

INTERCURRENT RESTING, A NEGLECTED ASPECT OF MOSQUITO BEHAVIOUR *

by

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The term "intercurrent resting" is here used to imply a period of rest intervening between the cessation of one type of activity and the initiation of another. Such periods may be very long (hibernation, aestivation) or shorter, as in the day-long interval between the end of one ecrepuscular cycle and the beginning of another, or much shorter as in the interval between arriving in the vicinity and feeding or between arrival at the oviposition site and the act of oviposition. Since these short resting periods involve a change from one type of activity to another they ought possibly to be regarded as periods of active readjustment rather than as purely passive. They may thus have considerable theoretical importance for the study of behaviour. Studies on oviposition behaviour in *Culex pipiens fatigans*, made while acting as consultant to the WHO Filariasis Research Unit, in Rangoon, suggest that they may also have considerable practical importance. These observations showed that oviposition is preceded by a period of resting, on a vertical surface, within a few feet of the point at which the raft is deposited. The pre-oviposition resting sites are small in area and they must be visited by all fertilised infected *fatigans*, affording the greatest possible concentration of this element in the population with unique opportunities for assessment and even, possibly, selective control. While they are actually ovipositing *fatigans* can be pushed around on the surface of the water without being disturbed. They could thus be easily marked at this time without removing them from their natural environment or interrupting their natural cycle. Over 700 rafts were laid at one small site in Rangoon, during the peak hour of the oviposition cycle. At a suitable site it might well be possible for 2 workers to mark 1000 *fatigans* in an hour. Gravid females are easily removed from the resting sites with an aspirator and will oviposit shortly after. It would seem that mosquitoes from resting sites associated with other activities might provide better experimental material than those whose neurophysiological state is abnormal or unrelated to the activity being studied. Pre-entry resting has been observed in various mosquitoes coming to houses to feed and was observed in *fatigans* in Rangoon. Mosquitoes in this condition might furnish valuable material for studying problems relating to insecticide avoidance. In this connection it may be noted that mosquitoes entering houses to feed and those entering to rest are in quite different neurophysiological states and their detailed behaviour in relation, e. g., to entry traps may well be equally different.

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