Male genitalia: Basistyles broad, without mesad pilosity; ventral apodeme prominent, well developed; not foot-shaped; both apodemes of about the same size. Dististyles nearly straight, base slightly swollen, apex not clubbed or hooked. Parameres almost straight, tip curved, hairy. Aedeagus arched, narrow, with a very short median process, roots well separated. Ninth tergite distally narrow, with long apicolateral processes slightly curved, distal margin almost straight, with a row or patch of hairs, without notch or this very small. Ninth sternite broad, with a broad median cleft. Membrane with or without spicules.

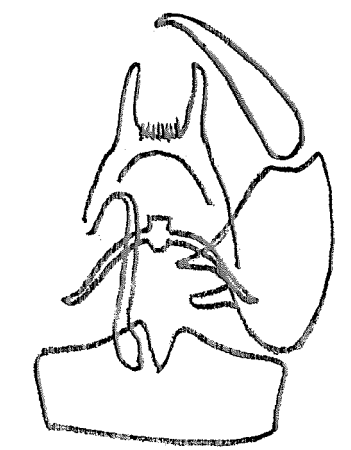

FIG. 1.—*Culicoides segnis.* Type species of *Wirthomyia n. subgenus.—Male genitalia.*

Species included: Type of *Wirthomyia* n. subgen: *segnis* Campbell and Pelham-Clinton, 1960. British Isles, Poland, Tchecoslovaquia.

reconditus Campbell and Pelham-Clinton, 1960. British Isles, Switzerland.

riouxi Callot et Krémer, 1961. France, Switzerland.

bottimeri Wirth and Blanton, 1955. U.S.A.

stilobezzioides Foot and Pratt, 1954. U.S.A.

LIFE HABITS. *C. stilobezzioides* bites man, is strongly ornithophilic, being most active about dusk, it is a possible intermediate host of a *Haemoproteus* of the purple finch.

DISCUSSION. The subgenus is named after the distinguished Culicoidologist Dr. W. W. Wirth.

A more detailed study of the male genitalia characters is the basis for grouping the species of *Culicoides* in a more rational relationship. Eventually it may be possible to correlate these characters with the external characters of the female which now are difficult to interpret. It is most probable that the chaetotaxy of the thorax may show a typical pattern useful in determination of genera and subgenera.

The absence of pilosity on the inner side of the basistyle distinguishes *Wirthomyia* n. subgen. from the subgenera *Culicoides* s. str., *Hoffmania* and *Anilomyia. Selfia* and *Monoculicoides* have fused parameres. *Macfiella* has a pronounced medial formation on the aedeagus and this is not so simple.

Beltranmyia and *Trithecoides* do not have ventral apodemes. In *Oecacta, Diphaomyia* and *Mataemyia* the ventral apodeme is foot-shaped. Parameres are more simple in *Pontoculicoides.* The simplicity of the aedeagus separates *Wirthomyia* n. subgen. from *Drymodesmia* and *Glaphiromyia.*

The unmarked wings of the female, the absence of outstanding markings on the mesonotum are useful to distinguish *Wirthomyia* n. subgen. from *Oecacta, Hoffmania, Beltranmyia* and *Monoculicoides.*

Trithecoides, as the name points out and *Pontoculicoides* have three spermathecae.

A DISPOSABLE ADULT MOSQUITO BIOASSAY CAGE

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Field bioassays often employ caged adult mosquitoes. A disposable cage (Fig. 1) was developed to avoid the problems of high initial cost and potential contamination encountered with reusable metal cages. The cage is similar in shape to one described by Rathburn *et al.* (1969).

The body of the cage is constructed from three cardboard rings. An inner ring is 6.030 inches inside diameter x 1-¾ inches wide x 0.108-inch wall thickness, and two outer rings are 6.250 inches inside diameter x ⅜ inches wide x 0.090-inch wall thickness.[1] A ⅜-inch hole is punched in the center of the inner ring before the cage is assembled. Nylon net (approximately 18 x 18 mesh, varied according to need) is cut to size and held over the ends of the wide ring by the two narrow, larger diameter rings. Mosquitoes are gently aspirated into the cage and the hole is plugged with a cotton dental roll which is then moistened with water or a sugar solution.

[1] Knife-cut paper cores, Tubes and Cores, Inc., 1075–22nd Street, San Francisco, California 94107.

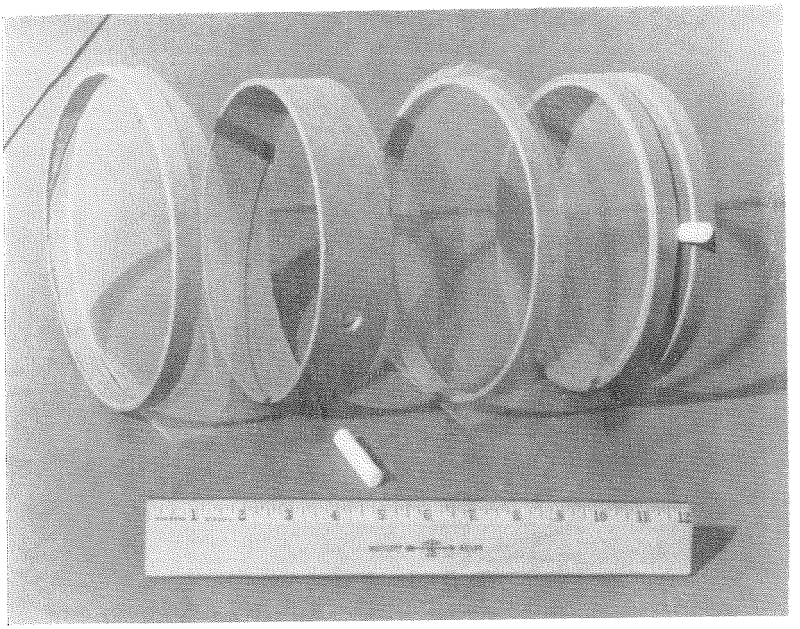

FIG. 1.—Disposable adult mosquito bioassay cage, component parts and assembled. (A. J. Francesconi photograph).

Each cage is attached to a 4-foot, pointed surveyor's lath for open-field tests. A simple holder is constructed from a wire coat hanger bent into a wishbone shape around the cage and secured to the lath with a large binder clip.

Following exposure, the dental roll is again dampened and the cage placed into a food wrap size (approximately 8 x 12 inches) plastic bag. Our work does not require transferring the mosquitoes into a holding cage, so mortality is determined periodically in the original treatment cage. Visibility is very good. Survival of untreated check mosquitoes has been excellent even when unfed.

The cardboard rings required to construct 2,000 cages were purchased in 1972 for under $250, and the required quantity of nylon fabric cost about the same amount, bringing the per-cage cost to less than $0.25. Assembly time approximates 4 man-minutes per cage.

Reference Cited

Rathburn, C. B., Jr., Rogers, A. J., Boike, Jr., A. H. and Lee, R. M. 1969. Evaluation of the ultra-low volume aerial spray technique by use of caged adult mosquitoes. Mosq. News 29(3): 376–381.