

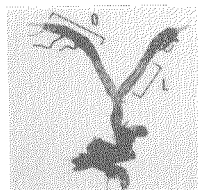
THE ANATOMY OF A NATURALLY OCCURRING STERILE ADULT FEMALE *Aedes aegypti* (LINNAEUS)¹

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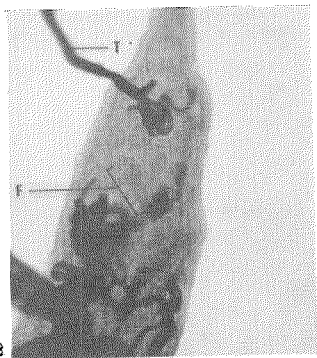
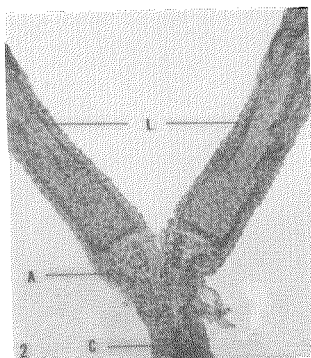
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In studies on the reproductive physiology of the Bangkok strain of *Aedes aegypti*, numerous adult females have been dissected over the past five years. This note will call attention to two cases where both ovaries of 4- to 7-day-old adult, sugar-fed virgins contained no germinal cells, i.e., the ovaries completely lacked both nurse cells and oöcytes. A detailed examination of the reproductive system of these females showed (1) that the ovaries (Fig. 1, O) were reduced in size by more than 50 per cent yet were normally

the case. (4) The sterile ovaries contained approximately 50 apparently normally formed follicles (Fig. 3, F). In all other respects the reproductive anatomy appeared normal, i.e., these females possessed apparently normal ampullae (Fig. 2, A), a normal common oviduct (Fig. 2, C), normal bursa copulatrix, three spermathecae, accessory gland, and external genitalia. Furthermore, these females appeared externally indistinguishable from their normal sisters reared under exactly the same conditions.



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FIG. 1.—Whole mount of sterile female *Aedes aegypti* showing the reduced ovary (O) and the elongated lateral oviduct (L). Formalin fixed, stained with Mayer's hemalum.

FIG. 2.—Lateral view showing detail of the lateral oviduct (L), ampulla (A), and a portion of the common oviduct (C).

FIG. 3.—A portion of the ovary showing trachea (T) and a follicle (F).

tracheated (Fig. 3, T), (2) that the ovaries and lateral oviducts contracted normally and vigorously in physiological saline, and (3) that the lateral oviducts (Fig. 1, L) were strikingly longer (about two times longer) than is ever normally

The absence of germinal cells in adult female *Aedes* mosquitoes is thus associated with a great reduction in the size of the ovary as well as with a reduction in the number of follicles, and additionally is associated with an abnormal elongation of the lateral oviducts. It is clear, however, that the complete absence of nurse cells and oöcytes in the adult female mosquito

has in no way affected the development of the rest of the internal and external reproductive system. Anatomically sterile adult male *Aedes aegypti* also can have a normal postgonadal reproductive system (Jones, 1961).

ADDENDUM. Since this paper went to press three more anatomically sterile females have been found. In one of these cases, one ovary was strikingly more atrophied than the other. In still another case, one ovary was apparently normal (i.e., possessed oöcytes and nurse cells) and the corresponding ovary was atrophied and anatomically sterile. In the third case, the sterile female had been force-copulated with a male and had been normally inseminated.

Literature Cited

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