

## Bacterial Diseases of Domestic Animals Native to Thailand

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**OBJECTIVE:** The objective of this report is to present zoonotic information of public health, comparative medical and veterinary significance.

**DESCRIPTION:** This information has been compiled from the results of routine clinical and necropsy examination of laboratory animals and native domestic species that are examined upon request or incident to other laboratory studies.

**PROGRESS:** During September 1971, an apparent outbreak of leptospirosis occurred among the sentry dogs at the Nakorn Ponom Air Force Base. At least 5 dogs died during a 2 month period and a number of others became sick. Clinical signs of illness in the dogs consisted of depression and anorexia; occasionally, emesis and icterus were reported. Hematological examination of affected dogs revealed that there was a neutrophilic regenerative left shift. Hematuria was not reported. Progressive ataxia and signs of CNS disturbances developed in dogs that succumbed to the disease. SMRL was requested by the base veterinarian to provide assistance in the diagnosis of this problem. The clinical signs and pathological lesions in the liver and kidneys of two dogs from which tissues were obtained suggested a diagnosis of leptospirosis. Specimens were collected from dogs at the base for both bacterial isolation and serological examination on 10 and 30 September. Urine specimens were inoculated intraperitoneally into weanling hamsters. After two weeks, if hamsters did not die before, a kidney biopsy was made and the tissue taken was inoculated into Fletcher's media. Two blind passages were made in Fletcher's media before the specimen was considered negative for leptospira. The urine of 30 dogs was examined in this manner, but no isolates were obtained. Serological examination showed that approximately 20% of the dogs had antibodies to two leptospira serotypes present in high titers. These serotypes were L. hebdomadis and L. hyos. Antibodies to L. canicola and L. ballico were also found in lesser titer. In two cases antibody increases in paired sera confirmed that infection with L. hebdomadis or L. hyos serotypes had occurred between the time the two serum samples had been drawn. During the time that illness was seen in the dogs, an animal handler also became ill and was hospitalized with clinical signs similar to those observed in dogs. It was not possible to confirm serologically that this individual had leptospirosis. Improved methods of sanitation and rodent control were instituted in the sentry dog kennels and there have been no further reports of similar illness occurring among the dogs.

Serum samples were collected from pigs at 3 farms in Thailand and examined for the presence of Leptospira and Brucella antibodies. The location of these farms and the clinical problems they experienced are more fully described in the report concerning Japanese encephalitis infection in animals. There were no leptospiral antibodies found in any of the more than 100 serum samples examined. From these findings it appears that leptospirosis has not been involved in the swine reproductive problems that have occurred in these areas.

Serum samples collected from the pig farms and examined for Leptospira antibodies were also checked for evidence of Brucella infection. Although antibodies were found in pigs at each of the three farms, pigs at the Kasetsart University pig farm in Tubkwang, Saraburi province, had a significantly higher incidence of antibody than the other two areas located at Kanchanaburi and Nong Khai. Of 151 pigs sampled, 24 had Brucella plate agglutination titers of 1:50 or greater. Attempts have been made to isolate Brucella by inoculation of whole blood from several reactor animals (those with titers of 1:100 or higher) into guinea pigs but no isolations have been made. It is not possible to conclude at this time whether or not brucellosis is a significant problem among these pigs or not.