

Viral nervous necrosis in gilthead sea bream (*Sparus aurata*) caused by reassortant betanodavirus RGNNV/SJNNV: an emerging threat for Mediterranean aquaculture

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Supplementing figure (S1): RNA2 Phylogenetic tree. ML phylogenetic tree based on partial RNA2 sequences. Sea bream betanodaviruses are highlighted in bold and the country of origin is reported. The farms of provenance of the strains herein described are labeled as follows: 🏠 farm 1; 🏠 farm 2. The tree comprises also RNA2 sequences related to viruses for which the RNA1 sequence is not available or spans a different region of the polymerase gene from that used in the present study ^{1,2}. Betanodavirus genotype subdivision is displayed by labeling the branches with different colors (blue: RGNNV; green: BFNNV; yellow: TPNNV; red: SJNNV). The numbers at nodes represent bootstrap values (only values >70% are reported), while branch lengths are scaled according to the number of nucleotide substitutions per site. The scale bar is reported.



0.08

Supplementing Table (S2): List of sea bream betanodavirus isolates included in the supplementary phylogenetic analysis. Sea bream betanodavirus isolates included in the supplementary phylogenetic tree, that comprises also RNA2 sequences related to viruses for which the RNA1 sequence is not available or spans a different region of the polymerase gene from that used in the present study. The following information is reported: yeas of isolation, age of the specimen, fish status, country or farm of origin, presence of clinical signs, GenBank accession numbers for RNA1 and RNA2 sequences and reference.

ID isolate	Year	Age	Fish status	Origin	Clinical signs	GenBank Acc. No.		Genotype	Reference
						RNA1	RNA2		
PtSa-IAusc345.05	2005	Larvae	Farmed	Portugal	n.a.	GQ131549	GQ131570	RGNNV/SJNNV	1
PtSa-IAusc347.05	2005	Larvae	Farmed	Portugal	n.a.	GQ131561	GQ131571	RGNNV/SJNNV	1
592.04	2004	Larvae	Farmed	Portugal	n.a.	GQ131552	AM110730	RGNNV/SJNNV	1,2
70.05	2005	Larvae	Farmed	Portugal	n.a.	GQ131562	AM110739	RGNNV/SJNNV	1,2
PtSa-IAusc46.05	2005	Larvae	Farmed	Portugal	n.a.	GQ131559	GQ131566	RGNNV/SJNNV	1
24.05	2005	Larvae	Farmed	Portugal	n.a.	GQ131560	AM110734	RGNNV/SJNNV	1,2
72.05	2005	Larvae	Farmed	Portugal	n.a.	GQ131547	AM110740	RGNNV/SJNNV	1,2
PtSa-IAusc22.05	2005	Larvae	Farmed	Portugal	n.a.	GQ131556	GQ131565	RGNNV/SJNNV	1
PtSa-IAusc08.06	2006	Larvae	Farmed	Portugal	n.a.	GQ131557	GQ131563	RGNNV/SJNNV	1
PtSa-IAusc344.05	2005	Larvae	Farmed	Portugal	n.a.	GQ131548	GQ131568	RGNNV/SJNNV	1
PtSa-IAusc23.05	2005	Larvae	Farmed	Portugal	n.a.	GQ131558	GQ131569	RGNNV/SJNNV	1
PtSa-IAusc57.05	2005	Larvae	Farmed	Portugal	n.a.	GQ131553	GQ131567	RGNNV/SJNNV	1
45.05	2005	Larvae	Farmed	Portugal	n.a.	GQ131555	AM110735	RGNNV/SJNNV	1,2
TunB4	2009	Larvae	Farmed	Tunisia	Absent	-	DQ462317	RGNNV	3
TunB3	2009	Larvae	Farmed	Tunisia	Absent	-	DQ462318	RGNNV	3
Tun76	2009	Juvenile	Farmed	Tunisia	Present	-	DQ462320	RGNNV	3

n.a.: not available

References:

1. Oliveira, J. G. *et al.* Comparative analysis of both genomic segments of betanodaviruses isolated from epizootic outbreaks in farmed fish species provides evidence for genetic reassortment. *J. Gen. Virol.* **90**, 2940–51 (2009).
2. Cutrín, J. M. *et al.* Emergence of pathogenic betanodaviruses belonging to the SJNNV genogroup in farmed fish species from the Iberian Peninsula. *J. Fish Dis.* **30**, 225–32 (2007).
3. Chérif, N. *et al.* Viral encephalopathy and retinopathy of *Dicentrarchus labrax* and *Sparus aurata* farmed in Tunisia. *Vet. Res. Commun.* **33**, 345–53 (2009).