

FIRST EXPERIMENTAL INFECTIONS OF ANOPHELES WITH *P. FALCIPARUM* AT THE OCEAC IN YAOUNDE

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ABSTRACT

Since december 1989 experimental infections are being performed at the insectarium of the O.C.E.A.C. in Yaounde. The aim of this research is to determine the role of natural transmission-blocking serum factors as a part of transmission-blocking vaccine studies.

Anopheles gambiae, the most important malaria vector in Africa, were wildcaught in the city of Yaounde, cultured and adapted to membrane feeding. *P. falciparum* gametocyte carriers were found at the MESSA dispensary.

To test transmission blocking immunity a comparison between two groups of mosquitoes is made. The first group is fed on blood with autologous serum. The second one is fed on blood of which the serum is replaced by serum from donors without malaria experience.

Midguts of the mosquitoes are examined on the presence and the number of oocysts after 7 days.

The production of mosquitoes at the insectarium and their habit of artificial blood feeding permit to perform experimental infections.

The effects of withdrawing immune serum and replacing this by non-immune serum are:

- * groups of mosquitoes fed on blood with OWN serum have lower infection rates,
- * mosquitoes fed on blood with OWN serum develop a lower average number of oocysts.

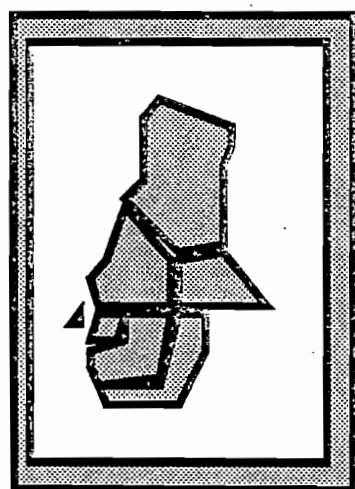
It seems that transmission reducing activity of immune sera from patients from an endemic area has an influence on the number of mosquitoes getting infected and on the mean oocyst load per midgut.

The influence on infection rate is the most relevant because an infected mosquito with only one oocyst is capable of transmitting the parasite, whereas a lower number of infected insects has an impact on the epidemiology of malaria.

These results encourage confirmation of these experimental infections to provide information on basic aspects of natural transmission-blocking immunity.

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