likewise is controlled by the neurosecretory cells of the brain. The investigation is being continued.

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¹ Scharrer, B., and Scharrer, E., *Biol. Bull.*, 87, 242 (1944).

² Wigglesworth, V. B., *Nature*, 144, 753 (1939).

³ Hanström, B., *K. Fysiög. Sällsk. Handl. Lund*, N.F., 49, Nr. 16 (1938).

⁴ Williams, C. M. (in the press).

⁵ Thomsen, E., *Nature*, 145, 28 (1940).

⁶ Thomsen, E., *Vidensk. Meddel. Dansk naturh. Foren.*, 106, 320 (1942).

should be further mentioned that in other experiments, to be described in detail elsewhere, no difference either in developmental-rate or in oxygen consumption was found to exist between these two types of eggs.

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¹ Caspersson, T., and Schultz, J., *Nature*, 142, 294 (1938).

² Schultz, J., and Caspersson, T., *Archiv. Exp. Zellf.*, 22, 650 (1939).

³ Brachet, J., *Enzymologia*, 10, 87 (1941).

Ribose Nucleic Acid in the *Drosophila* Egg

Caspersson and Schultz^{1,2} have claimed that the presence of an extra Y-chromosome in the female *Drosophila* is correlated with an abnormally high concentration of ribose nucleic acid or allied substances containing the pyrimidine ring in the cytoplasm of oocytes. Their graph, based on quantitative determinations of ultra-violet light absorption, indicates that XXY oocytes contain about 40 per cent more ribose nucleic acid than do XX oocytes. If confirmed, this claim would be evidence for the control exercised by heterochromatin over the synthesis of ribose nucleic acid: and since this substance seems to be closely associated with protein synthesis, the argument might be extended to include a specific connexion between heterochromatin and growth-rate determination.

Brachet³ has recently described a simple micro-chemical method whereby ribose nucleic acid may be estimated quantitatively. The tissue under examination is hydrolysed and distilled in a current of steam. Furfural, the hydrolysis product of ribose sugar which appears in the distillate, is assayed colorimetrically, making use of the coloured compound which it forms with aniline and acetic acid.

Caspersson and Schultz's contention is not directly open to chemical proof since the collection of a homogeneous batch of *Drosophila* oocytes is impracticable. However, freshly laid eggs can be collected in quantity and these assayed for ribose content.

Such eggs were collected over hourly intervals from the matings XX × XYY and XXY × XY. They were dechorionated *en masse* and fixed in a mixture consisting of equal parts acetone and 10 per cent trichloro-acetic acid. After prolonged extraction in changes of fixative, the eggs were desiccated at 100° C., extracted with hot ether to remove neutral fat, hydrolysed and distilled. Furfural yields gave the following ribose nucleic acid assays:

	Weight of ether-extracted eggs (mgm.)	Yield of furfural (γ)	Estimated ribose nucleic acid (mgm. per gm.)
Eggs from XX females	5.9	11.3	6.48
	6.5	13.1	6.82
	6.6	13.5	6.94
	6.6	11.6	6.00
	7.0	13.3	6.45
		Average	6.54
Eggs from XXY females	4.9	9.6	6.61
	6.5	11.7	6.11
	6.7	12.7	6.41
	7.1	13.1	6.25
	8.7	19.0	7.39
		Average	6.55

From these figures it is evident that there is no significant difference in the ribose nucleic acid content of newly laid eggs deriving from XX and XXY parent flies. In keeping with this result it

Trypanosoma heptatretæ sp. n., a Blood Parasite of the Hagfish

HITHERTO the occurrence of a trypanosome in the blood of the hagfish *Heptatretus cirrhatu* (Bloch and Schneider, 1801) seems to have escaped notice. The type slide of *Trypanosoma heptatretæ* was prepared from the peripheral blood of a hagfish found stranded at Island Bay, Wellington. Seventeen (57 per cent) of thirty hagfish so far examined have been infected with this hæmoflagellate. One infection was so heavy that an average of three trypanosomes were present in each field when freshly drawn blood was studied under oil immersion (1.8 mm.) and a × 10 ocular.

Trypanosoma heptatretæ is of long, slender form, its body tapering to a point posteriorly. Its dimensions, from the measurement of one hundred specimens fixed with 4 per cent osmic acid vapour and stained with Giemsa's stain, are as follows:

	Average	Range
Length of free flagellum	21 μ	13–24 μ
Length of body	61 μ	56–65 μ
Total length	82 μ	75–86 μ
Width of body at nucleus	3.0 μ	2.8–3.1 μ
Width of undulating membrane	2.5 μ	2.3–2.7 μ
Diameter of karyosome	2.3 μ	2.0–2.5 μ

The length of the free flagellum averages 37 per cent (30–43 per cent) of that of the body. The nucleus lies 40 per cent (35–44 per cent) of the body-length from the root of the free flagellum, and occupies almost the entire width of the body. A parabasal body is situated 5 per cent (4–7 per cent) of the body-length from the posterior end, and the axoneme terminates at a blepharoplast immediately anterior to this structure.

T. heptatretæ also occurs in a very much scarcer stout form which has the free flagellum much shorter than that of the common form described above. The body is correspondingly lengthened and very markedly widened, but the overall length is not increased. In this stout form the nucleus is appreciably larger than in the slender form, and occupies a more central position. Measurements of the only three specimens encountered to date give the average length of the free flagellum as 12 μ and that of the body as 70 μ. The width of the body at the nucleus averages 6.3 μ, while the diameter of the nucleus itself is 4.6 μ and that of the karyosome 3.3 μ.

In both slender and stout forms the nucleus is of circular shape, and contains a large central karyosome. The space between karyosome and nuclear membrane appears as a clear, vacuolated ring in living specimens. With Giemsa's stain, used either after dry fixation with absolute alcohol or wet fixation with 4 per cent osmic acid vapour, the karyosome takes on a purplish-pink colour. The vacuolated