

THE OCCURRENCE OF EPERYTHROZOOON PARVUM SPLITTER, 1950
IN SOUTH AFRICAN SWINE.

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INTRODUCTION.

In 1942 Dr. J. Gillain of the Veterinary Laboratory at Nioka, Belgian Congo, sent two blood smears to this Institute for the identification of certain parasites affecting the red blood corpuscles. He stated that the pig from which the smears had been taken was in good health until it started showing inappetence and a loss of condition. The rectal temperature was 39.4° C. and the urine strongly coloured with haemoglobin. This disease did not respond to an injection of Acaprin which was given on the suspicion that it was a form of Piroplasmosis. The pig died and at autopsy a softened ruptured spleen was found and lesions associated with the onset of peritonitis. Gillain also stated that bacterial cultures made from the dead animal produced nothing of importance.

The organisms were identified as a species of *Eperythrozoon*.

Swine in the middle western states of the United States of America have been affected for a number of years by a disease similar to Anaplasmosis in cattle or commonly known as an ictero-anaemia. Its aetiology, however, remained obscure till Splitter and Williamson recognised it as an Eperythrozoonosis in 1950. Splitter described the causative agent under the name of *Eperythrozoon suis* and the parasite found by Gillain conforms to this description. In the same paper he described an organism designated as *Eperythrozoon parvum* which occurred under experimental conditions only and caused no ill effects.

EXPERIMENTAL OBSERVATIONS.

Considering the above information it was felt that one should investigate the possibility of similar parasites occurring in South African swine. For this purpose seven young piggs which were bred in the piggeries at Onderstepoort were splenectomised and their blood examined daily. Twenty-five days after the operation blood smears from one animal showed the presence of organisms which fits Splitter's description of *Ep. parvum*. These parasites rapidly increased in number and occurred both supra- and intercellularly. The pig, however, showed no signs of illness and after a further 14 days no more organisms could be detected in blood smears. This relapse after splenectomy proves that the pig was premune to the parasite as a result of a previous natural infection.

In an attempt to establish the natural mode of transmission of *Ep. parvum* attention was focussed on the pig louse, *Haematopinus suis*. Lice had been noticed on the experimental animals before they were cleaned for splenectomy.

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Blood from the abovementioned reacting pig was subinoculated into a fully susceptible splenectomised animal which showed the presence of Eperythrozoa ten days later. On the fifth day of the reaction 15 lice which had been collected from the local piggeries were placed on its back. They were confined to an area of about 4 square inches under a cover of linen, the edges of which were pasted to the pig's back, and left undisturbed for fifteen days. By then eggs had been laid and some hatched. The ensuing generation of lice together with the surviving original ones were similarly placed on the back of another splenectomised susceptible pig. Twenty-one days after the louse infestation the blood of the latter pig showed the presence of *Ep. parvum*. It is not possible, however, to conclude whether the infection resulted from a mechanical or a biological transmission.

CONCLUSIONS.

(1) The presence of *Eperythrozoon parvum* in a splenectomised pig at Onderstepoort is recorded.

(2) Preliminary studies on the transmission of this parasite suggest that *Haematopinus suis* may be a vector.

LITERATURE.

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