OPERATIONAL AND SCIENTIFIC NOTES

NOCTURNAL MATING IN *MANSONIA* (*MANSONIOIDES*) SPP.[1]

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The mating behavior of *Mansonia* (*Mansonioides*) exhibits a number of unusual features. Firstly, swarming by males has only been observed on rare occasions (Wharton, 1962), despite the ubiquity and abundance of this group of mosquitoes throughout the Old World tropics. Secondly, mating is known to occur in the vicinity of warm-blooded hosts, and males are frequently caught in small numbers on human bait at night (Mattingly, 1949; Hamon, 1963). Thirdly, mating has been observed on moonlit nights some hours after nightfall (Jayewickreme, 1953; Antonipulle et al., 1958).

As part of a program of studies in the Gambia on the flight pattern of West African mosquitoes, unbaited electrical suction traps were set up with their orifices horizontal. Any small insects flying over the mouths of the traps are sucked in and blown into cages attached below the fans. The traps were run from shortly after sunset to 1.5 hr before sunrise, and the cages were changed at 2300 hr local time, which was slightly more than 4 hr after sunset. In this way the catches were segregated into 2 lots, those trapped during the first 4 hr of the night and those active from 4 hr after sunset until 1.5 hr before sunrise. In sorting the catches occasional pairs of dead mosquitoes were found that had been caught while copulating. The pairs were joined with their abdomens end to end, and had evidently been killed by the blades of the fan as they were sucked into the traps. Their relative frequency in the 2 sets of catches thus provided some information on the time of mating.

The results (Table 1) show that, of 21 pairs of mosquitoes, 4 were caught in the first part of the night more than 45 min after sunset and 4 during the middle or later part of the night. Of those caught in the later period, 2 were on nights shortly after full moon, 1 on 2 nights after the first quarter, and 1 on 2 nights after the new moon. The capture of the last couple shows that moonlight is not essential for nocturnal mating to take place. These observations extend the findings of Jayewickreme of nocturnal mating of *M. uniformis* (Theo.) in Ceylon to both this species and *M. africana* (Theo.) in West Africa. They also show that mating in nature may take place in the absence of warm-blooded hosts.

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Table 1. Numbers of *Mansonia* (*Mansonioides*) pairs caught *in copulo* in relation to time of night.

Onset of trapping period after sunset	*M.* (*M.*) *africana*	*M.* (*M.*) *uniformis*
12–25 min	0	13
45–60 min	1	3
>4h	2	2

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LONG RANGE ORIENTATION OF *MANSONIA* (*MANSONIOIDES*) MALES TO ANIMAL HOSTS[1]

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It is well known that males of *Mansonia* (*Mansonioides*) copulate in the vicinity of warm-blooded hosts (Jayewickreme, 1953) and that they commonly alight on human baits at night. This suggests that the host serves to bring the sexes together and that male mosquitoes actively orient towards him. In an earlier study (Gillies and Wilkes, 1972) we showed by the use of unbaited flight traps that the density of female *M. africana* (Theo.) and *M. uniformis* (Theo.) increased sharply as the bait was approached, and we used this to plot the long range orientation

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