added to the dot chromosomes making them slightly thicker and longer than the basic dots. The salivary gland chromosomes (Fig. 2) exhibit 4 long arms and one short arm as in the other members of the nasuta subgroup. Wilson et al. (1969) have pointed out that nasuta subgroup is characterized by marked divergent evolution. Further a large range of water and distance isolates the population understudy from the populations studied by Wilson et al. (1969). The additional parameter of cytological differences noted for this species is in support of our qualifying the present species as a new species - Drosophila neonasuta.

The other species collected at the base of Chamundi Hills of Mysore for the first time, is a new species as identified by Okada (1971, personal communication) and named by the authors as Drosophila chamundiensis after its locality of collection. The flies are fairly large in size and somewhat dark brownish in colour. Sex comb is absent in males. Acrostichal hairs are slightly irregular in 8 rows. Periphallic organs (Fig. 3) differ from all other members of immigrans group. The egg has four long and tapering egg filaments. The metaphase karyotype revealed the presence of a pair of V's, a pair of dots and two pairs of rods in females while one of the rods of one pair is replaced by a J-shaped Y chromosome in males. There are four long arms and a short arm in the salivary gland nuclei. Based on these observations, this has been given the status of a new species - Drosophila chamundiensis.

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Lucas, K.U. and G.F. Sprague, Jr. Yale University, New Haven, Connecticut. Glycogen synthetase activity in adipose males.

Histological observations (Doane, 1960) coupled with total carbohydrate determinations (Doane, 1963) have suggested that the adipose mutant of D. melanogaster may metabolize carbohydrate abnormally. Furthermore, we have found that when extracted with either water or hot 30% KOH, adipose flies yield about 1/3 the wild-type level of glycogen. In an attempt to locate the biochemical lesion more precisely, we are investigating the enzymology of glycogen metabolism in these flies. This note reports preliminary measurements of glycogen synthetase activity.

For use in these experiments, wild-type (Oregon-R) and homozygous adp^{60} flies (in an Oregon-R background) were reared axenically on standard corn meal-molasses medium, containing 30 mg/ml brewer's yeast. Newly emerged adult males were aged 7 days in the presence of excess brewer's yeast before being assayed. Glycogen synthetase activity was measured in whole-fly homogenates and low speed (1000g, 15 min) supernatant fractions by the method of Villar-Palasi et al. 1966. The data below show a 30-40 fold difference in the ability of males of the two strains to incorporate radioactive glucose (supplied in the form of ^{14}C-UDPG) into ethanol-precipitable material.

Genotype		μmoles glucose incorporated/mg protein-min (x 10^4)
+/+	Homogenate	6.4 ± 1.6
	Supernatant fraction	11.3 ± 2.4
adp^{60}/adp^{60}	Homogenate	.14 ± .02
	Supernatant fraction	.46 ± .27

Since measurements made on crude preparations such as ours reflect net, rather than absolute, rates of glycogen synthesis, we are currently investigating the effect which polysaccharide degradative enzymes may have in this system, as well as continuing our analysis of glycogen synthetase.

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