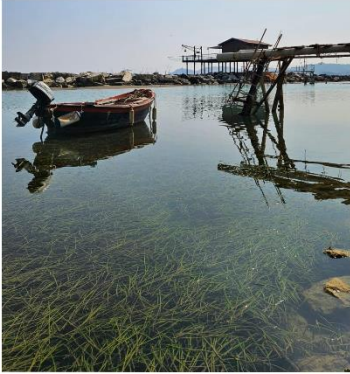


(a)



(b)



(c)



Figure S1. The seagrass *Cymodocea nodosa* in Torrette marina: **(a)** view on the meadow and **(b)** on the dense leaf canopy both from the pier at site A, **(c)** underwater photograph showing the seagrass leaves.

Table S2. Mean $\pm$ standard deviation of leaf parameters.

Site	Site A					Site B				
	1	2	3	4	5	1	2	3	4	5
Sampling date										
Apical leaf width (cm)	0.28 $\pm$ 0.05	0.3 $\pm$ 0.01	0.33 $\pm$ 0.07	0.38 $\pm$ 0.09	0.33 $\pm$ 0.07	0.29 $\pm$ 0.05	0.35 $\pm$ 0.04	0.38 $\pm$ 0.05	0.37 $\pm$ 0.07	0.33 $\pm$ 0.04
Base leaf width (cm)	0.35 $\pm$ 0.06	0.42 $\pm$ 0.04	0.4 $\pm$ 0.04	0.41 $\pm$ 0.05	0.37 $\pm$ 0.05	0.36 $\pm$ 0.06	0.45 $\pm$ 0.05	0.45 $\pm$ 0.06	0.4 $\pm$ 0.01	0.36 $\pm$ 0.05
Averaged leaf width (cm)	0.31 $\pm$ 0.05	0.36 $\pm$ 0.03	0.37 $\pm$ 0.05	0.4 $\pm$ 0.06	0.35 $\pm$ 0.05	0.33 $\pm$ 0.05	0.4 $\pm$ 0.04	0.42 $\pm$ 0.05	0.38 $\pm$ 0.03	0.34 $\pm$ 0.04
Photosynthetic leaf part length (cm)	25.97 $\pm$ 10.46	33.81 $\pm$ 14.7	60.47 $\pm$ 24.95	60.68 $\pm$ 19.73	30.15 $\pm$ 7.98	25.14 $\pm$ 12.7	38.44 $\pm$ 14.04	64.51 $\pm$ 21.88	66.26 $\pm$ 19.18	44.73 $\pm$ 16.25
Total leaf length (cm)	35.39 $\pm$ 11.84	46.29 $\pm$ 16.65	78.85 $\pm$ 26.35	79.18 $\pm$ 20.22	43.15 $\pm$ 9.06	34.05 $\pm$ 14.11	50.35 $\pm$ 15.15	77.31 $\pm$ 24.98	82.06 $\pm$ 21.26	54.26 $\pm$ 17.87
Photosynthetic leaf part surface (cm ²)	8.09 $\pm$ 3.47	12.35 $\pm$ 5.57	22.21 $\pm$ 8.87	23.7 $\pm$ 7.39	10.6 $\pm$ 3.33	8.13 $\pm$ 4.35	15.48 $\pm$ 6.3	27.25 $\pm$ 10.34	25.51 $\pm$ 7.49	15.41 $\pm$ 5.76
Total leaf surface (cm ²)	11.06 $\pm$ 4.03	16.92 $\pm$ 6.47	28.95 $\pm$ 9.55	31.06 $\pm$ 7.61	15.16 $\pm$ 3.97	11.06 $\pm$ 4.89	20.29 $\pm$ 6.95	32.65 $\pm$ 11.89	31.59 $\pm$ 8.42	18.69 $\pm$ 6.43
Percentage broken apices per shoot (%)	4.17 $\pm$ 10.21	8.33 $\pm$ 12.91	29.17 $\pm$ 24.58	62.5 $\pm$ 23.42	88.89 $\pm$ 17.21	5.56 $\pm$ 13.61	14.17 $\pm$ 24.58	8.33 $\pm$ 12.91	37.5 $\pm$ 10.21	58.33 $\pm$ 40.82

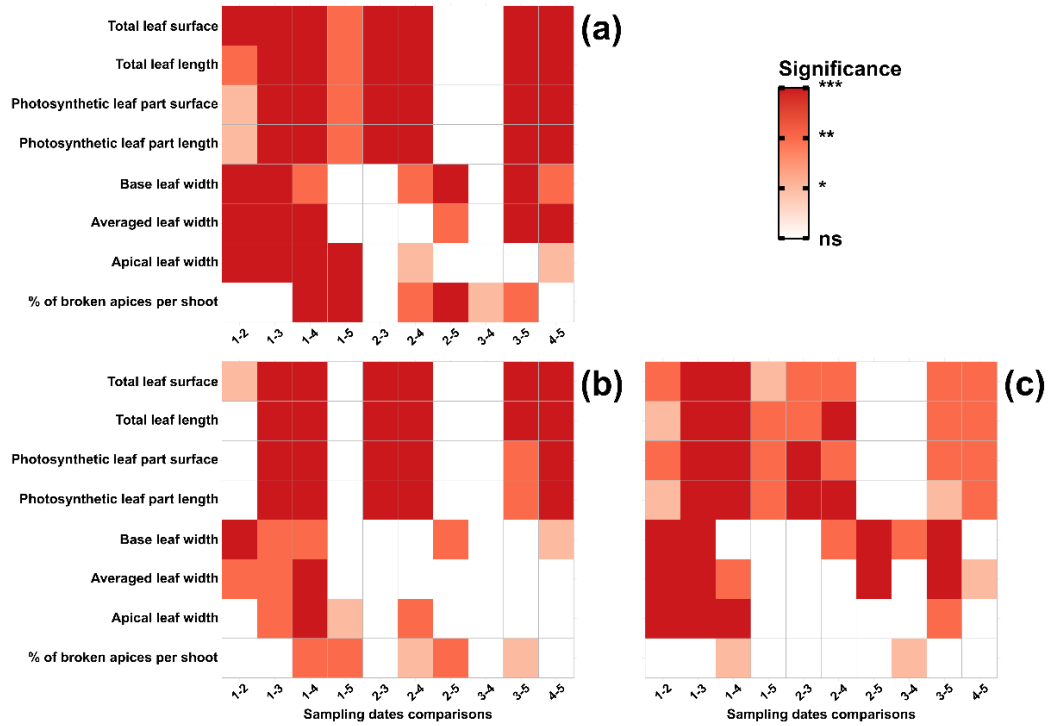


Figure S2. Heatmaps showing the 4 significance levels from Dunn's post hoc pairwise comparisons of leaf variables across sampling dates: (a) both sites combined; (b) site A only; and (c) site B only. Significance levels: ns ($p > 0.05$); * ($0.05 > p > 0.01$); ** ($0.01 > p > 0.001$); *** ($p < 0.001$).

Table S3. Comparison of the epiphytic vegetation and macrofauna recorded in this study with results reported in other studies.

	1	2	3	4	5	6	7	8.1	8.2
Chlorophyta									
<i>Bryopsis hypnoides</i> J.V.Lamouroux							+		
<i>Chaetomorpha ligustica</i> (Kützinger) Kützinger	cf.								
<i>Cladophora</i> spp.	+								
<i>Cladophora</i> sp.							+	+	+
<i>Cladophora dalmatica</i> Kützinger	cf.								
<i>Cladophora laetevirens</i> (Dillwyn) Kützinger									+
<i>Cladophora prolifera</i> (Roth) Kützinger					+				
<i>Cladophora socialis</i> Kützinger			+						
<i>Dasycladus vermicularis</i> (Scopoli) Krasser					+				
<i>Epicladia flustrae</i> Reinke			+						
<i>Ulva</i> spp.	+								
<i>Ulva polyclada</i> Kraft							+		
<i>Ulva prolifera</i> O.F.Müller							+		
<i>Ulvella lens</i> P. Crouan & H. Crouan			+						
<i>Valonia utricularis</i> (Roth) C.Agardh					+				
Rhodophyta									
<i>Acrochaetium</i> sp.							+		+
<i>Acrochaetium secundatum</i> (Lyngbye) Nägeli			+						
<i>Bangia atropurpurea</i> (Mertens ex Roth) C.Agardh			+						
<i>Callithamnion</i> sp.							+		
<i>Callithamnion corymbosum</i> (Smith) Lyngbye		+							
<i>Carradoriella elongata</i> (Hudson) Savoie & G.W.Saunders					+		+		
<i>Ceramium</i> sp.		+						+	+
<i>Ceramium ciliatum</i> (J.Ellis) Ducluzeau							+		
<i>Ceramium diaphanum</i> (Lightfoot) Roth		+				cf.		+	+
<i>Ceramium siliquosum</i> (Kützinger) Maggs & Hommersand					+				
<i>Ceramium siliquosum</i> var. <i>zostericola</i> (Thuret) G. Furnari	cf.								
<i>Ceramothamnion codii</i> H.Richards					+			+	+
<i>Champia parvula</i> (C.Agardh) Harvey		+				cf.	+		
<i>Chondria capillaris</i> (Hudson) M.J.Wynne							+	+	
<i>Chondria mairei</i> Feldmann-Mazoyer		+				cf.			+
<i>Chroodactylon ornatum</i> (C.Agardh) Basson			+				+	+	+
<i>Colaconema daviesii</i> (Dillwyn) Stegenga	cf.								
<i>Erythrotrichia carnea</i> (Dillwyn) J.Agardh	+		+						+
<i>Gayliella flaccida</i> (Harvey ex Kützinger) T.O.Cho & L.M.McIvor		+				cf.			
<i>Gayliella transversalis</i> (Collins & Hervey) T.O.Cho & Fredericq							+	+	
<i>Grania efflorescens</i> (J.Agardh) Kylin			+						
<i>Herposiphonia secunda</i> (C. Agardh) Ambronn		+				cf.		+	+
<i>Hydrolithon</i> sp.	+	+			+				
<i>Hydrolithon boreale</i> (Foslie) Y.M.Chamberlain		+				cf.			
<i>Hydrolithon cruciatum</i> (Bressan) Y.M.Chamberlain		+				cf.	+	+	+
<i>Hydrolithon farinosum</i> (J.V.Lamouroux) Penrose & Y.M.Chamberlain			+		+	cf.			
<i>Hypnea cervicornis</i> J.Agardh	cf.								
<i>Laurencia minuta</i> Vandermeulen, Garbary & Guiry		+				cf.			
<i>Laurencia minuta</i> subsp. <i>scammaccae</i> G.Furnari & Cormaci									+
<i>Lejolisia mediterranea</i> Bornet								+	+
<i>Lophosiphonia cristata</i> Falkenberg								+	+
<i>Melanothamnus sphaerocarpus</i> (Børgesen) Díaz-Tapia & Maggs		+				cf.			+
<i>Melobesia membranacea</i> (Esper) J.V.Lamouroux			+						
<i>Pneophyllum</i> sp.	+								

<i>Pneophyllum fragile</i> Kützing		+	+		+	cf.		+	+
<i>Polysiphonia</i> sp. Greville		+						+	+
<i>Porphyrostromium ciliare</i> (Carmichael) M.J.Wynne			+						
<i>Pseudoceramium tenerrimum</i> (G.Martens) Barros-Barreto & Maggs							+		+
<i>Sahlingia subintegra</i> (Rosenvinge) Kornmann			+						
<i>Spermothamnion repens</i> (Dillwyn) Magnus					+				
<i>Stylonema alsidii</i> (Zanardini) K.M.Drew	+		+					+	+
<i>Stylonema cornu-cervi</i> Reinsch			+						
<i>Titanoderma</i> sp.	+								
<i>Womersleyella setacea</i> (Hollenberg) R.E.Norris								+	
<i>Yoneshiguea compta</i> (Børgesen) Barros-Barreto, Maggs & M.A.Jaramillo							+		
Unidentified red algae						+			
Heterokontophyta									
<i>Cladosiphon</i> sp.					+				
<i>Cladosiphon cylindricus</i> (Sauvageau) Kylin	cf.								
<i>Cladosiphon irregularis</i> (Sauvageau) Kylin									+
<i>Dictyota implexa</i> (Desfontaines) J.V.Lamouroux					+			+	+
<i>Ectocarpus siliculosus</i> (Dillwyn) Lyngbye					+				
<i>Feldmannia</i> sp. Hamel									+
<i>Feldmannia mitchelliae</i> (Harvey) H.-S.Kim	+						+		
<i>Feldmannia paradoxa</i> (Montagne) Hamel					+				
<i>Giraudia sphacelarioides</i> Derbès & Solier			+						
<i>Myriactula rivulariae</i> (Suhr ex Areschoug) Feldmann								+	
<i>Myrionema orbiculare</i> J.Agardh			+		+			+	
<i>Punctaria latifolia</i> Greville							+		
<i>Scytosiphon lomentaria</i> (Lyngbye) Link							+		
<i>Sphacelaria cirrosa</i> (Roth) C.Agardh					+		+	+	+
Cyanobacteria							+		
<i>Anabaena</i> sp.				+					
<i>Aphanocapsa zanardinii</i> (Hauck) Hansgirg			+						
<i>Calothrix confervicola</i> C.Agardh ex Bornet & Flahault					+				
<i>Gloeotrichia</i> sp.					+				
<i>Leibleinia gracilis</i> (Rabenhorst ex Gomont) Anagnostidis & Komárek					+				
<i>Lyngbya</i> sp.				+					
<i>Lyngbya lutea</i> Gomont			+						
<i>Merismopedia</i> sp.				+					
<i>Micrococcus</i> sp.				+					
Oscillatoriales	+					+			
<i>Oscillatoria</i> sp.				+					
<i>Phormidium</i> sp.					+				
<i>Rivularia polyotis</i> Roth ex Bornet & Flahault					+				
Bryozoa	+								
<i>Aetea truncata</i> (Landsborough, 1852)					+				
<i>Chorizopora brongniartii</i> (Audouin, 1826)					+				
<i>Collarina balzaci</i> (Audouin, 1826)						cf.			
<i>Electra pilosa</i> (Linnaeus, 1761)					+				
<i>Fenestrulina malusii</i> (Audouin, 1826)					+				
<i>Patinella radiata</i> (Audouin, 1826)					+				
<i>Puellina gattyae</i> (Landsborough, 1852)						cf.			
<i>Reteporella beaniana</i> (King, 1846)					+				
<i>Schizobrachiella sanguinea</i> (Norman, 1868)						+			
<i>Terwasipora complanata</i> (Norman, 1864)					+				
Cnidaria									
Anthozoa									
<i>Bunodeopsis strumosa</i> Andrès, 1881						+			

Hydrozoa									
Anthoathecata						+			
Campanulariidae Johnston, 1836	+								
Capitata	+								
<i>Clytia</i> sp. Lamouroux, 1812	+								
<i>Clytia linearis</i> (Thorneley, 1900)						+			
<i>Kirchenpaueria pinnata</i> (Linnaeus, 1758)						+			
<i>Monothecha obliqua</i> (Johnston, 1847)					+				
<i>Pachycordyle pusilla</i> (Motz-Kossowska, 1905)						+			
<i>Paranemonia cinerea</i> (Contarini, 1844)					+				
Crustacea									
Cirripedia									
Thoracica	+								
Mollusca									
Bivalvia									
Mytilidae Rafinesque, 1815	+								
<i>Mytilus edulis</i> Linnaeus, 1758						cf.			
Gastropoda									
Eggs/clutches	+					+			
Trochidae Rafinesque, 1815	+								
Anellida									
Polychaeta									
<i>Janua heterostrophra</i> (Montagu, 1803)					+	cf.			
Spirorbinae Chamberlin, 1919	+								
<i>Spirorbis</i> sp. Daudin, 1800					+				
<i>Spirorbis (Spirorbis) corallinae</i> de Silva & Knight-Jones, 1962						cf.			
<i>Spirorbis (Spirorbis) spirorbis</i> (Linnaeus, 1758)						cf.			
Tunicata									
Ascidacea									
<i>Botryllus schlosseri</i> (Pallas, 1766)	+								
Didemnidae Giard, 1872	+								

Notes: Numbers in columns indicate the studies: 1 = Present study (Torrette, Ancona, Northern Adriatic Sea); 2 = Reyes et al. 1998 (El Medano, South of Tenerife, Canary Islands); 3 = Shabaka et al. 2004 (Montazah Bay, Alexandria, Egypt); 4 = Mabrouk et al. 2014 (Oued Lafrann, Chebba, Tunisia); 5 = Ben Brahim et al. 2019 (Ghataya, Chebba, Tunisia); 6 = Bračun et al. 2020 (Valsaline, Pula, Croatia, Northern Adriatic Sea); 7 = Tsioli et al. 2022 (Kavala Gulf, North Aegean Sea); 8 = Myloneli et al. 2025 (8.1 = Epanomi Thessaloniki, Thermaikos Gulf, North Aegean Sea and 8.2 = Vavrona Attica, Petalioi Gulf, South Aegean Sea; for both locations summertime findings were reported). Presence of epiphytic taxa is indicated by (+), while (cf.) indicates uncertain taxonomic identifications. Algal and animal nomenclature follow Guiry & Guiry (2026) and WoRMS (2026), respectively.