

# A TRYPANOSOME OF THE SLOW LORIS (*NYCTICEBUS COUCANG*)

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## INTRODUCTION

During a survey of Malayan mammals Dunn *et al.*, (1968) had found 8 out of 88 *Nycticebus* infected with a trypanosome. Description of the trypanosome was, however, not given in their study. Recently Kuntz *et al.*, (1970) published a report in which they describe a *Trypanosoma cruzi*-like parasite in the cardiac muscle of a slow loris. This animal had died in the Victoria Zoo, Texas, apparently 7 weeks after importation into the United States. During the course of investigation on *Breinhia sergenti*, a filarial worm of the slow loris, an animal infected with a trypanosome was detected in our laboratory. Investigation conducted on this animal is the subject of this report.

## MATERIALS AND METHODS

Thin smears were made from peripheral blood fixed in absolute methanol and stained with Giemsa. The parasites were examined and photographed under a Leitz "Orthomat" microscope. Measurements were made from photographic prints after enlargement. Thirty specimens were examined by this method and their measurements recorded. Six mice were injected intraperitoneally with 0.2 ml of infected blood. A similar amount of blood was used for inoculation into N.N.N. and Weinman's medium. Twenty laboratory-bred *Triatoma rubrofaciata* were fed to repletion on the infected slow loris. The peripheral blood of the infected mice were examined up to 4 weeks. The cultures were examined up to 8 weeks and the *Triatoma* were dissected on the 2nd, 4th, 8th and 16th day after the blood meal. During these studies the infected slow loris unfortunately died and further observations could not be conducted. The tissues of the dead animal

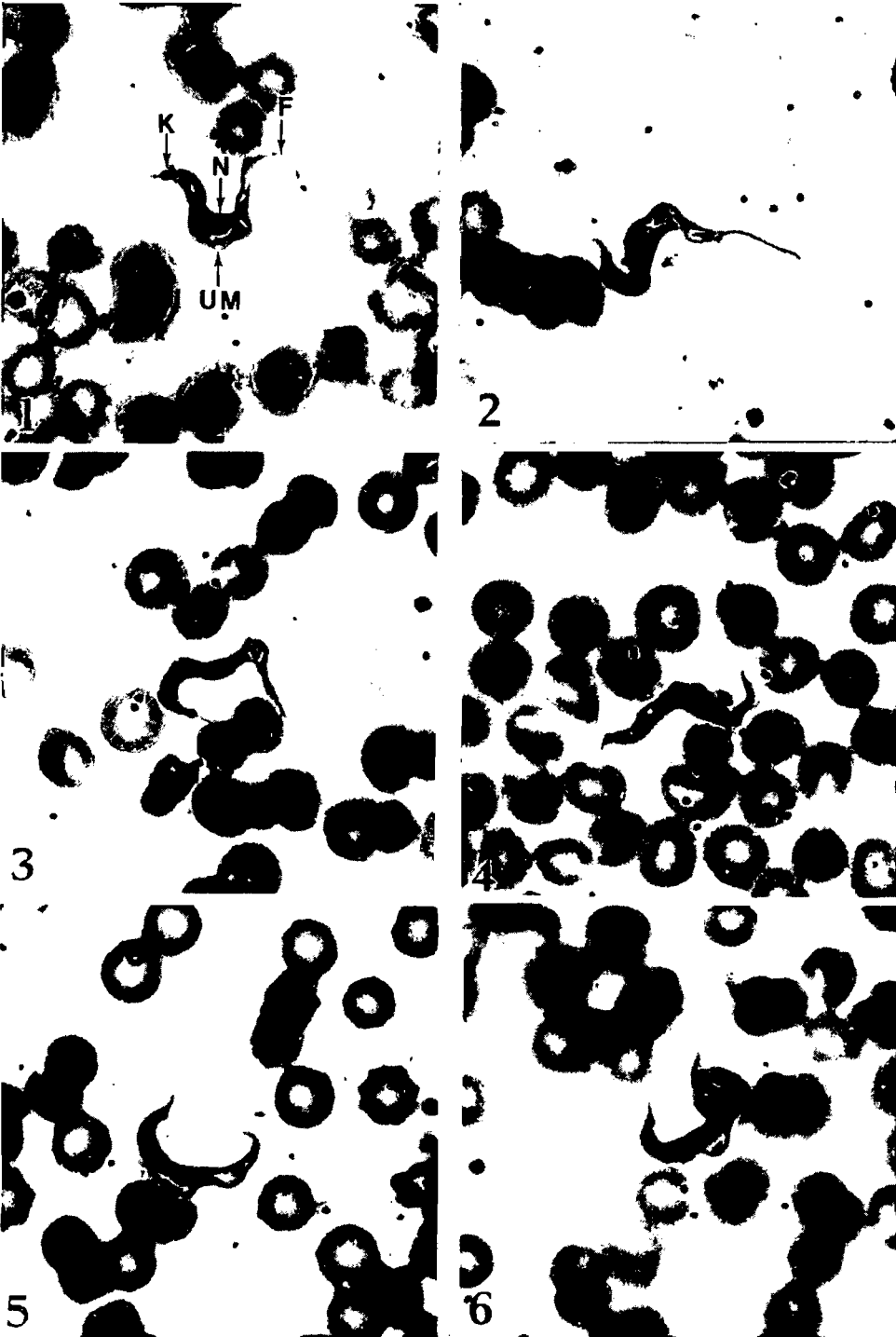
were, however, fixed in formal saline and the heart muscle was thoroughly examined for the presence of amastigotes.

## RESULTS

The *Triatoma* in the peripheral blood of the slow loris was monomorphic although it appeared bent in different directions in fixed preparations (Figs. 1-6). The kinetoplast was spherical and distinct. The body of the parasite posterior to the kinetoplast appeared as an elongated beak-like structure tapering into a fine point. The measurement of the various structures was as follows :-

	Range	Mean
1. Diameter of the kinetoplast	1.5- 2.0 $\mu$	1.8 $\mu$
2. Diameter of the nucleus	4.4- 5.0 $\mu$	4.1 $\mu$
3. Distance from the posterior end to the centre of the kinetoplast	4.0- 5.5 $\mu$	4.6 $\mu$
4. Distance from the centre of the kinetoplast to the centre of the nucleus	12.0-15.0 $\mu$	13.0 $\mu$
5. Distance from the centre of the nucleus to the anterior end	13.0- 14.0 $\mu$	13.4 $\mu$
6. Length of free flagellum	10.0- 14.0 $\mu$	12.0 $\mu$
7. Total length of the parasite	41.0-46.0 $\mu$	42.5 $\mu$
8. Width at the broadest part excluding the undulating membrane	5.0- 5.5 $\mu$	5.2 $\mu$

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The parasite did not multiply in N.N.N. or Weinman's medium and the mice did not develop microscopically visible parasitaemia. The *Triatoma* remained negative throughout the period of examination. More than 100 sections of the cardiac muscle were examined after H & E staining and this did not show the presence of amastigotes or any inflammation.

### DISCUSSION

This is probably a new species of *Trypanosome*. However, I prefer not to name it as such till further information is available on its cultural requirements, host range and vector transmission. It does not produce amastigotes in the cardiac muscle and does not develop in *Triatoma rubrofaciata*. It is, therefore, not a *Trypanosoma cruzi*-type parasite. It is also different from the *Trypanosoma* species recently described by Weinman (1970) in Southeast Asian primates. However, it is possible that two different species of *Trypanosoma* are found in the loris, one which is described in this paper and the other observed by Kuntz *et al.*, (1970). Further studies would be required

on animals caught and examined in Southeast Asia to confirm this.

### SUMMARY

A trypanosome species is described in slow loris. It has a distinct kinetoplast and a beak-like tapering posterior end. It does not form amastigotes in the cardiac muscle and is not transmissible through *Triatoma rubrofaciata*.

### REFERENCES

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Figs. 1-6—Giemsa stained. *Trypanosome* from slow loris. All photographed at X1000 magnification and enlarged during printing.

- K = Kinetoplast  
 N = Nucleus  
 UM = Undulating membrane with attached flagellum  
 F = Free flagellum