

Singh, B.N. Banaras Hindu University, Varanasi, India. Studies on the fecundity of *Drosophila ananassae*.

Experiments were conducted in order to study the egg-laying capacity of *Drosophila ananassae* females. Several wild laboratory stocks of *D. ananassae* raised from flies collected in different localities of India, were utilised during

the present investigation. Males and females from each stock were collected within the six hours after eclosion and were grown for 48 hours. The pair mating between females and males from the same stock was done in culture vials. In order to facilitate the counting of eggs a green edible dye was added to the food medium. Each female remained in a culture vial for 24 hours and then transferred to fresh culture vial without etherisation. The eggs laid were counted from the old vial which represented the number of eggs laid by the female within a period of 24 hours. In the similar manner the egg counts were made for all the females for continuously twenty days. If any female died before the twentieth day, the egg-laying data of that female were rejected. The number of females tested varied in different stocks.

The results are summarised in Table 1. The number of eggs laid per female per day varies between 8.67 to 45.64. The  $\chi^2$  value has been calculated under the assumption that all the

Table 1. Fecundity of *Drosophila ananassae* females in different strains.

Strains	Days eggs counted	Number of females tested	Total number of eggs counted	Eggs/♀ for the counted period	Eggs/day/♀
Mughalsarai	20	44	13620	309.54	15.48
Nagpur	20	20	5002	250.10	12.50
Port Blair	20	22	3814	173.36	8.67
Jamsoti	20	47	42902	912.8	45.64
Lowari	20	40	26858	671.45	33.57
ST - Tejpur	20	48	31236	650.75	32.54
a25	20	40	23491	587.27	29.36
Gorakhpur	20	35	24192	691.20	34.56
AL - Tejpur	20	43	22474	522.65	26.13

stocks must possess nearly the same egg-laying capacity. The total  $\chi^2$  value is 43.94 which shows highly significant variation. This suggests that the stocks differ in their egg-laying pattern.

The fecundity of *D. pseudoobscura* is a species characteristic since the several stocks and their crosses yield about the same number of eggs<sup>1</sup>. Thus *D. ananassae* clearly differs from *D. pseudoobscura*. Stone et al.<sup>2</sup> investigated the genetic composition of the *D. ananassae* populations found at the Marshall Islands. The fecundity of *D. ananassae* was measured. The average eggs per day for the stocks and crosses varied but no consistent relation to genotype was detected. The data reported in the present paper show wide differences as compared to those of Stone et al.<sup>2</sup>. The variability in eggs per day per female recorded in Table 1 reflects genetic differences between strains.

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References: 1. Stone, W.S., F.D. Wilson and V.L. Gerstenberg 1963, *Genetics* 48:1089; 2. Stone, W.S., M.R. Wheeler, W.P. Spencer, F.D. Wilson, J.T. Neuenschwander, T.G. Gregg, R.L. Seecof and C.L. Ward 1957, *Univ. Texas Pib.* 5721:260.

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positional level; a suggestion consistent with the apparent abundance of potential adult food-sources, and the apparent impossibility of finding breeding sites during this period.

References: Carson, H.L., E.P. Knapp and H.J. Phaff 1956, *Ecology* 37:538-544; Carson, H.L. and H.D. Stalker 1951, *Ecology* 32:317-330; Phaff, H.J., M.W. Miller, J.A. Recca, M. Shifrine and E.M. Mrak 1956, *Ecology* 37:533-538; Shehata, A., M. El Tabey, E.M. Mrak and H.J. Phaff 1955, *Mycologia* 47:799-811.