A CONTRIBUTION TO THE STUDY OF PIROPLASMOSIS CANIS—MALIGNANT JAUNDICE OF THE DOG (HUTCHEON).

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On visiting a farm near Grahamstown for the purpose of examining some cattle, our attention was drawn to a young dog which was sick. The owner stated that he had been unable to keep a dog on the place, that they all died.

An examination of the dog revealed the following symptoms: Temperature 104° Fahr.; biliary injection of the visible mucous membranes; animal semi-comatose and covered with ticks. Diagnosis: Malignant Malaria.

A little blood was taken from the animal's ear and films prepared, which we stained and examined on our return to Town. We found the red blood corpuscles teeming with the *Piroplasma canis.* The dog died the following morning. The cadaver was brought in and a post-mortem examination was made, and a number of films prepared from the kidneys, liver, blood, etc., in order to compare the various forms of the parasite present with those previously described by other investigators.

The examination of the literature at our disposal revealed the fact that various forms of the *Piroplasma canis* have been described by different writers, but we think the accompanying photograph (Plate XI, Fig. 1) of a drawing by one of us (Le Doux), also the photomicrographs of the parasites observed by us in the films, and especially those prepared from the kidney of this dog, show a few forms of this parasite which we believe have not hitherto been described in connection with Malignant Malaria of the dog.

The staining methods adopted were modifications of Romanowsky's original method, whereby we were able to stain the karyosome of the parasites a bright red and the remainder blue (see Fig. 1, also photomicrograph Fig. 5).

Several endoglobular parasites were observed which showed long flagella-like processes, some with two bulbs on the flagellum and some with only one at the end (see Fig. 1, 3 and 4, also photomicrograph Fig. 3). In some of the corpuscles parasites were present very similar to those found in human malaria but differing in not forming any pigment (see photograph Fig. 1, 5). Two pairs of parasites were observed in some corpuscles, the parasites being connected by a distinct flagellum-like process (staining blue), similar to those described by Lignières in *Piroplasma bovis* found in the blood of cattle suffering from "La Tristeza" in the Argentine Republic (see Fig. 1, 2, also photomicrograph Fig. 2).

Numerous free parasites were also present in the blood, and, in many corpuscles, "residual bodies" were observed, almost identical with those of human malarial infection. As many as eleven parasites were counted in one corpuscle. In a few instances we thought we observed flagellate bodies entering infected corpuscles. The flagellate bodies are illustrated in photomicrograph Fig. 4. The photomicrographs (× 1000) which accompany this article were taken by one of us (Bowhill) from the same slides as those used for the drawing of which Fig. 1 is a photograph.

A number of ticks were found on this dog, most of them being the common blue tick *Rhipicephalus decoloratus*, and *Haemophysalis leachi* proved by the Government Entomologist, Mr Lounsbury, to transmit the parasite of this canine malady.

One of us (Bowhill) observed flagellate forms of *Piroplasma bovis* (Rhodesian fever of cattle) such as are represented in photomicrograph Fig. 6 (× 1000; taken in 1902). The parasite consists of an enlarged elongated portion running into a delicate undulating "flagellum" upon which, on close examination, may be seen two minute bulbous protuberances. The spherical body alongside the parasite is a leucocyte.

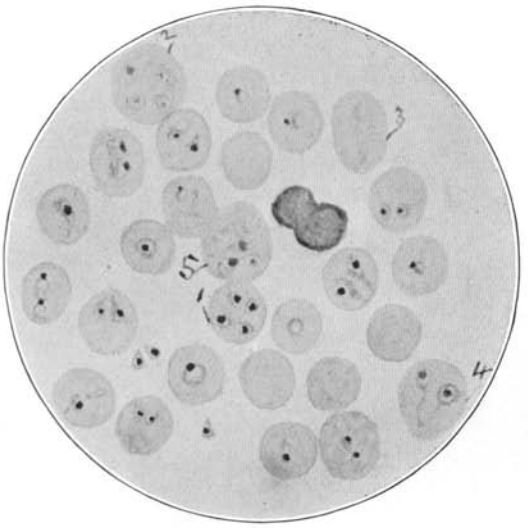

Fig 1.

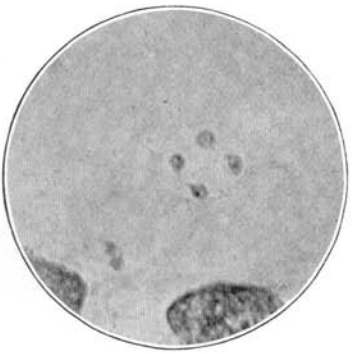

Fig. 2.

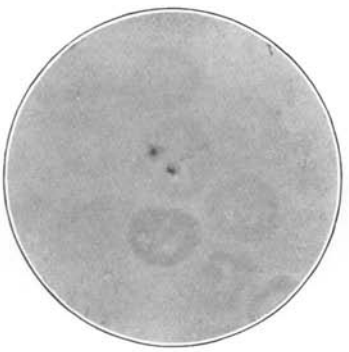

Fig. 3.

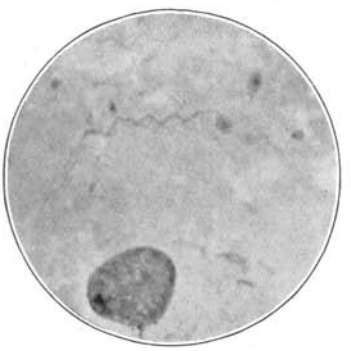

Fig. 4.

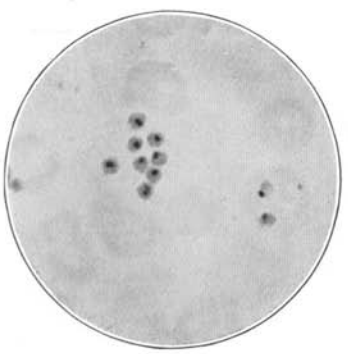

Fig. 5.

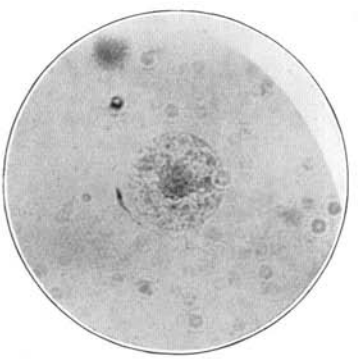

Fig. 6.

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