

a 63707

WHO/Mal/428 ✓
31 January 1964

ORIGINAL: ENGLISH

A SIMPLE DEVICE FOR ANAESTHETIZING
MOSQUITOS WITH CARBON DIOXIDE

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Preparation of mosquitos for insecticide tests or transfer to recovery containers of exposed batches of any winged insects generally requires some method of immobilizing them temporarily with as little mechanical or toxic damage as possible.

Various "stupefaction methods" have been described by Busvine (1957) who pointed out that in recent years carbon dioxide has been increasingly used.

The use of carbon dioxide presents no technical problem in the laboratory as CO₂ cylinders of various sizes and with valves of various designs can be easily installed. The problem becomes more difficult in the field especially with tests for estimating the activity of residual insecticide deposits.

A few years ago in Nigeria Bruce-Chwatt and Elliott used CO₂ routinely for anaesthetizing anopheline mosquitos for bio-assays in the field. Instead of a conventional, bulky, cylinder, they employed the well-known Porton Aerosol Projector. This convenient apparatus, normally used for atomizing an insecticide solution propelled by a CO₂ cartridge, was naturally used without an insecticide. The stream of pure CO₂ obtained by depressing the regulator valve was directed through a rubber tube inserted in the nozzle. The apparatus proved to be much handier than a cylinder, lighter and more compact. To the best of our knowledge, it has not been used by other workers, perhaps because the description of it was contained in a departmental report for limited circulation.

A further simplification of the technique of using CO₂ in the field is here proposed. Recently a new and efficient device for removing corks from bottles of wine appeared on the market. The principle is to inject, through a thick-bore

needle pushed through the cork, a small quantity of CO₂ released from a "Sparklet" bulb inserted in the handle of the device known as "Corkmaster". It appears that this little tool (19 cm long, 3 cm in diameter, and weighing 120 g) represents the handiest CO₂ dispenser ever described (Fig. 1).

For very small quantities of carbon dioxide the needle can be used; for larger quantities, it is suggested that the oblong removable cap which protects the needle be cut off at the tip and an appropriate rubber tubing fitted over so that the stream of gas can be easily directed. The valve is very sensitive and the amount of gas can be well regulated by thumb pressure.

One CO₂ cartridge should suffice for many tests and additional cartridges can be carried in the pocket. The present price of this dispenser is about \$ 4.00 and a box of 10 cartridges costs \$ 0.85.

Some workers in the laboratory or in the field (Whittemore & Bryant) who use carbon dioxide in the course of their investigations may find the described device handy, convenient, simple and cheap. It might be of value if the results of their tests could provide some information on the practicability of the proposed method.

It should be stressed that the approved instructions for standardized bio-assay of insecticidal deposits (WHO, 1963) do not call for the use of CO₂ and that the use of aspirator tubes is recommended.

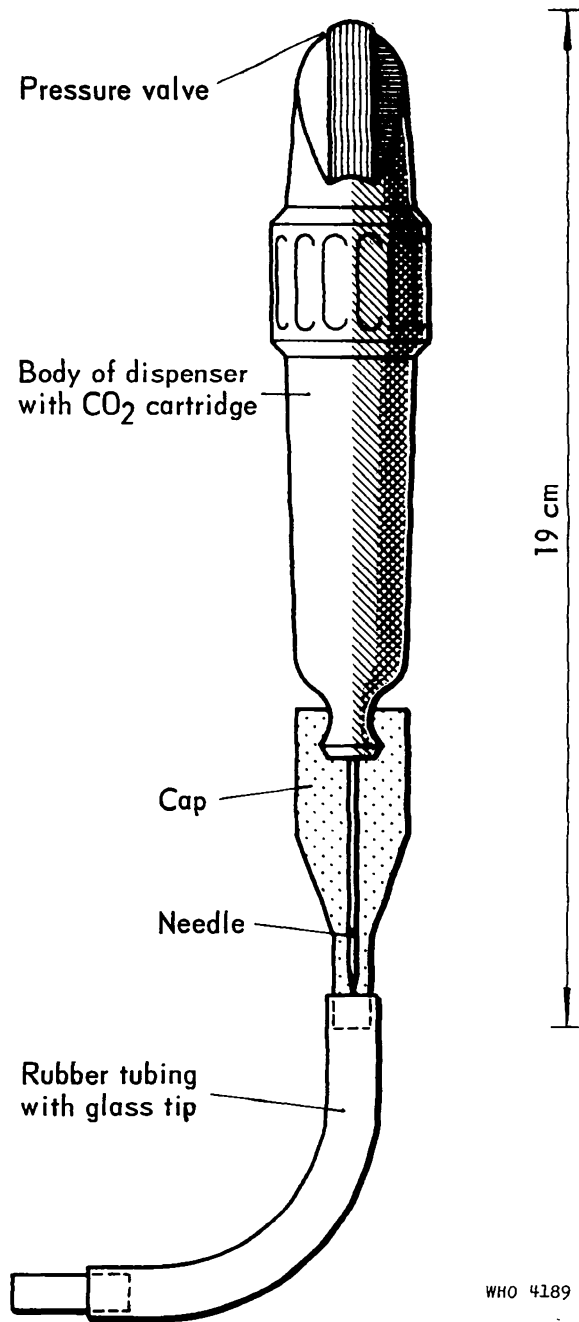
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FIG. 1
CARBON DIOXIDE DISPENSER WITH RUBBER TUBING ATTACHMENT



WHO 4189

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