Table S1. Total abundance of sponges (number of patches) from the undersides of boulders found at two sites at Lough Hyne (WC = West Cliff and WH = Whirlool Cliff) for small (Small<150 cm2), medium (Med, 151-400 cm2), large (Large, 401-750 cm2), and very large boulders (VLarge>750 cm2) across both 2000 and 2022. Asterisks (\*) represent species found in 2000 and crosses (X) species found in 2001. Overall species for 2000 and 2022 (in brackets) are shown.



Table 2. The results from SIMPER analysis to determine the species most responsible for differences between samples. The codes (V1, V2 etc correspond to the codes in Table S1).

SIMPER

Similarity Percentages - species contributions

Two-Way Analysis

*Data worksheet*

Name: Data2

Data type: Other

Sample selection: All

Variable selection: All

*Parameters*

Resemblance: S17 Bray-Curtis similarity

Cut off for low contributions: 70.00%

Site – levels

SITE 1 = West Cliff

SITE 2 = Whirlpool Cliff

Boulder size - levels:

1 = Small boulders

2 = Medium boulders

3 = Large boulders

4 = Very Large Boulders

*Factor Groups*

Sample Site x Boulder size

WC Small 00 1 x 1

WC Small 22 1 x 1

WC Medium 00 1 x 2

WC Medium 22 1 x 2

WC Large 00 1 x 3

WC Large 22 1 x 3

WC VLarge 00 1 x 4

WC VLarge22 1 x 4

WH Small 00 2 x 1

WH Small 22 2 x 1

WH Medium 00 2 x 2

WH Medium 22 2 x 2

WH Large 00 2 x 3

WH Large 22 2 x 3

WH Large 00 2 x 4

WH VLarge 22 2 x 4

*Examines Site groups (across all Boulder size groups)*

*Group 1*

Average similarity: 89.68



*Group 2*

Average similarity: 88.54



*Groups 1 & 2*

Average dissimilarity = 28.92



*Examines Boulder size groups*

*(across all Site groups)*

*Group 1*

Average similarity: 91.25



*Group 2*

Average similarity: 87.56



*Group 3*

Average similarity: 89.89



*Group 4*

Average similarity: 87.73



*Groups 1 & 2*

Average dissimilarity = 26.56



*Groups 1 & 3*

Average dissimilarity = 28.91



*Groups 2 & 3*

Average dissimilarity = 18.66



*Groups 1 & 4*

Average dissimilarity = 31.53



*Groups 2 & 4*

Average dissimilarity = 20.35



*Groups 3 & 4*

Average dissimilarity = 15.02



Figure S1. Examples of communities on the undersides of boulders at Lough Hyne. A = Haliclona sp. 1, B = *Scypha ciliatum*, C = *Haliclona* sp. 2, D = *Chelonaplysilla* sp., E = *Clathrina coriacea*, F = *Mycale macilenta*, G = Plakortis implex, H = *Dysidea fragilis*, I = *Dercitus bucklandi*.

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