Emergence of a new rhabdovirus associated with mass mortalities in eelpout (Zoarces viviparous) in the Baltic Sea - DTU Orbit (18/04/2019)

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We report the first description of a new Rhabdoviridae tentatively named eelpout rhabdovirus (EpRV genus Perhabdovirus). This virus was associated with mass mortalities in eelpout (Zoarces viviparous, Linnaeus) along the Swedish Baltic Sea coast line in 2014. Diseased fish showed signs of central nervous system infection, and brain lesions were confirmed by histology. A cytopathogenic effect was observed in cell culture, but ELISAs for the epizootic piscine viral haemorrhagic septicaemia virus (VHSV), infectious pancreas necrosis virus (IPNV), infectious haematopoietic necrosis virus (IHNV) and spring viraemia of carp virus (SVCV) were negative. Further investigations by chloroform inactivation, indirect fluorescence antibody test and electron microscopy indicated the presence of a rhabdovirus. By deep sequencing of original tissue suspension and infected cell culture supernatant, the full viral genome was assembled and we confirmed the presence of a rhabdovirus with 59.5% nucleotide similarity to the closest relative Siniperca chuatsi rhabdovirus. The full-genome sequence of this new virus, eelpout rhabdovirus (EpRV), has been deposited in GenBank under accession number KR612230. An RT-PCR based on the L-gene sequence confirmed the presence of EpRV in sick/dead eelpout, but the virus was not found in control fish. Additional investigations to characterize the pathogenicity of EpRV are planned.

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