Viral haemorrhagic septicaemia virus (VHSV) genotype II isolated from European river lamprey Lampetra fluviatilis in Finland during surveillance from 1999 to 2008 - DTU Orbit (01/12/2018)

Viral haemorrhagic septicaemia virus (VHSV) genotype II isolated from European river lamprey Lampetra fluviatilis in Finland during surveillance from 1999 to 2008

We examined the occurrence of viral haemorrhagic septicaemia virus (VHSV) in the main spawning stocks of wild European river lamprey Lampetra fluviatilis in the rivers of Finland from 1999 to 2008. Pooled samples of internal organs (kidney, liver and heart or brain) from 2621 lampreys were examined for the presence of VHSV by standard virological techniques. VHSV was isolated from 5 samples from the rivers Lestijoki and Kalajoki, which flow from Finland into the Bothnian Bay of the Baltic Sea. The presence of VHSV was confirmed by immunofluorescent antibody technique (IFAT), ELISA and RT-PCR. Phylogenetic analysis based on the full-length VHSV glycoprotein (G) gene sequence revealed that the isolates were most closely related to the VHSV strain isolated in 1996 from herring Clupea harengus and sprat Sprattus sprattus in the Eastern Gotland Basin of the Baltic Sea, and were therefore assigned to VHSV genotype II. The partial G gene sequences obtained (nt 1 to 672–1129) of all 5 lamprey VHSV isolates were identical, and so were the entire G genes (nt 1 to 1524) of 2 isolates sequenced. The virulence of one of the lamprey isolates was evaluated by an experimental infection trial in rainbow trout Oncorhynchus mykiss fry. No mortality was induced postinfection by waterborne and intraperitoneal challenge, respectively, while 2 genotype Id isolates originating from Finnish rainbow trout caused marked mortality under the same conditions. The infection in the European river lamprey is thought to be independent from the epidemic in farmed rainbow trout in Finnish brackish waters, because the isolates from rainbow trout were of a different genotype. This is the first report of VHSV found in the European river lamprey. The role of wild river lampreys in maintaining the infection in the marine environment remains unclear.

General information
State: Published
Organisations: Section of Fish Diseases, Division of Poultry, Fish and Fur Animals, National Veterinary Institute, Finnish Food Safety Authority
Contributors: Gadd, T., Jakava-Viljanen, M., Einer-Jensen, K., Ariel, E., Koski, P., Sihoovnen, L.
Pages: 189-198
Publication date: 2010
Peer-reviewed: Yes

Publication information
Journal: Diseases of Aquatic Organisms
Volume: 88
Issue number: 3
ISSN (Print): 0177-5103
Ratings:
BFI (2018): BFI-level 1
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 1
Scopus rating (2017): CiteScore 1.7 SJR 0.675 SNIP 0.95
Web of Science (2017): Impact factor 1.543
Web of Science (2017): Indexed yes
BFI (2016): BFI-level 1
Scopus rating (2016): CiteScore 1.95 SJR 0.893 SNIP 0.92
Web of Science (2016): Impact factor 1.549
Web of Science (2016): Indexed yes
BFI (2015): BFI-level 1
Scopus rating (2015): CiteScore 1.96 SJR 0.973 SNIP 0.943
Web of Science (2015): Impact factor 1.77
Web of Science (2015): Indexed yes
BFI (2014): BFI-level 1
Scopus rating (2014): CiteScore 1.86 SJR 0.895 SNIP 0.889
Web of Science (2014): Impact factor 1.752
Web of Science (2014): Indexed yes
BFI (2013): BFI-level 1
Scopus rating (2013): CiteScore 1.77 SJR 0.831 SNIP 0.928
Web of Science (2013): Impact factor 1.586
ISI indexed (2013): ISI indexed yes
Web of Science (2013): Indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): CiteScore 2.04 SJR 0.919 SNIP 1.092
Web of Science (2012): Impact factor 1.734
ISI indexed (2012): ISI indexed yes
Web of Science (2012): Indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): CiteScore 2.29 SJR 1.12 SNIP 1.164
Web of Science (2011): Impact factor 2.201
ISI indexed (2011): ISI indexed yes
BFI (2010): BFI-level 1
Scopus rating (2010): SJR 0.918 SNIP 0.948
Web of Science (2010): Impact factor 1.572
Web of Science (2010): Indexed yes
BFI (2009): BFI-level 1
Scopus rating (2009): SJR 0.897 SNIP 0.985
Web of Science (2009): Indexed yes
BFI (2008): BFI-level 1
Scopus rating (2008): SJR 0.865 SNIP 0.995
Scopus rating (2007): SJR 0.951 SNIP 1.05
Web of Science (2007): Indexed yes
Scopus rating (2006): SJR 0.875 SNIP 0.966
Web of Science (2006): Indexed yes
Scopus rating (2005): SJR 0.909 SNIP 1.033
Web of Science (2005): Indexed yes
Scopus rating (2004): SJR 0.992 SNIP 1.097
Web of Science (2004): Indexed yes
Scopus rating (2003): SJR 0.942 SNIP 1.188
Web of Science (2003): Indexed yes
Scopus rating (2002): SJR 1.199 SNIP 1.217
Web of Science (2002): Indexed yes
Scopus rating (2001): SJR 1.35 SNIP 1.193
Web of Science (2001): Indexed yes
Scopus rating (2000): SJR 1.16 SNIP 1.215
Web of Science (2000): Indexed yes
Scopus rating (1999): SJR 1.193 SNIP 1.139
Original language: English
DOIs:
10.3354/dao02169
Source: orbit
Source-ID: 258960
Research output: Research - peer-review › Journal article – Annual report year: 2010