

Cryptosporidium in a Wild Cottontail Rabbit (*Sylvilagus floridanus*)

Authors: Ryan, Michael J., Sundberg, John P., Sauersschell, Richard J., and Todd, Kenneth S.

Source: Journal of Wildlife Diseases, 22(2) : 267

Published By: Wildlife Disease Association

URL: <https://doi.org/10.7589/0090-3558-22.2.267>

BioOne Complete (complete.BioOne.org) is a full-text database of 200 subscribed and open-access titles in the biological, ecological, and environmental sciences published by nonprofit societies, associations, museums, institutions, and presses.

Your use of this PDF, the BioOne Complete website, and all posted and associated content indicates your acceptance of BioOne's Terms of Use, available at www.bioone.org/terms-of-use.

Usage of BioOne Complete content is strictly limited to personal, educational, and non - commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

BioOne sees sustainable scholarly publishing as an inherently collaborative enterprise connecting authors, nonprofit publishers, academic institutions, research libraries, and research funders in the common goal of maximizing access to critical research.

***Cryptosporidium* in a Wild Cottontail Rabbit (*Sylvilagus floridanus*)**

Michael J. Ryan, Battelle Columbus Laboratories, 505 King Avenue, Columbus, Ohio 43201; **John P. Sundberg**, Department of Veterinary Pathobiology, College of Veterinary Medicine, University of Illinois, Urbana, Illinois 61801, USA; **Richard J. Sauers**, Sterling-Winthrop Research Institute, Rensselaer, New York 11144, USA; and **Kenneth S. Todd, Jr.**, Department of Veterinary Pathobiology, College of Veterinary Medicine, University of Illinois, Urbana, Illinois 61801, USA

A juvenile female eastern cottontail rabbit was found dead in a live-trap in Allerton Park, Monticello, Illinois, in November 1982 and was submitted to the Veterinary Diagnostic Laboratory, University of Illinois. Gross examination revealed emaciation and numerous larval tapeworm cysts in the peritoneal cavity. Representative pieces of major organs were processed for light microscopy, and paraffin-embedded colonic tissue was deparaffinized, rehydrated, and processed for transmission electron microscopy.

Significant microscopic findings were present in the liver, small intestine, and colon. The liver had a small number of microscopic foci of necrosis and subacute inflammation, which was ascribed to recent migration of cestode larvae. The cysticerci seen grossly were identified as those of *Taenia pisiformis* that had emerged recently from the liver. The jejunum and ileum had a mild infection with a coccidium consistent in appearance with *Eimeria* spp. Oocysts identified as those of *Eimeria neoleporis* and *Eimeria media* were found in feces. In the cecum and colon, small numbers of weakly basophilic (hematoxylin and eosin), round organisms, 1–

2 μ m in diameter, typical of *Cryptosporidium* spp. were present on the luminal surface of enterocytes. The numbers of parasites seen were small, and both tissue damage and inflammatory reactions were either mild (liver) or non-existent (small and large intestine), so it was considered doubtful that the parasitic infections were the cause of death. However, *Eimeria* spp. and *Cryptosporidium* spp. decrease either the numbers of enterocytes (*Eimeria*) or the amount of absorptive surface of enterocytes (*Cryptosporidium*) of infected animals and, thus, probably contributed to the emaciation (Anderson, 1982, J. Am. Vet. Med. Assoc. 180: 1455–1457; Ruff and Reid, 1977, In Parasitic Protozoa, Kreier (ed.), Academic Press, New York, pp. 33–69). Ultrastructural examination of colonic tissue confirmed the identification of *Cryptosporidium* sp.

Cryptosporidium spp. infections are found in many host species. Cross-species transmission has been produced experimentally (Anderson, 1982, op. cit.; Levine, 1984, J. Protozool. 31: 94–98; Tzipori et al., 1980, Infect. Immun. 30: 884–886). *Cryptosporidium* sp. has been identified in laboratory rabbits (Inman and Takeuchi, 1979, Vet. Pathol. 16: 89–95; Rehag et al., 1979, Lab. An. Sci. 29: 656–660), but this is the first report of *Cryptosporidium* sp. in a wild rabbit.

Received for publication 26 July 1985.