

# Experimental inoculation of mallard ducks (*Anas platyrhynchos*)

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- *From:* "georgia" <[jwissmille@xxxxxxx](mailto:jwissmille@xxxxxxx)>
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"..... Thus, mallards could disseminate *B. burgdorferi* over long distances without the need of an arthropod vector...."

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\* *J Wildl Dis.* 1989 Jan;25(1):99-102.

\*Experimental inoculation of mallard ducks (*Anas platyrhynchos*) with *Borrelia burgdorferi*.\*

\*Burgess EC.\*

University of Wisconsin, School of Veterinary Medicine, Madison 53706.

Birds have been incriminated as disseminators of *Borrelia burgdorferi* and have the potential to spread the organism over a wide geographic range. *Borrelia burgdorferi* has been isolated from the liver

and blood of passerine birds and from *Ixodes dammini* removed from passerines. The objective of this study was to determine if waterfowl, specifically mallards (*Anas platyrhynchos platyrhynchos*), were susceptible to infection with *B. burgdorferi*. Eight ducks were inoculated with *B. burgdorferi*; four orally and four intravenously (i.v.) and two ducks were inoculated with phosphate buffered saline as controls. All eight inoculated birds became infected and developed antibodies to *B. burgdorferi*. The spirochete was isolated from cloacal material from an orally infected duck on day 22 postinoculation (PI) and from an i.v. infected bird on day 29 PI, from the blood of an i.v. infected bird on day 7 PI, and from the kidney of an orally infected bird. *Borrelia burgdorferi* was detected by indirect immunofluorescence using the *B. burgdorferi* specific monoclonal antibody H5332 in kidneys of three orally infected birds and one i.v. infected bird and from the mesentery of one orally infected bird. These findings show that mallard

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ducks are susceptible to infection by *B. burgdorferi* and that they can be infected orally and shed the organism in the droppings. Thus, mallards could disseminate *B. burgdorferi* over long distances without the need of an arthropod vector.

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