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High metabolism and periodic hypoxia associated with drifting macrophyte detritus in the shallow subtidal Baltic Sea

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Table S1: A summary of the eddy covariance flux measurements performed on the detritus canopy during the three measurement campaigns. Daily integrated seabed PAR and detritus light-use efficiency (LUE, calculated as daily GPP/ daily PAR) are also presented.

Field campaign	Day	Daily GPP (mmol O_2 m^{-2} d^{-1})	Daily R (mmol O_2 m^{-2} d^{-1})	GPP:R	Daily PAR (mmol photons m^{-2} d^{-1})	LUE (O_2 $photon^{-1}$)
Jun 2017	1	62	83	0.74	13554	0.005
	2	54	71	0.76	11710	0.005
	3	29	35	0.81	9044	0.003
Sep 2017	1	15	26	0.57	3013	0.005
	2	37	69	0.54	4827	0.008
	3	26	48	0.53	3815	0.007
May 2018	1	46	59	0.77	10997	0.004
	2	57	74	0.76	12732	0.004
	3	74	97	0.76	13336	0.006
	4	32	41	0.78	10523	0.003
	5	39	51	0.77	10915	0.004

Table S2: Fit statistics for linear regressions performed between daily detritus GPP and R, and daily GPP and benthic PAR. Where relevant, values are presented ± SE. The SE was scaled with the square root of the reduced Chi-Sqr. ANOVA was used to test slope significance. Asterisks indicate that the slope was significantly different from zero at the 0.05 level.

Relationship between daily GPP and daily R				
Field campaign	Slope of linear regression ± SE	Intercept ± SE	R^2	ANOVA Prob > F
Jun 2017	1.43 ± 0.02	-5.91 ± 0.77	0.99	0.01*
Sep 2017	1.93 ± 0.06	-2.19 ± 1.70	0.99	0.02*
May 2018	1.33 ± 0.00	-1.09 ± 0.17	0.99	0.00*
Global	1.16 ± 0.13	9.90 ± 5.92	0.89	0.00*
Relationship between daily GPP and daily PAR				
Field campaign	Slope of linear regression ± SE	Intercept ± SE	R^2	ANOVA Prob > F
Jun 2017	128 ± 23	5293 ± 1164	0.94	0.11
Sep 2017	82 ± 4	1765 ± 121	0.99	0.03*
May 2018	73 ± 12	8103 ± 609	0.90	0.01*
Global	182 ± 40	1725 ± 1852	0.66	0.00*

Table S3: Species list for the five studied sites. Presence is indicated by ‘x’.

Group	Species	Macrophyte detritus	Bare sediments	Sheltered *Z. marina*	Exposed *Z. marina*	Sheltered *F. vesiculosus*	Exposed *F. vesiculosus*
Crustacea	*Amphibalanus improvisus*			x			
	Asellus aquaticus					x	
	Corophium spp.			x			
	Gammarus spp.			x	x	x	x
	Idotea balthica	x			x	x	x
	Idotea chelipes				x	x	x
	Idotea granulosa			x	x	x	x
	Jaera albifrons			x	x	x	x
	Cladocera					x	
	Copepoda					x	
	Ostracoda sp.					x	
	Mysid					x	x
Bivalvia	*Cerastoderma glaucum*			x	x		
	Parvicardium haunience			x	x		
	Macoma balthica	x	x	x	x	x	x
	Mya arenaria			x	x		
	Mytilus trossulus x edulis	x		x	x	x	x
Gastropoda	*Peringia ulvae*	x	x	x	x	x	x
	Radix sp.	x		x			x
	Potamopyrgus antipodarum		x	x			
	Theodoxus fluviatilis	x	x	x	x	x	x
Polychaeta	*Hediste diversicolor*			x	x		

	Halicryptus spinulosus					x	
	Maranzelleria spp.		x	x	x	x	
	Nematoda					x	
	Oligochaeta			x	x	x	
	Pygospio elegans					x	
Others	*Chironomus* sp			x	x	x	x
	Coleoptera larvae						x
	Odonata						x
	Cyanophthalma obscura						x
	Hydrachnidae		x				x