the drop. Quickly reinvert and blot firmly to remove excess mounting fluid. Seal with clear nail polish.

B. Procedure for staining adult brain tissue.

1. The same procedure as that described for the larvae is used except that the percentage of acetic acid in both the dissecting fluid and the quinacrine staining solution is reduced from 45% to 10%.

C. Procedure for staining larval ganglia for metaphase chromosome studies (modified from DIS 34: 118-119).

1. Dissect larvae in a solution of 1.0% Na Citrate in distilled water. Place the dorsal ganglia in a drop of this solution for 10 minutes on a slide. Warm the slide on a hot plate at 40°C for one minute (this hastens separation of sister chromatids). Pass the ganglia into a pre-fixative composed of equal parts of 45% acetic acid and 95% ethanol and leave for 30 seconds. Then remove tissue and place in a drop of 45% acetic acid on a siliconed coverslip. Continue with procedure described in part A, par. 1 above.

*3 gm gelatin. 600 ml distilled water. Heat to dissolve gelatin. Cool. Add chrom. alum - $KCr(SO_4) \cdot 12 H_2$) - 300 mg. Dip slides, drain and allow to dry in dust-free container.

TEACHING NOTE

Potter, J.H. University of Maryland, College Park, Maryland. A demonstration of compensation for an inherited biochemcial defect in D. melanogaster.

A simple demonstration of compensation for an inherited biochemical defect can be carried out by beginning students using D. melanogaster. In essence, students supply kynurenine to larvae of vermillion mutants which cannot convert tryptophan to kynurenine, one of the steps in the synthesis of omnochrome pigments. Since students frequently do not distinguish vermillion from wild type flies, they use the white-eyed, double mutant, vermillion brown. Vermillion brown larvae fed kynurenine develop brown eyes. To emphasize the specificity of the block, students also feed kynurenine to the double mutant, cinnabar brown. Cinnabar brown mutants develop white eyes whether or not they receive kynurenine.

Experimental procedure: Students set up two cultures each of vermillion brown and cinnabar brown mutants in 80 x 25 mm. shell vials containing 5 ml of Carolina Instant Drosophila Medium. As soon as larvae appear the parents are removed and the medium in one vial of each genotype is injected with 0.2 ml of a kynurenine-antibiotic solution. The medium in the other two vials is injected with 0.2 ml of plain antibiotic solution. The injections are made with a 2 1/2 ml syringe without a needle inserted in a hole made in the medium with an applicator stick. Injections are repeated every two days until pupae appear. The adults are scored in the usual way. The kynurenine treated, vermillion brown, flies are mated after scoring and their progeny scored for eye color to demonstrate that the genotype has not been changed by the kynurenine treatment.

The kynurenine antibiotic solution is similar to that used by Parsons and Green (1959) for culturing eye discs: 0.05% streptomycin, 0.033% penicillin and 1.00% D.L. kynurenine can be obtained from Sigma Chemical Co., St. Louis, Missouri, at $14.00/gram.

References: Parsons, P.A. and M.M. Green, 1959, Proc. Nat. Acad. Sci., Wash. 45: 993.

MATERIALS REQUESTED OR AVAILABLE

H.R. Feijen, University of Malawi, Genetics Section, P.O. Box 5200, Limbe, Malawi, would be grateful to obtain reprints on speciation in Drosophila and reprints on systematics of Drosophila.