

ACTIVITIES

Mosquito Research at the University of Sussex

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We have a small team unofficially known as the Mosquito Behavior Unit, whose initials MBU appropriately enough spell out the Swahili word for mosquito. The team is based at one of the new universities in England, and we do the laboratory side of the work there. But our real stage is the Gambia, a minute and peaceful country in West Africa, where there is a large and long established British Medical Research Council unit at Fajara. This unit has a well equipped field laboratory 80 miles up the river Gambia, which we have the run of for the 6 months of the rainy season.

Our work centers round the orientation of mosquitoes to hosts and the factors influencing flight paths in nature. We also hope to develop this approach to the study of host preference and house entering. We are particularly interested in the range over which mosquitoes can detect and orient to hosts and in the relative importance of carbon dioxide and olfactory cues in long range orientation. Using ramp-traps, a newly devised type of unbaited flight-trap, on a moderately large scale we have obtained evidence that the local malaria vector, Anopheles melas, is detecting bait-calves from a considerably greater distance than the species of Culicines occurring locally. It also appears that olfactory cues and not carbon dioxide are responsible for this. The intriguing question arises as to whether the possession of a more efficient host finding apparatus is a characteristic of all Anopheles or only of certain species and whether it is linked with the capacity to act as a vector of malaria.

We are also studying the vertical distribution of free flying mosquitoes and the influence of vegetation on flight paths.

Among mosquitoes that are locally abundant are two banded-leg Culex, C. thalassius and C. tritaeniorhynchus, both apparently breeding in brackish swamps. Since this behavior is at variance with that recorded by investigators of the latter species in the Oriental region, the comparison of the West African form with Oriental material might be rewarding. It is planned to try and colonize the species in the Gambia, and if we are successful we would be willing to supply material to interested workers elsewhere. A gynandromorph of one of these species was collected last year.