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Brief Communication

ANTIGENIC NON-RELATIONSHIP OF TWO BOVINE EPERYTHROZOA DEMONSTRATED BY THE IMMUNOFLUORESCENT METHOD

Three species of eperythrozoa which infect cattle have been described: Eperythrozoon wenyoni, E. teganoides and E. tuomii. The criteria applied for species status of the latter two organisms have been specificity in cell and tissue tropism and lack of cross immunity. As regards E. tuomii, the fulfilling of these criteria was described by *Tuomi* (1966), *Uilenberg* (1967) and *Zwart et al.* (1969). No serological comparison of the three agents has been reported. The present brief communication reports on the non-relationship between E. wenyoni and E. tuomii as established by the fluorescent antibody method.

Acetone-fixed blood smears from febrile cases of E. wenyoni and E. tuomii infections in splenectomized calves were used as the antigen preparations. Immune serum against bovine gamma-globulin was prepared in sheep and the globulin fraction conjugated with fluorescein isothiocyanate (FITC) as described by *Clark & Shepard* (1963). For direct immunofluorescent staining, globulin fractions of convalescent sera from cases of E. wenyoni and E. tuomii infection were likewise conjugated with FITC.

Sera which were taken before and in various phases after several clinical cases of both types of infection were examined by the indirect method of testing. Checkboard titrations and titrations of test sera were carried out from time to time.

The homologous immune sera when in sufficient titer stained their respective antigens distinctly both by the direct and the indirect method (Figs. 1 and 2). No signs of cross-staining by heterologous sera were detected.

E. tuomii is a specific parasite of platelets (*Tuomi, Tuomi & v. Bonsdorff* 1967). This specific property and the lack of cross protection with E. wenyoni are, as stated, in themselves a sufficient basis for taxonomical distinction. The present result lends

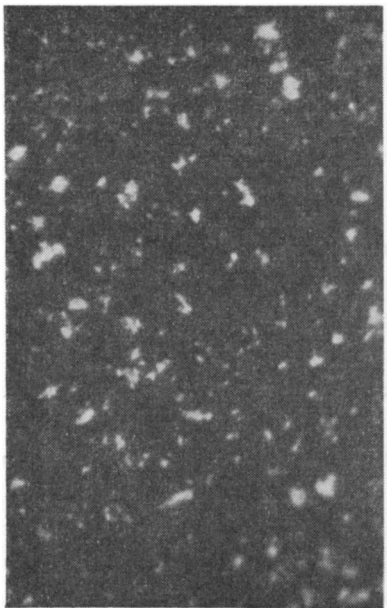

Fig. 1.

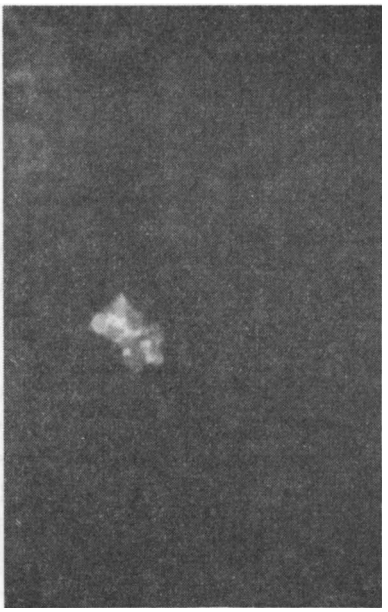

Fig. 2.

Figure 1. Eperythrozoon wenyoni particles singly and in groups on bovine erythrocytes. Fluorescent antibody staining, × 800.
Figure 2. Eperythrozoon tuomii particles on a group of bovine platelets. Fluorescent antibody staining, × 800.

additional support to the separate status of the two organisms. It can be safely concluded that if there is any antigenic relationship at all between E. wenyoni and E. tuomii it must be a very minor one.

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