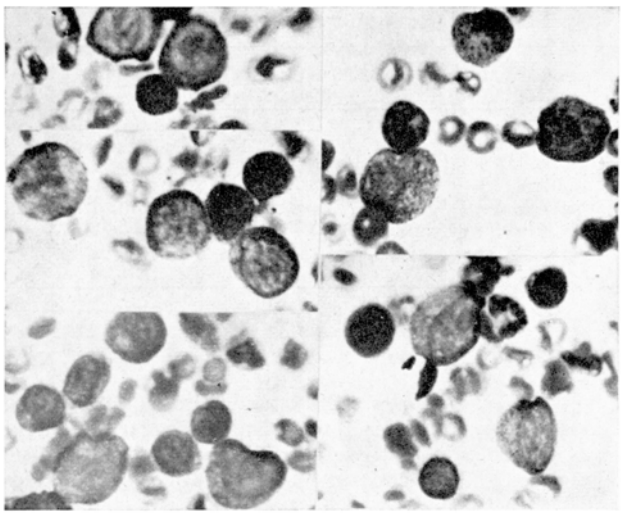

Fig. 1. Peripheral blood smear (Wright's stain).

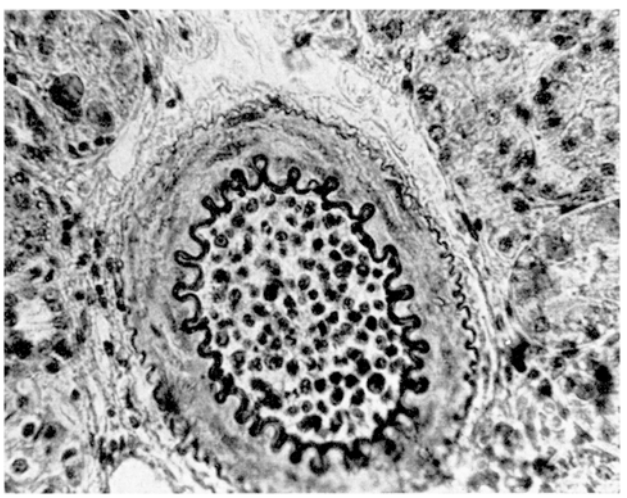

Fig. 2. Renal cortical artery (frozen, Oil red O-Hematoxylin, 310 ×).

Spleen and lymph nodes – follicular structure was almost completely obliterated and replaced, also infiltration of the perinodal fat was evident. Bone marrow – there was replacement of the normal cell population by early myeloid cells with few erythrogenic foci, and far less fat was present than in normal bone marrow.

In contrast with other organs the kidney did not show any substantial infiltration, however, most of the larger blood vessels of the cortex contained a great number of leukaemic cells in their lumens (Figure 2). In the outer

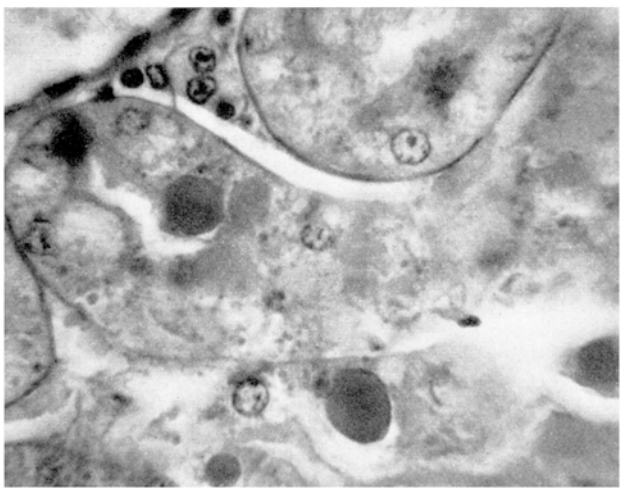

Fig. 3. Renal tubules (PAS, oil immersion).

zone of the cortex a pronounced vacuolar change with cytoplasmic droplet formation was seen (Figure 3). Sharply contoured homogeneous droplets and globules of various sizes (the largest exceeding the diameter of the tubule cell nucleus) appeared to be in a process of fusion and aggregation. Staining characteristics of the globules were as follows: eosinophilic, Oil red O negative; hemoglobin negative (Dunn-Thompson), strongly PAS positive, violet with Weigert fibrin stain and dark blue with Mallory's PTAH method.

The hematology and pathological picture in our chloroleukaemic rat were basically identical with those cases reported previously, also the green colour was mainly localized (as in HALL and KNOCKE's chloroleukaemic mouse) in the lymph nodes[7]. The peculiar tubular droplet change has been mentioned only briefly by two previous groups[1,3], who suspected a rather specific link between this tubular alteration and leukaemia in rats. In our case the physical and staining properties of the droplets indicated deposition of a substance of essentially protein character but the exact nature, origin and significance require further study.

Résumé. Description d'un cas de chloroleucémie myéloïde chez un rat de souche Sprague–Dawley, présentant quelques modifications peu communes des tubes renaux.

A. HAJDU

Research Department, Frank W. Horner Limited, Montreal, Quebec (Canada), August 13, 1962.

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Dimorphic Sperms of *Rhinopoma kinneari* (Chiroptera)

Many publications have appeared in the past on the dimorphism of the sperms in mammals. The morphological differences in the two populations of sperms have been found either in the size and the shape of the nuclei[1], or in the relative size differences of the centrally located heterochromosomes[2], or in the head lengths of the dimorphic sperms[3].

Stained and unstained preparations of the freshly ejected sperms of *Rhinopoma kinneari* (Rhinopomatidae,

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Chiroptera) revealed two distinct types. One with a pointed anterior end and the other with a blunt club-shaped head end (Figure). According to the shape of the anterior tip, the acrosome is was pointed with a broad base or lies flat, closely attached to the nuclei in either case. The nuclei of the former type were conical, whereas in the latter they were more rectangular. On the posterior aspects of the nuclei in both the types, the 'post nuclear regions' or the 'post nuclear caps' were well pronounced. A centriole region was clearly marked in close association with the 'post nuclear cap'. The flagellum in each case seemed to develop from the centriole region, passing through the 'middle piece' and coming out as a vibratile tail. Both the sperm types were actively motile.

Uterine sections from the freshly copulated females showed the presence of both the sperm types in their lumen. Whether both are functional in fertilizing the ovum is not clear to us.

Dimorphic sperms of *Rhinopoma kinneari* as seen in the fixed smears. (1420×)

Equal numbers of both types of living sperms were measured from ten different adult individuals. The mean size was found to be 50.8 ± 12.9 μ for pointed head sperms and 52.8 ± 12.0 μ for blunt headed sperms. These size differences appear to have no statistical significance. The head lengths were also measured. There was no appreciable difference between the two types. Further the ratio of the two types was not constant in the individuals examined by us.

The outstanding differences between the two types of sperms are, (1) in their shape, and (2) in their overall lengths. There appears to be no difference in the head lengths but there is a difference in the lengths of the flagella (tail). Whether the dimorphism is due to the differences in the chromosomal complement, is not apparent in the size of the sperm heads as has been seen in the human sperms[1,2], but in their morphology[4].

Résumé. Les spermatozoïdes de *Rhinopoma kinneari* sont dimorphes et diffèrent les uns des autres dans leur forme et leur longeur totale, mais la longueur de leur tête reste constante. Ils peuvent être du type X et Y comme ceux des autres mammifères.

R. S. Mathur and T. C. A. Kumar

Department of Zoology, University of Rajasthan, Jodhpur (India), May 8, 1962.

[4] We wish to record our thanks to Prof. L. S. Ramaswami for helpful criticism and to Dr. P. N. Srivastava for helping us in statistical calculations.

A New Puffing Pattern Induced by Temperature Shock and DNP in Drosophila

The different puffing patterns of the polytene chromosomes of Diptera show organ-specificity, developmental stage-specificity and sometimes zone-specificity[1–4]. These patterns can be explained in terms of variations of chromosome activity. It is known that puffs are due to the uncoiling of some characteristic bands[5] similar to those which have been shown to correspond to certain Mendelian loci[6,7].

It has also been shown recently[8–11] that puffs are sites of synthetic activity and that their major product is RNA. For these reasons the different puffing patterns can now be more precisely interpreted in terms of activity of genes probably due to different metabolic situations occurring in the various organs and developmental stages investigated.

Some recent investigations show that it is possible to induce directed variations in the puffing patterns. This was accomplished by Kroeger[12] by transplanting salivary gland nuclei of *D. busckii* into egg cytoplasm of *D. melanogaster*, and by Clever and Karlson by means of injections of ecdysone in *Chironomus* larvae[13].

The purpose of this paper is to report our results on the effect of temperature on the puffing patterns of the salivary glands chromosomes of *Drosophila busckii*. It will clearly appear that temperature shocks may induce well defined variations in the puffing patterns and that the variation always interests the same bands and involves specific metabolic activities.

These observations are limited to the 2L chromosomes, since the main variations are found in this region. In the

	2L 8	2L 14	2L 15	2L 20
Normal at 25°C	+	- -	- -	
After 30 min at 30°C		+	+	+

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