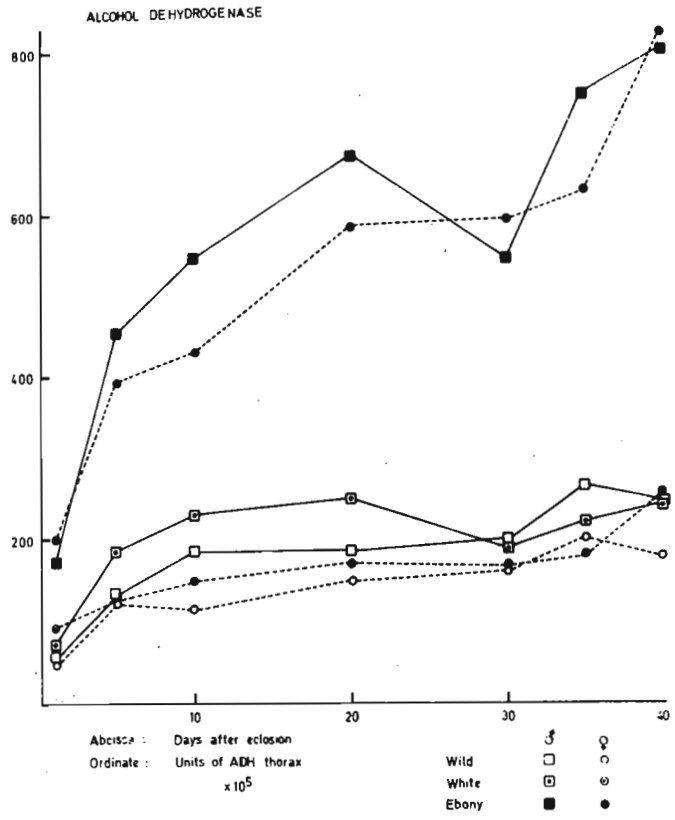
Libion-Mannaert, M. and A. Elens. Facultés Universitaires N.D. de la Paix, Namur, Belgium. Ageing in D. melanogaster ebony, white and wild: alcohol dehydrogenase and other enzyme activity changes.

The total protein content, and the activities of alcohol dehydrogenase, acid para-nitrophenyl phosphatase, and catalase, have been measured on adult flies varying from 1 to 40 days after eclosion. The tests were made according to Wattiaux et al. (1971) for total protein content Sofer and Ursprung (1968) for alcohol dehydrogenase, Neil and Horner (1964) for acid para-nitrophenyl phosphatase (but at 35°C instead of 37° and at pH 5.5 instead of 5.0) and Baudhuin et al. (1964) for catalase (at pH 7.5 instead of 7.0). A pooling of 30 thoraces was used for each measure and 10 repetitions were made for each strain, sex, and age.



A variance analysis reveals striking influences of the age, sex, and strain on the variations of the total protein content, and the alcohol dehydrogenase and acid para-nitrophenyl phosphatase activities. The influence of age and strain is marked on the catalase activity, but the differences between sexes are not significant.

The activity of catalase and acid para-nitrophenyl phosphatase falls from the 1st to the 5th day after eclosion, after which it increases. A second minimum is observed at 30 or 35 days for the catalase activity, followed by a second increase.

The most interesting fact is the much greater activity of alcohol dedydrogenase in the strain ebony (e^{11}). Further experiments will have to show if it depends on the gene ebony itself or on other genes present in the strain e^{11}, and if different isozymes of alcohol dehydrogenase are at work in the strains white and wild (Canton S).

References: Baudhuin, P., H. Beaufay, Y. Rahman-Li, O.L. Sellinger, R. Wattiaux, P. Jacques and C. de Duve 1964, Biochem. J. 92:179; Neil, M.W. and M.W. Horner 1864, Biochem. J. 92: 217; Sofer, W. and H. Urspring 1968, J. Biol. Che. 243:3110; Wattiaux, J. M., M. Libion-Mannaert and J. Delcour 1971, Gerontologia 17:289.

Nettleton, R.* University of Nebraska, Lincoln, Nebraska. A failure to demonstrate an influence of temperature on the "sex ratio" phenomenon in D. athabasca.

An attempt was made to determine whether the influence of temperature on the X chromosome caused "sex ratio" phenomenon of D. athabasca is like that found in D. pseudoobscura by Darlington and Dobzhansky (Proc. Nat. Acad. Sci. 28:45-48, 1942), who observed less extreme effects of the "sex ratio" X at high than at low temperatures. The source of the athabasca "sex ratio" X was a wild strain from Englewood, New Jersey. Since no sex-linked mutant genes were available to mark either normal or "sex ratio" X, it was necessary to use males taken at random from the progeny of females that must have been either homo- or heterozygous for the "sex ratio" X since they were daughters of males that had nearly all female progeny. The males employed were expected to be a mixture of ones with a normal X and ones with a "sex ratio" X, with the proportion of the latter at least 50%. Such males were divided at random

and mated individually with females in two separate groups, one kept at 22° and the other at 17°C (it was found that athabasca did not breed well at temperatures higher than 22°). Two test series were observed. Although at least half of the tested males should have carried the "sex ratio" X, it was found that the progenies produced by these males presented a nearly continuous variation in proportions of male offspring from 0% to 60% (all progenies including at

	Total Flies	Number of Tested Males	Males per Progeny Mean	Males per Progeny Standard Deviation
Series 1				
"sex ratio"				
17°C	507	9	3.84	5.3
22°C	885	14	4.47	5.7
"normal"				
17°C	420	7	43.42	10.76
22°C	161	3	46.93	1.4
Series 2				
"sex ratio"				
17°C	733	13	8.22	5.6
22°C	1104	19	7.50	7.05
"normal"				
17°C	1825	30	44.14	8.9
22°C	1131	21	47.85	6.3

least 50 individuals), a phenomenon like that reported by Sturtevant (1940) for the related species D. affinis. For purposes of making comparisons, "sex ratio" progenies were arbitrarily defined as those having a male percentage less than 25, since, for the minimum size of the progenies, less than 25% males was a significant deviation from 50% males at the 0.001 level. The results are given in the table. No significant difference between the results at the different temperatures was found.

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Singh, A. Panjab University, Chandigarh, India. The Drosophilidae of Assam, India. As many as 853 Drosophila flies were collected from Assam, India. The collections were made over fermenting substances, mainly the fruits, by the bait-trap and sweep methods. The study of this collection revealed six species which are all reported for the first time from this area. The frequency distribution of the species at five sites is given in Table 1.

Table 1. Frequency distribution of the various species of the Drosophilidae in Assam.

Species	Asom Hotel ♂	Asom Hotel ♀	Gari Gaon ♂	Gari Gaon ♀	Veg. Market ♂	Veg. Market ♀	Univ. campus ♂	Univ. campus ♀	Burnihat ♂	Burnihat ♀	Total ♂	Total ♀	Total ♂ & ♀
Genus Drosophila													
Subgenus Sophophora													
1. D. bipectinata	21	2	3	-	2	-	28	-	24	-	78	2	80
2. D. ananassae	41	31	17	20	30	37	108	125	111	146	307	359	666
3. D. malerkotliana	-	-	-	-	-	-	1	-	1	-	2	-	2
4. D. kikkawai	9	-	3	6	3	-	18	17	17	23	50	46	96
5. D. punjabiensis	1	-	2	-	-	-	-	-	2	1	5	1	6
Subgenus Drosophila													
6. D. immigrans	1	-	-	-	-	-	1	-	-	1	2	1	3
Grand total	73	33	25	26	35	37	156	142	155	171	444	409	853
Period of collection	17/4-2.5 1969		30/5 1969		25/4 1969		19/22&30/7 & 1/8/69		2/17&24/6 & 7/7/69				