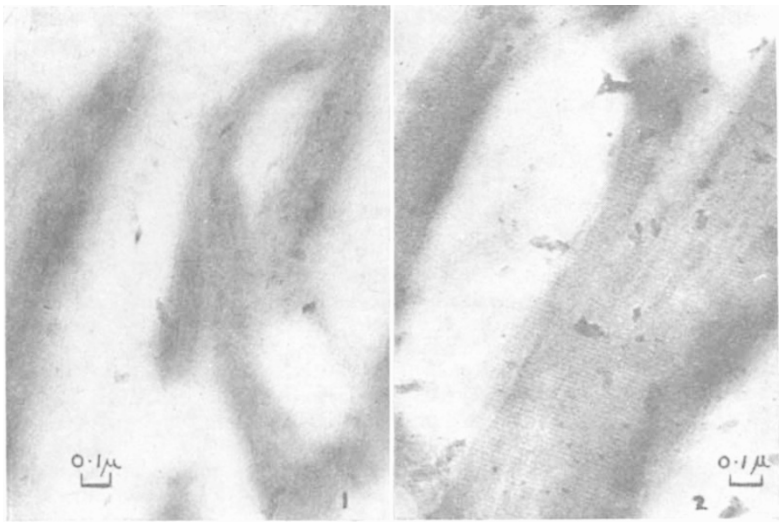

Fig. 1), and the most common, is that of small compact bundles which vary very little in size and in which a fine fibrillary pattern is seen. In the second (Fig. 2), the material shows a very well marked axial periodicity at approximately 230 A. intervals, in register across several bundles. There is, however, no fibrillary pattern as seen in Fig. 1.

We feel it is important to emphasize that the common pattern of pathological fibrin, that is, material recognizable as fibrin by staining procedures, appears to be that of bundles with a fine longitudinal fibrillary structure and no periodic markings at 230 A. intervals. If the 230 A. banding is used as the sole criterion for fibrin recognition, much of this material will be overlooked. In our experience the appearances seen in Fig. 2 are somewhat difficult to obtain even in preparations of known fibrin, and much harder to find in tissues which contain a mixture of fibrin and other fibres. The reasons for this are not clear. Our first impression was that only the thinnest of sections (about 150 A.) displayed the banded patterns, but further experience showed that this was not so. However, it may be that the differences are produced or accentuated by other technical difficulties which we have not been able to eliminate.

W. J. S. Still

Department of Pathology,
University of Durham.

E. H. Boult

Department of Chemistry,
King's College,
Newcastle upon Tyne 1.
Jan. 24.

[1] Hawn, G. V. Z., and Porter, K. R., *J. Exp. Med.*, **86**, 285 (1947).
[2] Hall, C. E., *J. Biol. Chem.*, **179**, 857 (1949).
[3] Levene, C. I., *Lancet*, ii, 1216 (1955).
[4] Still, W. J. S., and Boult, E. H., *Lancet*, i, 117 (1956).

Fatal *Streptococcus zooepidemicus* Infection in a Gerbil (*Tatera brantsi*) in South Africa

Streptococcus infection has not, to our knowledge, hitherto been the cause of mortality in gerbils (*Tatera* spp.) in South Africa. The following instance of such infection is therefore considered worthy of record.

In July 1956 a heavy mortality was reported among rats and gerbils on the farm Klipriviersoog some 16 miles south-west of Johannesburg. As plague had previously occurred in that area, investigations were promptly commenced; but the presence of plague infection among the rodents was not demonstrated.

A gerbil (*Tatera brantsi*) found dead in the vicinity was received at the Plague Research Laboratory at the Institute. Smears made from the spleen and the heart-blood of the gerbil showed abundant Gram-positive cocci, and culture on blood agar medium yielded a pure growth of a strongly hæmolytic streptococcus. The bone-marrow, emulsified in sterile saline, was inoculated subcutaneously into each of two laboratory-bred *Mastomys natalensis*. One animal died five days later and a pure culture of a hæmolytic streptococcus was recovered from its spleen and heart-blood. A broth culture of this organism in turn killed two white mice within 24 hr. after intraperitoneal inoculation. Serial dilution of the broth culture similarly proved fatal to white mice in the 10^{-1} and 10^{-2} dilutions. In each case a pure culture of the hæmolytic streptococcus was recovered from the heart-blood.

The Streptococcus Reference Laboratory of the Public Health Laboratory Service (Medical Research Council) at Colindale, London, kindly typed the organism for us. The streptococcus was found to belong to Lancefield Group *C*, and with the fermentation of lactose and sorbitol but not of trehalose was classified as *Streptococcus zooepidemicus*.

The *Streptococcus zooepidemicus* is one of the three sub-groups of Lancefield's Group *C*, the others being *Streptococcus equi* (associated with strangles in horses) and *Streptococcus equisimilis* (human Group *C*). Buxton[1] reported two extensive outbreaks of bovine mastitis in England and suggested that this form of disease may be more widespread than is suspected. Wilson and Miles[2] refer to two types of *Streptococcus zooepidemicus*: (*a*) the commoner type associated with respiratory catarrh in horses; and (*b*) a type producing various lesions in horses, cattle, guinea pigs, rabbits, etc., and sometimes mastitis in cattle.

We are indebted to the Director of the South African Institute for Medical Research and to the Secretary for Health for permission to publish this communication, and to Miss S. A. Leviseur for technical assistance.

D. H. S. Davis

Plague Research Laboratory,
Union Health Department,
Johannesburg.

David Ordman

South African Institute for
Medical Research,
Johannesburg.

[1] Buxton, J. C., *Brit. Vet. J.*, **105**, 107 (1949).
[2] Wilson, G. S., and Miles, A. A., "Topley and Wilson's Principles of Bacteriology and Immunity", 4th edit. (E. Arnold, London, 1955).

© 1957 Nature Publishing Group