placed in test tube racks (40 tubes/rack) and autoclaved. Rubber bands which have been broken during autoclaving are replaced. With the aid of a small glass funnel, etherized flies are dropped into the tubes while they are still in the test tube rack. Cotton plugs are then pushed down into the tubes with a rod. (Three of us have loaded approximately 1000 tubes with 5 virgins, 1 male, and the cotton plug in less than two hours.) Next, the empty tube carrier is placed in register over a box of unplugged vials containing the appropriate medium. Each loaded tube is then forced through the upper and then the lower hole of the tube carrier and allowed to come to rest on the medium in the vial. To transfer the tube carrier with all its laying tubes from one vial box to another, the tube carrier must first be lifted vertically with some horizontal shaking of the carrier to shake off the few vials that begin to be lifted by the friction of the skirt of Dacron mesh on the end of the laying tube. Holding the carrier over the new box of vials, one lines up the first row of tubes over the first row of vials as accurately as possible and then lowers the carrier very slowly while constantly shaking the carrier horizontally to enable the rest of the tubes to start down into their respective vials. Usually a moderate amount of horizontal shaking is sufficient to get all the laying tubes to drop into their vials but occasionally a third hand is needed to adjust one or two recalcitrant tubes.

One should carefully consider whether or not it would be less effort just to shake individually the parental flies of each mating from one vial to the next, or whether making and operating this Drosophila Culture Replicator will save time and effort in the long run. We, however, have found this device invaluable for the simultaneous collection of timed embryos (4 hour laying periods) from almost 1000 separated matings.

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It is usually rather tedious to rear several Drosophila species simultaneously in laboratory conditions, because they require different culture media. Fungal media are especially laborious to maintain. In order to eliminate these difficulties I have endeavoured to develop a universal culture medium, meeting the requirements of the Drosophila species or other Drosophilids reared in our laboratory to at least a satisfactory extent. The essential ingredient of this medium is malt (rye or barley malt), whose absence generally results in failure of the culture. The medium is composed of the following ingredients:

1 l	water
10 g	agar powder
50 g	semolina (or cornmeal)
100 g	malt
15 g	dried yeast
25 ml	nipagin (500 ml 96% ethanol + 25 g nipagin)

The ingredients are mixed with hot water in the order given. When the medium has been poured into the culture bottles and cooled down, baker's yeast suspended in water is pipeted on the surface in the normal fashion. The medium has given good results in the rearing of the following Drosophilids: D. melanogaster, D. funebris, D. obscura, D. bifasciata, D. subobscura, D. silvestris, D. littoralis, D. phalerata, D. transversa, D. testacea, D. hydei, D. busckii, D. (Hirtodrosophila) n. sp., Chymomyza costata and Scaptomyza pallida.

Several of these species are difficult or impossible to rear on the standard D. melanogaster medium but do well on the malt medium. Some species that also thrive on the standard D. melanogaster medium develop quicker on the malt medium. Among these may be mentioned D. funebris and D. hydei, whose development is speeded up by 4 - 6 days.

The medium can, of course, be modified, e.g. by using syrup and leaving out semolina and dried yeast, but this often results in a culture medium that is too sticky for the flies, especially those of the Quinaria group.

The medium can obviously be improved still further but up to now it has proved the best universal Drosophilid medium.