

1 **Supplementary information**

2 **Table S1** : *Symbiodinium* sub-clade identification on rDNA of some coral colonies surveyed
 3 through June 2011 to August 2012. In grey the appearance of tissue loss (White Syndrome
 4 disease).

5

Coral colonies		Months of survey							
State	ID	Jun-11	Aug-11	Oct-11	Dec-11	Feb-12	Apr-12	Jun-12	Aug-12
Diseased	TeAC01	NA	(+V)	A13 (+V)	A3, D1a	A13	(+V)	NA	NA
	TeAC02	NA	NA	NA	NA	D1a	(+V)	NA	NA
	TeAC08	A13, D1a	(+V)		D1a (+V)	(+V)	(+V)	NA	NA
	LiAC09	A13	A13	A13	A13	A13 (+V)	A13	(+V)	NA
	LiAC10	NA	NA	NA	A13	A13	A13 (+V)	A13	A13
Healthy	LiAC02	NA	NA	D1a	NA	NA	NA	NA	NA
	LiAC05	NA	NA	D1a	D1a	NA	NA	NA	NA
	LiAC07	D1a	NA	D1a	NA	D1a	NA	D1a	D1a
	TeAC10	NA	NA	C91	NA	NA	NA	NA	NA
	TeAC03	NA	NA	NA	NA	NA	NA	NA	NA
	TeAC04	NA	NA	D1a	NA	NA	NA	NA	NA

6

7

8 **Table S2:** Aligned sequences haplotypes for variable positions within the 541 bp area of the 16 rDNA gene of *Vibrio*, with nucleotides
 9 differences indicated in bold underline. Amplification was performed in one direction with the Vibrionaceae-specific primer designed by
 10 Thompson et al. (2004).The code of tagged corals are mentionned in the table with their corresponding period of survey coded as follows: T1 for
 11 August 2011, T5 for April 2012 and T6 for June 2012.

12

Haplotype	Sequence(5'-3' ; 63bp)	This study	External references (Genbank)
H1	GGCGTAAAGCGCATGCAGGTGGTTTGTTAAGTCAGATGTGAAAGCCCGGGGCTCAACCTCGGA	TeAC08 (T1)	<i>V. alginolyticus</i> (LN866606)
		TeAC01 (T5)	<i>V. azureus</i> (LN866609)
		LiAC09 (T6)	<i>V. diabolicus</i> (LN866614)
		LiAC10 (T5)	<i>V. fortis</i> (KT626460)
H2	GGCGTAAAGCGCATGCAGGTGGTTTGTTAAGTCAGATGTGAAAGCCCGGGGCT <u>I</u> AACCTCGGA	TeAC01 (T6)	<i>Vibrio sp1</i> (X97988)
		TeAC08 (T1)	
H3	GGCGTAAAGCGCATGCAGGTGG <u>A</u> T <u>G</u> ATTAAGTCAGATGTGAAAGCCCGGGGCTCAACCTCGGA	LiAC09 (T6)	<i>V. pectinada</i> (JN039139.1)
H4	GGCGTAAAGCGCATGCAGGTGGTT <u>G</u> GTTAAGTCAGATGTGAAAGCCCGGGGCTCAACCTCGGA	TeAC01 (T5)	Endophytic bacterium (KP757663) <i>Vibrio sp2</i> (KT731378)

13

14

15

16

17 **Table S3** : Values of 28S copy number quantified by qPCR and expressed by the ratio of
 18 host/symbiont for each clade A, C and D associated with *A. cytherea* surveyed between June
 19 2011 and August 2012. The host profile in clade(s) assemblage is expressed, with detection
 20 (VIB) or not (NV) of *Vibrio* spp, as well as the phenotype: healthy (normal), with white
 21 syndrome (abnormal), after observation of disease symptoms (post) and death (D).

22

Colony	Period	Site	ratio : Symbiont/Host			Profil	Vibrio	Phenotype
			Clade A	Clade C	Clade D			
<i>Diseased</i>	Jun-11	Teavaro	1.82E+06	0	0	A	NV	Normal
	Aug-11	Teavaro	4.29E+06	0	0	A	VIB	Abnormal
	Oct-11	Teavaro	2.83E+06	0	0	A	VIB	Post
	Dec-11	Teavaro	9.59E+04	0	1.02E+07	AD	NV	Post
	Feb-12	Teavaro	3.51E+06	0	2.87E+08	AD	NV	Post
	Apr-12	Teavaro	8.64E+06	0	0	A	VIB	Post
	Jun-12	Teavaro	D	D	D	D	D	D
	Aug-12	Teavaro	D	D	D	D	D	D
Te-AC01	Jun-11	Teavaro	0.00E+00	1.73E+07	2.25E+07	CD	NV	Normal
	Aug-11	Teavaro	0.00E+00	4.75E+06	5.89E+08	CD	NV	Normal
	Oct-11	Teavaro	8.50E+04	3.57E+06	3.56E+09	ACD	NV	Normal
	Dec-11	Teavaro	2.43E+04	3.04E+04	2.44E+08	ACD	NV	Normal
	Feb-12	Teavaro	0.00E+00	7.62E+05	1.06E+09	CD	NV	Normal
	Apr-12	Teavaro	1.22E+07	0	0	A	VIB	Abnormal
	Jun-12	Teavaro	0.00E+00	2.35E+07	9.78E+07	CD	NV	Post
	Aug-12	Teavaro	0.00E+00	0	9.65E+04	D	NV	Post
Te-AC02	Jun-11	Teavaro	2.91E+05	0	1.26E+08	AD	na	Normal
	Aug-11	Teavaro	1.21E+06	0	1.51E+08	AD	VIB	Normal
	Oct-11	Teavaro	na	na	na	na	na	Normal
	Dec-11	Teavaro	8.27E+05	0	4.75E+07	AD	VIB	Normal
	Feb-12	Teavaro	9.03E+05	0	1.26E+08	AD	VIB	Normal
	Apr-12	Teavaro	8.61E+05	0	2.10E+08	AD	VIB	Abnormal
	Jun-12	Teavaro	1.47E+06	0	2.17E+08	AD	NV	Post
	Aug-12	Teavaro	4.82E+05	0	2.39E+08	AD	NV	Post
Te-AC08	Jun-11	Linareva	8.20E+05	0	0	A	NV	Normal
	Aug-11	Linareva	3.07E+05	0	0	A	NV	Normal
	Oct-11	Linareva	2.99E+05	0	0	A	NV	Normal
	Dec-11	Linareva	9.19E+05	0	0	A	NV	Normal
	Feb-12	Linareva	1.51E+06	0	0	A	VIB	Abnormal
	Apr-12	Linareva	8.64E+05	0	0	A	NV	Post
	Jun-12	Linareva	3.07E+06	0	0	A	VIB	Post
	Aug-12	Linareva	2.25E+06	0	0	A	NV	Post
Li-AC09	Jun-11	Linareva	4.52E+05	0	0	A	NV	Normal
	Aug-11	Linareva	4.85E+05	0	0	A	NV	Normal
	Oct-11	Linareva	2.44E+05	0	0	A	NV	Normal
	Dec-11	Linareva	9.95E+05	0	0	A	NV	Normal
	Feb-12	Linareva	6.87E+05	0	0	A	NV	Abnormal
	Apr-12	Linareva	1.09E+06	0	0	A	VIB	Post
	Jun-12	Linareva	6.91E+06	0	0	A	NV	Post
	Aug-12	Linareva	1.09E+06	0	0	A	NV	Post
Li-AC10	Jun-11	Teavaro	1.09E+05	2.57E+07	1.36E+05	ACD	NV	Normal
	Aug-11	Teavaro	1.98E+05	4.08E+08	0	AC	NV	Normal
	Oct-11	Teavaro	4.85E+04	5.15E+08	0	AC	NV	Normal
	Dec-11	Teavaro	1.01E+03	1.10E+08	0	AC	NV	Normal
	Feb-12	Teavaro	0	9.65E+07	0	C	NV	Normal
	Apr-12	Teavaro	0	4.18E+07	0	C	NV	Normal
	Jun-12	Teavaro	na	na	na	na	NV	Normal
	Aug-12	Teavaro	0	1.51E+09	0	C	NV	Normal
Te-AC03	Jun-11	Teavaro	1.62E+05	0	7.55E+07	AD	NV	Normal

Healthy

	Aug-11	Teavaro	2.08E+05	0	1.08E+08	AD	NV	Normal
	Oct-11	Teavaro	2.81E+05	0	4.84E+08	AD	NV	Normal
	Dec-11	Teavaro	1.14E+06	0	7.78E+08	AD	NV	Normal
	Feb-12	Teavaro	2.51E+05	0	1.33E+08	AD	NV	Normal
	Apr-12	Teavaro	1.59E+05	0	2.67E+08	AD	NV	Normal
	Jun-12	Teavaro	1.73E+04	0	6.78E+07	AD	NV	Normal
	Aug-12	Teavaro	0	1.35E+07	7.53E+08	CD	NV	Normal
Te-AC04	Jun-11	Teavaro	1.23E+05	0	2.42E+07	AD	NV	Normal
	Aug-11	Teavaro	6.59E+04	0	7.74E+06	AD	NV	Normal
	Oct-11	Teavaro	1.03E+05	0	1.04E+07	AD	NV	Normal
	Dec-11	Teavaro	0	0	2.08E+08	D	NV	Normal
	Feb-12	Teavaro	4.22E+05	0	1.32E+07	AD	NV	Normal
	Apr-12	Teavaro	1.38E+06	0	3.41E+07	AD	NV	Normal
	Jun-12	Teavaro	4.99E+05	0	2.68E+07	AD	NV	Normal
	Aug-12	Teavaro	6.42E+05	5.52E+03	4.28E+06	ACD	NV	Normal
Li-AC02	Jun-11	Linareva	5.42E+03	0	3.25E+08	AD	NV	Normal
	Aug-11	Linareva	2.72E+03	0	2.34E+08	AD	NV	Normal
	Oct-11	Linareva	0.00E+00	0	1.61E+08	D	NV	Normal
	Dec-11	Linareva	4.41E+03	0	2.49E+08	AD	NV	Normal
	Feb-12	Linareva	1.17E+04	0	1.51E+08	AD	NV	Normal
	Apr-12	Linareva	2.95E+03	0	2.20E+08	AD	NV	Normal
	Jun-12	Linareva	1.51E+05	0	5.08E+09	AD	NV	Normal
	Aug-12	Linareva	2.23E+04	0	1.82E+09	AD	NV	Normal
Li-AC05	Jun-11	Linareva	8.12E+03	0	9.06E+08	AD	NV	Normal
	Aug-11	Linareva	2.58E+03	0	5.44E+08	AD	NV	Normal
	Oct-11	Linareva	0.00E+00	0	3.62E+08	D	NV	Normal
	Dec-11	Linareva	3.02E+02	0	6.09E+08	AD	NV	Normal
	Feb-12	Linareva	0.00E+00	0	2.15E+08	D	NV	Normal
	Apr-12	Linareva	1.16E+03	0	6.31E+08	AD	NV	Normal
	Jun-12	Linareva	6.40E+03	0	4.71E+08	AD	NV	Normal
	Aug-12	Linareva	3.05E+03	0	5.32E+08	AD	NV	Normal
Li-AC07	Jun-11	Linareva	1.10E+07	0	5.83E+08	AD	NV	Normal
	Aug-11	Linareva	1.41E+06	0	8.86E+07	AD	NV	Normal
	Oct-11	Linareva	6.77E+06	0	1.37E+09	AD	NV	Normal
	Dec-11	Linareva	2.77E+06	0	3.99E+07	AD	NV	Normal
	Feb-12	Linareva	2.08E+07	0	5.01E+08	AD	NV	Normal
	Apr-12	Linareva	4.98E+06	0	3.50E+08	AD	NV	Normal
	Jun-12	Linareva	9.23E+07	0	7.16E+08	AD	NV	Normal
	Aug-12	Linareva	3.82E+07	4.31E+05	1.06E+09	ACD	NV	Normal

23 na: missing data (no DNA)