A TRAP TO COLLECT MOSQUITOES ATTRACTED TO MONKEYS AND BABOONS

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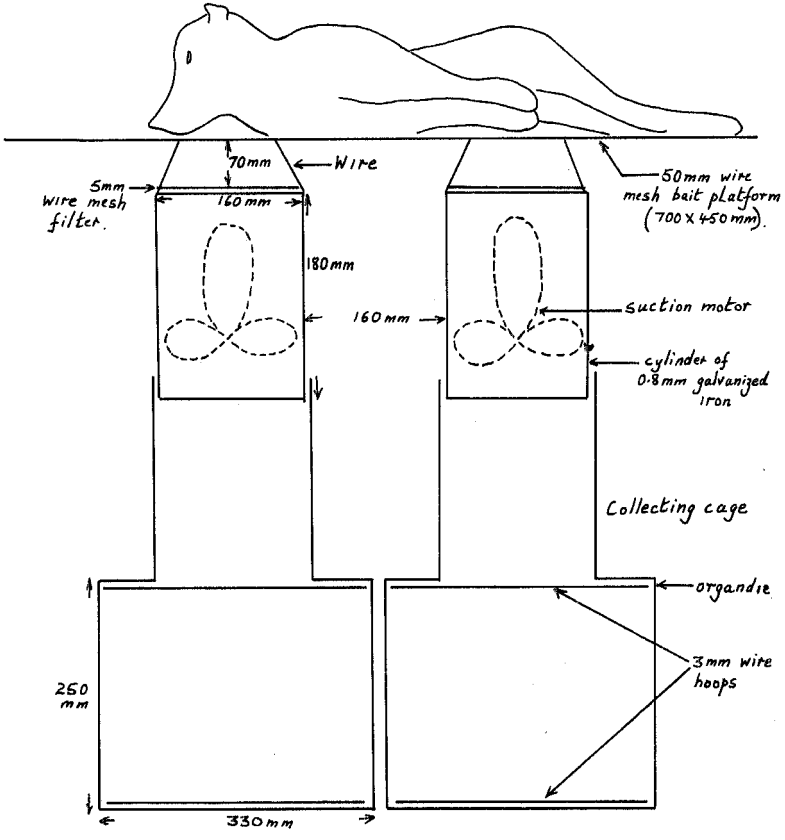
Previously difficulty has been experienced in South Africa in adequately sampling those mosquito species feeding on vervet monkeys at localities where the epidemiology of Chikungunya (CHIK) virus has been investigated. During studies in gallery forest along the Usutu river near Ndumu in the coastal plane of Northern Natal (McIntosh et al. 1972) some mosquito species failed to enter monkey-baited "lard-can" type traps in large numbers, notably the *Aedes (Diceromyia) furcifer/taylori* group of which *Ae. furcifer* is an important vector of CHIK virus. This group of mosquitoes was, however, readily attracted to man on a tree platform 12 m above the ground. For this reason when a recent epidemic of CHIK virus (McIntosh et al. 1977) made another study of the primate-feeding habits of the *Ae. furcifer/taylori* group necessary, a different type of trap was employed baited with either a baboon or a monkey. This new trap proved most efficient for sampling this group of mosquitoes at a farm near Mica in the epidemic area which lies in the wooded savanna region of the north-eastern Transvaal. A description of the trap is given below.

Fig. 1 shows how the trap is constructed and



set up. A young baboon (*Papio ursinus* (Kerr) or vervet monkey (*Cercopithecus aethiops* (Cuvier)) is anaesthetized by intramuscular injection with "Sernylan" (phencyclidine hydrochloride) and roped to the bait platform which consists of a piece of 50 mm wire mesh. This platform can either be supported by poles of electric conduit tubing 1 m above ground level or is suspended on a rope at a height of 10 m or more in the tree understorey. Two rubber-bladed suction fans housed in galvanized iron cylinders, painted black outside, are suspended from the bait platform as shown so that the openings of the cylinders through their 5 mm wire mesh filters are about 70 mm away. Eight-watt "autofan" motors operated by a 12 volt car battery are used in the suction units. Insects are sucked downwards into 2 organdy collecting cages as they come near the bait to feed.

In the eastern Transvaal this collecting method was employed during the 2 hr after sunset, the bait animals usually remaining asleep over this period, although occasionally a 2nd injection of anaesthetic became necessary. Large numbers of female and male mosquitoes of the *Ae. furcifer/taylori* group were collected at 2 levels, particularly by traps in the understorey. Identification of the males from their genitalia showed that they were mainly *Ae. furcifer*. Unbaited control traps set 1 m from the ground gave almost negative catches. Fair numbers of Phlebotomines and *Culicoides* species were also sampled in the traps baited with vervet monkeys.

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A PRACTICAL METHOD FOR SEXING PUPAE OF *ANOPHELES ATROPARVUS*

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The described method here for sexing pupae was found very useful during cage population studies with *Anopheles atroparvus*, van Thiel 1927. For this study each week a number of unmated females and males of the same age was required. Data collected in the course of this experiment are presented in order to give some quantitative information concerning efficiency and usefulness of this method.

Larvae of *An. atroparvus* were reared in trays. Once pupae developed they were collected in a small beaker by means of a pipette or a small strainer of the size of a teaspoon. The sex of each individual pupa was subsequently determined by examining the shape of the hypopygium (Moorfield 1951), using a binocular dissecting microscope with a magnification of 50 X.

To facilitate examination each pupa is sucked into a narrow glass tube, fixed to an adapted sucking tube. Glass tubes with an inner diameter varying between 1.5 and 2 mm were used. The size of the inner diameter is so chosen that the pupa is fixed in a position with a stretched abdomen. The glass tube is turned