Schwinck, I. University of Connecticut, Storrs, Conn. Imaginal eyes implanted in the imaginal abdomen.

In the study of genetic and epigenetic control of the drosopterin pathways it became desirable to study transplanted eyes in vivo during the time of drosopterin formation. It is long known that the quantity of drosopterin still increases considerably in the first days after eclosion of the fly. Experimental decrease or increase of the amount of drosopterins in post-eclosion flies by innibitor feeding respectively phenylalanin crystal implantation were recently demonstrated for several mutants (Schwinck, I. 1970, DIS 45:92; 1971, Genetics 68:s59). Here I would like to report an eye transplantation method which places the eye of a newly eclosed fly into an incision in the abdomen of a newly eclosed female host fly. The donor eye is implanted with the chitin surface sticking out of the host abdomen; the wound rims close very quickly followed by little melanin formation. A technical pilot experiment concerned with the survival rate of this post-eclosion eye transplantation method was finally terminated after more than three weeks during which the host flies had matured and produced viable offspring. The accompanying photograph shows 12 of these surface eye transplants in their 3 week old hosts; the various eye colors of the different genotypes are recognizable. In contrast to the classical larval eye disc implantation technique which results in inverted eyes deep within the abdomen, these adult surface eye transplants now allow the study of (1) pigment formation in a morphologically normal, developed eye structure, (2) the continued observation of the transplant eye, and (3) the use of the host abdomen as a tissue culture medium with genetically and/or biochemically variable contents.

Three week old host flies with surface eye implants.

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Averhoff, W.W. and M.R. Wheeler. University of Texas at Austin, Texas. A new distribution record for D. latifasciaeformis.

D. latifasciaeformis was described in 1940 by Dr. O. Duda from Uganda, Africa. It was found in Brazil in 1943 (as D. mirim) and in Mexico in 1947 (as D. baeomyia). Extensive collections in Florida in 1941 did not include the species but we found it in 1948 in South Carolina and in 1950 at 3 localities in Florida. By 1953 it was taken at 10 places in Florida and also in southeastern Georgia. By the late 1950's it was found to be widespread in Central and South America and in the West Indies.

We can now report a considerable extension of its range; it was collected at banana bait in the northeastern part of Austin, Texas in October 1972. It appears to be a very successful species, actively extending its range in the world.