see Ouweneel, 1969 Roux' Arch. 164: 15) in such a way that eggs laid earlier gave rise to flies with a higher penetrance and expressivity of art than eggs laid later. However, here also the results obtained were opposite to those expected: ageing of the mothers had an enhancing effect on penetrance and expressivity. This is shown in the table, in which P is the penetrance (percentage of antennae exhibiting the art effect) and E the expressivity (average expression of the flies), measured according to the following classes: 1-2 unilateral; 3: both aristae less than 3/4 abnormal; 4: one arista more, one less than 3/4 abnormal; 5: both more than 3/4 abnormal.

| age of mothers | | 11h | 3d | 7d | 10d | | 11h | 3d | 7d | 10d |
|---|---|---|---|---|---|---|---|---|---|---|
| P | ♂ | 88 | 98 | 98 | 100 | ♀ | 77 | 88 | 98 | 96 |
| E | | 3.7 | 4.4 | 4.7 | 4.7 | | 3.2 | 4.0 | 4.3 | 4.6 |

Consequently maternal ageing also could not explain the findings. Therefore one solution remained: ageing of the food might alter its constitution in such a way that older food would decrease the penetrance of the art effect in larvae hatching later. This was tested by a simple experiment: a sample of art flies was cultured in a bottle with fresh food; their sons showed a penetrance of 78% and the daughters of 67%. Then another sample of the same strain was cultured in the same bottle on the aged food. Again a large offspring was obtained but now the penetrance was zero. A third sample cultured in the same bottle yielded the same result. This shows the large influence of food constitution on the expression of the homoeotic effect, and again confirms the high sensitivity of homoeotic mutants to environmental influences (see Ouweneel, l.c.).

Sanjeeva Rao, M. Osmania University, Hyderabad, India. The alteration of X-ray induced genetic damage by erythropoietin(s) in D. melanogaster.

Erythropoietin(s) is a polypeptide produced in anaemiated bovine plasma. This substance has altered the X-ray induced dominant lethal frequency in mice both by pre and post-treatment. With a view to find out whether or not the same alteration would be obtained in Drosophila experiments were undertaken.

0.2 micro cc of saline solution containing 1 mg of the substance dissolved in 1 cc of saline was injected into Oregon-K males of D. melanogaster. In the first experiment the treated flies were exposed to 3000r X-rays 24 hours after the injection. In the 2nd experiment flies were exposed to 3000r X-rays and injected 0.2 micro cc of the saline solution containing 1 mg of the substance dissolved in 1 cc of saline. Twenty four hours rest was given before they were allowed to mate in the second experiment while in the first experiment mating was allowed immediately after the exposure to X-rays. Treated males were crossed individually with 3 virgin females of Y $sc^{S1}$ In-49 $sc^{8}$;bw;st stock for 3 days only to assess the alteration in spermatozoa alone. The $F_1$ females were mated individually with Y $sc^{S1}$ In-49 $sc^{8}$ males while the males were mated with bw;st females to score for sex linked recessive lethals and translocations respectively in $F_2$ generation. The results are presented in Table I.

Table I

| Treatment | Sex linked recessive lethals | | | Translocations | | |
|---|---|---|---|---|---|---|
| | T | l | % | T | l | % |
| 3000 r X-rays | 554 | 48 | 4.54 | 542 | 36 | 3.50 |
| PPFF + 3000 r | 527 | 33 | 6.20 | 370 | 16 | 4.30 |
| 3000 r + PPFF | 296 | 11 | 3.80 | 351 | 6 | 1.70 |

The chi-square test has been done to compare the following groups:
(1) 3000 r X-rays Vs. PPFF + 3000 r X-rays
(2) 3000 r X-rays Vs. 3000 r X-rays + PPFF
The results of the statistical analysis are presented in Table II.

Table II Chi-square values for the differences in sex linked recessive lethals and translocations in groups compared.

| Group | | Sex linked recessive lethals | Translocations |
|---|---|---|---|
| 1. | 3000 r X-rays Vs PPFF + 3000 r | 1.936 | 1.968 |
| 2. | 3000 r X-rays Vs 3000 r + PPFF | 7.929 | 10.640 |
| 3. | PPFF + 3000 r Vs 3000 r + PPFF | 2.196 | 3.921 |

The preliminary studies indicate that erythropoietin(s) failed to alter the genetic damage in pre-treatment while the post treatment studies indicated a significant reduction in both sex linked recessive lethals and translocations.

Chung, Y-J. and K-S. Lee. Ewha Womans University, Seoul, Korea. Further collection record of drosophilid flies from Korea.

When Drosophila melanogaster populations were sampled from four areas in Korea in order to make screening for the SD element, several other drosophilid species were collected which are to be reported here. Collections were made with the use of traps containing peach in orchard areas and by sweeping inside of breweries in the four localities of Korea: Changsungpo, Kuje Island from July 15 to 24, 1970; Taijun, Chungjoo and Jungpyung from Aug. 13 to 16, 1970.

A total of 1,834 flies represented by two genera, 12 species was obtained as given in Table 1. D. immigrans was the most abundant species in Kuje Island located in the South Sea, rather warmer area of Korea and D. suzukii was the second dominant species in the island. D. melanogaster, D. virilis and D. busckii were collected mostly in a brewery and it is noticeable that more individuals of D. busckii were captured compared to D. melanogaster and D. virilis. The most abundant species, D. virilis and the second dominant one, D. melanogaster in Taijun area were captured mostly in a brewery and D. auraria was collected mostly from a peach orchard. The collections in Chungjoo area were made chiefly in the peach orchard and the most predominant species was D. auraria and the second one was D. suzukii. It is interesting that quite a few individuals of D. melanogaster were captured in such an outdoor area. The results of the present collections confirm the following points of the characteristics of the Korean drosophilid fauna: (1) D. auraria is the most predominant outdoor species in Korea; (2) D. suzukii is found mostly in the orchard areas in Korea and this species may be harmful to the fruit trees, apple or peach; (3) D. melanogaster populations are not always found abundantly in every outdoor area in Korea.

Table 1. Number of flies collected in four areas of Korea (♂+♀=total)

| Species | Areas | | | | Total |
|---|---|---|---|---|---|
| | Kuje | Taijun | Chungjoo | Jungpyung | |
| Amiota sp.* | --- | --- | 9+13=22 | --- | 9+13=22 |
| Drosophila coracina | --- | 0+1=1 | 11+4=15 | --- | 11+5=16 |
| D. busckii | 4+6=10 | --- | 2+3=5 | --- | 6+9=15 |
| D. melanogaster | 2+1=3 | 49+60=109 | 153+63=216 | 2+2=4 | 206+126=332 |
| D. suzukii | 15+9=24 | 3+6=9 | 112+189=301 | 0+5=5 | 130+209=339 |
| D. auraria | 6+7=13 | 4+39=43 | 189+192=381 | 81+56=137 | 280+294=574 |
| D. nigromaculata | --- | --- | --- | 2+5=7 | 2+5=7 |
| D. transversa-complex** | --- | --- | 0+2=2 | 0+2=2 | 0+4=4 |
| D. immigrans | 25+16=41 | --- | --- | 1+0=1 | 26+16=42 |
| D. virilis | 2+4=6 | 238+230=468 | --- | --- | 240+234=474 |
| D. sordidula | --- | --- | --- | 3+5=8 | 3+5=8 |
| D. bizonata | --- | --- | 1+0=1 | --- | 1+0=1 |
| Totals | 54+43=97 | 294+336=630 | 477+466=943 | 89+75=164 | 914+920=1834 |

*not identified. **composed of D. brachynephros, D. angularis, and D. unispina.