

Table S1. Histological results obtained for samples included in the retrospective study

Sample reference	Area	Mortality event	Pathogens Number of infected individuals (%)						Lesions Number of infected individuals (%)			
			<i>Marteilia</i> sp.	Trematode sporocysts	<i>Rickettsia</i> -like organism	<i>Mytilicola</i> sp.	Ciliates	Bacteria	Hemocyte infiltration	Necrosis	Granuloma	Digestive diverticula atrophy
14/007	North Brittany	Yes	1 (6.7)	1 (6.7)	1 (6.7)	1 (6.7)	1 (6.7)	0	3 (20)	8 (53.3)	0	8 (53.3)
14/015	South Vendée	Yes	0	0	0	4 (26.7)	3 (20)	2 (13.3)	2 (13.3)	5 (33.3)	1 (6.7)	0
14/020	Charente Maritime	Yes	0	0	0	3 (20)	2 (13.3)	0	0	8 (53.3)	1 (6.7)	0
14/025	South Vendée	Yes	0	0	0	1 (6.7)	0	13 (86.7)	1 (6.7)	14 (93.3)	0	2 (13.3)
14/026	Charente Maritime	Yes	0	0	0	7 (46.7)	0	13 (86.7)	2 (13.3)	13 (86.7)	0	2 (13.3)
14/045	Charente Maritime	Yes	0	1 (6.7)	0	1 (6.7)	0	4 (26.7)	3 (20)	5 (33.3)	0	10 (66.7)
15/095	South Vendée	Yes	0	1 (6.7)	0	4 (26.7)	2 (13.3)	4 (26.7)	2 (13.3)	7 (46.7)	0	7 (46.7)
16/027	South Vendée	Yes	0	0	0	2 (13.3)	0	10 (100)	2 (13.3)	10 (100)	0	0
16/044	Charente Maritime	Yes	0	1 (6.7)	0	3 (20)	1 (6.7)	7 (70)	2 (20)	9 (90)	0	0
L1	North Brittany	No	0	0	0	0	0	0	0	0	1 (25)	0
L2	North Brittany	No	0	0	0	0	0	0	0	1 (25)	0	0

L3	North Brittany	Yes	0	0	0	0	0	0	2 (50)	2 (50)	0	0
L4	North Brittany	Yes	0	0	0	0	0	0	0	0	0	0
L5	North Brittany	Yes	0	0	0	0	0	0	1 (25)	0	1 (25)	0
L6	North Brittany	Yes	0	0	0	0	0	0	0	2 (50)	2 (50)	0
L7	North Brittany	Yes	0	0	0	0	0	0	0	0	0	0
L8	North Brittany	No	0	0	0	0	0	0	0	0	0	0
L9	North Brittany	Yes	0	0	0	0	0	0	0	1 (16.7)	1 (16.7)	0
L10	North Brittany	Yes	0	0	0	0	0	0	3 (100)	1 (33.3)	1 (33.3)	0
L12	North Brittany	No	0	0	0	0	0	0	0	0	0	0
L13	North Brittany	No	0	0	0	0	0	0	0	0	0	0
L15	North Brittany	No	0	0	0	0	0	0	0	0	1 (33.3)	0
L16	North Brittany	Yes	0	0	0	0	0	0	3 (100)	2 (66.7)	0	0
L18	North Brittany	Yes	0	0	0	0	0	0	3 (30)	3 (30)	7 (70)	0

Table S2. Description of year, season and location of the sampled mussels included in the study (France, 45 batches, 863 individuals)

Year	Season	Location	Number of batches (No. individuals)
2014	Spring	English Channel	0 (0)
		Atlantic Coast	6 (110)
	Summer	English Channel	0 (0)
		Atlantic Coast	0 (0)
	Autumn	English Channel	0 (0)
		Atlantic Coast	0 (0)
Winter	English Channel	1 (20)	
	Atlantic Coast	1 (10)	
2015	Spring	English Channel	0 (0)
		Atlantic Coast	5 (85)
	Summer	English Channel	0 (0)
		Atlantic Coast	1 (14)
	Autumn	English Channel	0 (0)
		Atlantic Coast	0 (0)
Winter	English Channel	0 (0)	
	Atlantic Coast	3 (37)	
2016	Spring	English Channel	2 (20)
		Atlantic Coast	11 (247)
	Summer	English Channel	0 (0)
		Atlantic Coast	0 (0)
	Autumn	English Channel	0 (0)
		Atlantic Coast	0 (0)
Winter	English Channel	0 (0)	
	Atlantic Coast	0 (0)	
2017	Spring	English Channel	10 (220)
		Atlantic Coast	0 (0)
	Summer	English Channel	0 (0)
		Atlantic Coast	0 (0)
	Autumn	English Channel	2 (40)
		Atlantic Coast	0 (0)
Winter	English Channel	3 (60)	
	Atlantic Coast	0 (0)	