Artikel: Experiments on trypanosome transmission by "Auchmeromyia" larvae : preliminary note

Autor: Geigy, R. / Kauffmann, M.

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Experiments on trypanosome transmission by *Auchmeromyia* larvae[1]

Preliminary note[2]

R. GEIGY, M. KAUFFMANN

During field surveys in the Serengeti National Park (SNP) from 1970 to 1975 (Geigy et al., 1971; Geigy and Kauffmann, 1973; Beglinger et al., 1976) a high incidence of *Trypanosoma (T.) brucei* was found in hyaena *(Crocuta crocuta).* As the tsetse flies are known to feed only rarely on these carnivores (Moloo et al., 1971; Rogers and Boreham, 1973), other infection routes were looked for, beside the possible oral infection by devoring infected prey (Moloo et al., 1973). In certain areas of the SNP (Mwanza Road) great numbers of blood sucking *Auchmeromyia* larvae were found in culverts, in close contact with hyaenas, and it was shown that these larvae occasionally feed on hyaenas (Geigy and Boreham, 1976; Boreham and Geigy, 1976). Therefore attempts were made to elucidate the role of these larvae as possible mechanical transmitters by experiments carried out at the Swiss Tropical Institute Field Laboratory in Ifakara (Tanzania), where these larvae are frequently found in local mud houses.

For these experiments 2 known strains of *T. brucei* were used:

a) STIB 245, isolated from hyaena SNP 1971
b) STIB 366 A, a derivative of S 42–030, Molteno Institute, Cambridge, originating from warthog, Uganda 1966.

Hungry larvae of the second and third stage were fed on infected nembutalized rats and then allowed to complete their blood meal within 1 h on a clean rat. The white rats (SIV) derived from a breeding station in Switzerland. All in all 22 clean rats were exposed to a double feed, of which 13 developed a patent parasitaemia after 3 to 17 days. The other 9 rats remained negative.

In 4 cases larvae were triturated 1 to 24 h after an incomplete, very small single meal on an infected rat. Trypanosomes from all of these larvae caused a parasitaemia 3 to 4 days after i. p. injection into clean rats.

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[2] A detailed report will appear in «A Festschrift for Dr. C. A. Hoare's 85th birthday» in the Journal of Protozoology, 1977.

Correspondence: Prof. Rudolf Geigy, Swiss Tropical Institute, Socinstrasse 57, CH-4051 Basel, Switzerland

In 4 other cases, double fed larvae were triturated and the suspension injected into clean rats. But in this case, no parasitaemia occurred, which is probably due to the fact, that all viable trypanosomes taken up with the infective first meal were eliminated by the second feed.

This indicates that *Auchmeromyia* larvae present in the culverts of the Mwanza road in the Serengeti may act as mechanical transmitters.

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