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FREQUENCY OF DISPERMY IN D. MELANOGASTER

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Authors

Hildreth, Philip E.
Lucchesi, John C.

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University of California
Ernest O. Lawrence
Radiation Laboratory

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Berkeley, California

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IN *D. MELANOGASTER*

Philip E. Hildreth and John C. Lucchesi

July 30, 1962

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It was reported by us (DIS 35:85, 1961) that the frequency of dispermy in *D. melanogaster* eggs is very low. Among 93 fertilized eggs examined in meiotic stages two were dispermic (2.2%) and 91 were monospermic. In no case were more than two sperms present in an egg. These data were obtained from crosses of $y^2 sc^{S1} B In49 v w^a sc^8$ homozygous females with wildtype males from a Samarkand stock.

A second experiment is now in progress in which other aspects of supposed polyspermy in eggs from a different female genotype are being investigated. Females homozygous for the mutant *dor* (deep orange--Merrell, D. J., 1947 Am. Nat. LXXXI, pp 399-400) are mated with wildtype Samarkand males and eggs are collected over a short period by using the method described by Hildreth and Brunt (DIS 36:128, 1962). The eggs are prepared for cytological examination by using the Feulgen whole-mount procedure of von Borstel and Lindsley (Stain Technol. 34:23, 1959). The sperm counts are then based on the observation of the stained sperm heads. At present three dispermic eggs have been observed among 32 fertilized eggs examined in meiotic stages. In addition there were 26 fertilized eggs in the pronuclear stage. None of

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these latter had an accessory sperm, either in the pronuclear or condensed form. It is possible that the accessory sperms may degenerate prior to this stage and therefore the determination of the frequency of dispermy is based on those fertilized eggs that have not progressed beyond telophase II of meiosis. The frequency of dispermy in the dor fertilized eggs is then 9.4%. This frequency is about 4.3 times that observed in the $y^2 B v w^a$ eggs; however the samples are small.

