

OIE NTTAT Network



1st International Conference on Non Tsetse Transmitted Animal Trypanosomosis

15th and 16th December 2016

Anses, 14 rue Pierre et Marie Curie
94700 Maisons-Alfort



WORLD ORGANISATION FOR ANIMAL HEALTH
Protecting animals, preserving our future



Potential of the oriental house rat (*Rattus tanezumi*) to act as reservoir of *Trypanosoma evansi* in Thailand?

M. Desquesnes^{1,2}, A. Kocher¹, S. Yangtara², S. Morand^{2,3,4}, S. Jittapalapong^{2,5}

¹ Centre de Coopération Internationale en Recherche Agronomique pour le Développement, Cirad-Bios, UMR-InterTryp, Montpellier, F-34000 France

² Faculty of Veterinary Medicine, Kasetsart University, Chatuchak, 10900 Bangkok, Thailand

³ Institut des Sciences de l'Évolution, CNRS-IRD-UM2, Université de Montpellier 2, 34095 Montpellier Cedex 5 – France

⁴ Centre de Coopération Internationale en Recherche Agronomique pour le Développement, UPR AGIRs, F-34398 Montpellier, France

⁵ Faculty of Veterinary Technology, Kasetsart University, Chatuchak, 10900 Bangkok, Thailand

Abstract

Trypanosoma evansi (Steel, 1885) Balbiani, 1888, is a protozoan blood parasite and etiologic agent of “surra,” a disease affecting a wide range of domestic and wild mammals, some identified as potential reservoirs. Although *T. evansi* has been detected in several small wild rodent species, their role in the epidemiology of surra is unclear. There is molecular evidence of *T. evansi* in wild rodents in Asia, but it is not known whether they can carry the parasite for sufficient time to significantly contribute to the epidemiology of surra. We assessed the receptivity and susceptibility of the Oriental house rat (OHR; *Rattus tanezumi*) to *T. evansi* infection. Five adult male OHRs trapped in Bangkok district, Bangkok, Thailand, and five laboratory Wistar rats (*Rattus norvegicus*), as positive controls, were experimentally infected with a local strain of *T. evansi*. The five controls and three of the five OHRs were highly susceptible and rapidly exhibited high levels of parasitemia as usually observed in Wistar rats. They died or were euthanized just prior to expected death. Two OHRs presented fluctuating levels of parasitemia, without obvious clinical signs, throughout 40 days of monitoring. These results highlight the moderate susceptibility of some OHRs and their ability to carry the infection for a significant period of time. Along with the molecular evidence of *T. evansi* in captured OHRs (demonstrated elsewhere), our results bring new information on the potential role of OHRs in the complex epidemiology of surra.

Keywords: Experimental infection, *Rattus tanezumi*, reservoir, surra.