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Isolation of *Leptospira grippotyphosa* from a Western Harvest Mouse in Iowa

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This paper reports the natural occurrence of *Leptospira grippotyphosa* in a Western Harvest Mouse (*Reithrodontomys megalotis*) and a new host-serotype relationship in the United States (personal communication, M. M. Galton, 1965). The mouse was trapped during wildlife studies in Linn County, Iowa following a 1964 outbreak of human leptospirosis (unpublished data, Institute of Agricultural Medicine).

In the continental United States *L. grippotyphosa* has been isolated from raccoons (*Procyon lotor*) (McKeever, et al., 1958; Galton, et al., 1959; Gorman, McKeever, and Grimes, 1962), opossums (*Didelphis marsupialis*) (Roth, 1964), gray fox (*Urocyon cinereoargentsus*) and red fox (*Vulpes fulva*) (Galton, et al., 1959), striped skunks (*Mephitis mephitis*) (Gorman, McKeever, and Grimes, 1962; Roth, et al., 1963), and from voles (*Microtus pennsylvanicus*) and a stream in Pennsylvania (Clark, et al., 1962). Recently, *L. grippotyphosa* has been isolated from a cow in Illinois (Hanson, Ellinghausen, and Marlowe, 1964).

According to Badudieri (1958), in the river valleys of Central and Eastern Europe the common vole (*Microtus arvalis*) is a common carrier of *L. grippotyphosa*. In Europe and Israel other rodents have been found to be carriers of this serotype.

The adult harvest mouse was found dead in a box mouse trap near a farm stream on October 7, 1964. Blood and urine were not available for laboratory studies. No gross lesions were visible at necropsy. The kidneys were removed aseptically and placed in a sterilized petri dish. One kidney was ground in a mortar with a pestle and diluted to a 10% suspension with Stuart's liquid medium containing 11% rabbit serum. The suspension was examined by darkfield microscopy for leptospires; none were observed. Four additional 10 fold dilutions were prepared using methods described by Galton, et al. (1962), and 2-3 drops from each dilution were inoculated into 2 tubes of Fletcher's semisolid medium (Difco) containing 11% rabbit serum (Galton, et al., 1962). Two tubes each containing 5 ml. of bovine-albumin Tween 80 semisolid medium (Ellinghausen and McCullough, 1965b) were also inoculated. All cultures were incubated at 28-30°C and examined periodically for lep-

tospires by darkfield microscopy for a period of 60 days. One tube of Fletcher's semisolid medium which had been inoculated with 1:-100,000 kidney suspension contained leptospires on the 27th day. Contamination was not a problem.

Subcultures of the isolate were propagated with difficulty in Fletcher's semisolid and albumin Tween 80 semisolid media. Subcultures were also propagated in Stuart's liquid medium for use in the microscopic agglutination lysis test. The subsequent antigen was standardized to a nephelometer scale reading of 25-30 (Ellinghausen and McCullough, 1965a). The following 14 rabbit antisera were tested against the isolate: *L. ballum, L. canicola, L. icterohaemorrhagiae, L. bataviae, L. grippotyphosa, L. pyrogenes, L. autumnalis, L. pomona, L. sejroe, L. australis, L. hyos, L. mini georgia, L. biflexa, and L. kremastos.* The isolate reacted only against *L. grippotyphosa* antiserum. A subculture was sent to the Communicable Disease Center, National Leptospirosis Reference Laboratory, Veterinary Public Health Section, Atlanta, Georgia for definitive identification. The isolate has been identified as *Leptospira grippotyphosa* (personal communication, M. M. Galton, 1965).

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ELLINGHAUSEN, H. C., JR., and W. G. McCULLOUGH. 1965a. Nutrition of *Leptospira pomona* and growth of 13 other serotypes: A serum free medium employing oleic albumin complex. Am. J. Vet. Res. *26*:39-44.

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ABSTRACTS OF WILDLIFE DISEASE ARTICLES

Preliminary Study of an Infectious Hepatitis in Pheasants. M. N. Rosen, B. F. Hunter, and O. A. Brunetti. Avian Diseases, 9:382-393 (1965).

Authors' summary: A highly infectious pheasant disease, previously unreported, occurred in California during 1963 and 1964. The mortality ranged from 40 to 95% in pheasant chicks between five and ten days of age. The salient pathological features were a hypertrophied liver with congestion and focal necrosis; catarrhal enteritis in many and post-mortem ocular opacity in a few chicks. An inclusion-like body was observed in the hepatic parenchymal cells. Attempts to induce pathology in embryos and tissue cultures with filtrates of liver suspension failed. Ducklings, turkey poults, chicken chicks, chukar partridges and new born swiss mice were refractory to infestion, but pheasants uniformly succumbed to injection of filtrates as well as to direct contact. The chukar partridge was incriminated as a carrier of the disease. Antibiotics, sulfonamides, and attempts to induce immunity with sera from contact birds as a means of controlling the disease gave negative results. There are indications that this is a specific viral hepatitis of pheasants.

Epizootiologic Studies on Filarioids of the Raccoon. C. M. Herman and D. L. Price. Jour. Wildlife Management. 29: 694-698 (1965).

Filarioid worms (*Dirofilaria immitis*, *D. tenuis*, *Dipetalonema procyonis* and D. *illewellyni*) were discovered in raccoons (*Procyon lotor*) in Maryland . . . Data on incidence of *D. llewellyni* were analyzed on basis of host distribution within these areas to indicate type of habitat in which one might seek the vector. It was concluded that exposure takes place in the spring of the year. The arthropod found associated most often with the raccoon in spring was *Ixodes texanus*. Larvae of this tick which were fed on infected raccoons presented no evidence of development of the microfilariae. Feeding experiments were also conducted with mosquitoes . . . Although microfilariae remained alive and active in the gut contents of all mosquitoes for 2 days, only in Aedes aegypti did they enter the hemocele, but no developmental changes were noted and all microfilariae were dead by the eighth day . . . It appeared unlikely that exposure of the raccoons took place in the den or that the filarioids were transmitted by an ectoparasite commonly found in raccoon dens . . .