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UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
ANIMAL DISEASE ERADICATION DIVISION
FEDERAL CENTER BUILDING
HYATTSVILLE, MARYLAND 20781

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REPORT OF COOPERATIVE TICK ERADICATION ACTIVITIES

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REPORTS OF EQUINE PIROPLASMOSIS IN FLORIDA AND GEORGIA

The first laboratory confirmed diagnosis of equine piroplasmosis in the United States was made in Florida in August 1961. As of June 30, 1963, the disease had been diagnosed on 98 Florida premises affecting 140 horses. Four cases had been laboratory confirmed in a Georgia herd. The diagnosis in Georgia was made on October 18, 1962, and was the first known incidence of the disease outside of Florida and is believed limited to one premises in Coffee County.

Equine piroplasmosis is caused by Babesia caballi or Nuttallia equi and is fatal to between 5 and 50 percent of the animals infected. Those animals which make an apparent recovery occasionally have relapses when under stress. Infected animals usually remain carriers. In the absence of a test capable of identifying the carrier state, all equines once infected must be treated as carriers and possible spreaders of the disease.

World-wide, at least fifteen species of ticks have been incriminated or proven to be vectors of the disease. Of these, at least two are definitely present in the United States: Rhipicephalus sanguineus, the brown dog tick, and Dermacentor nitens, the tropical horse tick.

The tropical horse tick (Dermacentor nitens) is a one-host tick. It was first reported in Jamaica and Santo Domingo in 1897; later in Argentina, Columbia, Central America, Mexico, Cuba, Haiti, and Trinidad. Heavy infestations were found in the ears of horses in Texas as early as 1907.

Unconfirmed evidence indicates the presence of the tropical horse tick in Florida in 1947; however, it was not positively identified until 1958. Evidence of its role in the transmission of EP in the United States is circumstantial. Until the vector or vectors of equine piroplasmosis are identified and eradicated, all biting arthropods are suspect.

Detection of equine piroplasmosis is difficult, as there is no diagnostic test. Reliance is placed on finding the protozoa in the red blood cells. The parasites are most common in the peripheral circulation from the second to the fifth day following appearance of symptoms. Thereafter, they gradually disappear. After death, the organisms may be found more readily in smears made from spleen, liver, and kidneys.

Recommended controls for the disease include vector control, precautions against mechanical transmission, prompt reporting, and control of infected animals.

Research work and field trials are being conducted by the Entomology Research Division in Florida and in Mexico. In this work, the effectiveness of several tickicides is being evaluated.

EXOTIC TICKS FOUND ON AN IMPORTED RHINOCEROS

An employee of Catskill Game Farm, Catskill, New York, found two ticks, later identified as Amblyomma hebraeum, in the ear of a rhinoceros imported in the United States in August 1962. Apparently, these two male ticks were dead when collected.

A review of the importation disclosed that there had been two recent importations by ship of rhinoceroses from the Umfolozi Game Reserve in Zululand. A shipment of five had arrived during late August. Of these, three went to the Washington Park Zoo, Milwaukee, Wisconsin, and two to the Chicago Zoological Park in Chicago, Illinois. A group of six arrived in early September--two going to the New York City Zoological Gardens, two to the San Diego, California Zoological Gardens, and two to the Catskill Game Farm. The ticks were collected from one of the latter.

Rhinoceroses are among the exotic animals not required by Department regulations to be routinely inspected and treated for ticks. It is understood that these rhinoceroses had been sprayed with an acaricide during the course of their importation. Efforts were made for official inspection and treatment of the tick-exposed rhinoceroses.

A. hebraeum (the Bont tick) is found chiefly on cattle but may infest most warm-blooded domestic and wild animals. It is a vector of heartwater. The larvae and nymphs pick up the rickettsiae while feeding on an infected host. It is believed the rickettsiae are limited to the epithelial cells and lumen of the tick's alimentary canal and that transovarial transmission of the disease does not occur.

The Catskill Game Farm had been placed under quarantine in 1960 following the finding of Rhipicephalus evertsi ticks on recently imported zebras. The quarantine was lifted following eradication of the ticks.

Exotic ticks had previously, in September 1956, been found infesting a rhinoceros at the Dallas, Texas Zoo and Aquarium. The ticks were identified as Amblyomma gemma and Hyalomma spp.