Supplementary Materials

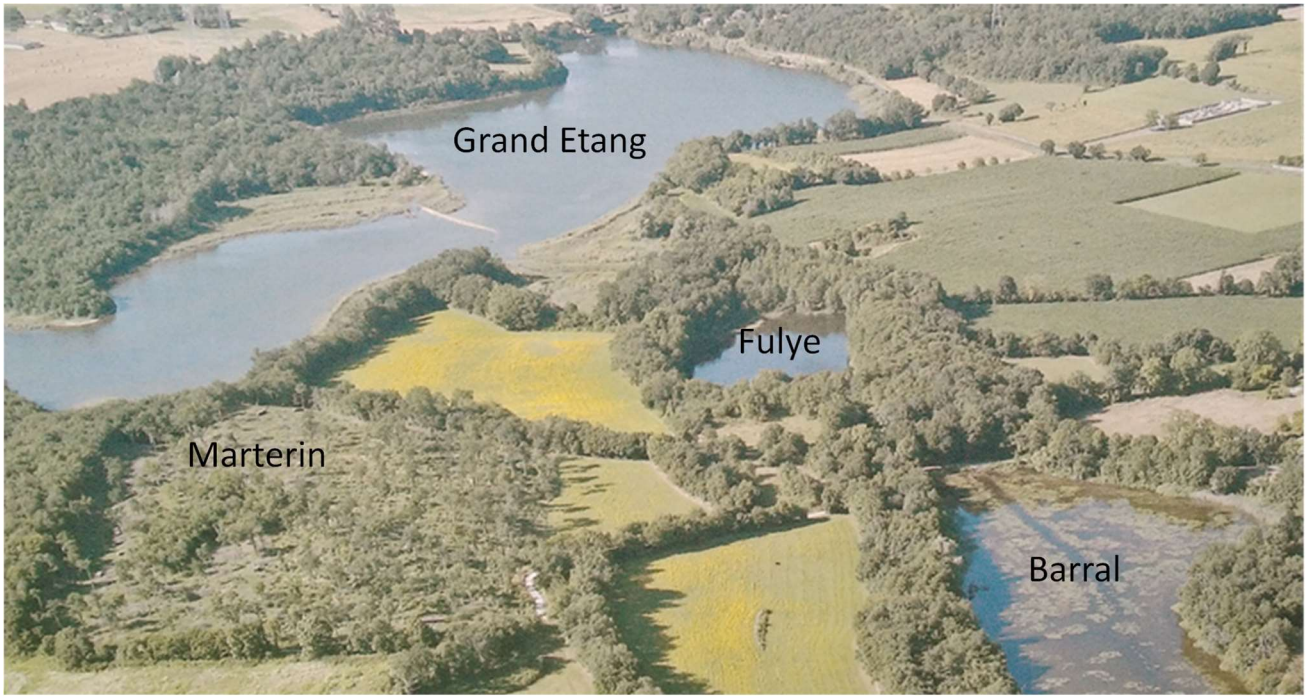

Figure S1. View of the three lakes of the nature reserve of Mepieu. Aerial view of the three lakes of the nature reserve of Mepieu, typical of temperate wetland (45° 44' 34" N, 5° 26' 22" E) (www.reserves-naturelles.org/etangs-de-mepieu).

Table S1. Detailed information, for each lake, on the samples taken in the Mepieu reserve. A volume of 15 ml of water was used for the detection of pectinolytic bacteria, except in March as it was increased to 45 ml. SRP, soft rotting *Pectobacteriaceae.*

Sampling site	Grand Etang				Barral				Fulye				Marterin	**Total**
Sampling date	23/06/2020	15/09/2020	18/03/2021	31/08/2021	23/06/2020	15/09/2020	18/03/2021	31/08/2021	23/06/2020	15/09/2020	18/03/2021	31/08/2021	23/06/2020	
Sample names	J1	S1, S2, S3, S9, S10	M1, M2	A1, A2	J2	S6, S7, S8	M6	A3, A7, A8	J3	S4, S5	M3, M4, M5	A4, A5, A6	J4	
Water temperature	19.5°C	21.6-22.2°C	11.9-12°C	17.7-18.1°C	18.8°C	19.2-21°C	11.4°C	18.5-18.8°C	17°C	20.6°C	11.5-11.8°C	16.7-17.4°C	21°C	
Bacterial concentration														
Cultivable bacteria on LB plates (CFU/ml)	$1.6x10^3$	$2x10^3$ - $3.5x10^3$	$3.5x10^2$ - $4.3x10^2$	$7x10^2$ - 10^3	$2.1x10^3$	$1.6x10^3$ - $3.3x10^3$	$3.6x10^2$	$8.8x10^2$ - $1.2x10^3$	$8x10^2$	$1.5x10^3$ - $2.6x10^3$	$3.2x10^2$ - $5.8x10^2$	$1.6x10^3$ - $2.2x10^3$	$2.6x10^3$	
Pectinolytic colonies per liter on CVP plates	$1.6x10^3$	10^2 - $7.1x10^3$	44 - 155	$2x10^3$ - $7x10^3$	$3.7x10^2$	0 - $5x10^3$	89	$1.2x10^3$ - $5.7x10^3$	$2.7x10^3$	$2.5x10^3$ - $2.8x10^3$	0 - 67	$1.1x10^3$ - $6x10^3$	$2x10^3$	
Nbr of samples containing SRP / Nbr of samples	1/1	5/5	2/2	2/2	1/1	2/3	1/1	3/3	1/1	2/2	2/3	3/3	1/1	**26/28**
Analysis of CVP+ isolates														203
Number of SRP identified by phenotyping	13	25	9	14	17	13	4	21	4	17	4	22	13	**176**
Number of SRP identified by *gapA* sequencing	6	7	9	4	7	7	4	13	3	4	4	9	3	**80**

Table S2. Phenotypic analysis of the 176 SRP isolates from the four surveys in the Mepieu site. Pure strains were isolated from samples collected in June 2020 (47 isolates), September 2020 (55 isolates), March 2021 (17 isolates), and August 2021 (57 isolates). Among them, 13 isolates came from the Marsh Marterin and 163 isolates were recovered from water of the lakes Grand Etang (61), Barral (55) or Fully (47). Pectinolytic colonies were recovered on CVP either after direct spreading of concentrated samples (cc), or after an enrichment step (enrich). After isolation, they were submitted to a phenotypic analysis, including the secretion of enzymes (Pel, pectinase; Cel, cellulase; Prt, protease) and the assimilation of diverse carbon sources (Mtl, mannitol; Mel, melibiose; Dara, D-arabinose; Xyl, xylose; Tre, threhalose). x, positive; xx, strongly positive; w, weakly positive; -, negative. According to this phenotypic analysis, the isolates were classified in 6 classes (D1-D4, P1-P2) and part of them were further identified by *gapA* sequencing (last column).

Date	Sampling site	Sample number	Water temp.	Isolate name	Lab collection	Selection method	CVP pits	Phenotypic analysis							Class	*gapA* identification
								Pel	Cel	Prt	Mtl	Mel	D-ara	Xyl	Tre	
June 23, 2020	Grand Etang	J1	19.5°C	IC1		cc	xx	w	xx	x	x	_	_	x	_	P1	*P. quasiaquaticum*
				IC10		cc	xx	w	xx	x	x	_	_	x	_	P1	
				IC13		cc	x	w	xx	x	x	_	_	x	_	P1	
				IC14		cc	x	w	xx	x	x	_	_	x	_	P1	
				IC16		cc	w	w	xx	x	x	_	_	x	_	P1	
				IC17		cc	w	w	xx	x	x	_	_	x	_	P1	*P. quasiaquaticum*
				IC18		cc	w	w	x	x	x	_	_	x	_	P1	*P. quasiaquaticum*
				IC19		cc	w	w	xx	x	x	_	_	x	_	P1	
				IC190		cc	xx	xx	xx	w	x	w	w	x	_	D1	*D. oryzae*
				IE11		enrich	x	xx	xx	w	x	x	w	x	_	D1	*D. oryzae*
				IE12		enrich	x	xx	xx	w	x	x	w	x	_	D1	
				IE13		enrich	x	xx	xx	w	x	x	w	x	_	D1	
				IE14		enrich	w	xx	xx	xx	x	x	w	x	_	D1	*D. oryzae*
June 23, 2020	Barral	J2	18.8°C	IC20		cc	xx	xx	xx	xx	x	x	w	x	_	D1	*D. oryzae*
				IC21		cc	xx	w	xx	x	x	_	_	x	_	P1	
				IC22		cc	xx	w	xx	x	x	_	_	x	_	P1	
				IC23		cc	x	w	xx	x	x	_	_	x	_	P1	
				IC24		cc	w	w	xx	x	x	_	_	x	_	P1	
				IC25		cc	w	w	xx	w	x	_	_	x	_	P1	*P. quasiaquaticum*
				IC26		cc	w	w	xx	xx	x	_	_	x	_	P1	*P. quasiaquaticum*
				IC27		cc	w	w	xx	xx	x	_	_	x	_	P1	*P. quasiaquaticum*
				IC201		cc	x	w	xx	w	x	_	_	x	_	P1	
				IC202		cc	w	w	xx	w	x	_	_	x	_	P1	*P. quasiaquaticum*
				IE21		enrich	x	w	xx	w	x	x	w	x	_	D1	*D. oryzae*
				IE22		enrich	x	xx	xx	x	x	x	w	x	_	D1	*D. oryzae*
				IE23		enrich	x	xx	xx	x	x	x	w	x	_	D1	
				IE24		enrich	x	w	xx	w	x	x	w	x	_	D1	
				IE25		enrich	x	xx	xx	w	x	x	w	x	_	D1	
				IE26		enrich	x	xx	xx	x	x	x	w	x	_	D1	
				IE27		enrich	x	xx	xx	x	x	x	w	x	_	D1	
June 23, 2020	Fulye	J3	17°C	IC3		cc	w	xx	xx	x	x	x	_	x	w	P2	*P. versatile*
				IC30		cc	w	xx	xx	_	x	_	w	x	_	D2	*D. oryzae* Mel-Prt-
				IE30		enrich	x	x	w	_	w	_	w	x	_	D2	*D. oryzae* Mel-Prt-
				IE31		enrich	w	x	w	_	w	_	w	x	_	D2	
June 23, 2020	Marterin	J4	17.2°C	IC41		cc	xx	w	xx	x	x	_	_	x	_	P1	*P. quasiaquaticum*
				IC42		cc	x	w	xx	x	x	_	_	x	_	P1	
				IC43		cc	w	w	xx	x	x	_	_	x	_	P1	
				IC44		cc	x	w	xx	x	x	_	_	x	_	P1	
				IC45		cc	w	w	xx	w	x	_	_	x	_	P1	
				IC46		cc	w	w	xx	w	x	_	_	x	_	P1	
				IC47		cc	w	w	xx	w	x	_	_	x	_	P1	
				IC48		cc	w	w	xx	w	x	_	_	x	_	P1	
				IC49	A6526	cc	x	w	xx	xx	x	w	_	x	_	D3	*D. chrysanthemi*
				IE40		enrich	w	w	w	w	w	w	_	x	_	D3	*D. chrysanthemi*
				IE41		enrich	w	w	w	w	w	w	_	x	_	D3	
				IE42		enrich	w	w	w	w	w	w	_	x	_	D3	
				IE43		enrich	w	w	w	w	w	w	_	x	_	D3	
September 15, 2020	Grand Etang	S1	22°C	IS10	A6501	cc	xx	x	xx	x	x	x	w	x	_	D1	*D. oryzae*
				IS11		cc	xx	x	xx	x	x	x	w	x	_	D1	
				ISE1		enrich	x	x	xx	w	x	x	w	x	_	D1	
				ISE10		enrich	x	x	xx	x	x	x	w	x	_	D1	
				ISE11		enrich	x	x	xx	x	x	x	w	x	_	D1	
				ISE12		enrich	x	x	xx	x	x	x	w	x	_	D1	
		S2	22.2°C	ISE20		enrich	x	x	xx	x	x	x	w	x	_	D1	
				ISE22		enrich	x	x	x	x	x	x	w	x	_	D1	*D. oryzae*
				ISE23		enrich	w	x	x	x	x	x	w	x	_	D1	
		S3	22.1°C	IS30	A6502	cc	x	x	x	x	x	x	w	x	_	D1	*D. oryzae*
				IS31		cc	xx	x	x	x	x	x	w	x	_	D1	*D. oryzae*
				IS32		cc	x	x	x	x	x	x	w	x	_	D1	
				IS33		cc	x	x	x	x	x	x	w	x	_	D1	
				ISE3		enrich	x	x	xx	x	x	x	w	x	_	D1	
				ISE30		enrich	x	x	xx	x	x	x	w	x	_	D1	
		S9	21.2°C	IS90		cc	x	x	xx	x	x	x	w	x	_	D1	*D. oryzae*
				IS91		cc	x	x	x	x	x	x	w	x	_	D1	
				IS92	A6475	cc	x	x	x	x	_	w	_	_	_	D4	*D. aquatica*
				IS93		cc	xx	xx	xx	xx	x	w	w	x	_	D1	
				ISE90		enrich	x	x	xx	x	x	x	w	x	_	D1	
				ISE92		enrich	x	x	xx	x	x	x	w	x	_	D1	
		S10	21.6°C	IS100		cc	xx	xx	xx	w	x	x	w	x	_	D1	
				IS101		cc	xx	x	xx	x	x	x	w	x	_	D1	*D. oryzae*
				IS102		cc	xx	x	xx	x	x	x	w	x	_	D1	
				IS103		cc	xx	x	xx	x	x	x	w	x	_	D1	
September 15, 2020	Barral	S7	19.2°C	IS70	A6504	cc	xx	xx	xx	x	x	x	w	x	_	D1	*D. oryzae*
				IS71		cc	x	x	x	xx	x	x	w	x	_	D1	*D. oryzae*
				ISE7		enrich	w	x	x	x	x	x	w	x	_	D1	*D. oryzae*
				ISE70		enrich	x	x	xx	xx	x	x	w	x	_	D1	
		S8	19.9°C	IS80	A6474	cc	x	x	x	x	_	x	_	_	_	D4	*D. aquatica*
				IS81		cc	x	x	x	x	_	x	_	_	_	D4	*D. aquatica*
				IS82		cc	x	x	x	x	_	x	_	_	_	D4	
				IS83		cc	w	x	x	x	_	x	_	_	_	D4	
				IS84		cc	xx	xx	xx	x	x	w	w	x	_	D1	*D. oryzae*
				IS85		cc	x	x	x	x	_	w	_	_	_	D4	
				ISE8		enrich	x	x	xx	x	_	w	_	_	_	D4	*D. aquatica*
				ISE80		enrich	w	x	xx	x	_	w	_	_	_	D4	
				ISE81		enrich	x	x	x	x	_	w	_	_	_	D4	

Date	Sampling site	Sample number	Water temp.	Isolate name	Lab collection	Selection method	CVP pits	Phenotypic analysis								Class	gapA identification
								Pel	Cel	Prt	Mtl	Mel	D-ara	Xyl	Tre		
September 15, 2020	Fulye	S4	20.6°C	IS42	A6503	cc	x	x	xx	_	x	_	w	x	_	D2	*D. oryzae* Mel-Prt-
				IS43		cc	w	x	xx	_	x	_	w	x	_	D2	
				IS44		cc	x	x	xx	_	x	_	w	x	_	D2	
				IS45		cc	xx	x	xx	_	x	_	w	x	_	D2	
				ISE4		cc	x	x	xx	_	x	_	w	x	_	D2	
				ISE40		cc	x	x	xx	_	x	_	w	x	_	D2	
				ISE41		cc	x	x	xx	_	x	_	w	x	_	D2	
		S5	20.6°C	IS50	A6485	cc	x	x	w	w	x	x	_	x	_	D3	*D. chrysanthemi*
				IS51		cc	x	x	xx	_	x	_	w	x	_	D2	*D. oryzae* Mel-Prt-
				IS52		cc	x	x	w	_	x	_	w	x	_	D2	
				IS53		cc	x	x	x	_	x	_	w	x	_	D2	
				IS54		cc	x	x	x	_	w	_	w	x	_	D2	*D. oryzae* Mel-Prt-
				IS55		cc	x	x	x	_	w	_	w	x	_	D2	
				IS58		cc	x	x	x	_	w	_	w	_	_	D2	
				IS511		cc	x	x	x	_	w	_	w	_	_	D2	
				IS512		cc	x	w	w	_	w	_	w	_	_	D2	
				ISE5		enrich	w	x	x	_	x	_	w	x	_	D2	
March 18, 2021	Grand Etang	M1	12°C	I11		cc	xxx	w	xx	x	x	_	_	x	_	P1	*P. aquaticum*
				I12		cc	xx	w	xx	x	x	_	_	x	_	P1	*P. quasiaquaticum*
				I13		cc	xxx	xx	xxx	x	x	_	w	x	_	D1	*D. oryzae*
				I14		cc	xxx	xx	xxx	x	x	_	w	x	_	D1	*D. oryzae*
				I15		cc	xx	xx	xx	x	_	x	_	_	_	D4	*D. aquatica*
				IP191		enrich	w	w	xx	x	x	_	_	x	_	P1	*P. quasiaquaticum*
				IP193		enrich	w	w	xx	x	x	_	_	x	_	P1	*P. quasiaquaticum*
		M2	11.9°C	I21		cc	x	x	x	x	x	_	_	x	_	P1	*P. quasiaquaticum*
				I22		cc	x	w	x	w	x	_	_	x	_	P1	*P. quasiaquaticum*
	Barral	M6	11.4°C	IP63		enrich	w	w	x	x	x	_	_	x	_	P1	*P. aquaticum*
				IP66		enrich	x	xx	xx	x	x	x	w	x	_	D1	*D. oryzae*
				IP67		enrich	x	w	xx	x	x	_	_	x	_	P1	*P. aquaticum*
				IP694		enrich	xx	xx	xx	x	x	x	w	x	_	D1	*D. oryzae*
	Fulye	M4	11.8°C	I42		cc	x	w	xxx	xx	x	_	_	x	_	P1	*P. quasiaquaticum*
				IP45		enrich	x	w	xx	x	x	_	_	x	_	P1	*P. quasiaquaticum*
				IP48		enrich	x	w	xx	x	x	_	_	x	_	P1	*P. quasiaquaticum*
		M5	11.5°C	I51		cc	x	w	xx	xx	x	_	_	x	_	P1	*P. quasiaquaticum*
August 31, 2021	Grand Etang	A1	17.7°C	M11		cc	xx	xx	xx	x	x	w	w	x	_	D1	*D. oryzae*
				M12		cc	xx	xx	xx	x	x	x	w	x	_	D1	
				M13		cc	xx	xx	xx	x	x	x	w	x	_	D1	
				M14		cc	x	xx	xx	x	x	x	w	x	_	D1	
				M15	A6540	cc	x	xx	xx	w	x	x	w	x	_	D1	*D. oryzae*
				M16		cc	x	xx	xx	x	x	w	w	x	_	D1	
		A2	18.1°C	M21		cc	x	xx	xx	x	x	x	w	x	_	D1	*D. oryzae*
				M22		cc	xx	xx	xx	x	x	x	w	x	_	D1	
				M23		cc	x	xx	xx	x	x	x	w	x	_	D1	
				M24		cc	xx	xx	x	x	x	x	w	x	_	D1	*D. oryzae*
				M25		cc	xx	xx	xx	x	x	w	w	x	_	D1	
				M26		cc	x	xx	xx	x	x	x	w	x	_	D1	
				M27		cc	x	xx	xx	w	x	x	w	x	_	D1	
				M28		cc	xx	xx	xx	w	x	x	w	x	_	D1	
August 31, 2021	Barral	A3	17°C	M31		cc	xx	xx	xx	xx	x	w	w	x	_	D1	
				M32		cc	xx	xx	xx	x	x	x	w	x	_	D1	
				M33		cc	w	xx	xx	xx	x	w	_	x	_	D3	*D. chrysanthemi*
				M34		cc	w	xx	xx	xx	x	w	_	x	_	D3	
				M35		cc	x	x	x	w	x	x	_	x	_	D3	*D. chrysanthemi*
				M36		cc	w	w	x	w	x	x	_	x	_	D3	*D. chrysanthemi*
		A7	18.8°C	M71		cc	xx	xx	w	x	w	w	w	x	_	D1	*D. oryzae*
				M72		cc	x	x	x	w	w	w	w	x	_	D1	*D. oryzae*
				M73		cc	x	x	x	w	w	w	_	x	_	D3	
				M74		cc	xx	xx	w	x	w	w	w	x	_	D1	
				M76		cc	x	x	x	w	w	w	_	x	_	D3	*D. chrysanthemi*
				M77		cc	x	x	x	w	w	w	_	x	_	D3	*D. chrysanthemi*
				M78		cc	xx	x	x	w	w	w	_	x	_	D3	
		A8	18.5°C	M81		cc	x	xx	x	w	w	w	w	x	_	D1	*D. oryzae*
				M82		cc	xx	xx	x	w	w	w	w	x	_	D1	
				M83		cc	xx	xx	w	w	w	w	w	x	_	D1	*D. oryzae*
				M85		cc	x	w	x	xx	xx	_	_	x	_	P1	*P. quasiaquaticum*
				M86		cc	xx	xx	x	x	x	x	_	x	_	D3	*D. chrysanthemi*
				M87		cc	xx	xx	x	x	x	x	_	x	_	D3	*D. chrysanthemi*
				M88		cc	x	w	x	xx	xx	_	_	x	_	P1	
				M813		cc	x	w	x	xx	xx	_	_	x	_	P1	*P. quasiaquaticum*
August 31, 2021	Fulye	A4	16.7°C	M41		cc	xx	x	x	_	w	_	w	x	_	D2	
				M42		cc	xx	xx	xx	_	w	_	w	x	_	D2	*D. oryzae* Mel-Prt-
				M43		cc	x	xx	xx	_	w	_	w	x	_	D2	
				M44		cc	xx	xx	xx	_	w	_	w	x	_	D2	
				M45		cc	xx	xx	xx	_	w	_	w	x	_	D2	*D. oryzae* Mel-Prt-
				M46		cc	x	xx	xx	_	w	_	w	x	_	D2	
				M47		cc	xx	xx	xx	_	w	_	w	x	_	D2	
				M48		cc	xx	xx	x	_	w	_	w	x	_	D2	
		A5	17.4°C	M51		cc	xx	xx	xx	_	w	_	w	x	_	D2	
				M52		cc	xx	xx	xx	x	w	w	w	x	_	D1	*D. oryzae*
				M53	A6541	cc	xx	x	x	xx	w	w	w	x	_	D1	*D. oryzae*
				M54		cc	xx	x	x	_	w	_	w	x	_	D2	*D. oryzae* Mel-Prt-
				M55		cc	xx	x	x	xx	w	w	w	x	_	D1	*D. oryzae*
				M57		cc	x	x	x	w	x	w	_	x	_	D3	*D. chrysanthemi*
		A6	17°C	M61		cc	xx	xx	xx	_	w	_	w	x	_	D2	*D. oryzae* Mel-Prt-
				M62		cc	xx	xx	xx	_	w	_	w	x	_	D2	
				M63		cc	x	xx	xx	_	w	_	w	x	_	D2	
				M64		cc	xx	xx	xx	_	w	_	w	x	_	D2	
				M65		cc	xx	xx	xx	_	w	_	w	x	_	D2	
				M66		cc	xx	xx	xx	_	w	_	w	x	_	D2	
				M67		cc	xx	xx	xx	_	w	_	w	x	_	D2	
				M68		cc	w	x	x	_	w	_	w	x	_	D2	*D. oryzae* Mel-Prt-

Table S3. Classification by phenotypic and phylogenetic analysis of 163 isolates from lake water. The isolate classification was based on phenotypic profiles and *gapA* phylogeny. for each phenotypic class (D1, D2, D3 D4, P1 P2, the corresponding species is/are given in parenthesis. Inversely, for each species identified by *gapA* phylogeny, the phenotypic class/es is/are given in parenthesis. The two species *P. aquaticum* and *P. quasiaquaticum* are grouped in class P1. Determination of the *gapA* sequence of 21 P1 isolates indicated the proportion of 14% *P. aquaticum* and 86% *P. quasiaquaticum*.

Sampling site	Grand Etang				Barral				Fulye				**Total**	**Ratio**
Sampling date	23/06/2020	15/09/2020	18/03/2021	31/08/2021	23/06/2020	15/09/2020	18/03/2021	31/08/2021	23/06/2020	15/09/2020	18/03/2021	31/08/2021		
Water temperature	19.5°C	21.6-22.2°C	11.9-12°C	17.7-18.1°C	18.8°C	19.2-21°C	11.4°C	18.5-18.8°C	17°C	20.6°C	11.5-11.8°C	16.7-17.4°C		
Total SRP number	13	25	9	14	17	13	4	21	4	17	4	22	**163**	
***Dickeya* classes**	**5**	**25**	**3**	**14**	**8**	**13**	**2**	**18**	**3**	**17**	**0**	**22**	**130**	**80%**
D1 *(D. oryzae)*	5	24	2	14	8	5	2	8	0	0	0	3	71	44%
D2 *(D. oryzae* Mel-Prt-)	0	0	0	0	0	0	0	0	3	16	0	18	37	23%
D3 *(D. chrysanthemi)*	0	0	0	0	0	0	0	10	0	1	0	1	12	7%
D4 (*D. aquatica)*	0	1	1	0	0	8	0	0	0	0	0	0	10	6%
***Pectobacterium* classes**	**8**	**0**	**6**	**0**	**9**	**0**	**2**	**3**	**1**	**0**	**4**	**0**	**33**	**20%**
P1 *(P. aquaticum* or *P.quasiaquaticum)*	8	0	6	0	9	0	2	3	0	0	4	0	32	20%
P2 *(P. versatile)*	0	0	0	0	0	0	0	0	1	0	0	0	1	0.6%
gapA identification	6	7	9	4	7	7	4	13	3	4	4	9	**77**	
***Dickeya* species**	**3**	**7**	**3**	**4**	**3**	**7**	**2**	**11**	**2**	**4**	**0**	**9**	**55**	**71%**
D. oryzae (D1, D2)	3	6	2	4	3	4	2	4	2	3	0	8	41	53%
D. chrysanthemi (D3)	0	0	0	0	0	0	0	7	0	1	0	1	9	12%
D. aquatica (D4)	0	1	1	0	0	3	0	0	0	0	0	0	5	6%
***Pectobacterium* species**	**3**	**0**	**6**	**0**	**4**	**0**	**2**	**2**	**1**	**0**	**4**	**0**	**22**	**29%**
P. quasiaquaticum (P1)	3	0	5	0	4	0	0	2	0	0	4	0	18	23%
P. aquaticum (P1)	0	0	1	0	0	0	2	0	0	0	0	0	3	4%
P. versatile (P2)	0	0	0	0	0	0	0	0	1	0	0	0	1	1%

List of the *gapA* sequence of the *Dickeya* isolates and reference strains

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>M81 Ba 8-21
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>M71 Ba 8-21
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>M35 Ba 8-21
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>M36 Ba 8-21
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>M33 Ba 8-21
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>M57 Fu 8-21
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>M76 Ba 8-21
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>M86 Ba 8-21
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>IC190 Gr 6-20
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>IE11 Gr 6-20
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>IE14 Gr 6-20
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>IC20 Ba 6-20
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>IE21 Ba 6-20
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>IE22 Ba 6-20
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>IC30 Fu 6-20
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>IE30 Fu 6-20
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>IC49 Ma 6-20
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>IS84 Ba 9-20
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>IS10 Gr 9-20
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>ISE22 Gr 9-20
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>IS30 Gr 9-20
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>IS42 Fu 9-20
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>IS50 Fu 9-20
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>IS54 Fu 9-20
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>IS70 Ba 9-20
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>IS71 Ba 9-20
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>ISE7 Ba 9-20
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>ISE8 Ba 9-20
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>IS81 Ba 9-20
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>IS80 Ba 9-20
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>IS92 Gr 9-20
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>IS90 Gr 9-20
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>IS101 Gr 9-20
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>M77 Ba 8-21
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List of the *gapA* sequence of the *Pectobacterium* isolates and reference strains

>I11 Gr 3-21
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>IC25 Gr 6-20
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>IC3 Fu 6-20
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>IC41 Ma 6-20
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>M813 Ba 8-21
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>IC17 Gr 6-20
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>IC26 Ba 6-20
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>IC27 Ba 6-20
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>IC202 Ba 6-20
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>P.aquaticum A212-S19-A16T
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>P.versatile SCC1
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>P.carotovorum CFBP2046
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>P.quasiaquaticum A477-S1-J17T
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List of the *recA* sequence of ten D2 isolates from lake Fulye and *D. oryzae* reference strains

>IC30-Fu-6-20 Fu
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>IE30-Fu-6-20 Fu
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>IS42-Fu-9-20 Fu
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>IS51-Fu-9-20 Fu
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>IS54-Fu-9-20 Fu
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>M41-Fu-8-21 Fu
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>M42-Fu-8-21 Fu
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>M45-Fu-8-21 Fu
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>M54-Fu-8-21 Fu

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>M68-Fu-8-21 Fu
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>M53-Fu-8-21 FG
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TGCCGAACACGCGCTGGATCCGATCTACGCTAAAAAGTTGGGTGTTGATATCGATAATCTGCTGTGTTCCCAGCCGGATACCGGCGAGCAGGCACTGGAGATTTGTGA
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TTCGGTAACCCCGAAACCACGACCGGTGGTAACGCGCTGAAATTCTATGCTTCTGTCCGTCTGGATATTCGCCGTATTGGCTCTATCAAAGAAGGTGACGAAGTTGTCG
GGAGTGAAACCCGCGTTAAAGTTGTGAAGAACAAAGTTGCAGCGCCATTCAAGCAAGCTGAATTCCAGATTCTGTATGGCGAGGG

>Dickeya oryzae ZYY5 T (Fu)
GGTAAAGGTTCTATCATGCGTTTGGGCGAGGATCGCTCAATGGATGTTGAAACGATCTCCACAGGTTCCTTGTCGCTTGATATCGCGCTGGGTGTTGGTGGTTTGCCAA
TGGGCCGTATTGTTGAGATTTACGGTCCGGAATCCTCAGGTAAAACGACGCTGACACTGCAGGTGATTGCTGCCGCACAGCGTGAAGGTAAAACCTGTGCGTTCATTG
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GTTTGGTAACCCCGAAACCACGACCGGTGGTAACGCGCTGAAATTCTATGCTTCTGTCCGTCTGGATATTCGCCGTATCGGCTCTATCAAAGAAGGTGAAGAAGTTGT
CGGGAGTGAAACCCGCGTTAAAGTTGTGAAGAACAAGGTTGCAGCGCCATTCAAGCAAGCTGAATTCCAGATTCTGTATGGCGAGGG

>Dickeya oryzae S20 (FG)
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GGGAGTGAAACCCGCGTTAAAGTTGTGAAGAACAAAGTTGCAGCGCCATTCAAGCAAGCTGAATTCCAGATTCTGTATGGCGA

>Dickeya oryzae A003-S1-M15 (FG)
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GTTCGGTAACCCCGAAACCACGACCGGTGGTAACGCGCTGAAATTCTATGCTTCTGTCCGTCTGGATATTCGCCGTATTGGCTCTATCAAAGAAGGTGACGAAGTTGTC
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>Dickeya oryzae CSLRW192 (FG)
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>Dickeya oryzae FVG08 (Ba)
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GTTCGGTAACCCCGAAACCACGACGGGTGGTAACGCGCTGAAATTCTATGCATCTGTCCGTCTGGATATTCGCCGTATCGGCTCTATCAAAGAAGGTGAAGAAGTTGT
CGGGAGTGAAACCCGAGTTAAAGTTGTGAAGAACAAGGTTGCAGCGCCATTCAAGCAAGCTGAATTCCAGATTCTGTATGGCGA

>Dickeya parazeae S31 T
GGTAAAGGTTCTATCATGCGTTTGGGCGAGGATCGCTCAATGGATGTTGAAACGATCTCCACAGGTTCCTTGTCGCTTGATATCGCACTGGGTGTTGGTGGTTTGCCAA
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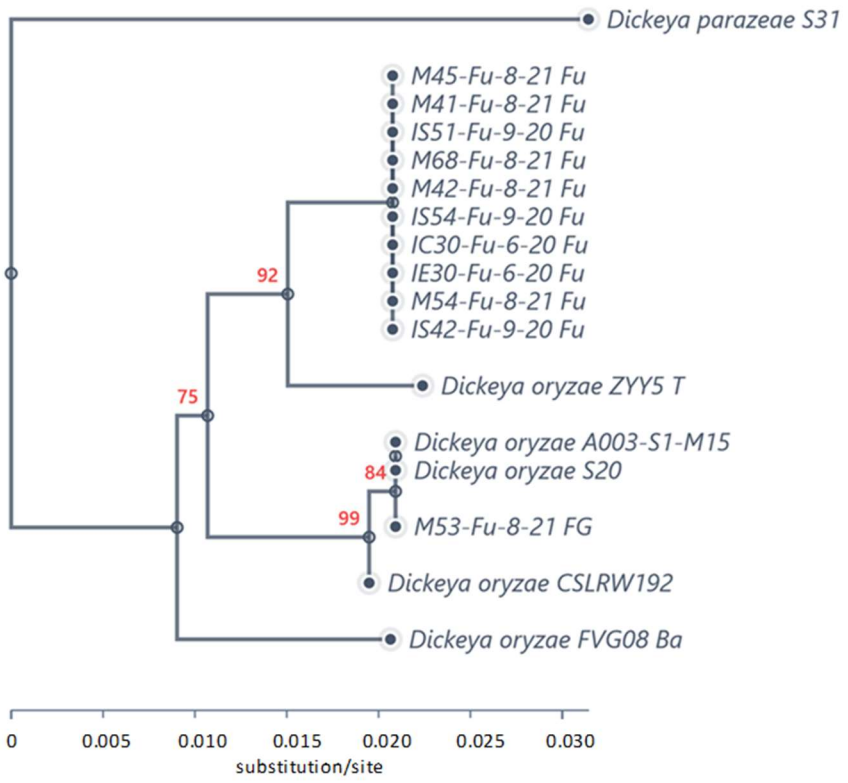
GGGAGTGAAACCCGCGTTAAAGTTGTGAAGAATAAGGTTGCGGCACCCTTCAAACAGGCTGAATTCCAGATTCTGTATGGCGAAGG

The *recA* phylogenetic tree of *Dickeya* isolates from lake Fulye

For each isolate from lake Fulye, the *D. oryzae* phylogroup Fu or FG is indicated. The *D. oryzae* type strain (T) and other strains related to the *D. oryzae* phylogroup FG or Ba were included in the analysis.


Dickeya parazeae S31
M45-Fu-8-21 Fu
M41-Fu-8-21 Fu
IS51-Fu-9-20 Fu
M68-Fu-8-21 Fu
M42-Fu-8-21 Fu
IS54-Fu-9-20 Fu
IC30-Fu-6-20 Fu
IE30-Fu-6-20 Fu
M54-Fu-8-21 Fu
IS42-Fu-9-20 Fu
92
Dickeya oryzae ZYY5 T
75
Dickeya oryzae A003-S1-M15
Dickeya oryzae S20
84
99
M53-Fu-8-21 FG
Dickeya oryzae CSLRW192
Dickeya oryzae FVG08 Ba
0
0.005
0.010
0.015
0.020
0.025
0.030
substitution/site