissected as above. The remaining 4 bugs were kept and fed weekly on white mice, the mice being retained. Fecal smears from these bugs were made on days 28, 35, and 42, and on day 42 the bugs were dissected. In each case blood from the retained white mice was examined 10, 14, 21, and 30 days after the insects had been allowed to feed. Only 2 mice were used at each feeding. At no stage of this work could evidence of development and transmission of the trypanosomes be found. The experiment was repeated using a 2nd group of 12 *P. geniculatus*, and similarly negative results were obtained.

Efforts to infect another locally obtained reduviid bug, *Eratyrus mucronatus*, which was maintained in the laboratory under similar conditions to *Panstrongylus*, proved unsuccessful.

Attempts to infect two other rodents found in the same ecological area, *Proechimys guyannensis trinitatis* Allen & Chapman, and *Heteromys anomalus anomalus* Thompson, were made. Two *Heteromys* and 3 *Proechimys* were each injected intraperitoneally with 0.1 to 0.2 ml of blood containing *T. forattinii* and later with 0.2 ml of infected blood at a greater parasite density (3 to 5 trypanosomes per high power field of view). All attempts were unsuccessful.

The present work demonstrates the susceptibility of *O. capito* to the experimental inoculation of blood infected with *T. forattinii*, and suggests a high degree of host specificity for this little known trypanosome of South American rodents.

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EVERARD, C. O. R. & SOUSA, O. E. — [Encontro de *Trypanosoma forattinii* Coutinho & Pattoli em roedores de Trinidad.] **Rev. Saúde públ.**, *S. Paulo*, 6: *283-5, 1972.*

RESUMO: *Relata-se o encontro de* Trypanosoma forattinii, *em exemplares de* Oryzomys capito velutinus *de Trinidad. Tentativas de isolamento em meio de NNN e de inoculação experimental em animais de laboratório, foram completamente negativas. Resultados positivos foram obtidos com inoculação de* O. capito velutinus *criados em laboratórios. As tentativas de infectar triatomíneos e roedores silvestres da mesma área foram igualmente negativas.*

UNITERMOS: Trypanosoma forattinii*; *Roedores**; *Infecção natural**; Orizomys capito velutinus.

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