

Angus, D. University of Queensland, St. Lucia, Brisbane, Australia. Cytological evolution in the *quadrilineata* sp. group.

The cytological evolution of the Australian and New Guinea representatives (*D. tetrachaeta*, *D. pseudotetrachaeta* and *D. nigrilineata*) of the *quadrilineata* species group of the subgenus *Chaetodrosophilella* is

being investigated. All three species have a metaphase plate consisting of 5 pairs of rods and a pair of dots. In each species there is a giant chromosome configuration of 5 arms and a dot. *D. nigrilineata* will not hybridize with the other two species.

D. pseudotetrachaeta females have produced inviable hybrid pupae when crossed with *D. tetrachaeta* males. Analysis of the banding pattern of hybrid larvae for intraspecific differences resulted in the detection of poor synapsis of homologous chromosomes and 9 paracentric inversions (1 on 1, 1 on 2, 2 on 3, 2 on 4, 3 on 5).

By comparison of banding patterns among the three species, 11 more paracentric inversions have been detected (6 in 1, 2 in 2, 1 in 4, 2 in 5). The inversion polymorphism of the group is being further investigated.

Uda, F. and T. Taira. Waseda University, Tokyo, Japan. Cyclic nucleotides and adenylosuccinic acid found in *D. m.*

The change of the pattern of nucleotide pool in *Drosophila* has been studied through the metamorphosis. In order to avoid the contamination of yeast nucleotides, the 90 hrs. old larvae of OR strain were starved

in the period of 2 and 4 hrs. on the wet cellulose powder washed clean prior to contact.

Nucleotides were isolated from hot ethanol extracts and were purified by means of the combination techniques of column chromatography on Dowex-1, paper chromatography and paper electrophoresis. Cyclic nucleotides were obtained in yield of 2.8 μ moles (Ip!), 1.0 μ mole (Gp!), 3.6 μ moles (Cp!) and 1.4 μ moles (Up!) from 10 g of the 2 hr. starved larvae. However, they were not detectable in the nucleotides from untreated larvae, 4 hr. starved larvae and prepupae. They were identified by the characteristics of their mobilities on paper-chromatography and paper electrophoresis. Their UV absorption spectra were nearly identical to those of the 5'-nucleoside monophosphate. The proportion, base to total phosphate, was 1:1.

Adenylosuccinic acid was isolated from untreated larvae, but it was not found out of both 2 hr. and 4 hr. starved larvae. UV absorption spectrum of the isolated compound was the same as that of authentic adenylosuccinic acid. This compound contained one phosphate group. After the hydrolysis with saturated $\text{Ba}(\text{OH})_2$ for 20 hrs. at 100°, a compound which showed the same ninhydrin color and chromatographic behavior as aspartic acid, was released.

TECHNICAL NOTES

Forbes, Clifford. University of Idaho, Moscow, Idaho. Plastic planchets as radiation exposure holders for *Drosophila*.

A nylon planchet used in isotope studies serves as a convenient chamber for radiation exposure. The planchets are one inch in diameter and one quarter inch deep. Flies are placed in the cup-shaped

planchet with a cover of lens tissue or cellophane held in place by the ring supplied with the planchet. (Available from Atomic Products Corporation, Center Moriches, L.I., New York.)