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MOUTH ASPIRATOR WITH HOLDING CAGE FOR COLLECTING MOSQUITOES AND OTHER INSECTS^{1,2}

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To evaluate the effectiveness of repellent-treated, wide-mesh bed nets and net jackets, collections are made of mosquitoes and other biting flies that successfully penetrate or bite through the netting. A simple but effective aspirator whose operation can be easily and quickly understood is needed by local help employed for these studies in remote areas of Ethiopia. Furthermore, live collections are needed for arbovirus determinations. Mechanical aspirators made from portable vacuum cleaners were considered, but adequate numbers of the vacuum cleaner units were not available. The standard tube aspirator was found awkward to use by our local helpers, and specimens were lost or stressed when transferred to holding cages. A sucking aspirator derived from the modified aquarium dip tube used as a collecting cage by Jackson and Grothaus (1971) was found, however, to be highly acceptable. This aspirator is inexpensive, easily constructed and effective for collecting a variety of biting flies including species of *Culicoides*, *Simulium* and *Phlebotomus*. It is particularly useful in collecting stronger fliers which often may be missed when using mechanical aspirators with their uncontrolled suction.

DESCRIPTION. The unit is basically a plastic aquarium dip tube of the type used by tropical fish hobbyists for removing organic sediment. The

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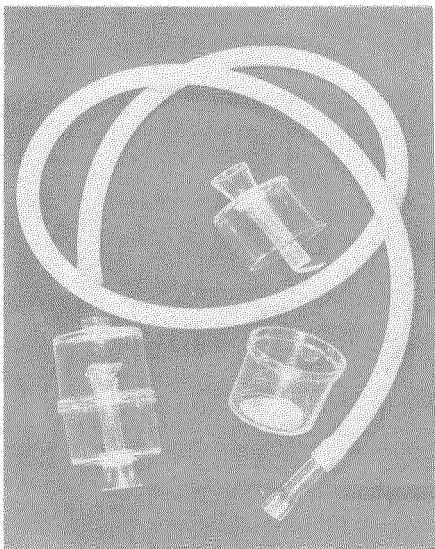


FIGURE 1. Mouth aspirator with holding cage.

dip tube is modified by reducing the flared end to a diameter of 2 cm and cutting the intake tube (inside the bulb section) to a length of 4 cm. To inhibit the escape of captured specimens, a 1.5 cm square plastic plate is attached at an angle to this cut end (Figure 1). A piece of organdy cloth is glued to the inside of the opposite opening of the bulb to prevent inhalation of the specimens. Organdy is used so that smaller insects will be retained. A 75 cm length of 7 mm rubber tubing with mouth piece is attached to a 4 cm length of plastic tubing cut from the detachable handle which comes with the dip tube. The latter attaches to the "organdy end" of the bulb cage and is held by friction; the cages thereby may be quickly changed as necessary. If the specimens are to be held alive overnight, the flared end is stoppered with cotton or tissue to prevent escape. Gummied labels on the cages facilitate recording of collection data.

Literature Cited

- Jackson, S.C. and Grothaus, R.H. 1971. A combination aspirator and killing tube for collecting mosquitoes and other insects. Mosq. News 31(1):112-113.