

Supplementary Table S1. Red tide events reported in Galicia (NW Iberian Peninsula) since 1910. Events were listed in two seasonal groups: spring-summer and autumn; locations are shown in Figure 1.

Year	Spring-Summer		Autumn	
	Dinoflagellates	Others	Dinoflagellates	Others
1916	<i>Likely Lingulodinium polyedra</i> (rep. as radiolarians, RV, RP) ^{1,2}			
1917	<i>L. polyedra</i> (RP) ²			
1920's				
1940's				
1953	<i>Tripos furca</i> (RV) ³			
1955	<i>Gonyaulax diacantha</i> (RV) ⁴	<i>Mesodinium</i> sp. (RV) ⁴		
	<i>G. spinifera</i> (RV) ⁴			
	<i>L. polyedra</i> (RV) ^{4,5}			
1960's				
1976	<i>Gymnodinium catenatum</i> ⁶			
1977	<i>Noctiluca scintillans</i> ⁶	<i>Amphidinium</i> sp. ⁶		
		<i>N. scintillans</i> ⁷		
1978	<i>Amphidinium</i> sp. ⁶			
1979	<i>Apedinella</i> sp. ⁶			
	<i>Mesodinium</i> sp. ⁸			
1980	<i>N. scintillans</i> ⁶	<i>Eutreptiella</i> sp. ⁶	<i>H. akashiwo</i> ⁶	
		<i>Mesodinium</i> sp. ⁶		
		<i>Heterosigma akashiwo</i> (RP, RV) ^{9,10}		
1981	<i>N. scintillans</i> ⁶	<i>Mesodinium</i> sp. (RV, RP) ^{6,11}	<i>Prorocentrum triestinum</i> ⁶	<i>P. rostratum</i> ⁶

			<i>T. furca</i> ⁶
1982	<i>P. triestinum</i> ⁶	<i>Mesodinium</i> sp. ⁶	<i>P. triestinum</i> ⁶
1983	<i>P. triestinum</i> ⁶	<i>Mesodinium</i> sp. ⁶	<i>P. triestinum</i> ⁶
1984	<i>Alexandrium minutum</i> (rep. <i>G. tamarensis</i> , RAB) ¹² <i>N. scintillans</i> (RV) ¹³	<i>Mesodinium</i> sp. ⁶	
1985		<i>Mesodinium</i> sp. ⁶ <i>H. akashiwo</i> (RB) ⁹	<i>G. catenatum</i> ⁶ <i>A. affine</i> ⁶
1986		<i>Mesodinium</i> sp. ⁶ <i>H. akashiwo</i> (RB) ⁹	<i>G. catenatum</i> ⁵ <i>A. affine</i> ⁶
1987	<i>N. scintillans</i> ⁶ <i>P. micans</i> ⁶ <i>A. minutum</i> (rep. <i>A. tamarense</i> , Ría de Camariñas, RAC) ⁹	<i>H. akashiwo</i> ⁶	
1989	<i>Lepidodinium chlorophorum</i> (rep. as <i>Gyrodinium aureolum</i> , RP, RV) ^{14,15}		
1990		<i>Mesodinium</i> sp. (RP) ¹⁵	
1993			<i>G. catenatum</i> (RV) ¹⁶
1996			<i>Dictyocha speculum</i> (RCA) ¹⁷
1997		<i>H. akashiwo</i> (RA) ¹⁸	<i>G. cf. polygramma</i> ¹⁹
2000	<i>N. scintillans</i>		

	(RA, RV, RP, A Lanzada) ^{20,21}			
2001	<i>N. scintillans</i> (RP, RV, A Lanzada) ^{21,23,24,}	<i>Mesodinium</i> sp. (RV) ²¹	<i>Karenia</i> cf. <i>mikimotoi</i> and <i>P.</i> <i>cordatum</i> (rep. as <i>P.</i> <i>minimum</i> , RB) ^{25,26}	
2003	<i>L. polyedra</i> (RAB) ^{27,28}		<i>L. polyedra</i> (RAB) ^{27,30}	
2005		<i>Mesodinium</i> sp. (RM) ²⁹		
2006	<i>Kryptoperidinium</i> <i>triquetrum</i> (RV) ³¹ <i>N. scintillans</i> (RM, RP, Baldaio, RAC) ^{29,32}			
2007		<i>Mesodinium</i> sp. (RV) ²⁹		
2008	<i>N. scintillans</i> (RA, RP, RV) ^{29,33} <i>L. polyedra</i> (Ria de O Barqueiro, RAC) ³⁴			
2009			<i>N. scintillans</i> (RP) ²⁹	
2011	<i>N. scintillans</i> (RP) ³⁵ <i>L. polyedra</i> (RAB) ³⁵	<i>Mesodinium</i> sp. (RV) ²⁹		
2014	<i>N. scintillans</i> (RAB, RAC, RV, RP) ^{29,36,37,39}	<i>Mesodinium</i> sp. (RV) ²⁹	<i>N. scintillans</i> (Burela, Foz, Cervo: Lugo) ^{29,38}	<i>Mesodinium</i> sp. (RA) ³⁹
2015	<i>N. scintillans</i> (RV) ⁴⁰	<i>Mesodinium</i> sp. (RV) ⁴¹		
2017			<i>N. scintillans</i> (RV) ⁴¹	
2018	<i>A. minutum</i> (RP, RV) ^{42,43}			

	<i>N. scintillans</i> (RV) ⁴⁴
2020	<i>N. scintillans</i> (RA, RV, RP) ^{45,46}
2021	<i>A. tamarense</i> (RC) ⁴⁴ <i>N. scintillans</i> (RV, RP, RA) ⁴⁷⁻⁴⁹
2022	<i>N. scintillans</i> (RA, RB) ⁵⁰
2023	<i>A. minutum</i> (RP) ⁵¹ <i>K. triquetrum</i> (RV) ⁵²

Table 1. Red tides observed in the Galician Rías and other coastal locations (NW Iberian Peninsula). Cases without geographical data belong to the southern Rías Baixas (Fraga, 1989). Other locations outside the Rías are fully indicated. Abbreviations code for the following (northward direction): RV, Ría de Vigo; RP, Ría de Pontevedra; RB, Rías Baixas; RA, Ría de Arousa; RM, Ría de Muros; RAB, Ría de Ares-Betanzos; RAC, Ría de A Coruña; RC, Ría de Corme-Laxe; RCA, Ría de Camariñas.

Sources: ¹de Buen (1917), ²Sobrinho (1918), ³Margalef et al. (1955), ⁴Margalef (1956), ⁵Vives and Benito (1957), ⁶Fraga (1989), ^{7,11,13,18,21,24,32,36-38,46,49,50,51}La Voz de Galicia (several numbers), ^{8,19-23,33,39,40}Faro de Vigo (several numbers), ^{9,30,35}ICES Report (1988, 2004, 2012), ¹⁰Figueiras and Niell (1987), ¹²Blanco et al. (1985), ¹⁴Jiménez et al. (1992), ¹⁵Reguera B. (pers. obs.), ¹⁶Gómez-Fermín et al. (1996), ¹⁷Prego et al. (1998), ²⁵ICES Report (2002), ²⁶Crespo et al. (2007), ²⁷Arévalo et al. (2006), ²⁸Pazos and Moroño (2007), ²⁹<https://fitopasion.com/2017/09/un-mar-de-noctilucas-en-la-ria-de-vigo.html>, ³¹Fraga S. (pers. obs.), ³⁴Ospina-Álvarez et al. (2010), ⁴¹<https://fitopasion.com/2015/05/marea-roja-en-cabo-home.html>, ⁴²Nogueira et al. (2022), ⁴³Ruiz-Villarreal et al. (2022), ⁴⁴Rodríguez F. (pers. obs.), ⁴⁵<https://fitopasion.com/2020/08/las-noctilucas-son-para-el-verano.html>, ⁴⁷Sacilotto et al. (2023), ⁴⁸Broullón E. (pers. obs.), ⁵²González-Nuevo G. (pers. obs.),