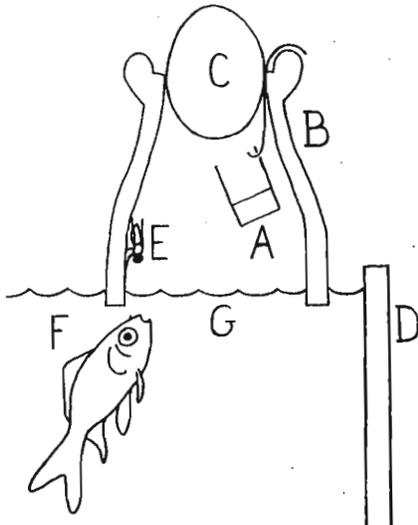


Wong, P.T. and W.E. Trout III. City of Hope National Medical Center, Duarte, California. The psychic fly fish feeder: A reply to Ogden Nash.

"The Lord in His wisdom made the fly  
And then forgot to tell us why."  
The Fly, by Ogden Nash

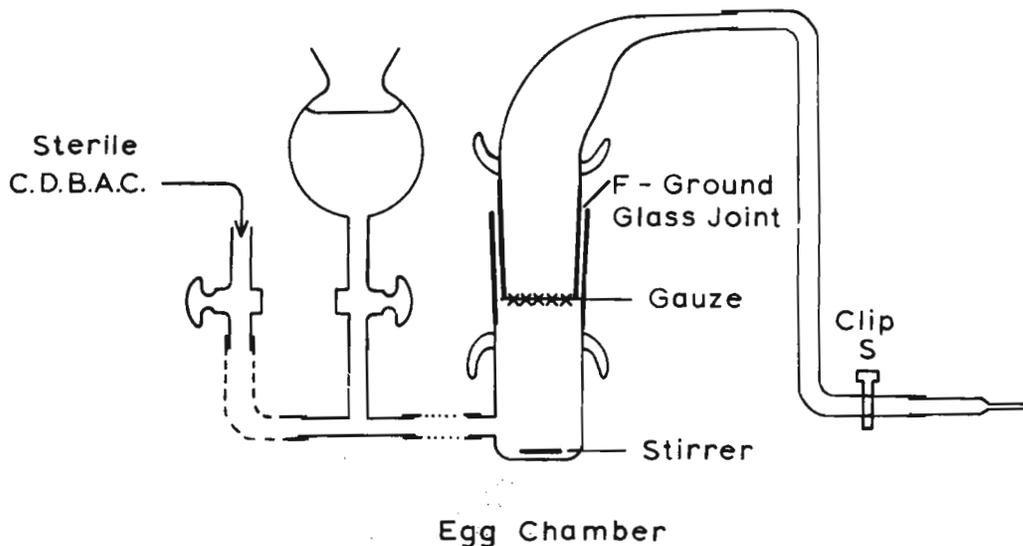
A culture of the neurological mutant  $Hk^1$  (who falls over when he sees something moving), is placed in container (A), in bottomless bottle (B), plugged with cotton (C), which is suspended at the surface of the water in aquarium (D). When a fly emerges (E) and sees fish (F) moving below him, he loses control of himself and falls into the water (G) thereby feeding fish (F).



Sparrow, J.C. University of Sussex, Brighton, England. Eggwashing apparatus.

This apparatus replaces the reversing pump described by Sang (1956) in our *Drosophila* egg sterilization procedure for axenic culture. The eggs are col-

lected by the method of Sang (1956), dechorionated with hypochlorite and suspended in 1.0% saline. This stops the dechorionated eggs from aggregating. Any larvae are removed by hand using a binocular microscope. The eggs are then placed in the apparatus through the thistle funnel and enter the egg chamber. They are washed in this chamber by a sterile 0.1% C.D.B.A.C. (cetyldimethylbenzylammonium chloride) solution which runs continuously through the apparatus. The flow rate is controlled by the screw clip (S) at a rate of 90 drops/minute



from the standard pasteur pipette. The eggs are kept in suspension and from sticking to the gauze by means of a small magnetic stirrer, revolving at about 74 revs./minute. The figures for flow rate and stirring are those which give optimum egg-hatching rates with minimum culture infection. The eggs undergo 15 minutes of this treatment and then the egg chamber is removed from the apparatus. The egg chamber must be washed through with sterile water before plating so as to remove any C.D.B.A.C. Prolonged exposure to this detergent was found to kill eggs. Some strains appear more sensitive than others to the length of time spent in C.D.B.A.C. The egg chamber is then dismantled at (F) in a sterile hood and the eggs plated on agar using the procedure of Sang (1956).

Reference: Sang, J.H. (1956). *J. Exp. Biol.* 33:45-72.

Lewis, E.B. and L. Craymer. California Institute of Technology, Pasadena, California. Quinacrine fluorescence of *Drosophila* chromosomes.

We describe below a modification we have developed for *Drosophila* of the quinacrine-fluorescent staining methods developed by Caspersson and his colleagues (Expt. Cell Res. 58: 141-151, 1969) for plant and, later, human chromosomes. Our findings are in general

agreement with those of Vosa (*Chromosoma* 31: 446-451, 1970) who reports selective staining with this dye of the long arm of the Y chromosome and of the fourth chromosome in *Drosophila melanogaster*. In addition we have observed a bright fluorescing band in region 81F (3R) of the salivary gland chromosomes. Also in larval ganglion metaphases a weakly fluorescent spot is visible in the basal heterochromatic region of X, 2L, 2R and 3L, while 3R has two such spots. The Y has at least three strongly fluorescing spots in Y-long and at least one in Y-short (Y<sup>closed</sup> has five spots visible); the fourth chromosomes appear at metaphase as two very bright fluorescent bodies. Adult muscle or brain tissues show in resting nuclei a large, usually single, fluorescent body, which may represent a chromocentral fusion of the fluorescent spots found in the basal part of each chromosome arm. The XY male has a somewhat brighter body, evidently due to fusion of the Y chromosome as well. It may prove possible therefore to "sex" somatic resting nuclei of adult tissues.

The resting nuclei of imaginal disc cells also have a single large fluorescing body in XX or XO tissues but tend to have two such bodies, of approximately equal fluorescent intensity, in XY or XXY resting nuclei. We interpret this to mean that in these rapidly dividing tissues the Y often does not fuse with the chromocenter. We have also extended this observation by studying males carrying an extra Y-long arm attached to X in addition to a normal Y. Such males often show three fluorescing bodies in the resting nuclei of their imaginal wing discs instead of two, suggesting that extra Y's do not tend to fuse with one another in imaginal disc tissue.

A. Procedure for staining *Drosophila* salivary gland chromosomes or resting nuclei of many larval or adult (except brain) tissues.

1. Dissect larvae in 45% acetic acid. Place tissue in a small drop of 45% acetic acid on a siliconed coverslip. Lower a slide which has been "subbed"\* over the drop; after it touches the drop, invert the slide; blot to remove excess mounting fluid; tap the coverslip sharply over the tissue area with a blunt instrument to disperse cells; cover with absorbent tissue and squash with strong pressure.

2. Immerse slide in liquid nitrogen until bubbling stops (or freeze on a block of dry ice).

3. Pry off coverslip with a razor blade. Dip slide in 95% alcohol for about a minute and then into absolute alcohol for a minute. Remove and dry by waving in the air.

4. Flood area over tissue with a few drops of an 0.5% to 2% solution of quinacrine hydrochloride in 45% acetic acid and stain for one or two minutes. (Batches of Gurr's "atebrin" or Sigma's quinacrine have proved satisfactory.)

5. Drain off staining solution and quickly dip slide into a jar of 95% ethanol followed by one or two transfers through absolute ethanol. The total time in the alcohols should be 20 seconds or less at 25°C to avoid excessive destaining. Insufficient rinsing may result in excessive background fluorescence in the final preparation.

6. Remove slide from the absolute ethanol and quickly dry by waving the slide vigorously in air. Heating at this stage tends to destain the preparation.

7. To mount, place a drop of sucrose solution (0.5 to 1.0 molar in double distilled water) in the center of a coverslip. Invert the slide over this coverslip until it touches