PIROPLASMIC INFECTIONS OF CATTLE IN EGYPT.

By Dr. M. Carpano, Chief Specialist of Pathology and Bacteriology of the Veterinary Department, Egypt.

1. Importance of piroplasmic infection of cattle in Egypt. Types of piroplasmodes observed in recent researches.
4. Piroplasmosis in indigenous cattle and cattle imported from safe areas. Difficulties experienced in Egypt in connection with the importation of cattle intended for breeding purposes and the improvement of the breed, and means for obviating these difficulties.
5. Piroplasmosis caused by the *Piroplasma bigeminum* bovis. Pure and mixed infections, especially with the *anaplasma marginale*. Recidivism of piroplasma bigeminum, especially during inoculations against pest.

6. Piroplasmosis caused by *Babesia bovis* or *babesiellae*. Relation between the Egyptian *Babesia bovis* and *babesiellae* observed in Southern Italy and in Libya, and varieties observed in Algeria under the name of *B. berbera*.
7. Piroplasmosis caused by *Gondoria bovis* or *gondoriosis*. Importance of infection and morphological characteristics of the parasite in question as compared with those of the same type observed in Eritrea, Libya, and Italy.
8. Piroplasmosis caused by *Theileria annulata* or *theileriosis*. Morphological and biological relations with the same parasite observed in Libya and with *Theileria* observed in cattle in Eritrea.
9. Relation between *Theileria annulata* and *Gondoria mutans* as regards:
   (a) morphological characteristics;
   (b) presence of plasmic bodies of Koch;
   (c) pathogenic action on the indigenous cattle and on those imported from outside.
10. Piroplasmosis caused by the *anaplasma marginale* or *anaplasmosis*. In Egypt this disease occurs:
   (a) in the pure form;
   (b) complicated with the piroplasmosis bigeminum and with gonderiosis.

The elements with the aspect of anaplas which may be found in the blood-stream of sick cattle can be of various nature, i.e.:
(a) products of the alteration of the erythrocytes and of the advances of the nucleus (*anaplasma renale*);
(b) states of the evolutionary cycle of certain piroplasma (*Babesia, Gondoria, Theileria, Nuttalia*) which are commonly called anaplastic forms;
(c) the parasite proper.

Can we, merely on the basis of the disease, the variability of the positive corpuscles, and the variable dimen-
sions of themselves, stick to the four kinds central, Argentinian, and Rossieum?

CONTAGIOUS PLEURO-PNEUMONIA IN EAST AF

By R. W. M. Mettam, M.Sc., M.R.C.V.S., Officer, Department of Agriculture, Kenya.

Contagious pleuro-pneumonia is with the most prevalent of goat diseases in East Africa, the native herds every year and causes great damage to the goat herds. It has been investigated in India westward to the Kangra district of the Himalayas. The disease has been observed in the Mediterranean littoral with great losses. It has been observed in Algeria with heavy losses.

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IONS OF CATTLE IN EGYPT.

Specialist of Pathology and Bacteriology by Department, Egypt.

bic infection of cattle in Egypt. Types recent researches.


Cattle and cattle imported from Spain to Egypt in connection with the for breeding purposes and the improvement of the breeds. These difficulties are overcome by the Piroplasma bigeminum bovis. This parasite has been studied by the author and his associates with the anaplasma marginale. The study of these diseases is important, especially during inoculations with Babesia bovis or Babesiella bovis, and Babesiella bigeminum, especially during inoculations with Babesiella bovis or Babesiella bovis, and Babesiella bigeminum in Libya, and varieties observed in Egypt.

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bodies of Koch; in the indigenous cattle and on these sides.

by the anaplasma marginale or anaplasma marginale is present. The piroplasmosis bigeminum and with the exception of anaplasoma which may be found in the red corpuscles, and the variable dimension of the parasite elements themselves stick to the four kinds of anaplasma, i.e. marginal, central, Argentinian, and Rossieum.

Paper No. 18.

CONTAGIOUS PLEURO-PNEUMONIA OF GOATS IN EAST AFRICA.

By R. W. M. Mettam, M.Sc., M.R.C.V.S., Veterinary Research Officer, Department of Agriculture, Kenya.

Contagious pleuro-pneumonia is without doubt the most serious and most prevalent of goat diseases in Eastern Africa. It ravages most of the native herds every year and causes immense loss. Unfortunately, it does not spare imported breeds, and many settlers who have experimented with imported goats as a dairy proposition have experienced heavy losses.

The disease has been diagnosed throughout the various parts of Kenya. It also exists in the Belgian Congo, where native breeds are said to be immune (van Sreeghem); in Uganda, and in Tanganyika. It has also been investigated in India where it ravages the native herds in the Kangra district of the Himalayas. Reference to any textbook will show that the disease has been observed in most of the countries forming the Mediterranean littoral. In the past much confusion has existed as regards the diversity of contagious pleuro-pneumonia with the so-called "boufrida" of Algeria and with the infectious pneumonia observed in septicaemia haemorrhagica. From recent research it has been conclusively shown that there are only two infectious caprine pneumonias, viz.: (a) the pneumonia of acute haemorrhagic septicaemia, and (b) contagious pleuro-pneumonia, and with the latter must be finally identified the pneumonia studied by Leclanche, Mori, Pusch, Storch, Hollendorf, Pulger, and Krause in France, Spain, Turin, and Austria respectively.

The specificity of caprine contagious pleuro-pneumonia may be proved by the impossibility of infecting other animals than goats with pathological material while in the infectious pneumonia of caprine septicaemia haemorrhagica, sheep, rabbits, and mice may be successfully inoculated with pneumonic tissue.

From time to time sporadic outbreaks occur in this Colony of a disease which clinically and pathologically resembles the condition described in the United States by Mohler and Washburn as "Takosis." A simple broncho-pneumonia is found at post-mortem, but there is no difficulty in distinguishing it from the pulmonary lesions of contagious pleuro-pneumonia. Another type of pneumonia observed at the laboratory recently was found in goats used for the production of rinderpest virus. As is well known, in sheep and goats rinderpest is manifested by pathological changes in the lungs and chest. This fact has also been noticed by Edwards in India. Sheep and goats are not very susceptible to rinderpest, but is is not precisely