

## II

### BORRELIOSIS IN DOMESTIC ANIMALS

#### BORRELIA THEILERI

**B**ORRELIA THEILERI Laverin 1903 was isolated by Theiler in South Africa in 1902 from cattle with a mild disease called tick spirochetosis (681). The illness resembled piroplasmosis (cattle tick fever). There were one or two attacks of fever, loss of appetite and weight, weakness, and anemia, but hematuria was rare. A similar disease was seen in sheep and horses. The causative agent, however, appeared to be the same in all three species of domestic animals.

*B. theileri* is a slender *Borrelia*, 20 to 30  $\mu$  long, 0.2 to 0.3  $\mu$  wide, with 5 to 10 spirals, showing flexuous motion under the microscope. Smaller forms were seen in horses.

This *Borrelia* is transmitted by the African cattle tick *Rhipicephalus (decoloratus) evertsi*.

A similar disease in cattle was described recently in Australia by Callow (138). The *Borrelia* was 6 to 19  $\mu$  long, with 3 to 7 large, wavy spirals, resembling the smaller form of *B. theileri* from African horses. The infection was transmitted by nymphs of *Boophilus micropus*, an Australian cattle tick.

The mildness of the disease does not require treatment but tetracycline, 2 mg per Kg weight intravenously, will rid the animal of the borreliae.

Dipping cattle periodically is a measure helpful in eradicating ticks.

#### OTHER BORRELIÆ

*Borrelia hyos* was described by King and Baeslack in 1913 (128). It was isolated from swine suffering from hog cholera. The organism is about 5 to 7  $\mu$  long and 1  $\mu$  wide. It can be grown in animal protein and tissue fragments containing media, but it is not the causative agent of hog cholera. Its taxonomy is doubtful.

Hjelle (367) described *Borrelia*-like organisms in the urine of lambs suffering from fever, icterus, photophobia, swollen eyelids, and facial eczema. No further data are available.

Dobell (243), Hindle (363), and others listed borreliae isolated from elephants and camels which were not studied further.

*Borrelia suilla* was reported by Kinmarsh in 1937 from ulcerative granulomas of pigs kept under unhygienic conditions in Australia and New Zealand. This organism should not, however, be classified with the borreliae.