Summary report for UK introductions

This report gives summaries of UK specific lineages for week 2020-05-01. There are time lags due to batching, curation and analysis, the most recently sampled sequence is 2020-04-25. The analysis (eg time since last sample) is therefore undertaken from this date. 10725 sequences in the UK have been included in this analysis. 1478 lineages have been recorded, 1247 of which only contain one sequence.

Note: the size of a lineage may be due to a low amount of transmission of this lineage, but it is likely also that it just hasn't been sampled as frequently, especially for newer lineages.

Sequences which were replicates or too error-prone were removed from this analysis.

1399 are introductions which only contained five sequences or fewer, and so have been left out of visualisation in the interests of clarity

Of the 79 that remain: 36 are pending extinction, ie last seen three weeks ago. 5 have not been seen for more than one month, and so are viewed as extinct, but will continue to be monitored. 30 lineages have gone quiet, ie haven't been seen this week. 2 lineages have reactivated. 6 lineages have been continuously circulating.

The following table contains information about lineages and the number of sequences in each country in the UK for each lineage, in reverse size order. Each entry is the count of sequences from each lineage in each country, with the percentage of the total sequences from that lineage that this count represents.

It is also written to "summary_files" as "introduction_summary.tsv" for further use.

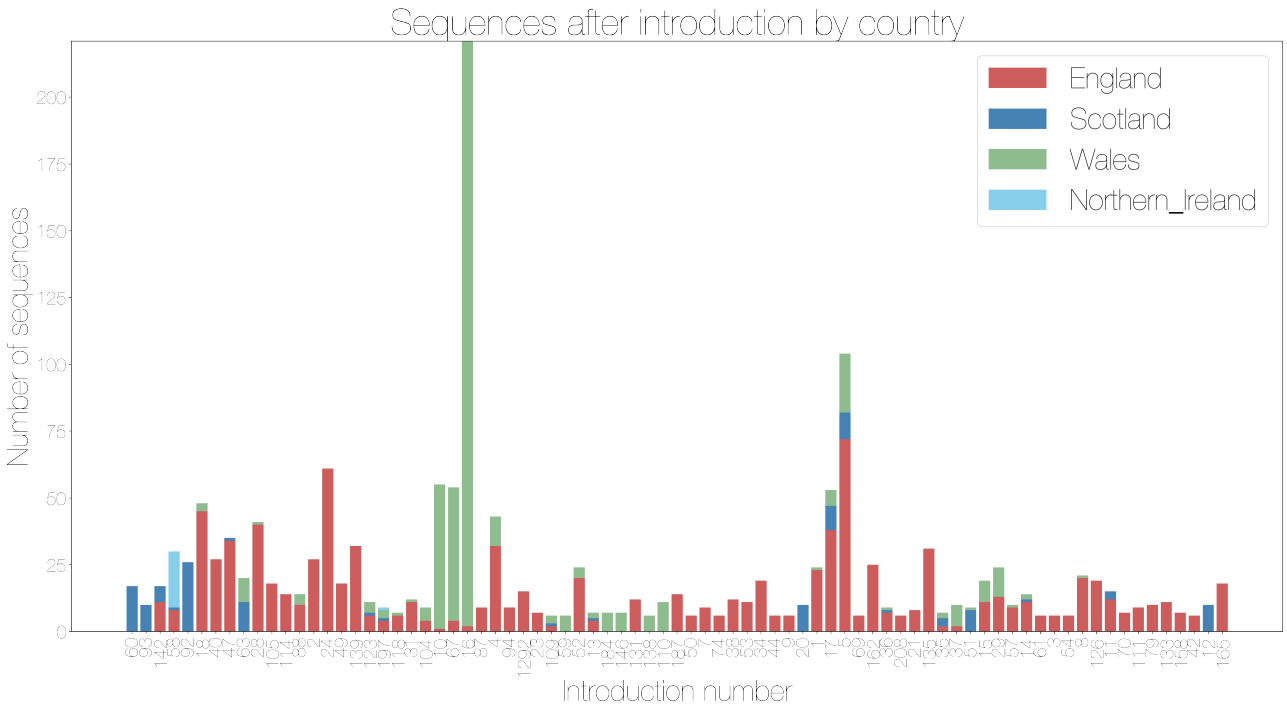
Introduction	England	Wales	Scotland	Northern Ireland	Date range	Total sequences	Global lineage	Time since last sample (days)
UK16	2 (0.9%)	219 (99.1%)	0 (0%)	0 (0%)	Feb-02, Apr-12	221	B.3	13
UK5	72 (69.23%)	22 (21.15%)	10 (9.62%)	0 (0%)	Feb-07, Apr-01	104	B.1.1	24
UK24	61 (100.0%)	0 (0%)	0 (0%)	0 (0%)	Mar-15, Apr-14	61	B.2.1, B.2	11
UK10	1 (1.82%)	54 (98.18%)	0 (0%)	0 (0%)	Mar-07, Apr-12	55	B.1	13
UK67	4 (7.41%)	50 (92.59%)	0 (0%)	0 (0%)	Mar-10, Apr-12	54	B.1, B.1.24	13
UK17	38 (71.7%)	6 (11.32%)	9 (16.98%)	0 (0%)	Mar-12, Apr-01	53	B.1.11	24
UK18	45 (93.75%)	3 (6.25%)	0 (0%)	0 (0%)	Mar-11, Apr-20	48	B.2, B.2.4	5
UK4	32 (74.42%)	11 (25.58%)	0 (0%)	0 (0%)	Mar-02, Apr-11	43	B.8	14
UK28	40 (97.56%)	1 (2.44%)	0 (0%)	0 (0%)	Mar-18, Apr-18	41	B.1	7
UK47	34 (97.14%)	0 (0%)	1 (2.86%)	0 (0%)	Mar-12, Apr-19	35	B.3	6
UK139	32 (100.0%)	0 (0%)	0 (0%)	0 (0%)	Mar-19, Apr-13	32	B.1	12
UK135	31 (100.0%)	0 (0%)	0 (0%)	0 (0%)	Mar-20, Mar-31	31	B.1.13	25
UK58	8 (26.67%)	0 (0%)	1 (3.33%)	21 (70.0%)	Mar-13, Apr-22	30	B	3

Introduction	England	Wales	Scotland	Northern Ireland	Date range	Total sequences	Global lineage	Time since last sample (days)
UK2	27 (100.0%)	0 (0%)	0 (0%)	0 (0%)	Mar-01, Apr-15	27	B.1.20	10
UK40	27 (100.0%)	0 (0%)	0 (0%)	0 (0%)	Mar-12, Apr-20	27	B.1.11	5
UK92	0 (0%)	0 (0%)	26 (100.0%)	0 (0%)	Mar-22, Apr-21	26	B.1	4
UK162	25 (100.0%)	0 (0%)	0 (0%)	0 (0%)	Feb-25, Apr-01	25	B.2.1	24
UK1	23 (95.83%)	1 (4.17%)	0 (0%)	0 (0%)	Feb-27, Apr-01	24	B.2.5	24
UK29	13 (54.17%)	11 (45.83%)	0 (0%)	0 (0%)	Feb-03, Mar-30	24	B.3	26
UK52	20 (83.33%)	4 (16.67%)	0 (0%)	0 (0%)	Mar-11, Apr-08	24	B	17
UK8	20 (95.24%)	1 (4.76%)	0 (0%)	0 (0%)	Mar-12, Mar-28	21	B.2.1	28
UK63	0 (0%)	9 (45.0%)	11 (55.0%)	0 (0%)	Mar-18, Apr-18	20	B.1	7
UK34	19 (100.0%)	0 (0%)	0 (0%)	0 (0%)	Mar-14, Apr-02	19	B.2.1	23
UK126	19 (100.0%)	0 (0%)	0 (0%)	0 (0%)	Mar-14, Mar-27	19	B.2.1	29
UK15	11 (57.89%)	8 (42.11%)	0 (0%)	0 (0%)	Feb-20, Mar-30	19	B.1	26
UK105	18 (100.0%)	0 (0%)	0 (0%)	0 (0%)	Mar-11, Apr-18	18	B.1	7
UK165	18 (100.0%)	0 (0%)	0 (0%)	0 (0%)	Feb-27, Mar-06	18	B.1.7	50
UK49	18 (100.0%)	0 (0%)	0 (0%)	0 (0%)	Mar-17, Apr-14	18	B.1	11
UK60	0 (0%)	0 (0%)	17 (100.0%)	0 (0%)	Mar-18, Apr-23	17	B.1	2
UK142	11 (64.71%)	0 (0%)	6 (35.29%)	0 (0%)	Mar-26, Apr-22	17	B.1	3
UK1292	15 (100.0%)	0 (0%)	0 (0%)	0 (0%)	Mar-23, Apr-10	15	B.1	15
UK11	12 (80.0%)	0 (0%)	3 (20.0%)	0 (0%)	Mar-02, Mar-24	15	B.1	32
UK88	10 (71.43%)	4 (28.57%)	0 (0%)	0 (0%)	Mar-15, Apr-15	14	B.2	10
UK114	14 (100.0%)	0 (0%)	0 (0%)	0 (0%)	Mar-14, Apr-16	14	B.2.1	9
UK187	14 (100.0%)	0 (0%)	0 (0%)	0 (0%)	Feb-28, Apr-04	14	B.2.1	21
UK14	11 (78.57%)	2 (14.29%)	1 (7.14%)	0 (0%)	Mar-03, Mar-30	14	B	26
UK38	12 (100.0%)	0 (0%)	0 (0%)	0 (0%)	Mar-13, Apr-02	12	B.1	23

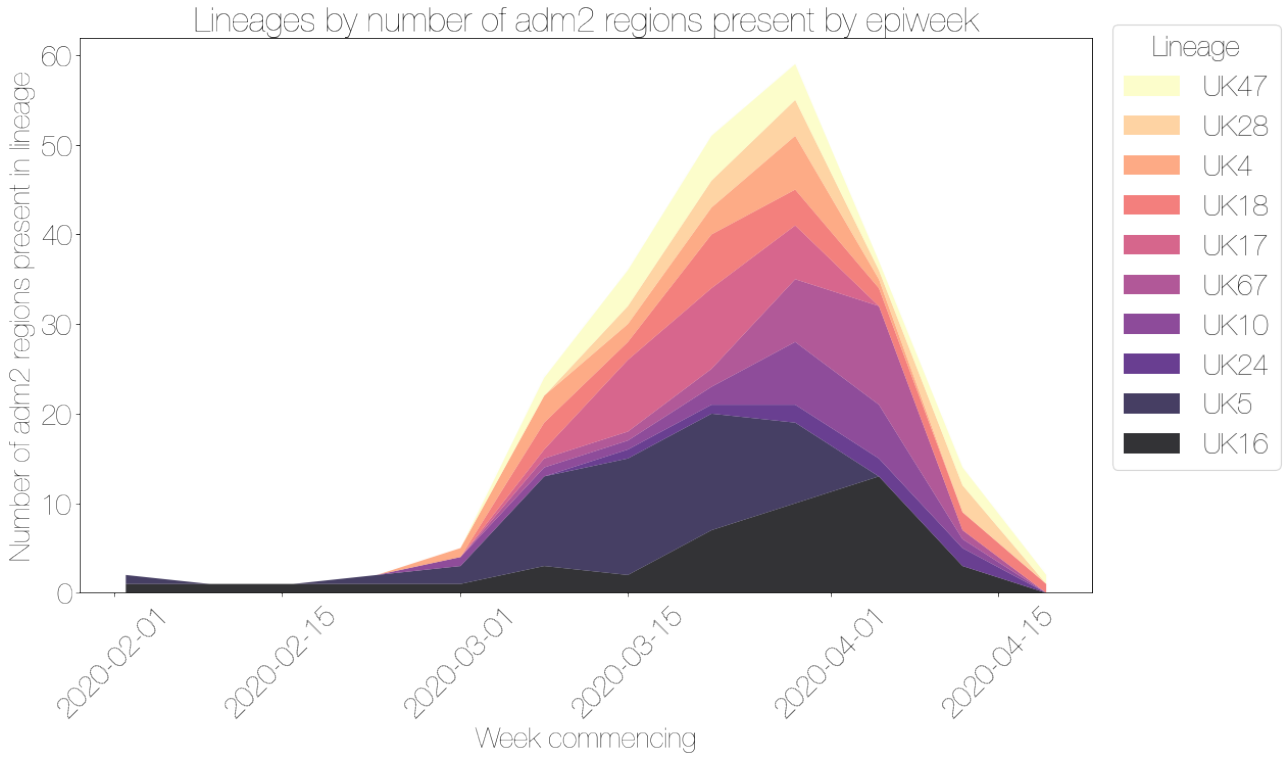
Introduction	England	Wales	Scotland	Northern Ireland	Date range	Total sequences	Global lineage	Time since last sample (days)
UK31	11 (91.67%)	1 (8.33%)	0 (0%)	0 (0%)	Mar-15, Apr-13	12	B.3	12
UK131	12 (100.0%)	0 (0%)	0 (0%)	0 (0%)	Mar-21, Apr-06	12	B.1	19
UK110	0 (0%)	11 (100.0%)	0 (0%)	0 (0%)	Feb-11, Apr-04	11	B.1	21
UK123	6 (54.55%)	4 (36.36%)	1 (9.09%)	0 (0%)	Mar-17, Apr-13	11	B.1	12
UK53	11 (100.0%)	0 (0%)	0 (0%)	0 (0%)	Mar-17, Apr-02	11	B.2.1	23
UK133	11 (100.0%)	0 (0%)	0 (0%)	0 (0%)	Mar-15, Mar-20	11	B.2.1	36
UK37	2 (20.0%)	8 (80.0%)	0 (0%)	0 (0%)	Mar-16, Mar-30	10	B.1	26
UK12	0 (0%)	0 (0%)	10 (100.0%)	0 (0%)	Mar-06, Mar-14	10	set()	42
UK79	10 (100.0%)	0 (0%)	0 (0%)	0 (0%)	Mar-12, Mar-22	10	set()	34
UK57	9 (90.0%)	1 (10.0%)	0 (0%)	0 (0%)	Mar-16, Mar-30	10	B.8	26
UK20	0 (0%)	0 (0%)	10 (100.0%)	0 (0%)	Mar-13, Apr-01	10	B.2	24
UK93	0 (0%)	0 (0%)	10 (100.0%)	0 (0%)	Mar-21, Apr-22	10	B.1	3
UK94	9 (100.0%)	0 (0%)	0 (0%)	0 (0%)	Mar-16, Apr-11	9	B.2	14
UK7	9 (100.0%)	0 (0%)	0 (0%)	0 (0%)	Mar-07, Apr-03	9	B.8	22
UK51	0 (0%)	1 (11.11%)	8 (88.89%)	0 (0%)	Mar-17, Mar-30	9	B	26
UK87	9 (100.0%)	0 (0%)	0 (0%)	0 (0%)	Mar-21, Apr-11	9	B.1	14
UK104	4 (44.44%)	5 (55.56%)	0 (0%)	0 (0%)	Mar-06, Apr-13	9	B.1	12
UK197	4 (44.44%)	3 (33.33%)	1 (11.11%)	1 (11.11%)	Mar-30, Apr-13	9	B.1	12
UK36	7 (77.78%)	1 (11.11%)	1 (11.11%)	0 (0%)	Mar-17, Mar-31	9	B.1	25
UK111	9 (100.0%)	0 (0%)	0 (0%)	0 (0%)	Mar-16, Mar-23	9	set()	33
UK21	8 (100.0%)	0 (0%)	0 (0%)	0 (0%)	Mar-13, Mar-31	8	B.2	25
UK158	7 (100.0%)	0 (0%)	0 (0%)	0 (0%)	Mar-10, Mar-18	7	B.2.1	38
UK35	2 (28.57%)	2 (28.57%)	3 (42.86%)	0 (0%)	Mar-15, Mar-30	7	B.1.5	26
UK118	6 (85.71%)	1 (14.29%)	0 (0%)	0 (0%)	Mar-17, Apr-13	7	B.2	12

Introduction	England	Wales	Scotland	Northern Ireland	Date range	Total sequences	Global lineage	Time since last sample (days)
UK23	7 (100.0%)	0 (0%)	0 (0%)	0 (0%)	Mar-11, Apr-08	7	B.2.2	17
UK146	0 (0%)	7 (100.0%)	0 (0%)	0 (0%)	Mar-18, Apr-06	7	B.2.2	19
UK184	0 (0%)	7 (100.0%)	0 (0%)	0 (0%)	Mar-28, Apr-06	7	B.1	19
UK70	7 (100.0%)	0 (0%)	0 (0%)	0 (0%)	Mar-13, Mar-24	7	B.2.1	32
UK13	4 (57.14%)	2 (28.57%)	1 (14.29%)	0 (0%)	Mar-03, Apr-07	7	B.2	18
UK3	6 (100.0%)	0 (0%)	0 (0%)	0 (0%)	Feb-27, Mar-29	6	B.1.7	27
UK42	6 (100.0%)	0 (0%)	0 (0%)	0 (0%)	Mar-01, Mar-15	6	B.1	41
UK208	6 (100.0%)	0 (0%)	0 (0%)	0 (0%)	Mar-25, Mar-31	6	B.2.1	25
UK74	6 (100.0%)	0 (0%)	0 (0%)	0 (0%)	Mar-21, Apr-02	6	set()	23
UK61	6 (100.0%)	0 (0%)	0 (0%)	0 (0%)	Mar-17, Mar-29	6	set()	27
UK54	6 (100.0%)	0 (0%)	0 (0%)	0 (0%)	Mar-14, Mar-28	6	B.2.1, B.2	28
UK69	6 (100.0%)	0 (0%)	0 (0%)	0 (0%)	Mar-15, Apr-01	6	B.2.1	24
UK44	6 (100.0%)	0 (0%)	0 (0%)	0 (0%)	Mar-19, Apr-01	6	set()	24
UK59	0 (0%)	6 (100.0%)	0 (0%)	0 (0%)	Feb-22, Apr-08	6	B.2.1	17
UK109	2 (33.33%)	3 (50.0%)	1 (16.67%)	0 (0%)	Mar-12, Apr-08	6	B.1.7	17
UK50	6 (100.0%)	0 (0%)	0 (0%)	0 (0%)	Mar-13, Apr-03	6	B.2.1	22
UK138	0 (0%)	6 (100.0%)	0 (0%)	0 (0%)	Mar-16, Apr-05	6	B.2.1	20
UK9	6 (100.0%)	0 (0%)	0 (0%)	0 (0%)	Mar-09, Apr-01	6	B.1	24

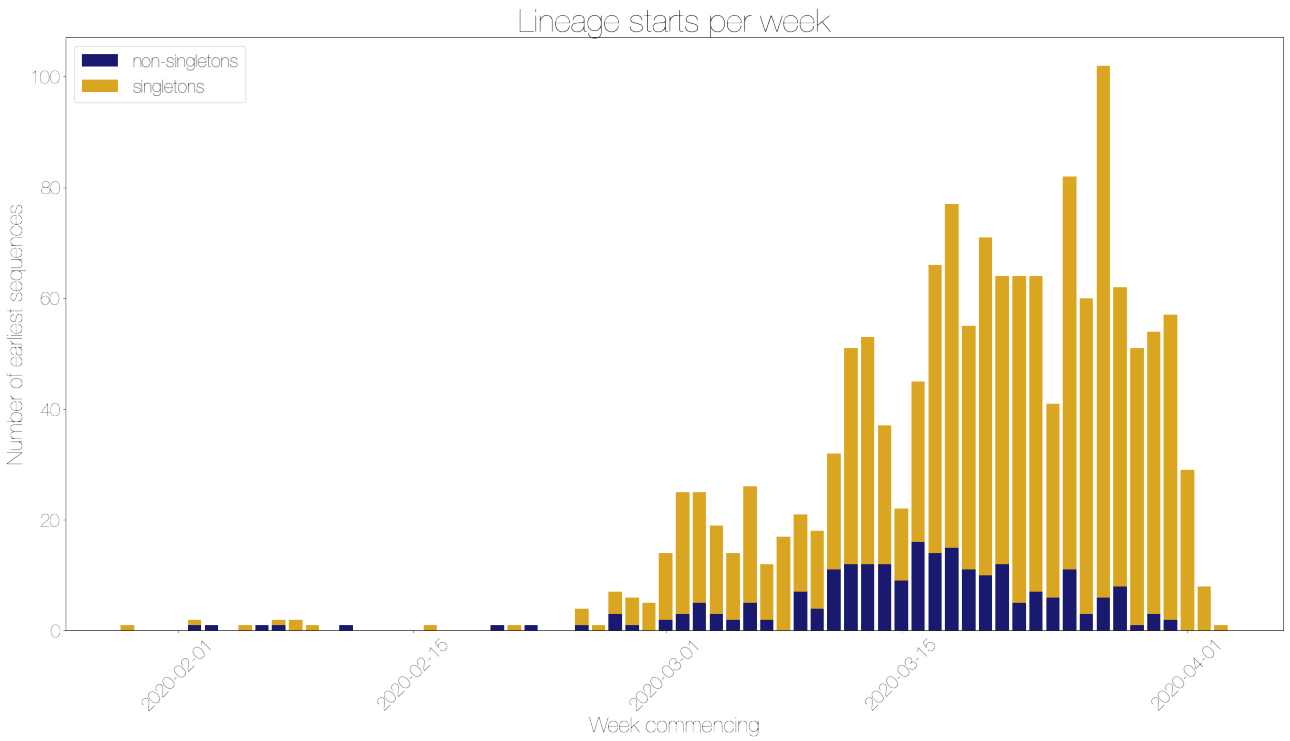
These data is represented in the stacked bar chart below. Note that the number of sequences is likely to be due more to differing sampling efforts in different regions, rather than genuine differences in numbers of cases.



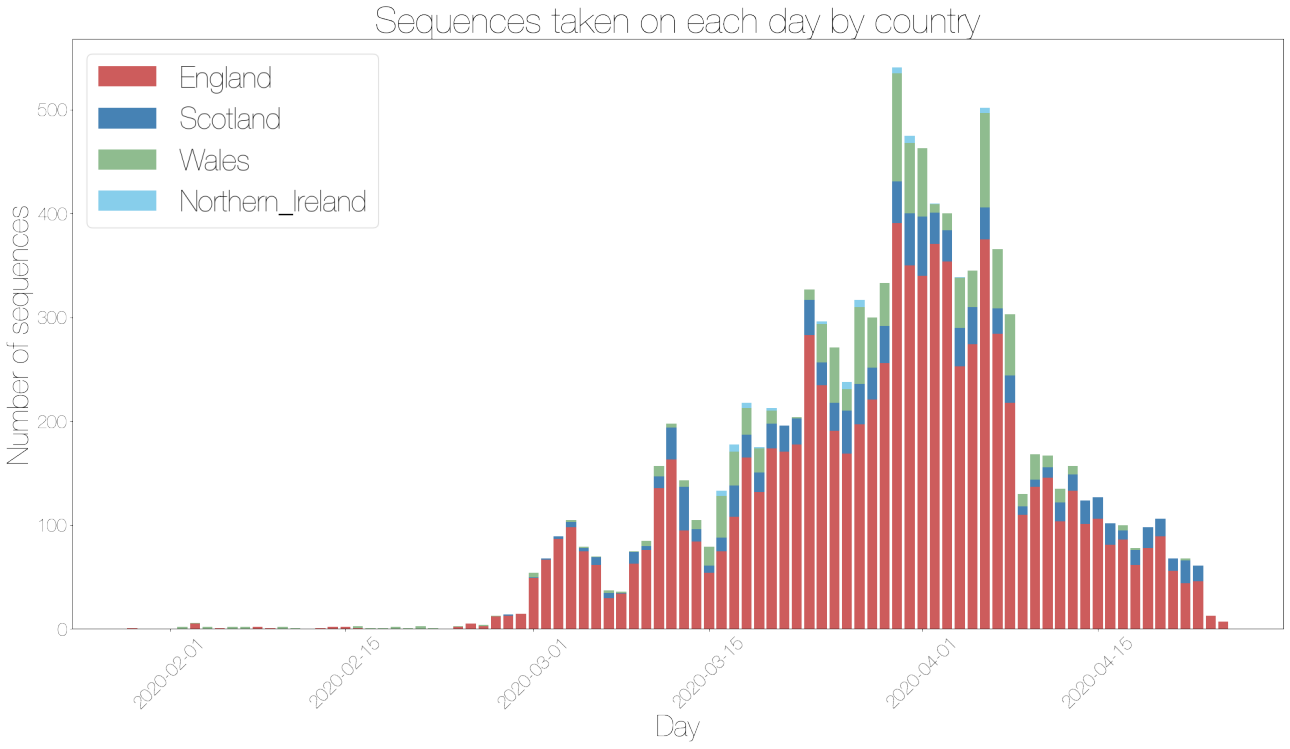
The relative growth and decline of the ten most sampled lineages in terms of number of counties they are present in is shown below.



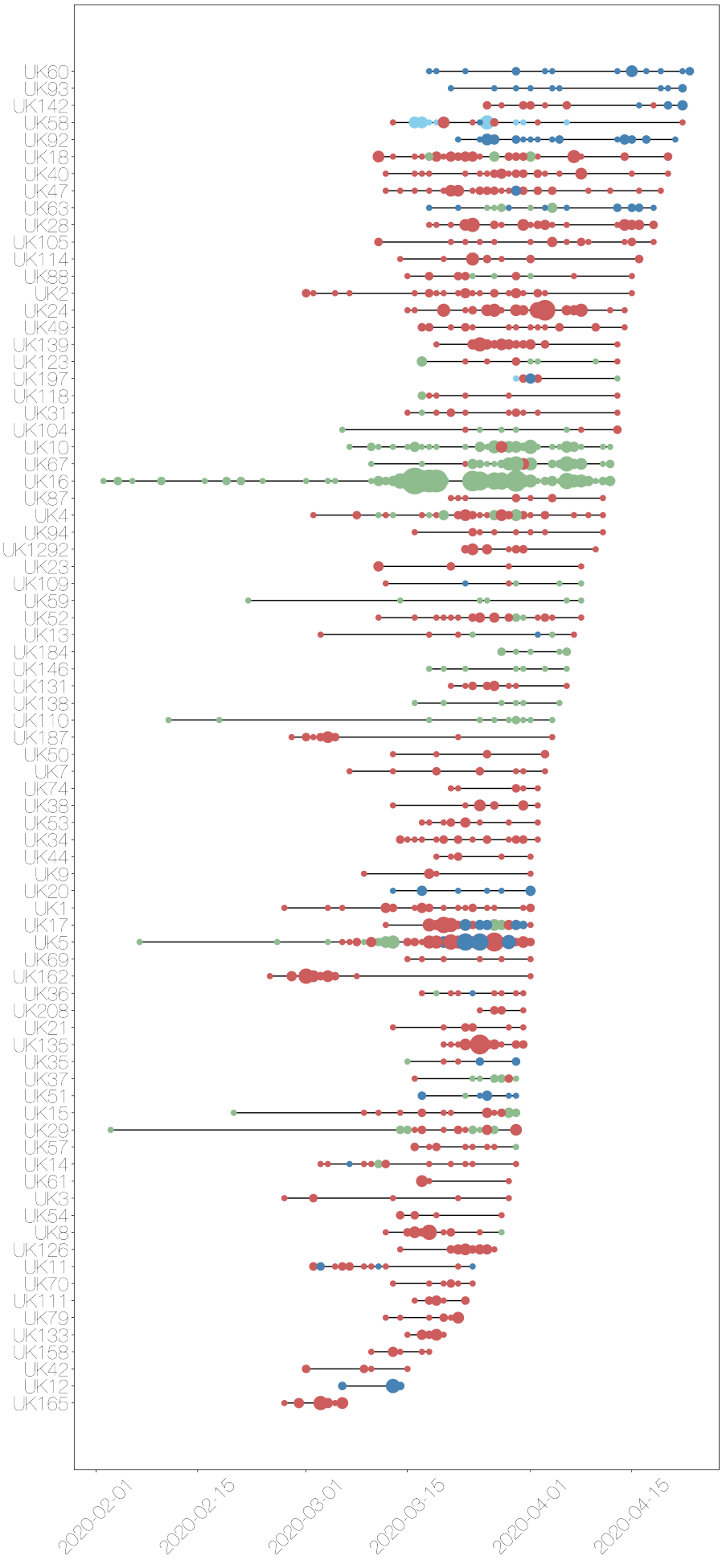
The date of first sequence in the cluster is shown below for every cluster with date information.



For comparison, here is a plot of the day that every sequence was taken, coloured by country. Note that sequences without dates were not included.



These introductions are shown on the timeline below. Each line represents the length of the cluster, from oldest to most recent sampling date. The dots are sized by the number of sequences taken on that date, and again are colour coded by country.


UK60
UK93
UK142
UK58
UK92
UK18
UK40
UK47
UK63
UK28
UK105
UK114
UK88
UK2
UK24
UK49
UK139
UK123
UK197
UK118
UK31
UK104
UK10
UK67
UK16
UK87
UK4
UK94
UK1292
UK23
UK109
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UK52
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UK184
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UK20
UK1
UK17
UK5
UK69
UK162
UK36
UK208
UK21
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UK37
UK51
UK15
UK29
UK57
UK14
UK61
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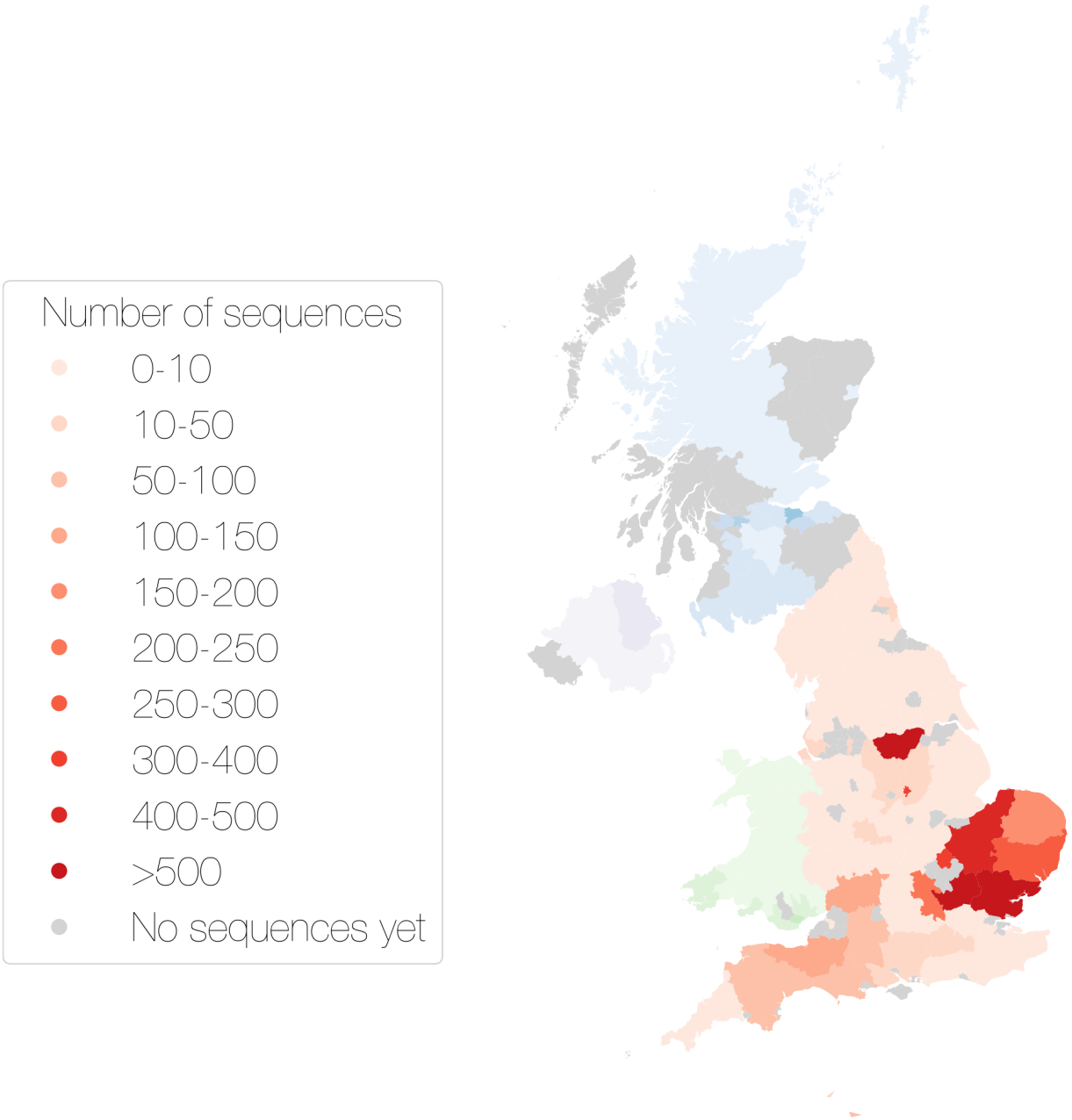
UK8
UK126
UK11
UK70
UK111
UK79
UK133
UK158
UK42
UK12
UK165
2020-02-01
2020-02-15
2020-03-01
2020-03-15
2020-04-01
2020-04-15

COVID-19 sequences from each Admn2 region UK



Other results modules for UK introductions can be added in here if required.

Appendix

The plot below shows the number of sequences from each country that don't have specific enough location data to plot on the map.