

Phylogenetic analysis and serotyping of *Vibrio splendidus*-related bacteria isolated from salmon farm cleaner fish

Snorre Gulla*, Henning Sørum, Øyvind Vågnes, Duncan J. Colquhoun

*Corresponding author: snorre.gulla@vetinst.no

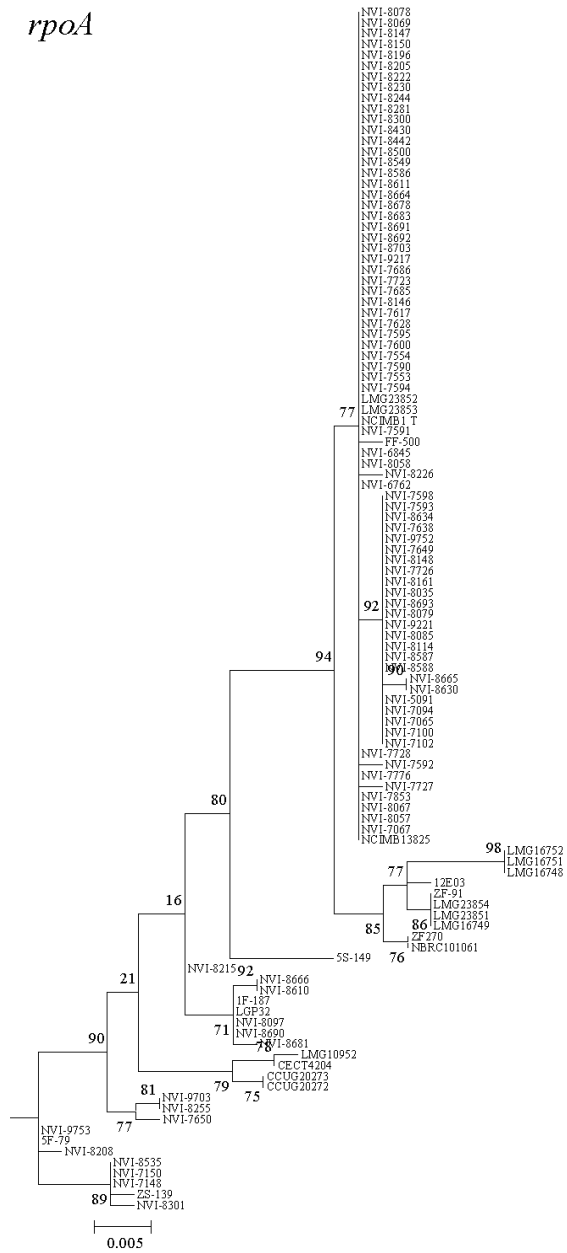
Diseases of Aquatic Organisms 117: 121–131 (2015)

Table S1. Detailed information on isolates/strains assessed in the present study. Splendidus-clade type strain identified according to highest housekeeping gene sequence identity. NVI-prefix: strains maintained at -80°C at the Norwegian Veterinary Institute in Oslo. Accession numbers in *italic*: sequences obtained from GenBank

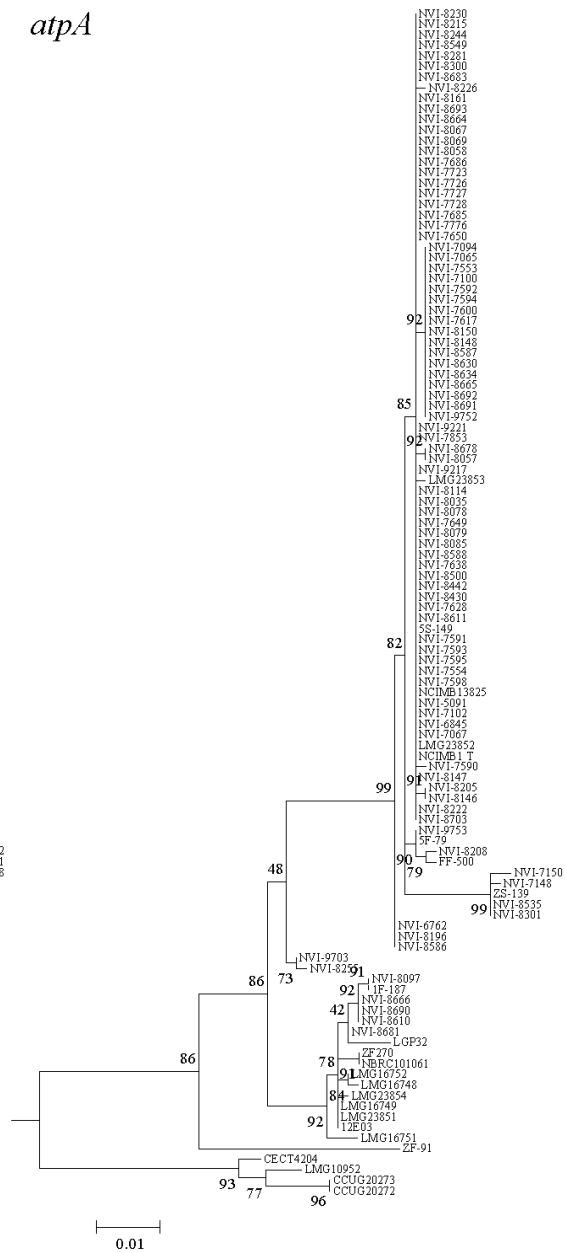
Strain/ isolate ID	Splendidus-clade type strain (closest match)	Biological origin	Geographical origin	Accession no. for gene sequence data					16S rRNA
				<i>rpoD</i>	<i>ftsZ</i>	<i>pyrH</i>	<i>rpoA</i>	<i>atpA</i>	
12E03	<i>V. celticus</i>	Seawater	Northeast USA	<i>AJZD01000366</i>	<i>AJZD01000228</i>	<i>AJZD01000150</i>	<i>AJZD01000310</i>	<i>AJZD01000312</i>	
1F-187	<i>V. tasmaniensis</i> / <i>V. atlanticus</i>	Seawater	Northeast USA	<i>AJZM01000228</i>	<i>AJZM01000228</i>	<i>AJZM01000071</i>	<i>AJZM01000039</i>	<i>AJZM01000041</i>	
5F-79	<i>V. lentus</i>	Seawater	Northeast USA	<i>AJZP01000232</i>	<i>AJZP01000232</i>	<i>AJZP01000265</i>	<i>AJZP01000014</i>	<i>AJZP01000303</i>	
5S-149	<i>V. toranzoniae</i>	Seawater	Northeast USA	<i>AJYX01000052</i>	<i>AJYX01000052</i>	<i>AJYX01000055</i>	<i>AJYX01000006</i>	<i>AJYX01000033</i>	
CCUG20272	<i>V. chagasii</i>	Seawater	Northeast USA	KT026600	KT026673	KT026746	KT026819	KT026892	
CCUG20273	<i>V. chagasii</i>	Seawater	Northeast USA						
CECT4204	<i>V. chagasii</i>	Seawater	Hawaii	<i>AFWG01000034</i>	<i>AFWG01000034</i>	<i>AFWG01000013</i>	<i>AFWG01000014</i>	<i>AFWG01000018</i>	<i>AB038030</i>
NCIMB1(T)	<i>V. splendidus</i>	Marine fish	North Sea	<i>AY751355</i>	<i>DQ481635</i>	<i>EU118241</i>	<i>AJ842725</i>	<i>EF601244</i>	<i>X74724</i>
FF-500	<i>V. splendidus</i>	Seawater	Northeast USA	<i>AJZH01000147</i>	<i>AJZH01000147</i>	<i>AJZH01000120</i>	<i>AJZH01000106</i>	<i>AJZH01000022</i>	
LGP32	<i>V. tasmaniensis</i> / <i>V. atlanticus</i>	Oyster	France	<i>FM954972</i>	<i>FM954972</i>	<i>FM954972</i>	<i>FM954972</i>	<i>FM954972</i>	<i>FM954972</i>
LMG10952	<i>V. chagasii</i>	Seawater	Hawaii	KT026601	KT026674	KT026747	KT026820	KT026893	
LMG16748	<i>V. celticus</i>	Oyster	Spain	KT026602	KT026675	KT026748	KT026821	KT026894	
LMG16749	<i>V. celticus</i>	Oyster	Spain	KT026603	KT026676	KT026749	KT026822	KT026895	
LMG16751	<i>V. celticus</i>	Oyster	Spain	KT026604	KT026677	KT026750	KT026823	KT026896	
LMG16752	<i>V. celticus</i>	Oyster	Spain	KT026605	KT026678	KT026751	KT026824	KT026897	
LMG23851	<i>V. celticus</i>	Manila clam	Spain	KT026606	KT026679	KT026752	KT026825	KT026898	
LMG23852	<i>V. splendidus</i>	Grooved carpet shell	Spain	KT026607	KT026680	KT026753	KT026826	KT026899	
LMG23853	<i>V. splendidus</i>	Manila clam	Spain	KT026608	KT026681	KT026754	KT026827	KT026900	
LMG23854	<i>V. celticus</i>	Grooved carpet shell	Spain	KT026609	KT026682	KT026755	KT026828	KT026901	
NBRC101061	<i>V. cyclitrophicus</i>	Limpet	Japan	KT026610	KT026683	KT026756	KT026829	KT026902	<i>AB681361</i>
NCIMB13825	<i>V. splendidus</i>	Corkwing wrasse	Norway	KT026611	KT026684	KT026757	KT026830	KT026903	<i>AY129277</i>
NVI-5091	<i>V. splendidus</i>	Goldsinny wrasse	Norway	KT026612	KT026685	KT026758	KT026831	KT026904	
NVI-6762	<i>V. splendidus</i>	Atlantic salmon	Norway	KT026613	KT026686	KT026759	KT026832	KT026905	KT036375
NVI-6845	<i>V. splendidus</i>	Atlantic salmon	Norway						
NVI-7065	<i>V. splendidus</i>	Atlantic cod	Norway	KT026614	KT026687	KT026760	KT026833	KT026906	KT036376
NVI-7067	<i>V. splendidus</i>	Atlantic cod	Norway	KT026615	KT026688	KT026761	KT026834	KT026907	KT036377
NVI-7094	<i>V. splendidus</i>	Wrasse	Norway	KT026616	KT026689	KT026762	KT026835	KT026908	
NVI-7100	<i>V. splendidus</i>	Corkwing wrasse	Norway						
NVI-7102	<i>V. splendidus</i>	Corkwing wrasse	Norway						
NVI-7148	Unknown	Food-fish	Norway	KT026617	KT026690	KT026763	KT026836	KT026909	KT036378
NVI-7150	Unknown	Food-fish	Norway	KT026618	KT026691	KT026764	KT026837	KT026910	KT036379
NVI-7553	<i>V. splendidus</i>	Corkwing wrasse	Norway						
NVI-7554	<i>V. splendidus</i>	Corkwing wrasse	Norway	KT026619	KT026692	KT026765	KT026838	KT026911	
NVI-7590	<i>V. splendidus</i>	Corkwing wrasse	Norway	KT026620	KT026693	KT026766	KT026839	KT026912	
NVI-7591	<i>V. splendidus</i>	Corkwing wrasse	Norway	KT026621	KT026694	KT026767	KT026840	KT026913	
NVI-7592	<i>V. splendidus</i>	Corkwing wrasse	Norway	KT026622	KT026695	KT026768	KT026841	KT026914	
NVI-7593	<i>V. splendidus</i>	Corkwing wrasse	Norway						
NVI-7594	<i>V. splendidus</i>	Goldsinny wrasse	Norway	KT026623	KT026696	KT026769	KT026842	KT026915	
NVI-7595	<i>V. splendidus</i>	Goldsinny wrasse	Norway						
NVI-7598	<i>V. splendidus</i>	Corkwing wrasse	Norway						
NVI-7600	<i>V. splendidus</i>	Corkwing wrasse	Norway						
NVI-7617	<i>V. splendidus</i>	Ballan wrasse	Norway						
NVI-7628	<i>V. splendidus</i>	Ballan wrasse	Norway	KT026624	KT026697	KT026770	KT026843	KT026916	
NVI-7638	<i>V. splendidus</i>	Ballan wrasse	Norway	KT026625	KT026698	KT026771	KT026844	KT026917	KT036380
NVI-7649	<i>V. splendidus</i>	Goldsinny wrasse	Norway	KT026626	KT026699	KT026772	KT026845	KT026918	KT036381
NVI-7650	Unknown	Goldsinny wrasse	Norway	KT026627	KT026700	KT026773	KT026846	KT026919	KT036382
NVI-7685	<i>V. splendidus</i>	Ballan wrasse	Norway	KT026628	KT026701	KT026774	KT026847	KT026920	
NVI-7686	<i>V. splendidus</i>	Corkwing wrasse	Norway	KT026629	KT026702	KT026775	KT026848	KT026921	
NVI-7723	<i>V. splendidus</i>	Atlantic cod	Norway						
NVI-7726	<i>V. splendidus</i>	Atlantic cod	Norway	KT026630	KT026703	KT026776	KT026849	KT026922	
NVI-7727	<i>V. splendidus</i>	Atlantic cod	Norway	KT026631	KT026704	KT026777	KT026850	KT026923	
NVI-7728	<i>V. splendidus</i>	Atlantic cod	Norway						
NVI-7776	<i>V. splendidus</i>	Goldsinny wrasse	Norway	KT026632	KT026705	KT026778	KT026851	KT026924	KT036383
NVI-7853	<i>V. splendidus</i>	Goldsinny wrasse	Norway						
NVI-8035	<i>V. splendidus</i>	Corkwing wrasse	Norway	KT026633	KT026706	KT026779	KT026852	KT026925	
NVI-8057	<i>V. splendidus</i>	Ballan wrasse	Norway	KT026634	KT026707	KT026780	KT026853	KT026926	
NVI-8058	<i>V. splendidus</i>	Corkwing wrasse	Norway	KT026635	KT026708	KT026781	KT026854	KT026927	KT036384

Strain/ isolate ID	Splendidus-clade type strain (closest match)	Biological origin	Geographical origin	Accession no. for gene sequence data					16S rRNA
				<i>rpoD</i>	<i>ftsZ</i>	<i>pyrH</i>	<i>rpoA</i>	<i>atpA</i>	
NVI-8067	<i>V. splendidus</i>	Wrasse	Norway	KT026636	KT026709	KT026782	KT026855	KT026928	KT036385
NVI-8069	<i>V. splendidus</i>	Wrasse	Norway	KT026637	KT026710	KT026783	KT026856	KT026929	
NVI-8078	<i>V. splendidus</i>	Corkwing wrasse	Norway	KT026638	KT026711	KT026784	KT026857	KT026930	
NVI-8079	<i>V. splendidus</i>	Corkwing wrasse	Norway	KT026639	KT026712	KT026785	KT026858	KT026931	
NVI-8085	<i>V. splendidus</i>	Goldsinny wrasse	Norway						
NVI-8097	<i>V. tasmaniensis/ V. atlanticus</i>	Lumpsucker	Norway	KT026640	KT026713	KT026786	KT026859	KT026932	KT036386
NVI-8114	<i>V. splendidus</i>	Wrasse	Norway						
NVI-8146	<i>V. splendidus</i>	Ballan wrasse	Norway	KT026641	KT026714	KT026787	KT026860	KT026933	
NVI-8147	<i>V. splendidus</i>	Ballan wrasse	Norway	KT026642	KT026715	KT026788	KT026861	KT026934	
NVI-8148	<i>V. splendidus</i>	Corkwing wrasse	Norway	KT026643	KT026716	KT026789	KT026862	KT026935	KT036387
NVI-8150	<i>V. splendidus</i>	Corkwing wrasse	Norway	KT026644	KT026717	KT026790	KT026863	KT026936	
NVI-8161	<i>V. splendidus</i>	Corkwing wrasse	Norway	KT026645	KT026718	KT026791	KT026864	KT026937	KT036388
NVI-8196	<i>V. splendidus</i>	Ballan wrasse	Norway						
NVI-8205	<i>V. splendidus</i>	Goldsinny wrasse	Norway	KT026646	KT026719	KT026792	KT026865	KT026938	
NVI-8208	<i>V. lentus</i>	Lumpsucker	Norway	KT026647	KT026720	KT026793	KT026866	KT026939	
NVI-8215	Unknown	Lumpsucker	Norway	KT026648	KT026721	KT026794	KT026867	KT026940	KT036389
NVI-8222	<i>V. splendidus</i>	Goldsinny wrasse	Norway						
NVI-8226	<i>V. splendidus</i>	Ballan wrasse	Norway	KT026649	KT026722	KT026795	KT026868	KT026941	KT036390
NVI-8230	<i>V. splendidus</i>	Lumpsucker	Norway	KT026650	KT026723	KT026796	KT026869	KT026942	
NVI-8244	<i>V. splendidus</i>	Goldsinny wrasse	Norway						
NVI-8255	Unknown	Ballan wrasse	Norway	KT026651	KT026724	KT026797	KT026870	KT026943	
NVI-8281	<i>V. splendidus</i>	Goldsinny wrasse	Norway						
NVI-8300	<i>V. splendidus</i>	Ballan wrasse	Norway	KT026652	KT026725	KT026798	KT026871	KT026944	
NVI-8301	Unknown	Atlantic salmon	Norway	KT026653	KT026726	KT026799	KT026872	KT026945	
NVI-8430	<i>V. splendidus</i>	Atlantic cod	Norway	KT026654	KT026727	KT026800	KT026873	KT026946	KT036391
NVI-8442	<i>V. splendidus</i>	Atlantic cod	Norway	KT026655	KT026728	KT026801	KT026874	KT026947	KT036392
NVI-8500	<i>V. splendidus</i>	Wrasse	Norway	KT026656	KT026729	KT026802	KT026875	KT026948	
NVI-8535	Unknown	Lumpsucker	Norway	KT026657	KT026730	KT026803	KT026876	KT026949	
NVI-8549	<i>V. splendidus</i>	Goldsinny wrasse	Norway	KT026658	KT026731	KT026804	KT026877	KT026950	
NVI-8586	<i>V. splendidus</i>	Lumpsucker	Norway	KT026659	KT026732	KT026805	KT026878	KT026951	
NVI-8587	<i>V. splendidus</i>	Goldsinny wrasse	Norway						
NVI-8588	<i>V. splendidus</i>	Goldsinny wrasse	Norway						
NVI-8610	<i>V. tasmaniensis/ V. atlanticus</i>	Lumpsucker	Norway	KT026660	KT026733	KT026806	KT026879	KT026952	
NVI-8611	<i>V. splendidus</i>	Lumpsucker	Norway	KT026661	KT026734	KT026807	KT026880	KT026953	
NVI-8630	<i>V. splendidus</i>	Goldsinny wrasse	Norway	KT026662	KT026735	KT026808	KT026881	KT026954	
NVI-8634	<i>V. splendidus</i>	Wrasse	Norway						
NVI-8664	<i>V. splendidus</i>	Ballan wrasse	Norway	KT026663	KT026736	KT026809	KT026882	KT026955	
NVI-8665	<i>V. splendidus</i>	Goldsinny wrasse	Norway						
NVI-8666	<i>V. tasmaniensis/ V. atlanticus</i>	Goldsinny wrasse	Norway	KT026664	KT026737	KT026810	KT026883	KT026956	
NVI-8678	<i>V. splendidus</i>	Ballan wrasse	Norway						
NVI-8681	<i>V. tasmaniensis/ V. atlanticus</i>	Lumpsucker	Norway	KT026665	KT026738	KT026811	KT026884	KT026957	
NVI-8683	<i>V. splendidus</i>	Lumpsucker	Norway						
NVI-8690	<i>V. tasmaniensis/ V. atlanticus</i>	Wrasse	Norway	KT026666	KT026739	KT026812	KT026885	KT026958	
NVI-8691	<i>V. splendidus</i>	Ballan wrasse	Norway	KT026667	KT026740	KT026813	KT026886	KT026959	
NVI-8692	<i>V. splendidus</i>	Ballan wrasse	Norway						
NVI-8693	<i>V. splendidus</i>	Ballan wrasse	Norway						
NVI-8703	<i>V. splendidus</i>	Wrasse	Norway						
NVI-9217	<i>V. splendidus</i>	Wrasse	Norway	KT026668	KT026741	KT026814	KT026887	KT026960	
NVI-9221	<i>V. splendidus</i>	Wrasse	Norway	KT026669	KT026742	KT026815	KT026888	KT026961	
NVI-9703	Unknown	Atlantic halibut	Norway	KT026670	KT026743	KT026816	KT026889	KT026962	
NVI-9752	<i>V. splendidus</i>	Lumpsucker	Norway	KT026671	KT026744	KT026817	KT026890	KT026963	
NVI-9753	<i>V. lentus</i>	Lumpsucker	Norway	KT026672	KT026745	KT026818	KT026891	KT026964	
ZF270	<i>V. cyclitrophicus</i>	Seawater	Northeast USA	AIDR01000142	AIDR01000143	AIDR01000159	AIDR01000078	AIDR01000234	
ZF-91	<i>V. crassostreae</i>	Seawater	Northeast USA	AJZC01000149	AJZC01000074	AJZC01000276	AJZC01000134	AJZC01000205	
ZS-139	Unknown	Seawater	Northeast USA	AJZE01000014	AJZE01000014	AJZE01000010	AJZE01000117	AJZE01000048	

rpoA



atpA



16S

