Prevalence of Agglutinating Antibodies to *Sarcocystis neurona* in Raccoons (*Procyon lotor*) From an Urban Area of Virginia

Author(s): Katie Hancock, Anne M. Zajac, Francois Elvinger, and David S. Lindsay


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Prevalence of Agglutinating Antibodies to Sarcocystis neurona in Raccoons (Procyon lotor) From an Urban Area of Virginia

Katie Hancock, Anne M. Zajac, Francois Elvinger, and David S. Lindsay, Center for Molecular Medicine and Infectious Diseases, Department of Biomedical Sciences and Pathobiology, Virginia–Maryland Regional College of Veterinary Medicine, Virginia Tech, 1410 Prices Fork Road, Blacksburg, Virginia 24061-0342; *Department of Large Animal Clinical Sciences, Virginia–Maryland Regional College of Veterinary Medicine, Virginia Tech, 1410 Prices Fork Road, Blacksburg, Virginia 24061-0342; †To whom correspondence should be addressed. e-mail: lindsayd@vt.edu

ABSTRACT: Equine protozoal myeloencephalitis is the most important protozoan disease of horses in North America and is usually caused by Sarcocystis neurona. Natural and experimentally induced cases of encephalitis caused by S. neurona have been reported in raccoons (Procyon lotor) and raccoons are an intermediate host for this parasite. A 3-yr-long serological survey was conducted to determine the prevalence of agglutinating antibodies to S. neurona in raccoons collected from Fairfax County, Virginia, a suburban–urban area outside Washington, D.C. Samples from 469 raccoons were examined, and agglutinating antibodies (≥1:50 dilution) were found in 433 (92.5%) of the raccoons. This study indicates that exposure to S. neurona is high in this metropolitan area.

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Raccoons originated in various locations in Fairfax County, Virginia, a suburban–urban area outside Washington, D.C. Raccoons used for this study were livetrapped as part of a larger study on rabies in Fairfax County. Blood samples were collected from all trapped raccoons. Raccoons were released immediately after sampling was completed. The serum was collected, placed in a tube, and frozen at −70 C. Frozen sera were sent to the Center for Molecular Medicine and Infectious Diseases, Department of Biomedical Sciences and Pathobiology, Virginia–Maryland Regional College of Veterinary Medicine, Virginia Tech, 1410 Prices Fork Road, Blacksburg, Virginia 24061-0342; †To whom correspondence should be addressed. e-mail: lindsayd@vt.edu

This study was conducted to determine the serological prevalence of antibodies to S. neurona in a common intermediate host, the raccoon. The direct S. neurona agglutination test (SAT) described by Lindsay and Dubey (2001) was used.

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LITERATURE CITED


Parvicapsula minibicornis in Anadromous Sockeye (Oncorhynchus nerka) and Coho (Oncorhynchus kisutch) Salmon From Tributaries of the Columbia River

Simon Jones, Gina Prosperi-Porta, Sheila Dawe, Kimberley Taylor, and Benjamin Goh, Department of Fisheries and Oceans, Pacific Biological Station, 3190 Hammond Bay Road, Nanaimo, British Columbia, V9T 6N7 Canada. e-mail: joness@pacific.dfo-mpo.gc.ca

ABSTRACT: The myxosporean parasite Parvicapsula minibicornis is described from adult sockeye and coho salmon during spawning migrations in tributaries of the Columbia River in Canada and the United States. These observations extend the known distribution of this parasite from the Fraser River drainage basin. The parasite was identified in Columbia River salmonids using polymerase chain reaction (PCR) and by in situ hybridization, but unlike in Fraser River salmon, it was not observed in conventional histological preparations of the kidney. Prevalence of the parasite determined by PCR was higher in spawning sockeye from the Fraser River than in those from the Okanagan River. Our ability to explain the relatively low prevalence and absence of clinical P. minibicornis infections in Columbia River salmon is hampered by our poor understanding of the life cycle of this parasite.

The myxosporean parasite Parvicapsula minibicornis was first described from the kidney of adult sockeye salmon (Oncorhynchus nerka) spawning at Weaver Creek, a tributary of the Fraser River in British Columbia, Canada (Kent et al., 1997). Pathological changes of the kidney were associated with P. minibicornis (Raverty et al., 2000; St-Hilaire et al., 2002), suggesting that severe infections may contribute to prespawn mortality observed among prematurely migrating sockeye.