

PROCEEDINGS OF
THE ROYAL SOCIETY.

SECTION B.—BIOLOGICAL SCIENCES.

An Antelope Trypanosome.

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(Communicated by Sir J. Rose Bradford, Sec. R.S., being an abstract of a Report to the Sleeping Sickness Commission, received May 19, 1911. Received December 19, 1911,—Read January 18, 1912.)

Ten days after blood of a bushbuck, which was shot on the shores of the Victoria Nyanza, had been injected into a healthy goat, trypanosomes appeared in the goat's blood. The same species of trypanosome was present in blood smears made from another bushbuck and a situtunga, which were shot in the same neighbourhood.

The small characteristic trypanosome corresponds morphologically to the one which was discovered in cattle in Uganda, and which was named *Trypanosoma uniforme* by the Royal Society Sleeping Sickness Commission, 1908–10. This is shown by curves representing the distribution, by percentages, in respect to length of the antelope trypanosome and *Trypanosoma uniforme*.

Cattle, goats, sheep, and bushbuck were infected. Monkeys, pigs, dogs, cats, guinea-pigs, and white rats proved to be refractory. It is concluded that the trypanosome found in the antelope was *Trypanosoma uniforme*.

Experimentally it was shown that laboratory-bred *Glossina palpalis* were capable of transmitting this species of trypanosome from infected to healthy animals. Of six experiments four were successful. The flies became infected in from 27 to 37 days, and the infection in the fly was always limited to the proboscis.

In order to ascertain if *Glossina palpalis* caught on the Lake-shore, near where the infected antelope had been shot, were naturally infected, flies

were collected there and brought to Mpumu, where they were fed on a healthy goat. After 1020 flies had been put on the goat it became infected with *Trypanosoma uniforme*. Some days afterwards *Trypanosoma vivax*, with which wild flies had previously been shown to be naturally infected, also appeared in the goat's blood.

The conclusions are:—

(1) This trypanosome, which is of fairly frequent occurrence among Lake-shore antelope, is *Trypanosoma uniforme*.

(2) The available evidence points to *Glossina palpalis* as being the carrier of this species of trypanosome.

(3) *Glossina palpalis* caught on the Lake-shore are naturally infected with *Trypanosoma uniforme*.

The Relation of Wild Animals to Trypanosomiasis.

By Captain A. D. FRASER, R.A.M.C., and Dr. H. L. DUKE.

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Wild animals were examined with the view of ascertaining whether they were naturally infected with trypanosomiasis. The majority of the animals were shot; a few were captured.

Ten waterbuck, 20 bushbuck, and 2 situtunga were obtained from within two miles of the Lake-shore where the *Glossina palpalis* were known to be infected with *Trypanosoma gambiense* and *vivax* and were afterwards shown to be infected with *T. uniforme*. With the exception of four of the bushbuck ordinary blood smears were made from each animal, and trypanosomes morphologically indistinguishable from *T. uniforme* were found in slides taken from one bushbuck and one situtunga. Blood from each of the antelope was injected into healthy monkeys and goats. From 3 to 5 c.c. was the usual quantity of blood injected into monkeys; 5–10 c.c. into goats. None of the monkeys developed trypanosomiasis. In the blood of one of the goats *T. uniforme* appeared 10 days after the injection of blood of two bushbuck shot near the Lake. Unfortunately no blood smears were made from these animals. It is suggested that, if animals more susceptible than goats are to *T. uniforme* had been employed, a higher percentage of the antelope examined might have been shown to harbour this species of trypanosome.