



**European Association
of
Fish Pathologists**



**20th International
Conference on
Diseases of Fish
and Shellfish**

EAFP 2021

20 - 23 September 2021 • Virtual

Abstract Book

023-P

RGNNV and SJNNV reassortants produce mortality and replicate in gilthead seabream larvae

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Nervous Necrosis Virus (NNV) is one of the most challenging pathogens for aquaculture development nowadays, mainly affecting marine teleost fish of major interest to the aquaculture industry and causing great economic losses. NNV consist in four genotypes, which seem to have a tropism for certain teleost fish species. Among them, gilthead seabream (*Sparus aurata*) has been considered as a non-susceptible species to the disease produced by traditional NNV genotypes. However, there are some evidences that indicate seabream is able to develop the disease in the presence of certain reassortant strains of NNV, called RGNNV/SJNNV, which possesses the RNA1 segment of the RGNNV genotype and the RNA2 segment of the SJNNV genotype, which may cause a new threat to aquaculture.

Therefore, the main objective of this study was to evaluate the susceptibility of gilthead seabream larvae to the reassortant strains RGNNV/SJNNV and SJNNV/RGNNV. For this purpose, larvae were exposed to 104 TCID₅₀/mL in triplicate tanks with the reassortant strains. Samples of 5 individual larvae were collected at different days post-infection and used for gene expression and infective NNV isolation. Our data show that both reassortants produced mortalities, although the RGNNV/SJNNV was the one which produced the highest mortality and viral gene transcription, which significantly increased from 1 to 7 days post-infection.

In conclusion, our study demonstrate that seabream larvae are susceptible to both RGNNV/SJNNV and SJNNV/RGNNV reassortants under laboratory conditions. Further studies should be performed to understand the pathogenicity of the NNV reassortant strains to prevent and control future outbreaks in aquaculture farms.



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