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A SIMPLE ISOTHERMIC CHAMBER FOR INSECT REARING

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ABSTRACT

The construction of a simple, low cost constant temperature chamber, which has been successfully used for rearing two species of insects (one termite, one beetle), at temperatures of 18°C, 25°C and 31°C, is described.

Laboratory rearing is a common problem in the study of ontogeny, biological control, systematics, etc. This kind of rearing usually requires the use of CT rooms which reproduce temperature conditions of the habitat. Sometimes, in experimental studies, it is necessary to study the behavior or development of an insect at various different temperatures.

In this paper, a constant temperature chamber is described, which because of its simplicity and low cost would be useful for laboratory experiments.

CONSTRUCTION AND USE OF THE CHAMBER

The following material was used for the confection of the chamber: a box of isopor (30 x 25 x 18 cm), three 15 W bulbs, two meters of electrical flex, three sockets, one plug, one aquarium thermostat without the protecting glass, and one thermometer.

The lid of the box was perforated so that the socket and the plug were adjusted to the hole. The bulbs were connected in parallel together with the thermostat (fig. 1).

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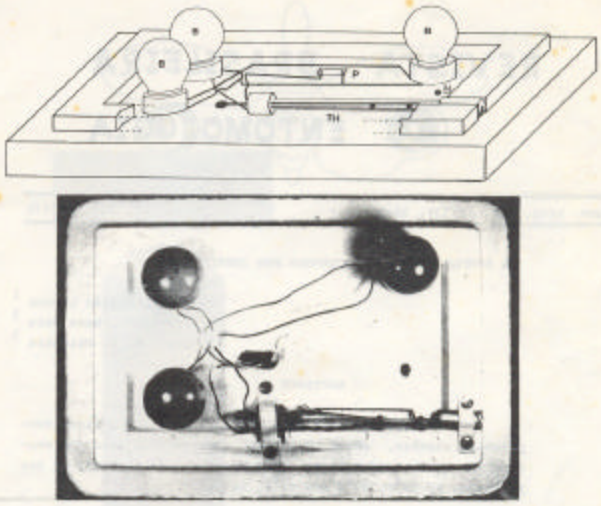

Fig. 1. Lid of the isothermic chamber. B, 15 W bulbs; P, plug; TH, thermostat; H, hole for the thermometer

The temperature was controlled by adjustment of the thermostat. For temperatures above the environment, the chamber works without any complication; for temperatures below those of the environment, it is necessary to place the chamber in common refrigerator and regulate the thermostat to obtain the correct temperature.

The chamber has already been tested in two experiments with satisfactory results. One of the authors, G.M.F.O. (*cf.* Oliveira, *in MS*), reared specimens of *Nasutermes arthuri nuelleri* (von Rosen, 1912) (Isoptera Kalotermitidae) on an artificial diet (Harley & Willson, 1968) at a constant temperature of 25°C. P. McFadyen (Department of Land, Queensland, Australia) reared specimens of *Anoxia fusca* (Klug, 1829) (Coleoptera, Chrysomelidae) at a temperature of 18°C with this chamber placed in a refrigerator as described above, and at 31°C, outside the refrigerator

The constant temperature chamber described above presents the following advantages: low cost and easy manufacture, and a heat source which does not considerably alter the relative humidity of the air within the chamber.

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