

**SHORT COMMUNICATION****TRYPANOSOMIASIS OUTBREAK IN DEER, CATTLE, BUFFALOES AND PIGS IN PERAK****NURULAINI R.<sup>1\*</sup>, PREMAALATHA B.<sup>1</sup>, ZAINI C.M.<sup>1</sup>, ADNAN M.<sup>1</sup>, CHANDRAWATHANI P.<sup>1</sup>, FAZLY ANN Z.A. AND ENIE ARYANTI A.<sup>2</sup> AND RAMLAN M.<sup>1</sup>**

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**ABSTRACT.** An outbreak of trypanosomiasis was diagnosed by the Parasitology Section of the Veterinary Research Institute (VRI) in early 2012. A total of 86 whole blood samples from deer, cattle and buffaloes from a government farm near Sungai Siput, Perak and 16 whole blood samples from a commercial pig farm in Jalong, Perak were submitted for analysis. Sixty three samples were found to be positive for the *Trypanosoma* sp. A detailed epidemiological investigation was conducted to prevent future outbreaks.

**INTRODUCTION**

Malaysia is endemic with Trypanosomiasis caused by *Trypanosoma evansi* (Cheah, 1999). A case of surra was diagnosed in various livestock species in early 2012. Initially, VRI received 28 deer blood samples from a government farm for screening of blood parasites and evaluation of anemia status of these animals that were brought in from Pahang in December 2011. Faecal samples were also collected

for worm infestation screening. Laboratory diagnosis showed all the samples to be positive for *Trypanosoma evansi* and 2 out of 4 faecal samples positive for coccidian oocyst. Subsequently, 18 deer blood samples were sent for screening of Trypanosomiasis and 6 were positive. Nurulaini *et al.* (2007) has reported trypanosomiasis in deer. The farm which also has dairy cattle, sent seven blood and faecal samples from Jersey cattle. Results showed that 2 out of 7 samples were positive for Trypanosomiasis. Following this, screening was done on 13 Mafriwal cattle and 9 were positive for Trypanosomiasis. Sani *et al.* (1990 and 1995) has also reported trypanosomiasis in cattle. Cheah (1996 and 1997) reported that trypanosomiasis in cattle can cause severe losses in milk production and body weight. Soon after, a private pig farm located a few kilometres away from the deer farm, sent 16 pig blood samples for analysis. There was complaint of high mortality in the animals and no response to antibiotic treatment. Laboratory diagnosis showed that 13 out of 16 samples were



**Picture 1.** Pigs infected with *Trypanosoma* spp.

**Table 1.** Summary of Laboratory results from various species around the vicinity of Sungai Siput Utara

	SPECIES	TOTAL SAMPLE	POSITIVE SAMPLE
1.	DEER	46	34
2.	CATTLE	20	11
3.	BUFFALO	20	5
4.	PIG	16	13
	<b>TOTAL</b>	102	63



**Picture 2.** 'Biting flies' *Tabanus* sp found in the pig farm

positive for Trypanosomiasis. Immediate action was taken on the same day to inform the farm management and Department Veterinary Service of Perak via phone. Advise was duly dispensed to reduce the losses especially in the pig farm. No mortality was observed in the cattle but some mortality was seen in the deer.

A total of 86 blood samples from cattle, buffalo and deer were collected

from a government farm and sent to the Parasitology Section, VRI for blood protozoa diagnosis. Blood samples were subjected to buffycoat and thin blood smear examination for detection of any blood protozoa (Wahab *et al.*, 2002). Chandrawathani *et al.* (1998) has screened Trypanosomiasis using ELISA whereas Cheah *et al.*, (1999) has seen success in conducting PCR for the detection of

Trypanosoma in cattle blood. At the same time, a total of 16 blood samples from swine were received from a commercial pig farm nearby the cattle farm and subjected to buffycoat and thin blood smear examination also. Other laboratory tests were done to rule out bacterial and viral diseases as well as gastrointestinal helminths for all samples.

Trypanosomiasis can be treated using medication such as 'Berenil/Suramin or Trypamidium (Cheah *et al.*, 1997). Animals that showed clinical symptoms need to be treated with antibiotic, anti stress medication and supportive treatment such as vitamins and supplements. It is essential that the diagnosis is exact in order to reduce the damage caused by trypanosomiasis. The farm management was advised to conduct regular fogging which will reduce the number of biting flies which is an important vector for the transmission of this disease. As only biting flies can transmit the *Trypanosoma* spp, the fogging concentration of the insecticide should be slightly higher as these are big flies. Subsequently, the management has to ensure that animals such as cattle and buffalo do not graze together as buffaloes can harbour trypanosomes without showing clinical signs but cattle and deer may show mortality and anemia. On diagnosis, treatment should be given quickly to the infected animals (Cheah *et al.*, 1996). The surrounding area and bushes need to be cleared, and any areas that are potential vector breeding grounds such as marshy, wet areas need to be dried out

and cleaned. Furthermore, the animal pens need to be cleaned daily of the animals faeces so that the flies will not be attracted and subsequently bite the animals.

Communication between the VRI Disease Investigation Coordinator and State Department of Veterinary Services is essential so that rapid action can be taken and an early warning system is put in place to prevent spread to other potential hosts like horses. The laboratory also initiated the setting up of fly traps so that the type of flies contributing to the disease as vectors can be studied. Currently, monitoring various animal hosts is carried out to further gain knowledge on the epidemiology of this disease which affects many animal species.

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