graphed. Results of the control experiment are shown in Fig. 1, while Fig. 2 shows the precipitin lines of antigen–antibody in agar medium which was infused with dextran solution.

The time sequence of the appearance of precipitin lines was as follows: first, the less diffusible antigen(s) precipitated out, while lastly the most diffusible antigen(s) formed a precipitate. Possibly the aggregated part of insulin, if any, was precipitated first, while the precipitin reaction between less aggregated insulin molecules and the antibody took longer.

It has been suggested[9–13] that polysaccharides may exclude some proteins from solution rather than interacting with them. Dextran seems to decrease the solubility of immuno-complexes in agar gel medium and helps to exclude them.

M. CESKA

Department of Biochemistry,
Pharmacia AB,
Uppsala, Sweden.

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Occurrence of Haemocoelic Erythrocytes containing Haemoglobin in a Wood Boring Mollusc

DURING recent studies of the rock and wood boring molluscs of the super-family Adesmacea (Mollusca : Bivalvia) the occurrence of haemocoelic erythrocytes in the blood of *Xylophaga dorsalis* Turton was noticed while examining serial sections. The erythrocytes are slightly flattened disks of diameter 10–12μ, each containing a prominent nucleus (Fig. 1).

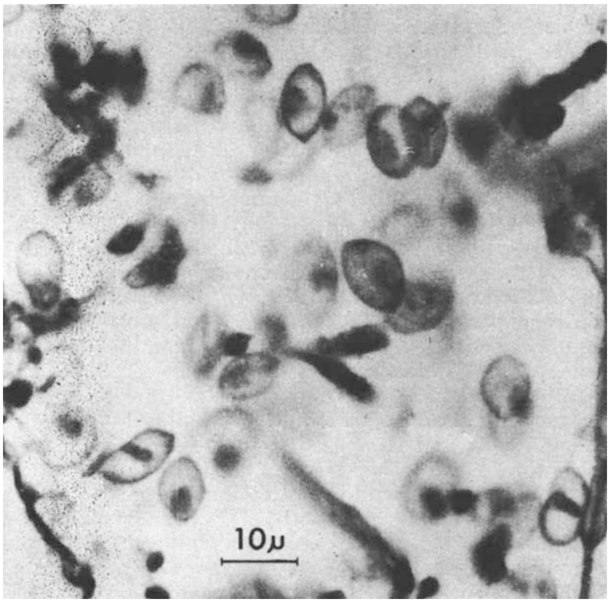

Fig. 1. A group of haemocoelic erythrocytes in a blood sinus of *Xylophaga dorsalis*.

The blood of this species possesses a light pinkish colour, and our observations suggest that this tint is a consequence of the presence of haemoglobin in the erythrocytes. Dried smears of the blood gave a positive result to the benzidine reaction[1] which stained only the erythrocytes dark blue, while a dilute solution of the pigment in distilled water showed a major absorption peak at 415 mμ, and indications of α and β peaks at 578 mμ and 540 mμ. Treatment with carbon monoxide caused a shift in the major absorption peak to 420 mμ and of the α peak to 568 mμ. These changes are consistent with the transformation of oxy-haemoglobin to carboxy-haemoglobin and with previous knowledge of absorption spectra of molluscan haemoglobins[2], and are therefore taken as confirmation that the pigment in *Xylophaga* is a haemoglobin.

The possession of haemoglobin by a member of the Adesmacea has not been reported before, although myoglobin occurs in the adductor muscle of species of *Bankia* and *Teredo*[3]. The isolated instances of the occurrence of haemoglobin in solution in the haemolymph, in the ctenidium, and in haemocoelic erythrocytes elsewhere in the Bivalvia, have been reviewed recently[4]. Interpretation of the function of the haemoglobin of *Xylophaga*, a species which is usually found attacking submerged waterlogged timber[5], must await more detailed biochemical and physiological investigations of its properties.

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A. D. ANSELL

Marine Station,
Millport, Scotland.

N. BALAKRISHNAN NAIR

Oceanographic Laboratory,
University of Kerala,
Ernakulam, India.

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Specific Method for Estimating Cell Numbers in Tendons

STUDIES of growth, ageing and functional adaptation of dense regular connective tissue of tendons and ligaments are limited because of the lack of a simple accurate method for the estimation of the cell populations involved[1]. Standard histometric techniques for cell counting are especially difficult to apply to tough intractable, fibrous tissues, and there is an obvious need for a simpler quantitative method which is accurate, reproducible and rapid.

If the amount of DNA in the somatic diploid cell nucleus is known, and if total tissue DNA can be extracted, cell numbers can be readily calculated, for it has been shown that the diploid amount of DNA in the cell nuclei is constant for a particular species[2]. This fact is the basis of a number of growth and cell population studies involving whole animals and tissues[3]. These methods have, however, never been applied to dense, fibrous, relatively acellular tissues such as tendons and ligaments.