

Supplementary Material

Table S1. Malacological survey and conventional Polymerase Chain Reaction (PCR) and TaqMan-quantitative Polymerase Chain Reaction (qPCR) readings of the number of detected environmental DNA (eDNA). (Legend: T- Tapel, S1-Sampling Point Number, PSS1- Potential Snail Site Number, R1-Replicate Number, ASS2- Actual Snail Site Number, M- Magrafil).

Sample	Malacolog ical Survey	Convent			Convent			Total number of detected using qPCR
		ional PCR (Run 1)	ional PCR (Run 2)	ional PCR (Run 3)	qPCR (Run 1)	qPCR (Run 2)	qPCR (Run 3)	
TS1-PSS1 (R1)	-	-	-	-	+	-	+	
TS1-PSS1 (R2)	-	-	-	-	-	-	+	3/9
TS1-PSS1 (R3)	-	-	-	-	-	-	-	
TS1-ASS2 (R1)	+	-	-	-	-	-	+	
TS1-ASS2 (R2)	+	-	-	-	-	-	+	4/9
TS1-ASS2 (R3)	+	-	-	-	+	-	+	
TS1-PSS3 (R1)	-	-	-	-	-	-	+	
TS1-PSS3 (R2)	-	-	-	-	+	-	+	4/9
TS1-PSS3 (R3)	-	-	-	-	+	-	-	
TS2-PSS1 (R1)	-	-	-	-	-	+	-	
TS2-PSS1 (R2)	-	-	-	-	-	-	-	2/9
TS2-PSS1 (R3)	-	-	-	-	+	-	-	
TS2-ASS2 (R1)	+	-	-	-	+	+	-	
TS2-ASS2 (R2)	+	-	-	-	-	-	-	2/9
TS2-ASS2 (R3)	+	-	-	-	-	-	-	
TS2-PSS3 (R1)	-	-	-	-	+	+	+	
TS2-PSS3 (R2)	-	-	-	-	+	+	+	9/9
TS2-PSS3 (R3)	-	-	-	-	+	+	+	
TS3-PSS1 (R1)	-	-	-	-	-	-	-	
TS3-PSS1 (R2)	-	-	-	-	-	-	-	0/9
TS3-PSS1 (R3)	-	-	-	-	-	-	-	
TS3-ASS2 (R1)	+	-	-	-	+	+	-	
TS3-ASS2 (R2)	+	-	-	-	+	+	+	6/9
TS3-ASS2 (R3)	+	-	-	-	-	+	-	
TS3-PSS3 (R1)	-	-	-	-	-	-	-	
TS3-PSS3 (R2)	-	-	-	-	+	-	-	1/9
TS3-PSS3 (R3)	-	-	-	-	-	-	-	
TS4-PSS1 (R1)	-	-	-	-	+	-	-	
TS4-PSS1 (R2)	-	-	-	-	+	-	-	3/9
TS4-PSS1 (R3)	-	-	-	-	-	+	-	
TS4-ASS2 (R1)	+	-	-	-	-	-	-	
TS4-ASS2 (R2)	+	-	-	-	-	-	-	0/9
TS4-ASS2 (R3)	+	-	-	-	-	-	-	
TS4-PSS3 (R1)	-	-	-	-	+	-	-	
TS4-PSS3 (R2)	-	-	-	-	-	-	-	1/9
TS4-PSS3 (R3)	-	-	-	-	-	-	-	
TS5-PSS1 (R1)	-	-	-	-	-	-	-	
TS5-PSS1 (R2)	-	-	-	-	-	-	-	0/9

TS5-PSS1 (R3)	-	-	-	-	-	-	-	-
TS5-ASS2 (R1)	+	-	-	-	-	-	-	-
TS5-ASS2 (R2)	+	-	-	-	-	-	-	-
TS5-ASS2 (R3)	+	-	-	-	-	-	-	-
TS5-PSS3 (R1)	-	-	-	-	-	-	-	-
TS5-PSS3 (R2)	-	-	-	-	-	-	-	-
TS5-PSS3 (R3)	-	-	-	-	-	-	-	-
MS6-PSS1 (R1)	-	-	-	-	-	-	-	-
MS6-PSS1 (R2)	-	-	-	-	-	-	-	-
MS6-PSS1 (R3)	-	-	-	-	+	-	-	-
MS6-ASS2 (R1)	+	-	-	-	-	-	-	-
MS6-ASS2 (R2)	+	-	-	-	-	-	-	-
MS6-ASS2 (R3)	+	-	-	-	+	+	+	+
MS6-PSS3 (R1)	-	-	-	-	+	+	+	+
MS6-PSS3 (R2)	-	-	-	-	+	+	+	9/9
MS6-PSS3 (R3)	-	-	-	-	+	+	+	+
MS7-PSS1 (R1)	-	-	-	-	+	+	+	+
MS7-PSS1 (R2)	-	-	-	-	+	+	+	9/9
MS7-PSS1 (R3)	-	-	-	-	+	+	+	+
MS7-ASS2 (R1)	+	-	-	-	-	+	+	+
MS7-ASS2 (R2)	+	-	-	-	-	+	+	6/9
MS7-ASS2 (R3)	+	-	-	-	-	+	+	+
MS7-PSS3 (R1)	-	-	-	-	+	+	+	+
MS7-PSS3 (R2)	-	-	-	-	+	+	+	9/9
MS7-PSS3 (R3)	-	-	-	-	+	+	+	+
MS8-PSS1 (R1)	-	-	-	-	-	+	+	+
MS8-PSS1 (R2)	-	-	-	-	-	+	+	6/9
MS8-PSS1 (R3)	-	-	-	-	-	+	+	+
MS8-ASS2 (R1)	+	-	-	-	-	+	+	+
MS8-ASS2 (R2)	+	-	-	-	-	+	+	6/9
MS8-ASS3 (R3)	+	-	-	-	-	+	+	+
MS8-PSS3 (R1)	-	-	-	-	-	+	+	+
MS8-PSS3 (R2)	-	-	-	-	-	+	+	6/9
MS8-PSS3 (R3)	-	-	-	-	-	+	+	+
MS9-PSS1 (R1)	-	-	-	-	-	+	+	+
MS9-PSS1 (R2)	-	-	-	-	-	+	+	6/9
MS9-PSS1 (R3)	-	-	-	-	-	+	+	+
MS9-ASS2 (R1)	+	-	-	-	-	+	+	+
MS9-ASS2 (R2)	+	-	-	-	-	+	+	7/9
MS9-ASS3 (R3)	+	-	-	-	-	+	+	+
MS9-PSS3 (R1)	-	-	-	-	+	+	+	+
MS9-PSS3 (R2)	-	-	-	-	+	+	+	8/9
MS9-PSS3 (R3)	-	-	-	-	+	+	+	-

Table S2. qPCR of *O. hupensis quadrasi* eDNA in barangay Tapel and barangay Magrafil with corresponding Ct (cycle threshold values) and Ct threshold.

Sample Name	Run	Target Name	Task	Reporter	Quencher	Ct	Ct Threshold
Negative	1	cox1	NTC	FAM	NFQ-MGB	Undetermined	0.006316
	2	cox1	NTC	FAM	NFQ-MGB	Undetermined	0.018889
	3	cox1	NTC	FAM	NFQ-MGB	Undetermined	0.008638
TS1-PSS1 (R1)	1	cox1	UNKNOWN	FAM	NFQ-MGB	31.82	0.006316
	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	3	cox1	UNKNOWN	FAM	NFQ-MGB	31.93	0.008638
TS1-PSS1 (R2)	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.006316
	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	3	cox1	UNKNOWN	FAM	NFQ-MGB	31.08	0.008638
TS1-PSS1 (R3)	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.006316
	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	3	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
TS1-ASS2 (R1)	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.006316
	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	3	cox1	UNKNOWN	FAM	NFQ-MGB	31.30	0.008638
TS1-ASS2 (R2)	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.006316
	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	3	cox1	UNKNOWN	FAM	NFQ-MGB	32.02	0.008638
TS1-ASS2 (R3)	1	cox1	UNKNOWN	FAM	NFQ-MGB	31.93	0.006316

	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	3	cox1	UNKNOWN	FAM	NFQ-MGB	30.20	0.008638
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.006316
TS1-PSS3 (R1)	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	3	cox1	UNKNOWN	FAM	NFQ-MGB	32.14	0.008638
	1	cox1	UNKNOWN	FAM	NFQ-MGB	32.75	0.006316
TS1-PSS3 (R2)	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	3	cox1	UNKNOWN	FAM	NFQ-MGB	30.50	0.008638
	1	cox1	UNKNOWN	FAM	NFQ-MGB	29.52	0.006316
TS1-PSS3 (R3)	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	3	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.006316
TS2-PSS1 (R1)	2	cox1	UNKNOWN	FAM	NFQ-MGB	32.76	0.008638
	3	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.006316
TS2-PSS1 (R2)	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	3	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.006316
TS2-PSS1 (R3)	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	3	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	1	cox1	UNKNOWN	FAM	NFQ-MGB	30.01	0.006316
TS2-ASS2 (R1)	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	3	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	1	cox1	UNKNOWN	FAM	NFQ-MGB	37.19	0.006316

	2	cox1	UNKNOWN	FAM	NFQ-MGB	29.66	0.008638
	3	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.006316
TS2-ASS2 (R2)	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	3	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.006316
TS2-ASS2 (R3)	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	3	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	1	cox1	UNKNOWN	FAM	NFQ-MGB	30.14	0.006316
TS2-PSS3 (R1)	2	cox1	UNKNOWN	FAM	NFQ-MGB	27.77	0.008638
	3	cox1	UNKNOWN	FAM	NFQ-MGB	29.0	0.008638
	1	cox1	UNKNOWN	FAM	NFQ-MGB	28.18	0.006316
TS2-PSS3 (R2)	2	cox1	UNKNOWN	FAM	NFQ-MGB	27.72	0.008638
	3	cox1	UNKNOWN	FAM	NFQ-MGB	28.03	0.008638
	1	cox1	UNKNOWN	FAM	NFQ-MGB	29.01	0.006316
TS2-PSS3 (R3)	2	cox1	UNKNOWN	FAM	NFQ-MGB	28.03	0.008638
	3	cox1	UNKNOWN	FAM	NFQ-MGB	29.16	0.008638
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.006316
TS3-PSS1 (R1)	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	3	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.006316

	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	3	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.006316
TS3-PSS1 (R3)	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	3	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	1	cox1	UNKNOWN	FAM	NFQ-MGB	30.51	0.006316
TS3-ASS2 (R1)	2	cox1	UNKNOWN	FAM	NFQ-MGB	31.48	0.008638
	3	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	1	cox1	UNKNOWN	FAM	NFQ-MGB	29.29	0.006316
TS3-ASS2 (R2)	2	cox1	UNKNOWN	FAM	NFQ-MGB	27.79	0.008638
	3	cox1	UNKNOWN	FAM	NFQ-MGB	30.87	0.008638
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.006316
TS3-ASS2 (R3)	2	cox1	UNKNOWN	FAM	NFQ-MGB	17.38	0.008638
	3	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.006316
TS3-PSS3 (R1)	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	3	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	1	cox1	UNKNOWN	FAM	NFQ-MGB	15.86	0.006316
TS3-PSS3 (R2)	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	3	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.006316

	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	3	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	1	cox1	UNKNOWN	FAM	NFQ-MGB	5.81	0.006316
TS4-PSS1 (R1)	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	3	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	1	cox1	UNKNOWN	FAM	NFQ-MGB	26.72	0.006316
TS4-PSS1 (R2)	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	3	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.006316
TS4-PSS1 (R3)	2	cox1	UNKNOWN	FAM	NFQ-MGB	37.97	0.008638
	3	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
TS4-ASS2 (R1)	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	3	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.008638
	1	cox1	UNKNOWN	FAM	NFQ-MGB	13.48	0.006316
Positive	2	cox1	UNKNOWN	FAM	NFQ-MGB	14.04	0.008638
	3	cox1	UNKNOWN	FAM	NFQ-MGB	14.69	0.008638
	1	cox1	NTC	FAM	NFQ-MGB	Undetermined	0.022037
Negative	2	cox1	NTC	FAM	NFQ-MGB	Undetermined	0.022037
	3	cox1	NTC	FAM	NFQ-MGB	Undetermined	0.022037
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037

	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
	3	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
TS4-ASS2 (R2)	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
	3	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
TS4-ASS2 (R3)	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
	3	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
	1	cox1	UNKNOWN	FAM	NFQ-MGB	34.56	0.022037
TS4-PSS3 (R1)	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
	3	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
TS4-PSS3 (R2)	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
	3	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
TS4-PSS3 (R3)	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
	3	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
TS5-PSS1(R1)	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
	3	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
TS5-PSS1(R2)							

	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
	3	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
TS5-PSS1(R3)	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
	3	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
TS5-ASS2 (R1)	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
	3	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
TS5-ASS2 (R2)	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
	3	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
TS5-ASS2 (R3)	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
	3	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
TS5-PSS3 (R1)	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
	3	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
TS5- PSS3 (R2)	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
	3	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
TS5- PSS3 (R3)	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037

	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
	3	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
MS6-PSS1 (R1)	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
	3	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
MS6-PSS1 (R2)	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
	3	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
	1	cox1	UNKNOWN	FAM	NFQ-MGB	38.10	0.022037
MS6-PSS1 (R3)	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
	3	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
MS6-ASS2 (R1)	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
	3	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
MS6-ASS2 (R2)	2	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
	3	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.022037
	1	cox1	UNKNOWN	FAM	NFQ-MGB	34.47	0.022037
MS6-ASS2 (R3)	2	cox1	UNKNOWN	FAM	NFQ-MGB	31.86	0.022037
	3	cox1	UNKNOWN	FAM	NFQ-MGB	32.04	0.022037
	1	cox1	UNKNOWN	FAM	NFQ-MGB	33.73	0.022037

	2	cox1	UNKNOWN	FAM	NFQ-MGB	36.73	0.022037
	3	cox1	UNKNOWN	FAM	NFQ-MGB	33.06	0.022037
	1	cox1	UNKNOWN	FAM	NFQ-MGB	32.21	0.022037
MS6-PSS3 (R2)	2	cox1	UNKNOWN	FAM	NFQ-MGB	33.01	0.022037
	3	cox1	UNKNOWN	FAM	NFQ-MGB	32.94	0.022037
	1	cox1	UNKNOWN	FAM	NFQ-MGB	34.48	0.022037
MS6-PSS3 (R3)	2	cox1	UNKNOWN	FAM	NFQ-MGB	32.46	0.022037
	3	cox1	UNKNOWN	FAM	NFQ-MGB	34.60	0.022037
	1	cox1	UNKNOWN	FAM	NFQ-MGB	36.02	0.022037
MS7-PSS1 (R1)	2	cox1	UNKNOWN	FAM	NFQ-MGB	34.38	0.022037
	3	cox1	UNKNOWN	FAM	NFQ-MGB	37.02	0.022037
	1	cox1	UNKNOWN	FAM	NFQ-MGB	32.40	0.022037
MS7-PSS1 (R2)	2	cox1	UNKNOWN	FAM	NFQ-MGB	32.19	0.022037
	3	cox1	UNKNOWN	FAM	NFQ-MGB	32.68	0.022037
	1	cox1	UNKNOWN	FAM	NFQ-MGB	34.11	0.022037
MS7-PSS1 (R3)	2	cox1	UNKNOWN	FAM	NFQ-MGB	34.24	0.022037
	3	cox1	UNKNOWN	FAM	NFQ-MGB	35.77	0.022037
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.018889
MS7-ASS2 (R1)	2	cox1	UNKNOWN	FAM	NFQ-MGB	29.32	0.018889
	3	cox1	UNKNOWN	FAM	NFQ-MGB	29.11	0.018889
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.018889

	2	cox1	UNKNOWN	FAM	NFQ-MGB	29.57	0.018889
	3	cox1	UNKNOWN	FAM	NFQ-MGB	29.83	0.018889
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.018889
MS7-ASS2 (R3)	2	cox1	UNKNOWN	FAM	NFQ-MGB	24.90	0.018889
	3	cox1	UNKNOWN	FAM	NFQ-MGB	24.69	0.018889
	1	cox1	UNKNOWN	FAM	NFQ-MGB	29.98	0.022037
MS7-PSS3 (R1)	2	cox1	UNKNOWN	FAM	NFQ-MGB	29.67	0.022037
	3	cox1	UNKNOWN	FAM	NFQ-MGB	30.26	0.022037
	1	cox1	UNKNOWN	FAM	NFQ-MGB	32.92	0.022037
MS7-PSS3 (R2)	2	cox1	UNKNOWN	FAM	NFQ-MGB	32.75	0.022037
	3	cox1	UNKNOWN	FAM	NFQ-MGB	34.06	0.022037
	1	cox1	UNKNOWN	FAM	NFQ-MGB	32.95	0.022037
MS7-PSS3 (R3)	2	cox1	UNKNOWN	FAM	NFQ-MGB	31.88	0.022037
	3	cox1	UNKNOWN	FAM	NFQ-MGB	33.70	0.022037
	1	cox1	UNKNOWN	FAM	NFQ-MGB	15.88	0.022037
Positive	2	cox1	UNKNOWN	FAM	NFQ-MGB	15.25	0.022037
	3	cox1	UNKNOWN	FAM	NFQ-MGB	20.02	0.022037
	1	cox1	NTC	FAM	NFQ-MGB	Undetermined	0.018889
Negative Control	2	cox1	NTC	FAM	NFQ-MGB	Undetermined	0.018889
	3	cox1	NTC	FAM	NFQ-MGB	Undetermined	0.018889
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.018889

	2	cox1	UNKNOWN	FAM	NFQ-MGB	28.87	0.018889
	3	cox1	UNKNOWN	FAM	NFQ-MGB	29.03	0.018889
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.018889
MS8-PSS1 (R2)	2	cox1	UNKNOWN	FAM	NFQ-MGB	30.00	0.018889
	3	cox1	UNKNOWN	FAM	NFQ-MGB	29.91	0.018889
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.018889
MS8-PSS1 (R3)	2	cox1	UNKNOWN	FAM	NFQ-MGB	29.93	0.018889
	3	cox1	UNKNOWN	FAM	NFQ-MGB	29.32	0.018889
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.018889
MS8-ASS2 (R1)	2	cox1	UNKNOWN	FAM	NFQ-MGB	29.95	0.018889
	3	cox1	UNKNOWN	FAM	NFQ-MGB	29.99	0.018889
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.018889
MS8-ASS2 (R2)	2	cox1	UNKNOWN	FAM	NFQ-MGB	29.71	0.018889
	3	cox1	UNKNOWN	FAM	NFQ-MGB	30.76	0.018889
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.018889
MS8-ASS2 (R3)	2	cox1	UNKNOWN	FAM	NFQ-MGB	29.74	0.018889
	3	cox1	UNKNOWN	FAM	NFQ-MGB	30.45	0.018889
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.018889
MS8-PSS3 (R1)	2	cox1	UNKNOWN	FAM	NFQ-MGB	30.93	0.018889
	3	cox1	UNKNOWN	FAM	NFQ-MGB	30.92	0.018889
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.018889

	2	cox1	UNKNOWN	FAM	NFQ-MGB	30.44	0.018889
	3	cox1	UNKNOWN	FAM	NFQ-MGB	30.82	0.018889
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.018889
MS8-PSS3 (R3)	2	cox1	UNKNOWN	FAM	NFQ-MGB	30.56	0.018889
	1	cox1	UNKNOWN	FAM	NFQ-MGB	30.71	0.018889
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.018889
MS9-PSS1 (R1)	2	cox1	UNKNOWN	FAM	NFQ-MGB	27.75	0.018889
	3	cox1	UNKNOWN	FAM	NFQ-MGB	28.02	0.018889
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.018889
MS9-PSS1 (R2)	2	cox1	UNKNOWN	FAM	NFQ-MGB	30.35	0.018889
	3	cox1	UNKNOWN	FAM	NFQ-MGB	30.19	0.018889
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.018889
MS9-PSS1 (R3)	2	cox1	UNKNOWN	FAM	NFQ-MGB	30.04	0.018889
	3	cox1	UNKNOWN	FAM	NFQ-MGB	29.88	0.018889
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.018889
MS9-ASS2 (R1)	2	cox1	UNKNOWN	FAM	NFQ-MGB	28.59	0.018889
	3	cox1	UNKNOWN	FAM	NFQ-MGB	30.61	0.018889
	1	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.018889
MS9-ASS2 (R2)	2	cox1	UNKNOWN	FAM	NFQ-MGB	30.00	0.018889
	3	cox1	UNKNOWN	FAM	NFQ-MGB	30.10	0.018889
	1	cox1	UNKNOWN	FAM	NFQ-MGB	34.0	0.018889

	2	cox1	UNKNOWN	FAM	NFQ-MGB	30.06	0.018889
	3	cox1	UNKNOWN	FAM	NFQ-MGB	30.09	0.018889
	1	cox1	UNKNOWN	FAM	NFQ-MGB	33.267	0.018889
MS9-PSS3 (R1)	2	cox1	UNKNOWN	FAM	NFQ-MGB	30.36	0.018889
	3	cox1	UNKNOWN	FAM	NFQ-MGB	30.58	0.018889
	1	cox1	UNKNOWN	FAM	NFQ-MGB	30.95	0.018889
MS9-PSS3 (R2)	2	cox1	UNKNOWN	FAM	NFQ-MGB	30.52	0.018889
	3	cox1	UNKNOWN	FAM	NFQ-MGB	30.47	0.018889
	1	cox1	UNKNOWN	FAM	NFQ-MGB	30.10	0.018889
MS9-PSS3 (R3)	2	cox1	UNKNOWN	FAM	NFQ-MGB	30.15	0.018889
	3	cox1	UNKNOWN	FAM	NFQ-MGB	Undetermined	0.018889
	1	cox1	UNKNOWN	FAM	NFQ-MGB	14.91	0.018889
Positive	2	cox2	UNKNOWN	FAM	NFQ-MGB	14.82	0.018889
	3	cox3	UNKNOWN	FAM	NFQ-MGB	38.77	0.018889

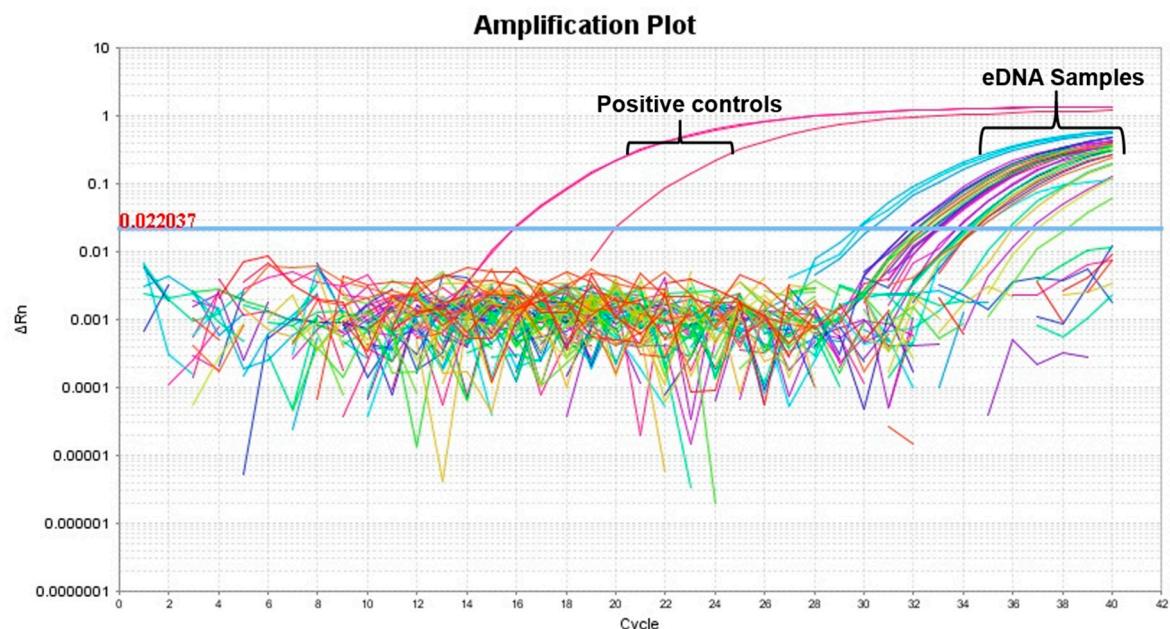
Table 3. Edaphic factors of all soil samples in Barangay Tapel and Magrafil.

Sample	Temperatu re (°C)	O.M	P	K	Zn	Cu	Mn	Fe	Ca	OC (%)	O M (%)
		pH	. % (N)	(ppm))	(ppm))	(ppm))	(ppm))	(ppm))	(cmol/ kg)		
Non-endemic area	25.0	5.74	2.13	9.40	290	0.26	1.02	15.40	20.80	22.8	1.95 3.36
TS1-PSS1	23.0	5.90	4.37	45.80	420	9.08	5.70	89.40	239.60	7.99	2.75 4.72
TS1-ASS2	23.0	5.38	4.82	42.90	400	5.18	3.00	49.20	228.80	5.61	2.77 4.77

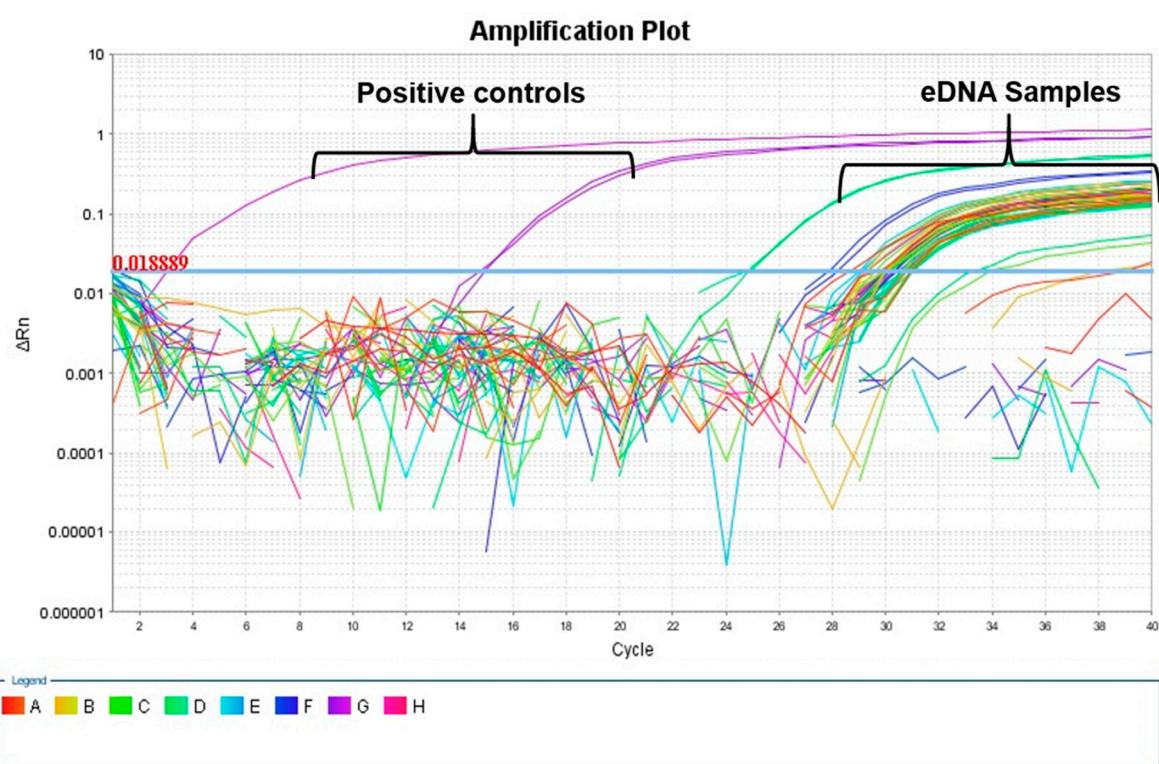
TS1-PSS3	22.0	5.83	4.82	32.80	210	4.44	2.00	35.60	237.4	6.77	2.75	4.72
TS2-PSS1	24.0	5.78	4.78	42.70	325	8.30	5.28	78.60	253.8	3.72	2.93	5.04
TS2-ASS2	23.0	5.22	4.92	33.20	85	3.54	3.02	17.00	258.6	5.56	2.60	4.48
TS2-PSS3	23.0	5.30	5.09	32.50	120	3.08	1.96	24.00	228.8	7.61	3.11	5.35
TS3-PSS1	23.0	5.30	5.23	31.10	95	5.96	3.46	34.00	260.4	7.04	2.86	4.93
TS3-ASS2	23.5	5.20	4.88	37.90	160	4.88	2.40	45.80	238.6	4.67	2.85	4.89
TS3-PSS3	22.0	5.57	2.89	106.0	55	7.32	11.28	130.2	114.2	10.25	2.55	4.39
TS4-PSS1	23.0	5.51	3.27	13.30	280	1.64	4.38	84.50	206.1	4.84	1.87	3.22
TS4-ASS2	23.0	5.34	1.96	23.90	210	1.76	6.08	47.80	148.2	2.88	1.05	1.81
TS4-PSS3	23.0	5.32	1.58	5.90	135	1.60	4.72	66.80	140.8	2.79	0.94	1.62
TS5-PSS1	22.0	5.45	2.17	12.10	160	1.96	6.04	106.8	126.0	3.05	1.27	2.19
TS5-ASS2	23.0	5.43	2.48	6.80	110	1.64	4.18	80.80	154.2	2.64	1.23	2.11
TS5-PSS3	22.0	5.38	1.58	10.80	125	1.48	4.44	81.80	142.8	2.92	.91	1.56
MS6-PSS1	22.0	5.54	3.34	58.30	550	10.40	13.46	114.8	97.80	6.27	2.35	4.04
MS6-ASS2	23.0	5.54	4.02	54.00	380	13.44	16.08	161.4	121.8	0.92	2.29	3.94
MS6-PSS3	23.0	5.93	3.06	64.00	780	13.48	13.86	101.0	93.00	5.63	1.62	2.78
MS7-PSS1	22.0	6.07	2.54	63.70	480	9.23	15.47	113.5	124.0	2.08	2.35	4.04

MS7-ASS2	23.0	5.70	2.51	54.50	430	7.74	11.28	112.8	127.6	2.19	2.12	3.64
MS7-PSS3	23.0	5.95	2.72	67.00	750	9.06	11.08	98.80	139.0	6.33	2.42	4.16
MS8-PSS2	23.0	6.05	3.37	51.40	470	9.08	11.72	97.40	82.80	4.57	1.92	3.31
MS8-ASS2	23.0	6.04	3.20	38.50	530	11.08	14.04	102.6	59.60	6.07	1.89	3.26
MS8-PSS3	23.0	6.09	2.54	45.70	750	10.16	11.82	84.40	49.60	0.25	1.69	2.91
MS9-PSS1	23.0	5.96	2.68	65.00	670	10.06	14.60	134.8	80.00	2.71	1.39	2.39
MS9-ASS2	23.0	6.14	3.10	45.80	400	10.52	13.50	134.8	110.0	4.47	2.16	3.72
MS9-PSS3	22.0	5.99	2.75	36.90	325	7.54	12.88	74.20	74.60	4.51	1.48	2.55

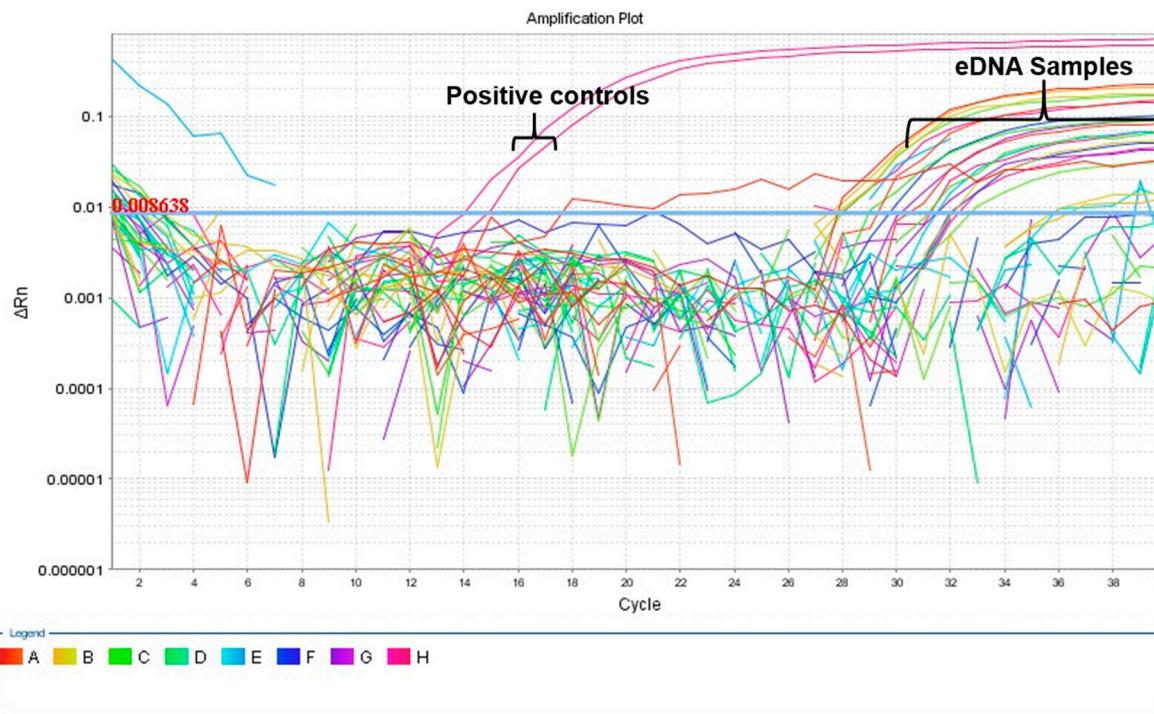
A



B



C



D

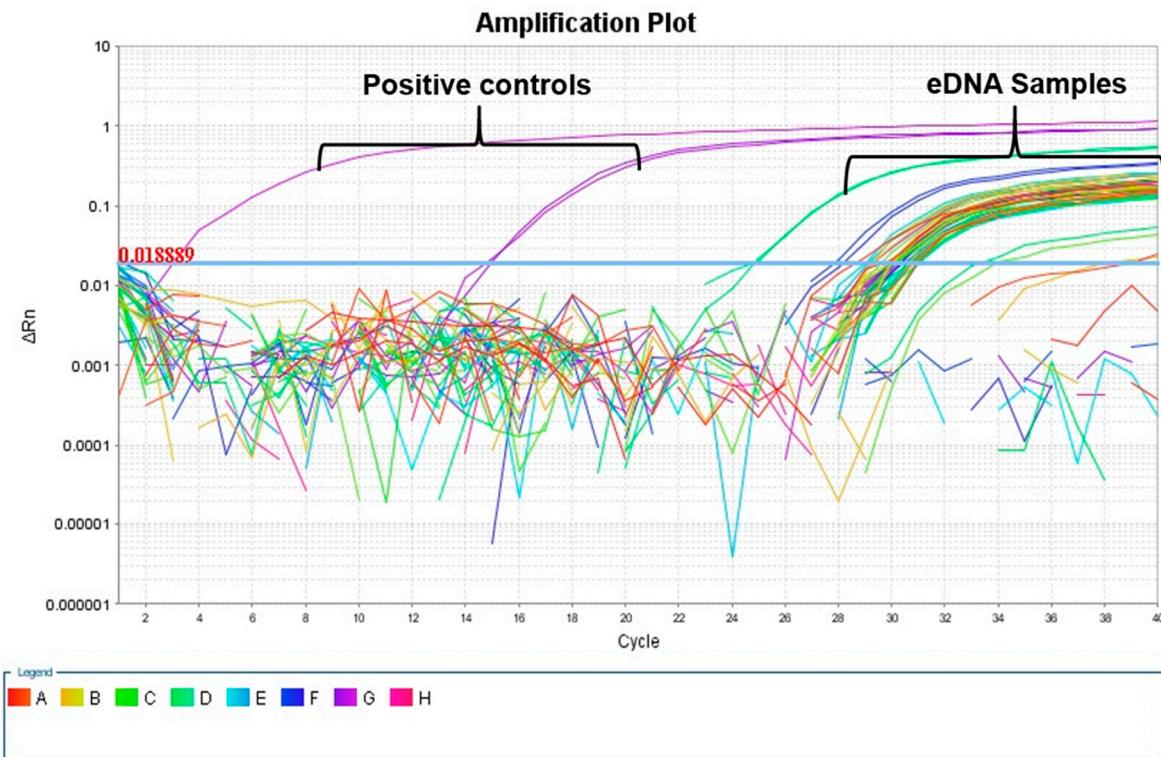


Figure S4. TaqMan qPCR amplification plots of *O. hupensis quadrasi*, showing cycle threshold (Ct) levels as indicated by the blue horizontal line; the positive control is indicated by the pink line. The positive result is indicated by amplifications exceeding the threshold line. Each color represents a single sample.