

It is not unlikely that a relatively high rate of parasitism may be present in the Carmen Island *Leptoconops* population. The emergence of the mermithid parasite is normally fatal to the host.

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A DAY-FEEDING STRAIN OF *Anopheles maculatus* THEOBALD

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The establishment of *Anopheles maculatus* as a laboratory colony at the Institute for Medical Research, Kuala Lumpur, Malaysia was reported by Ow Yang, *et al.* (1963), and was included by Ward and Kitzmiller (1963) in their list of *Anopheles* colonies. These latter writers included origin of stock, susceptibility to insecticides, susceptibility to malaria infection and location of the colonies. No information was given on host animals used or on times females would feed.

In January, 1964, material was taken from the main colony for the establishment of a subcolony of *An. maculatus* at the U. S. Army Medical Research Unit, located on the grounds of the Institute for Medical Research. The subcolony was established without difficulty by the techniques described by Ow Yang, *et al.* Subsequently at the 36th generation, while cleaning a cage in daylight, it was noticed that the females were trying to feed. A bare arm was then offered and approximately 50 of the 300 females in the cage readily fed. Further feedings on guinea pig and monkeys indicated that many of the females would feed during the day. After four generations

of selection approximately 80 percent of surviving 2- to 3-day old females readily fed during the day. When it was found that the subcolony would feed during the day animals were also offered to the parent colony during the day. Day feeding was also successful with this colony and it is presently maintained by day feeding on monkeys and guinea pigs. All feeding of both colonies is now done during the day while normal insectary chores are being performed.

The day feeding is most successful when the animal is anesthetized or tranquilized as movements of the animal tend to frighten away any females not already feeding, and fewer engorged females are obtained unless these movements are prevented. Monkeys used for feeding both colonies are routinely administered promazine hydrochloride prior to mosquito feeding.

This report is submitted as additional information on colonies reported by Ward and Kitzmiller. It is suggested that in the future those reporting on laboratory colonies include information on times of feeding as the advantages of day feeding are useful to many workers.

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Aedes aegypti WITH FOUR SPERMATHECAE¹

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In studies on the morphology and physiology of the reproductive system of *Aedes (Stegomyia) aegypti* (Linnaeus) of the Bangkok strain, we have encountered on two occasions an unusual anomaly among at least several hundred females which were being routinely dissected.

The eggs were originally obtained from the Department of Entomology at Walter Reed Medical Center, Washington, D. C. The two anomalous females, in addition to having a normal complement of one large median spermatheca and two smaller lateral spermathecae, possessed one additional and even smaller spermatheca. The normal thecae had normal appearing basal glands, ducts,

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and periductal glands, and each of them contained few to many active spermatozoa. The fourth, or anomalous, theca had a tiny basal gland but completely lacked a duct. It was a smooth, uniformly brown spherical body like the other normal thecae but was attached by fat body tissue externally to one of the lateral normal thecae. The thecae in one of the anomalous females were measured at 480 magnifications and the dimensions of them were (1) median theca, 86.2 microns in diameter, (2) one normal lateral theca, 70.0 microns, (3) the other normal lateral theca, 67.5 microns, and (4) the fourth theca, 45.0 microns.

Examination of the remains of the two females did not reveal any marked or obvious external differences from their sisters which had been

reared at the same time in the routine fashion. Since both the females had been inseminated, it is obvious that the anomaly in no way interfered with copulation. The females had normal looking ovaries. The most interesting feature of this anomaly is that the extra theca is not attached to a duct, though this does not rule out the obvious possibility that it was formed at the same time and from the same tissue mass as one of the lateral thecae and later became entirely separated from it. The other interesting feature is that a perfect but smaller replicate is capable of being formed.

As far as we are aware, there are no reports in the literature of any mosquito having four spermathecae. The maximum number that has been found has been three.

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