

**Table S6.** Mean species density ( $\pm$  s.d.), total percentage of cover, and mean percentage of cover of each algae species in the subtidal area, categorized by zone and time studied.

| Subtidal algae metrics  |                   |                   |                  | Lava flows<br>2 months | Control zone<br>2 months | Lava flows<br>4.5 months | Control zone<br>4.5 months | Lava flows<br>7 months | Control zone<br>7 months |
|---|-------------------|-------------------|------------------|------------------------|--------------------------|--------------------------|----------------------------|------------------------|--------------------------|
| Species density   |                   |                   |                  | 3.37 $\pm$ 1.92        | 8.75 $\pm$ 3.12          | 2.63 $\pm$ 1.23          | 8.09 $\pm$ 1.92            | 5.73 $\pm$ 2.03        | 7.26 $\pm$ 1.98          |
| Total percentage of cover   |                   |                   |                  | 63.27 $\pm$ 27.02      | 81.50 $\pm$ 19.83        | 44.96 $\pm$ 26.09        | 70.10 $\pm$ 21.98          | 52.86 $\pm$ 18.32      | 70.58 $\pm$ 20.09        |
| Species   | Family            | Order             | Phylum           |                        |                          |                          |                            |                        |                          |
| <i>Caulerpa webbiana</i> Montagne   | Caulerpaceae      | Bryopsidales      | Chlorophyta      |                        | 0.004 $\pm$ 0.03         |                          |                            |                        |                          |
| <i>Pseudotetraspora marina</i> Wille  | Palmellopsidaceae | Chlamydomonadales | Chlorophyta      | 0.01 $\pm$ 0.04        |                          |                          |                            | 1.20 $\pm$ 4.05        | 0.17 $\pm$ 0.60          |
| <i>Parvocaulis</i> sp.  | Polophysaceae     | Dasycladales      | Chlorophyta      |                        | 0.0007 $\pm$ 0.003       |                          |                            |                        | 0.002 $\pm$ 0.01         |
| <i>Ulva prolifera</i> O.F.Müller  | Ulvaceae          | Ulvales           | Chlorophyta      | 0.001 $\pm$ 0.01       |                          | 0.30 $\pm$ 2.22          |                            |                        |                          |
| Cyanophyceae  | -                 | -                 | Cyanobacteria    |                        |                          |                          |                            | 0.48 $\pm$ 1.24        | 0.02 $\pm$ 0.14          |
| Pelagophyceae spp.  | -                 | -                 | Heterokontophyta | 0.03 $\pm$ 0.26        | 0.01 $\pm$ 0.12          |                          |                            | 0.41 $\pm$ 1.99        | 0.02 $\pm$ 0.12          |
| <i>Canistrocarpus cervicornis</i> (Kützing) De Paula & De Clerck            | Dictyotaceae      | Dictyotales       | Heterokontophyta |                        | 10.07 $\pm$ 15.35        |                          | 9.06 $\pm$ 11.24           | 0.008 $\pm$ 0.05       | 13.16 $\pm$ 14.90        |
| <i>Dictyota ciliolata</i> Sonder ex Kützing                                 | Dictyotaceae      | Dictyotales       | Heterokontophyta |                        |                          |                          | 1.35 $\pm$ 4.85            |                        | 0.07 $\pm$ 0.37          |
| <i>Dictyota cyanoloma</i> Tronholm, De Clerck, A.Gómez-Garreta & Rull Lluch | Dictyotaceae      | Dictyotales       | Heterokontophyta |                        | 0.004 $\pm$ 0.03         |                          | 0.04 $\pm$ 0.42            |                        |                          |
| <i>Dictyota cymatophila</i> Tronholm, M.Sanson & Afonso-Carrillo            | Dictyotaceae      | Dictyotales       | Heterokontophyta |                        |                          |                          | 0.26 $\pm$ 1.11            |                        | 0.32 $\pm$ 1.49          |
| <i>Dictyota dichotoma</i> (Hudson) J.V.Lamouroux                            | Dictyotaceae      | Dictyotales       | Heterokontophyta |                        | 1.47 $\pm$ 3.29          | 0.0002 $\pm$ 0.001       | 2.07 $\pm$ 3.22            | 0.67 $\pm$ 1.51        | 0.23 $\pm$ 0.98          |
| <i>Dictyota fasciola</i> (Roth) J.V.Lamouroux                               | Dictyotaceae      | Dictyotales       | Heterokontophyta |                        | 0.004 $\pm$ 0.03         |                          | 0.02 $\pm$ 0.12            |                        |                          |
| <i>Dictyota friabilis</i> Setchell  | Dictyotaceae      | Dictyotales       | Heterokontophyta |                        | 0.10 $\pm$ 0.77          |                          | 0.07 $\pm$ 0.35            |                        |                          |
| <i>Dictyota humifusa</i> Hörnig, Schnetter & Coppejans                      | Dictyotaceae      | Dictyotales       | Heterokontophyta |                        | 2.08 $\pm$ 3.16          |                          | 0.69 $\pm$ 1.45            | 0.001 $\pm$ 0.01       | 0.15 $\pm$ 0.47          |
| <i>Dictyota implexa</i> (Desfontaines) J.V.Lamouroux                        | Dictyotaceae      | Dictyotales       | Heterokontophyta |                        | 0.17 $\pm$ 0.63          |                          | 0.38 $\pm$ 1.32            |                        | 0.42 $\pm$ 2.09          |
| <i>Lobophora canariensis</i> (Sauvageau) C.W.Vieira, De Clerck & Payri      | Dictyotaceae      | Dictyotales       | Heterokontophyta |                        | 0.23 $\pm$ 1.11          |                          | 1.55 $\pm$ 4.72            | 0.95 $\pm$ 8.43        | 0.28 $\pm$ 1.25          |
| <i>Lobophora dagamae</i> C.W.Vieira   | Dictyotaceae      | Dictyotales       | Heterokontophyta |                        |                          |                          | 4.10 $\pm$ 12.93           |                        |                          |
| <i>Lobophora schneideri</i> C.W.Vieira                                      | Dictyotaceae      | Dictyotales       | Heterokontophyta |                        | 0.04 $\pm$ 0.265         |                          | 5.58 $\pm$ 17.79           | 0.01 $\pm$ 0.10        | 9.17 $\pm$ 19.27         |
| <i>Padina pavonica</i> (Linnaeus) Thivy                                     | Dictyotaceae      | Dictyotales       | Heterokontophyta |                        | 1.27 $\pm$ 8.13          |                          | 0.23 $\pm$ 1.10            |                        | 0.44 $\pm$ 1.46          |
| <i>Styropodium zonale</i> (J.V.Lamouroux) Papenfuss                         | Dictyotaceae      | Dictyotales       | Heterokontophyta | 0.001 $\pm$ 0.01       | 0.58 $\pm$ 1.54          |                          | 2.04 $\pm$ 4.60            |                        | 6.80 $\pm$ 11.72         |
| <i>Taonia atomaria</i> (Woodward) J.Agardh                                  | Dictyotaceae      | Dictyotales       | Heterokontophyta |                        | 17.65 $\pm$ 23.63        | 0.03 $\pm$ 0.19          | 5.36 $\pm$ 10.07           | 0.005 $\pm$ 0.03       | 0.06 $\pm$ 0.63          |
| Ectocarpaleans/diatoms  | -                 | Ectocarpales      | Heterokontophyta | 58.06 $\pm$ 26.34      | 0.96 $\pm$ 3.19          | 34.76 $\pm$ 26.23        |                            | 18.87 $\pm$ 12.52      | 0.11 $\pm$ 0.86          |
| <i>Nemacystus</i> sp.   | Chordariaceae     | Ectocarpales      | Heterokontophyta |                        | 0.0003 $\pm$ 0.002       |                          | 0.001 $\pm$ 0.01           |                        |                          |
| <i>Hydroclathrus clathratus</i> (C.Agardh) M.Howe                           | Scytoniphonaceae  | Ectocarpales      | Heterokontophyta |                        |                          |                          |                            | 0.01 $\pm$ 0.10        |                          |
| <i>Rosenvinnea</i> sp.  | Scytoniphonaceae  | Ectocarpales      | Heterokontophyta | 0.001 $\pm$ 0.01       | 0.001 $\pm$ 0.01         |                          |                            |                        |                          |
| <i>Rosenvinnea intricata</i> (J.Agardh) Børgesen                            | Scytoniphonaceae  | Ectocarpales      | Heterokontophyta | 1.03 $\pm$ 3.36        |                          |                          |                            | 0.002 $\pm$ 0.01       |                          |
| <i>Cystoseira compressa</i> (Esper) Gerloff & Nizamuddin                    | Sargassaceae      | Fucales           | Heterokontophyta |                        | 0.01 $\pm$ 0.12          |                          | 0.01 $\pm$ 0.10            |                        |                          |
| <i>Sargassum</i> sp1  | Sargassaceae      | Fucales           | Heterokontophyta |                        |                          |                          | 2.50 $\pm$ 4.30            | 0.002 $\pm$ 0.02       | 0.60 $\pm$ 1.33          |
| <i>Sargassum</i> sp2  | Sargassaceae      | Fucales           | Heterokontophyta |                        | 0.29 $\pm$ 0.83          |                          | 0.48 $\pm$ 1.61            |                        | 0.05 $\pm$ 0.30          |
| <i>Halopteris scoparia</i> (Linnaeus) Sauvageau                             | Stylopaulaceae    | Sphaereliales     | Heterokontophyta |                        |                          |                          |                            | 1.65 $\pm$ 6.99        |                          |
| <i>Acrosymphyton purpuriferum</i> (J.Agardh) G.Sjöstedt                     | Acrosymphytaceae  | Acrosymphytales   | Rhodophyta       | 0.001 $\pm$ 0.01       |                          |                          |                            | 0.01 $\pm$ 0.10        | 0.12 $\pm$ 1.16          |
| <i>Asparagopsis taxiformis</i> (Delile) Trevisan                            | Bonnemaisoniaceae | Bonnemaisoniales  | Rhodophyta       |                        | 0.04 $\pm$ 0.19          |                          | 3.48 $\pm$ 11.75           |                        | 0.16 $\pm$ 0.96          |

|  |                   |                  |            |            |             |              |             |             |              |
|--|-------------------|------------------|------------|------------|-------------|--------------|-------------|-------------|--------------|
| <i>Asparagopsis taxiformis</i> (Delile) Trevisan<br>[ <i>Falkenbergia</i> stage] | Bonnemaisoniaceae | Bonnemaisoniales | Rhodophyta |            | 0.05±0.28   |              | 0.003±0.02  |             |              |
| <i>Ceramiales</i>  | -                 | Ceramiales       | Rhodophyta | 0.21±0.38  | 0.21±0.84   | 1.82±2.97    | 0.01±0.10   | 0.01±0.06   | 0.02±0.21    |
| <i>Dasya baillouviana</i> Zanardini  | Delesseriaceae    | Ceramiales       | Rhodophyta | 1.29±4.80  |             | 2.14±8.50    |             | 0.30±1.11   |              |
| <i>Cottoniella filamentosa</i> (M.Howe) Børgesen                                 | Delesseriaceae    | Ceramiales       | Rhodophyta | 0.07±0.27  | 6.52±12.69  | 1.00±3.44    | 7.35±13.09  | 5.95±9.12   | 5.86±13.85   |
| <i>Lophocladia trichoclados</i> (C.Agardh) F.Schmitz                             | Rhodomelaceae     | Ceramiales       | Rhodophyta |            | 15.59±14.26 |              | 9.89±15.98  | 0.51±1.95   | 22.54±25.71  |
| <i>Crustose coralline algae</i>  | -                 | Corallinales     | Rhodophyta | 2.60±5.16  | 20.26±21.49 | 4.74±12.21   | 11.51±10.87 | 15.65±16.78 | 6.00±6.80    |
| <i>Corallina berteroii</i> Montagne ex Kützing                                   | Corallinaceae     | Corallinales     | Rhodophyta |            | 0.69±2.84   |              | 0.07±0.40   |             | 0.0001±0.001 |
| <i>Jania pedunculata</i> var. <i>adhaerens</i> (J.V.Lamouroux)                   | Corallinaceae     | Corallinales     | Rhodophyta |            | 0.22±0.32   | 0.0001±0.001 | 0.51±0.73   | 0.04±0.13   | 0.15±0.32    |
| A.S.Harvey, Woelkerling & Reviers  |                   |                  |            |            |             |              |             |             |              |
| <i>Jania pumila</i> J.V.Lamouroux  | Corallinaceae     | Corallinales     | Rhodophyta |            |             |              |             |             | 0.13±0.41    |
| <i>Amphiroa</i> sp.  | Lithophyllaceae   | Corallinales     | Rhodophyta |            | 0.89±0.87   |              | 0.27±0.91   | 0.03±0.19   | 0.79±1.39    |
| <i>Meristotheca decumbens</i> Grunow   | Solieriaceae      | Gigartinales     | Rhodophyta |            |             | 0.0001±0.001 |             |             |              |
| <i>Ganonema farinosum</i> (J.V.Lamouroux) K.-C.Fan & Y.-C.Wang                   | Liagoraceae       | Nemaliales       | Rhodophyta |            |             |              |             |             | 1.58±5.90    |
| <i>Ganonema lubricum</i> Afonso-Carrillo, Sansón & Reyes                         | Liagoraceae       | Nemaliales       | Rhodophyta | 0.17±0.71  |             |              |             |             | 0.48±2.14    |
| <i>Liagora</i> sp.   | Liagoraceae       | Nemaliales       | Rhodophyta | 0.001±0.01 |             |              |             |             | 4.80±11.38   |
| <i>Peyssonnelia</i> sp.  | Peyssonneliaceae  | Peyssonneliales  | Rhodophyta |            | 1.98±7.01   |              | 0.98±5.80   | 0.04±0.24   | 0.92±3.99    |
| <i>Peyssonnelia</i> sp2  | Peyssonneliaceae  | Peyssonneliales  | Rhodophyta |            |             | 0.02±0.21    | 0.10±0.94   | 0.65±2.21   |              |