Supplementary Material

Subtidal microphytobenthos: a secret garden stimulated by the engineer species *Crepidula fornicata*

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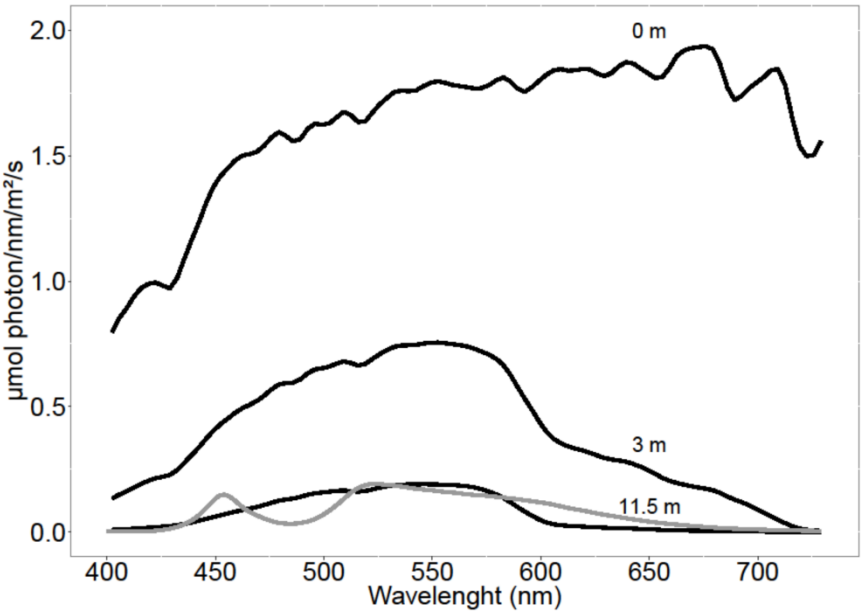
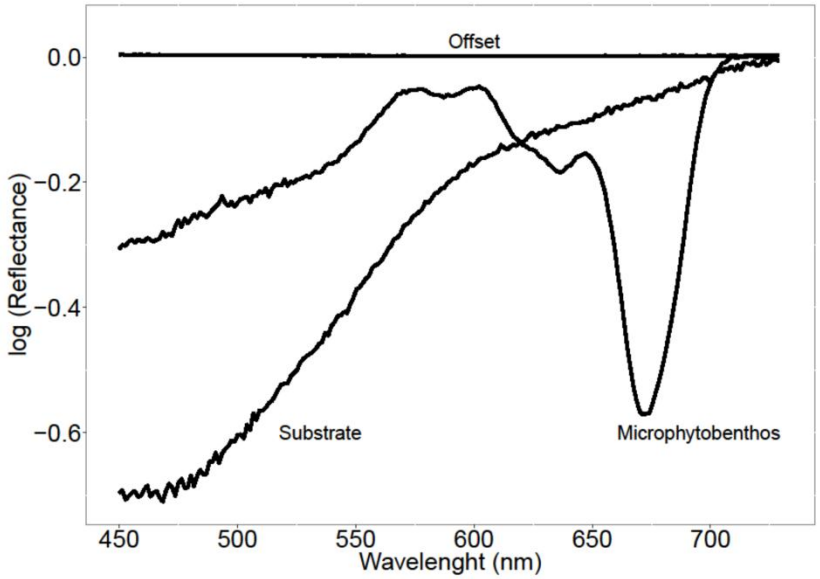


Supplementary Figure 1. In situ light spectra recorded at 0, 3 and 11.5 m depth in the Bay of Brest (study site). The artificial light spectrum provided during the experiment is shown as a grey line.



Supplementary Figure 2. End-member spectra used to quantify the MPB biomass from the log-transformed spectral reflectance data obtained from the experimental mesocosm using hyper-spectral imaging.

MPB biomass in terms of chlorophyll *a* concentration was analyzed according to Brotas & Plante-Cuny (2003) using High Performance Liquid Chromatography (HPLC). Aliquots of ~40 mg of freeze-dried sediment were extracted in 3 mL of 95 % cold buffered methanol (2 % ammonium acetate) for 20 min at -20 °C in the dark. Subsequently the samples were centrifuged for 3 minutes at 3000 RCF (relative centrifugal force). Extracts were filtered through Whatman membrane filters (0.2 mm) immediately before HPLC analysis. The analysis was done using the Agilent 1260 Infinity instrument, which comprised a quaternary pump (VL 400 bar), a UV–VIS photodiode array detector (DAD 1260 VL, 190–950 nm), and a 100 µL sample manual injection loop (overfilled with 250 µL). Chromatographic separation was carried out using a C18 column for reverse phase chromatography (Supelcosil, 25 cm long, 4.6 mm inner diameter). The solvents used were 0.5 M ammonium acetate in methanol and water (85:15, v:v), acetonitrile and water (90:10, v:v), and 100 % ethyl acetate. The solvent gradient followed the Brotas & Plante-Cuny method (2003), with a flow rate of 0.5 mL min^{-1}. Identification and calibration of the chlorophyll *a* peak was done based on its absorption spectrum and relative retention time using a chlorophyll *a* standard. Data processing and analysis was done with the Open Lab CDS software (ChemStation Edition for LC/MS Systems, Agilent Technologies).

Supplementary information: Protocol used to analyze sediment chlorophyll *a* concentration in samples.