

## SUPPORTING INFORMATION

TABLE SI. Conductivity–temperature–depth measurements from the remotely operated vehicle Holland I collected during Dive 037 in the vicinity of skate spawning habitat on the eastern flank of the Hebrides Sea Terrace

Water depth (m)	Temperature (°C)	Salinity	O <sub>2</sub> saturation (%)
1575.93	4.274	34.95344	78.45062
1521.36	4.4528	34.98078	76.75902
1508.65	4.4411	34.98089	76.67981
1516.92	4.4919	35.04108	70.91209
1519.3	4.4262	34.99098	75.58395
1519.11	4.4375	34.96742	78.03847
1519.42	4.4703	34.96222	78.71705
1519.36	4.4446	34.98579	76.21022
1518.98	4.4667	34.96255	78.52839
1518.98	4.4653	34.96255	78.52839
1521.18	4.4815	35.00587	74.20688
1518.11	4.4946	34.97104	77.97672
1519.11	4.4909	34.96742	78.03847
1519.17	4.5136	34.97357	77.73188
1519.36	4.4738	34.98579	76.21022
1518.17	4.4641	34.98448	76.4549
1518.61	4.4989	34.98822	75.98296
1518.3	4.4674	34.97229	77.69314
1519.23	4.5019	34.97345	77.73922
1519.23	4.5016	34.97345	77.73922
1518.23	4.548	34.99134	75.9747
1519.55	4.5081	34.98626	76.53342
1519.55	4.5216	34.98626	76.53342
1520.11	4.5463	35.00568	74.81413
1520.05	4.5234	35.00978	74.27062
1520.42	4.5164	34.98135	77.07281
1520.8	4.494	34.98123	76.95422
1520.8	4.5121	34.98123	76.95422
1520.99	4.5000	34.96785	78.02812
1520.93	4.4936	34.97417	77.65789
1520.93	4.5013	34.97417	77.65789
1521.05	4.4849	34.97456	77.37519
1521.11	4.4876	34.97585	77.23104
1521.18	4.5101	35.00587	74.20688
1521.24	4.5022	34.97403	77.47600
1520.80	4.5155	34.98123	76.95422

1520.49	4.4829	34.9926	75.75251
1520.74	4.4856	35.00392	74.63625
1520.05	4.5071	35.00978	74.27062
1519.67	4.4672	34.98781	76.13998
1515.73	4.3846	34.99076	75.36342
1515.16	4.3919	34.96808	77.67398
1513.6	4.4611	34.95739	79.14641
1497.25	4.3787	34.96083	78.28879
1497.43	4.3792	34.9658	77.81803
1497.37	4.3692	34.9659	77.75964
1496.56	4.3796	34.99181	75.22927
1497.43	4.3797	34.9658	77.81803
1496.93	4.3749	34.98282	76.10087
1497.25	4.373	34.96083	78.28879
1497.37	4.3737	34.9659	77.75964
1497.43	4.3775	34.9658	77.81803
1497.37	4.3735	34.9659	77.75964

TABLE SII. Counts of skate egg capsules in each ROV video quadrant. Also shown are the means of four surrounding temperature, salinity and oxygen saturation measurements taken closest to the location of each quadrant

Quadrant	Latitude °N	Longitude °W	Egg count	Depth (m)	Temperature (° C)	Salinity	O <sub>2</sub> saturation (%)
1	56.36907	10.10280	1	1579.5	4.22	34.95	78.03
2	56.37099	10.10360	1	1520.5	4.43	34.96	78.89
3	56.37155	10.10390	1	1486.5	4.47	34.98	76.91
4	56.37223	10.10410	1	1486.5	4.50	35.00	74.66
5	56.37268	10.10420	1	1486.5	4.45	34.98	76.82
6	56.37275	10.10420	1	1486.5	4.47	34.96	78.44
7	56.37276	10.10420	1	1486.5	4.46	34.96	78.45
8	56.37301	10.10430	1	1505.5	4.48	34.98	76.53
9	56.37317	10.10430	1	1505.5	4.50	34.99	76.05
10	56.37325	10.10430	3	1505.5	4.49	34.97	77.41
11	56.37326	10.10420	4	1505.5	4.50	34.98	76.75
12	56.37330	10.10420	1	1505.5	4.49	34.99	75.99
13	56.37339	10.10440	2	1505.5	4.52	34.99	75.98
14	56.37344	10.10440	1	1505.5	4.53	35.00	75.30
15	56.37342	10.10440	2	1505.5	4.53	35.00	75.00
16	56.37346	10.10450	1	1505.5	4.52	35.01	73.84
17	56.37344	10.10450	1	1505.5	4.52	35.02	72.84
18	56.37349	10.10450	2	1505.5	4.51	35.01	73.99
19	56.37353	10.10450	5	1505.5	4.51	34.98	77.25
20	56.37356	10.10460	5	1505.5	4.50	34.97	77.47
21	56.37358	10.10460	3	1505.5	4.50	34.97	77.47
22	56.37358	10.10460	1	1505.5	4.50	34.97	77.57
23	56.37364	10.10450	3	1505.5	4.49	34.97	77.43
24	56.37371	10.10460	1	1505.5	4.50	34.98	76.60
25	56.37365	10.10450	1	1505.5	4.49	34.98	76.57
26	56.37365	10.10450	6	1505.5	4.49	34.98	76.57
27	56.37382	10.10460	3	1505.5	4.50	34.97	77.61
28	56.37382	10.10460	3	1505.5	4.50	34.97	77.61
29	56.37437	10.10480	1	1505.5	4.48	34.99	76.34
30	56.37461	10.10500	1	1505.5	4.48	34.99	75.69
31	56.37509	10.10530	1	1503	4.41	34.97	77.17
32	56.37524	10.10540	1	1503	4.40	34.97	77.11
33	56.37670	10.10570	1	1488.5	4.38	34.97	77.37

TABLE SIII. Embryonic morphometrics from one of the rajid egg capsules collected on the seamount. These are compared to those reported previously (Stehmann & Merrett, 2001) N/A refers to a measurement that was not applicable

Morphometrics	Measurement (mm)	Per cent of snout tip to first dorsal fin
Snout tip to first dorsal fin (D1)	84	100.0
$L_T$ (mm), including. embryonic tail filament	138	N/A
$L_T$ mm, minus embryonic tail filament	<i>c.</i> 103	N/A
Disc width	32	38.1
Disc length	33.7	40.1
Preorbital snouth length	6	7.1
Interorbital space	6.4	7.6
Orbit horizontal length	5.5	6.5
Interspiracular space	9.6	11.4
Preoral snouth length	8.5	10.1
Mouth width	6.5	7.7
Internasal space	7	8.3
Interbranchial space 1st gills	12.5	14.9
Interbranchial space 5th gills	8.5	10.1
Snout tip to anterior cloaca	34.7	41.3
Anterior cloaca to tail tip	105	125.0
Anterior cloaca to real tail tip	<i>c.</i> 70	<i>c.</i> 83.3
Base length D1	6	7.1
Height D1	2.7	3.2
Base length D2	5.2	6.2
Height D2	3	3.6
Interdorsal space	1.5	1.8

$L_T$ . total length; N/A, not available.

TABLE SIV. Description and wet measurements of *Bathyraja richardsoni* egg capsules ( $n=2$ )

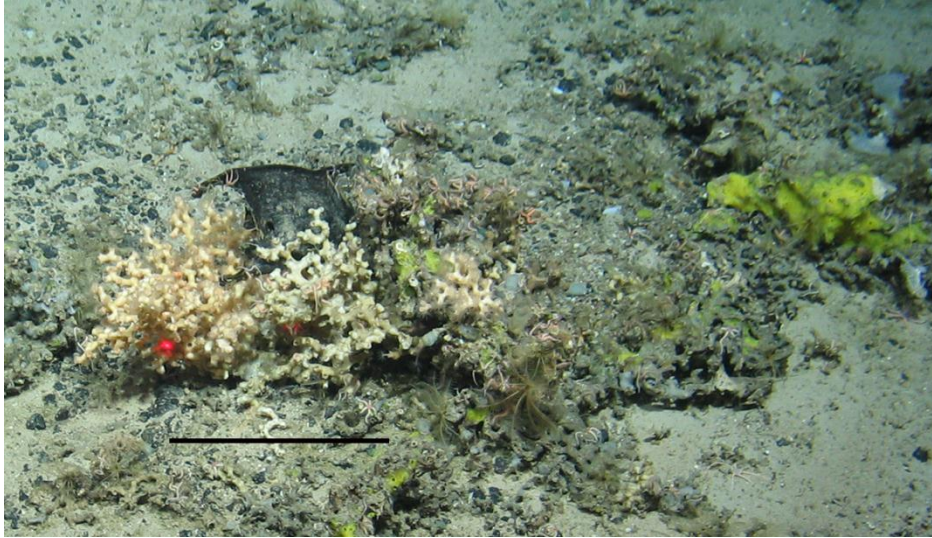
	Capsule 1	Capsule 2
Description		
Surface structure	Roughly striated	Roughly striated
# Fibrous lamellae across capsule body	<i>c.</i> 145	<i>c.</i> 155
# Fibrous lamellae on lateral lamellae	<i>c.</i> 15	<i>c.</i> 15
Cross-section anterior–posterior horns	Depressed	Depressed
Position at horns of respiratory fissure	At base	At base
Shape of respiratory fissure	Long slit	Long slit
Upper side convex–concave	Strongly convex	Strongly convex
Lower side flat–convex	Moderately convex	Moderately convex
Morphometrics (mm)		
$L_T$ including curved horns	290	295
Capsule length without horns	196	186
Length curved anterior horns left–right	<i>c.</i> 132–111	<i>c.</i> 130–110
Length curved posterior horns left–right	<i>c.</i> 180–153	<i>c.</i> 145–135 + tendril
Length capsule body without aprons	123	129
Maximum total width capsule	108	105
Capsule width excluding lateral lamellae	88	92
Maximum capsule height	39.5	46
Thickness lateral lamellae left–right	6–5.5	7.5–9
Maximum median depth anterior–posterior aprons left–right	21–44	N/A–17
With or without embryo	with	without

$L_T$ , total length; N/A, not available.

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FIG. S1. Two instances of habitat-use by deepwater skates on the Hebrides Terrace Seamount (HTS). (a) Three egg capsules that differed morphologically from *Bathyraja richardsoni* on living coral framework formed by the reef framework-forming coral *Solenosmilia variabilis* during remotely operated vehicle Dive 035 (scale bar = 10 cm). Their large sizes, subquadrangular shape, and short horns suggest that these capsules were deposited by another skate species, possibly a *Dipturus* sp. (Ebert & Stehmann, 2013). Notably, both egg-laying habitats (for *B. richardsoni* and the possible *Dipturus* sp.) occurred on the deeper flanks of the Hebrides Terrace Seamount whereas none were observed on the seamount summit (Dive 036). (b) An adult skate, probably *Rajella* sp., observed at 1267 m water depth during Dive 035 (scale bar = 10 cm). Dorsal spine morphology observed in this image suggests that it was likely *Rajella kukujevi*, but that it could also have been *Rajella bathyphila*. Notably, at this depth, this *Rajella* spp. are vulnerable to fisheries bycatch on the HTS.

(a)



(b)

