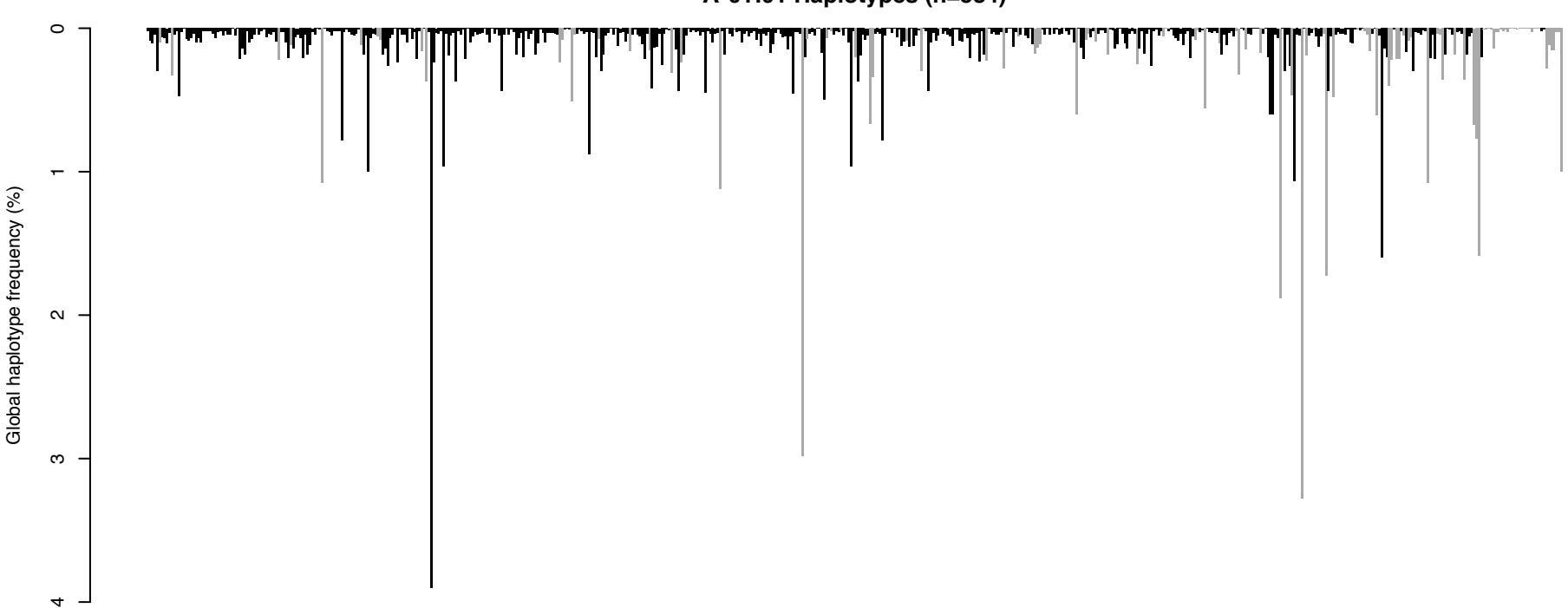
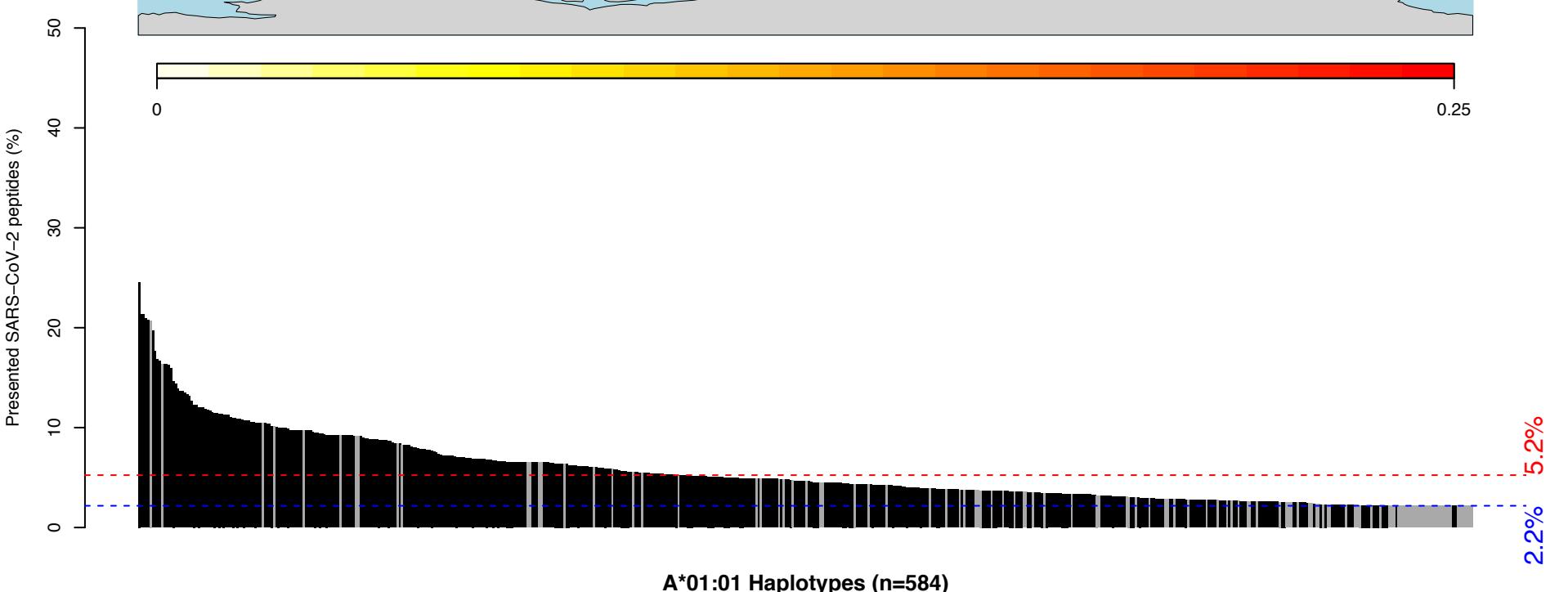
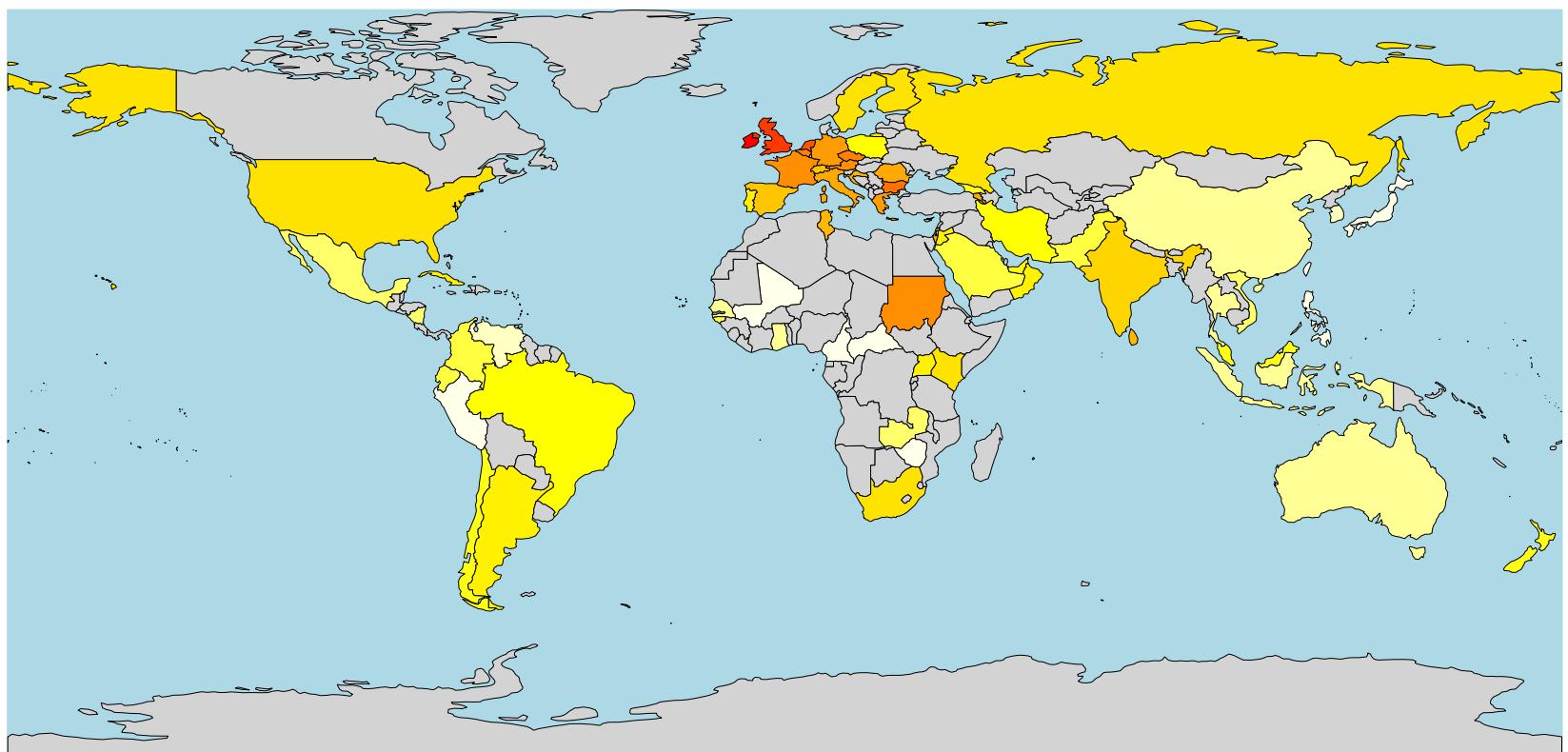
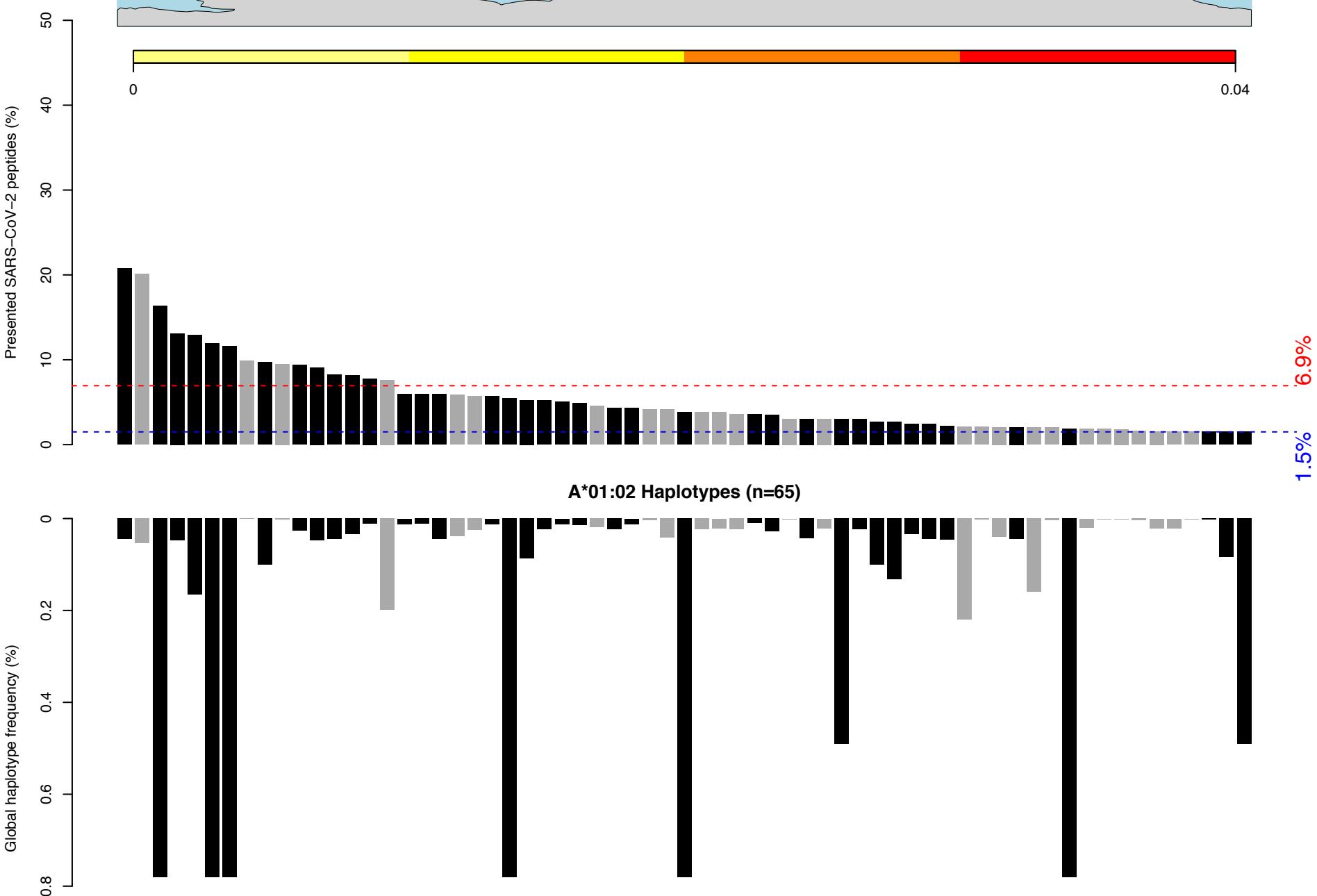
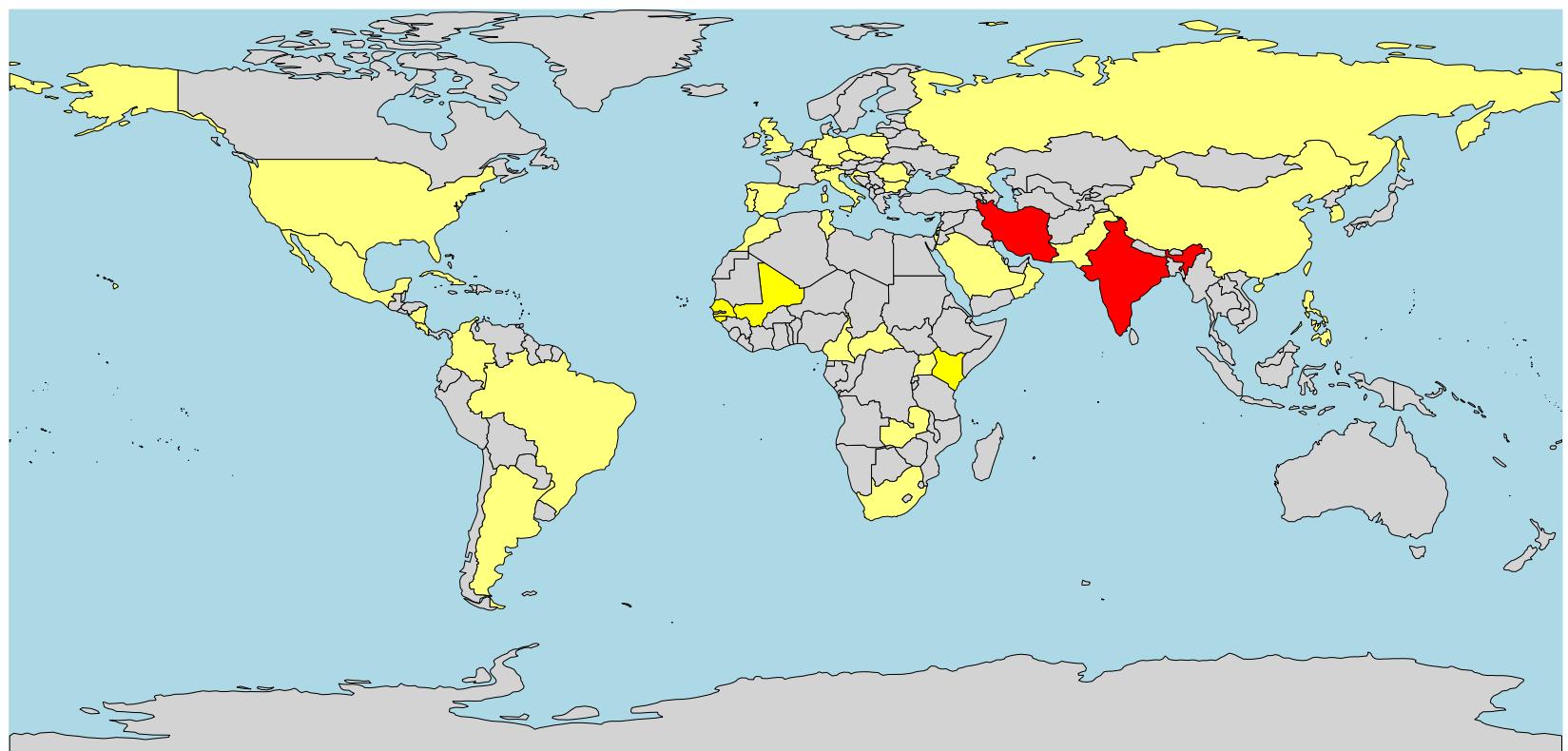


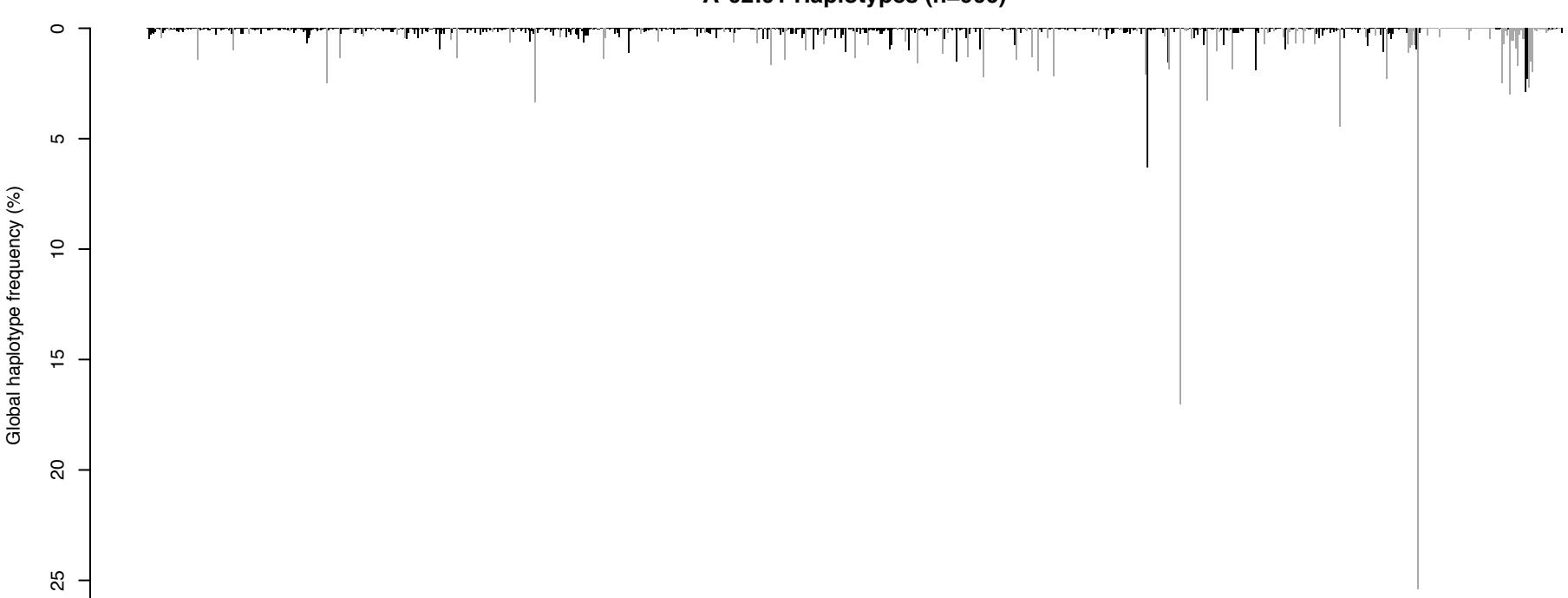
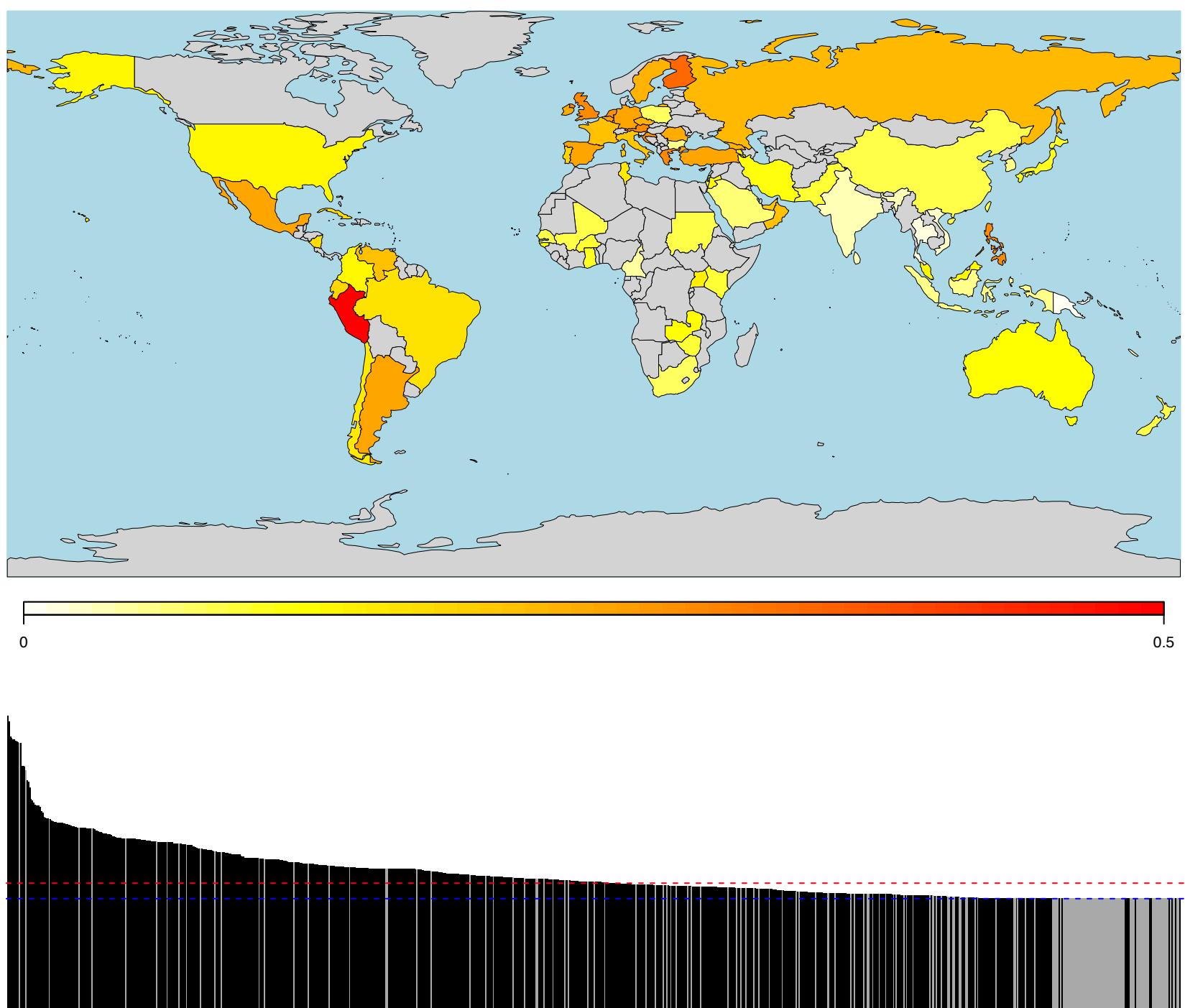
A*01:01
(~5% globally)



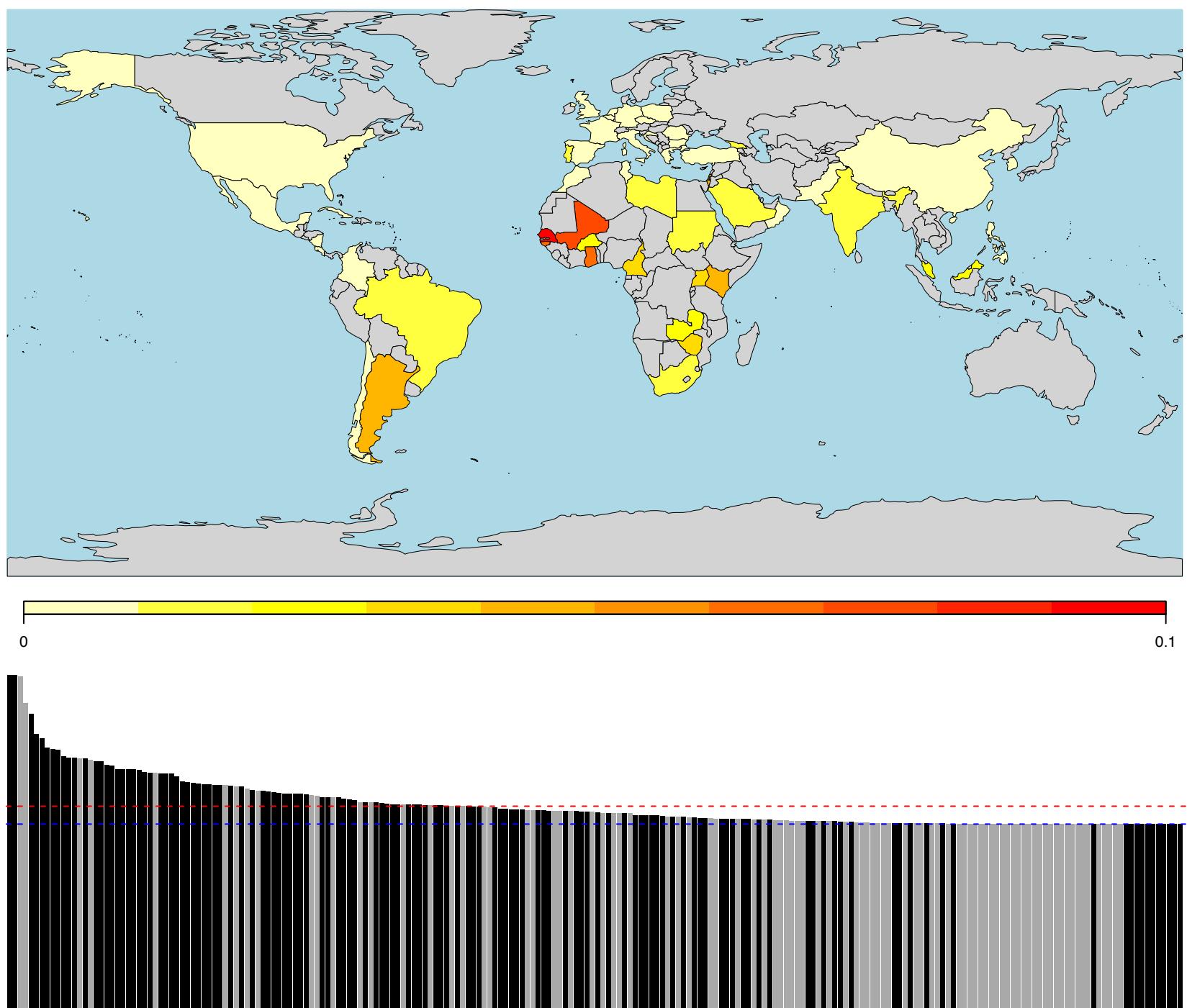
A*01:02
(~1% globally)



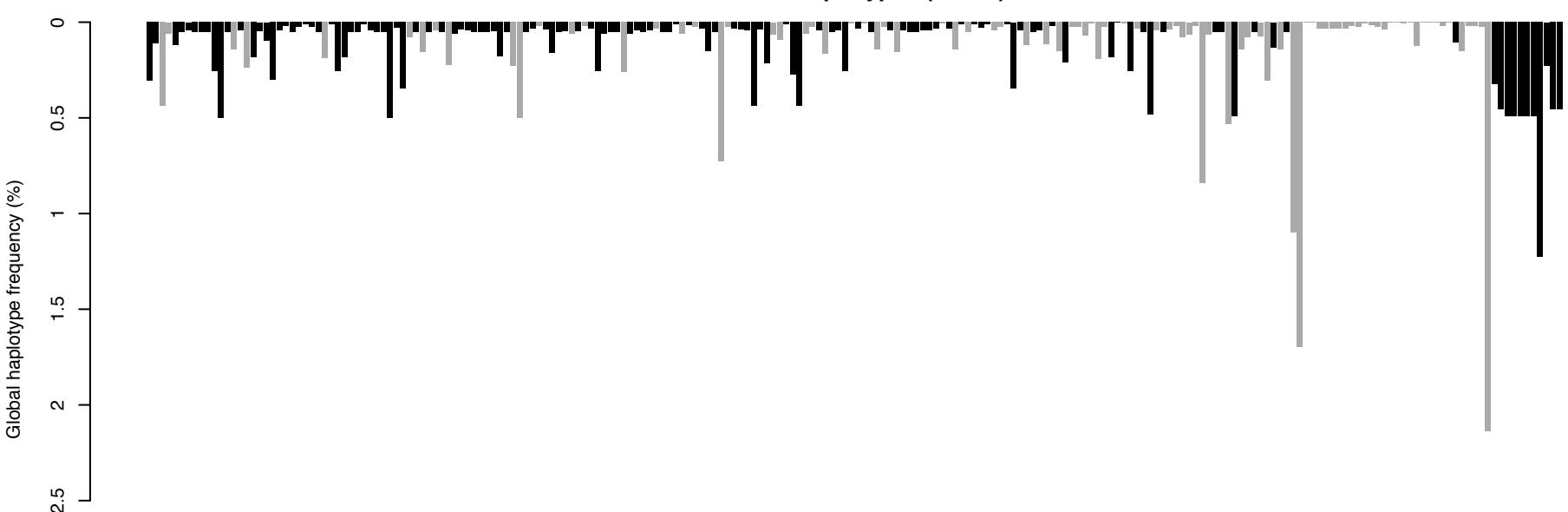
A*02:01
(~3.2% globally)



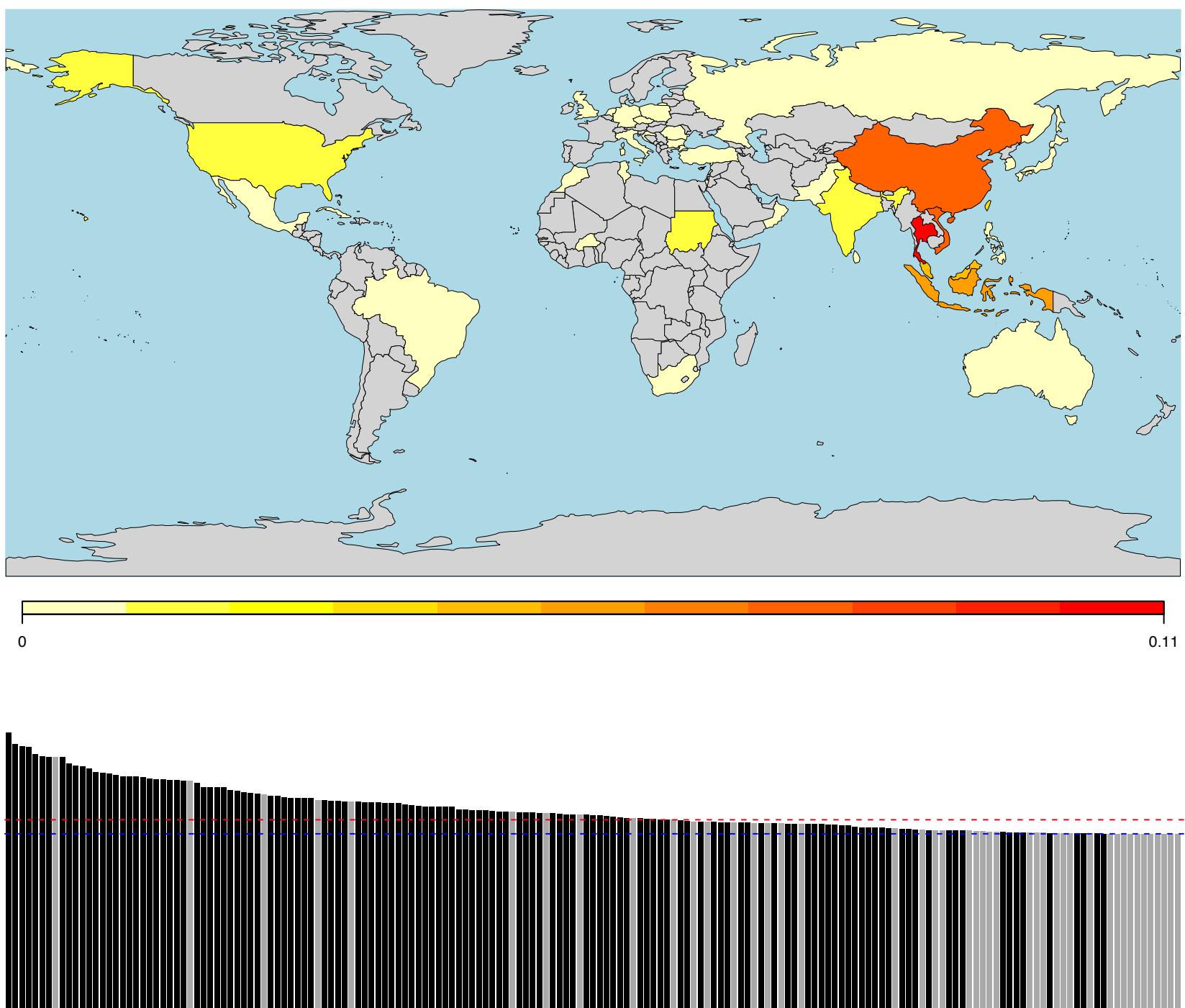
A*02:02
(~1.1% globally)



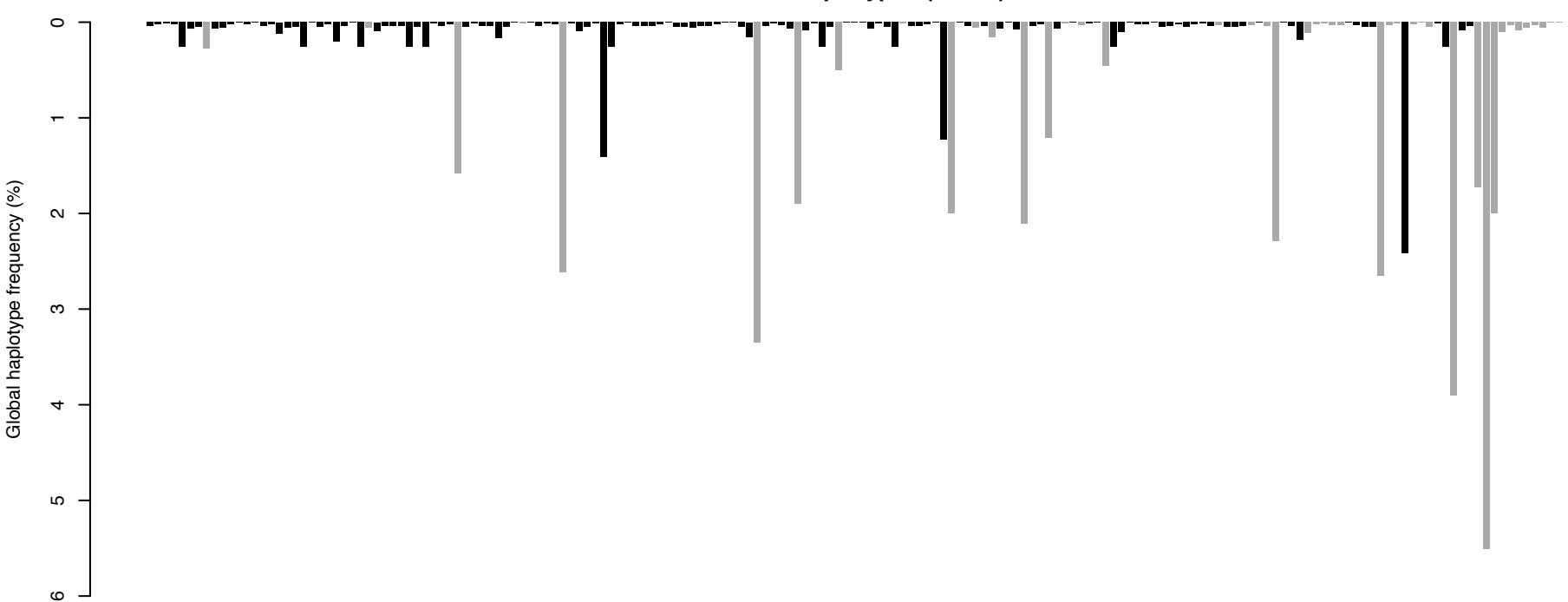
A*02:02 Haplotypes (n=218)



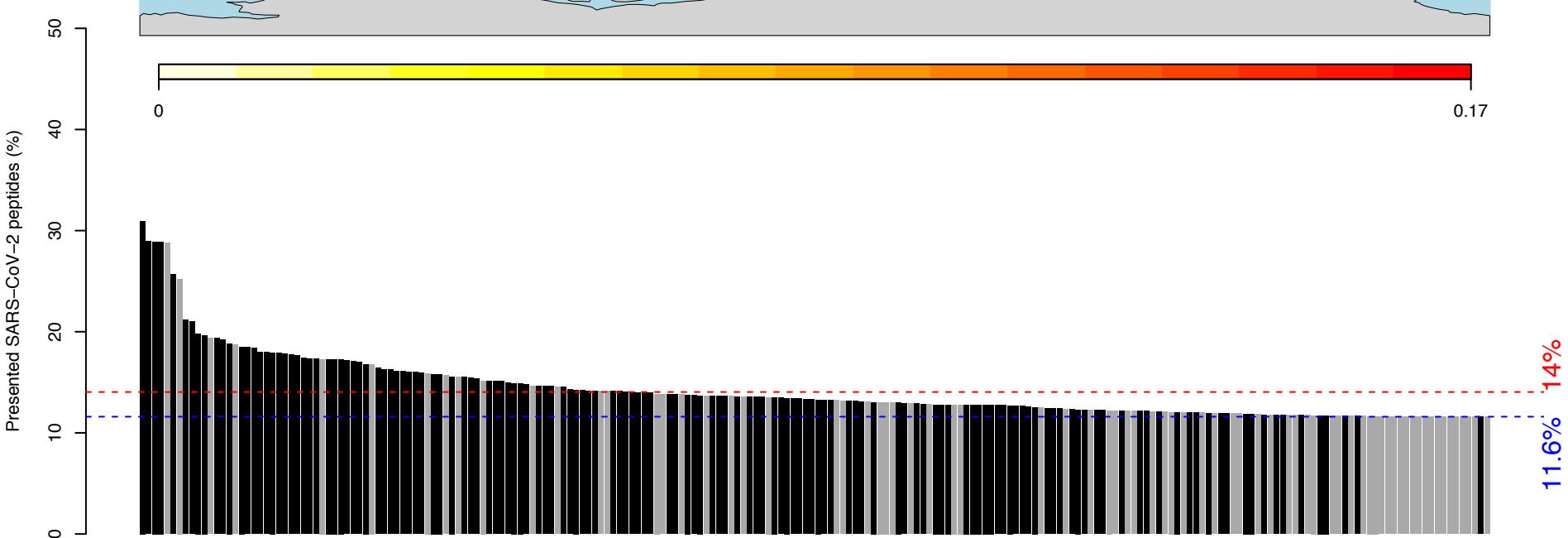
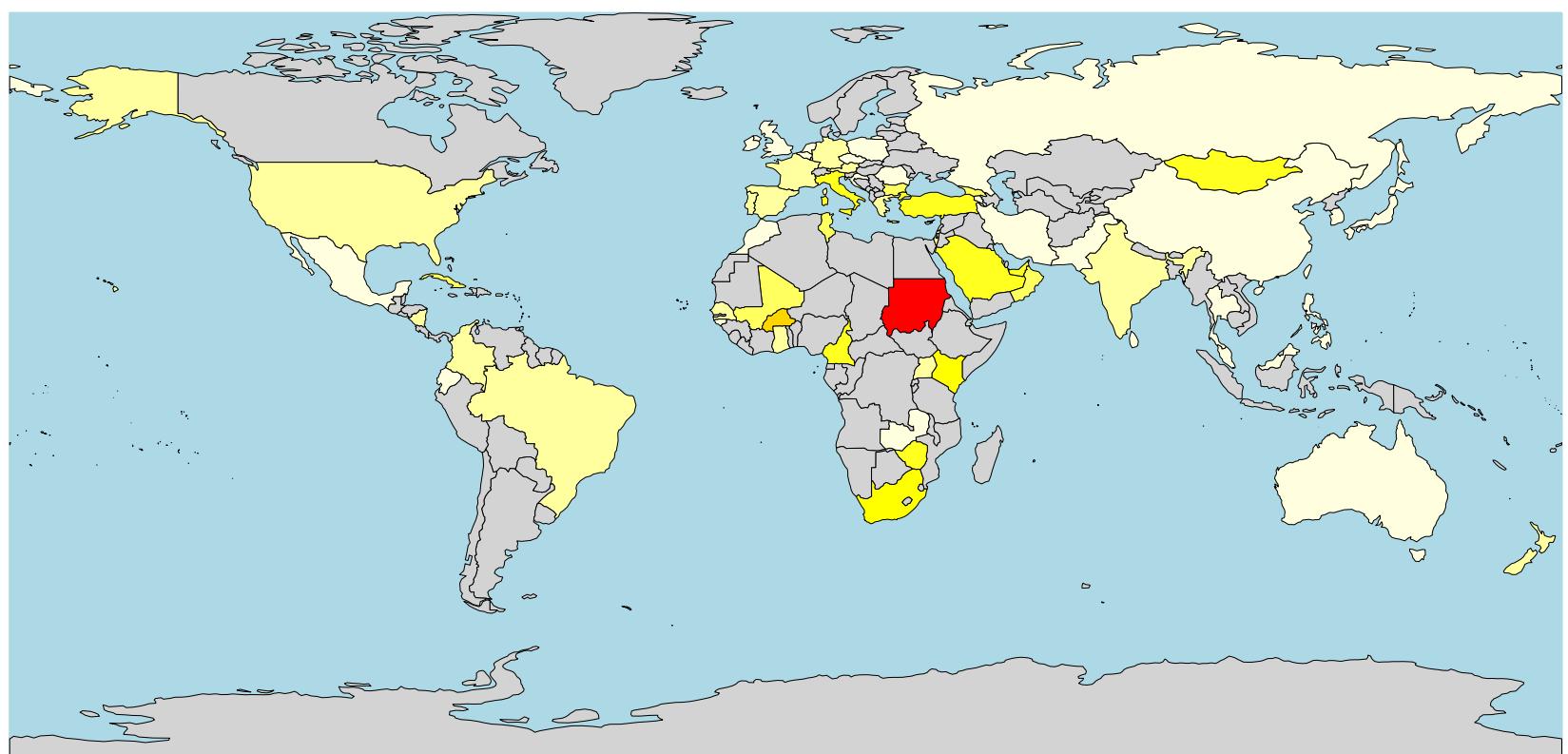
A*02:03
(~3.4% globally)



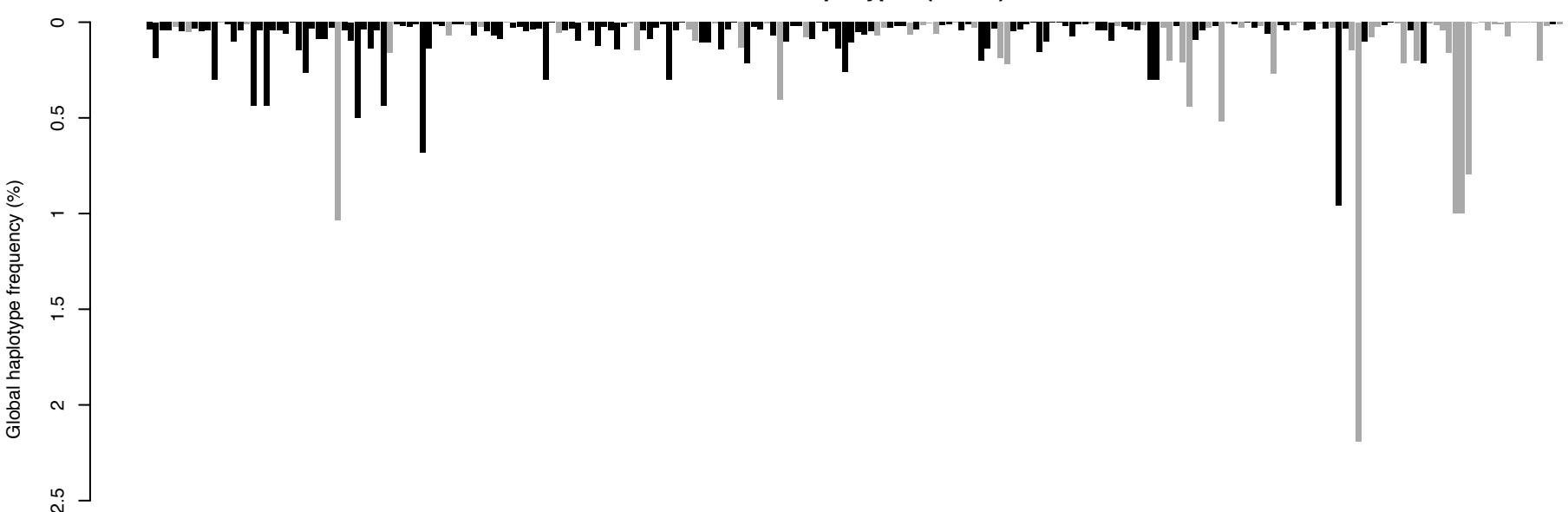
A*02:03 Haplotypes (n=175)



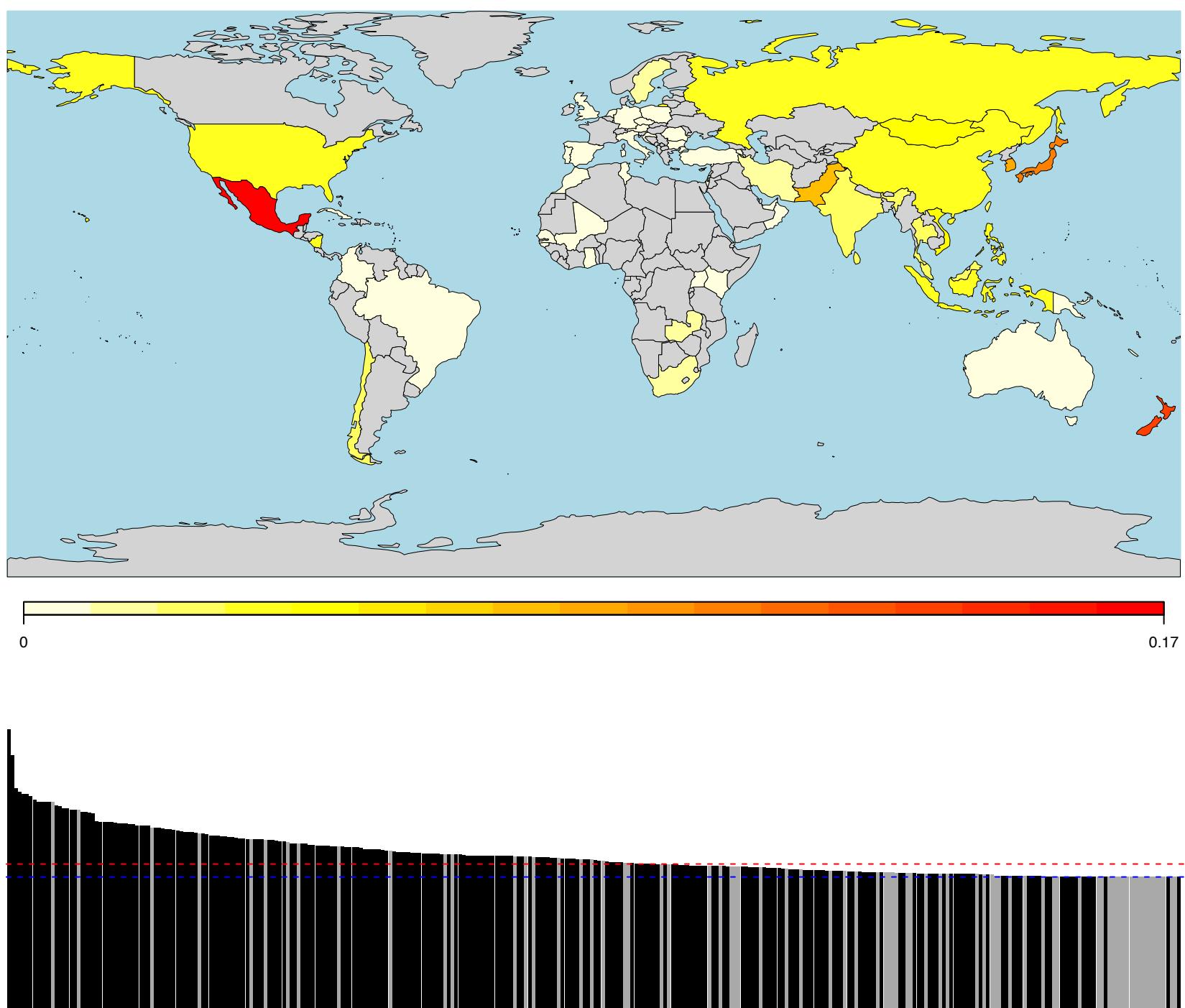
A*02:05
(~0.91% globally)



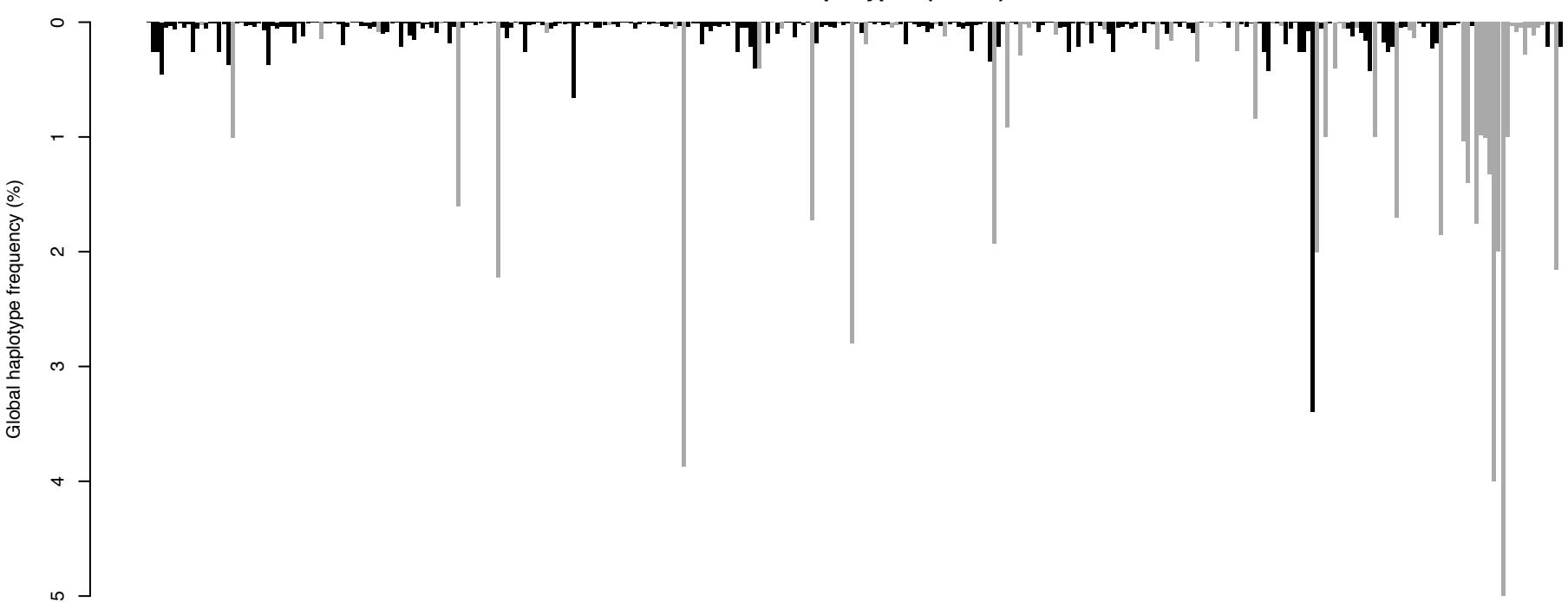
A*02:05 Haplotypes (n=218)



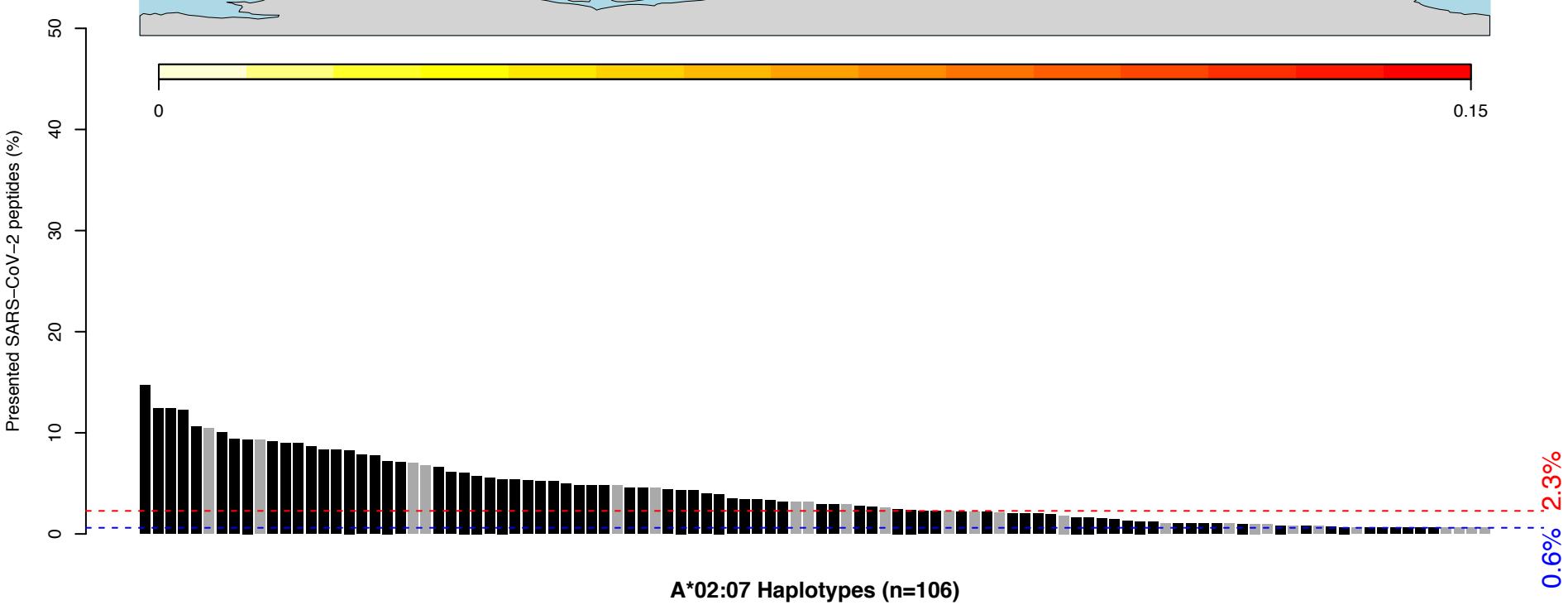
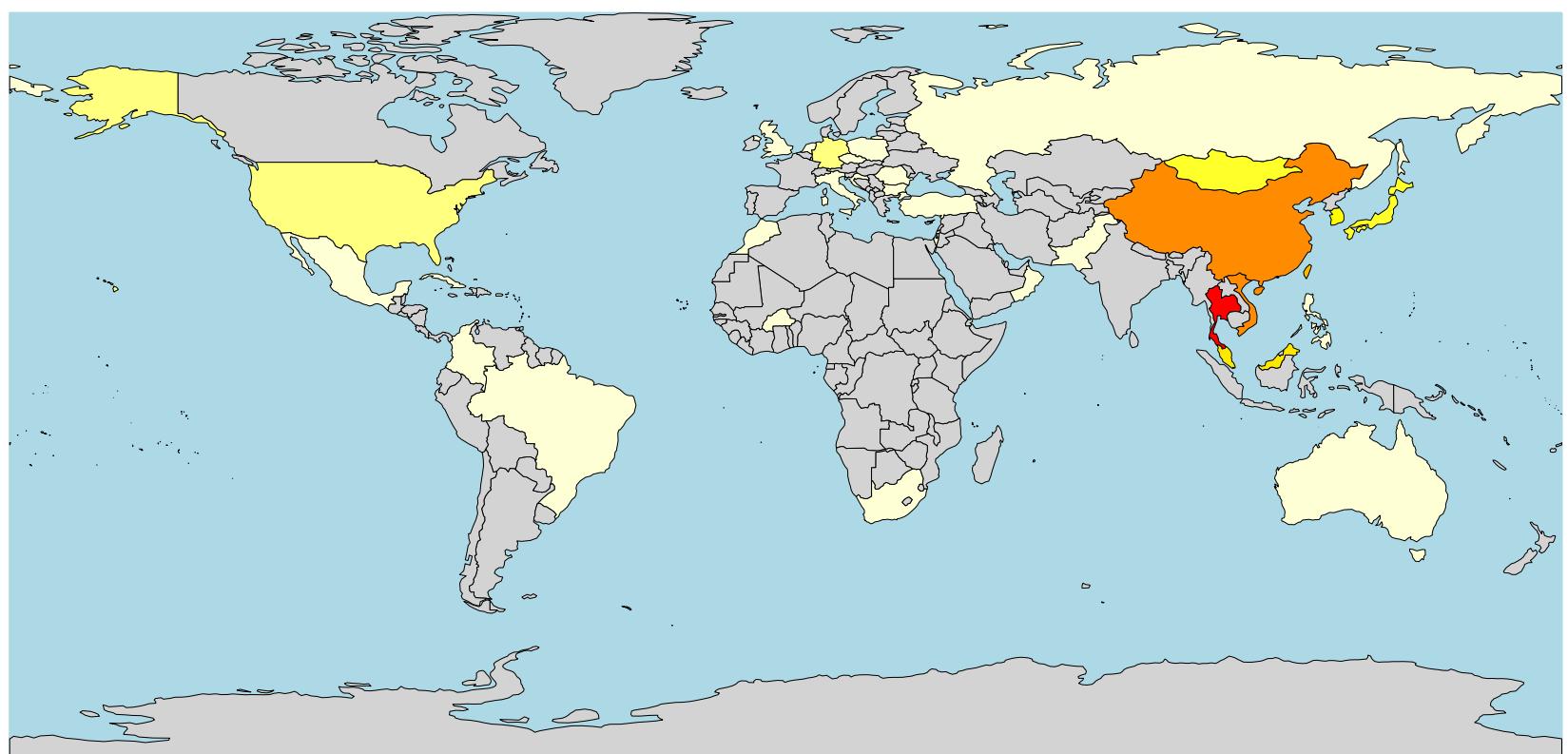
A*02:06
(~2.6% globally)



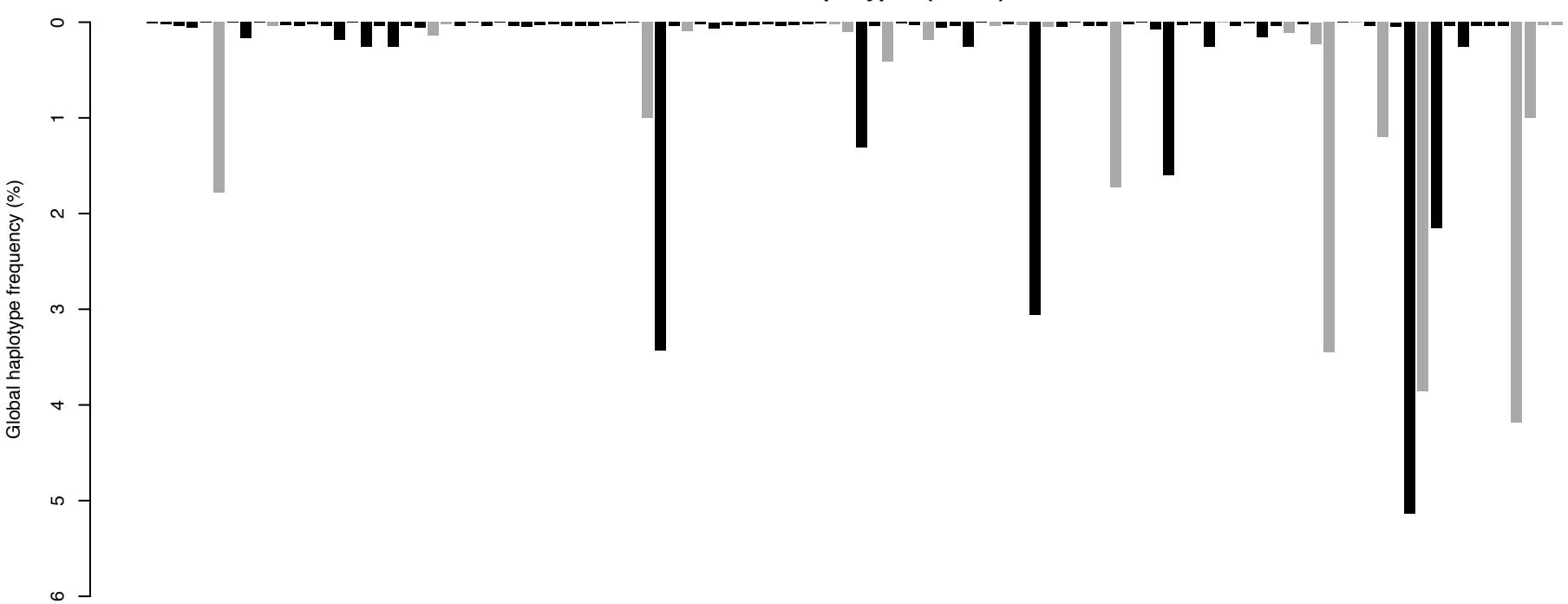
A*02:06 Haplotypes (n=320)



A*02:07
(~4.6% globally)



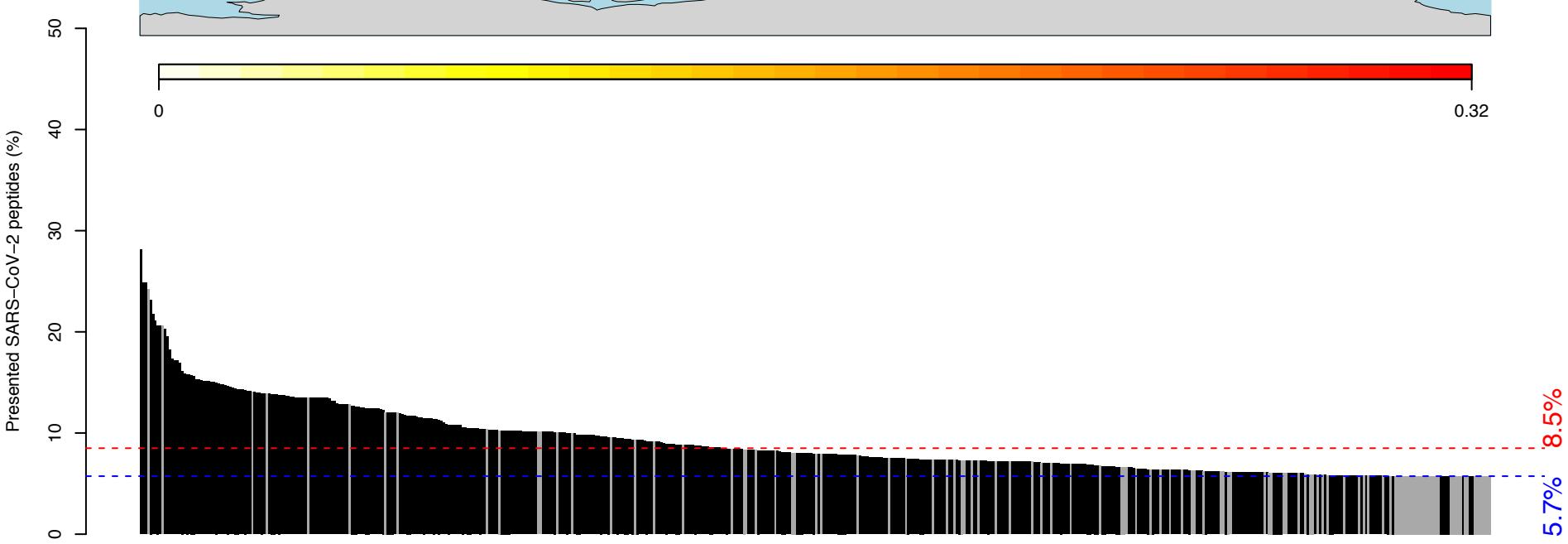
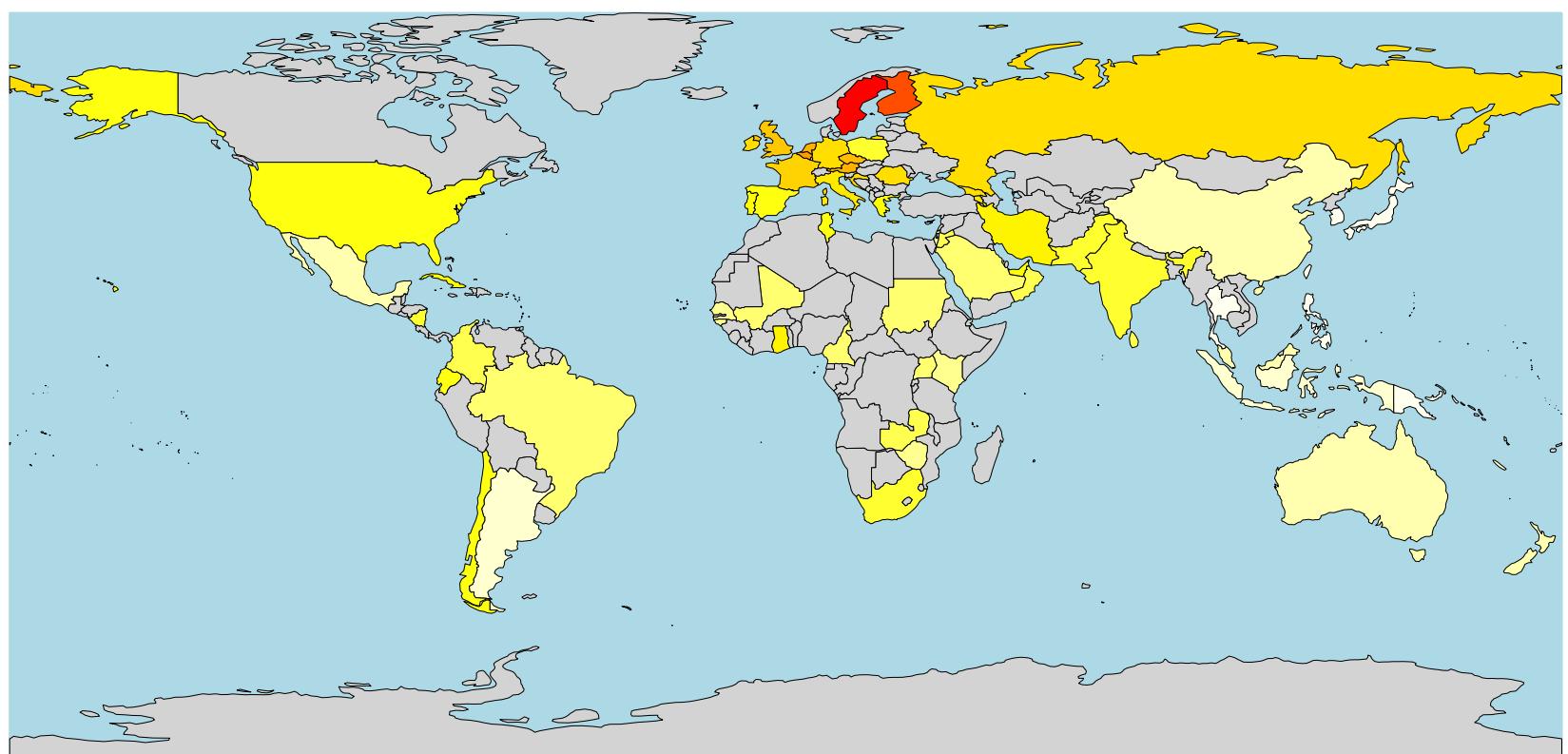
A*02:07 Haplotypes (n=106)



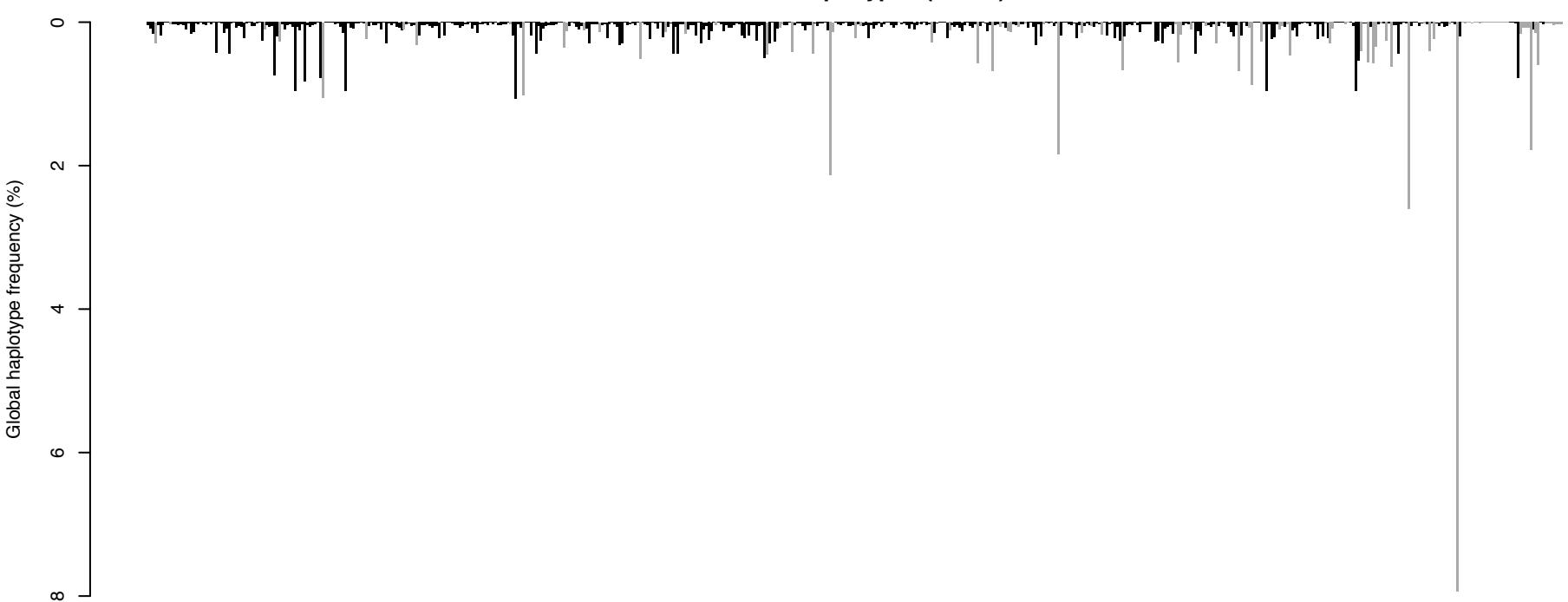
2.3%

0.6%

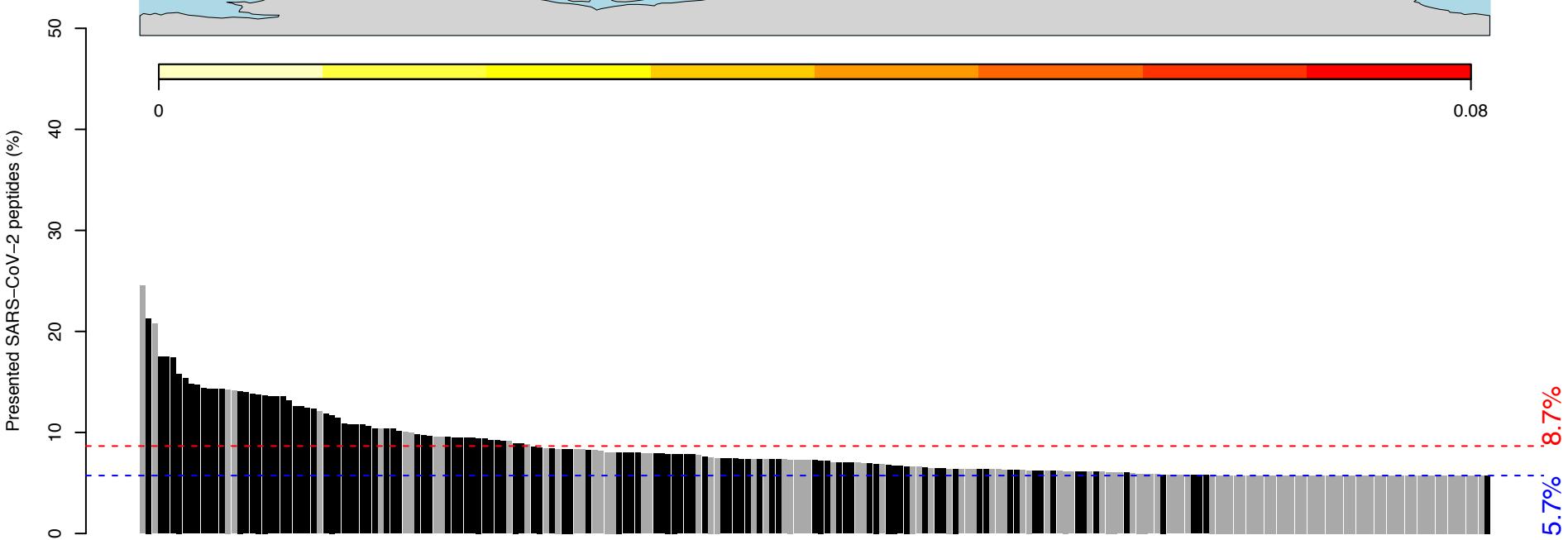
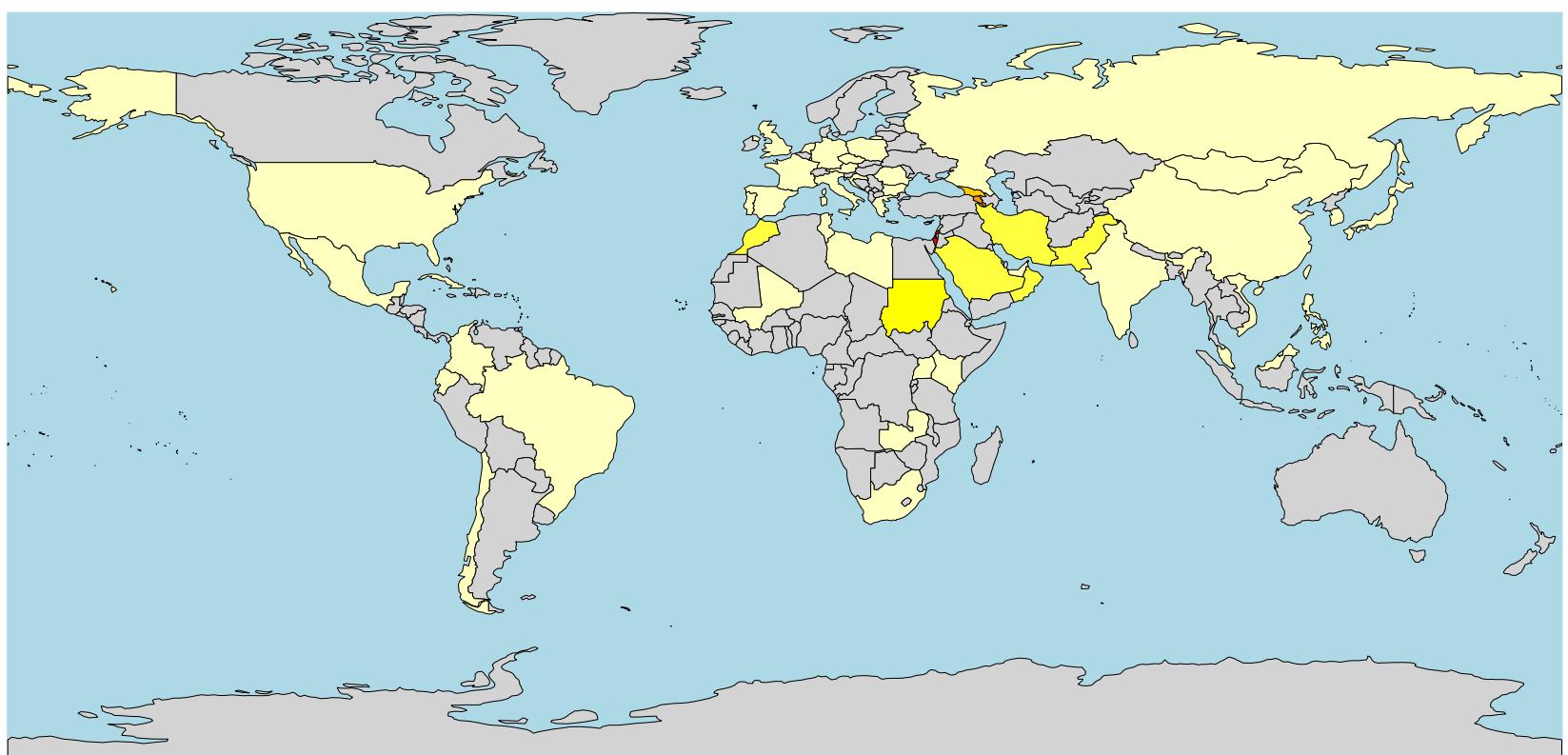
A*03:01
(~2.9% globally)



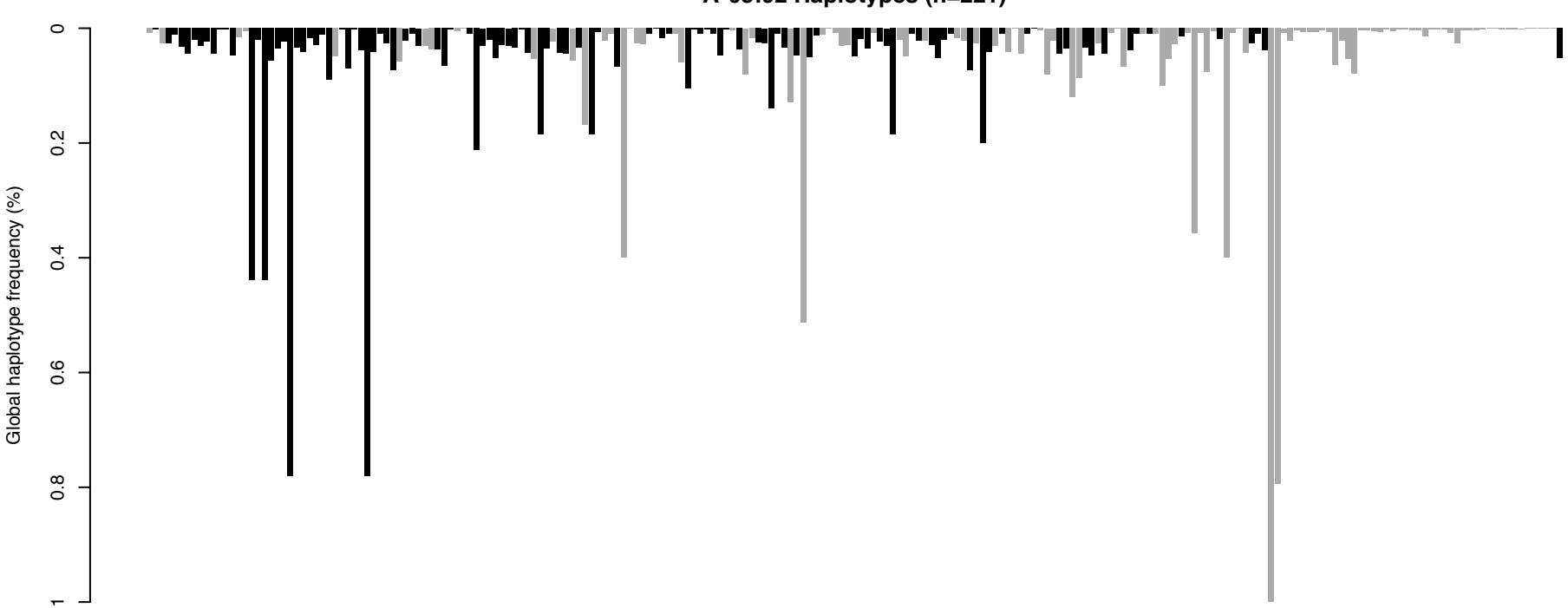
A*03:01 Haplotypes (n=558)



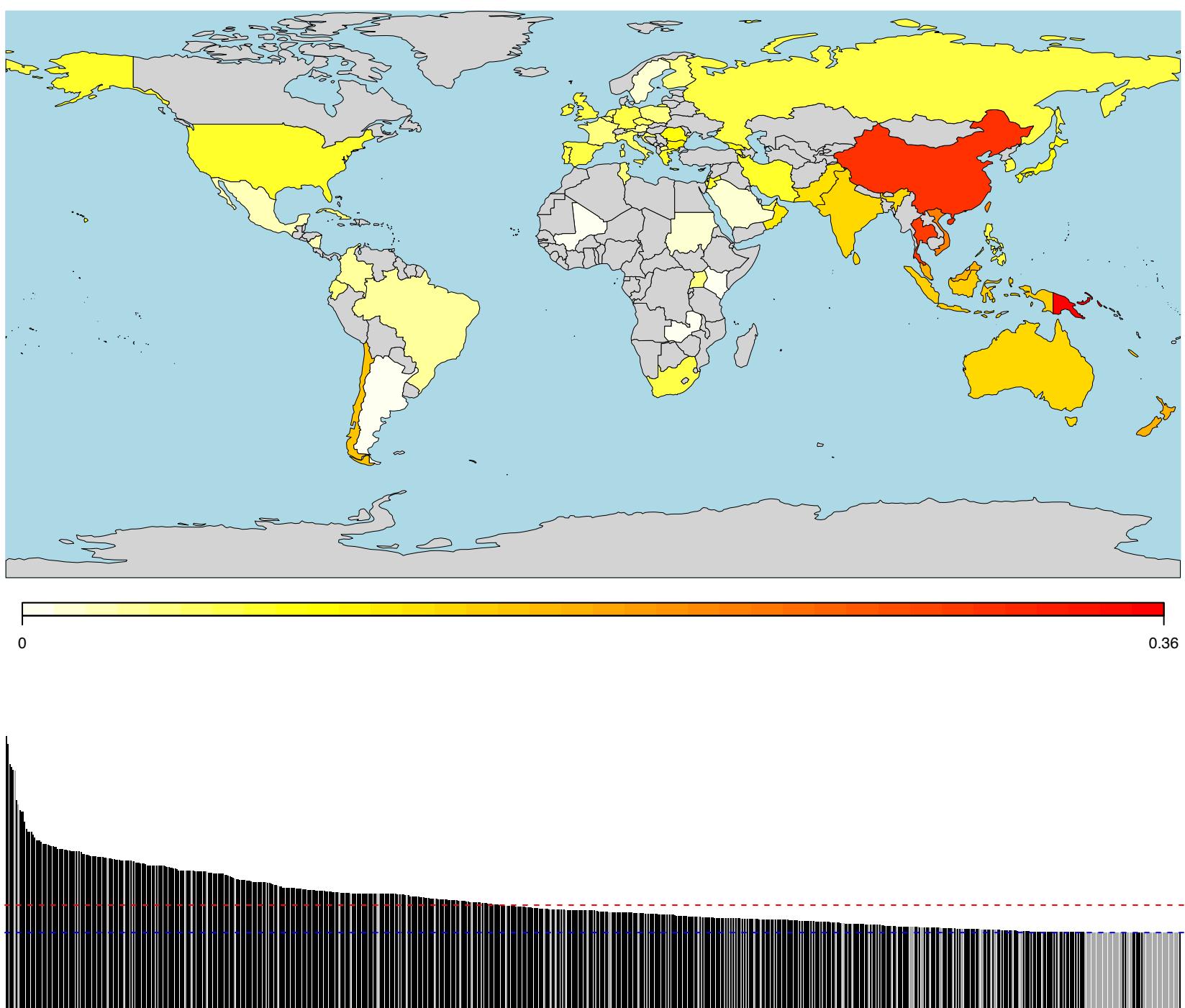
A*03:02
(~0.47% globally)



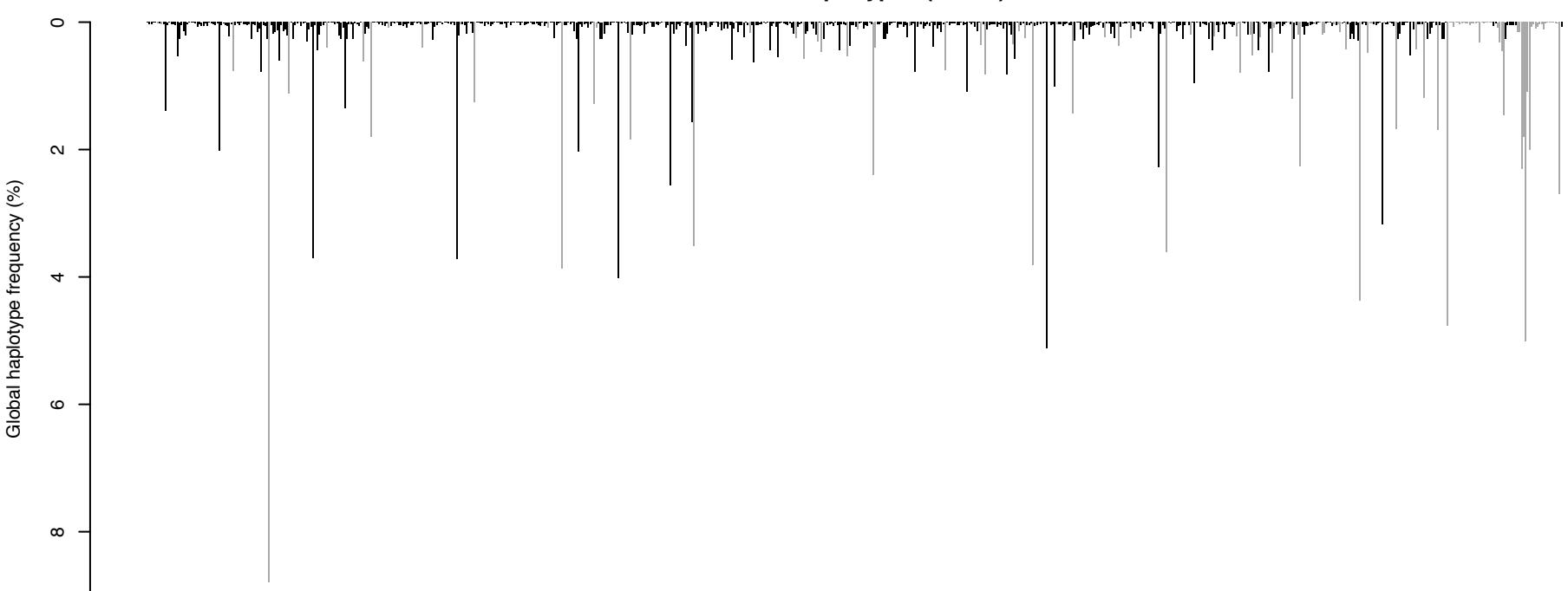
A*03:02 Haplotypes (n=221)



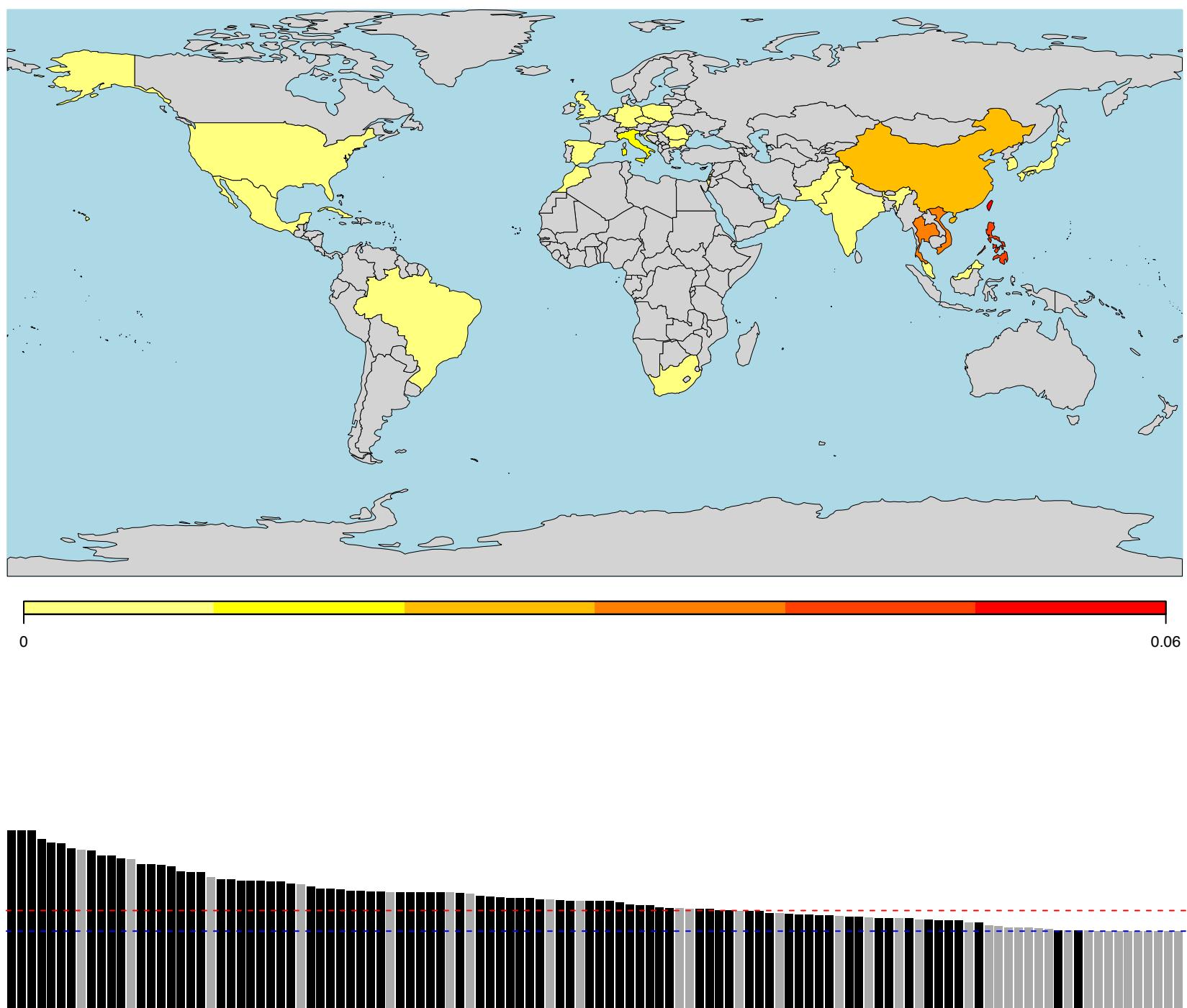
A*11:01
(~14% globally)



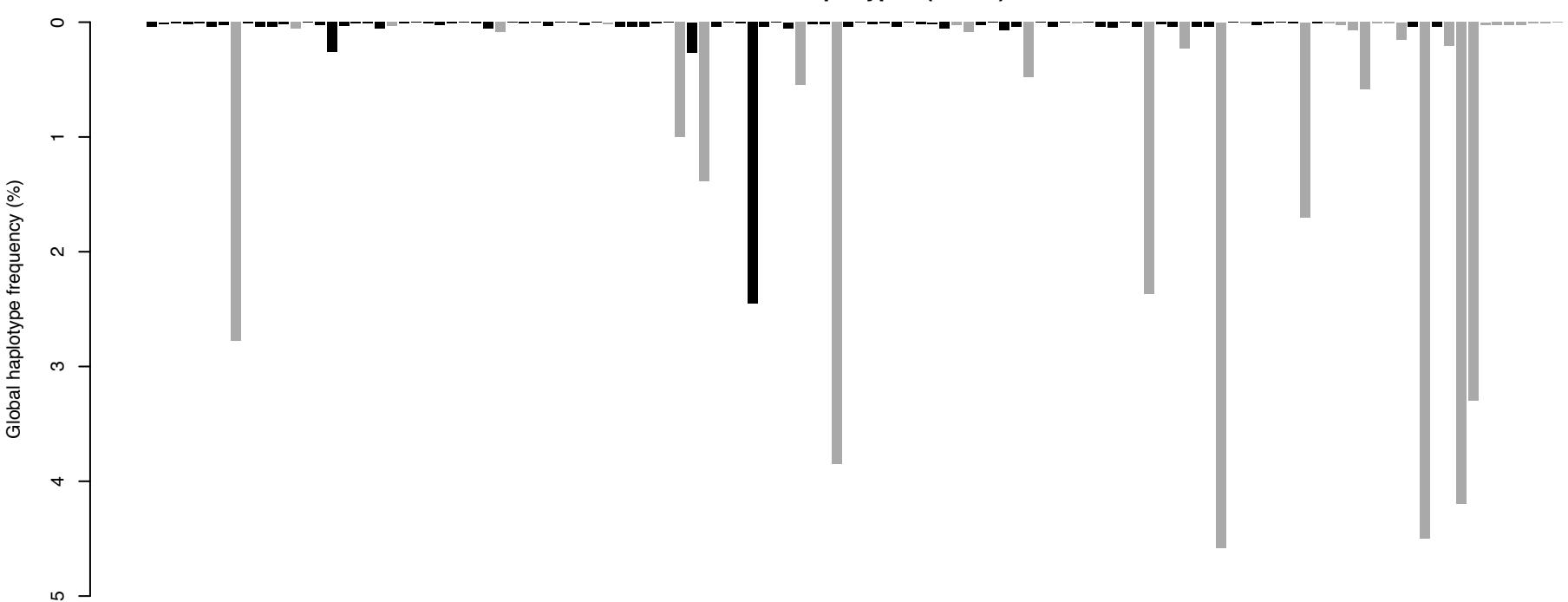
A*11:01 Haplotypes (n=710)



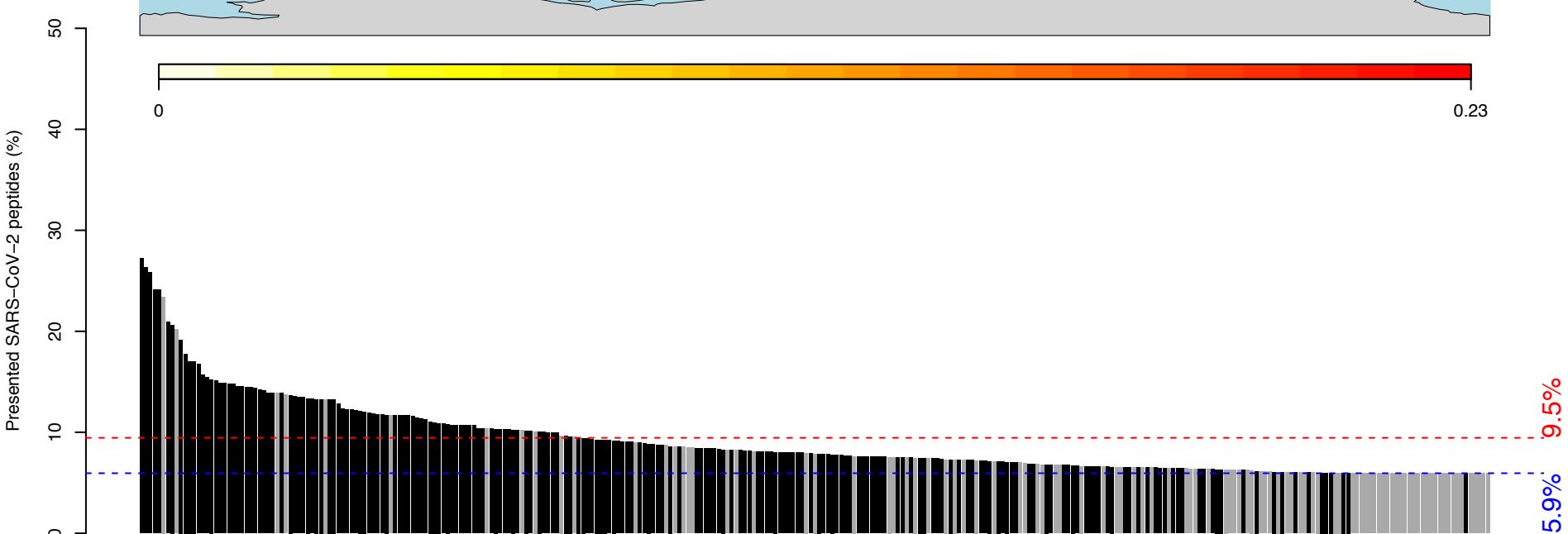
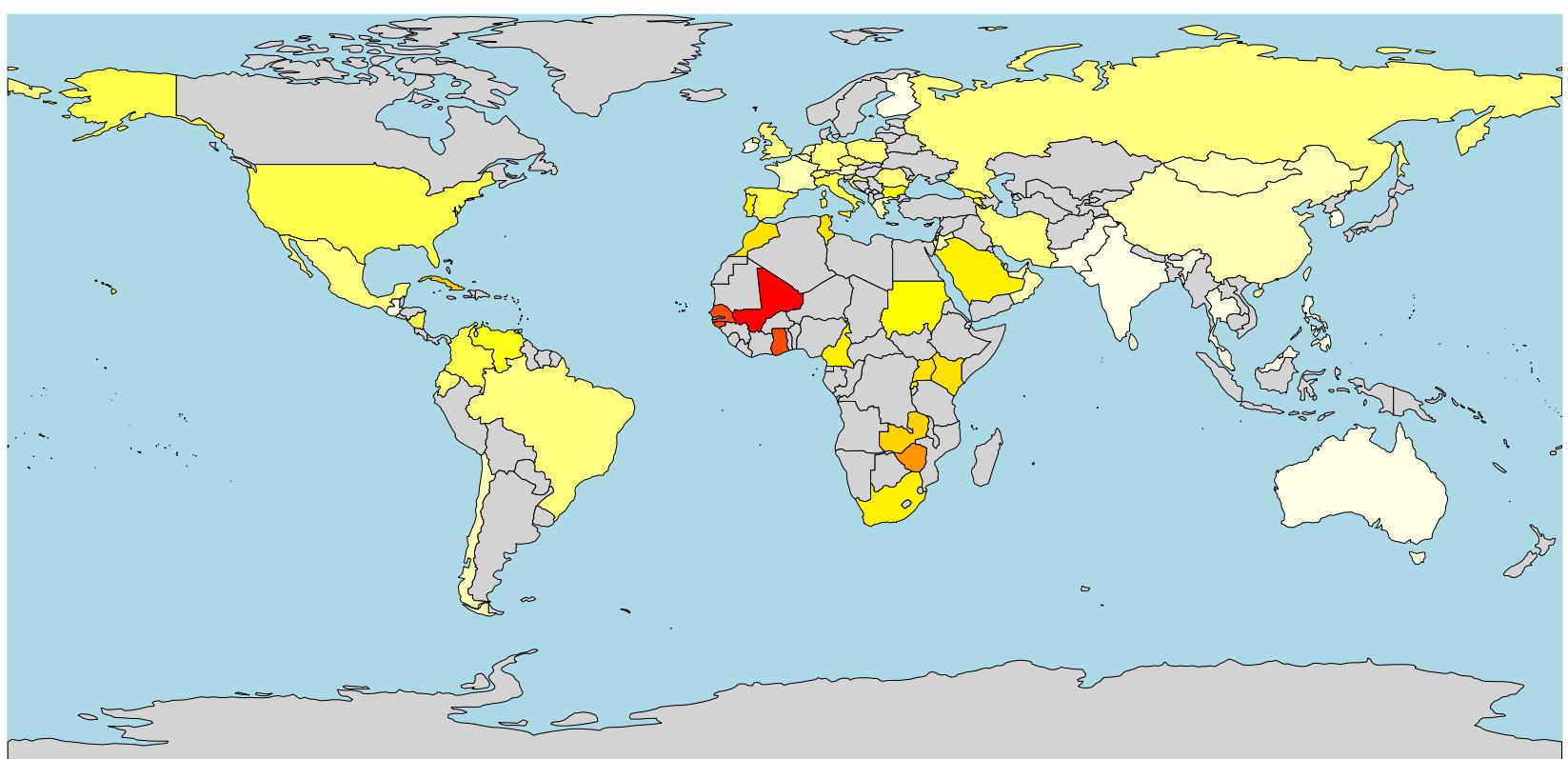
A*11:02
(~1.2% globally)



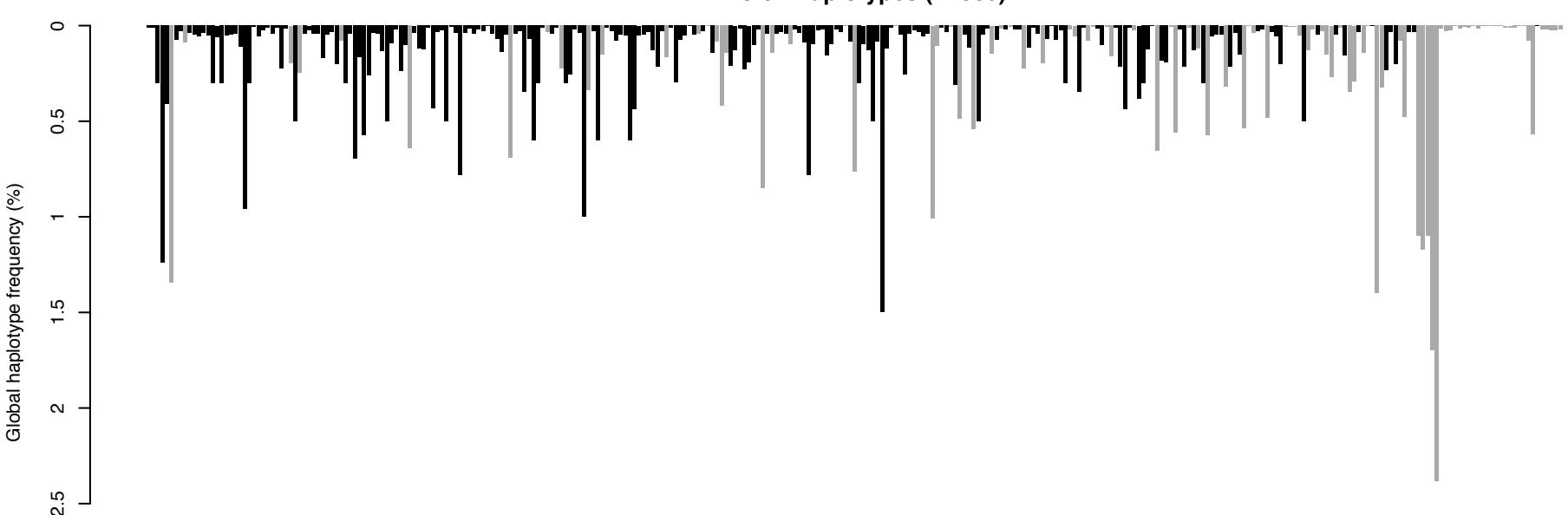
A*11:02 Haplotypes (n=118)



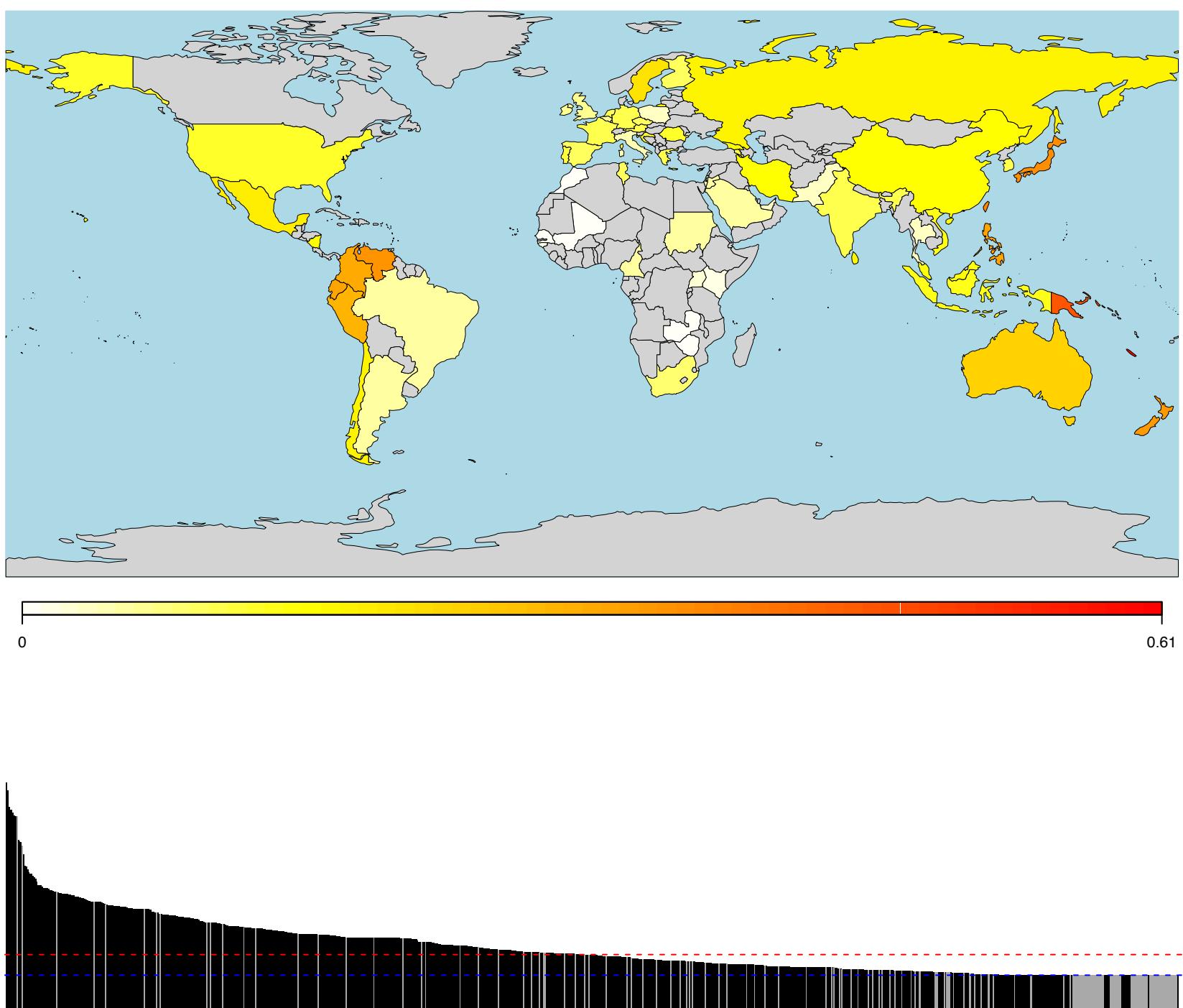
A*23:01
(~1.8% globally)



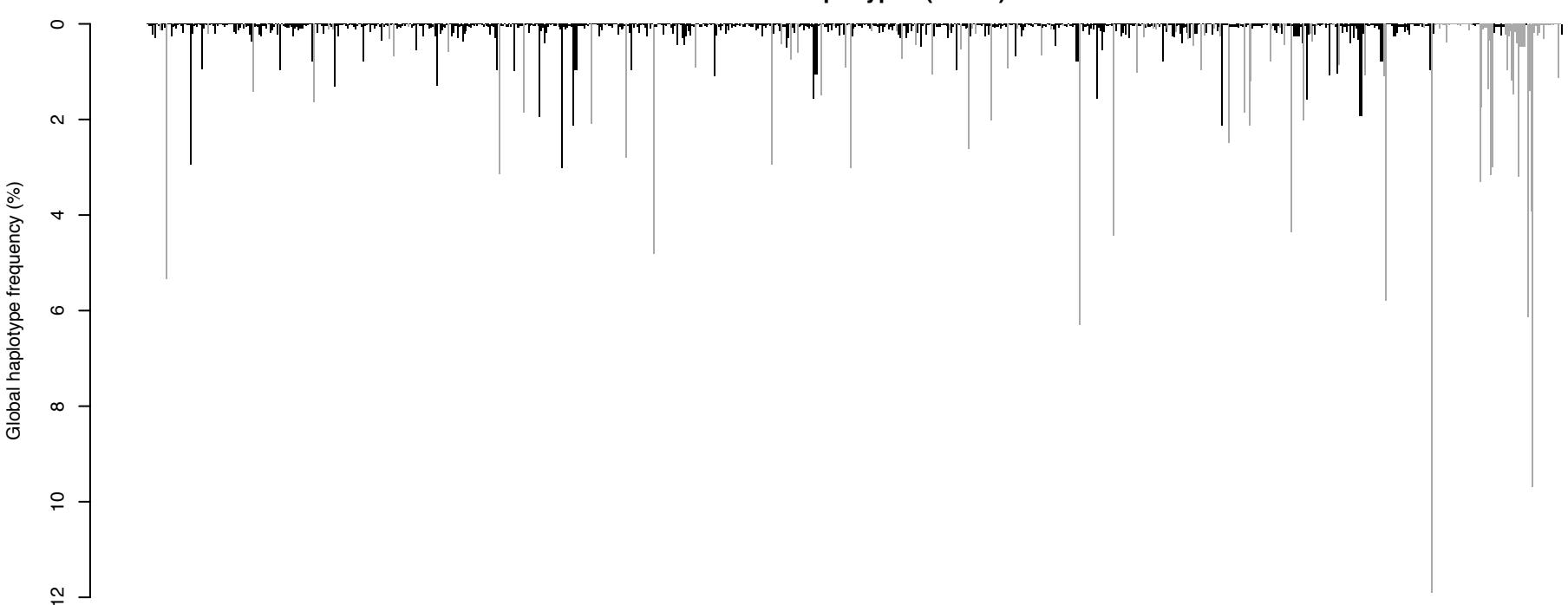
A*23:01 Haplotypes (n=309)



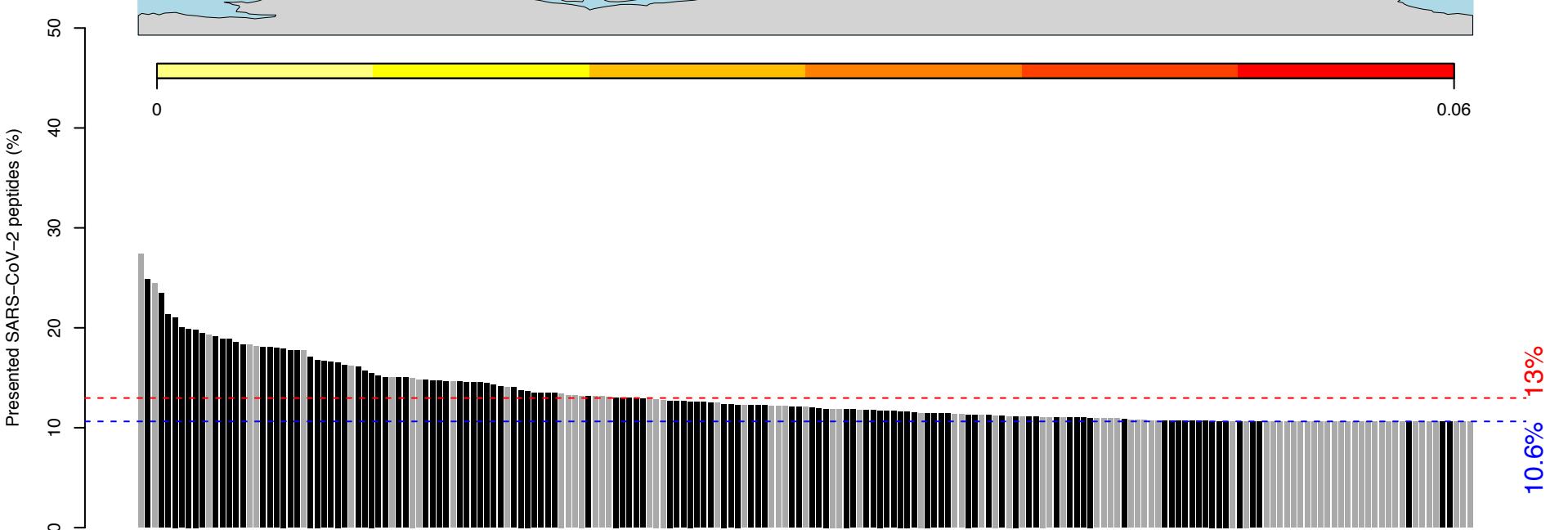
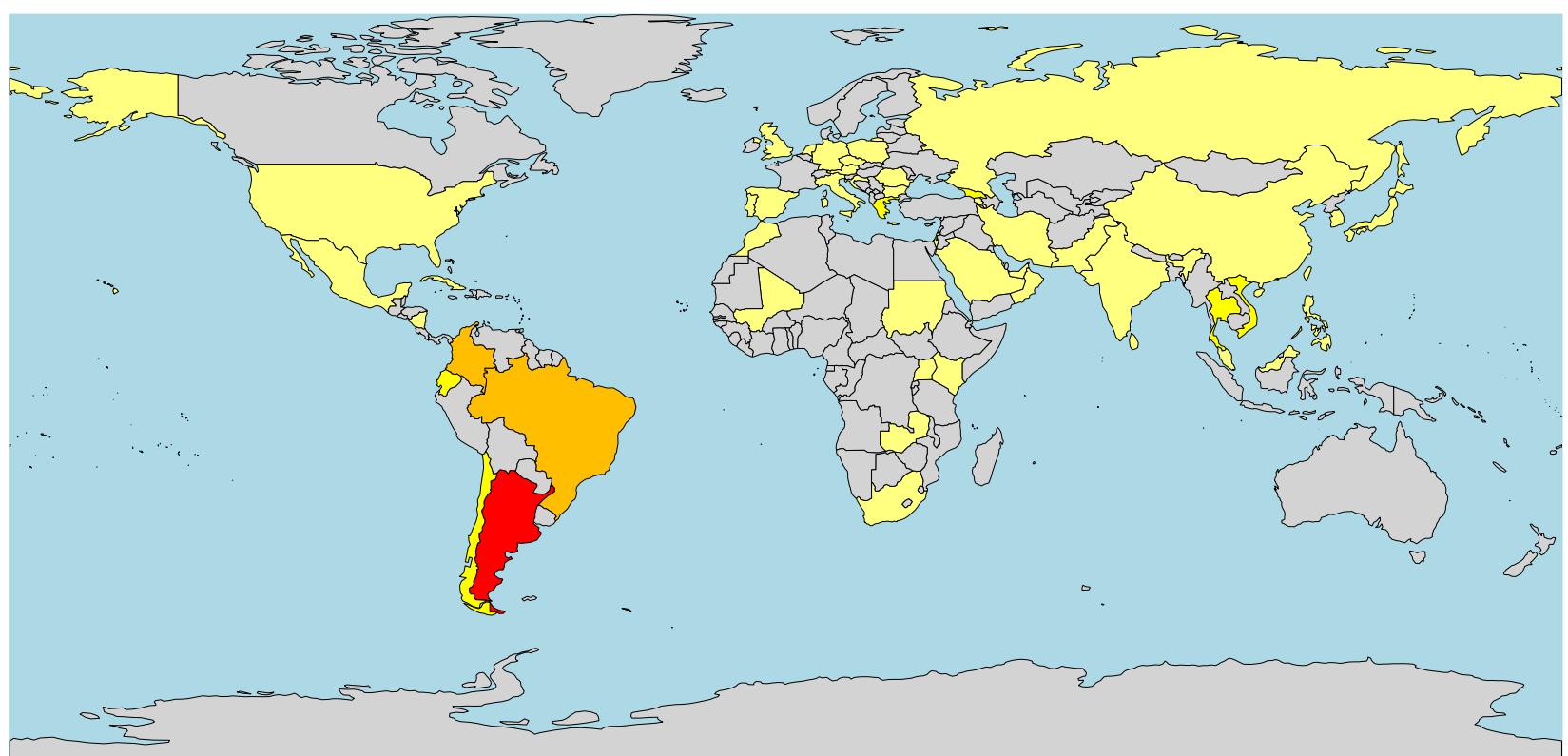
A*24:02
(~6.1% globally)



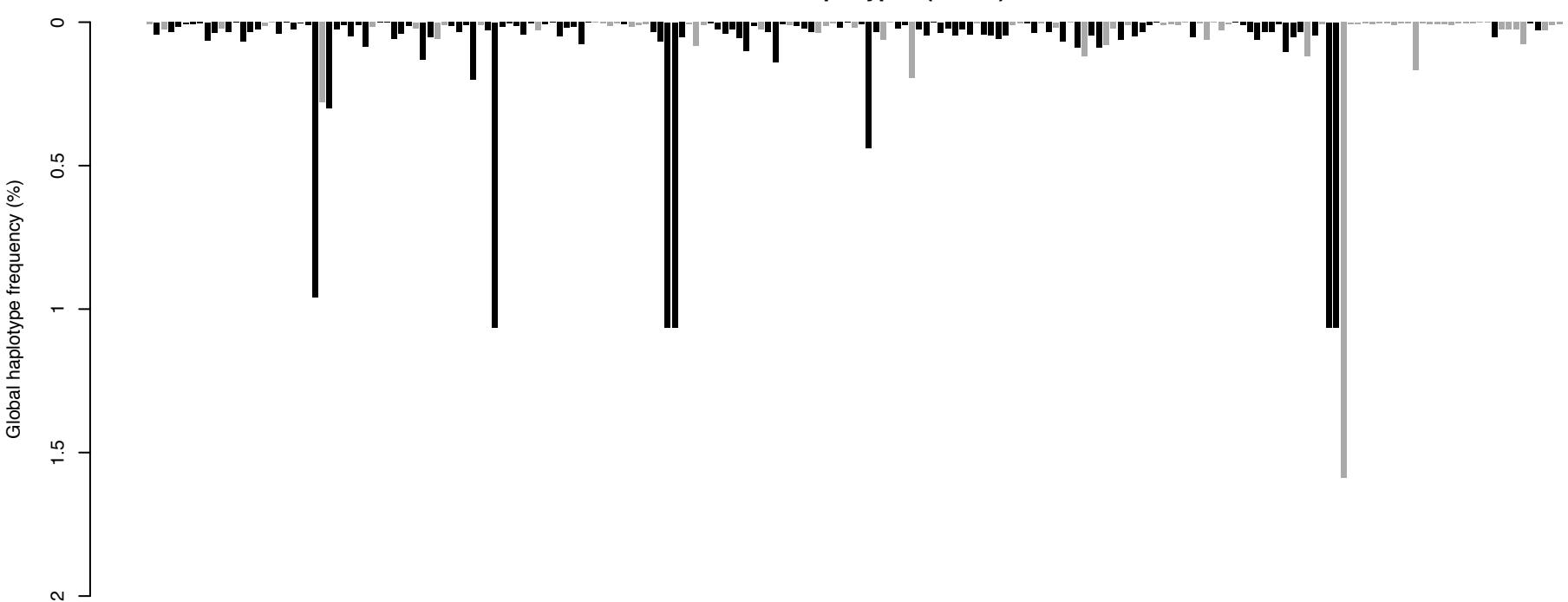
A*24:02 Haplotypes (n=884)



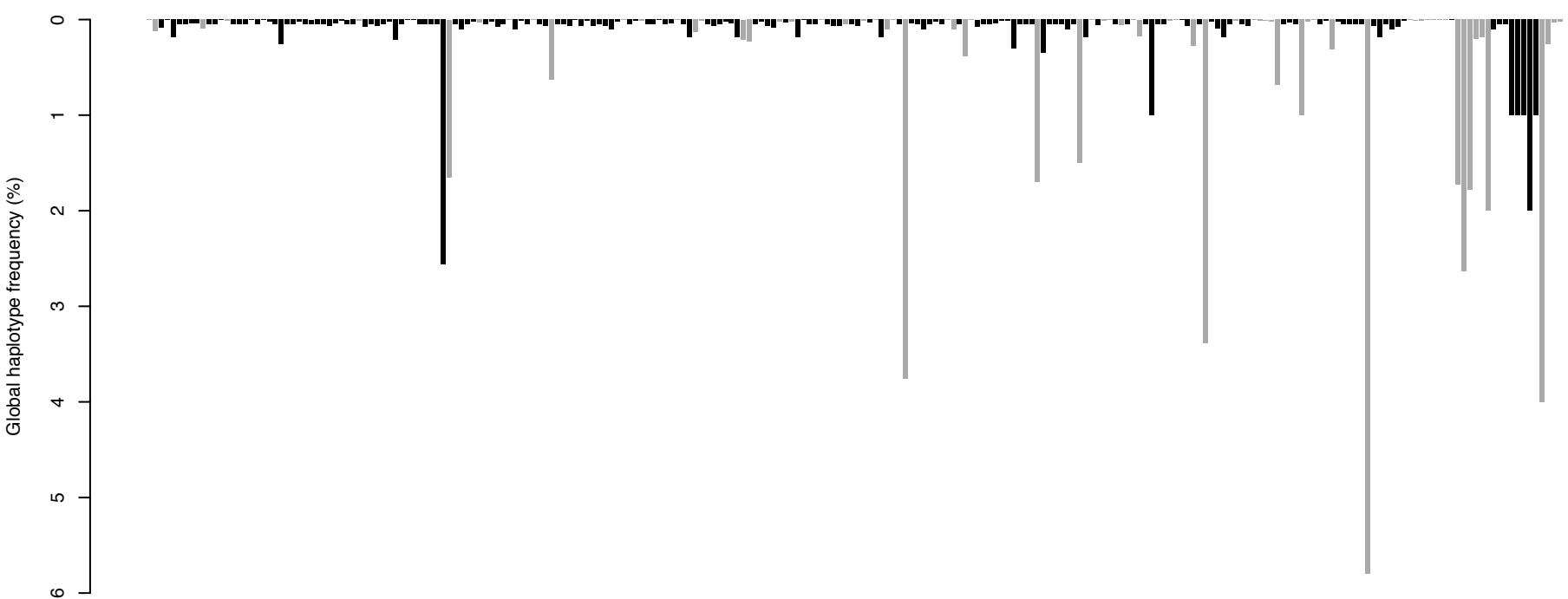
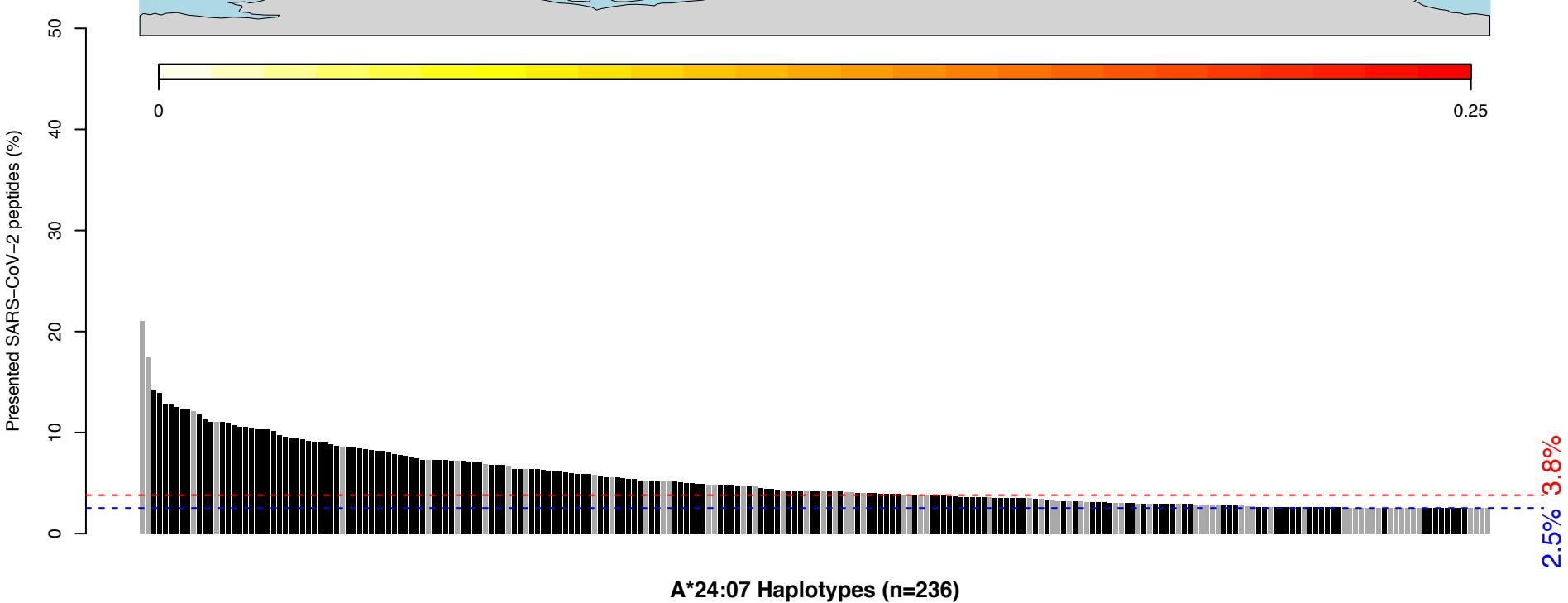
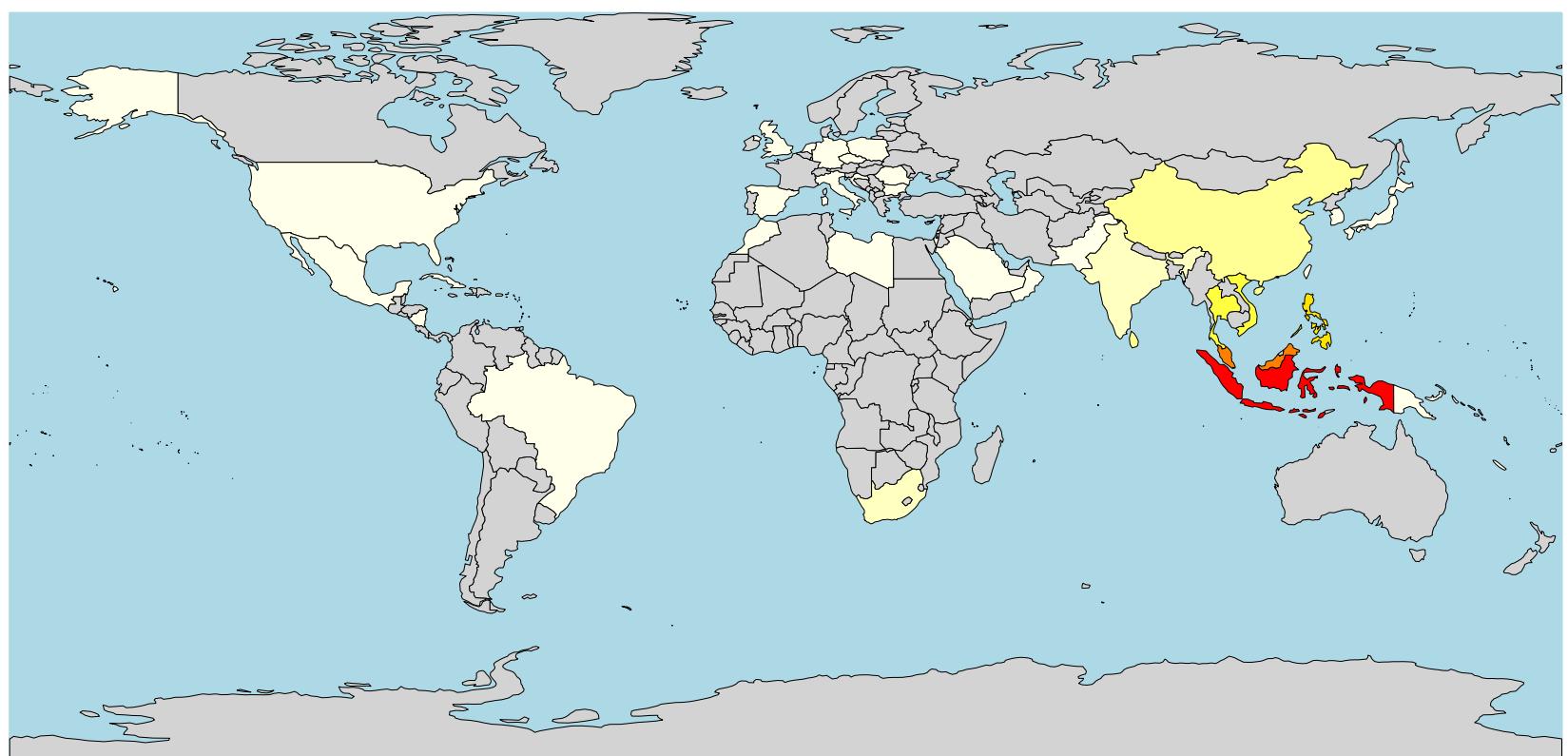
A*24:03
(~0.58% globally)



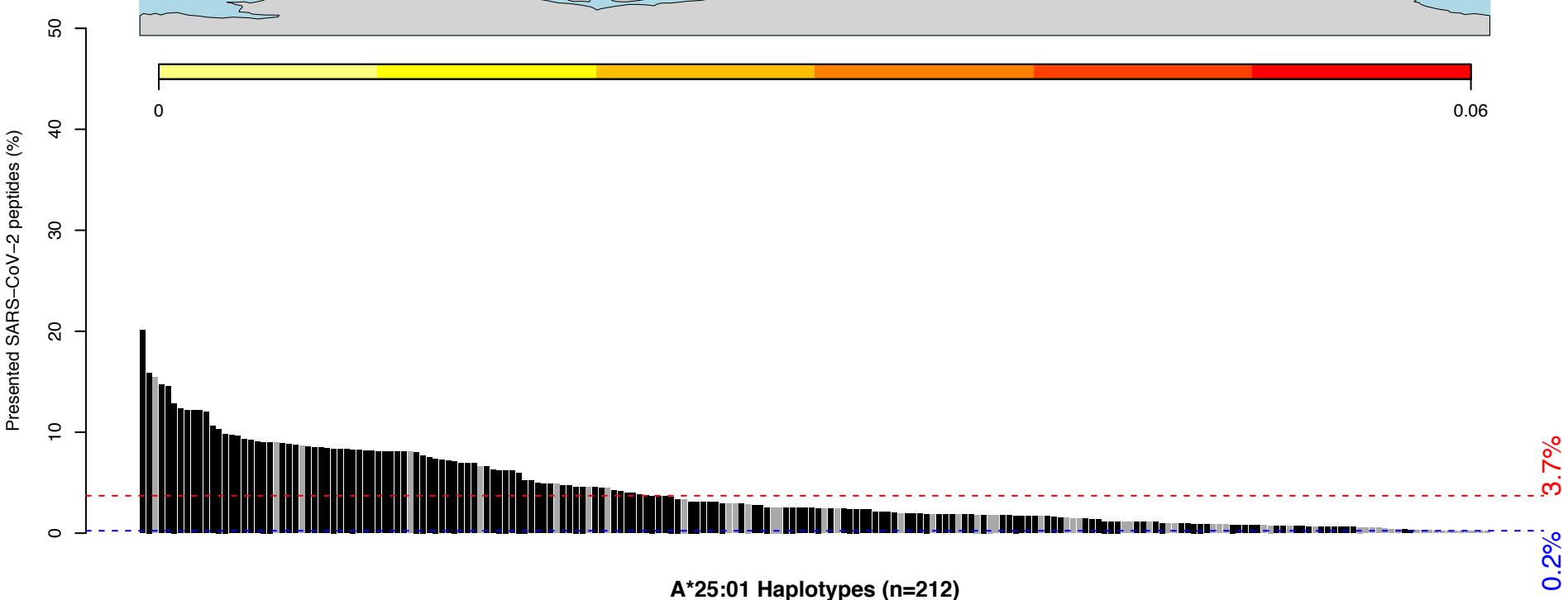
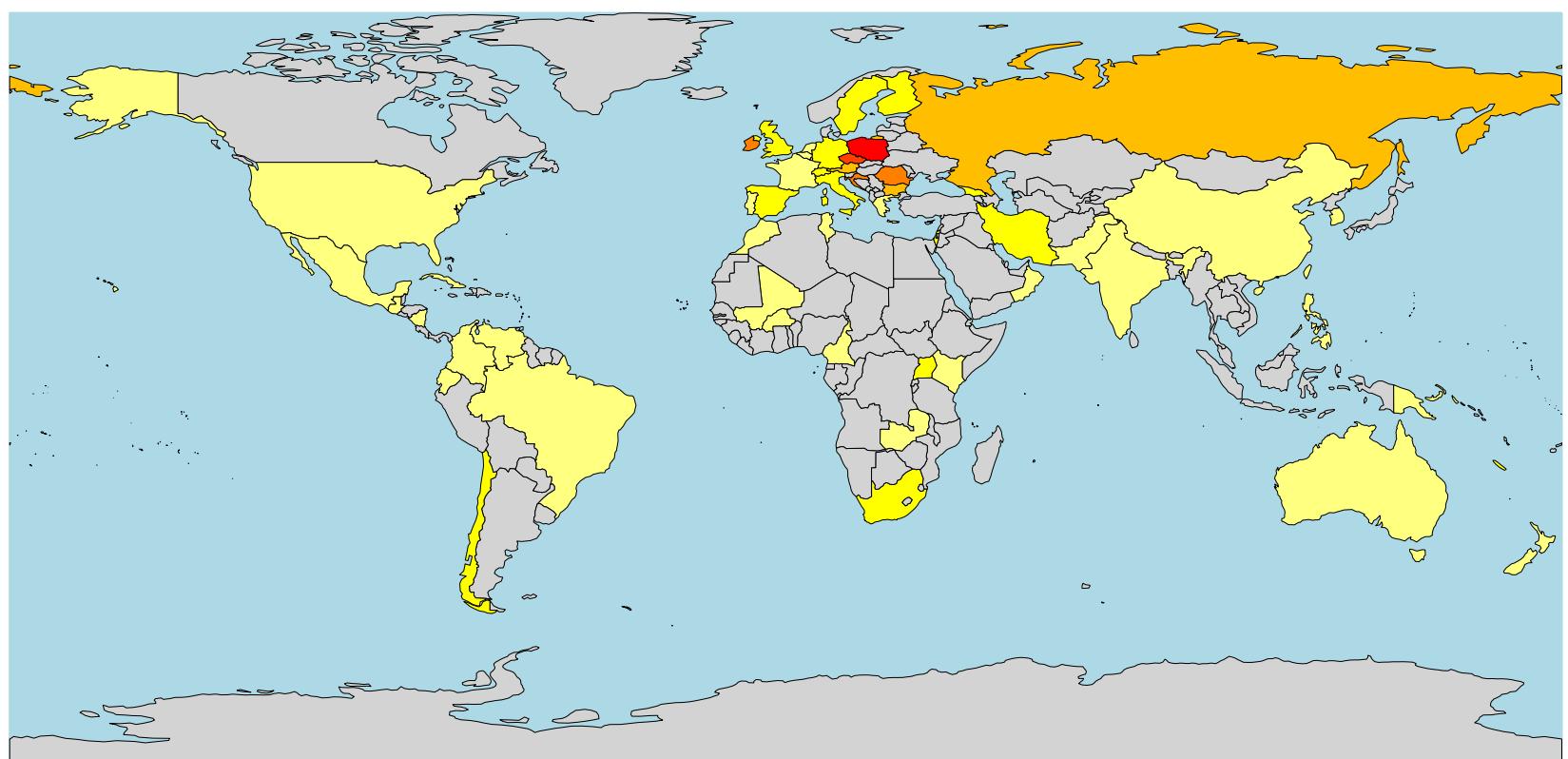
A*24:03 Haplotypes (n=197)



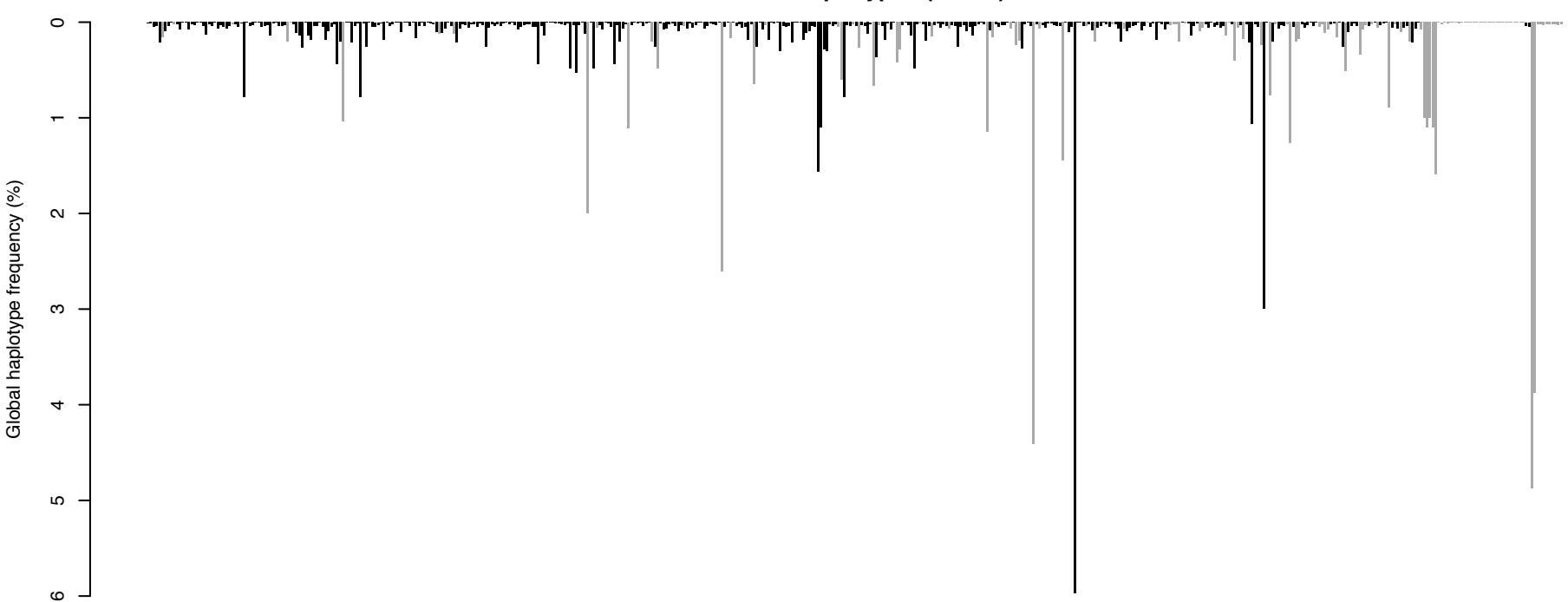
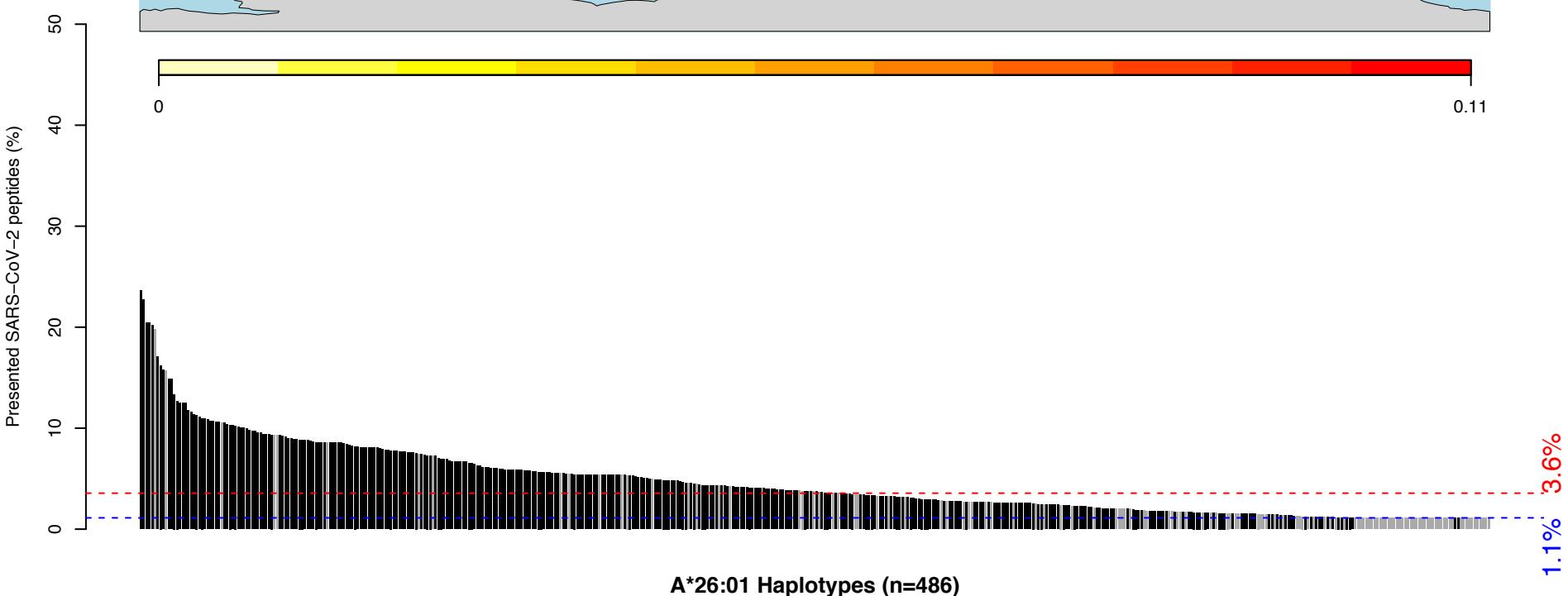
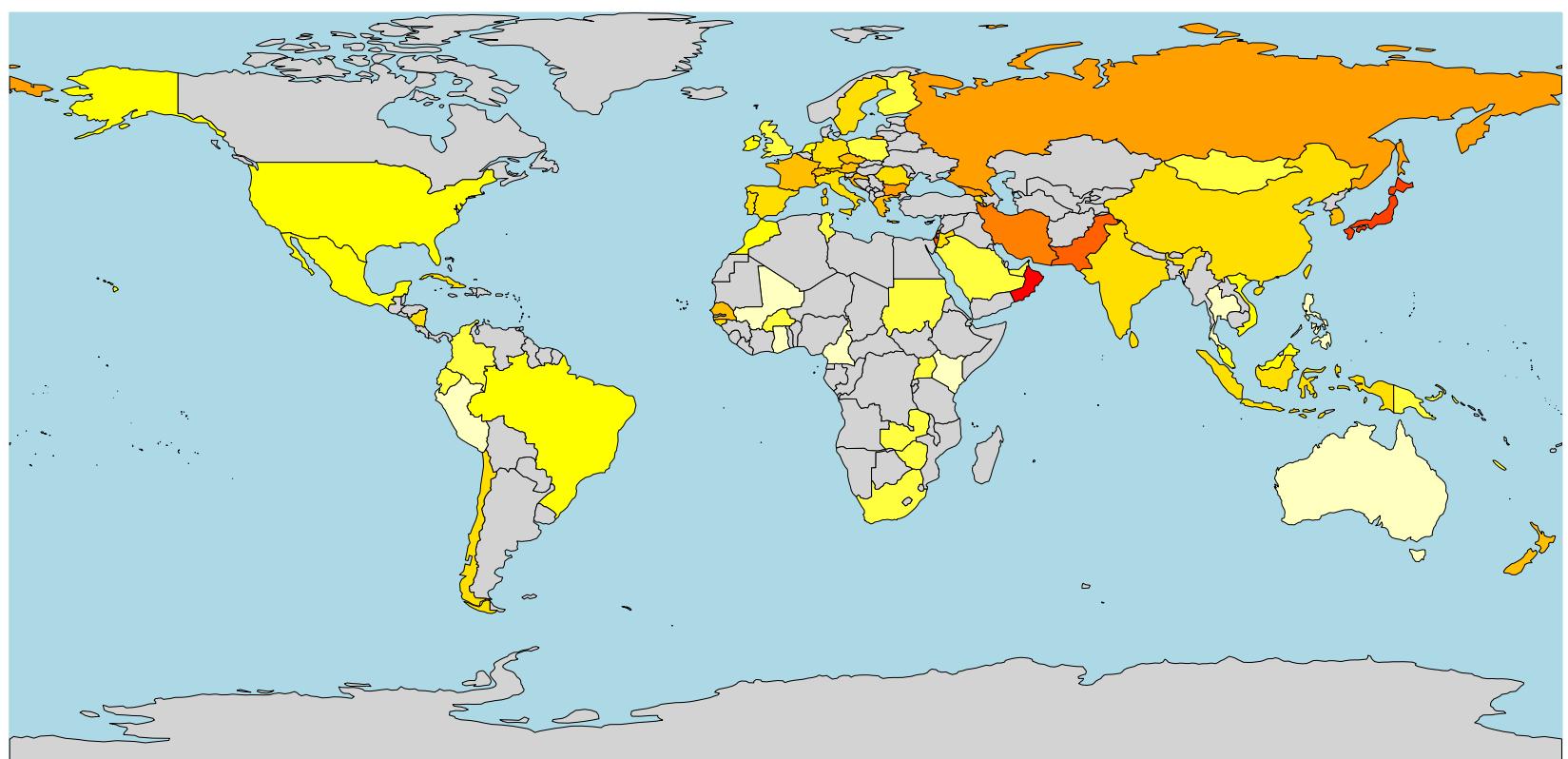
A*24:07
(~2.4% globally)



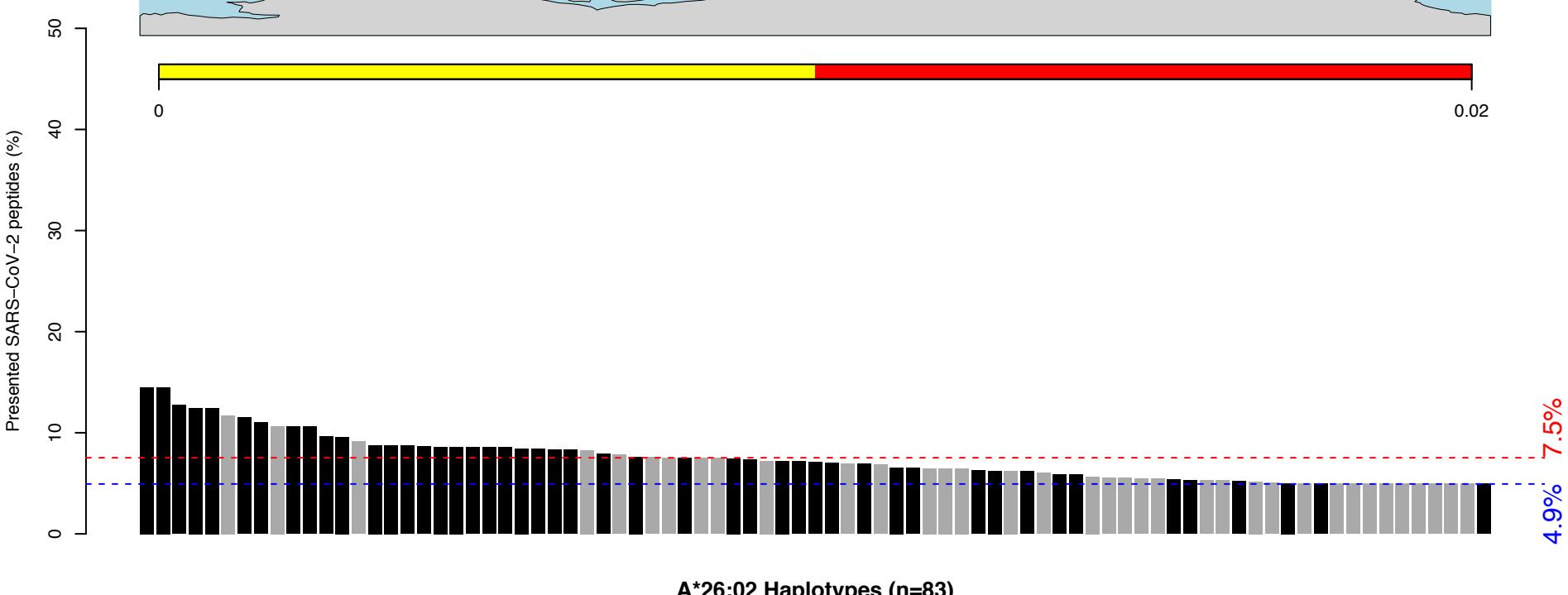
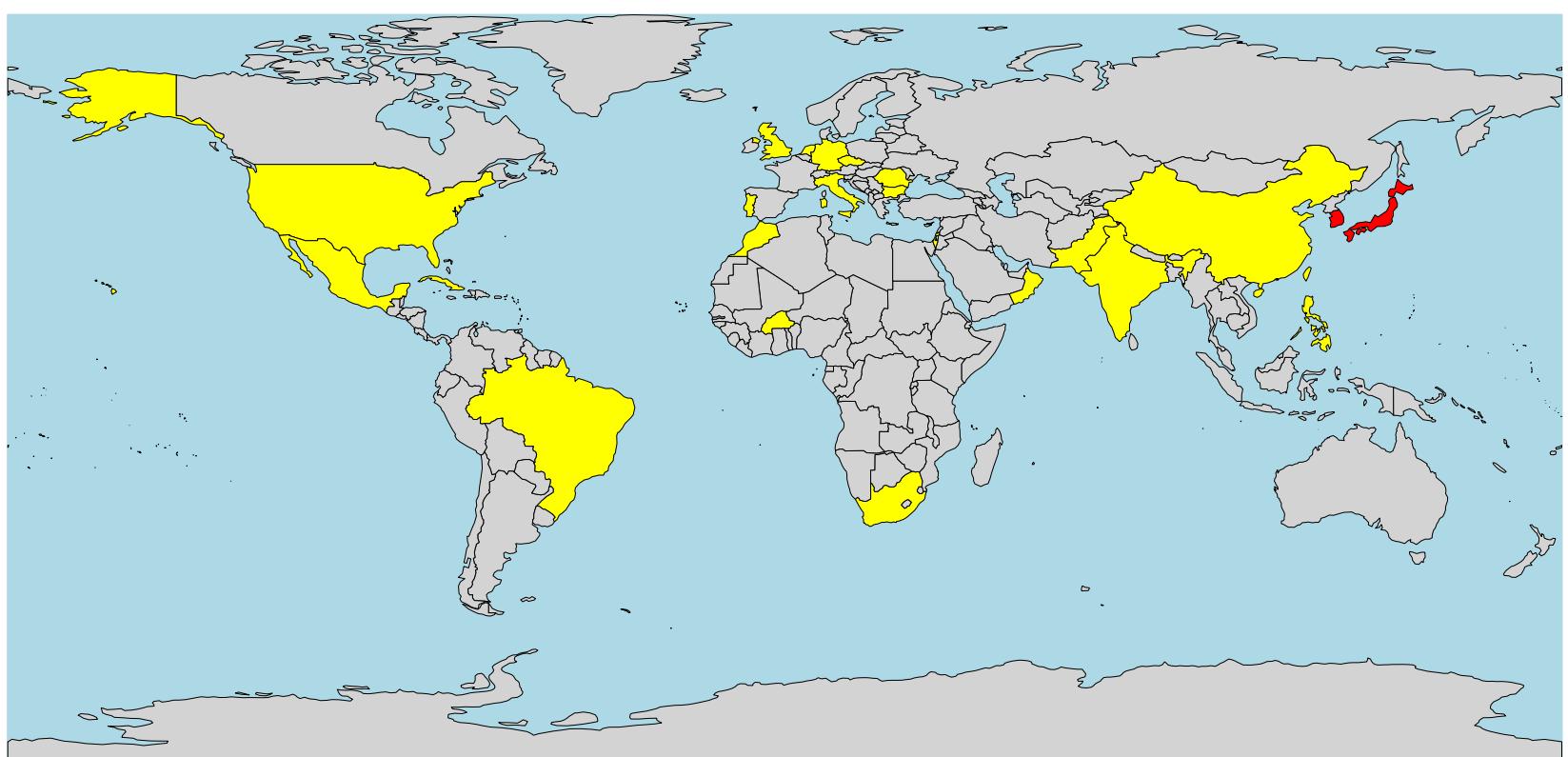
A*25:01
(~0.49% globally)



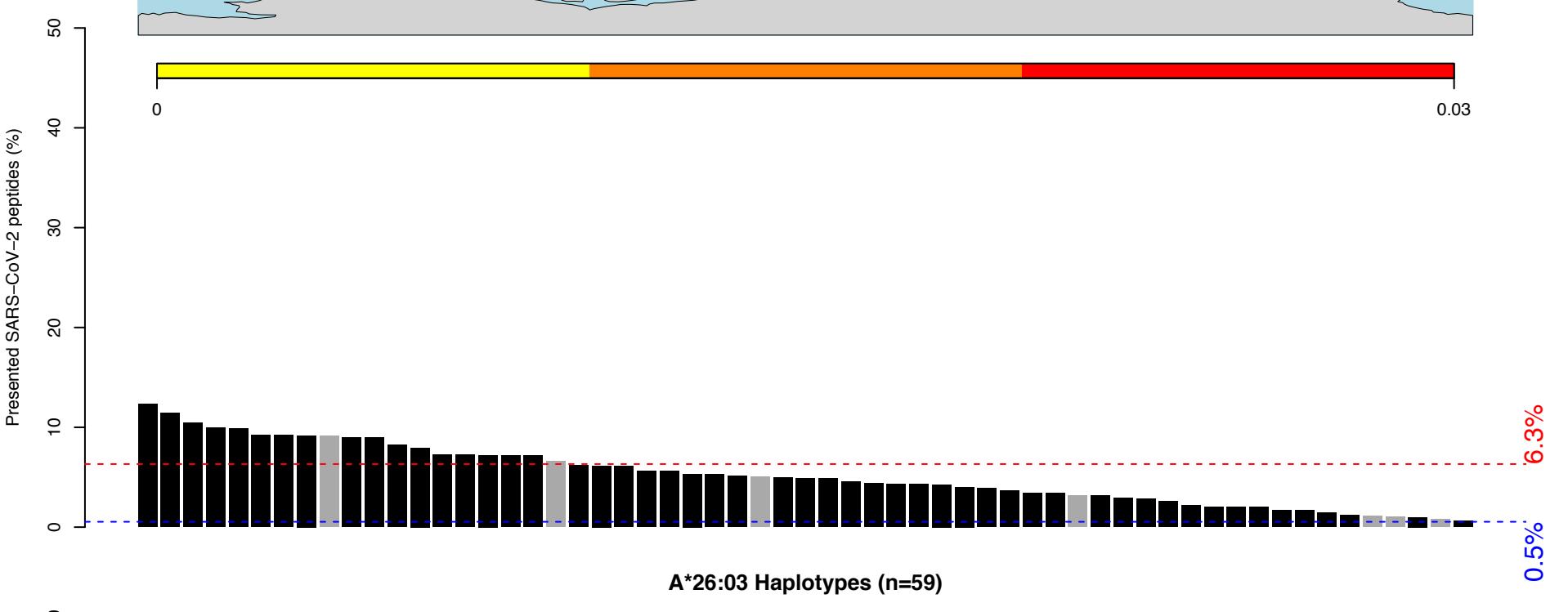
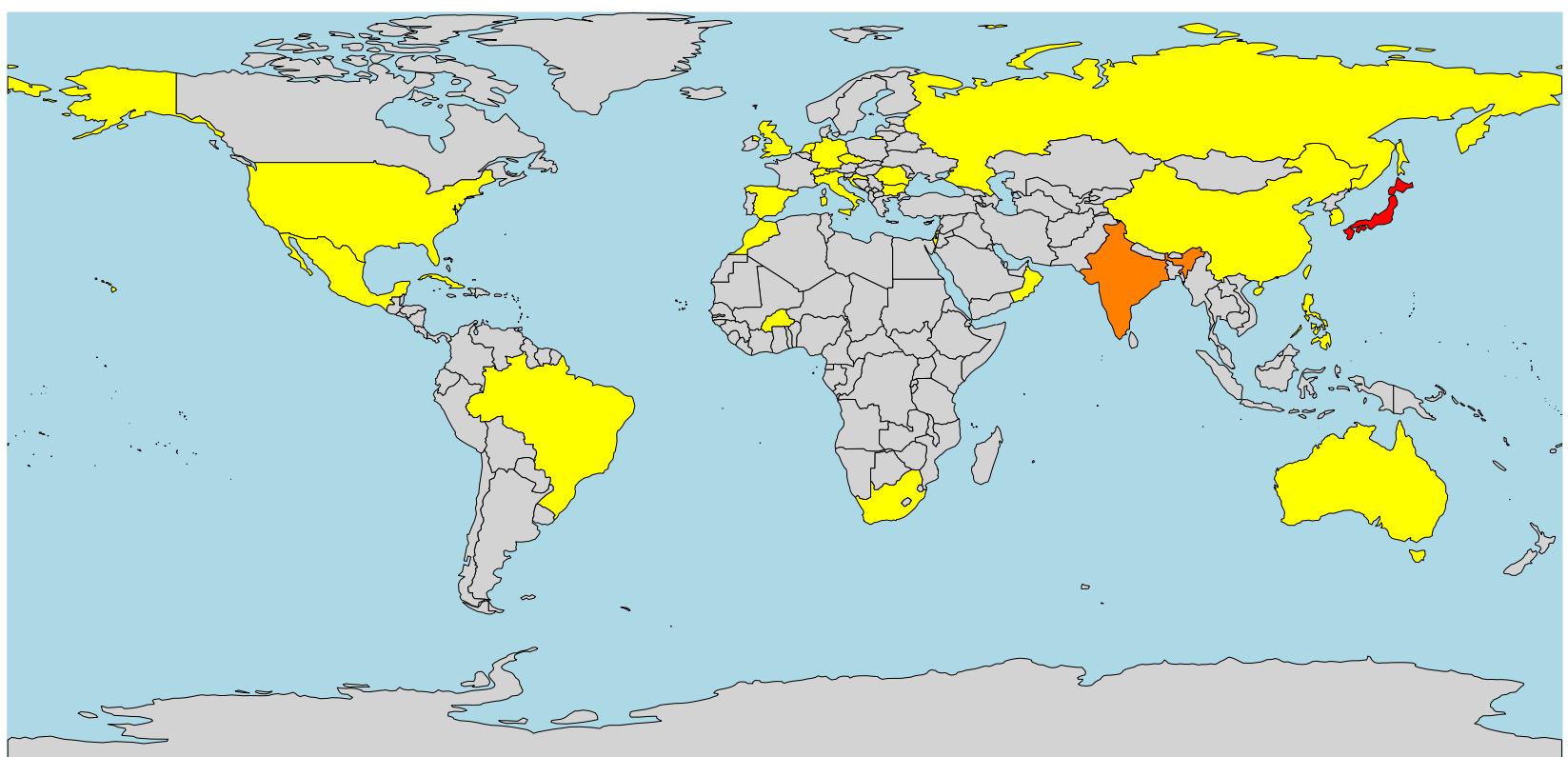
A*26:01
(~3.2% globally)



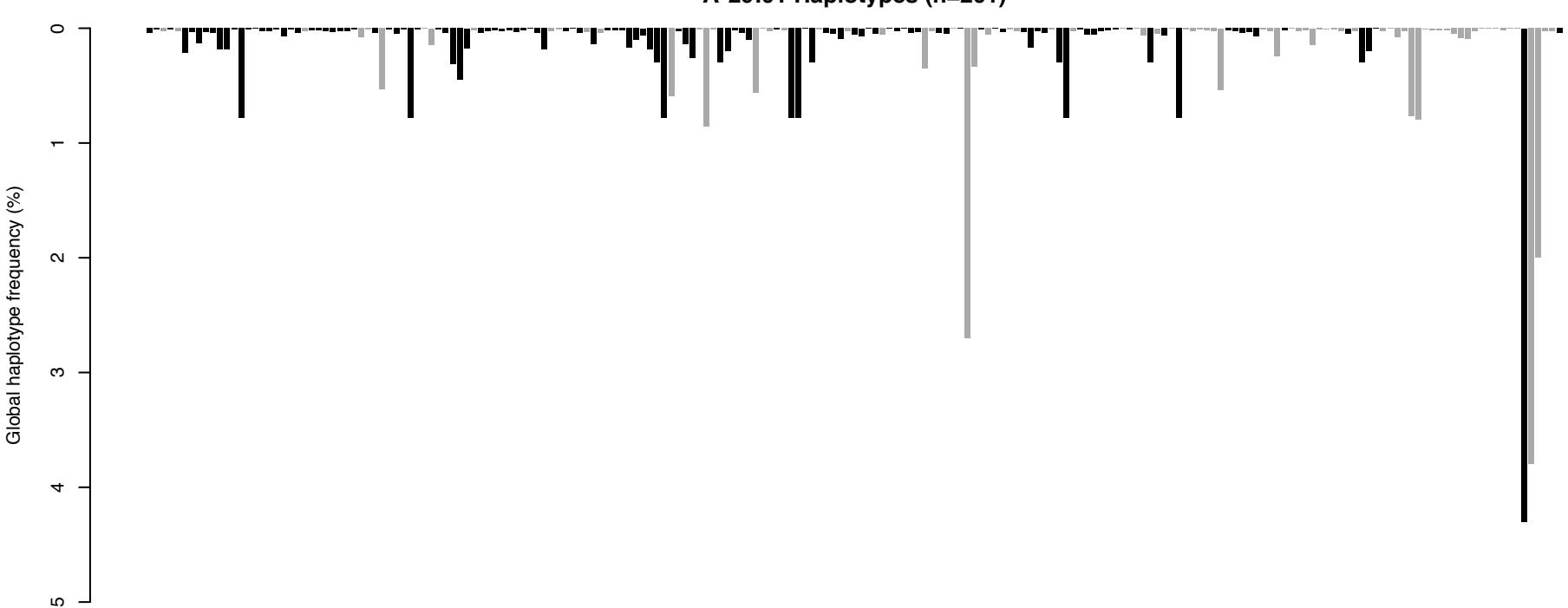
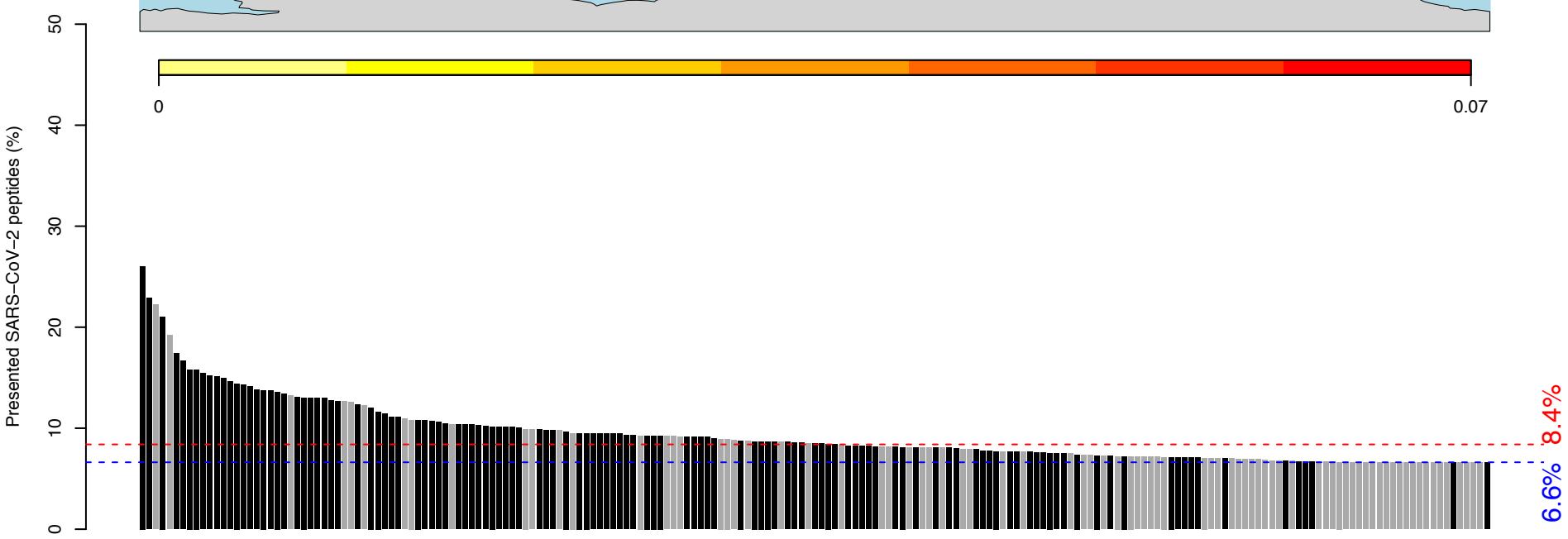
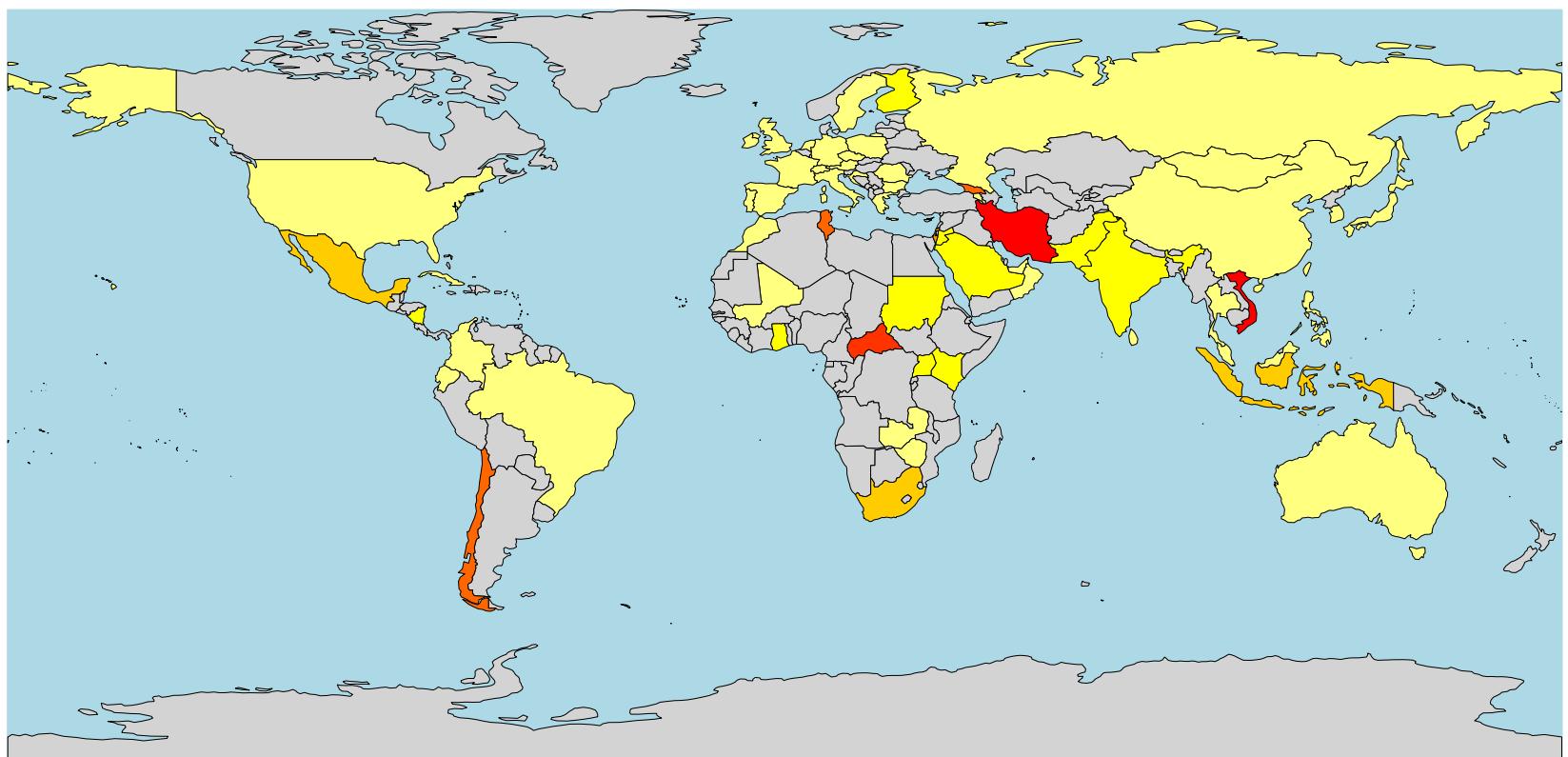
A*26:02
(~0.13% globally)



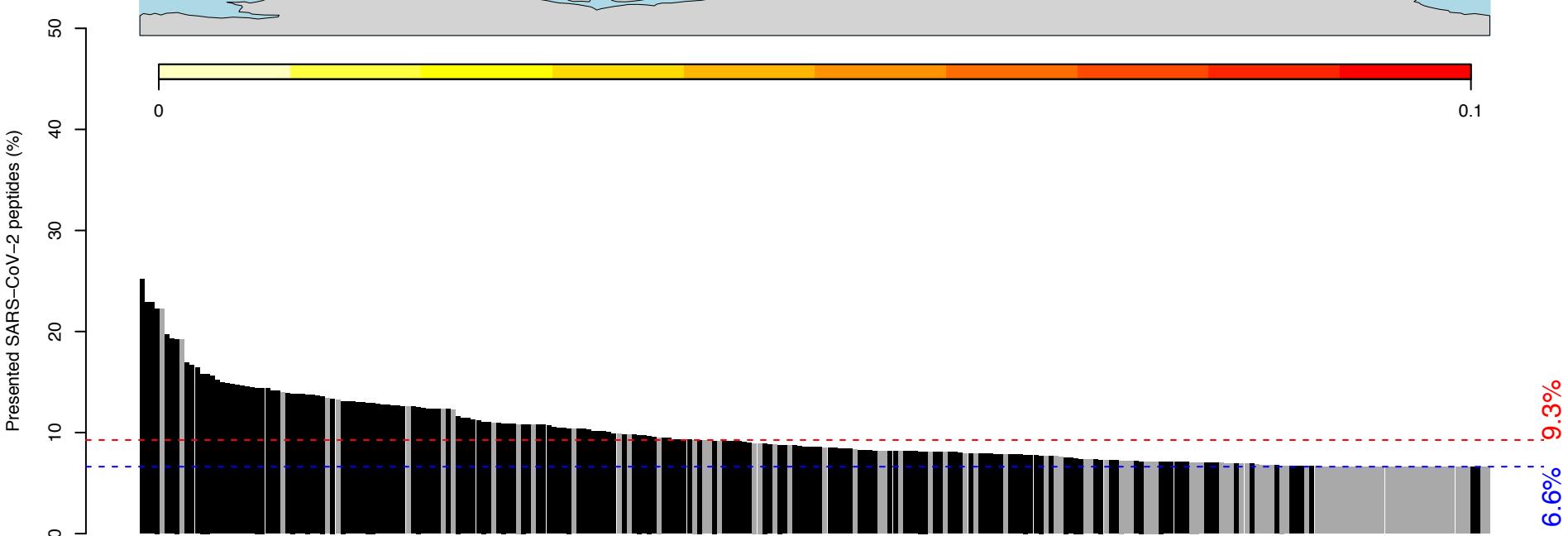
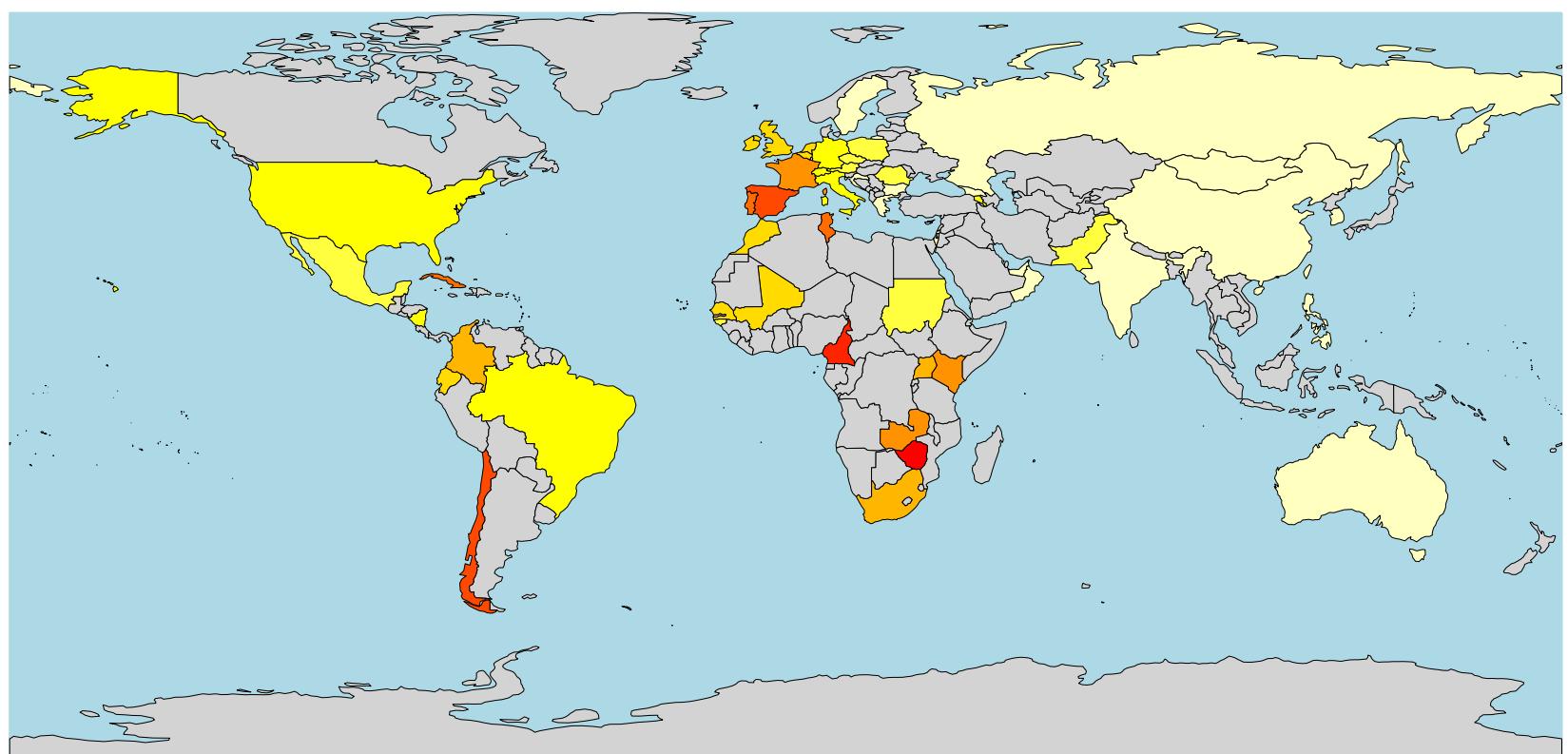
A*26:03
(~0.51% globally)



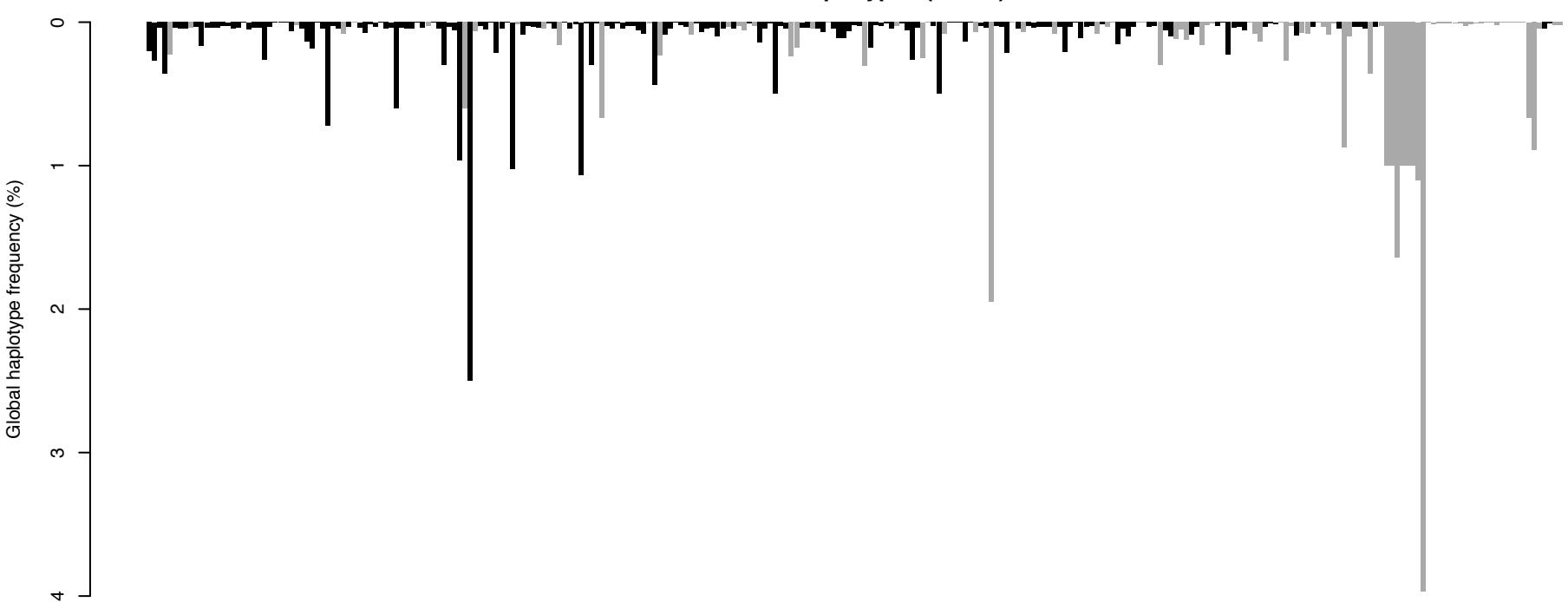
A*29:01
(~1.1% globally)



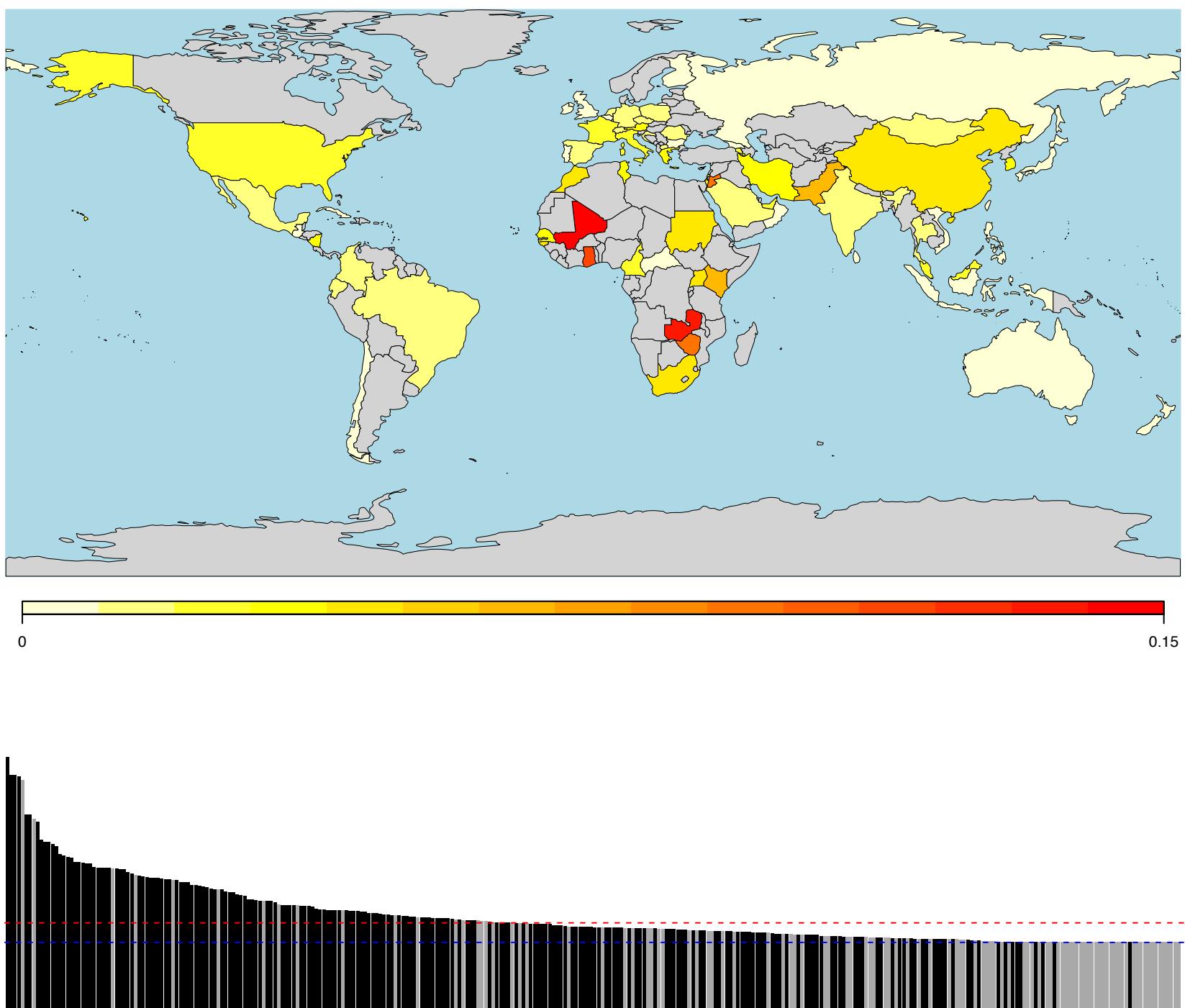
A*29:02
(~0.9% globally)



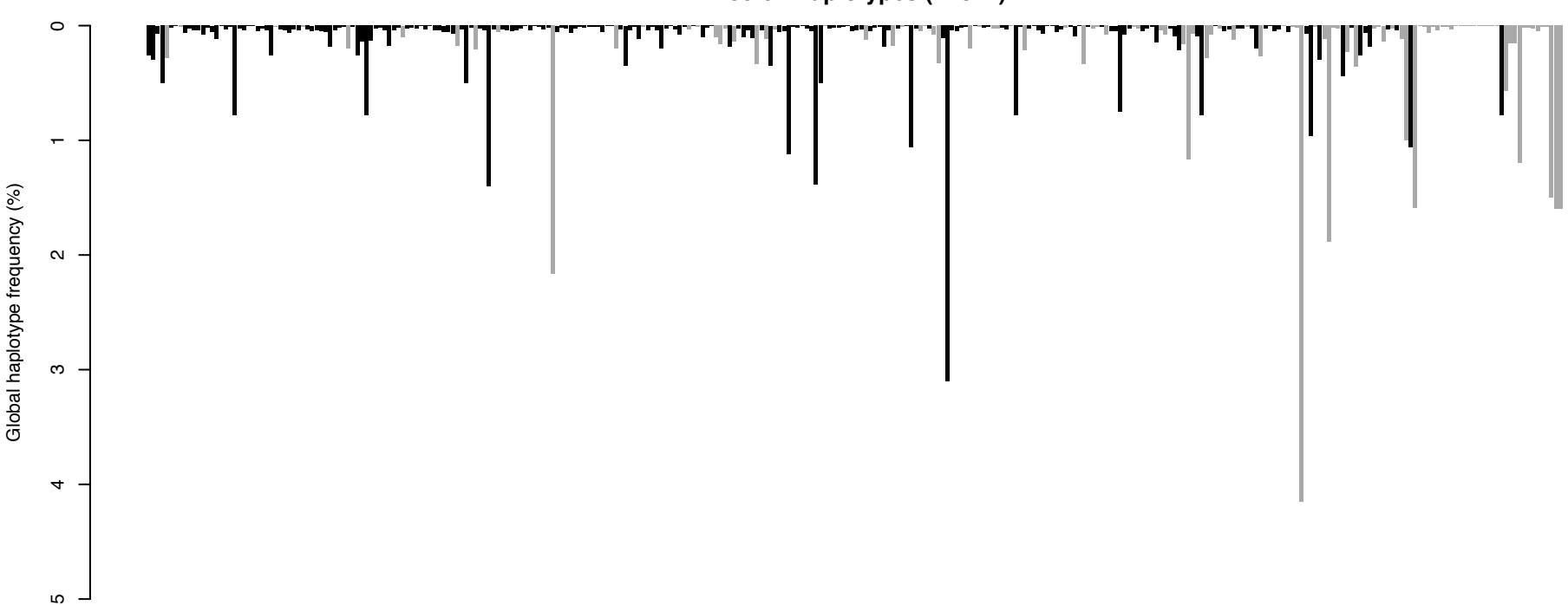
A*29:02 Haplotypes (n=269)



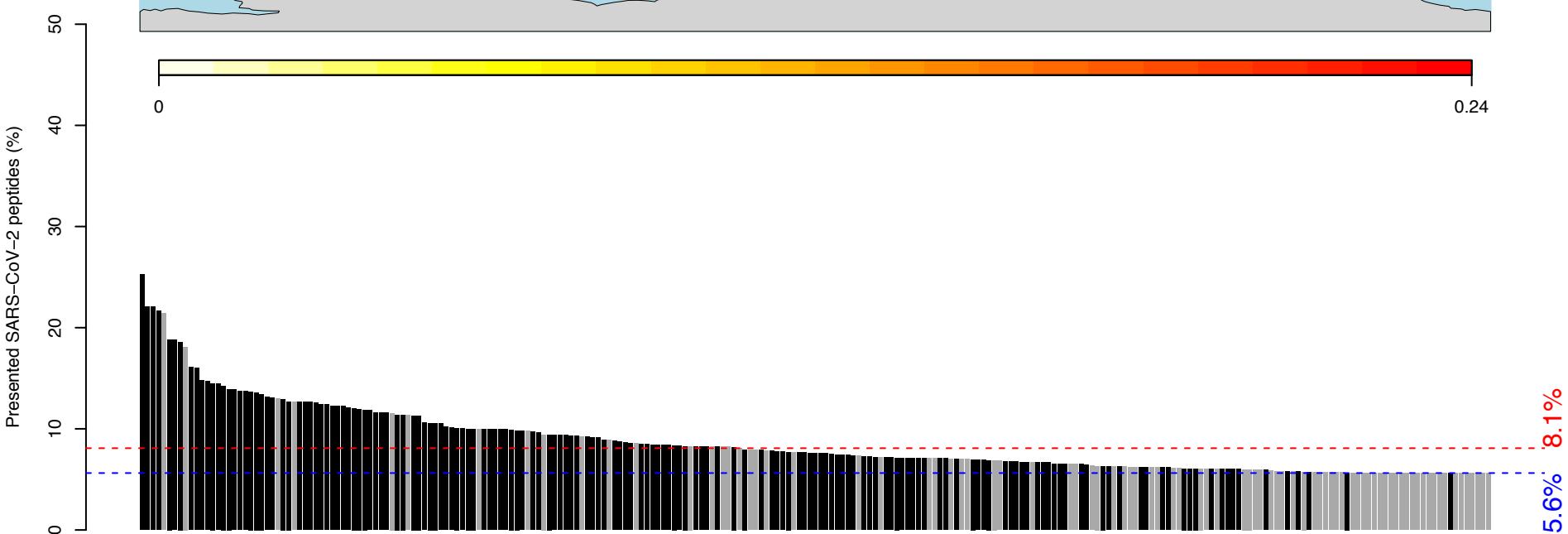
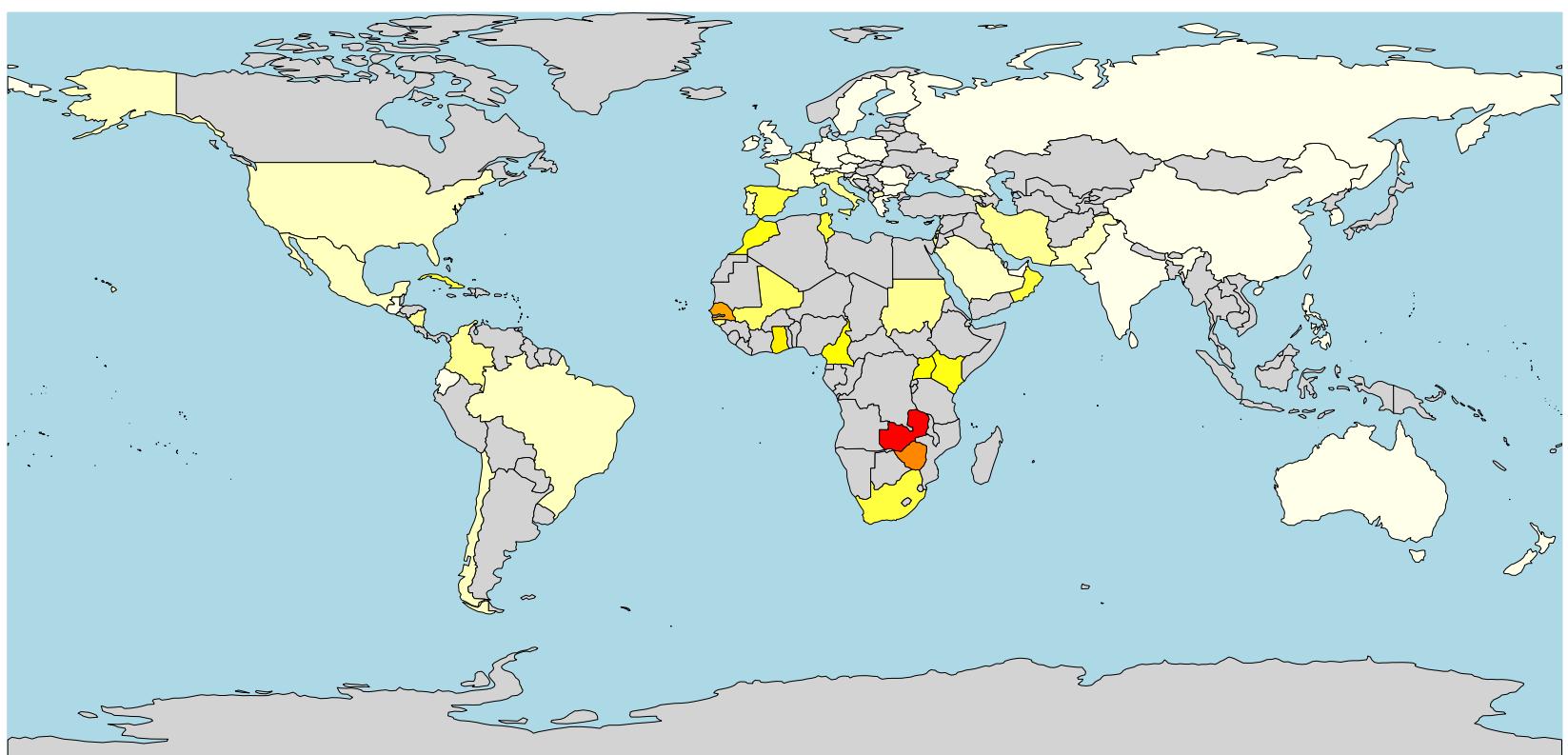
A*30:01
(~2.2% globally)



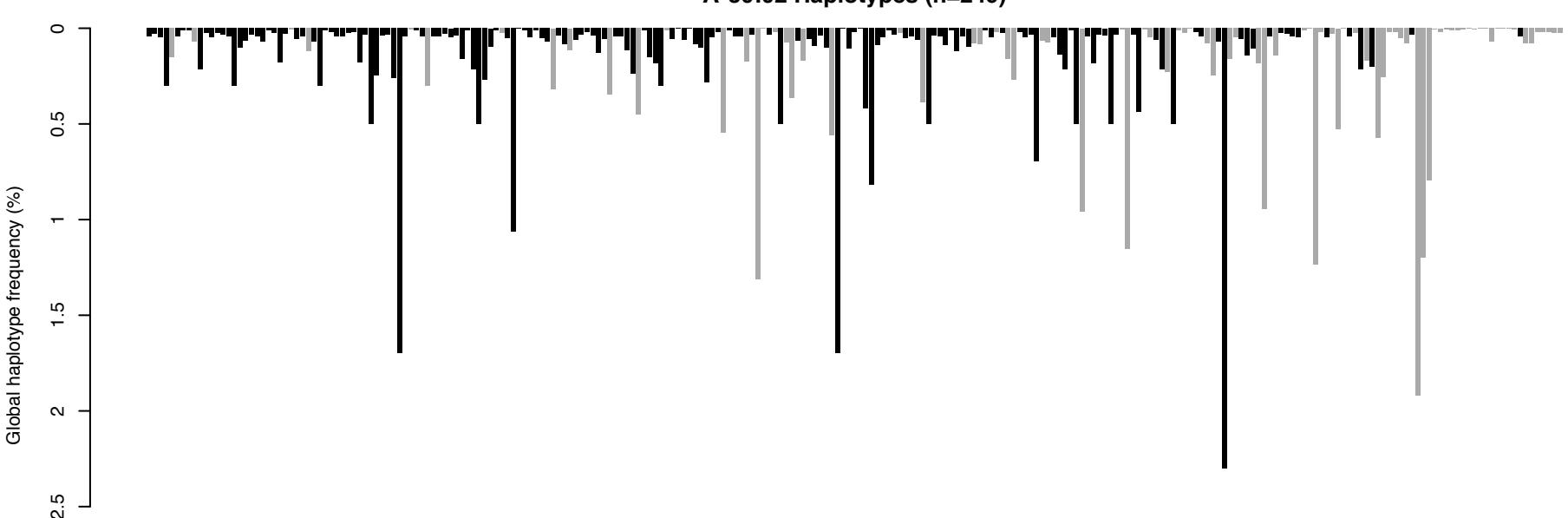
A*30:01 Haplotypes (n=312)



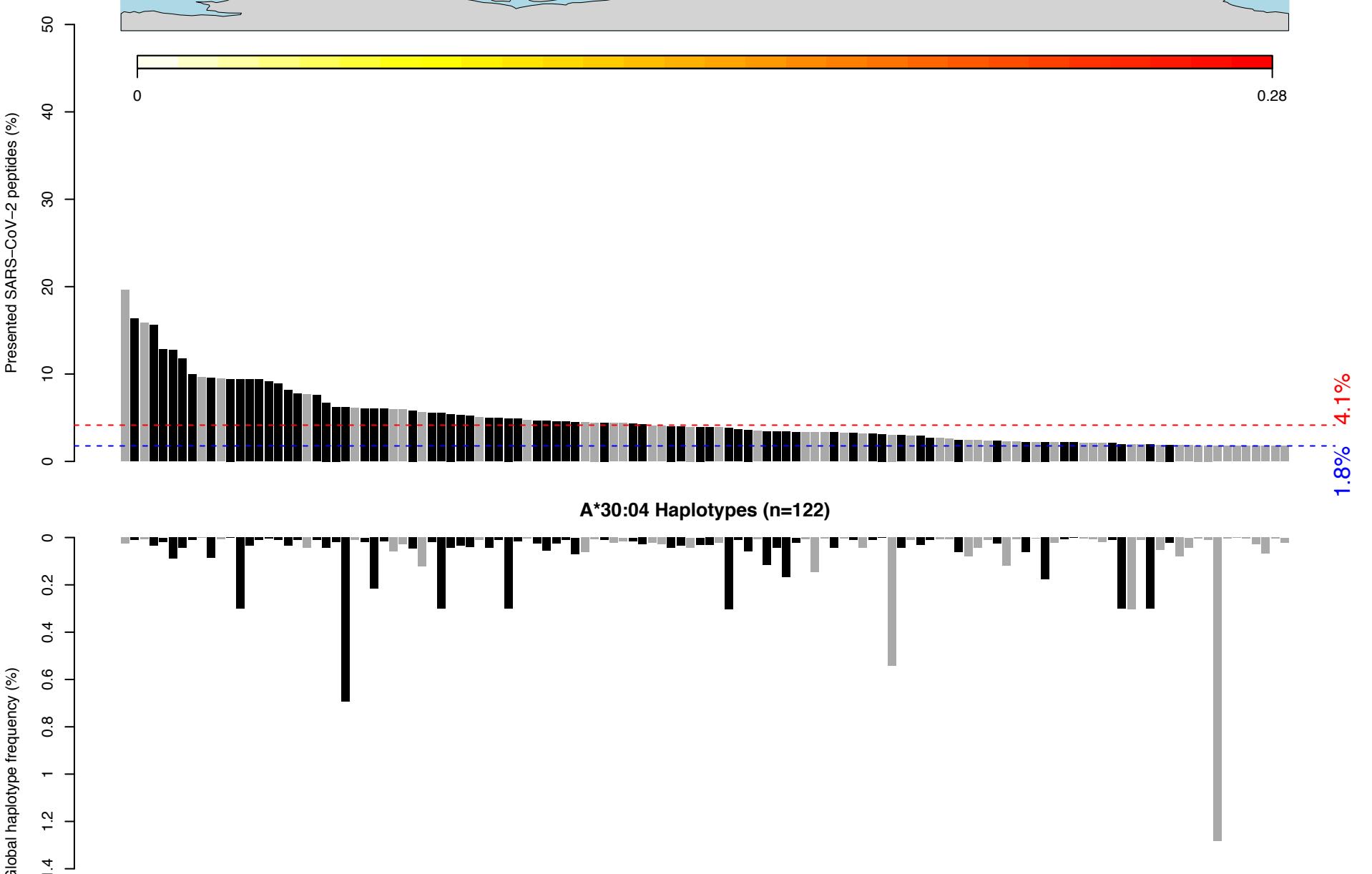
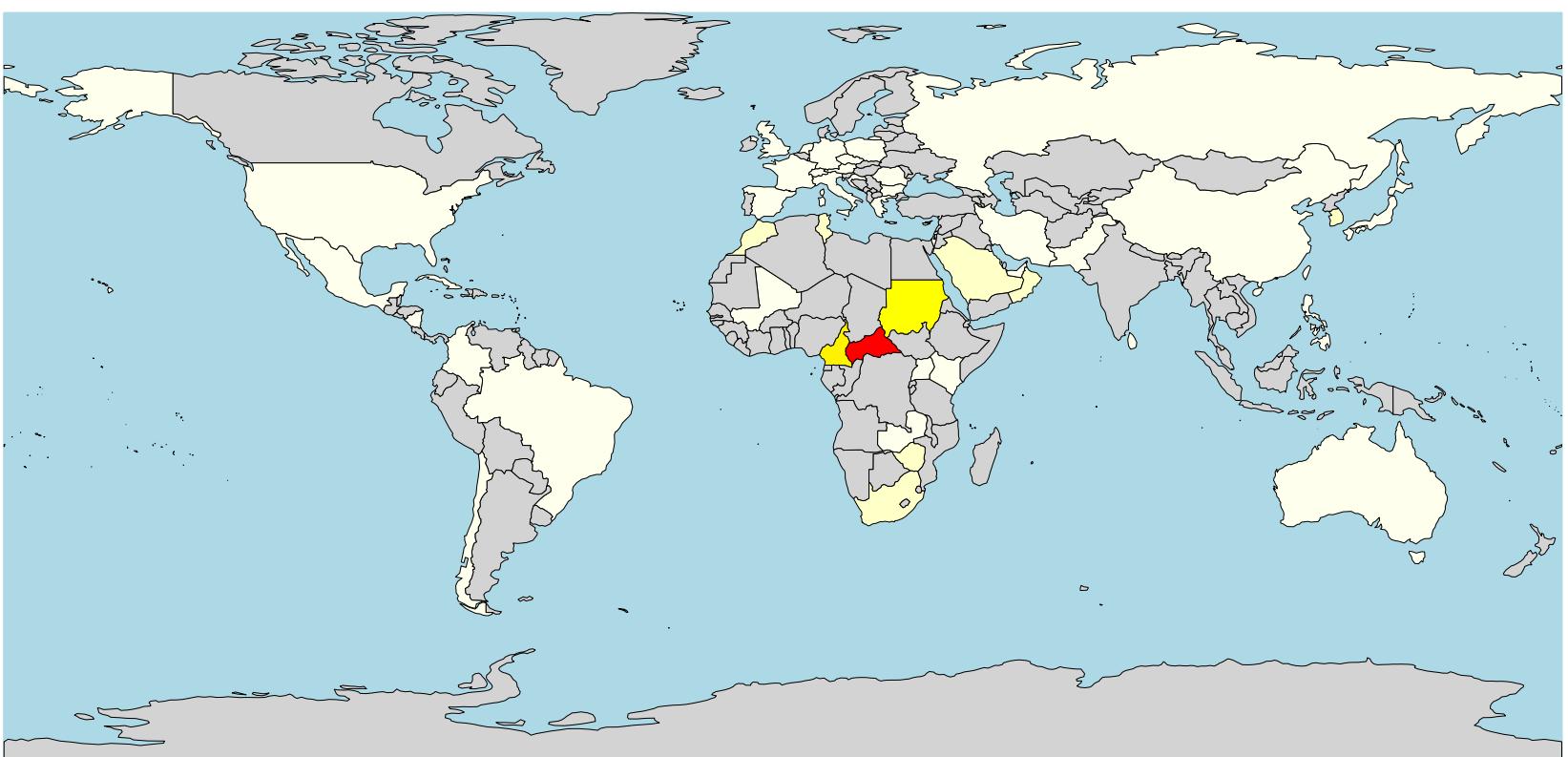
A*30:02
(~0.78% globally)



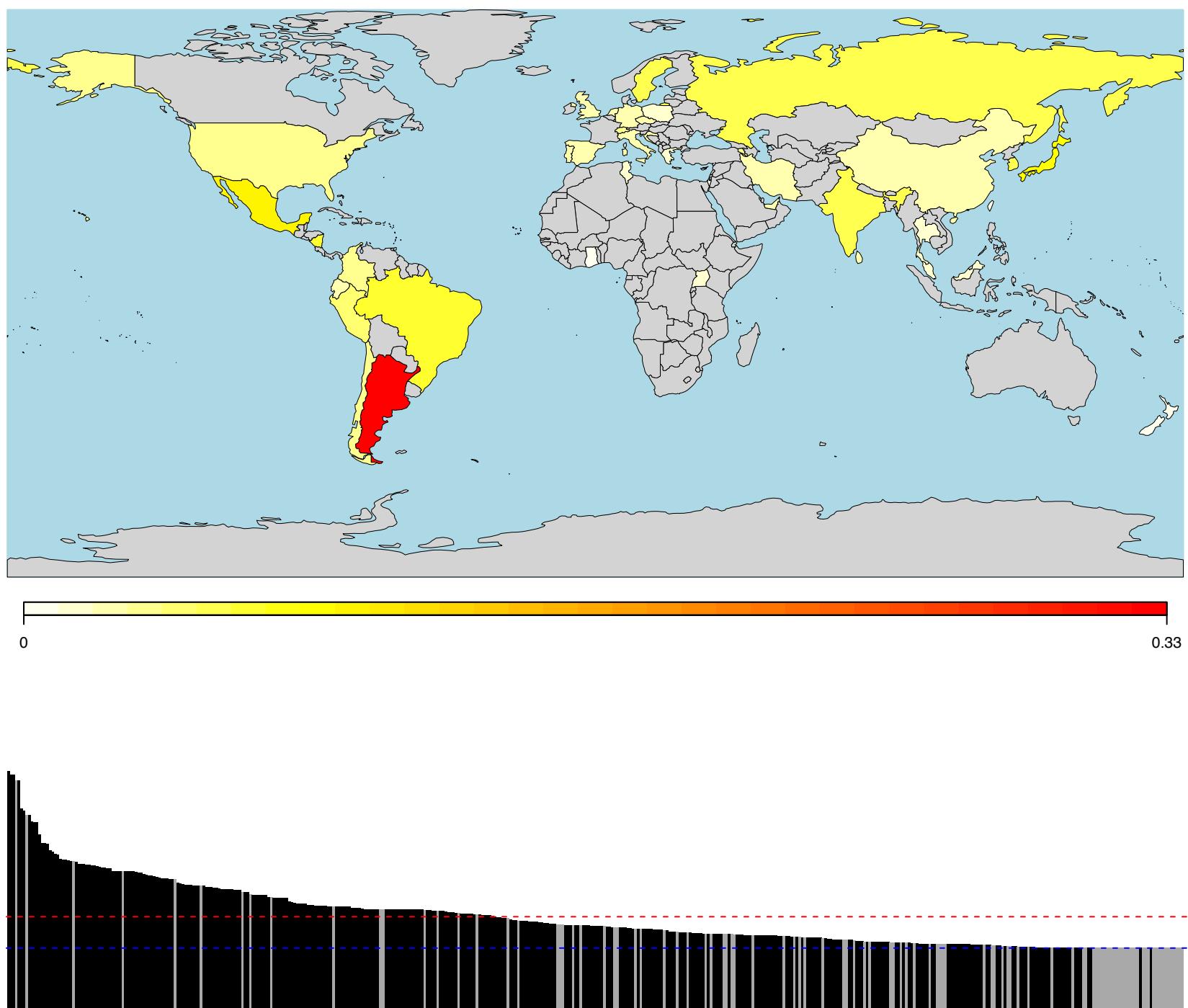
A*30:02 Haplotypes (n=249)



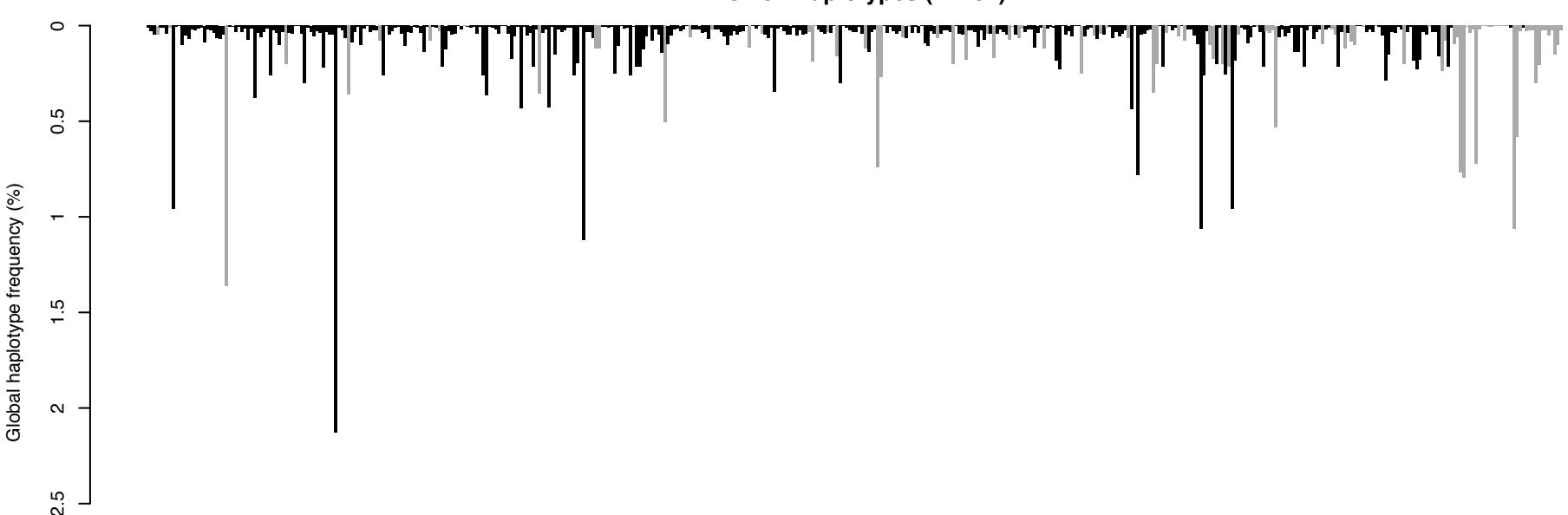
A*30:04
(~0.38% globally)



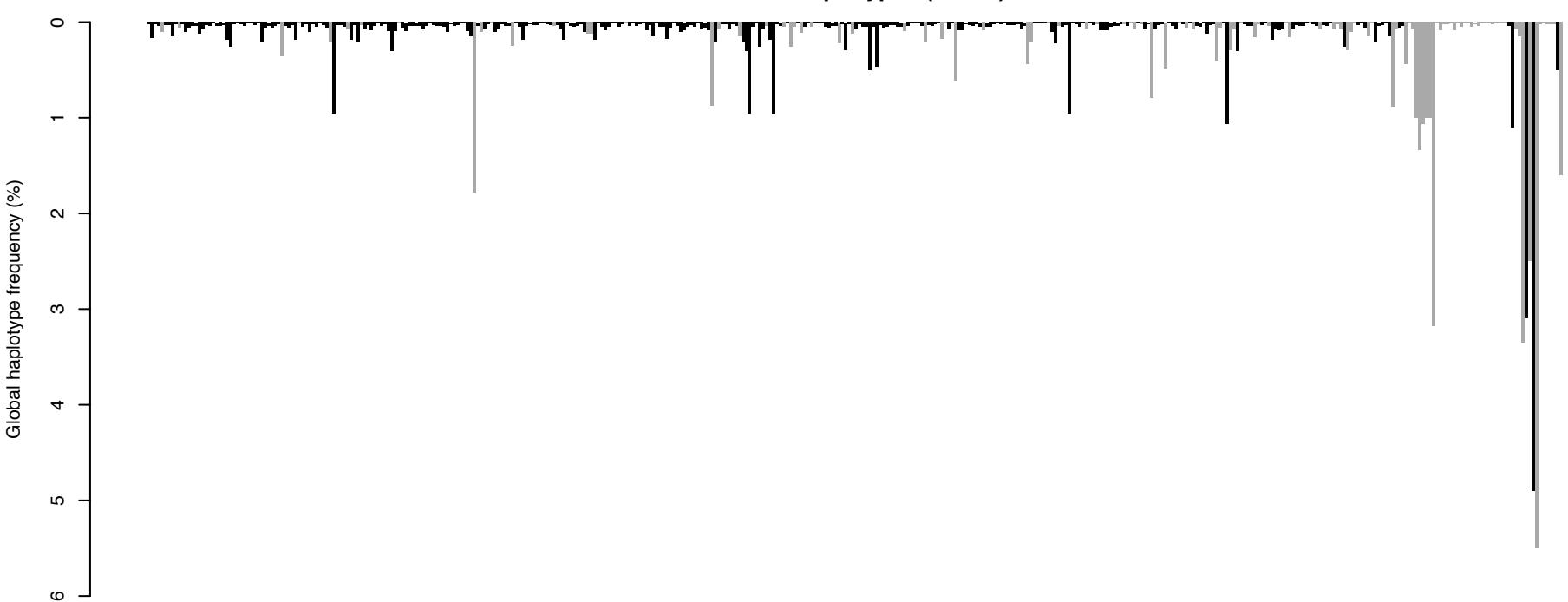
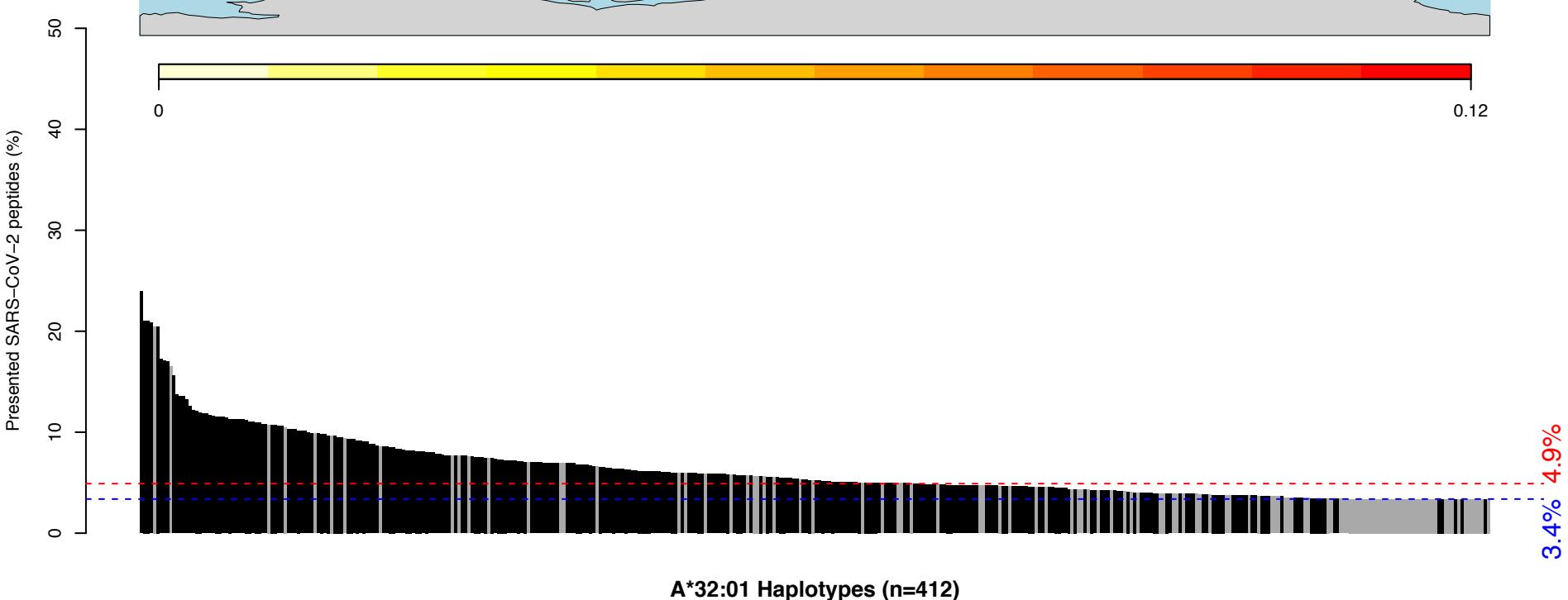
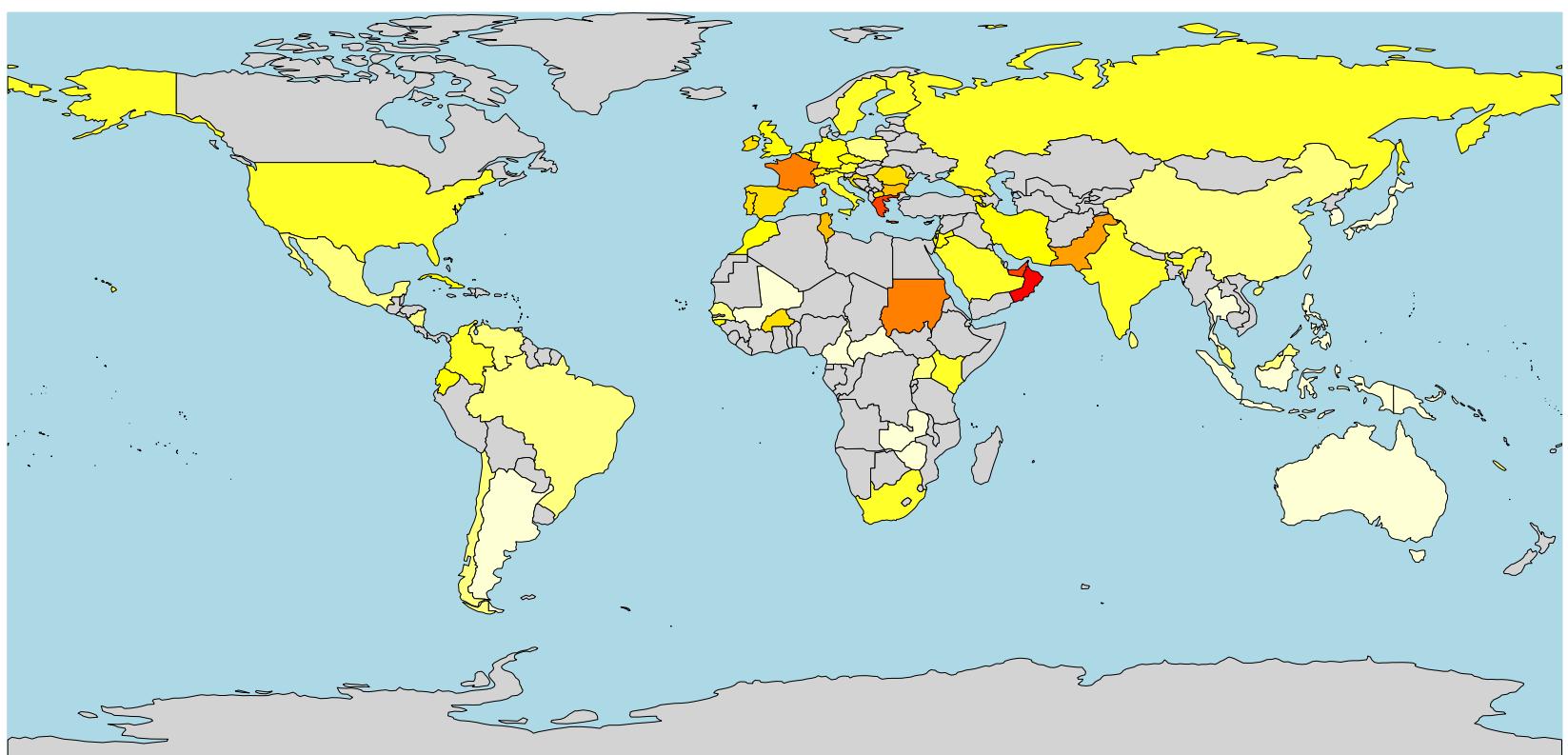
A*31:01
(~4.3% globally)



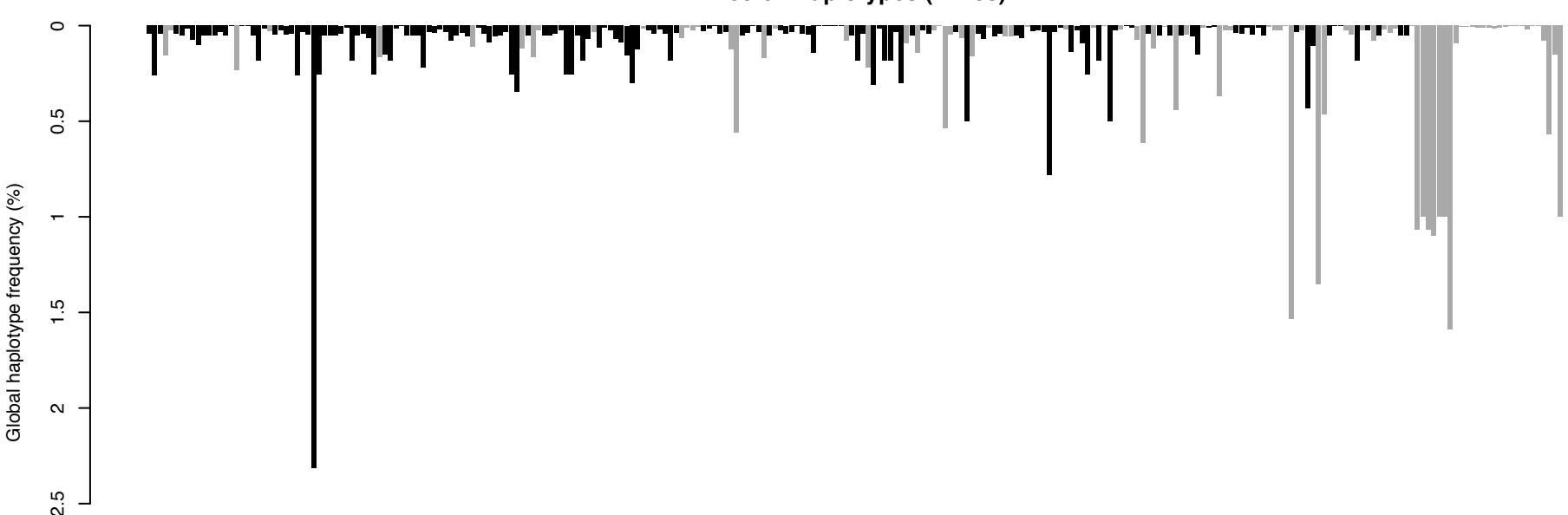
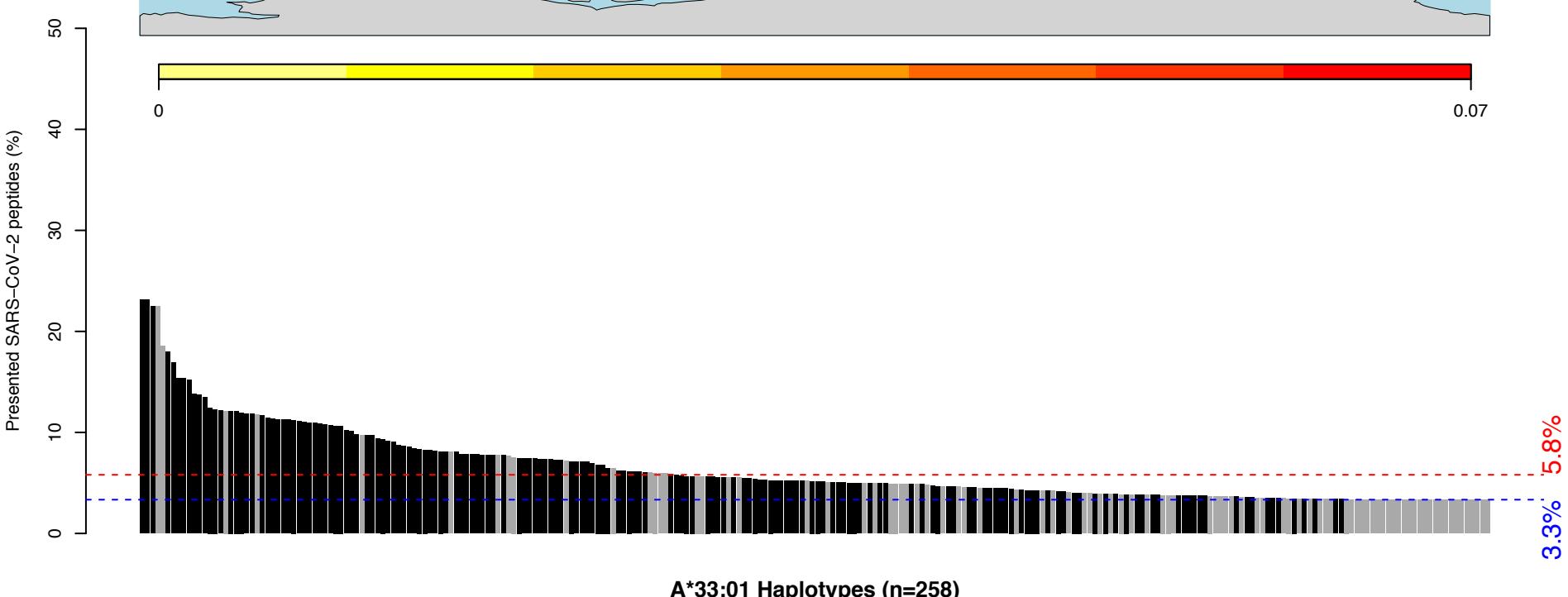
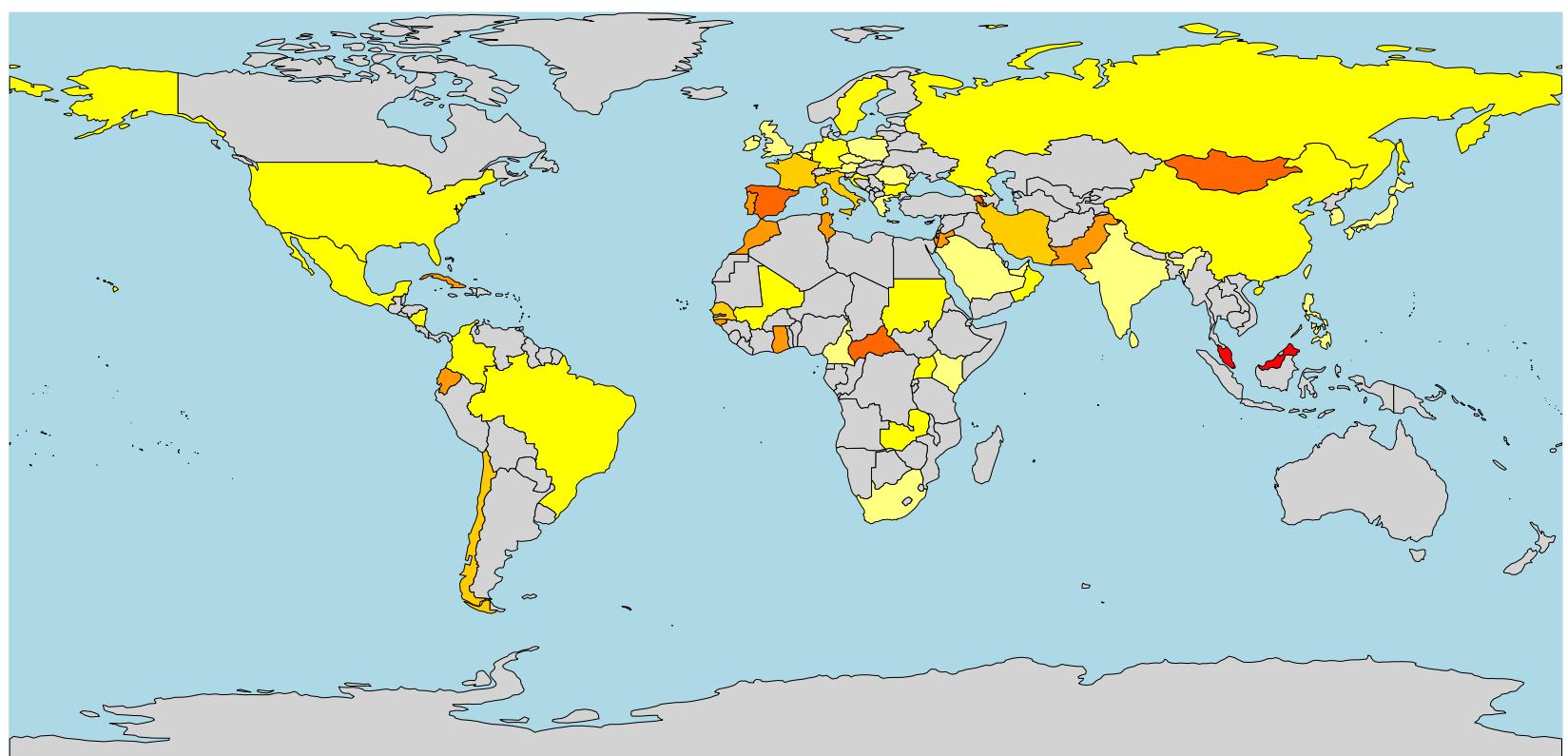
A*31:01 Haplotypes (n=452)



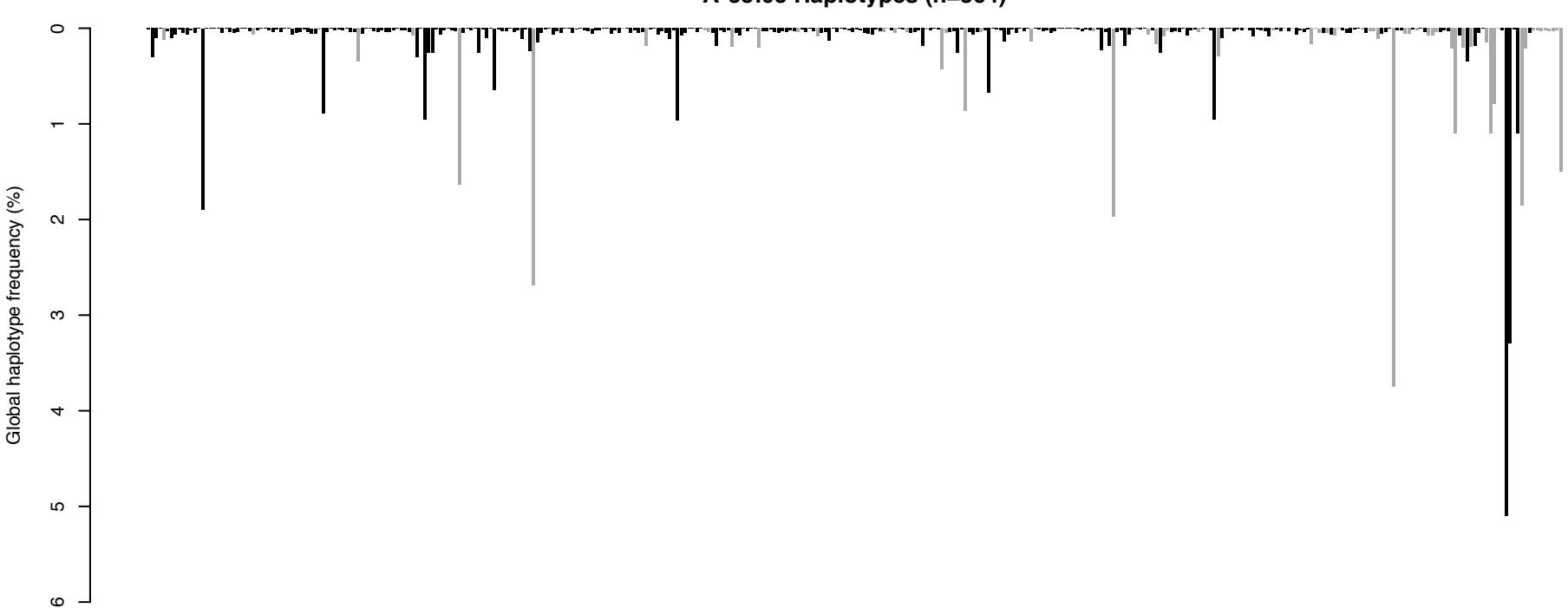
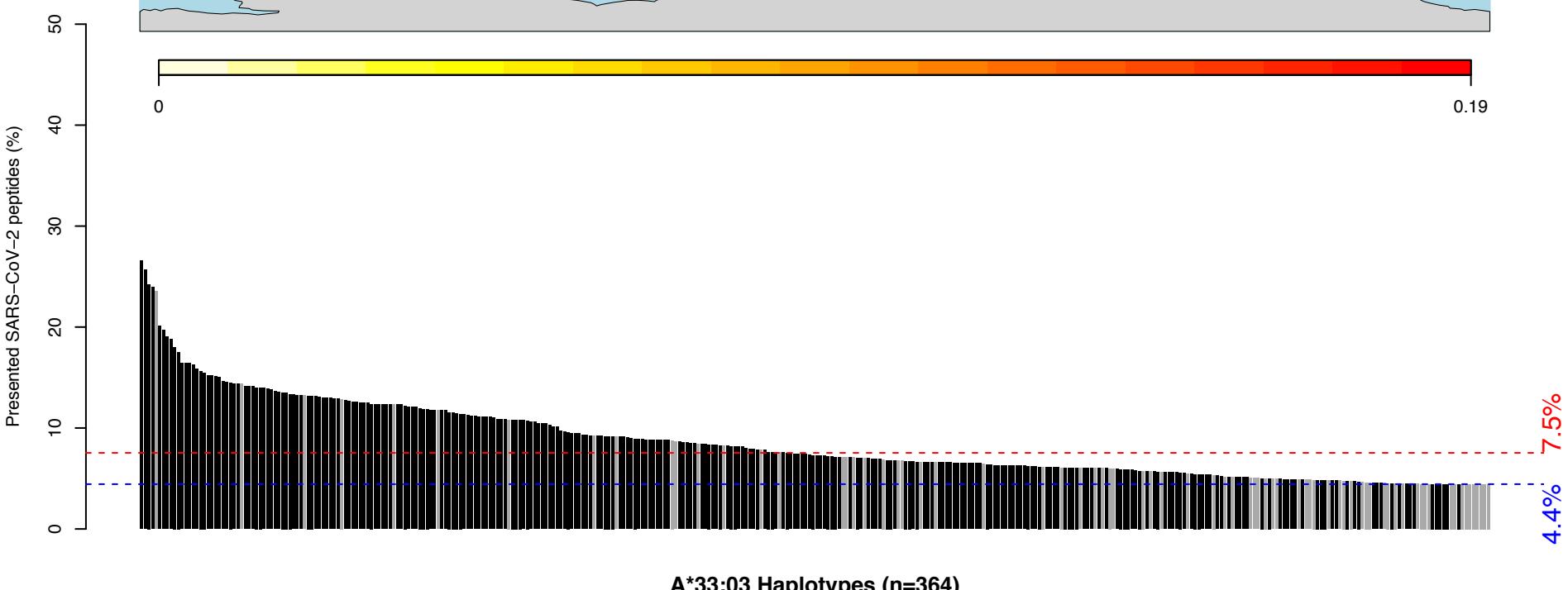
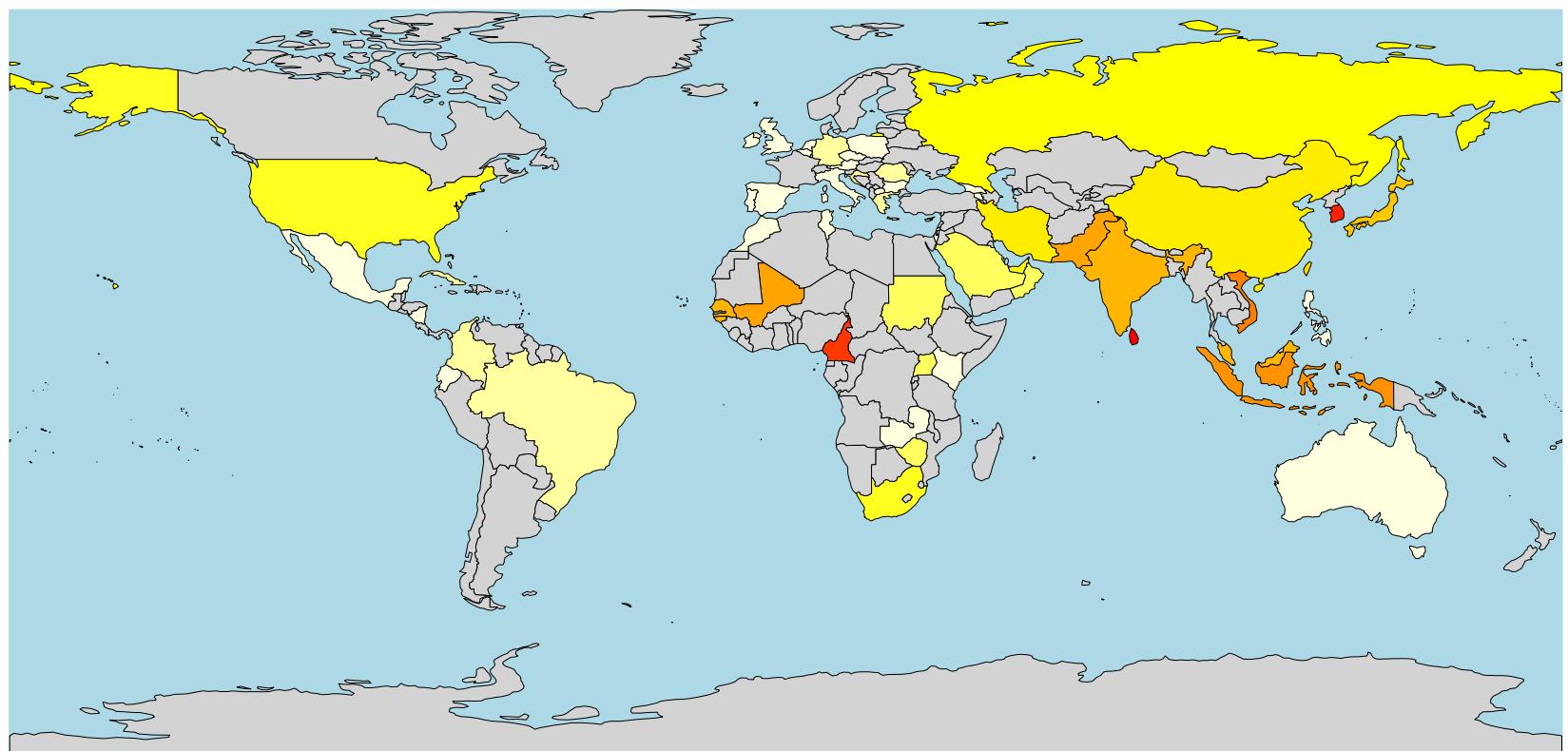
A*32:01
(~2.4% globally)



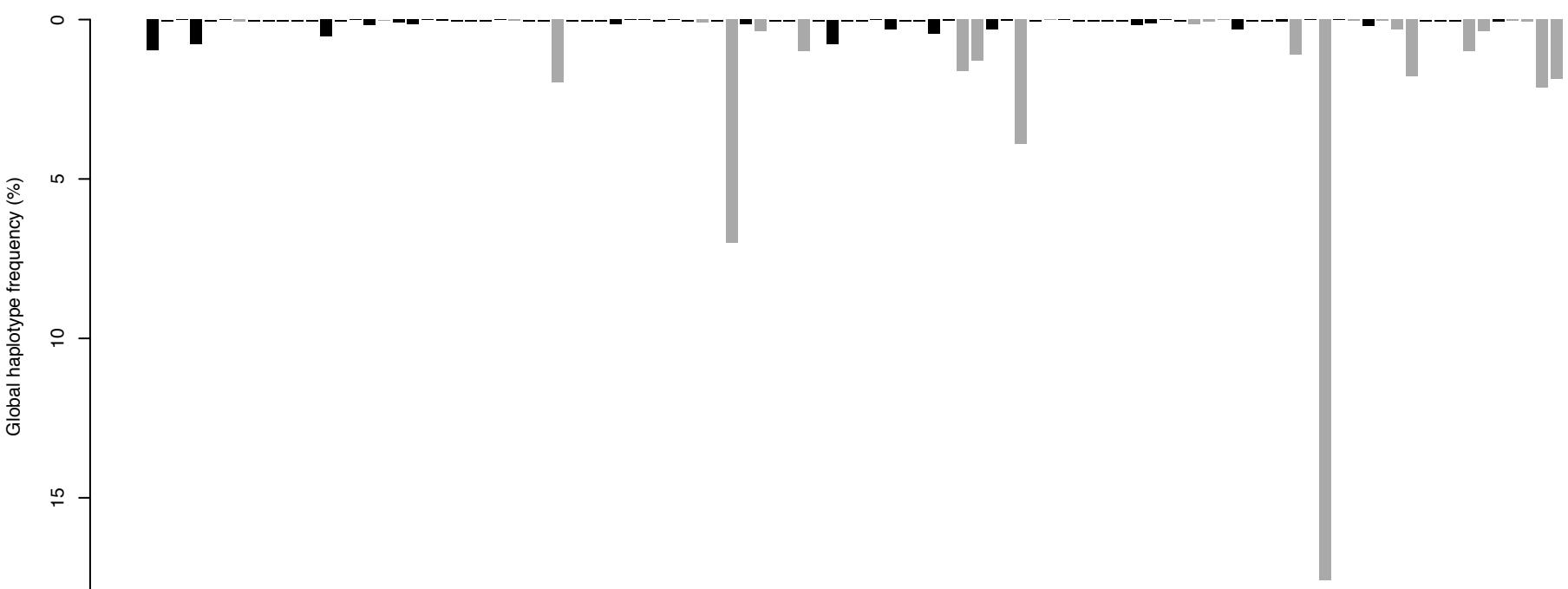
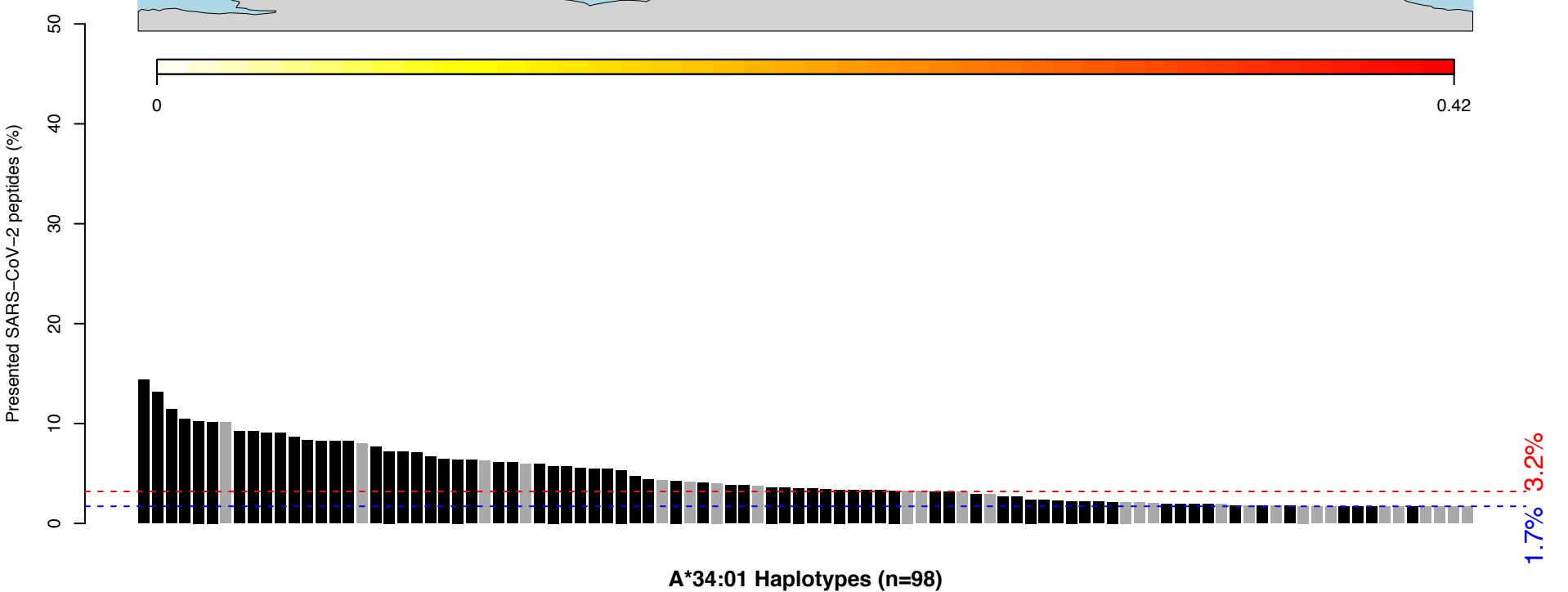
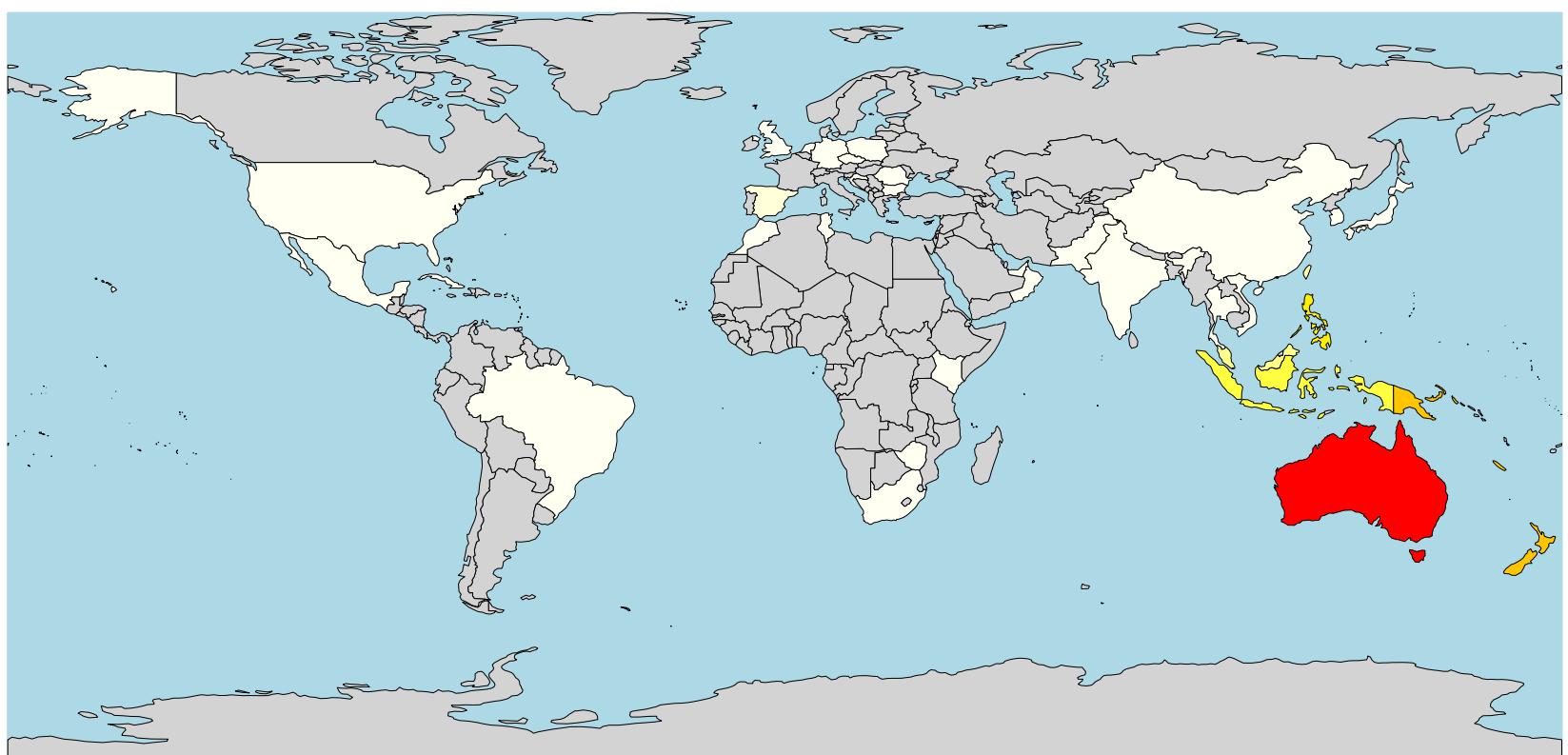
A*33:01
(~0.99% globally)



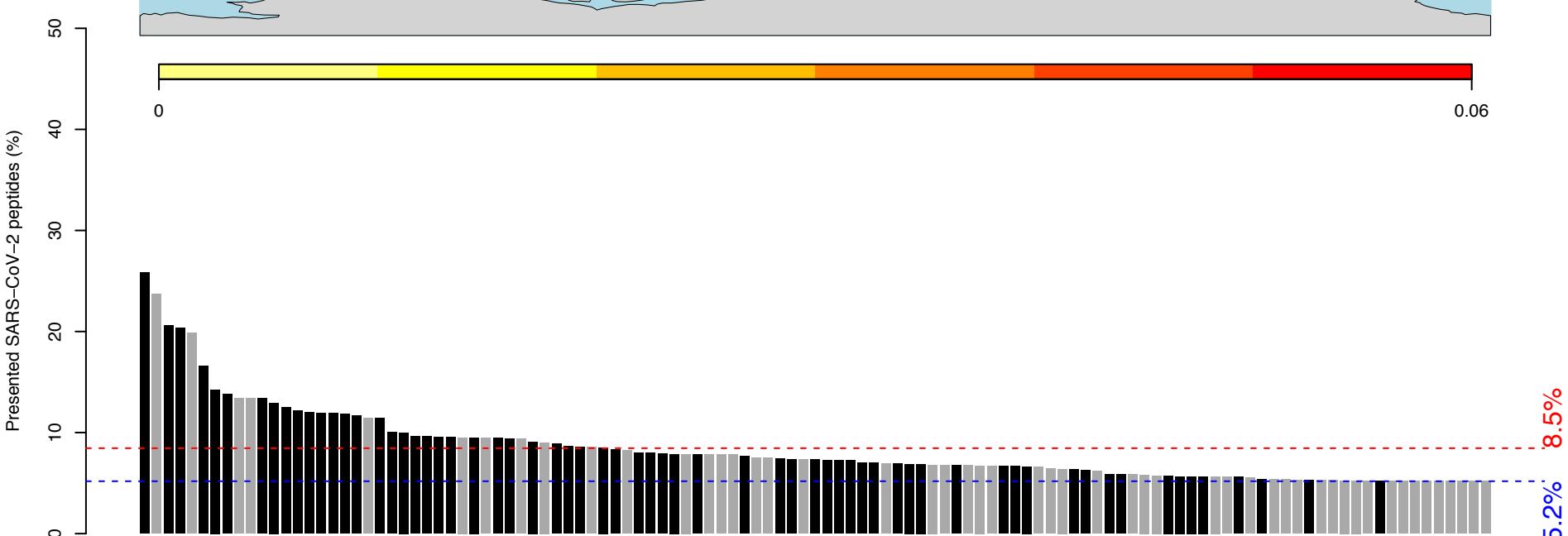
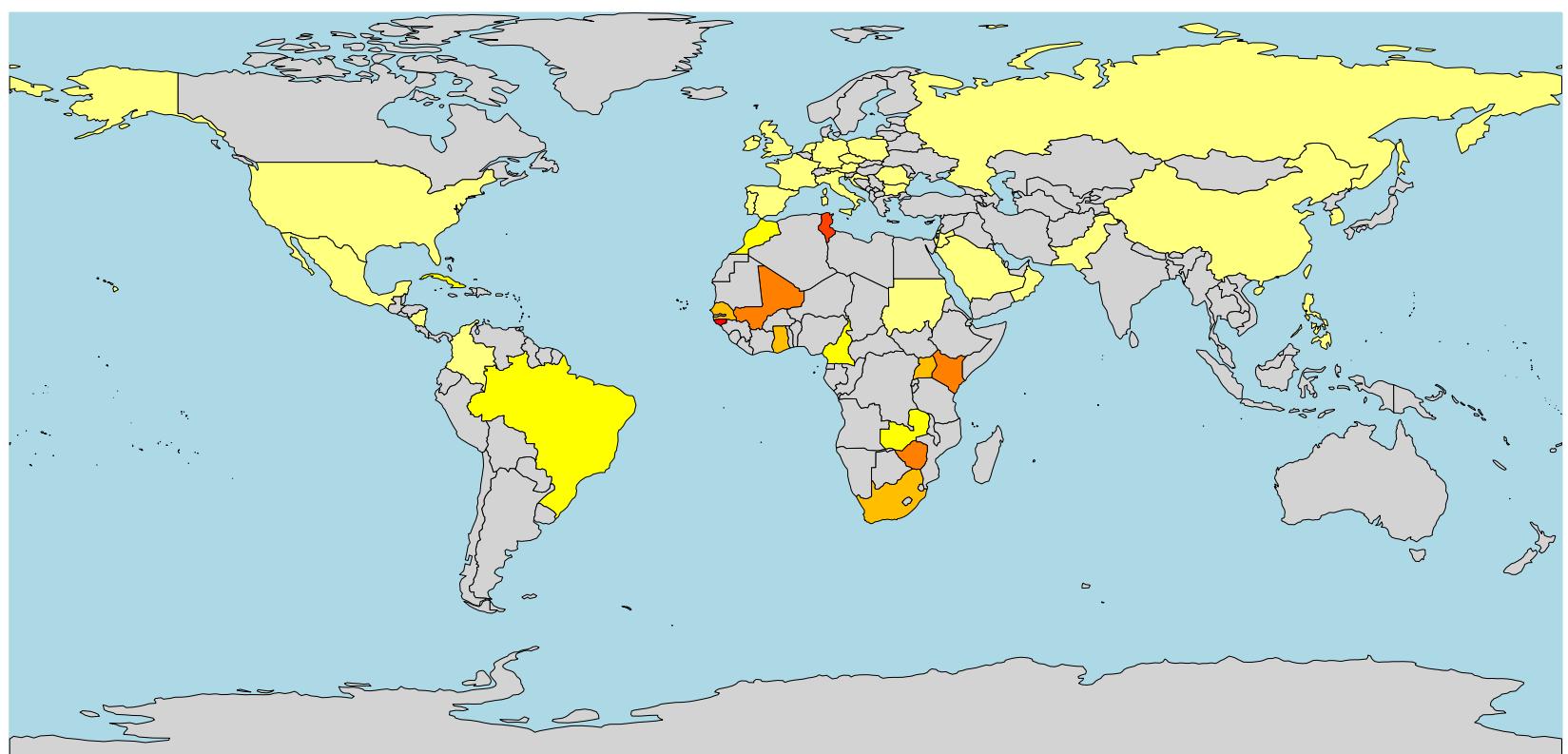
A*33:03
(~4.8% globally)



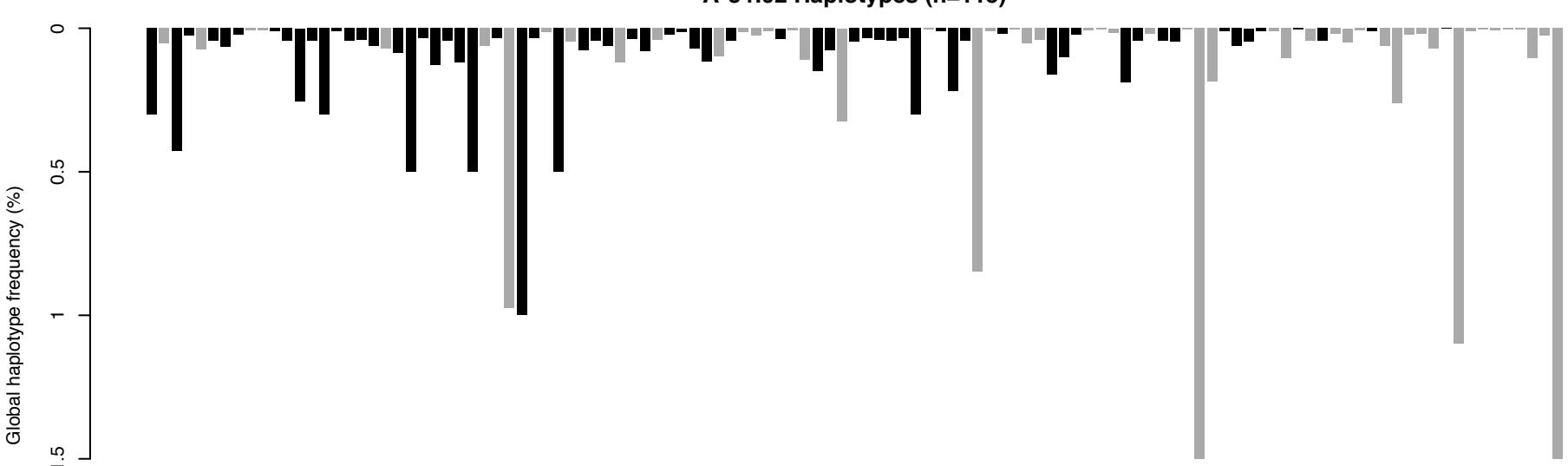
A*34:01
(~1.3% globally)



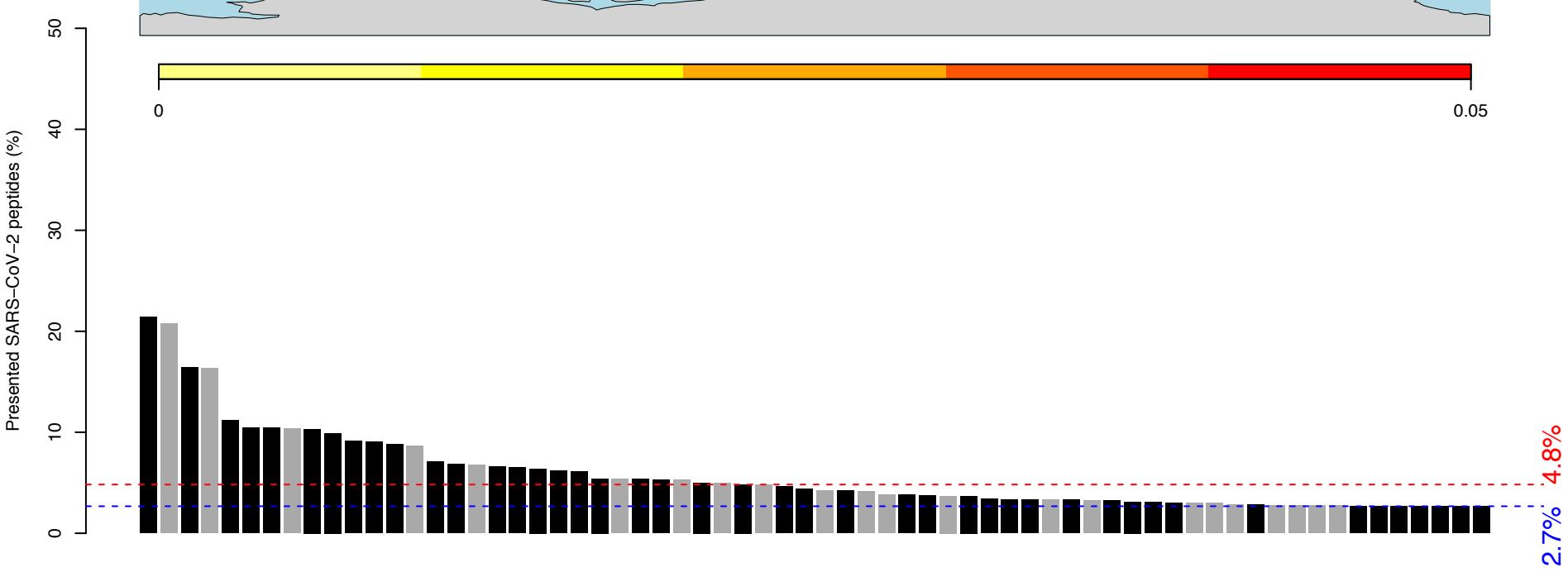
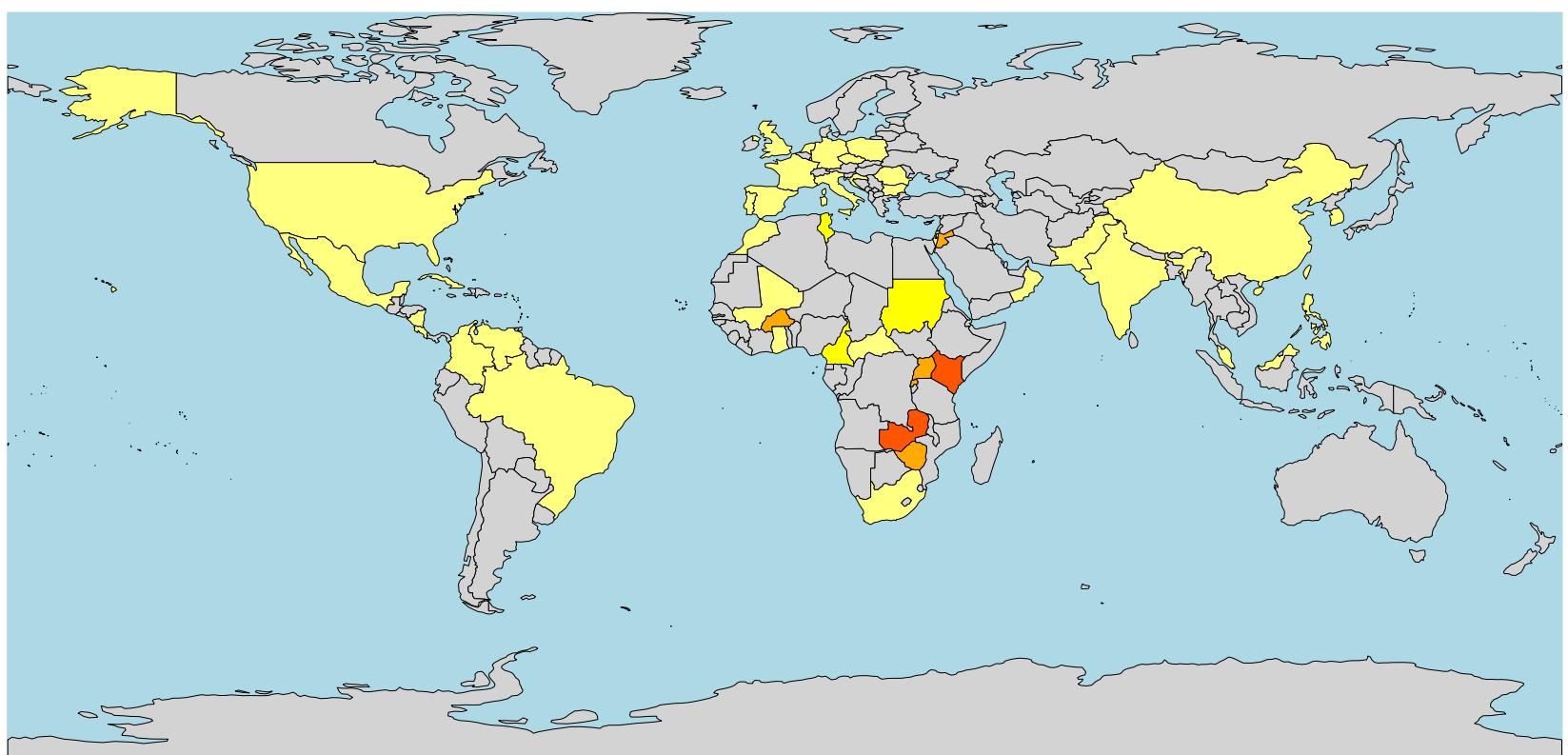
A*34:02
(~0.34% globally)



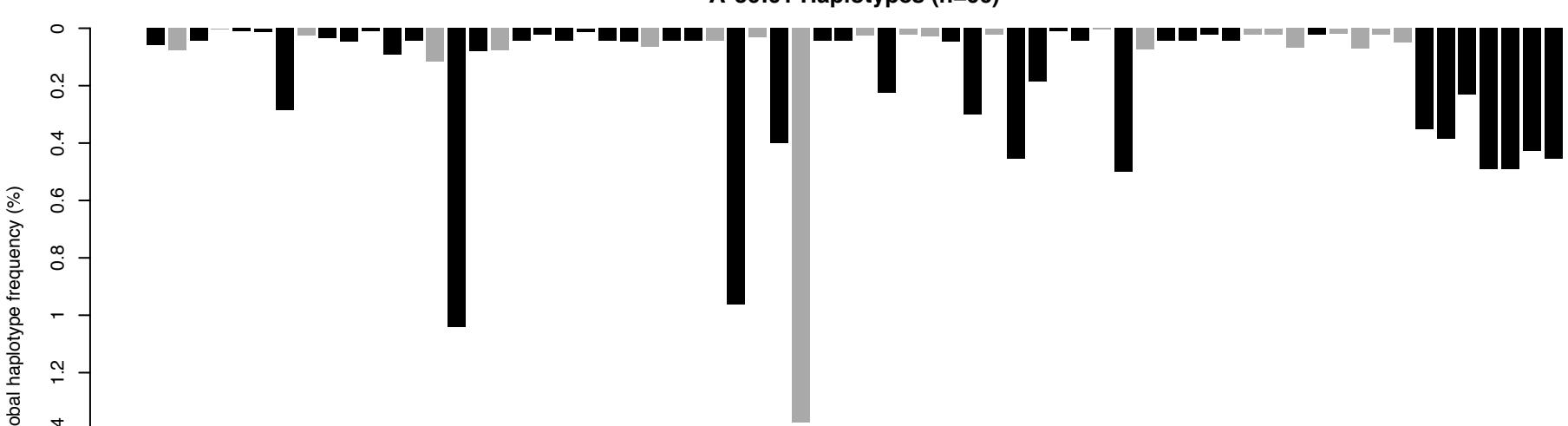
A*34:02 Haplotypes (n=115)



A*36:01
(~0.22% globally)



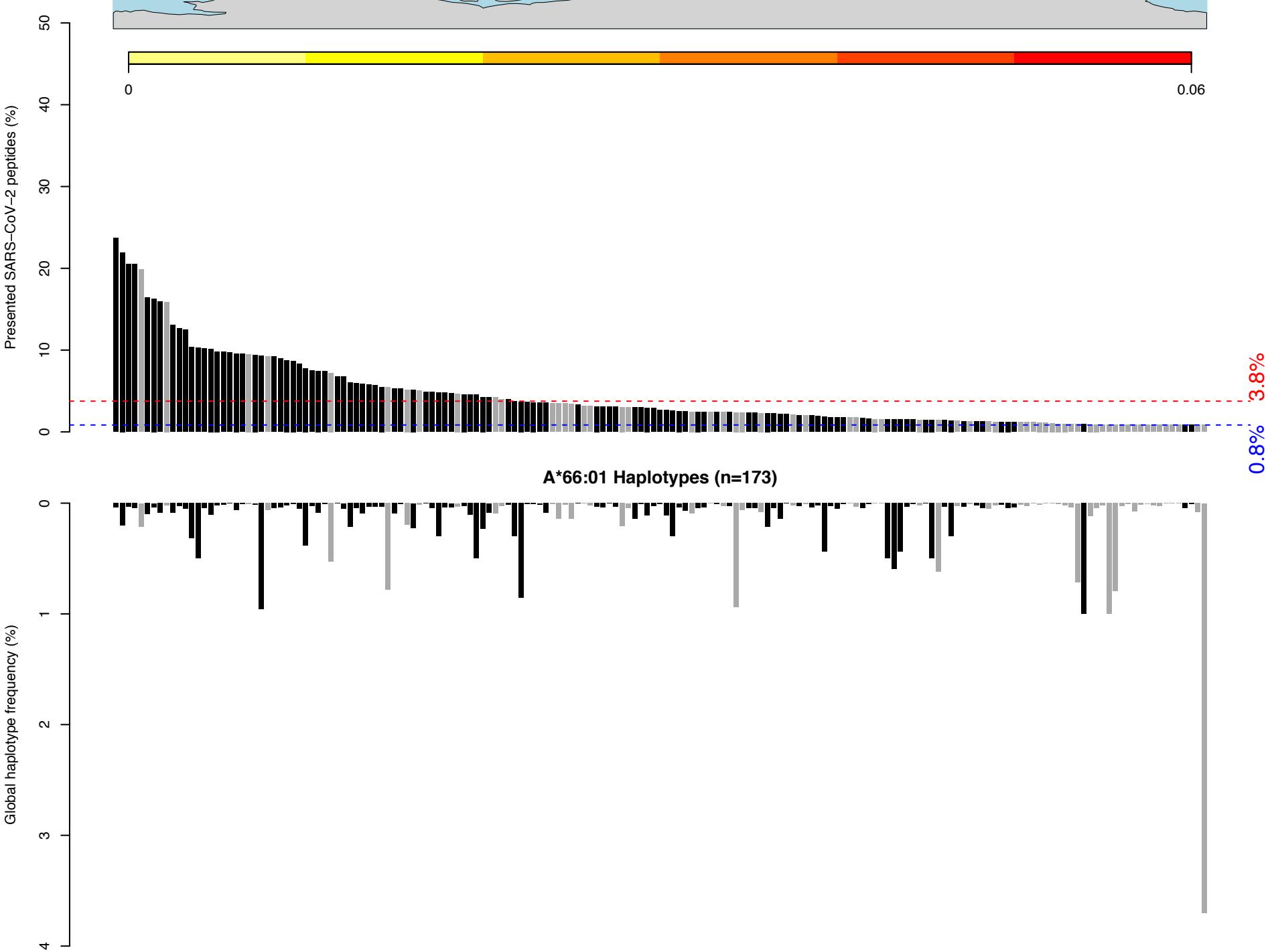
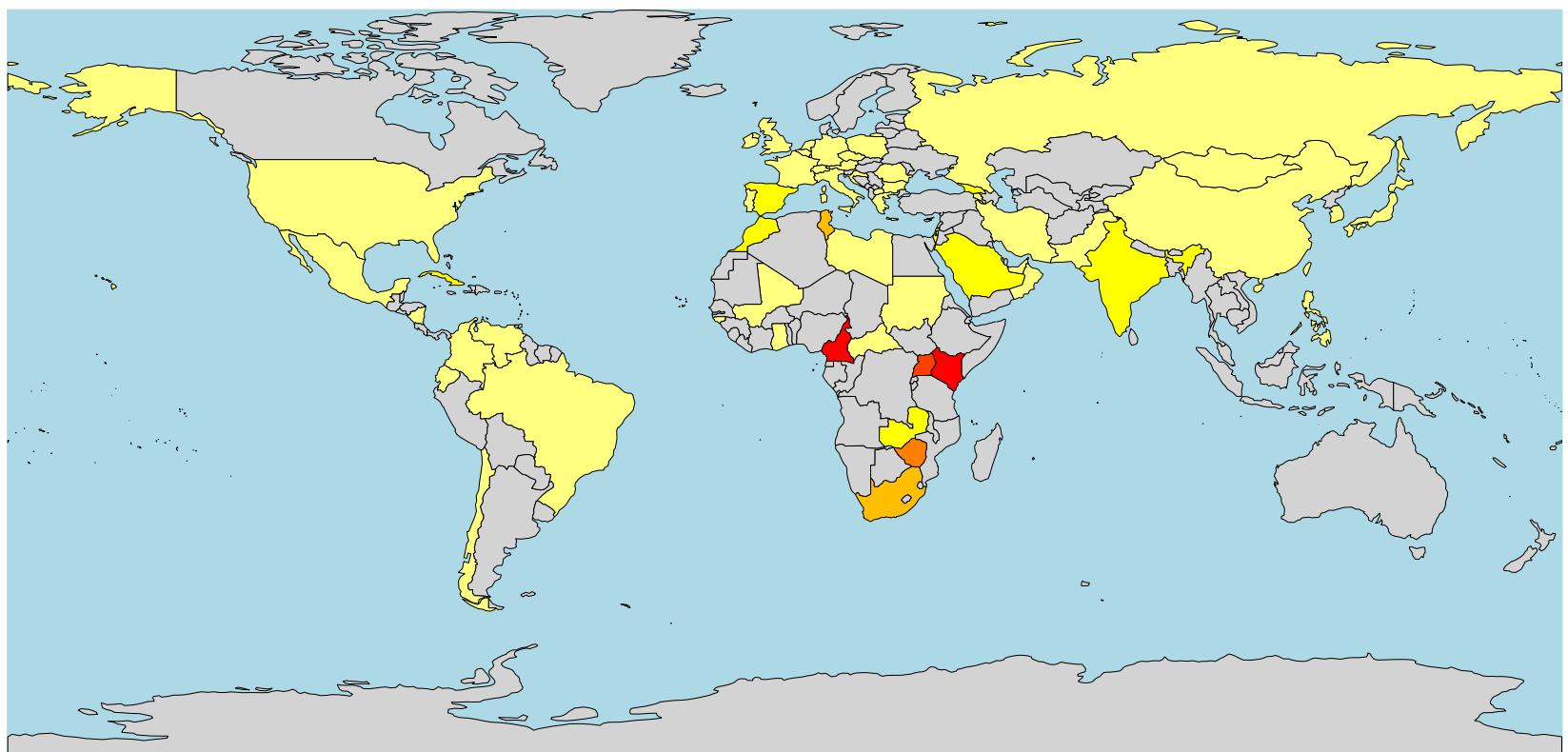
A*36:01 Haplotypes (n=66)



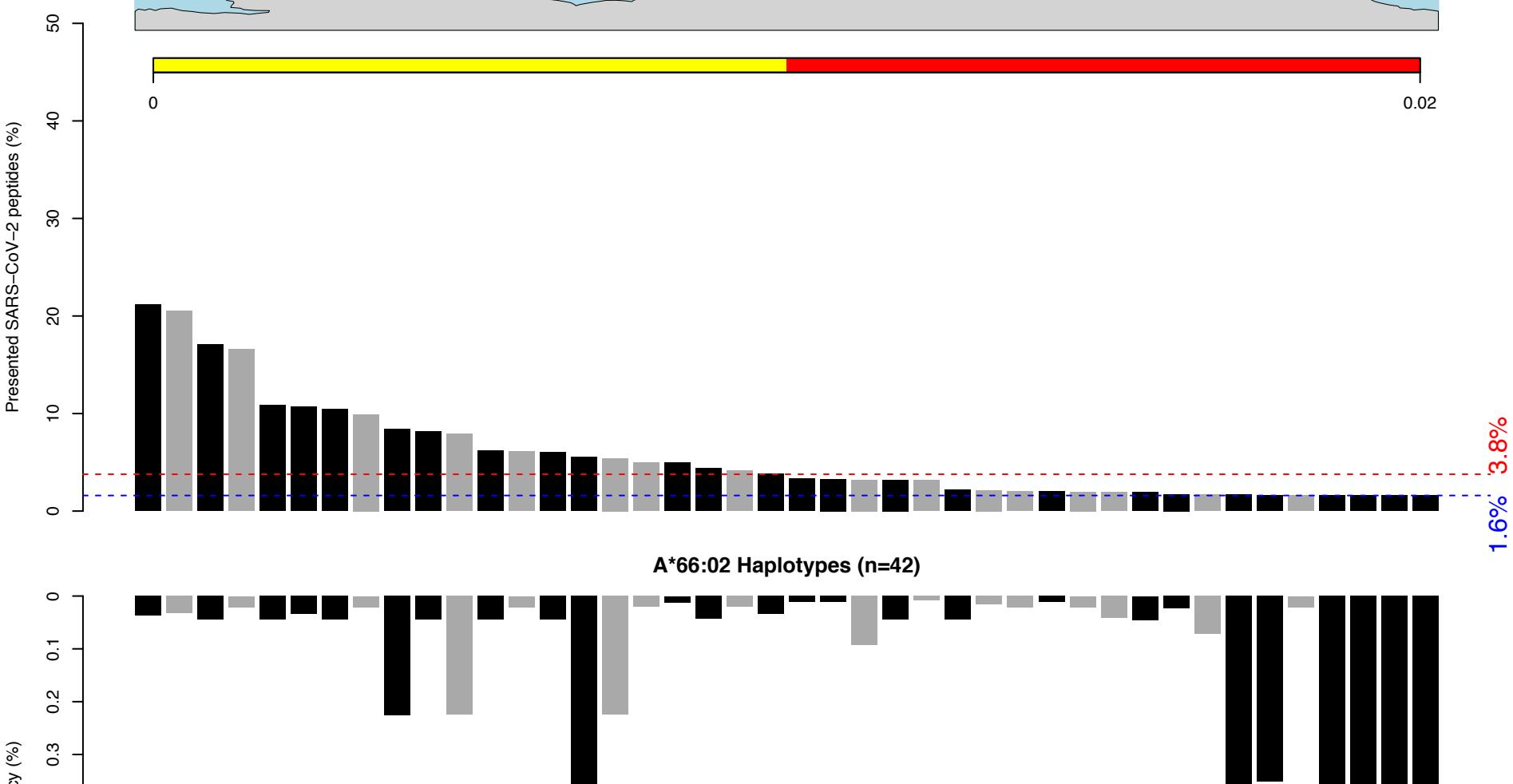
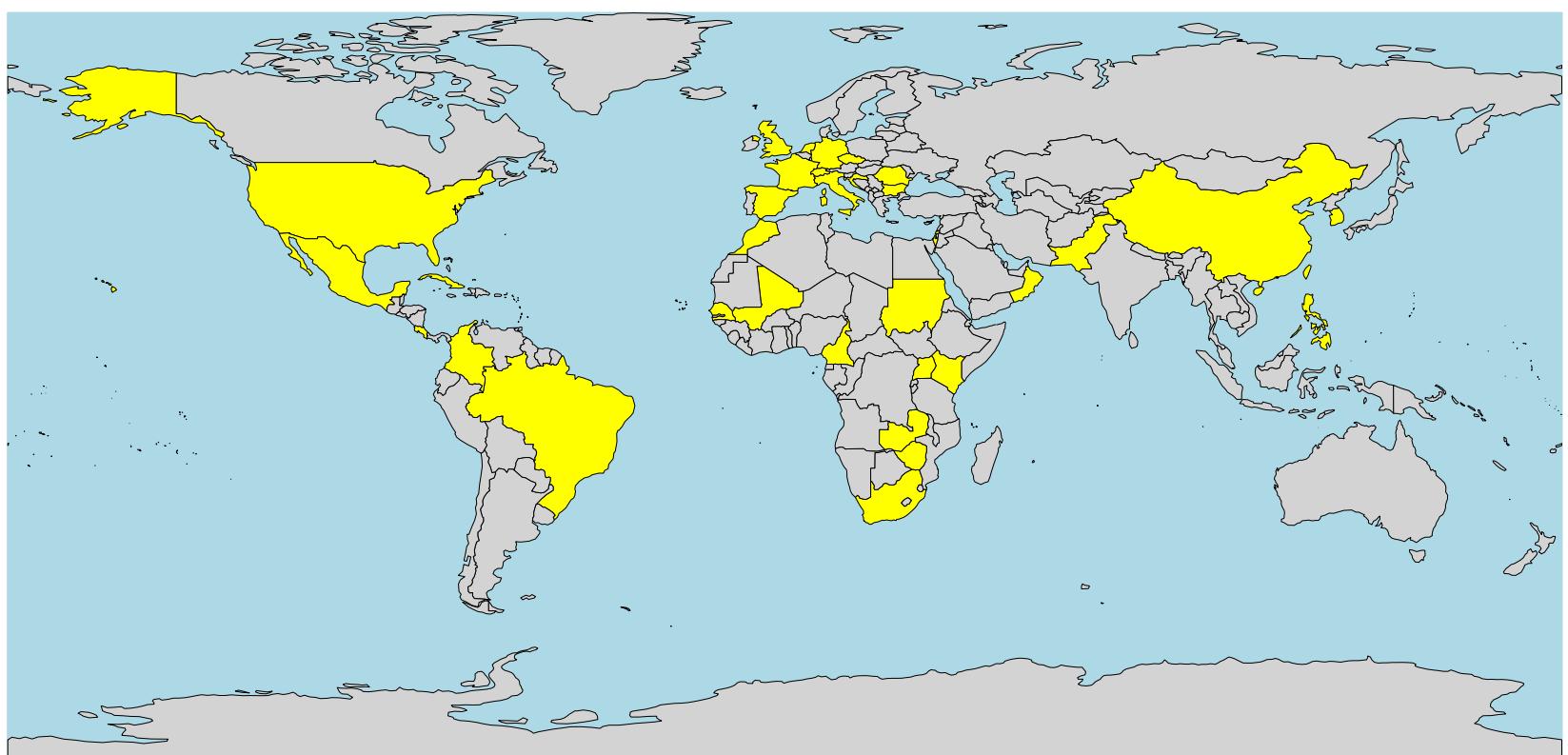
4.8%

2.7%

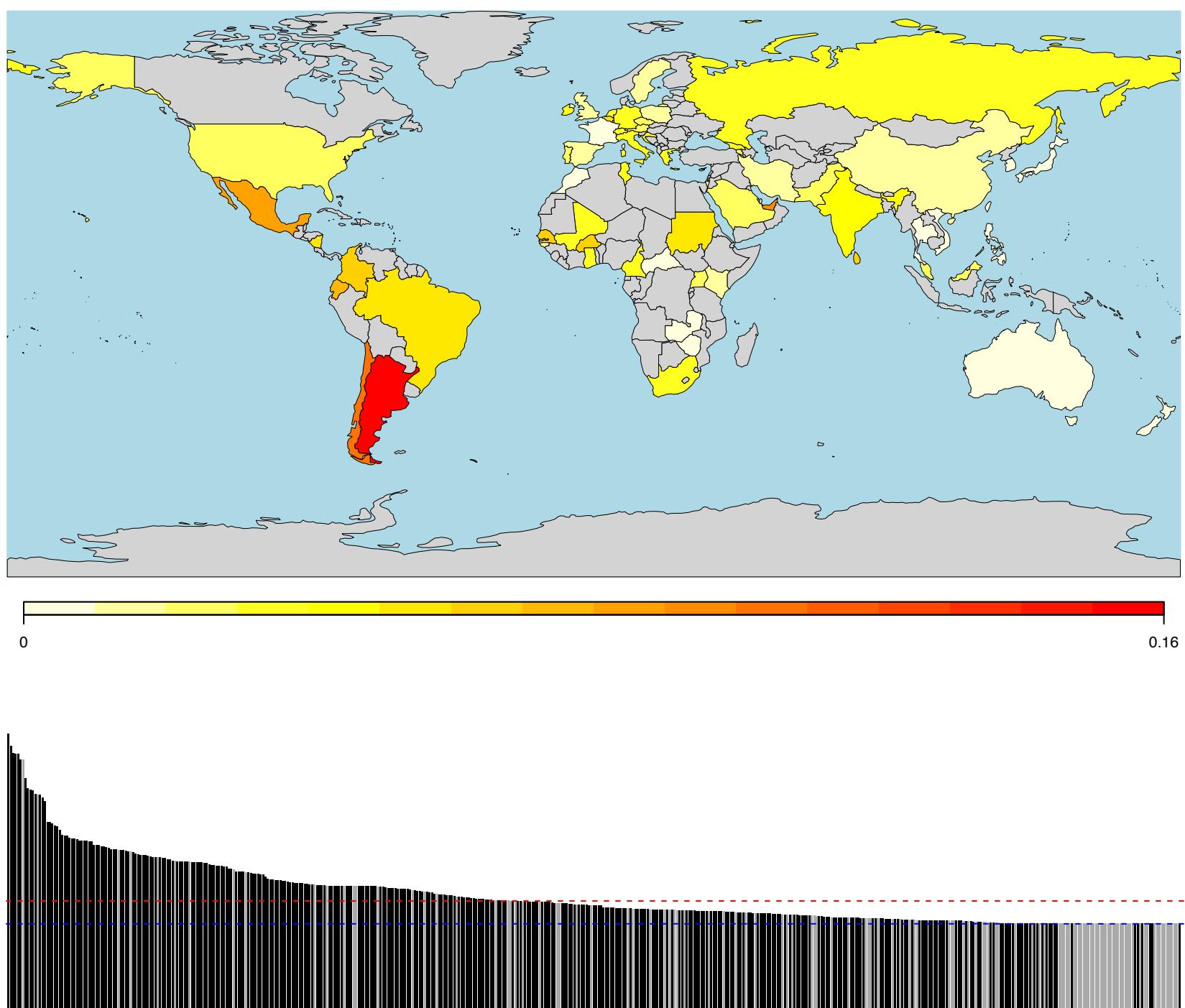
A*66:01
(~0.8% globally)



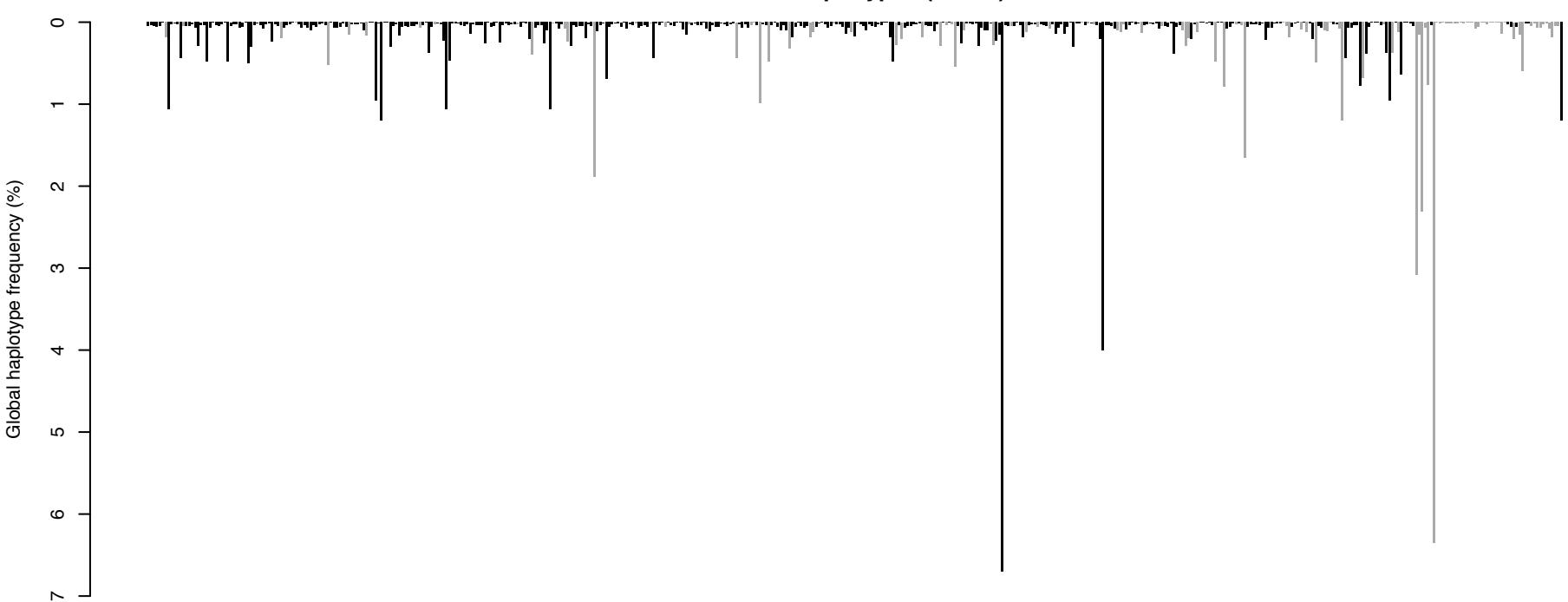
A*66:02
(~0.072% globally)



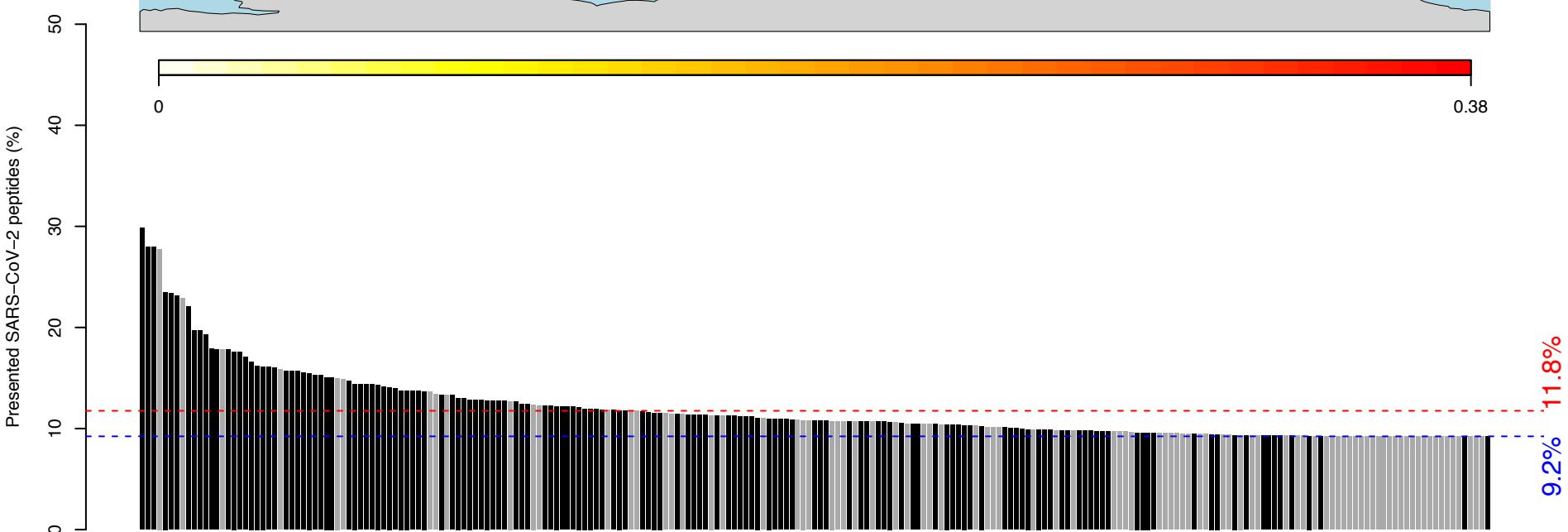
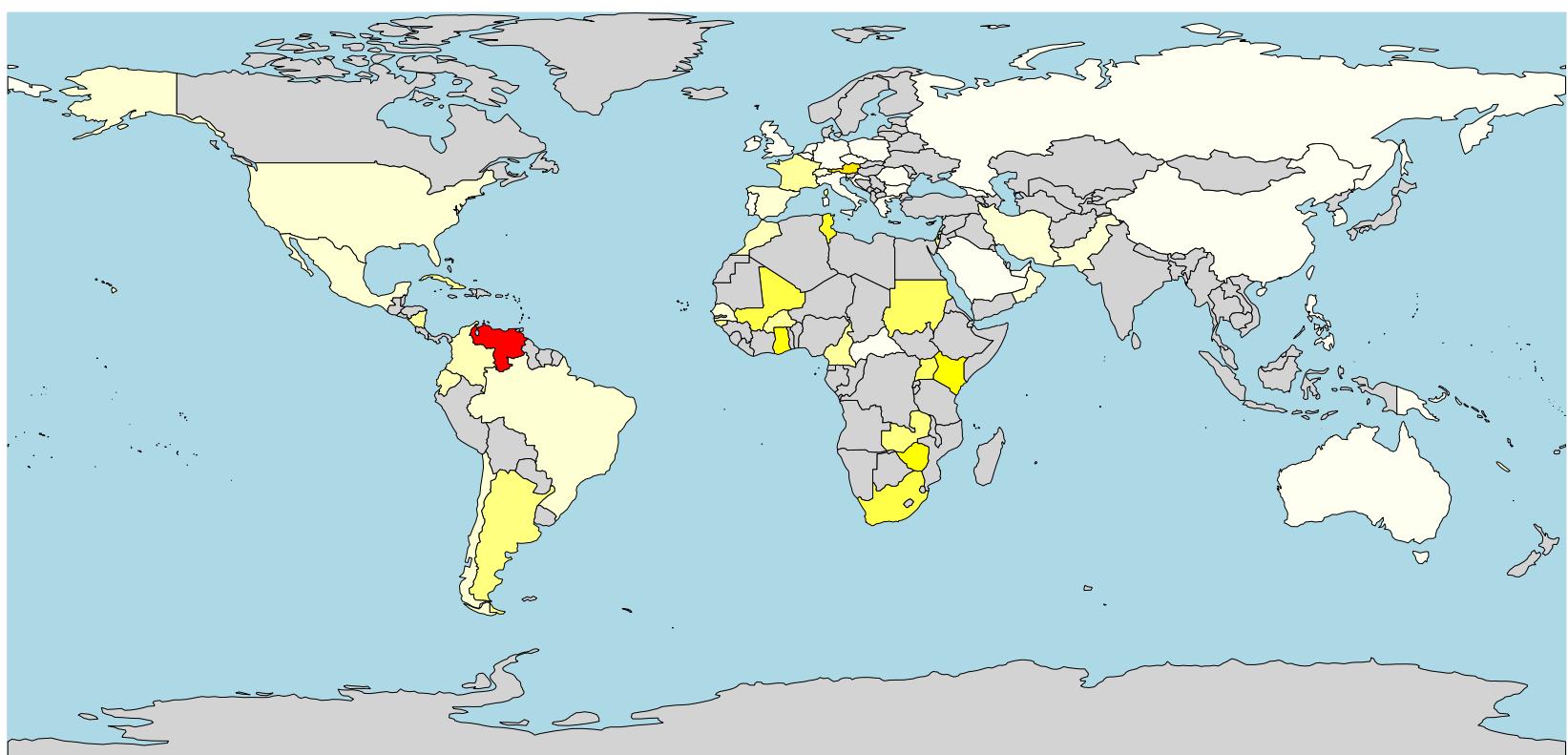
A*68:01
(~2.1% globally)



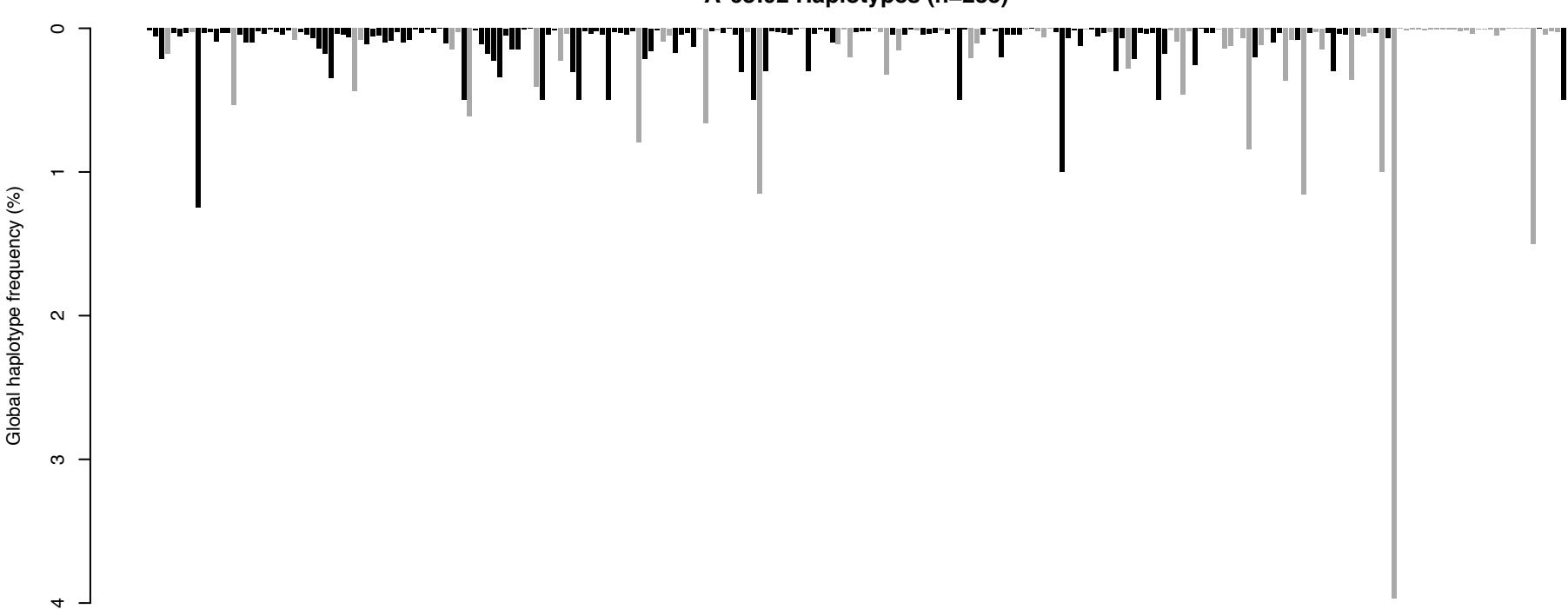
A*68:01 Haplotypes (n=479)



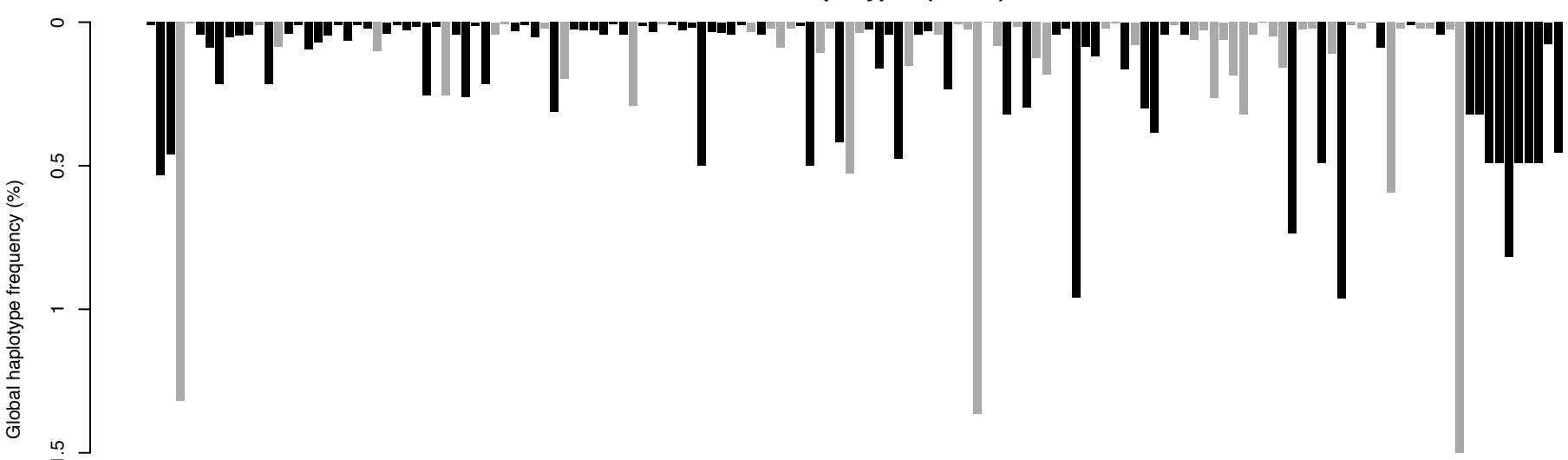
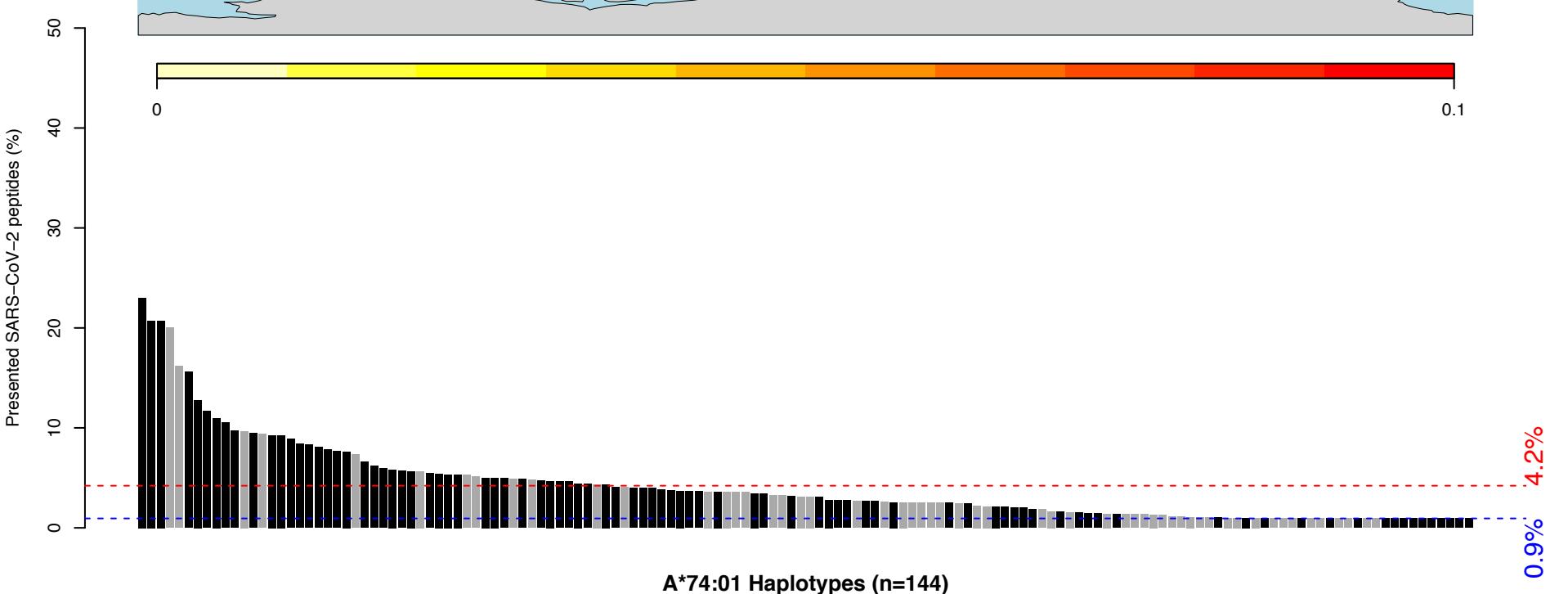
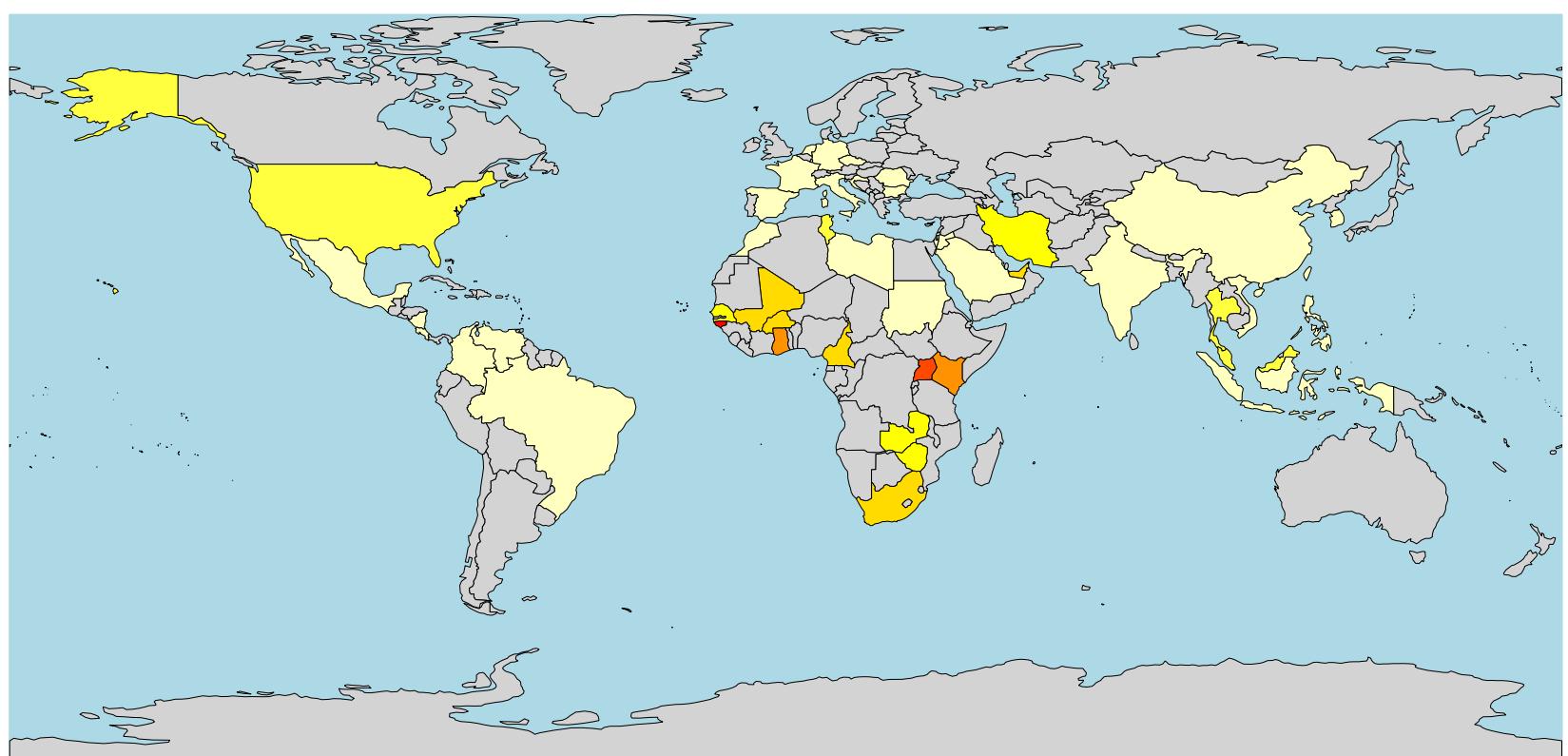
A*68:02
(~1.3% globally)



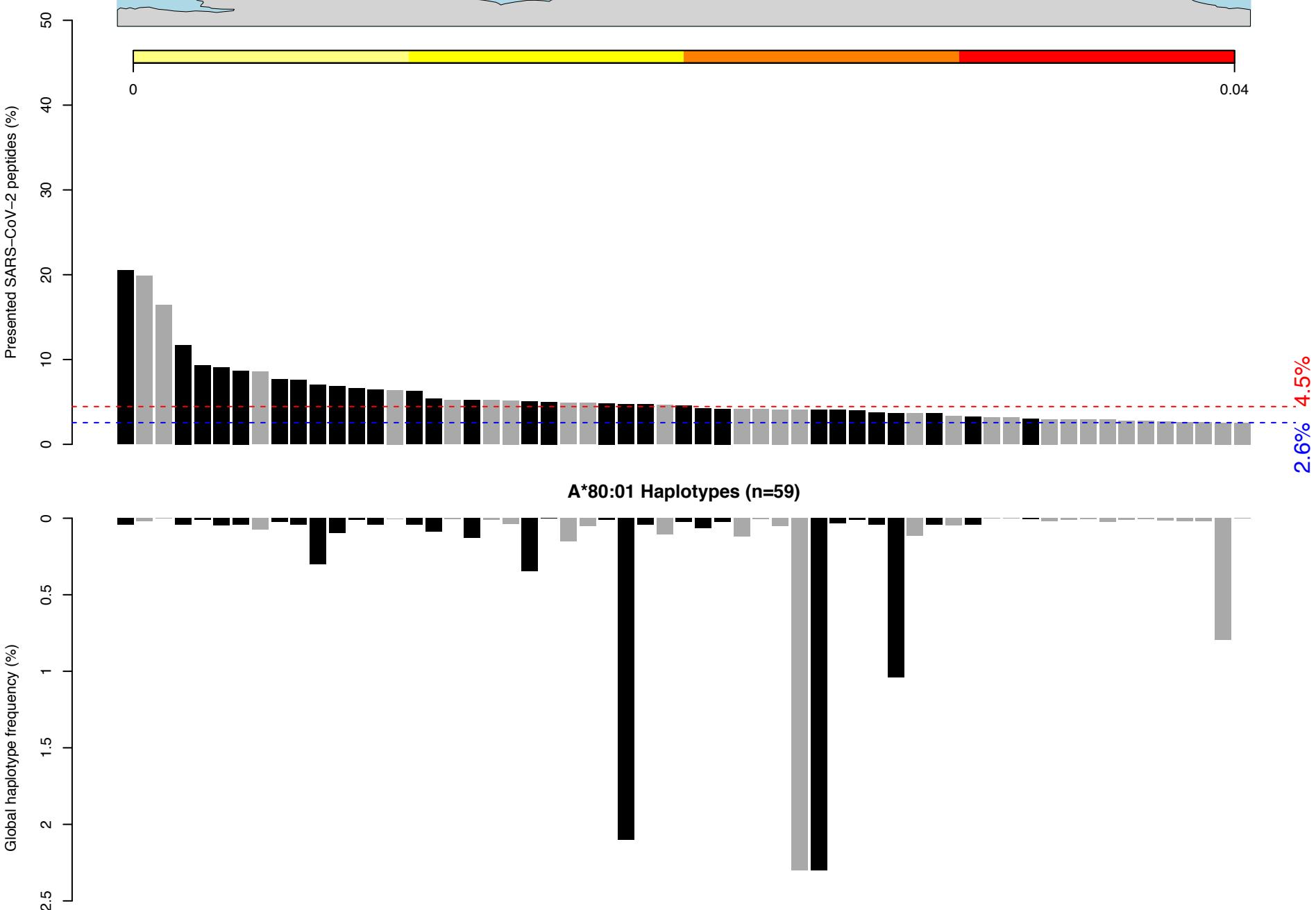
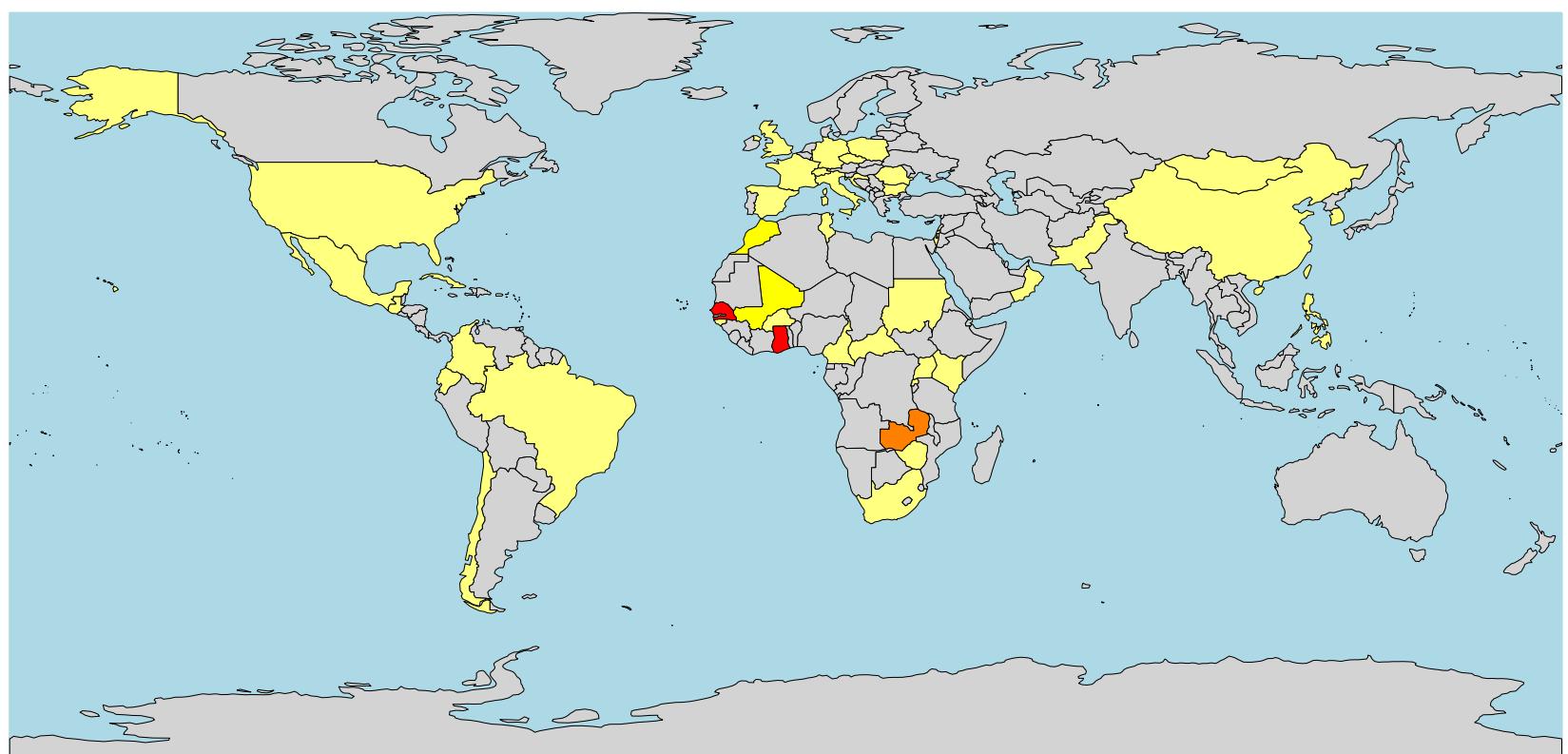
A*68:02 Haplotypes (n=235)



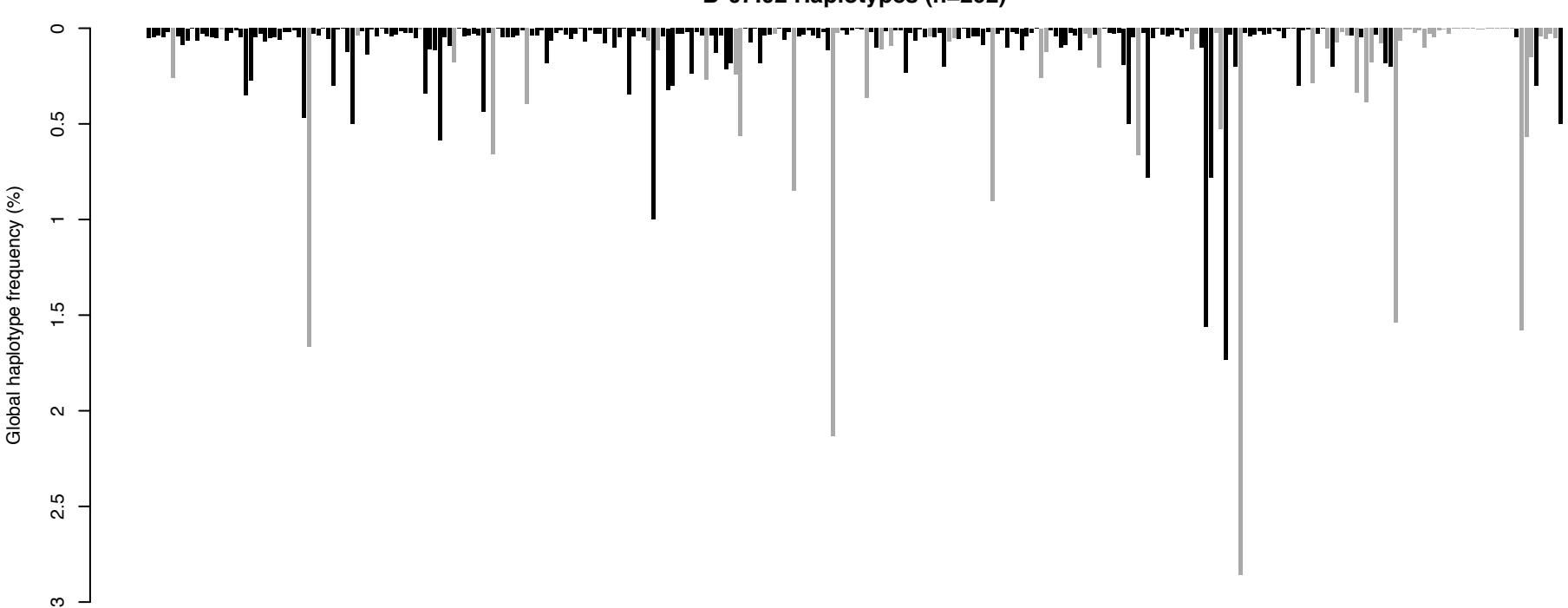
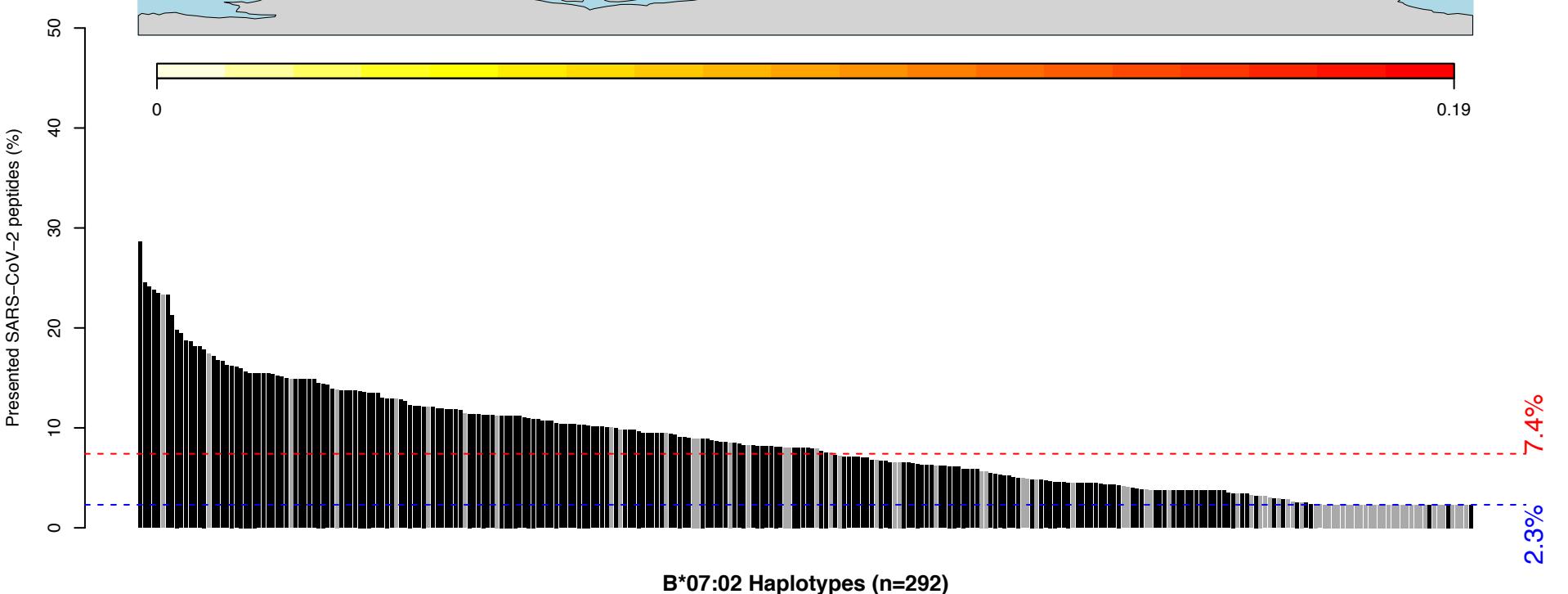
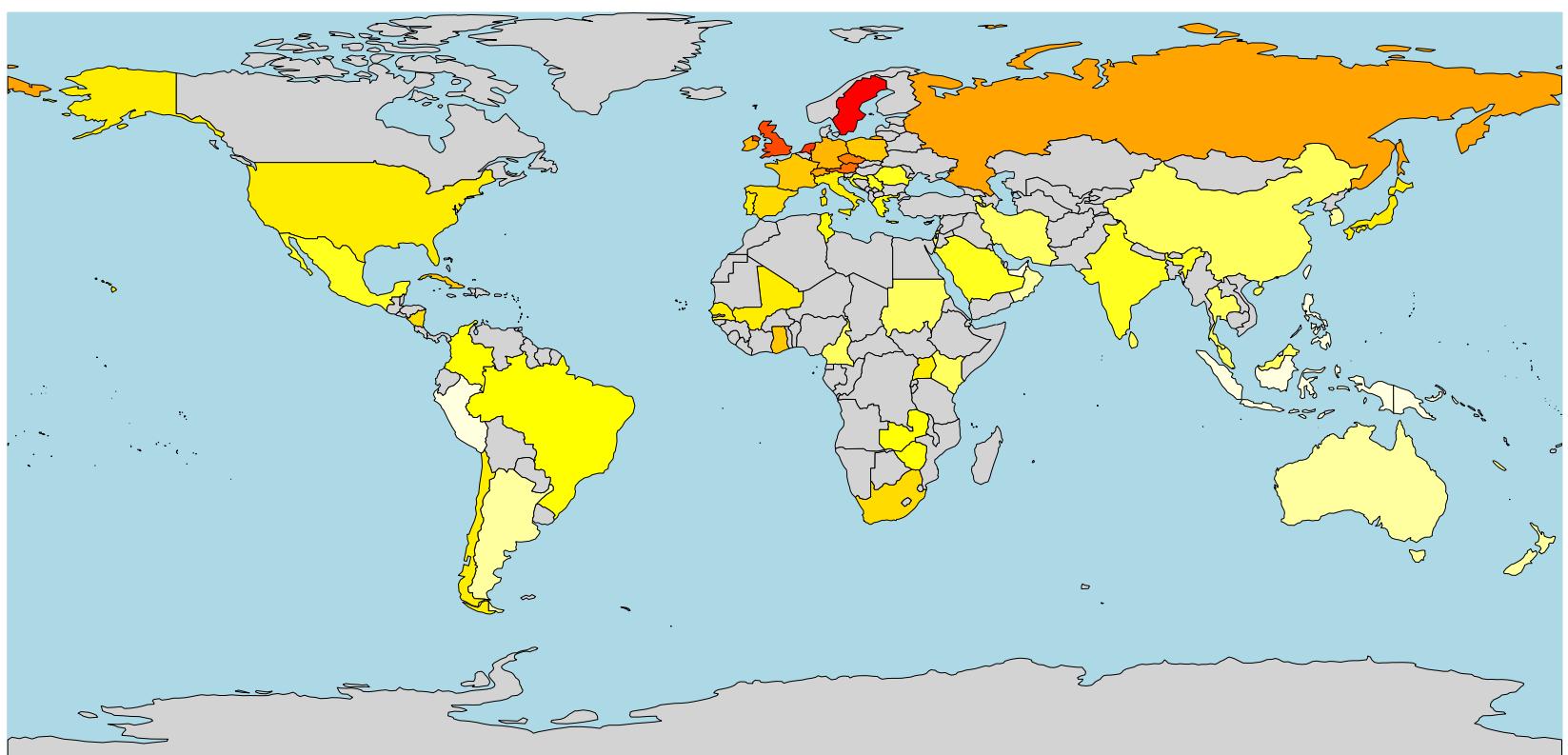
A*74:01
(~0.59% globally)



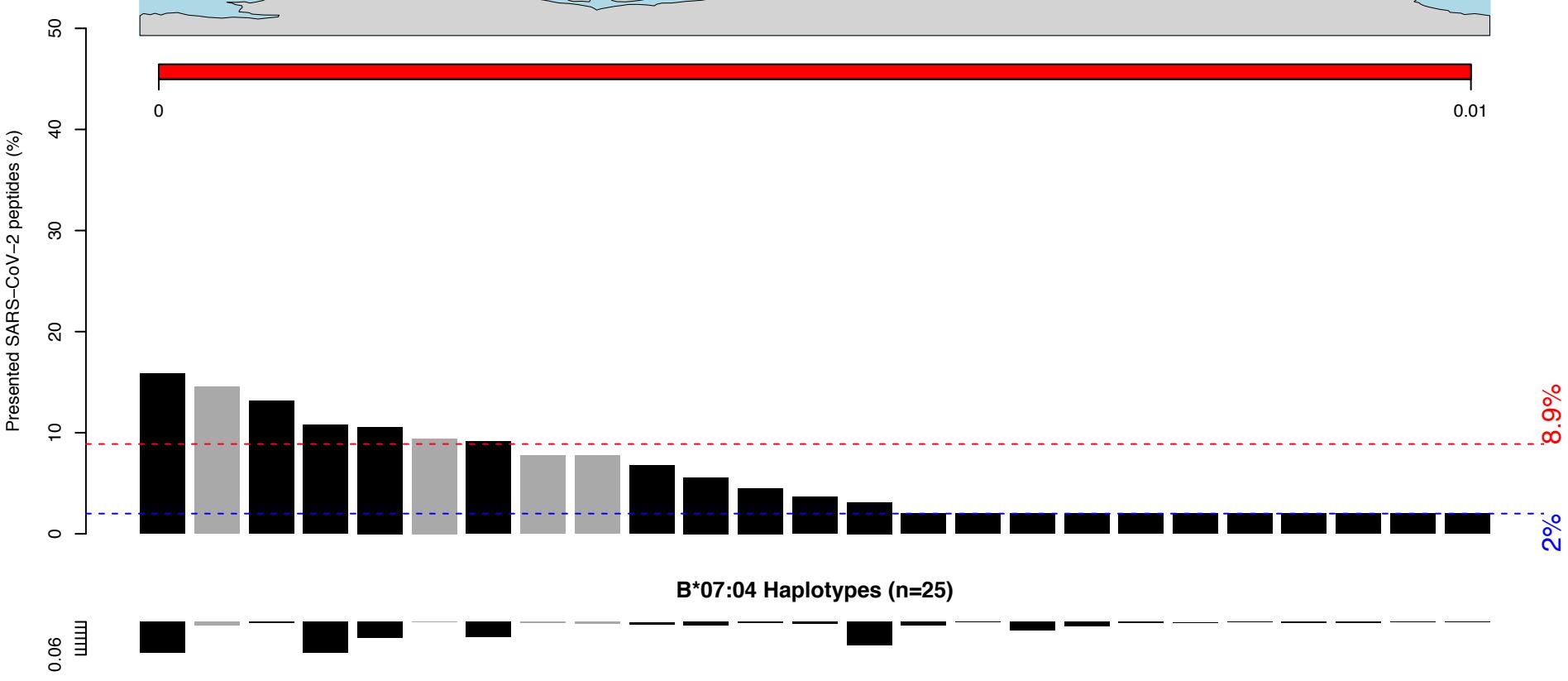
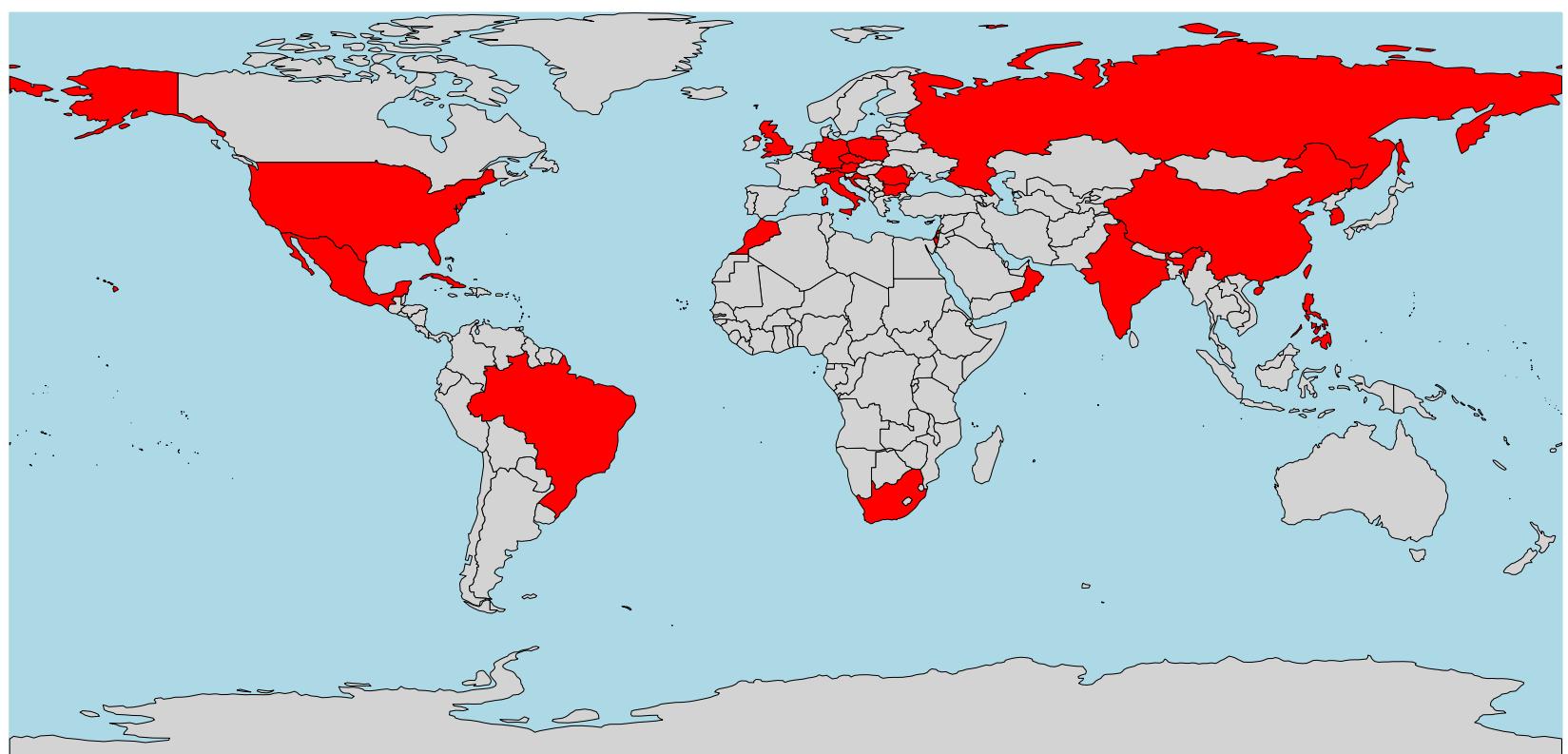
A*80:01
(~0.19% globally)



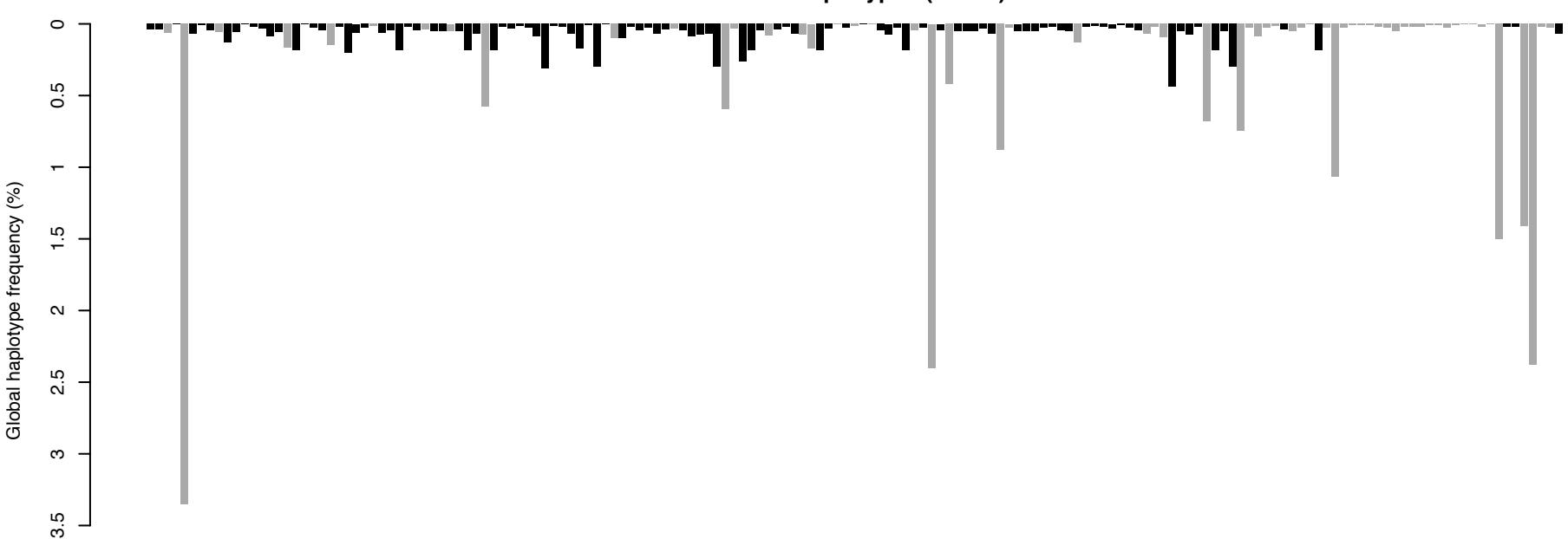
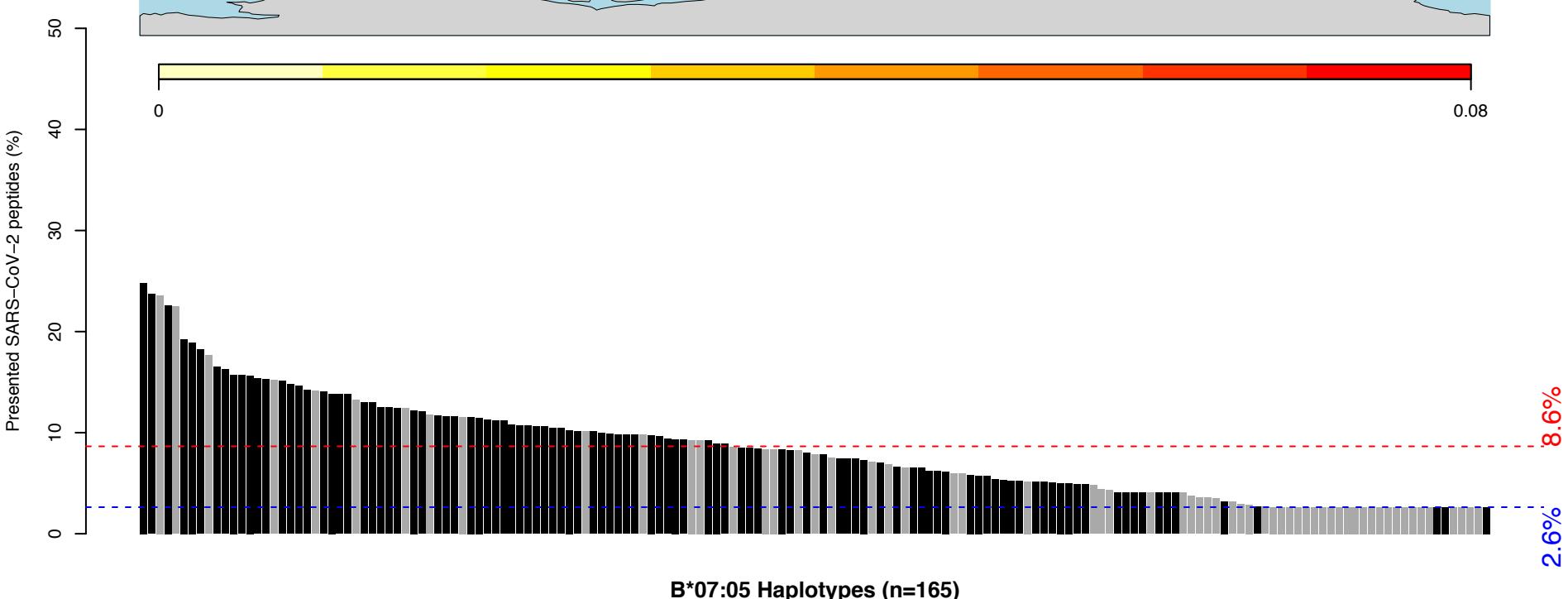
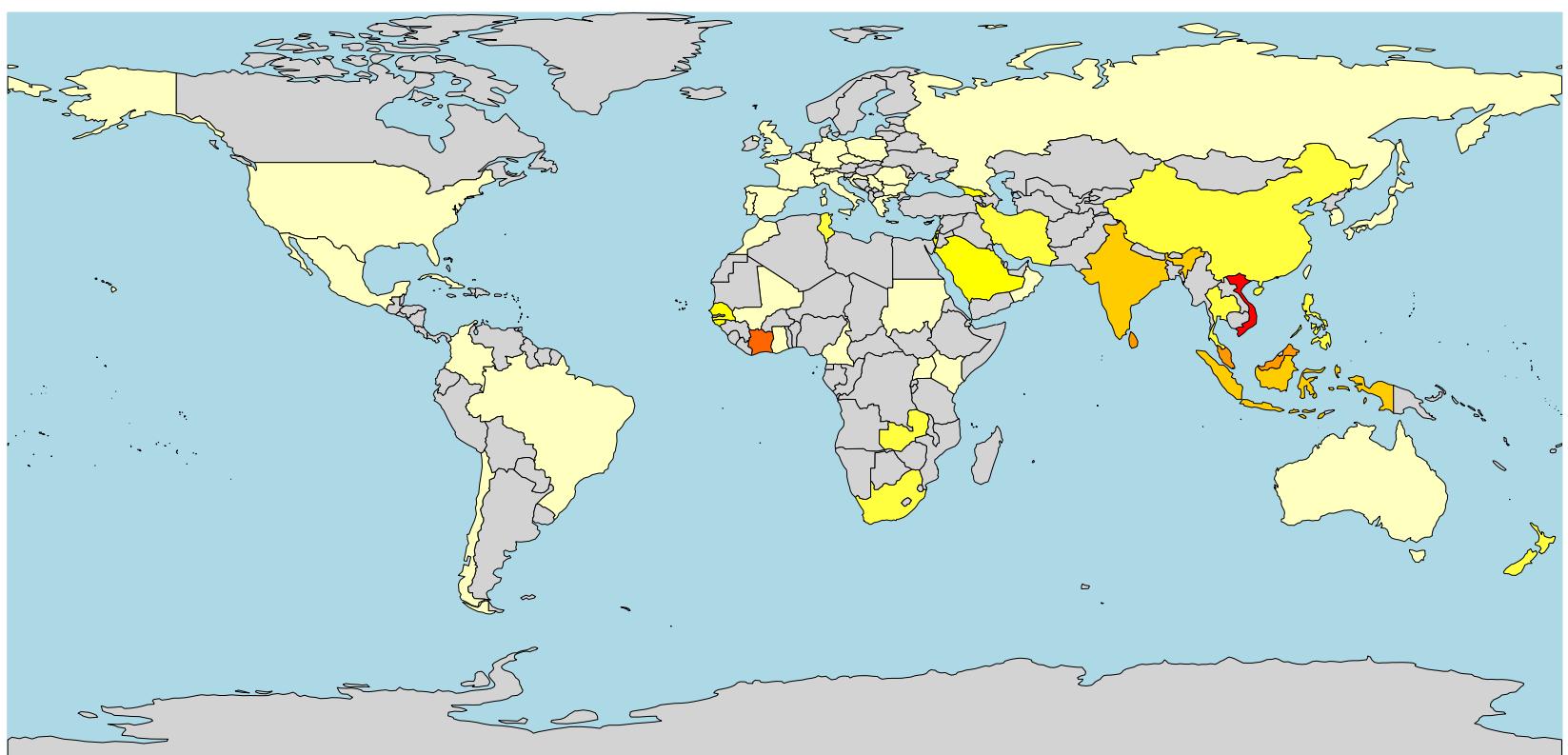
B*07:02
(~2.4% globally)



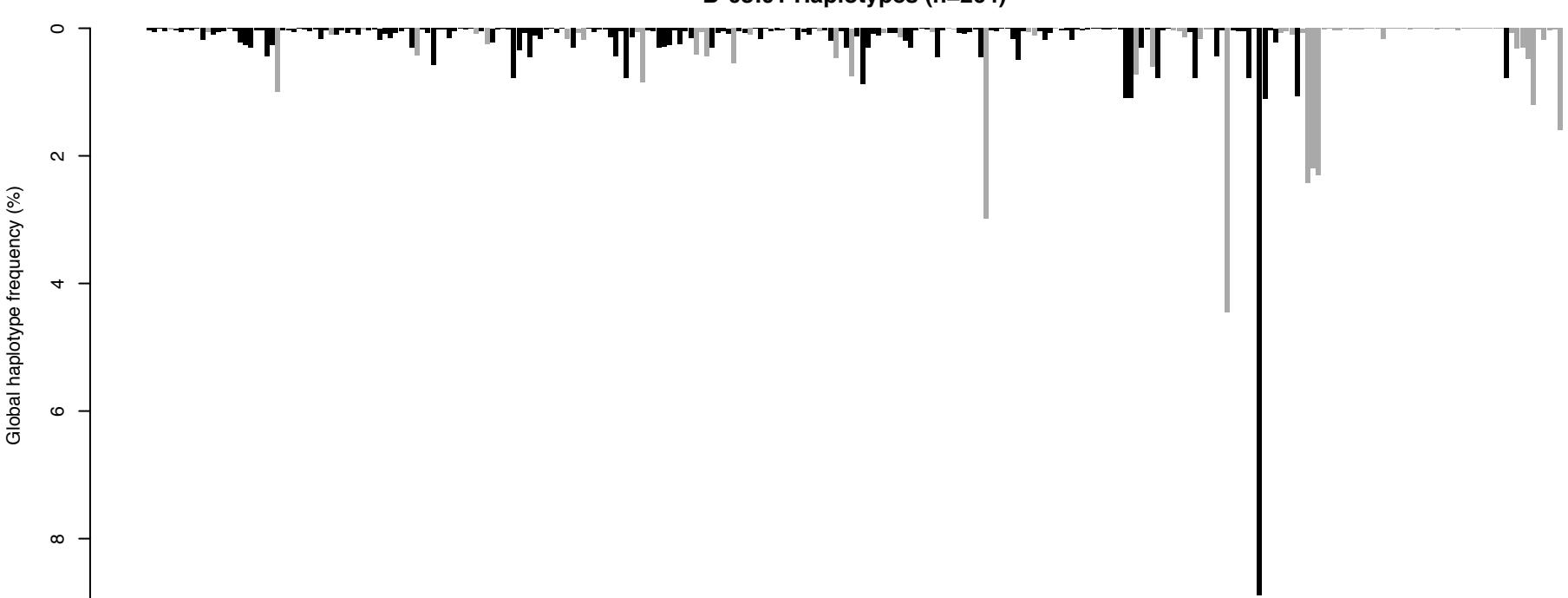
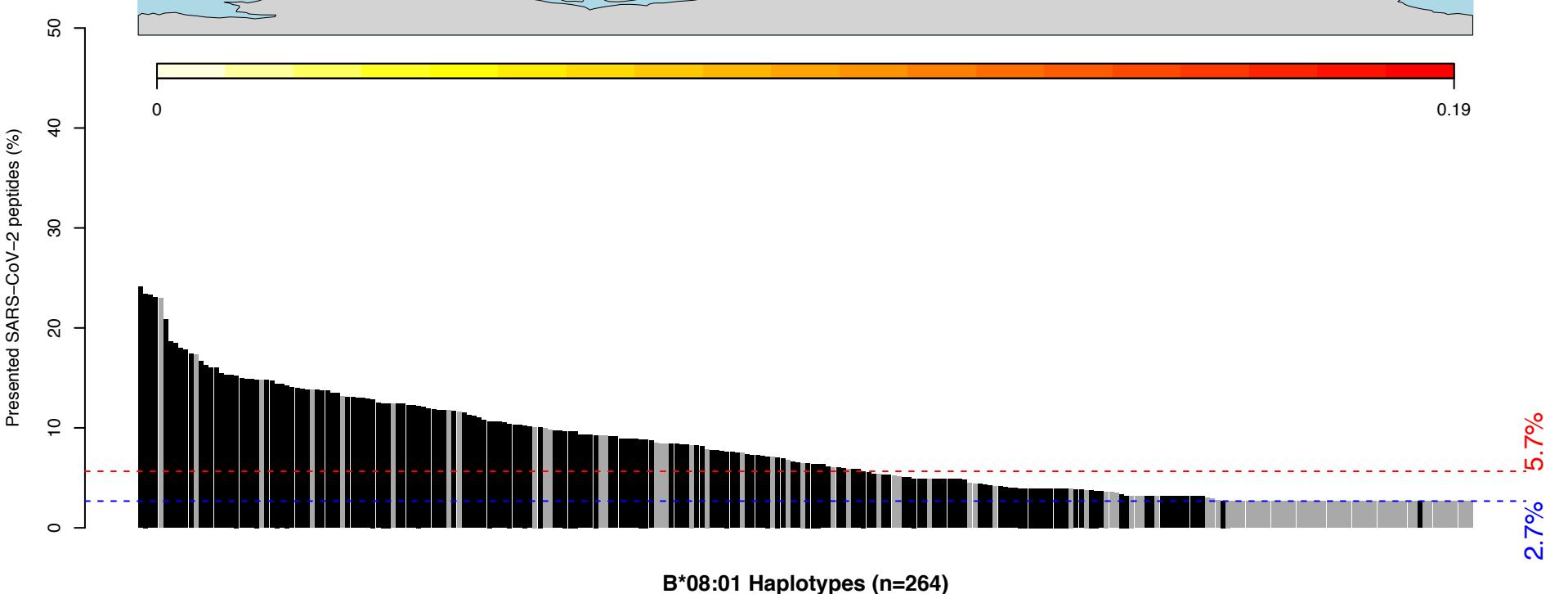
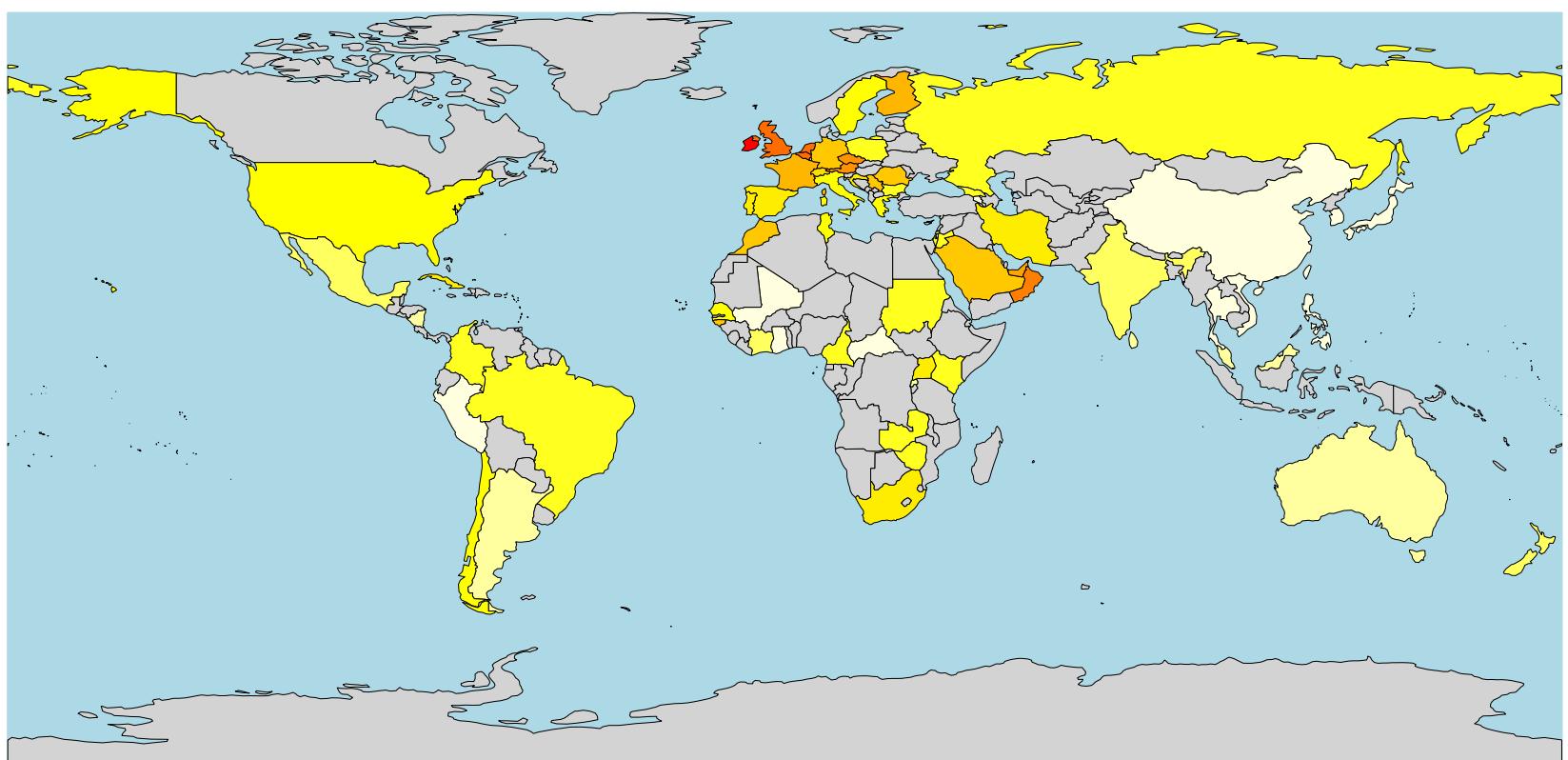
B*07:04
(~0.013% globally)



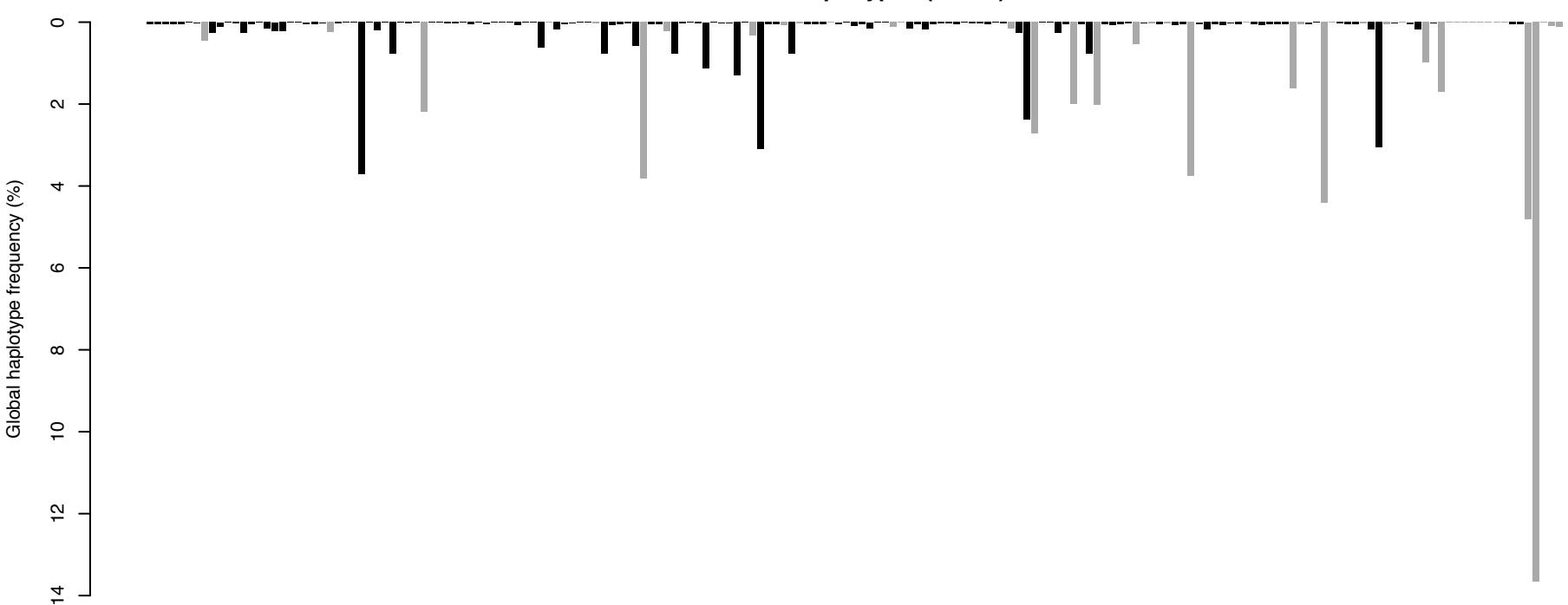
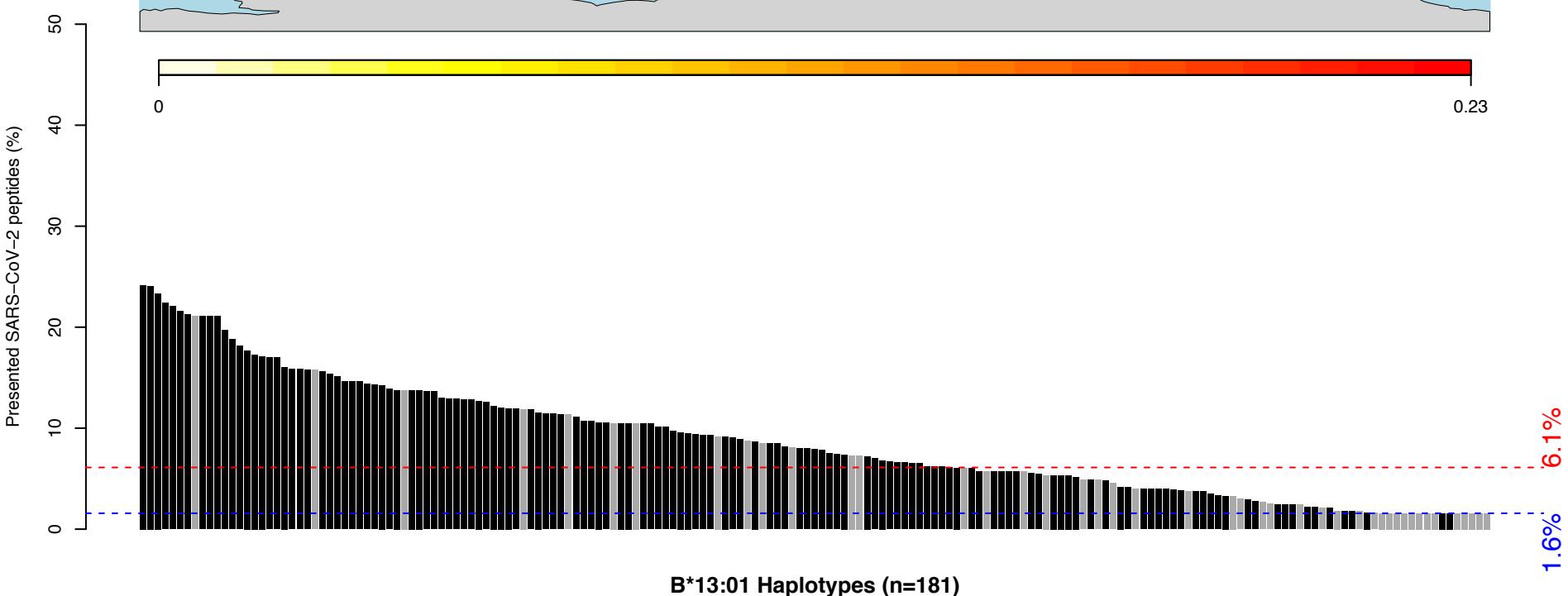
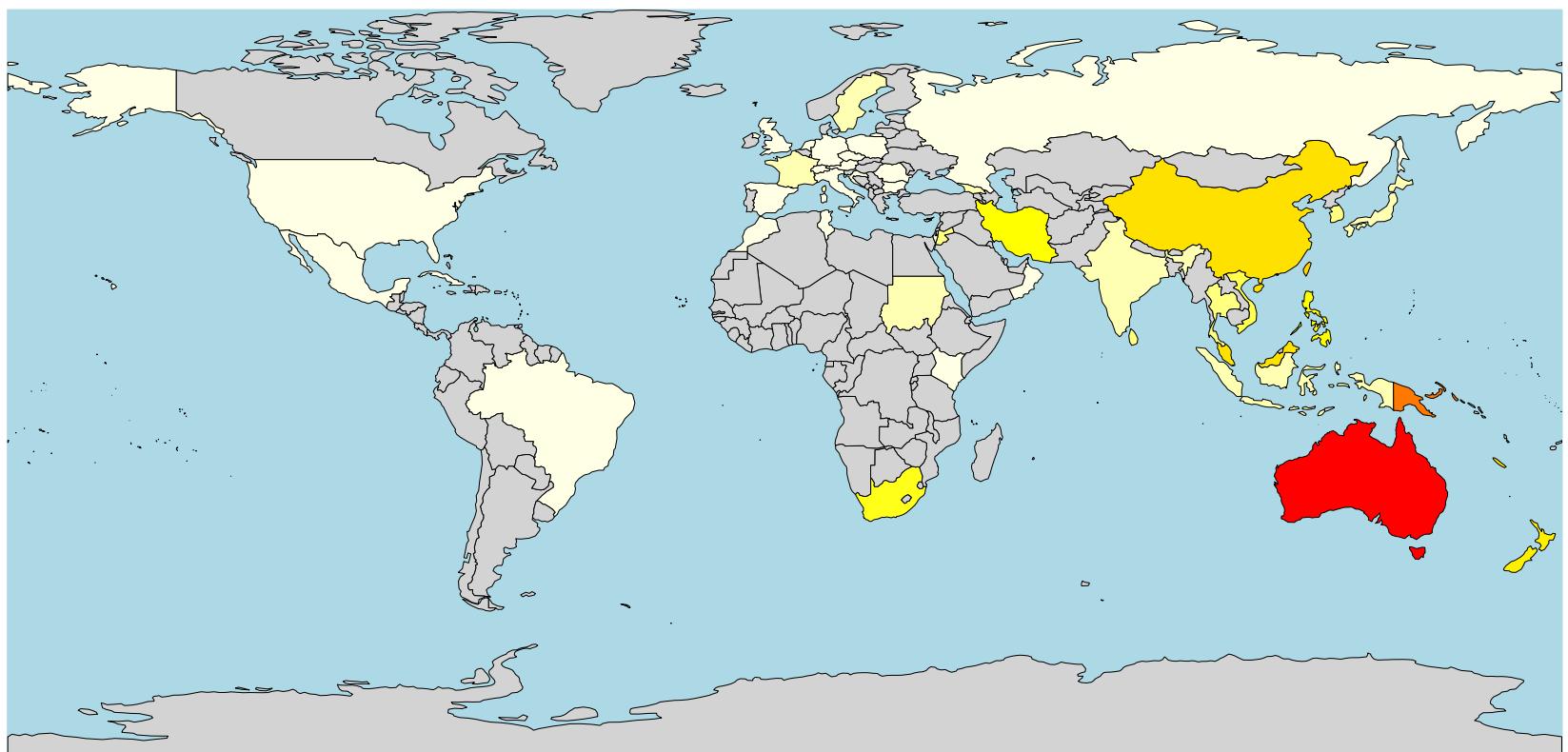
B*07:05
(~2.2% globally)



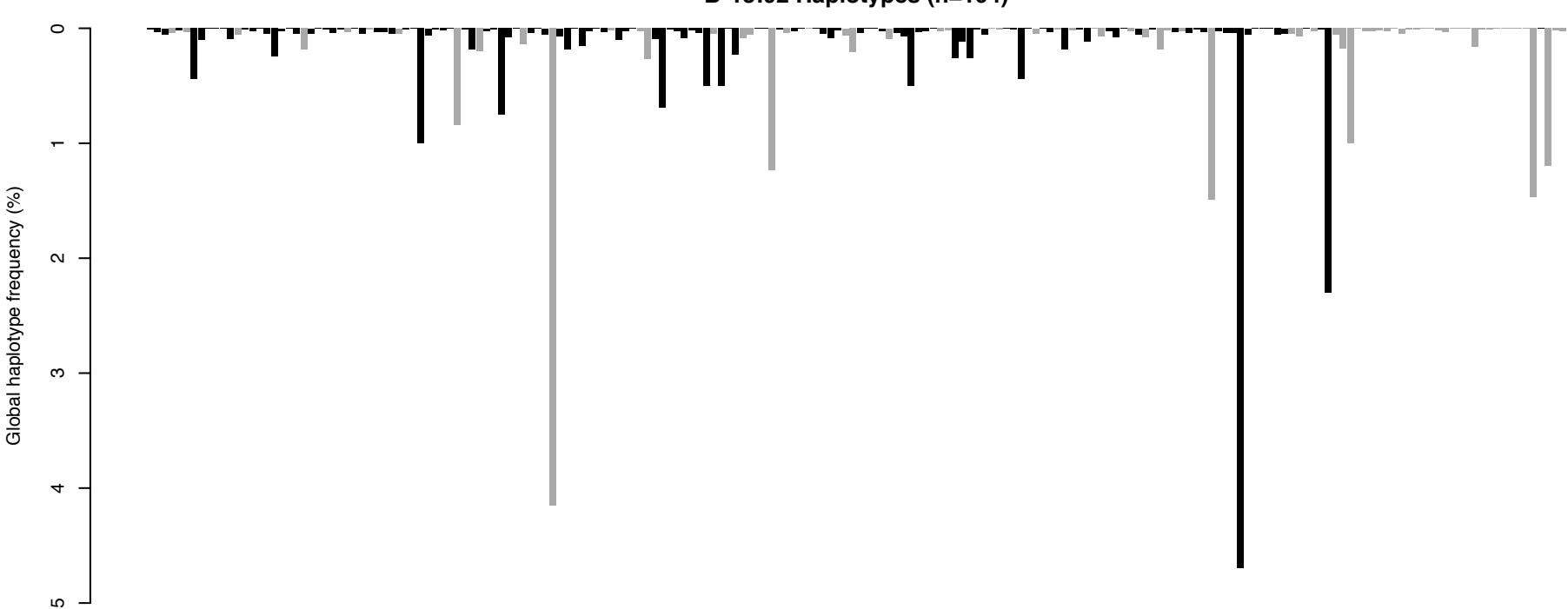
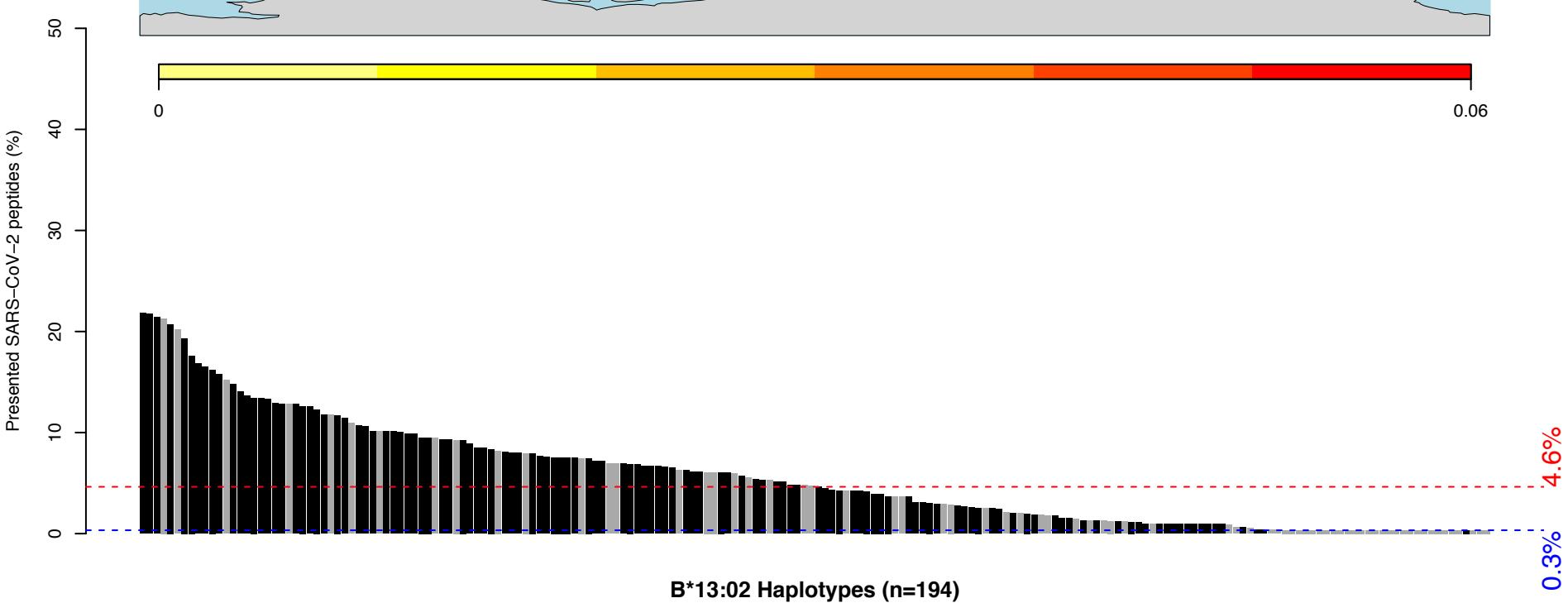
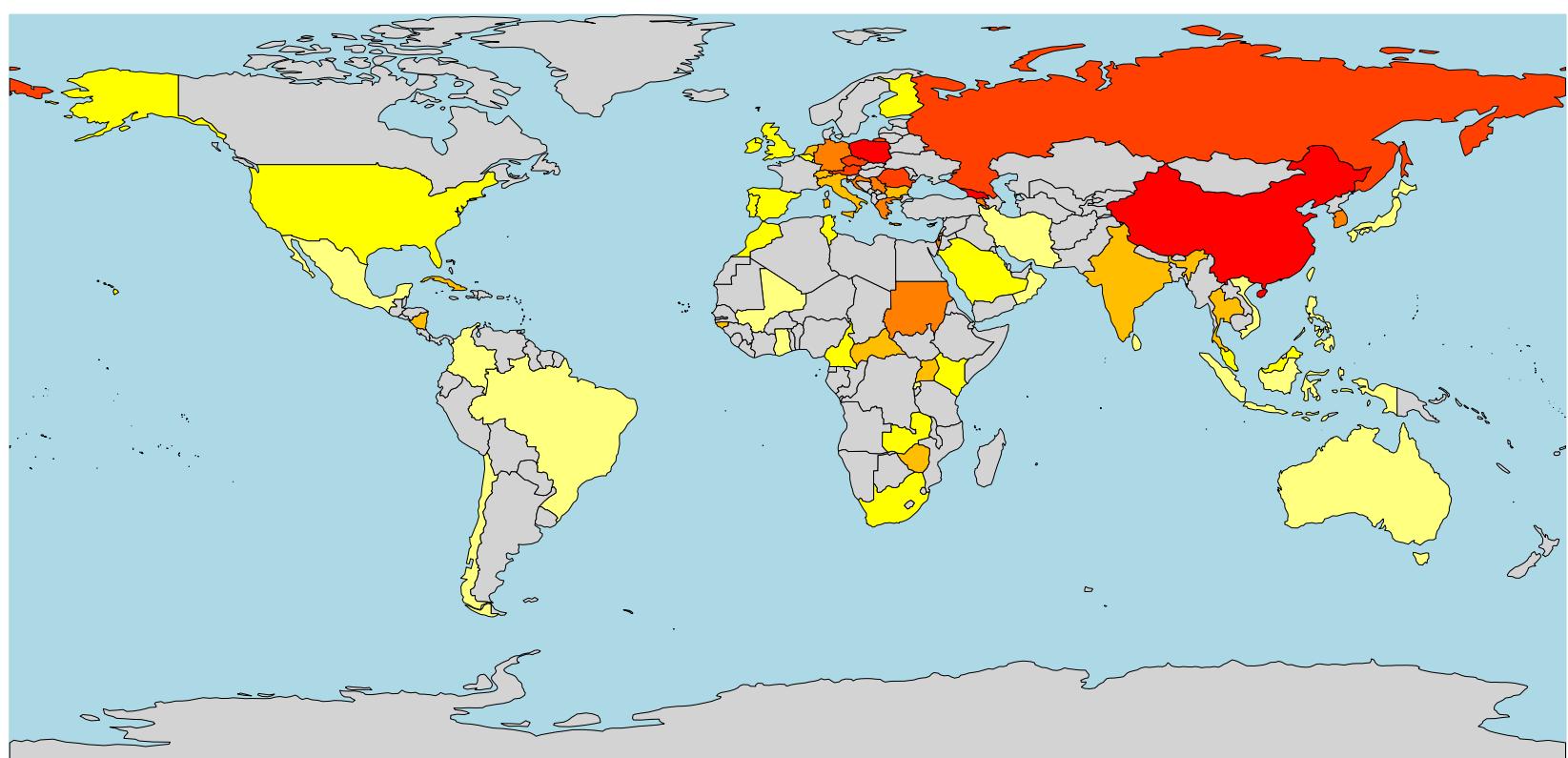
B*08:01
(~2.5% globally)



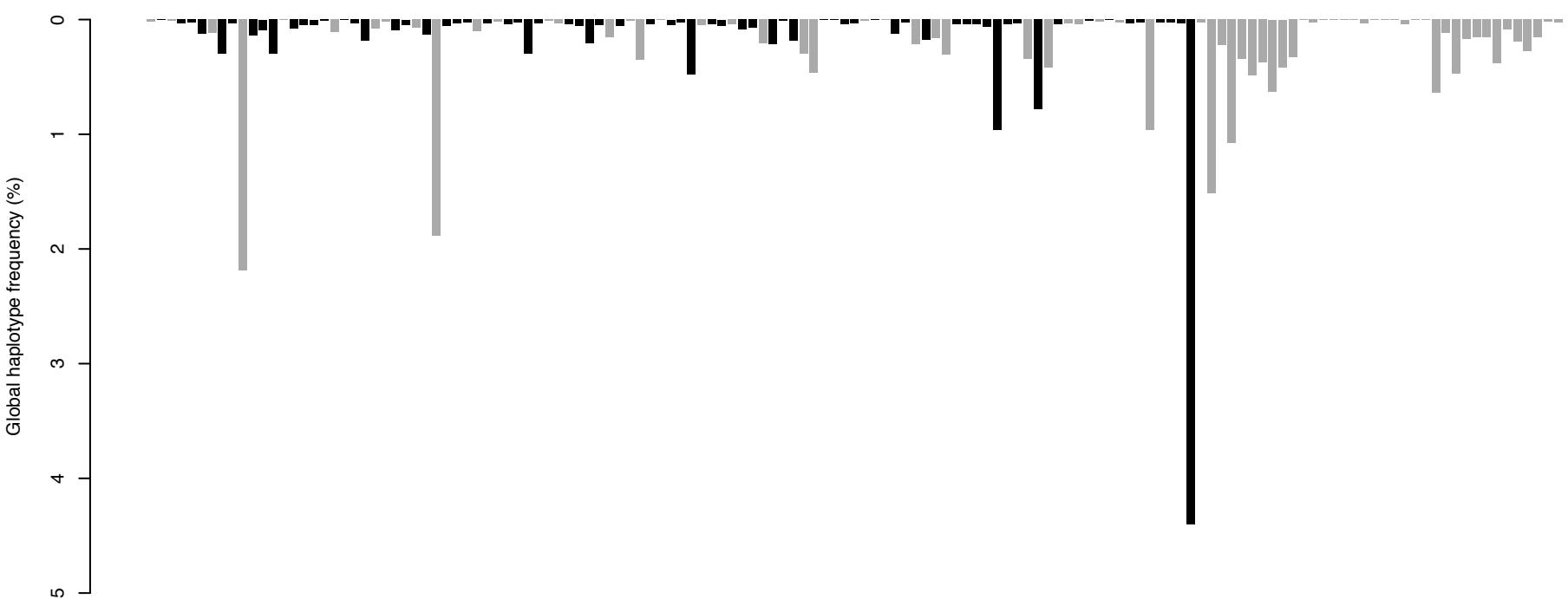
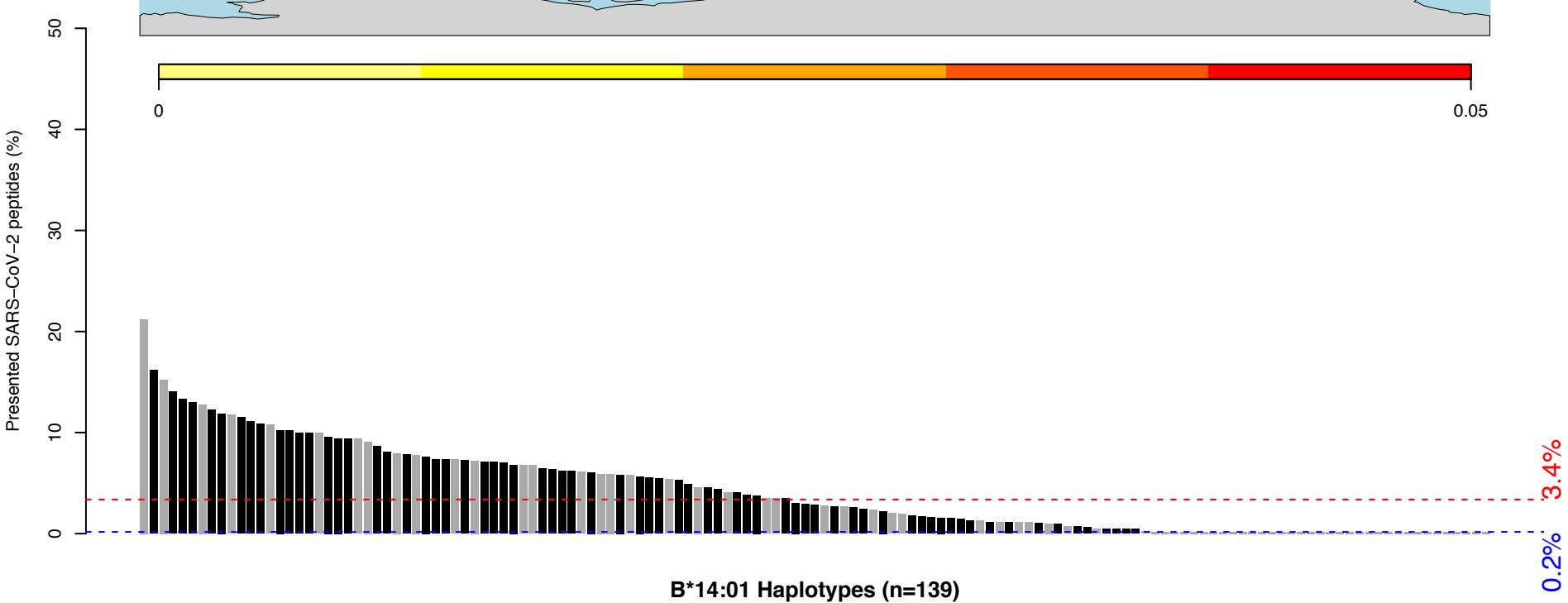
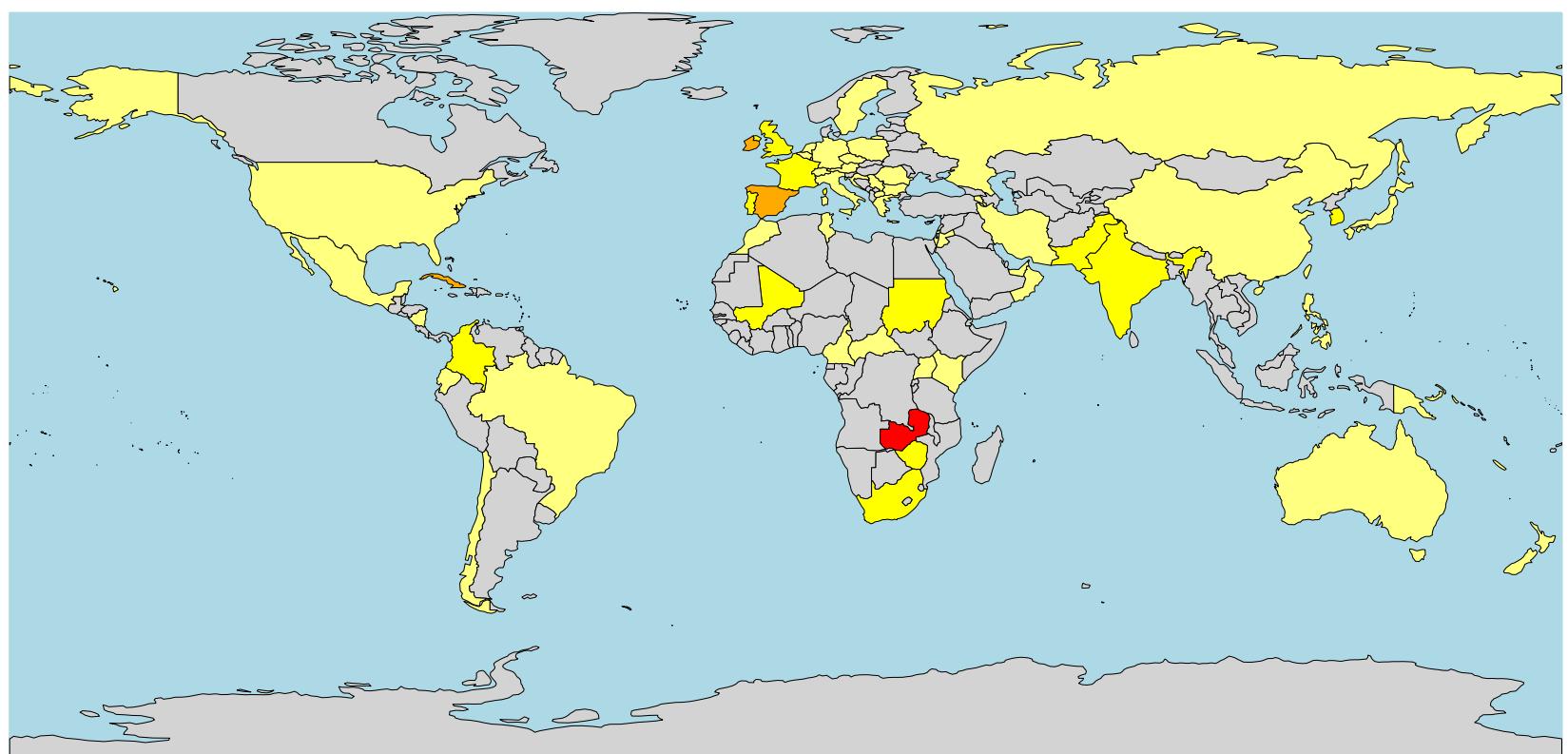
B*13:01
(~3% globally)



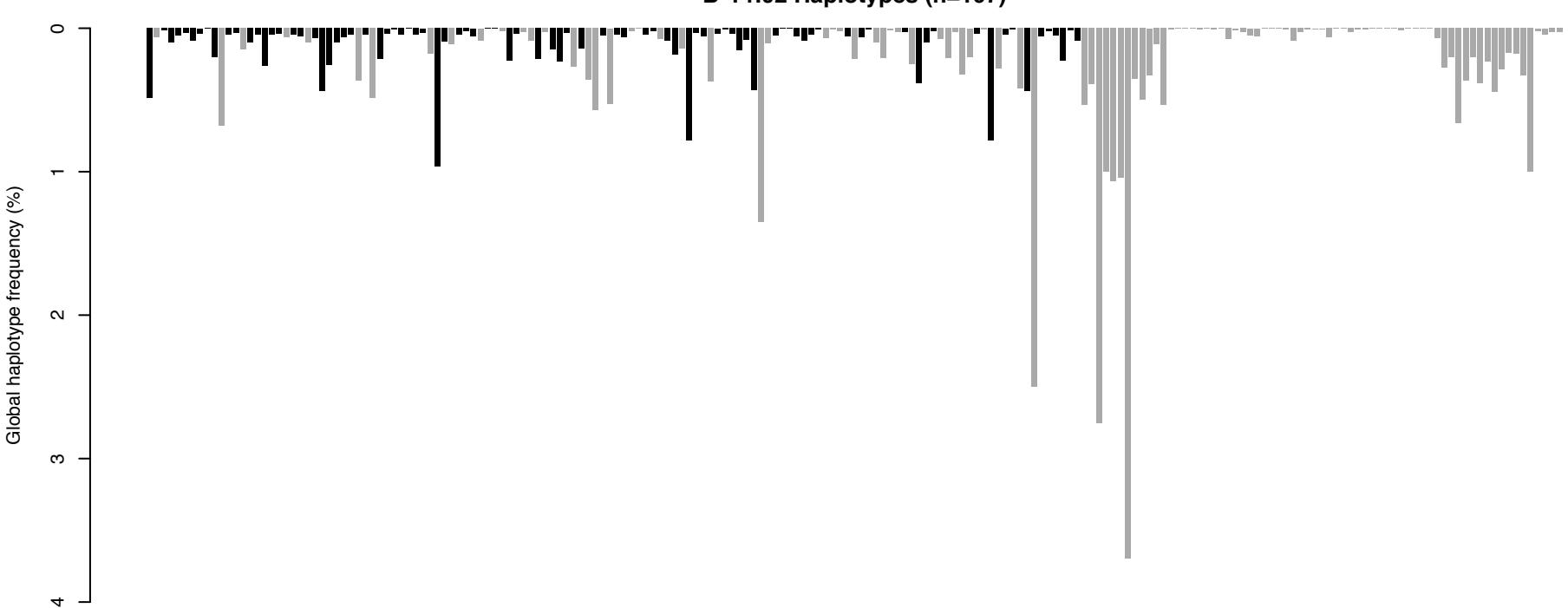
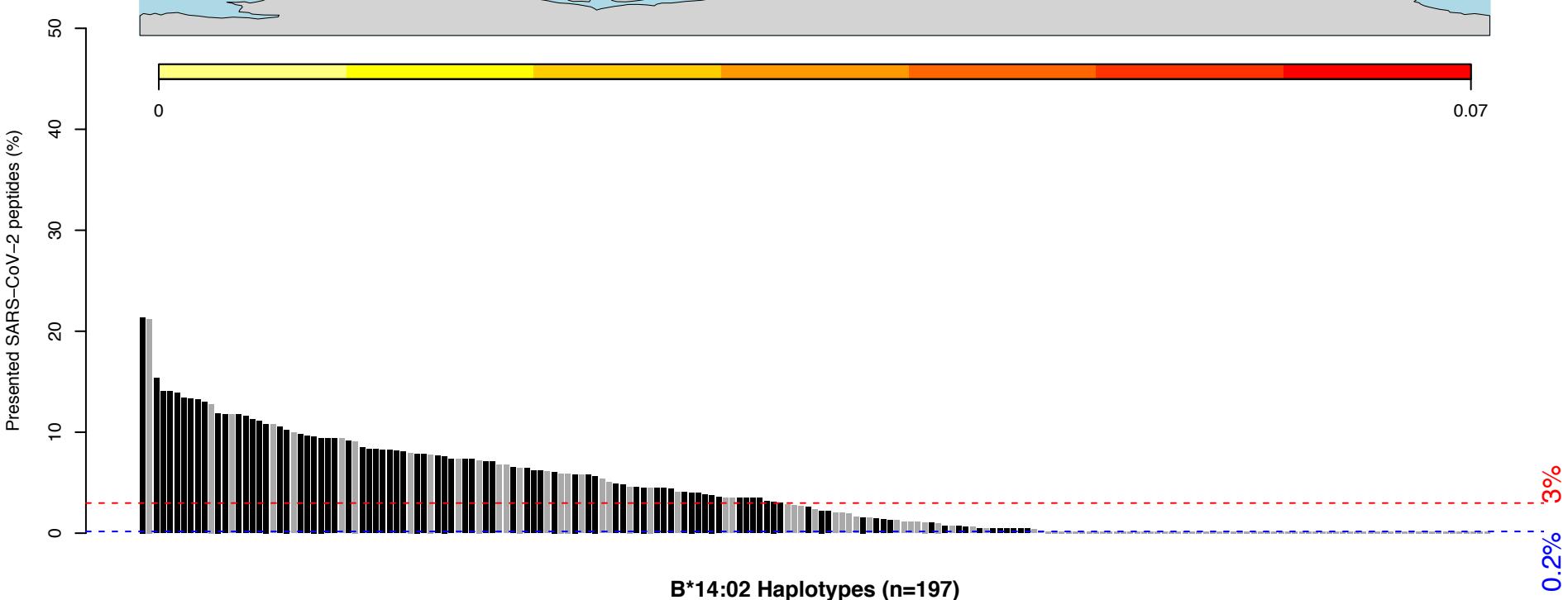
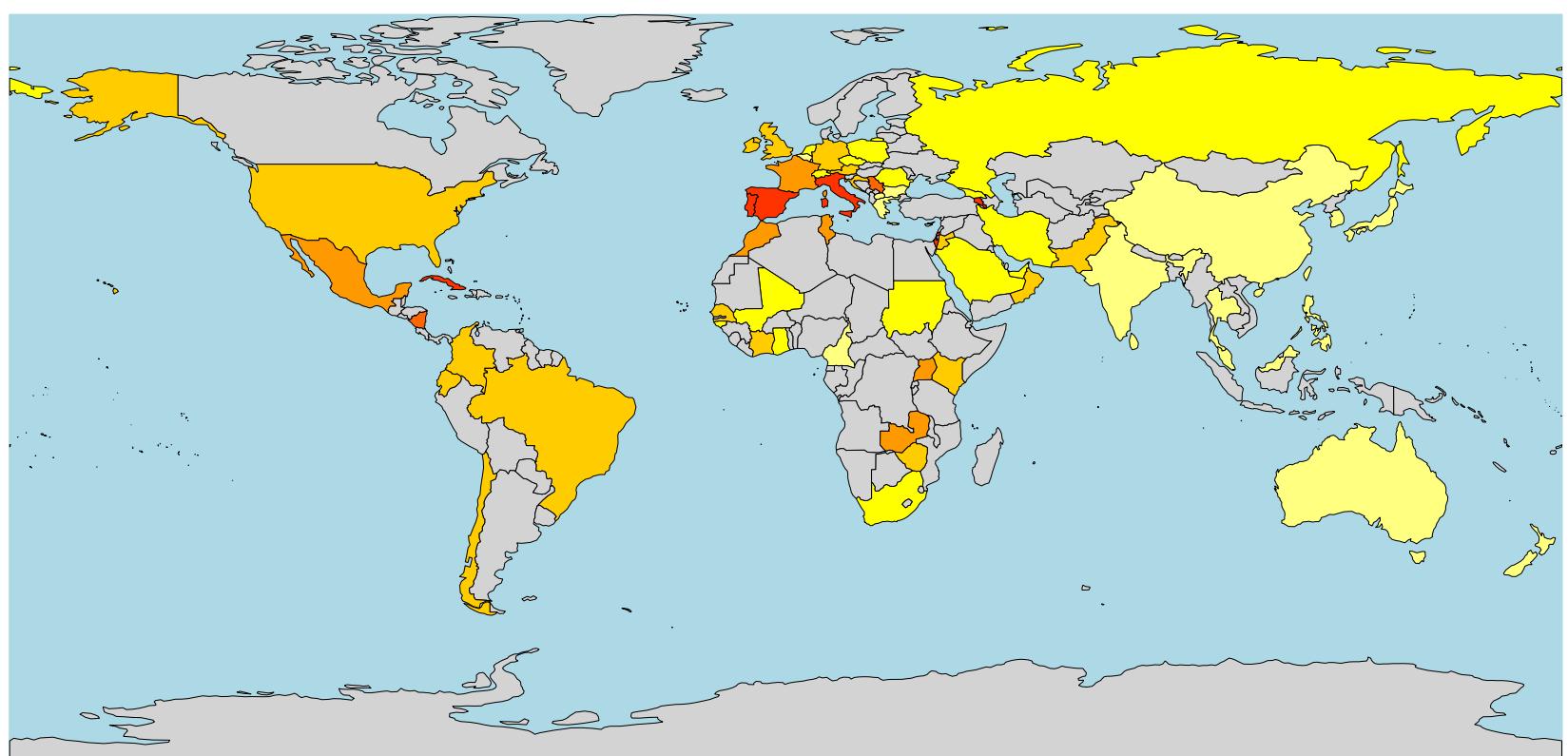
B*13:02
(~2.5% globally)



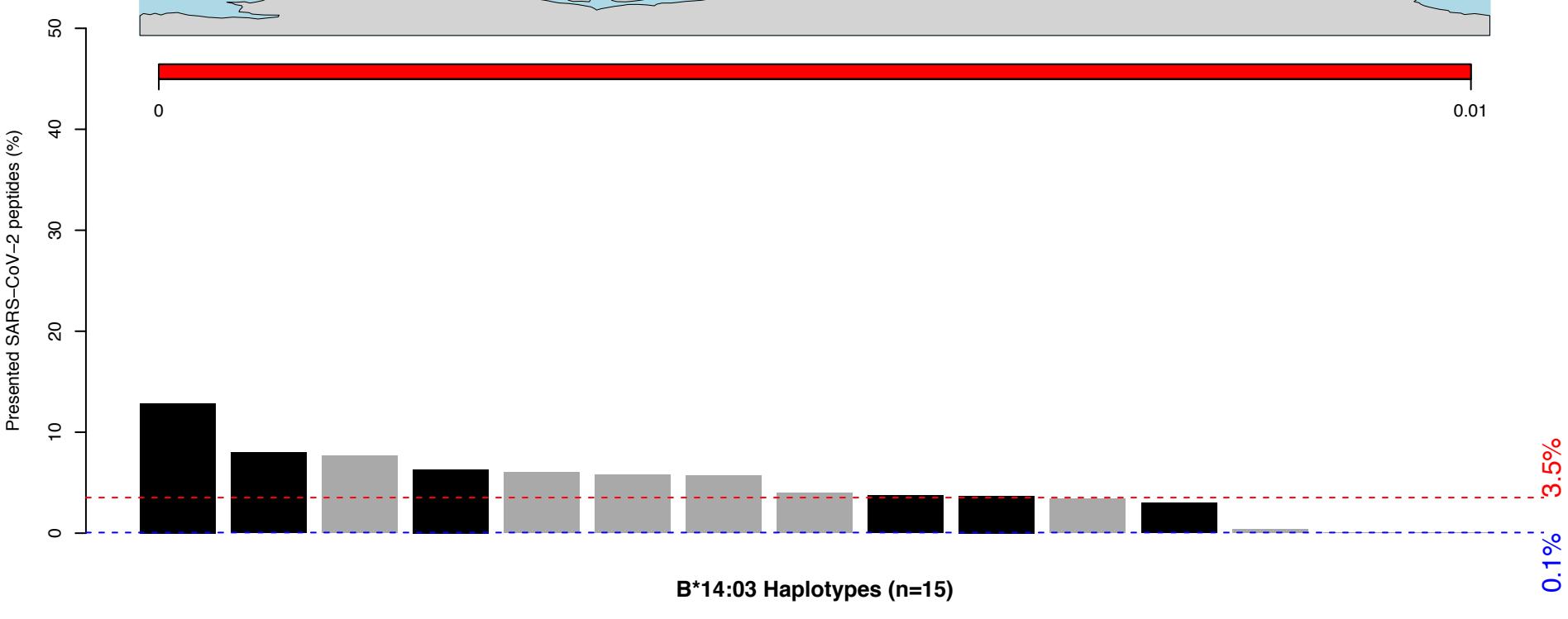
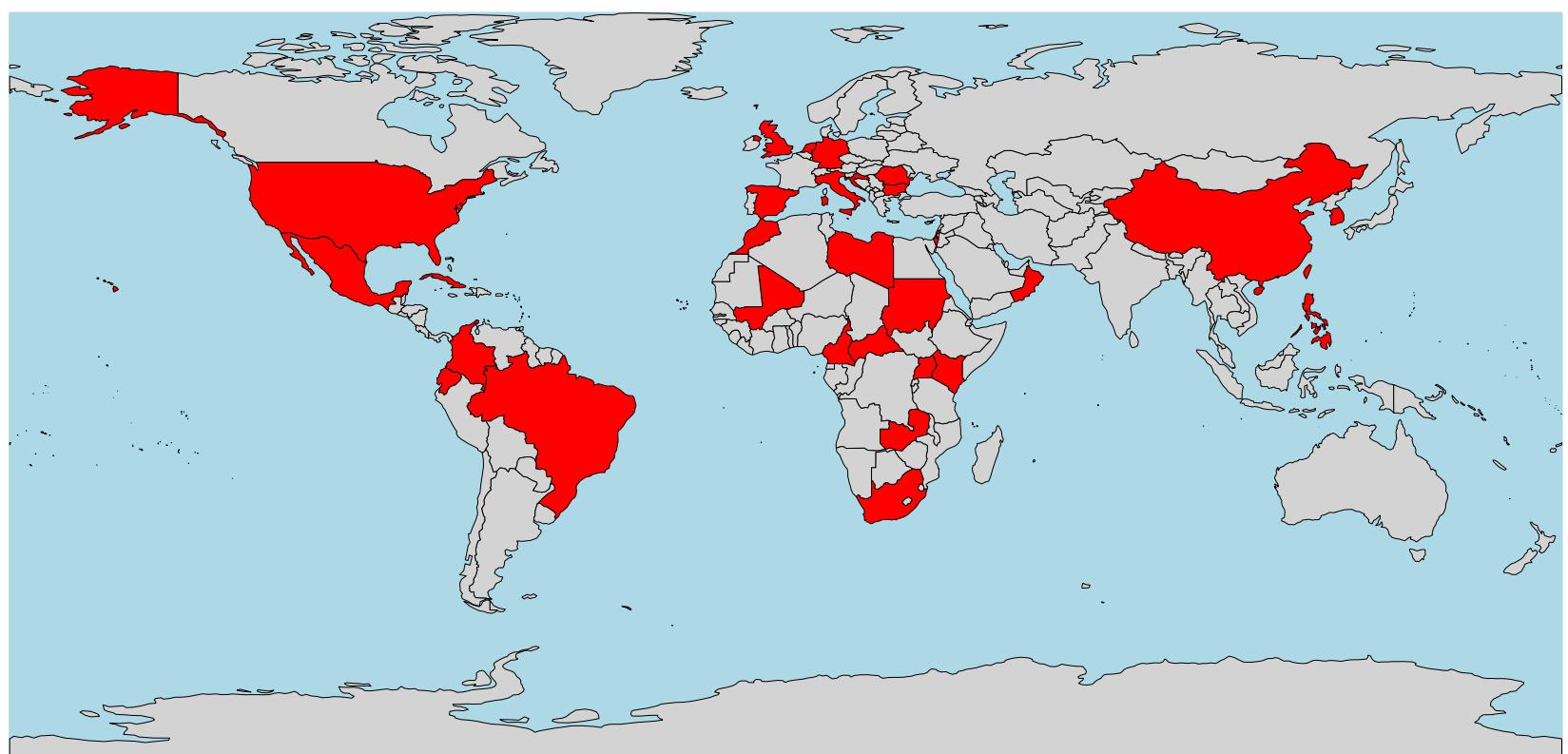
B*14:01
(~0.67% globally)



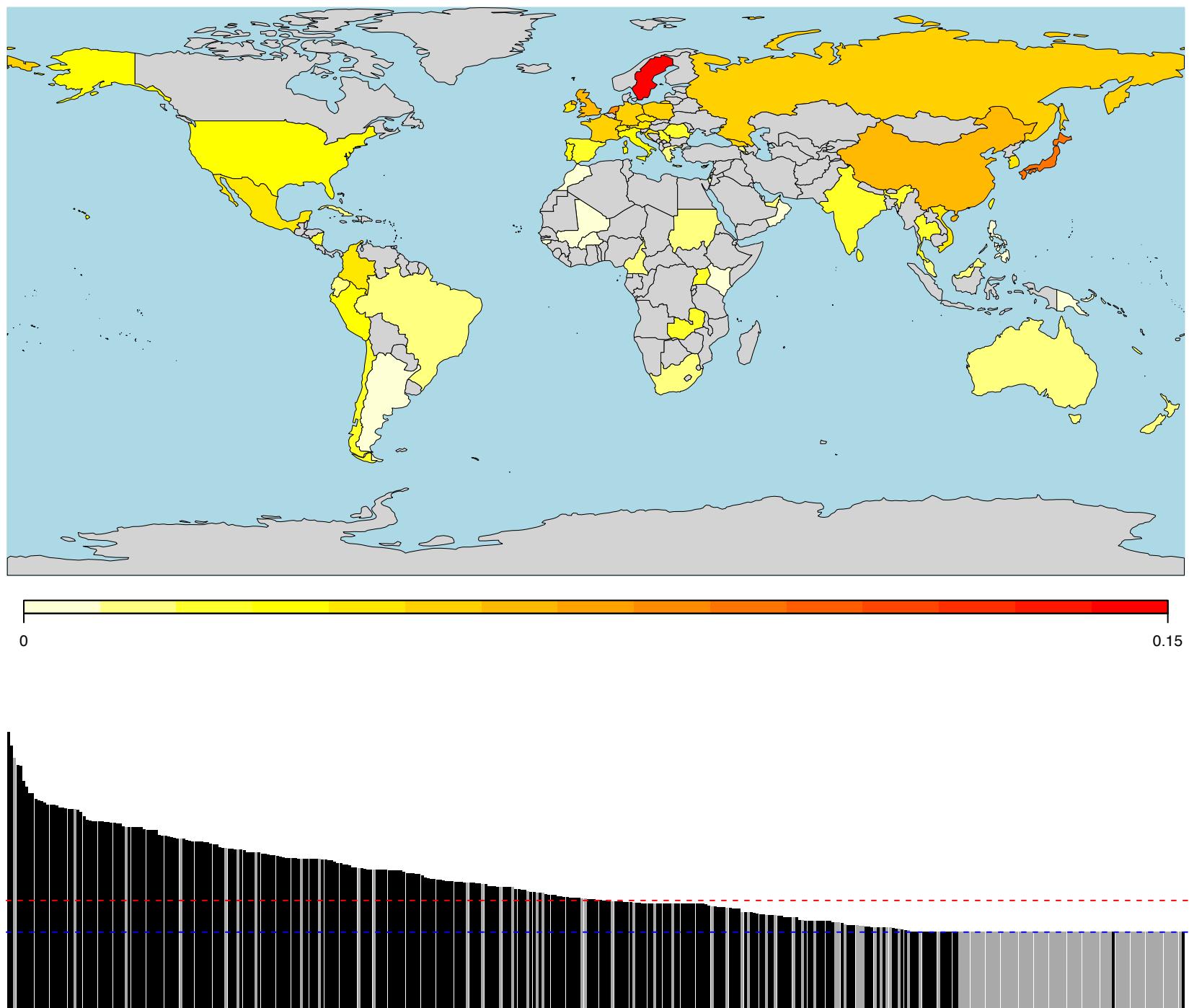
B*14:02
(~0.87% globally)



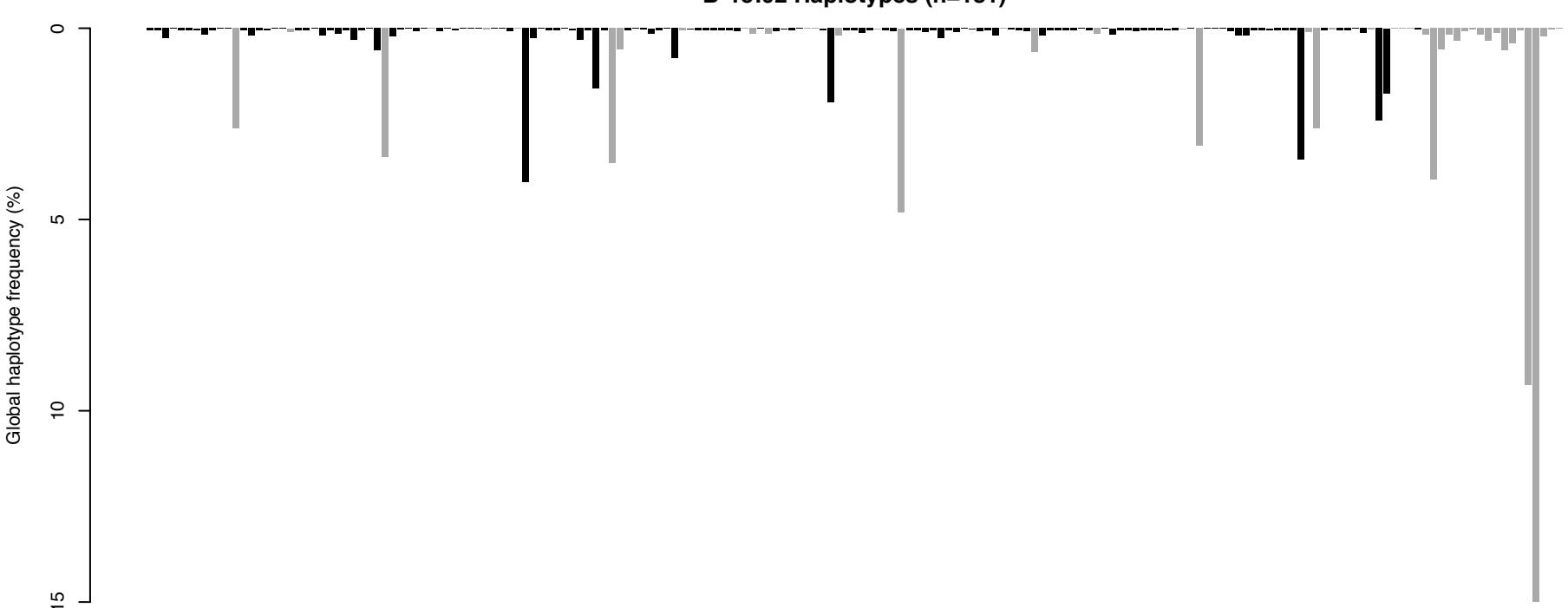
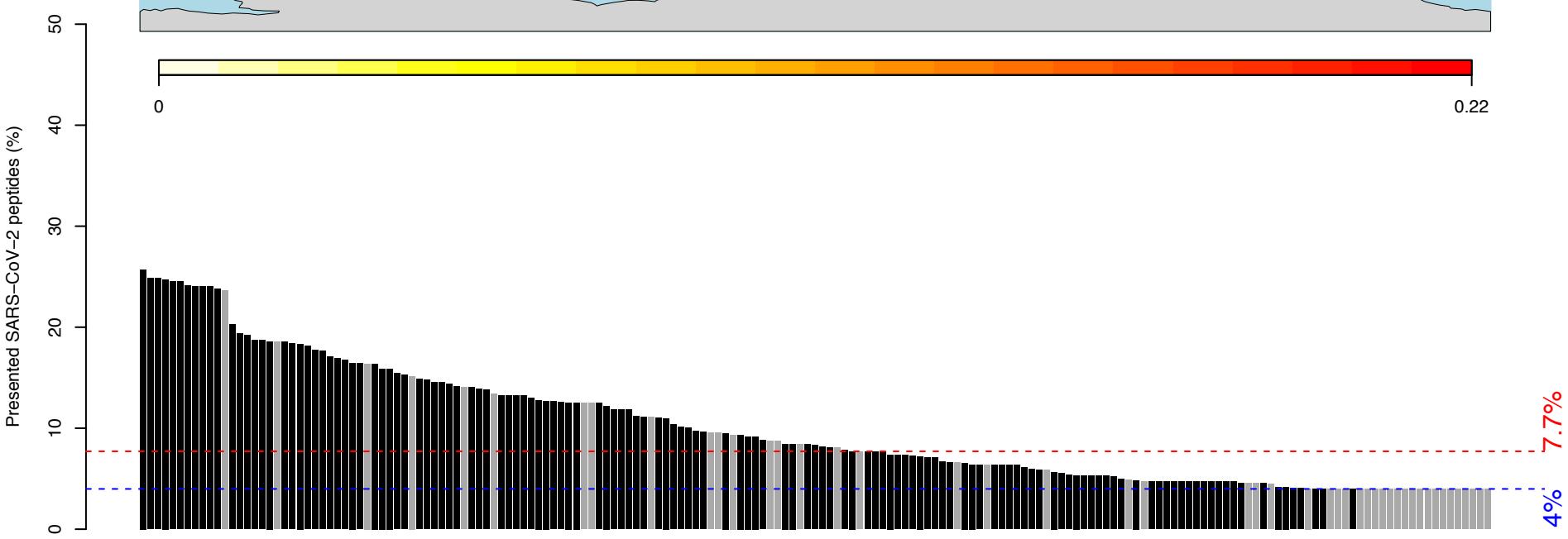
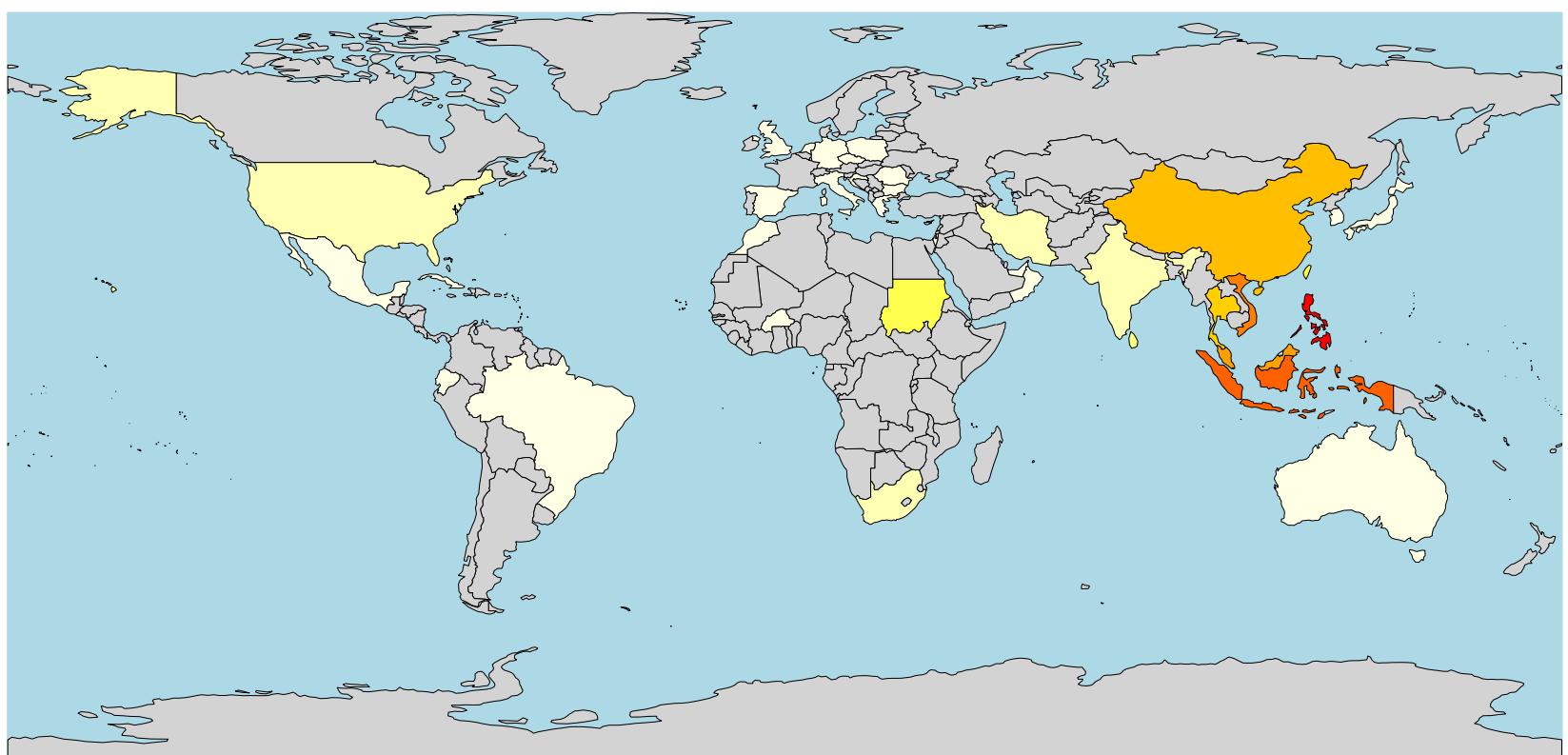
B*14:03
(~0.025% globally)



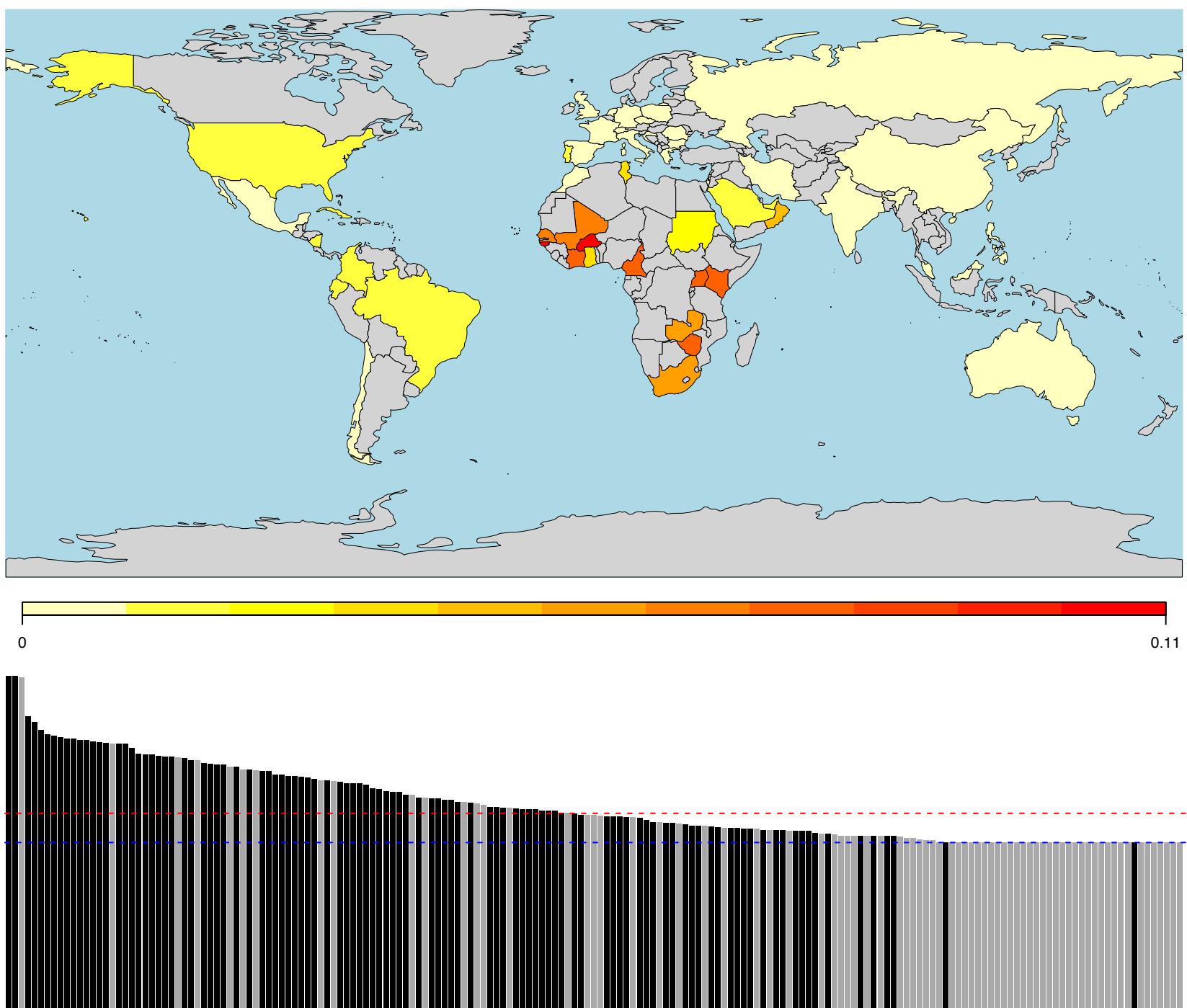
B*15:01
(~3% globally)



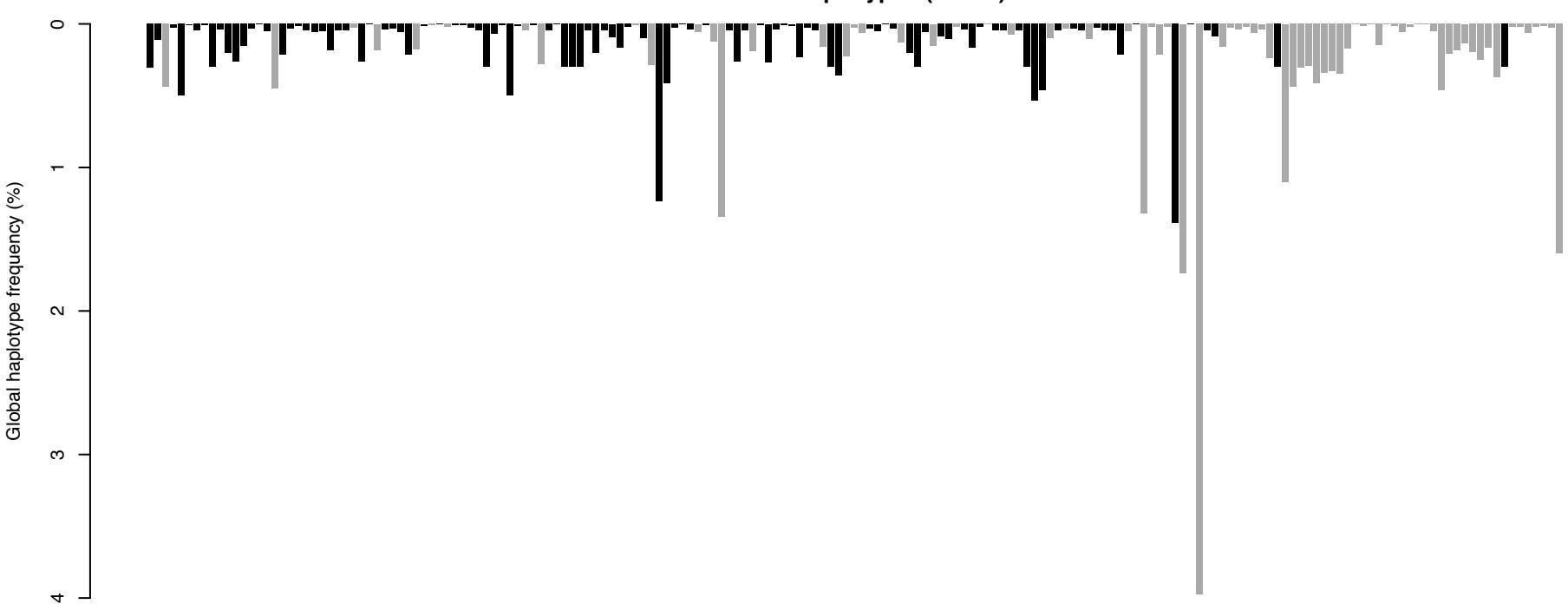
B*15:02
(~4.2% globally)



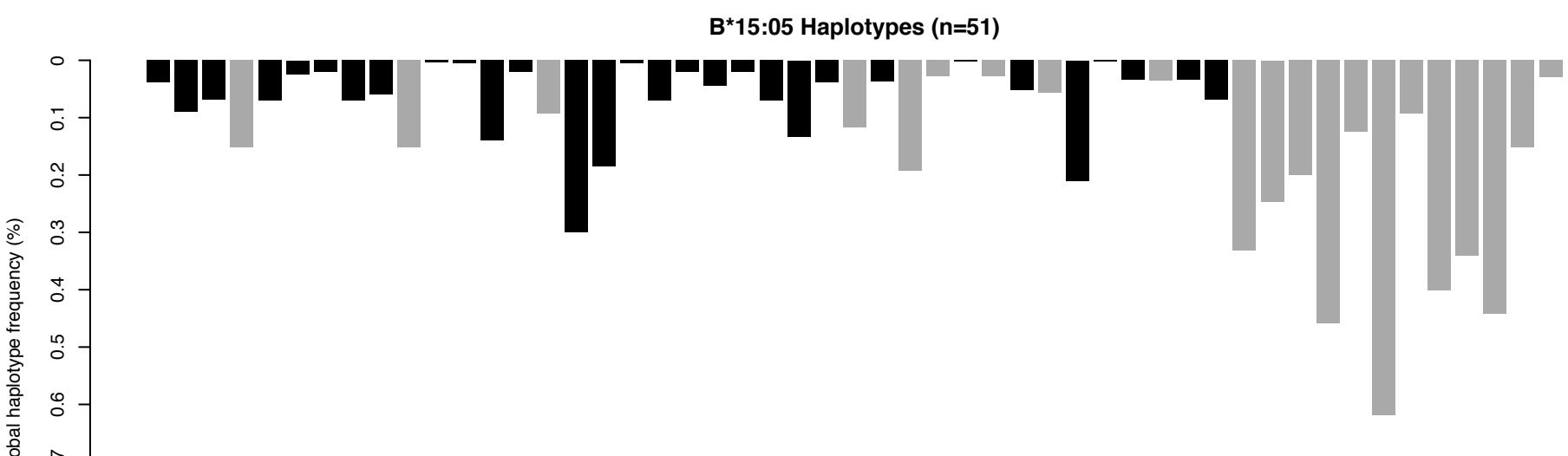
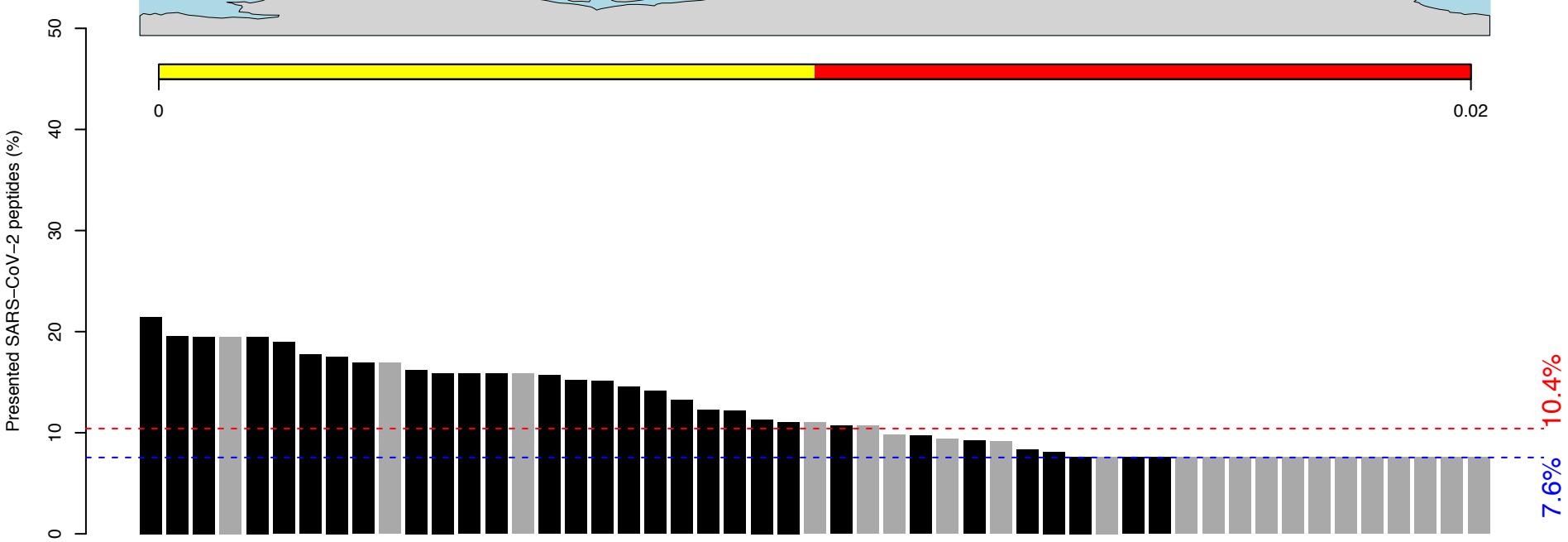
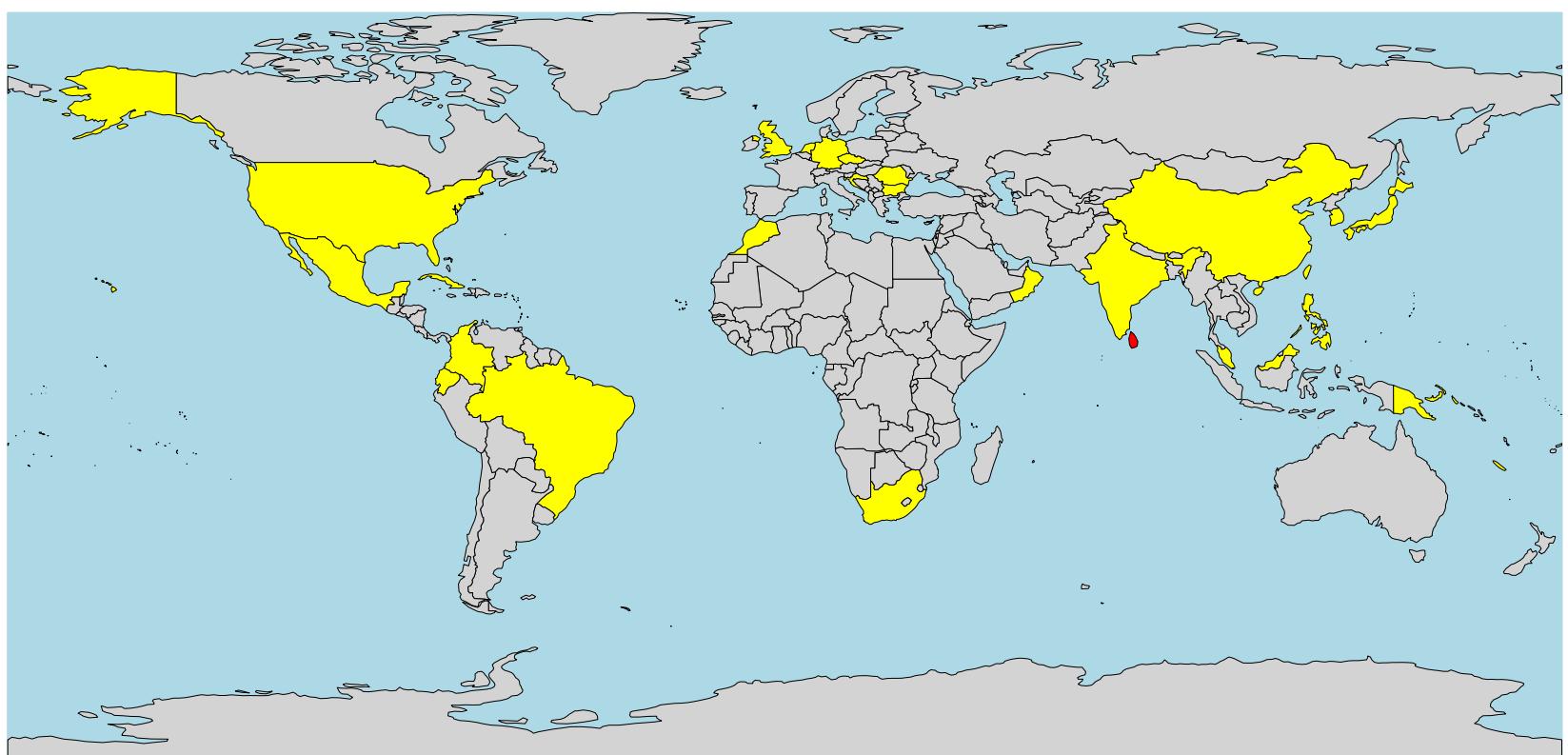
B*15:03
(~0.63% globally)



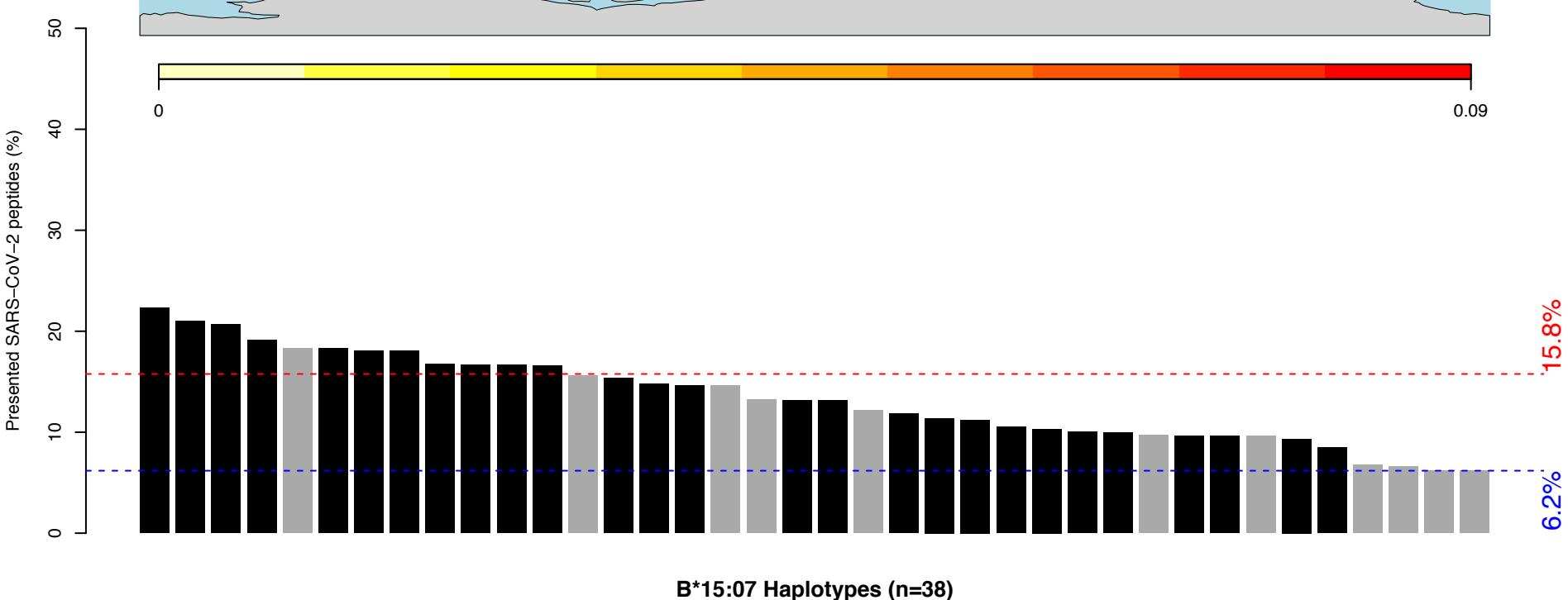
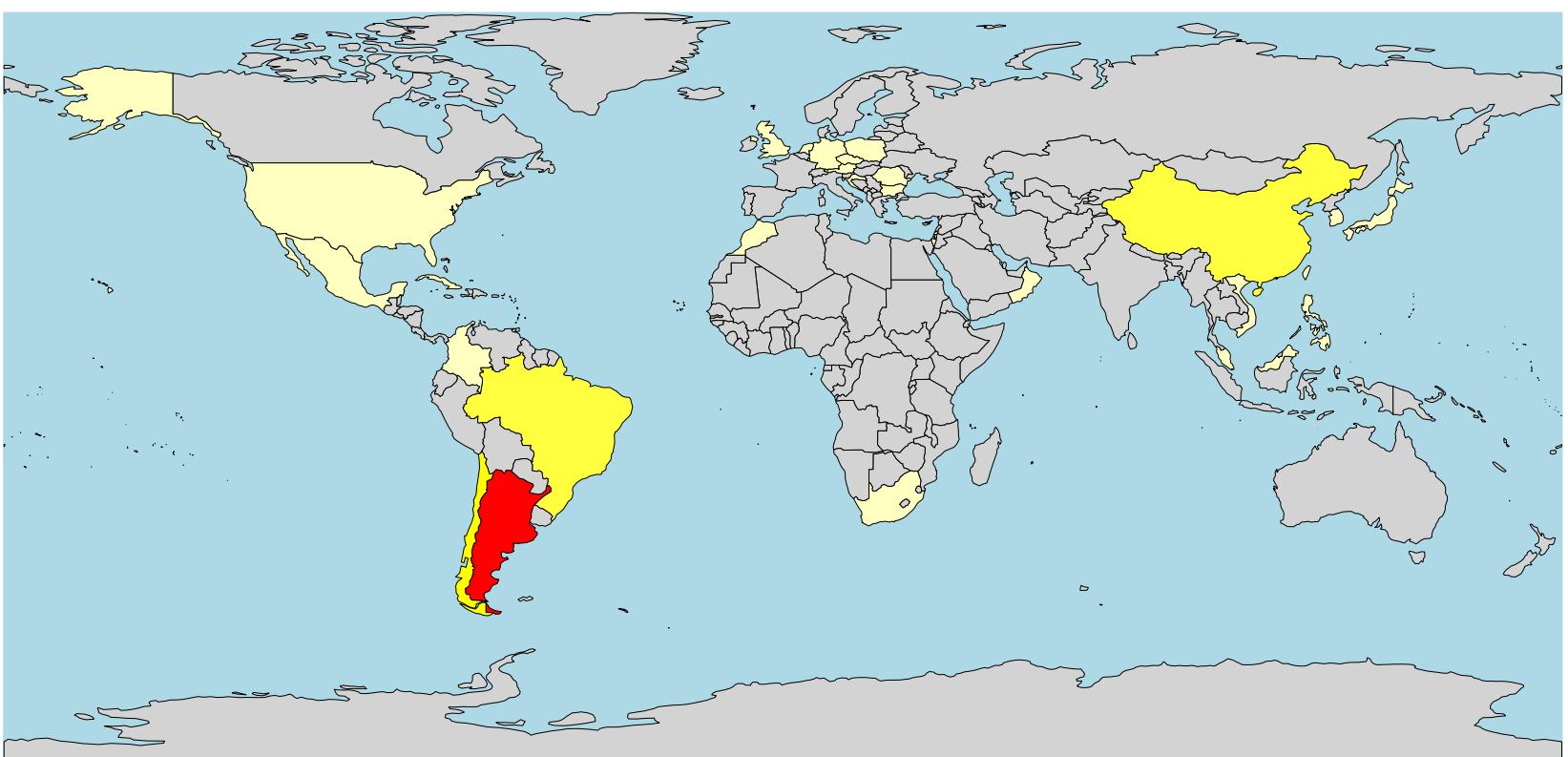
B*15:03 Haplotypes (n=181)



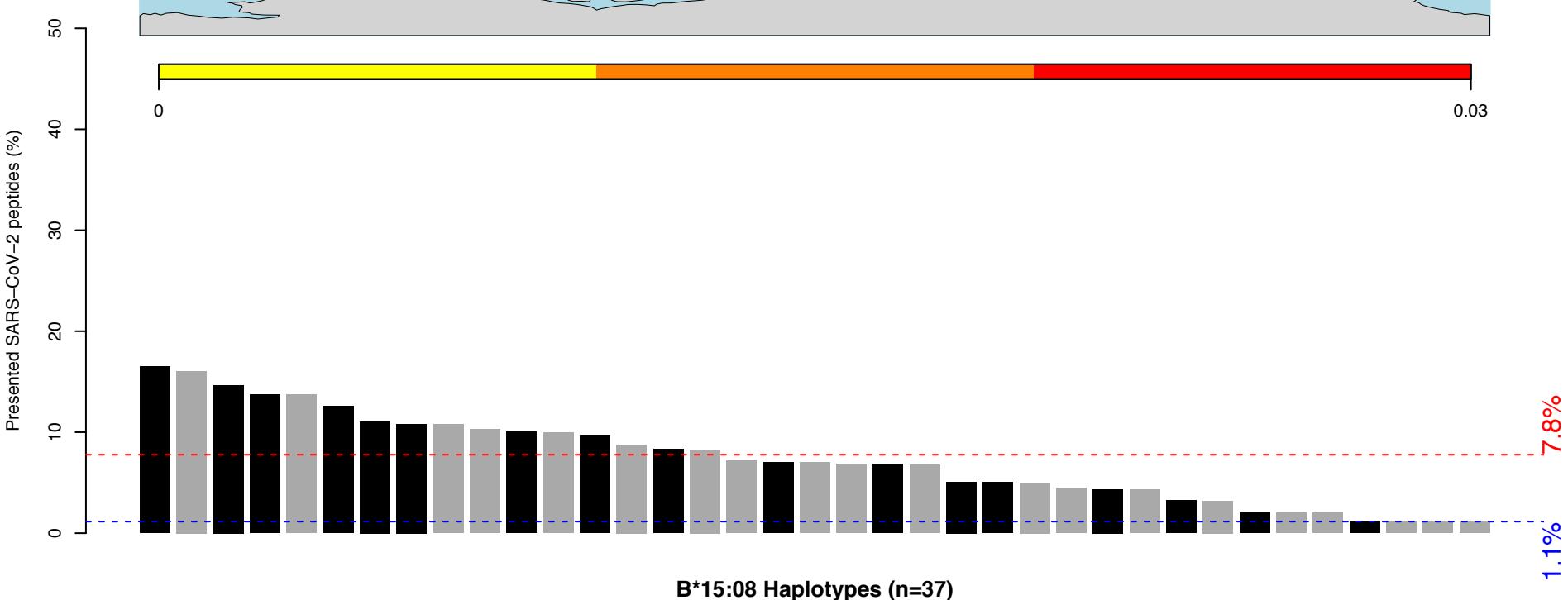
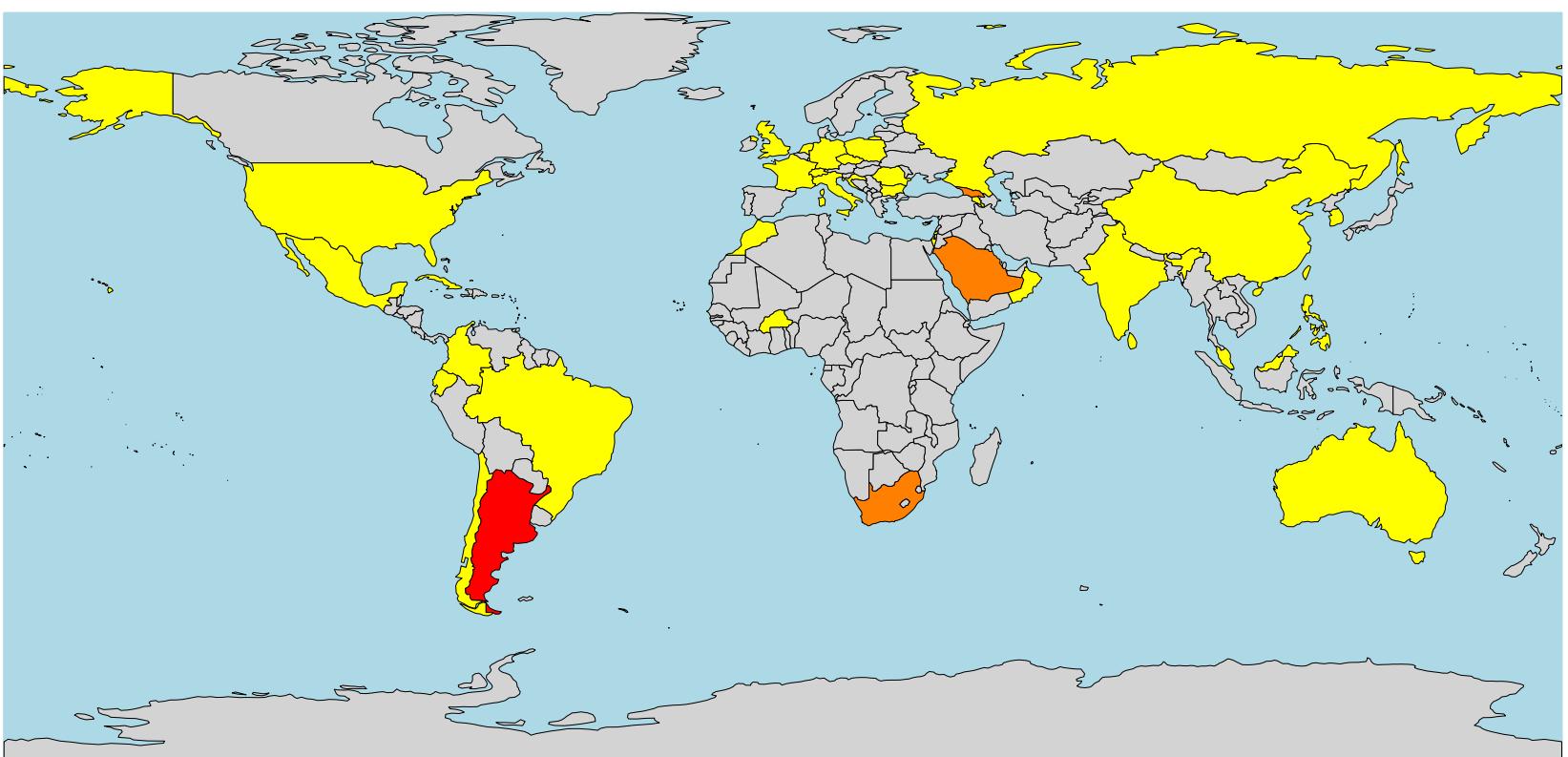
B*15:05
(~0.49% globally)



B*15:07
(~0.91% globally)



B*15:08
(~0.55% globally)



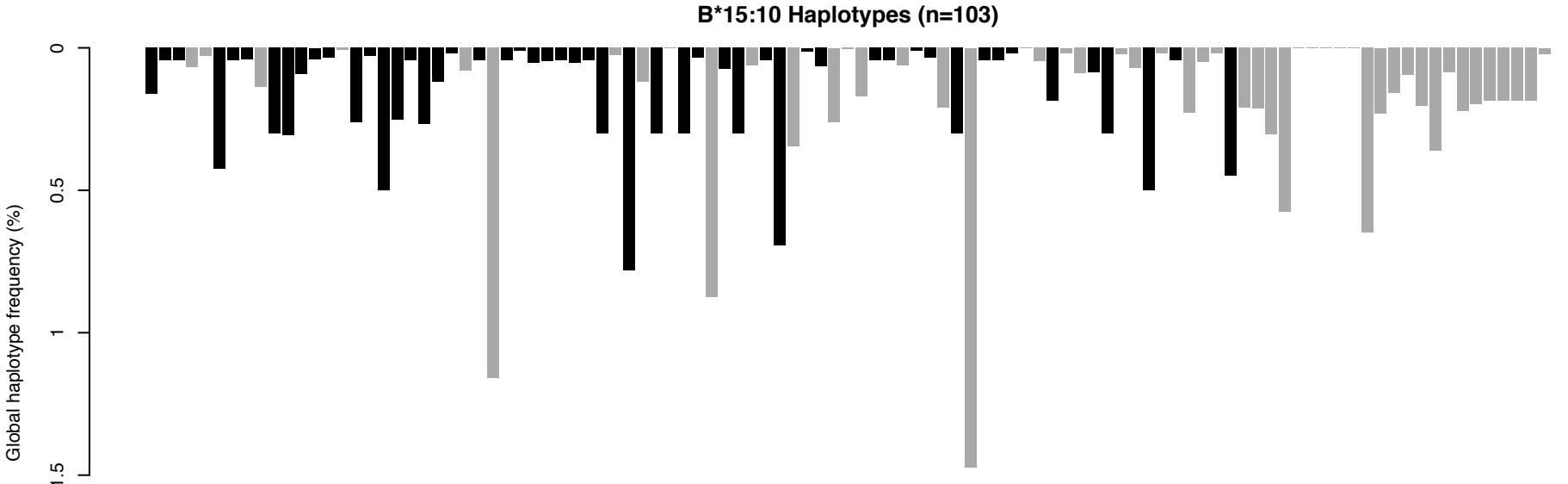
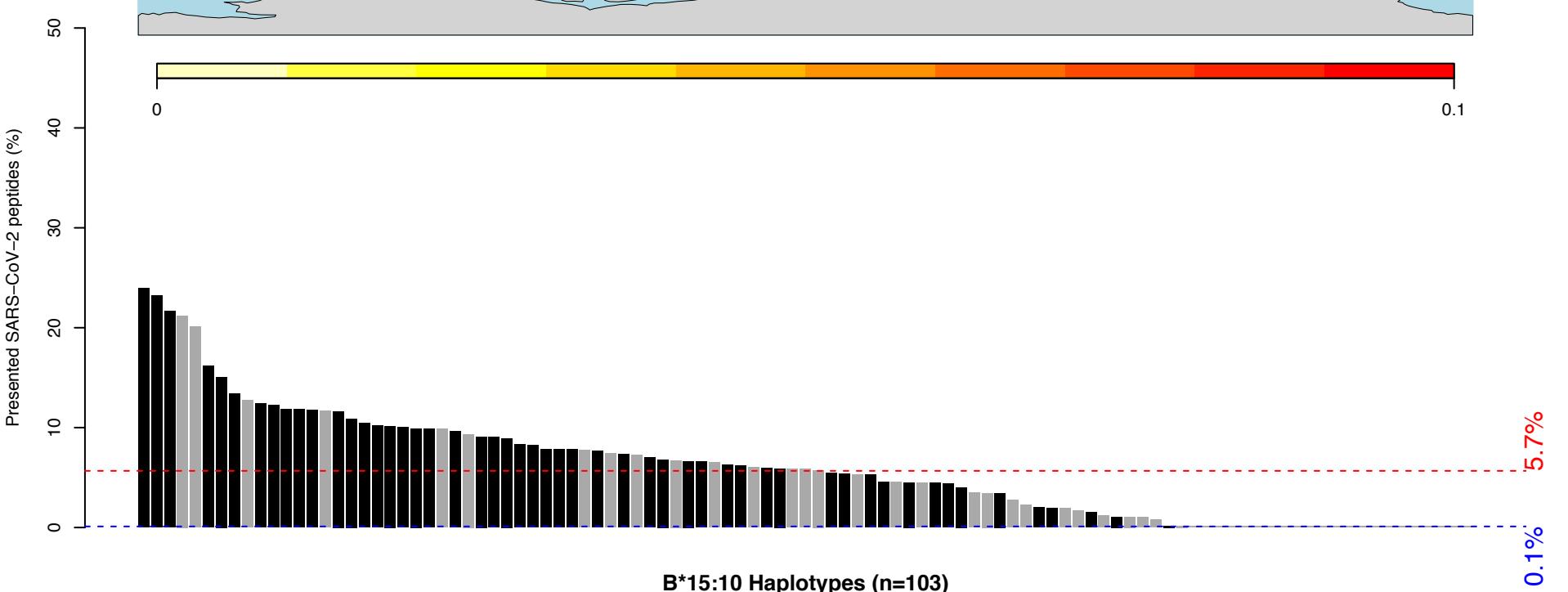
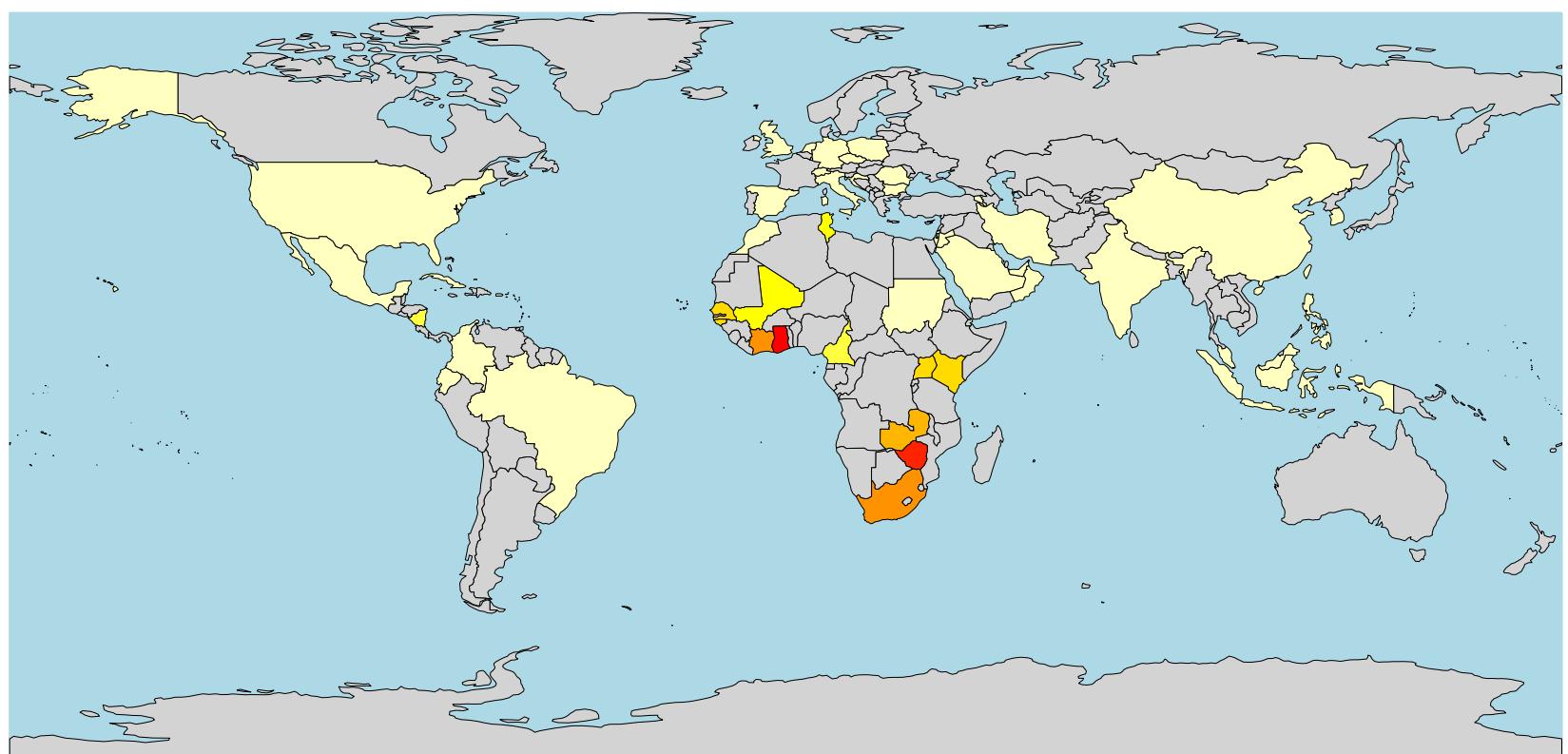
Global haplotype frequency (%)



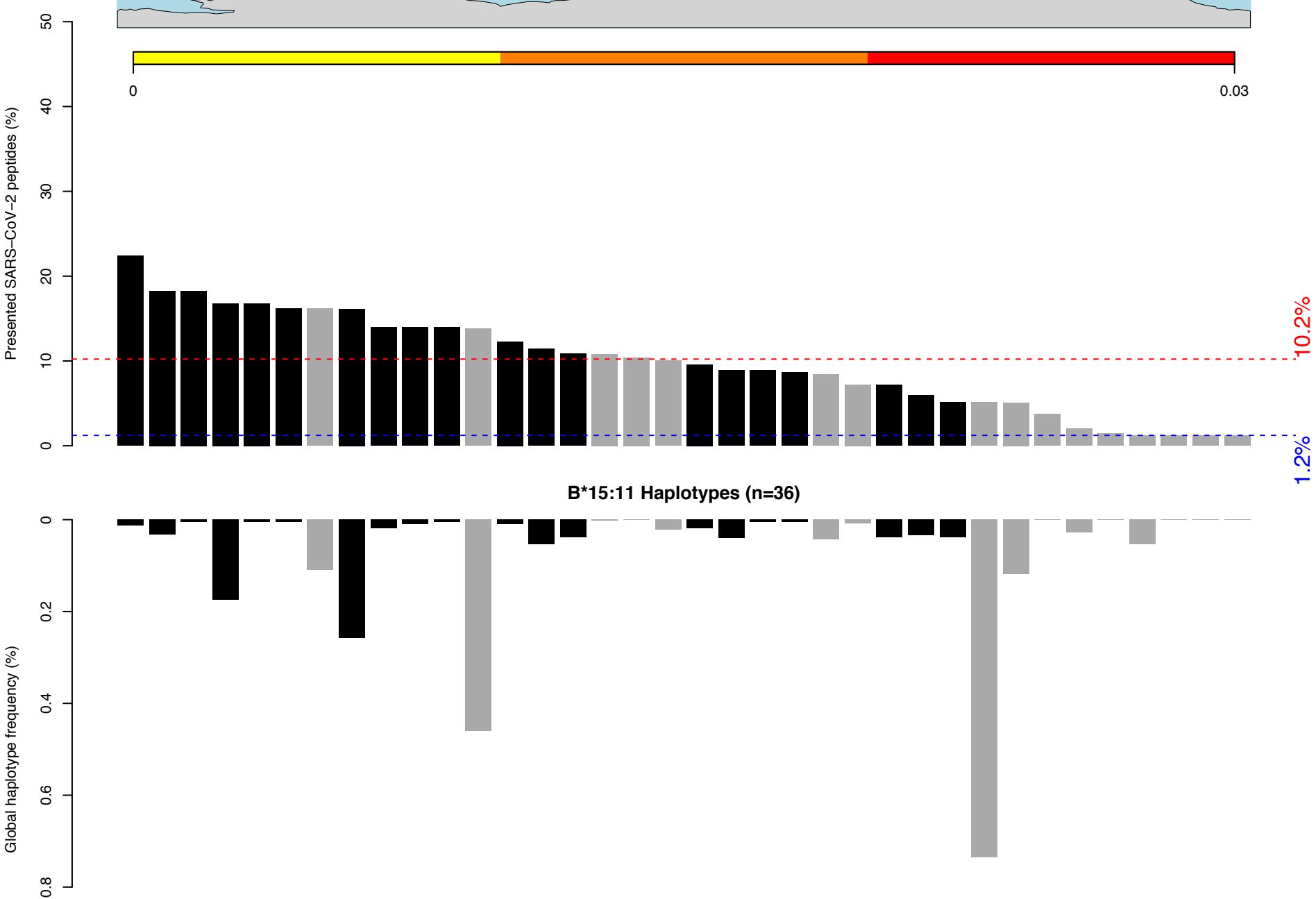
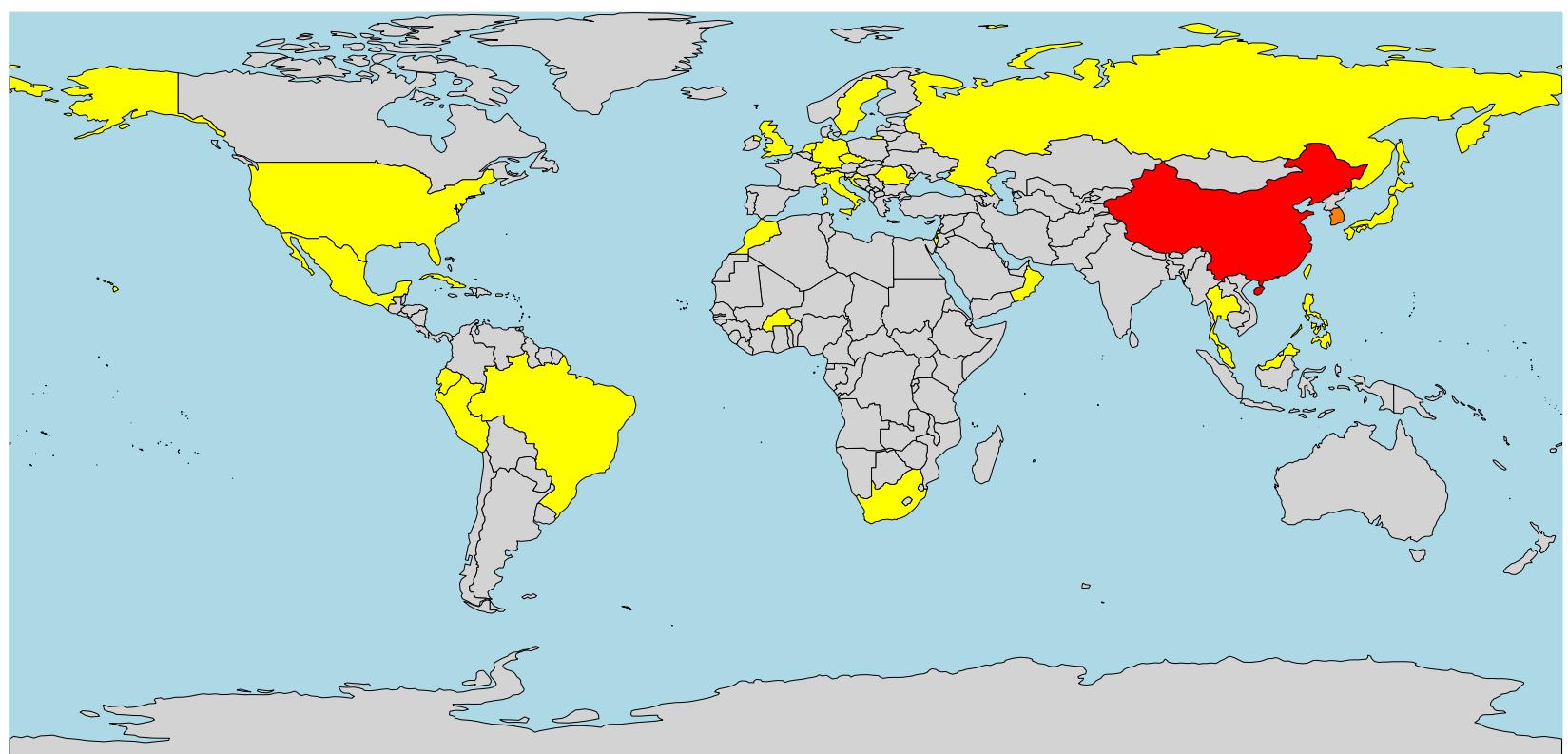
7.8%

1.1%

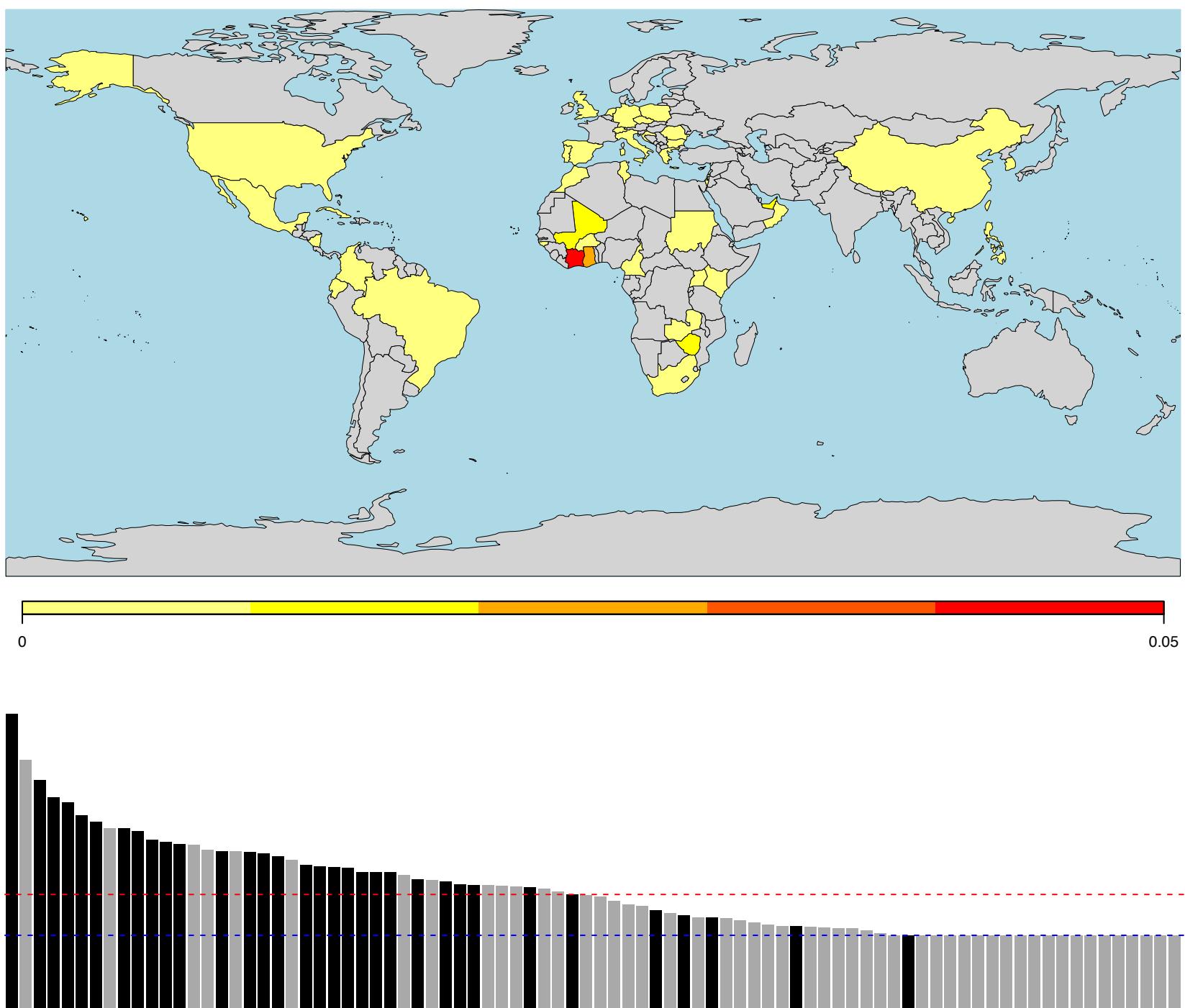
B*15:10
(~0.26% globally)



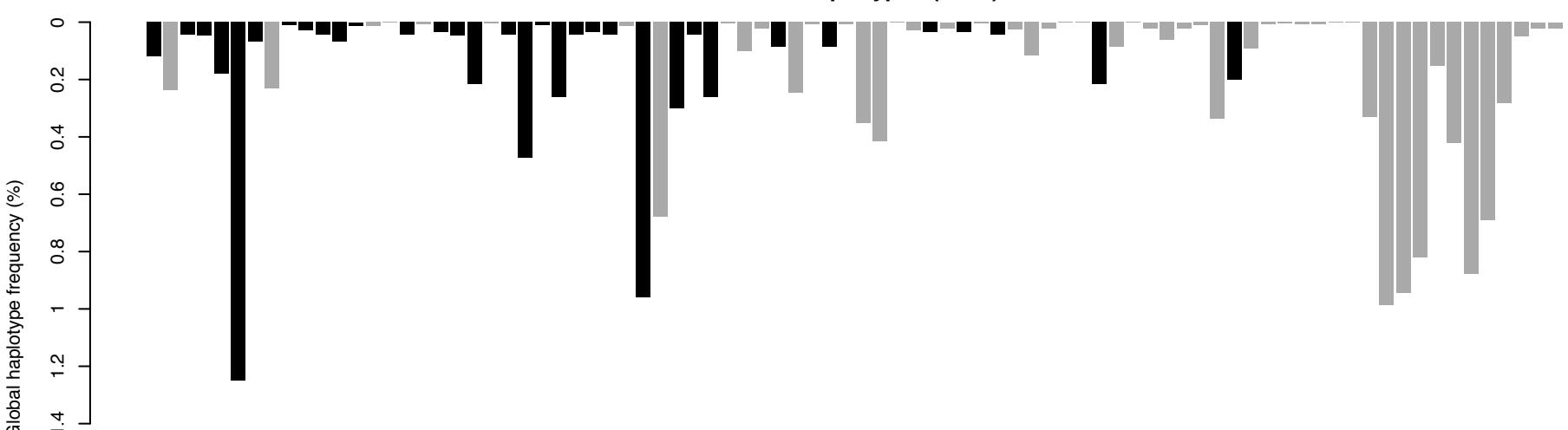
B*15:11
(~0.59% globally)



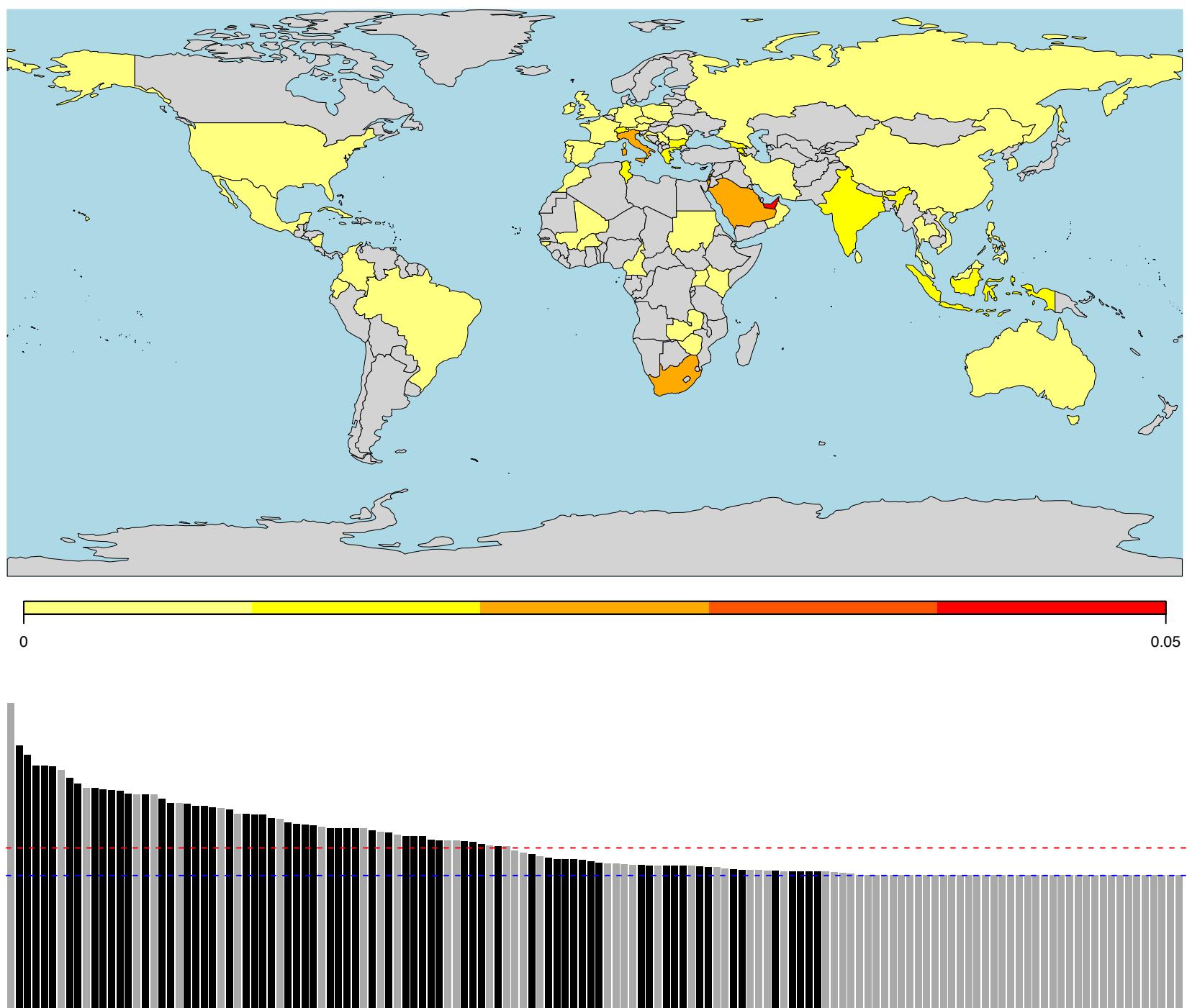
B*15:16
(~0.19% globally)



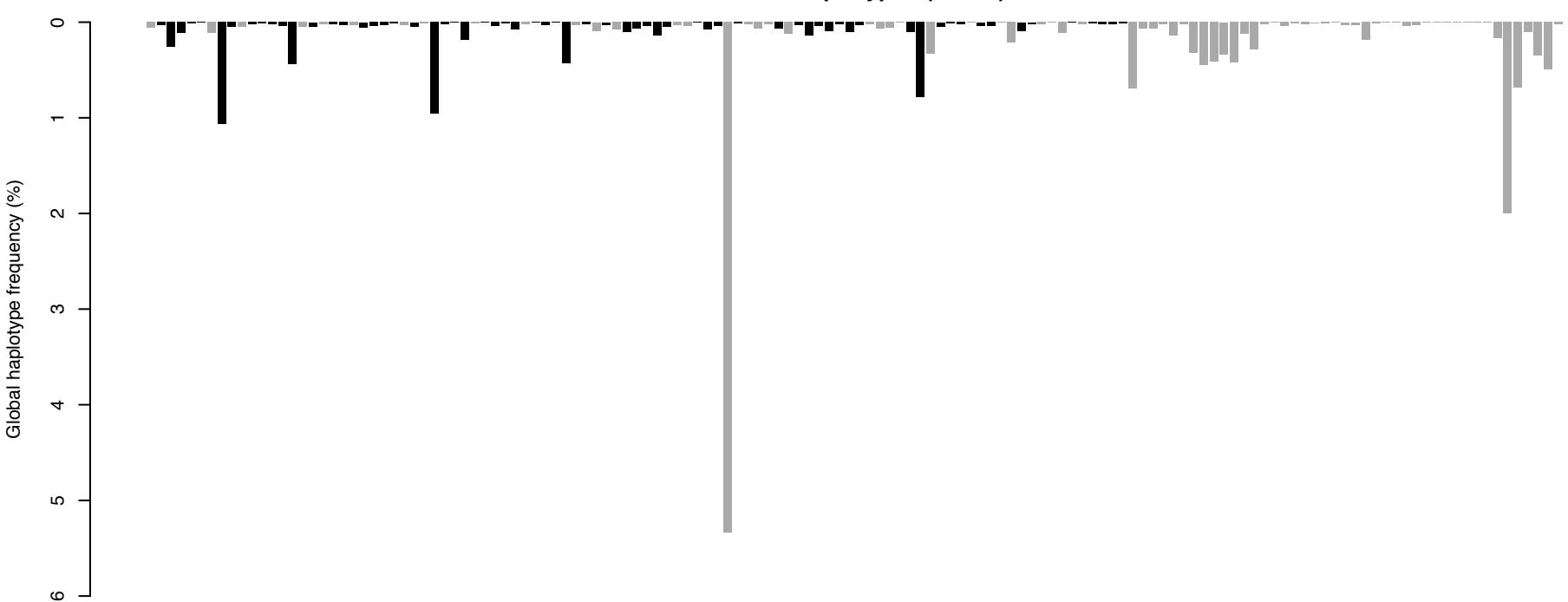
B*15:16 Haplotypes (n=84)



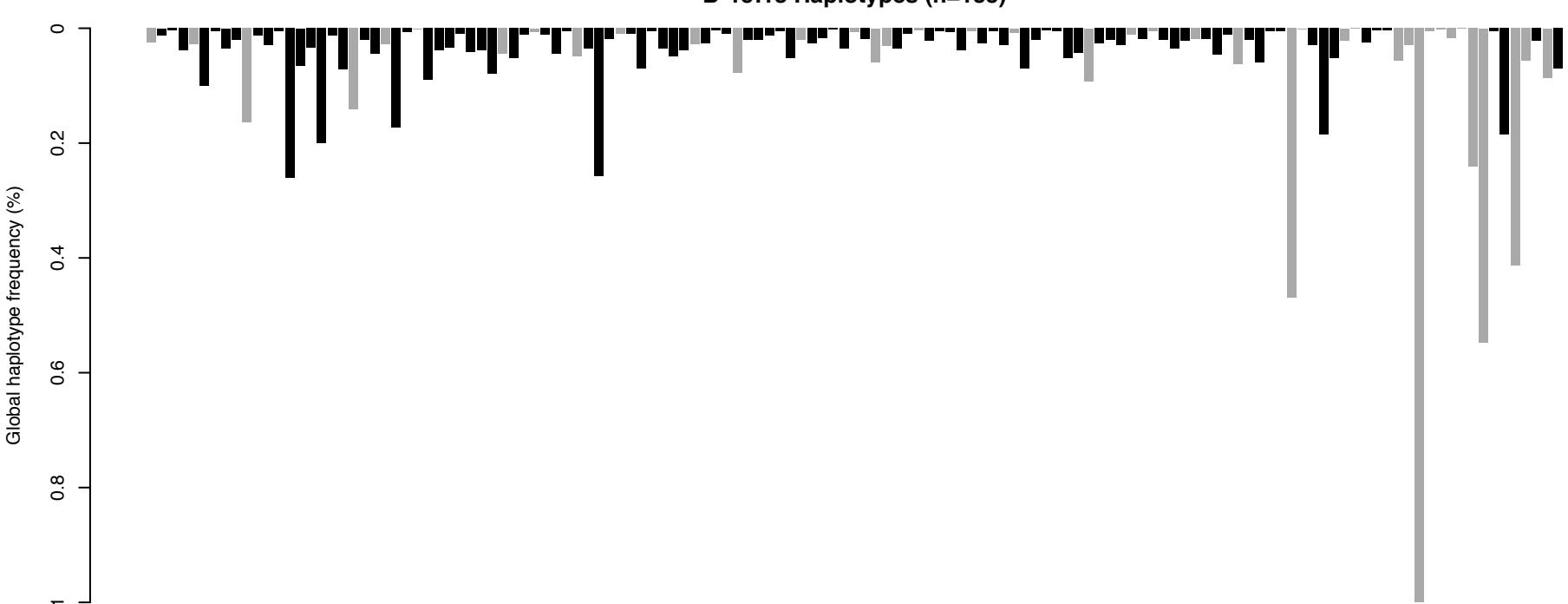
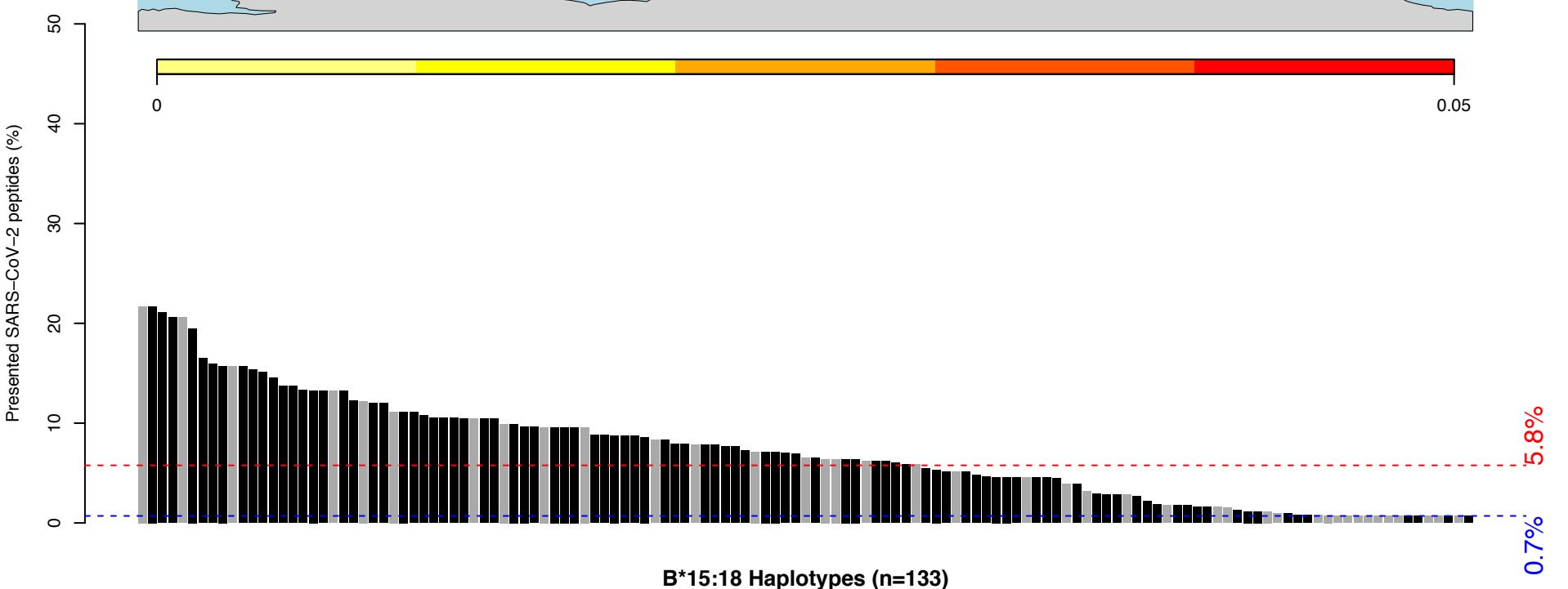
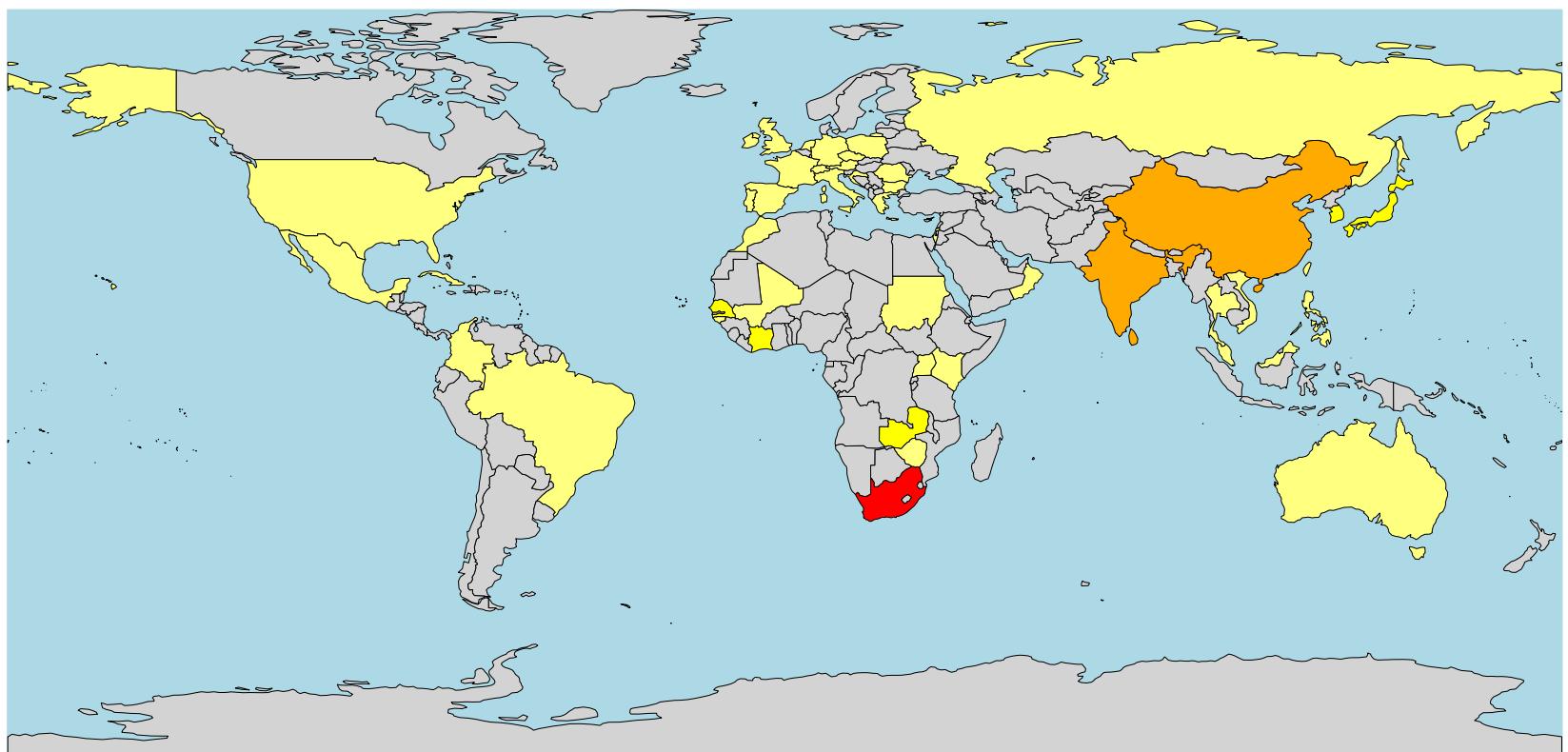
B*15:17
(~0.49% globally)



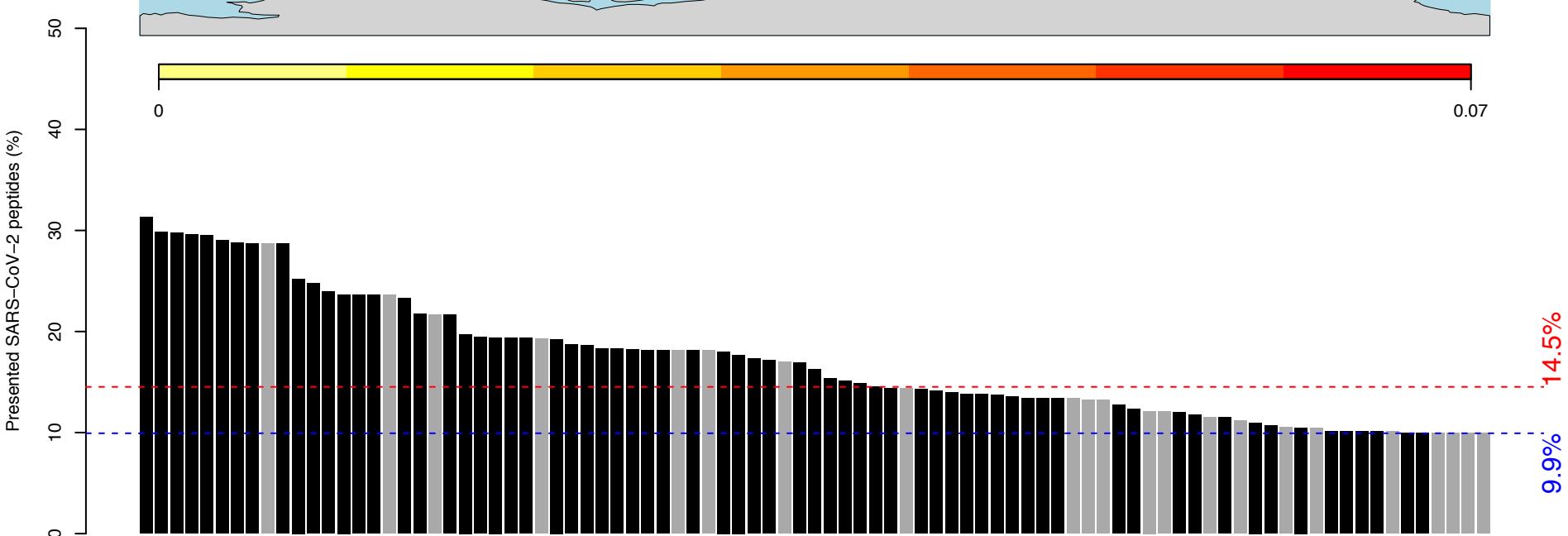
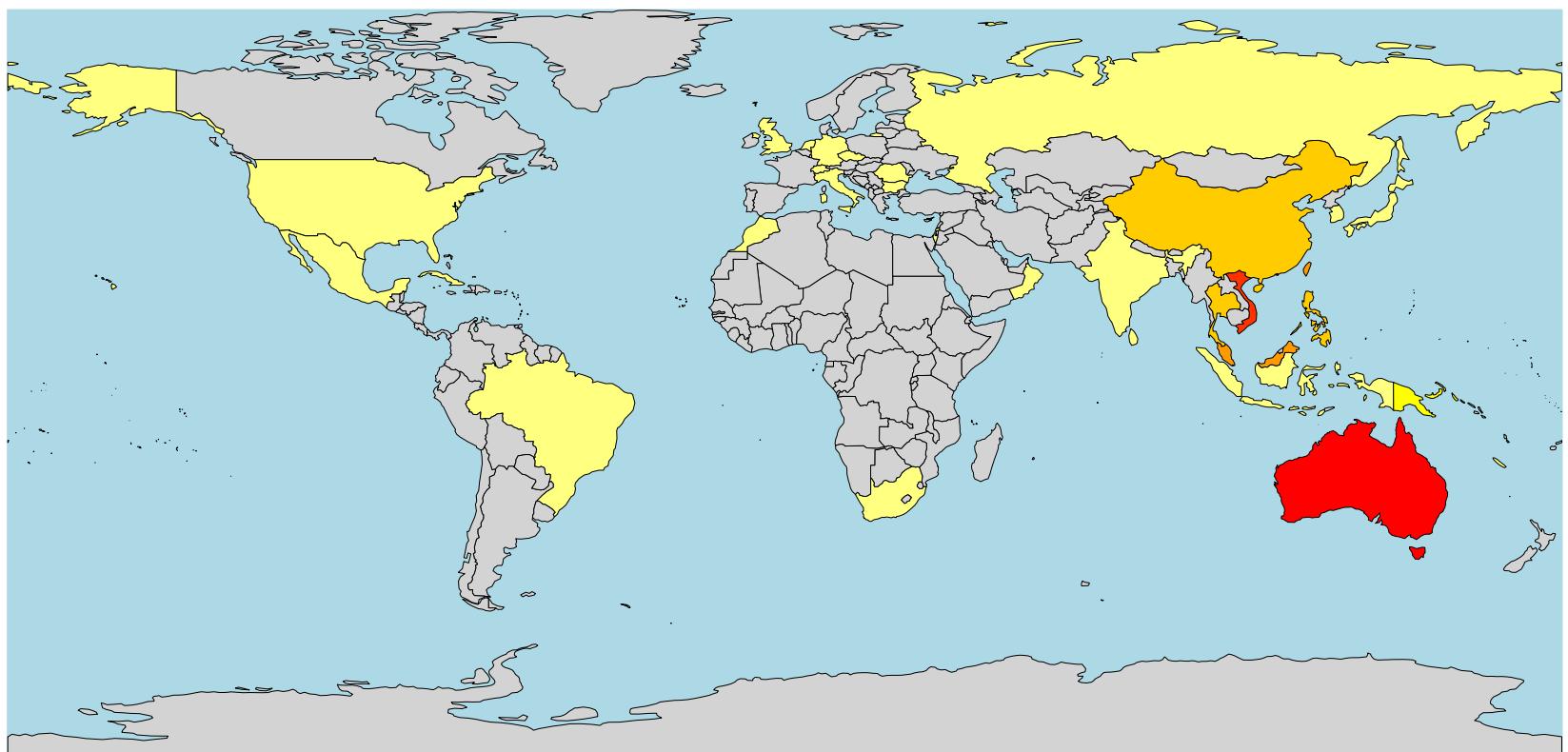
B*15:17 Haplotypes (n=140)



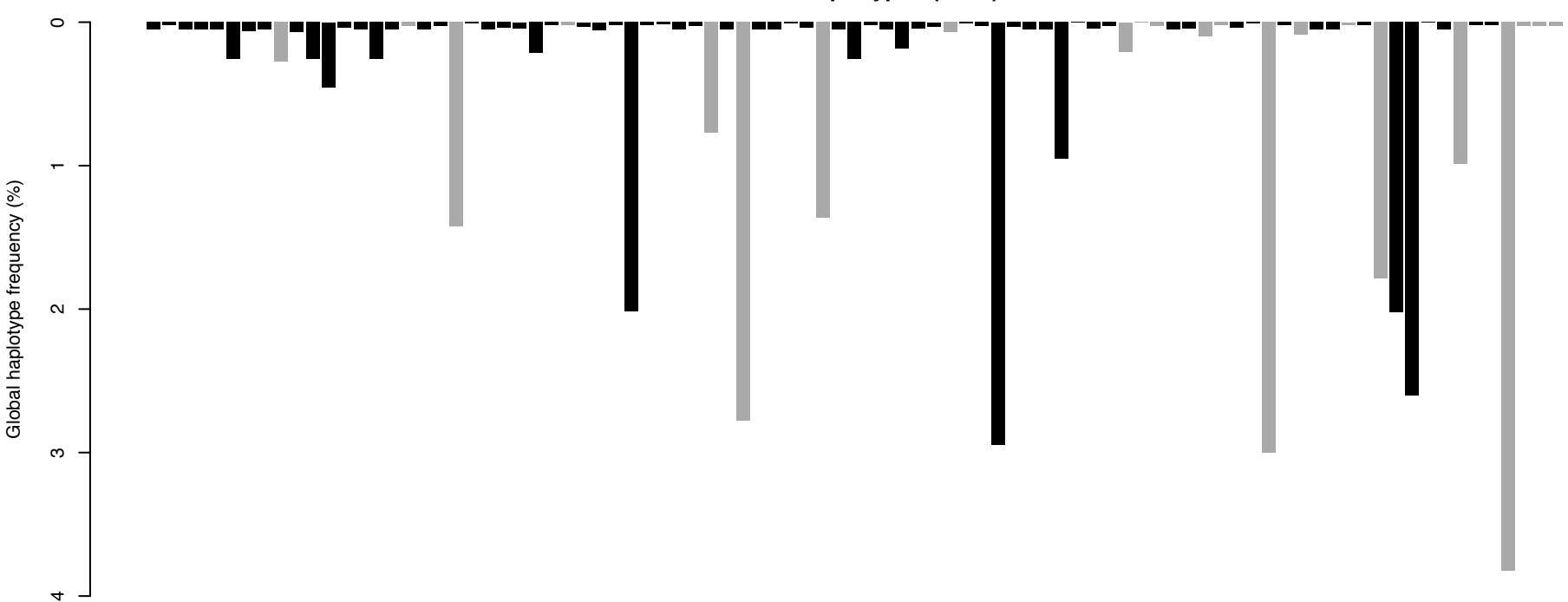
B*15:18
(~1.3% globally)



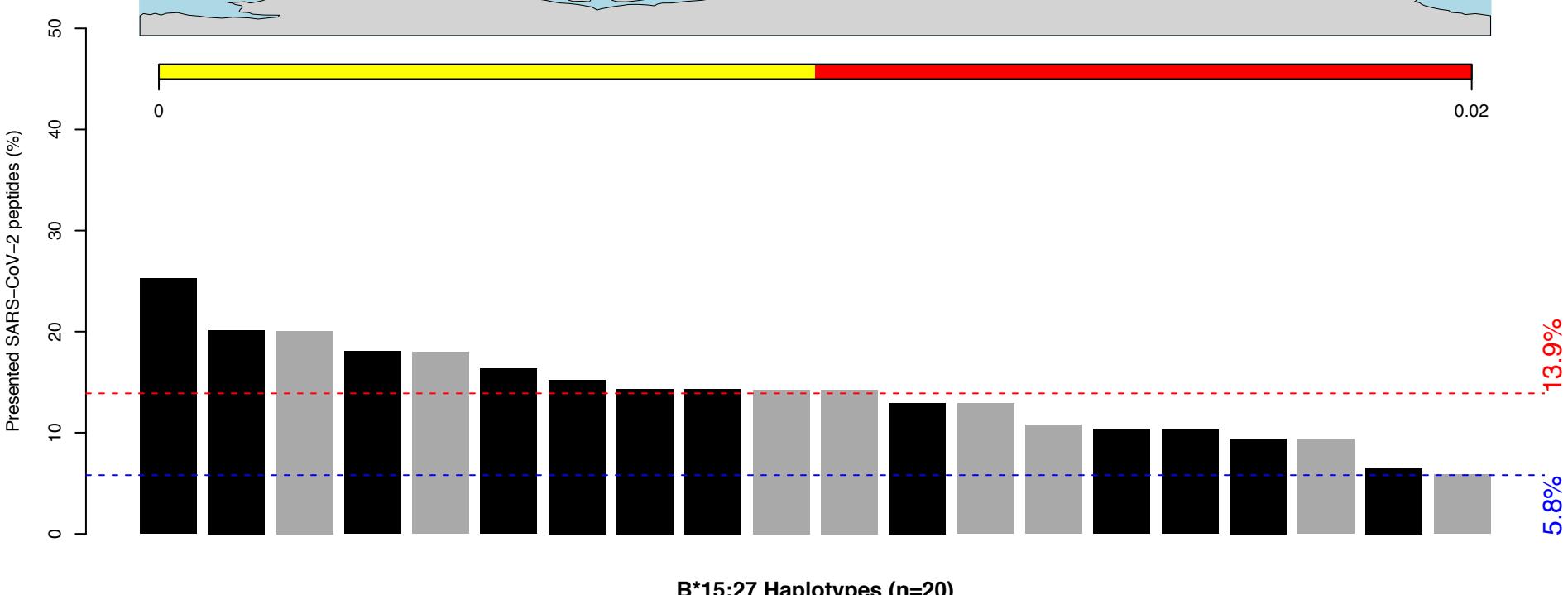
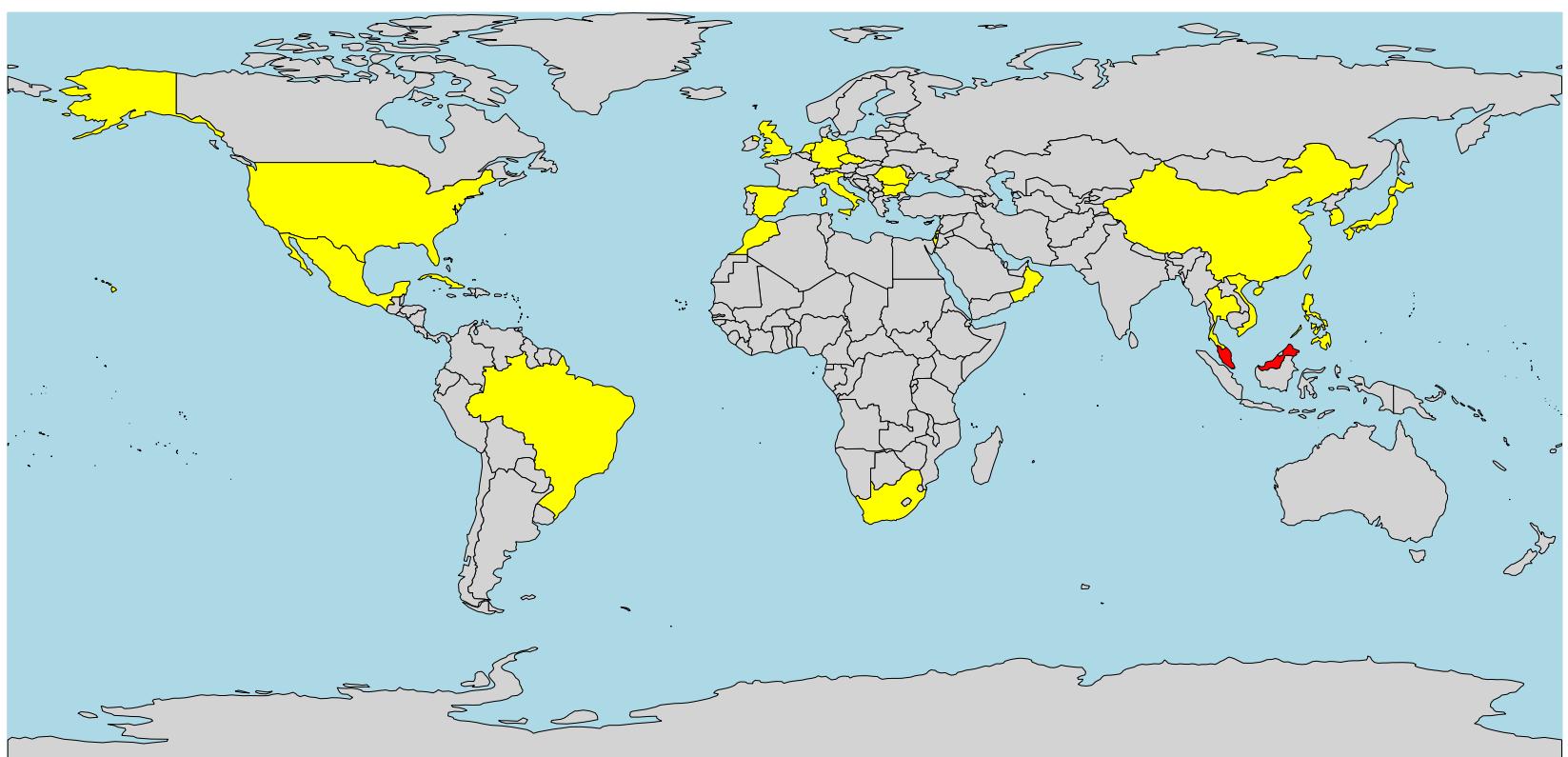
B*15:25
(~1.2% globally)



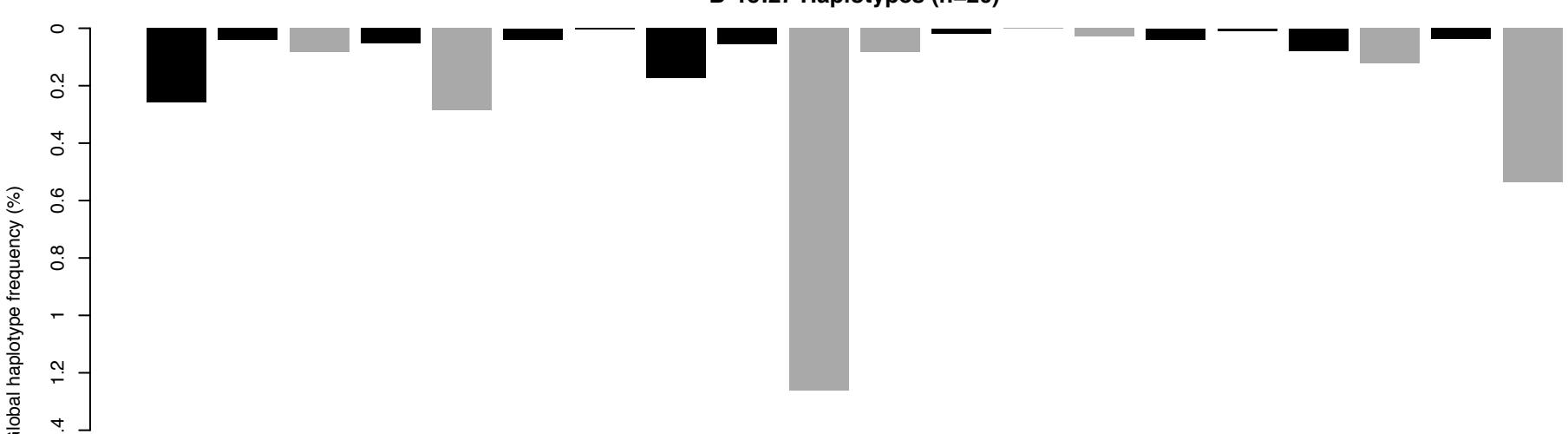
B*15:25 Haplotypes (n=89)



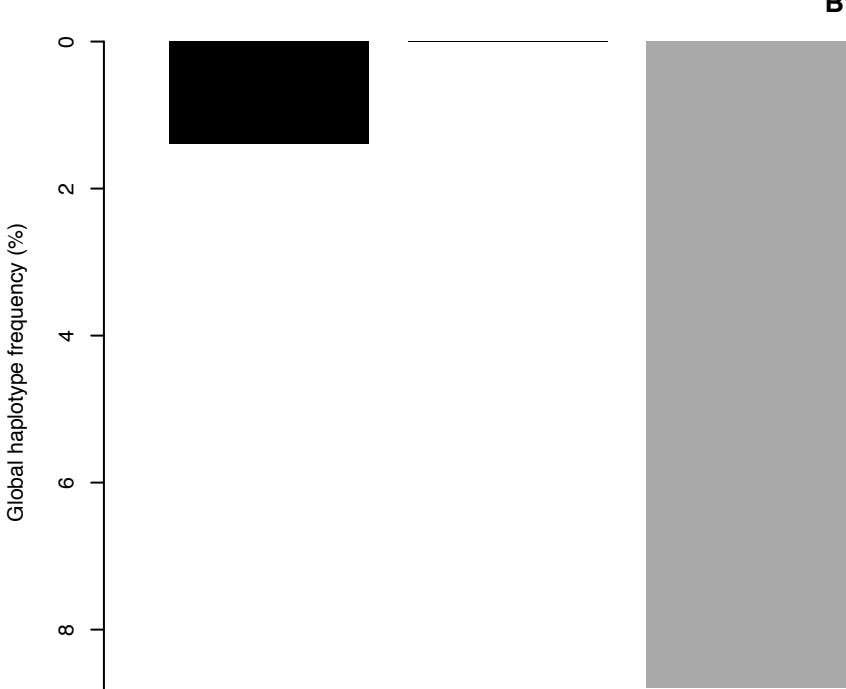
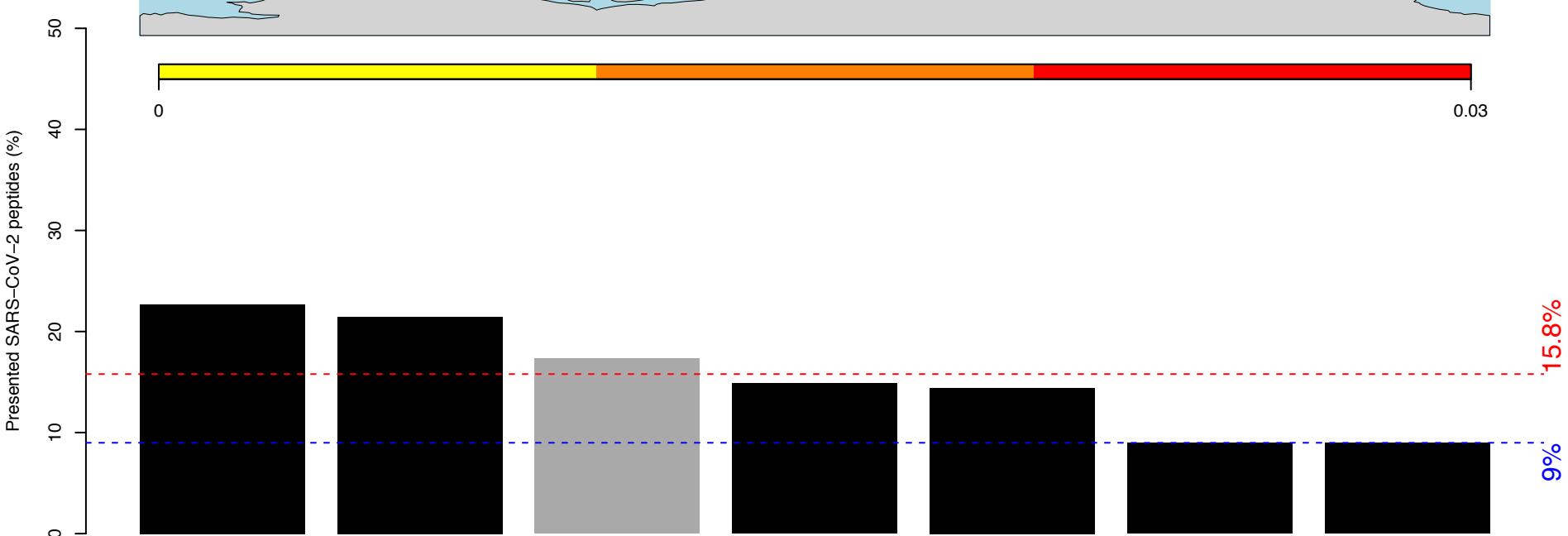
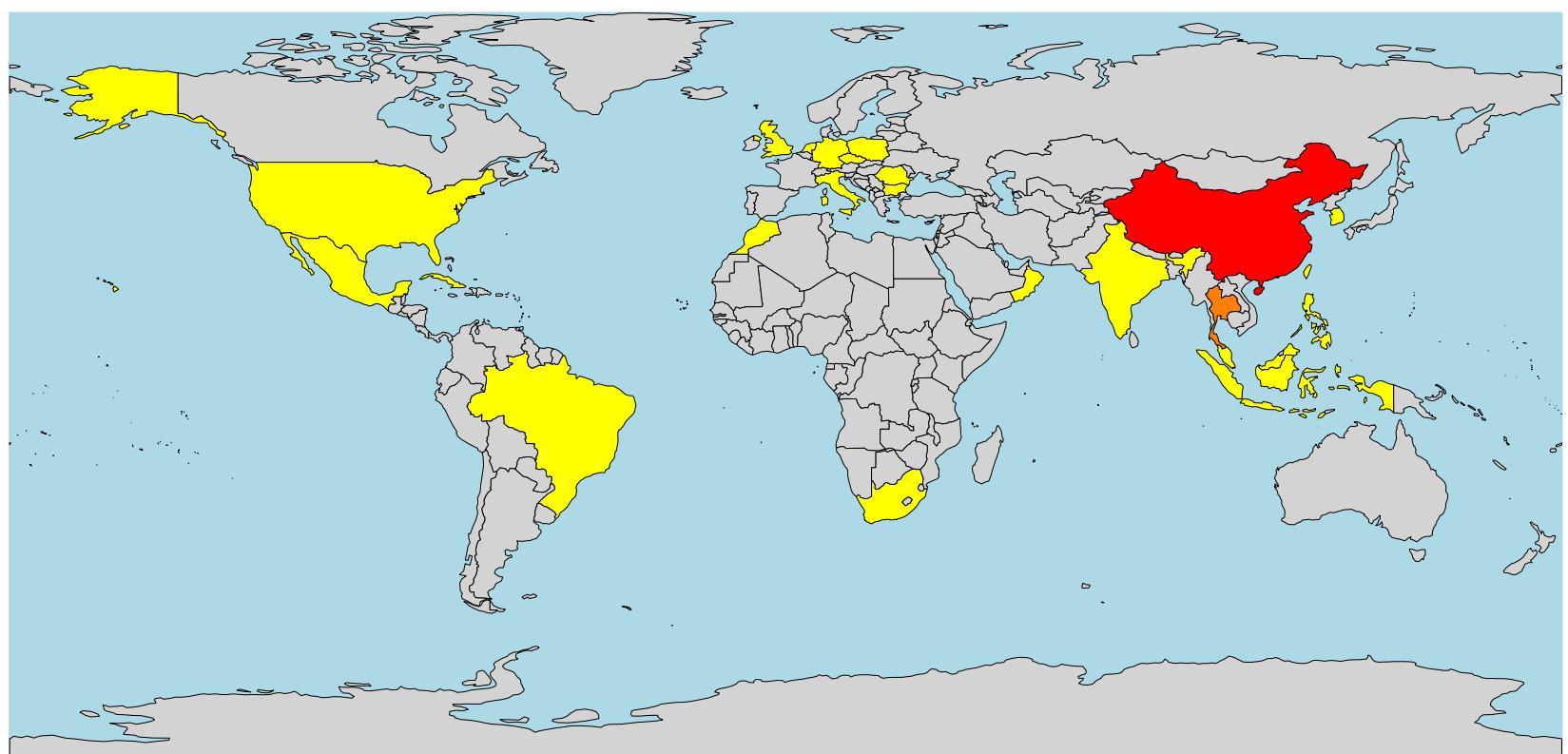
B*15:27
(~0.41% globally)



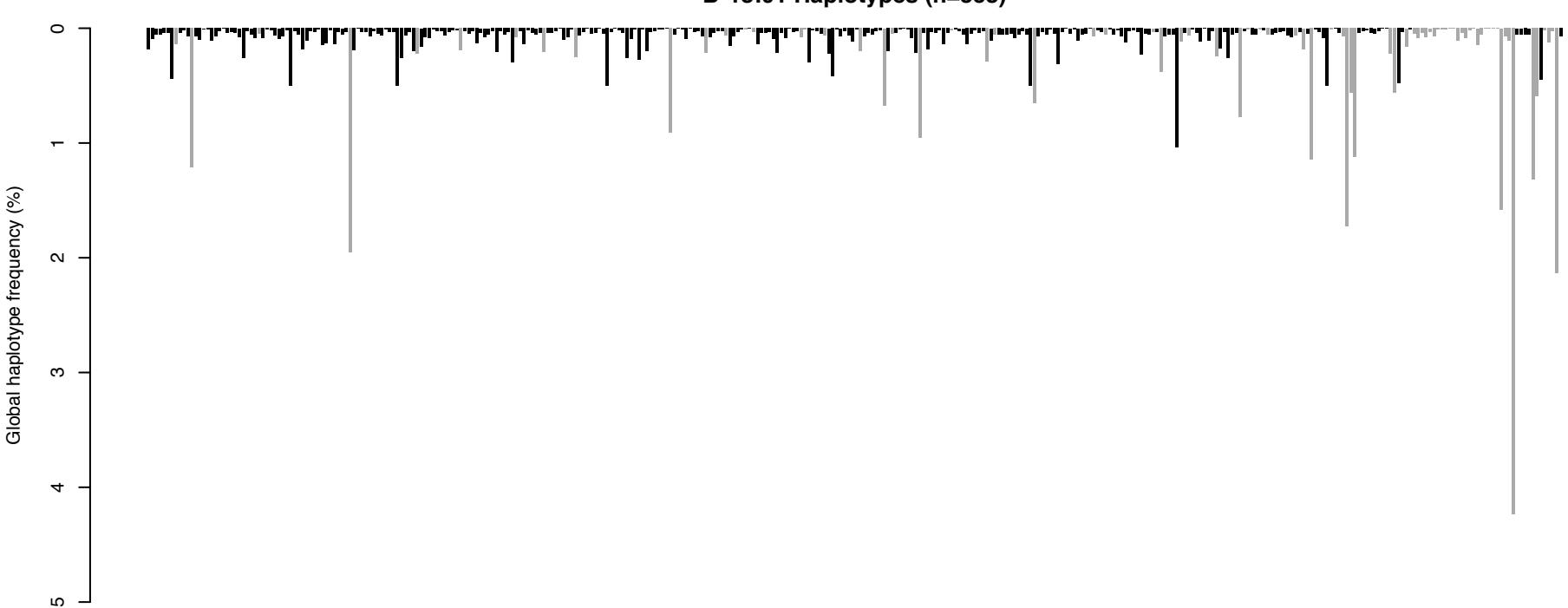
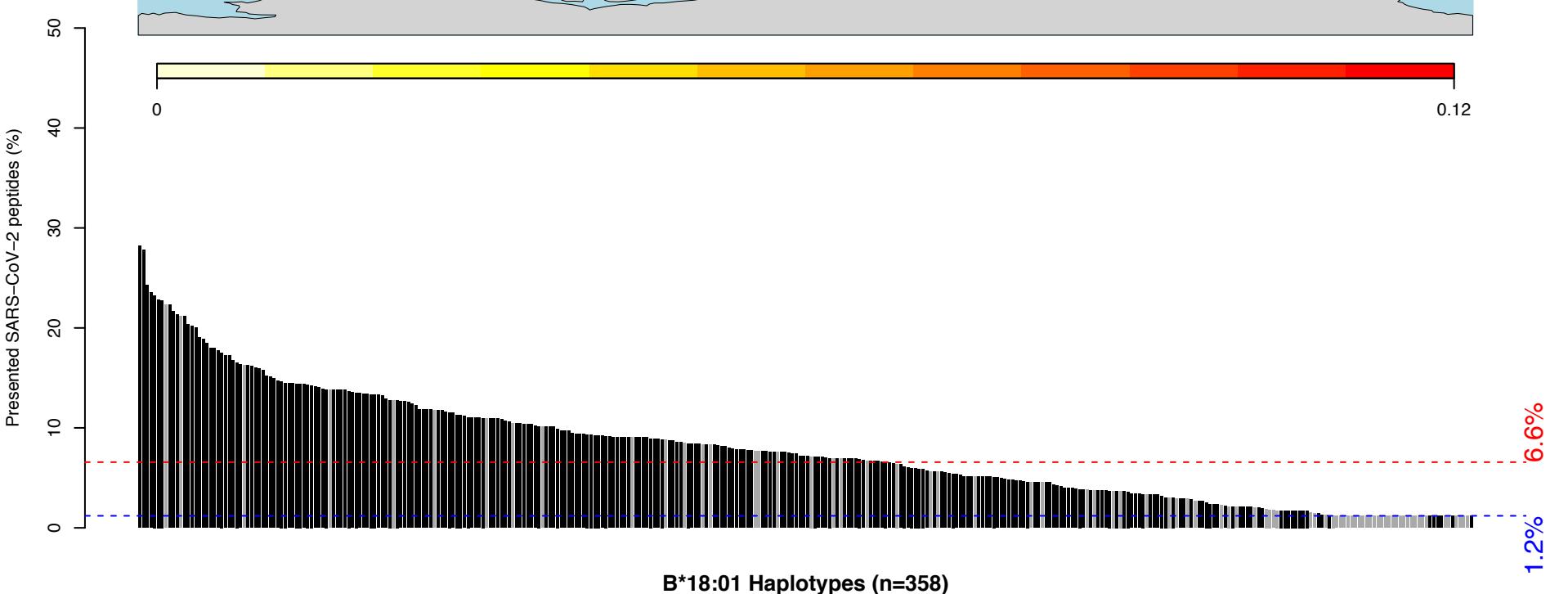
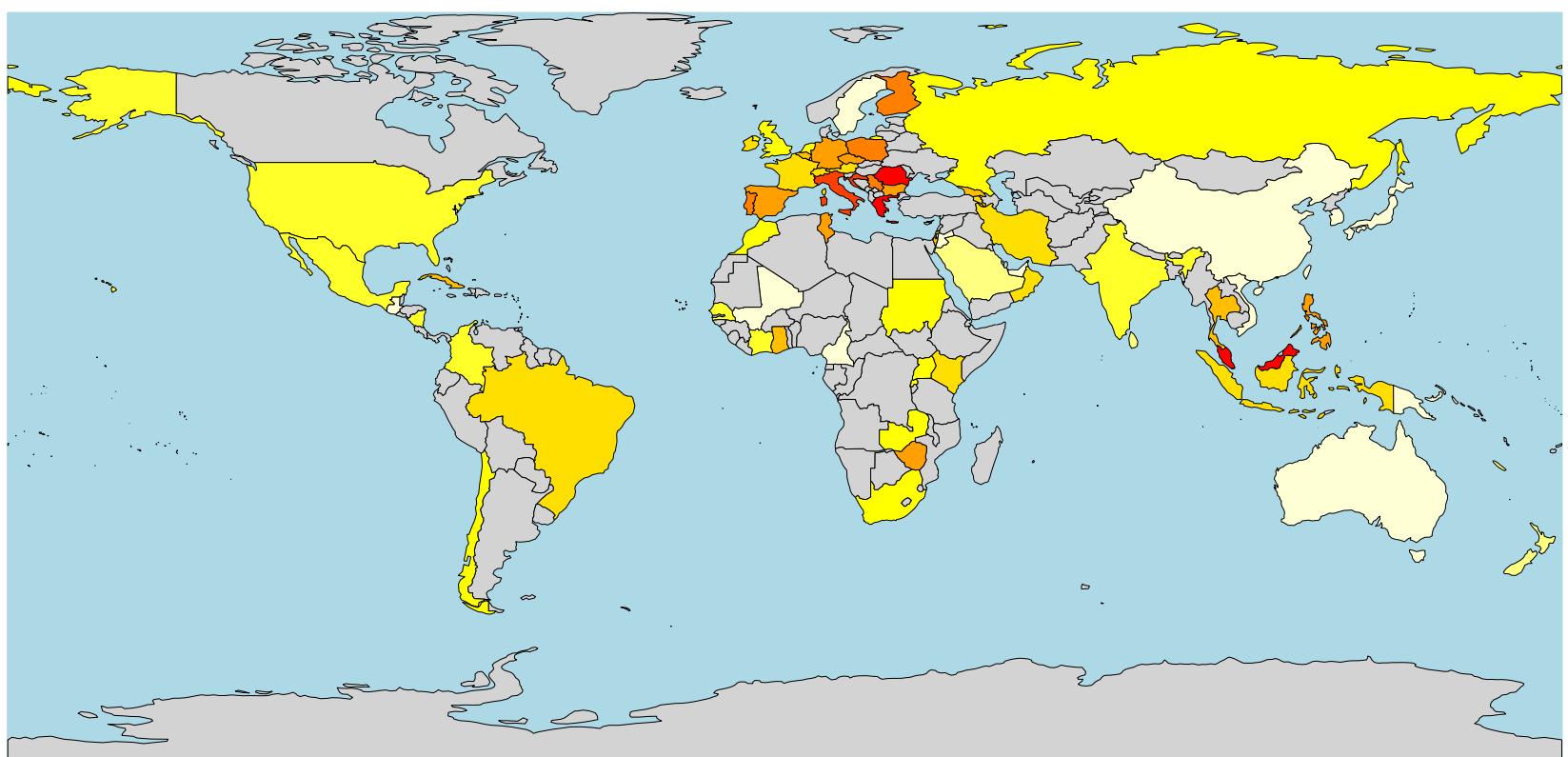
B*15:27 Haplotypes (n=20)



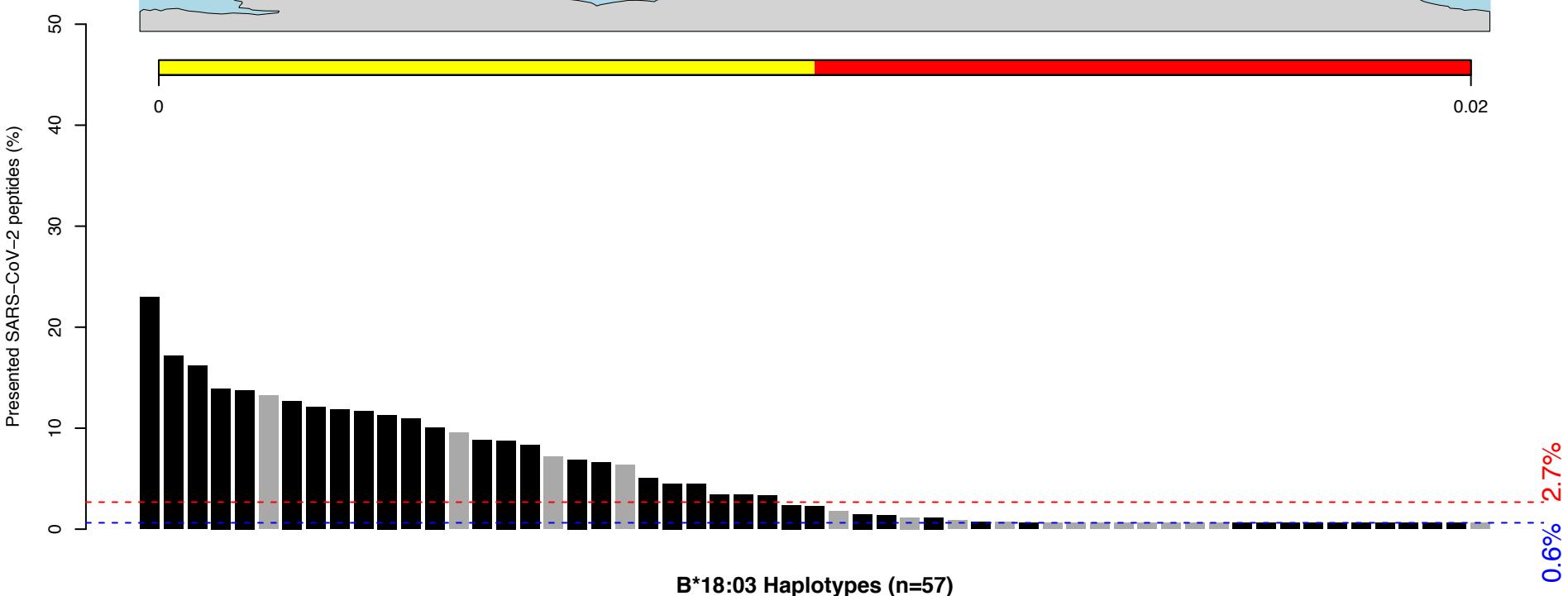
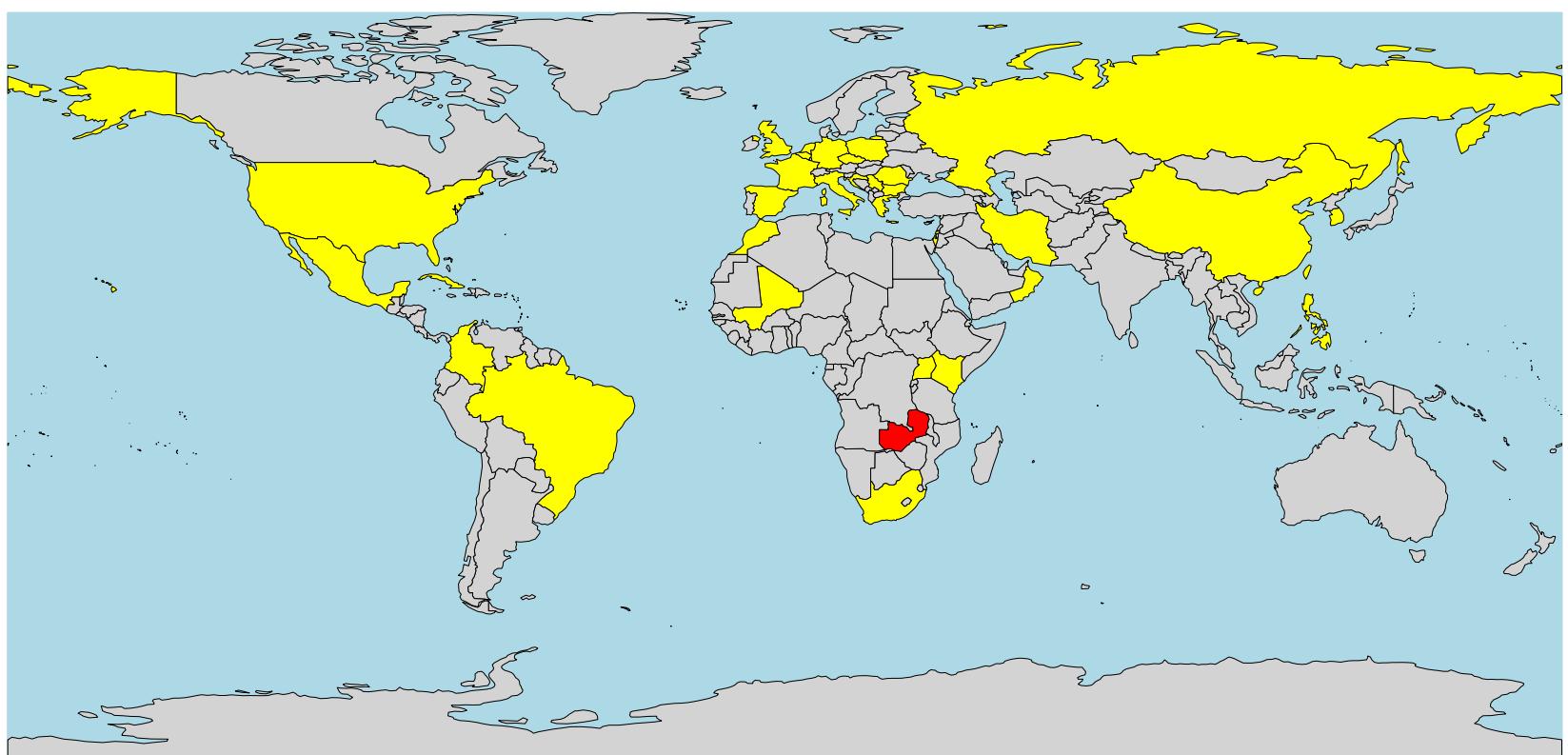
B*15:32
(~0.76% globally)



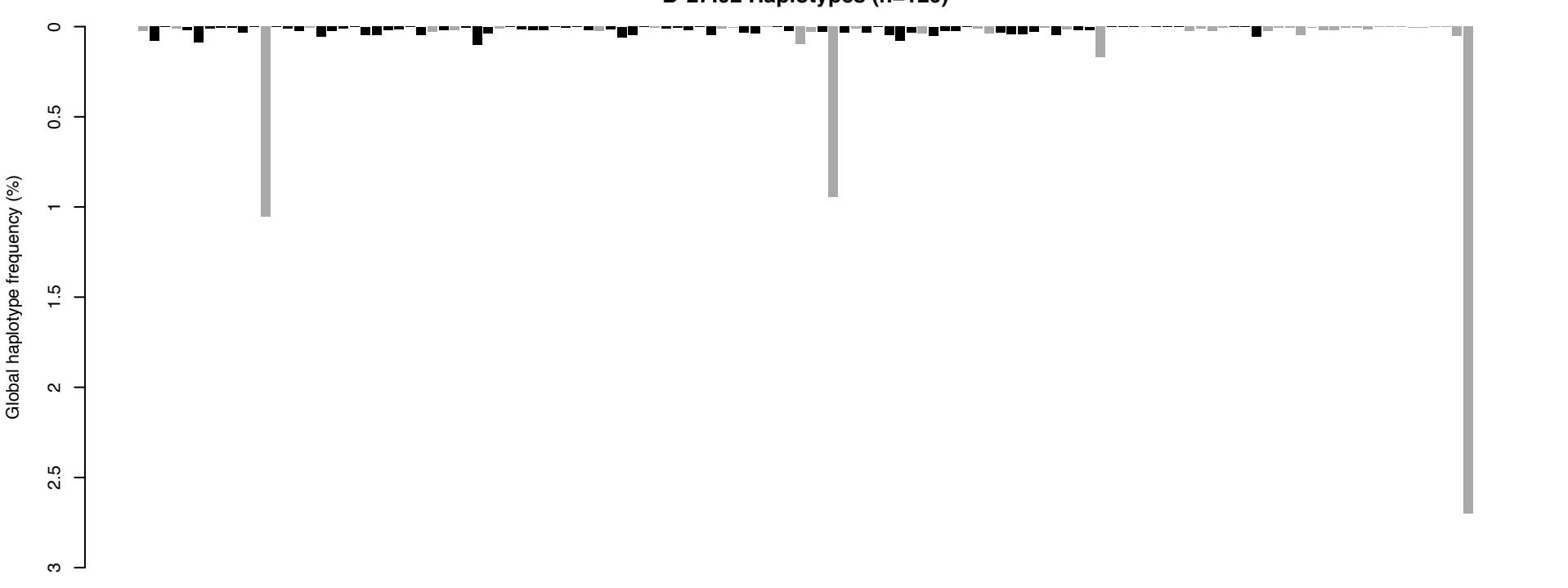
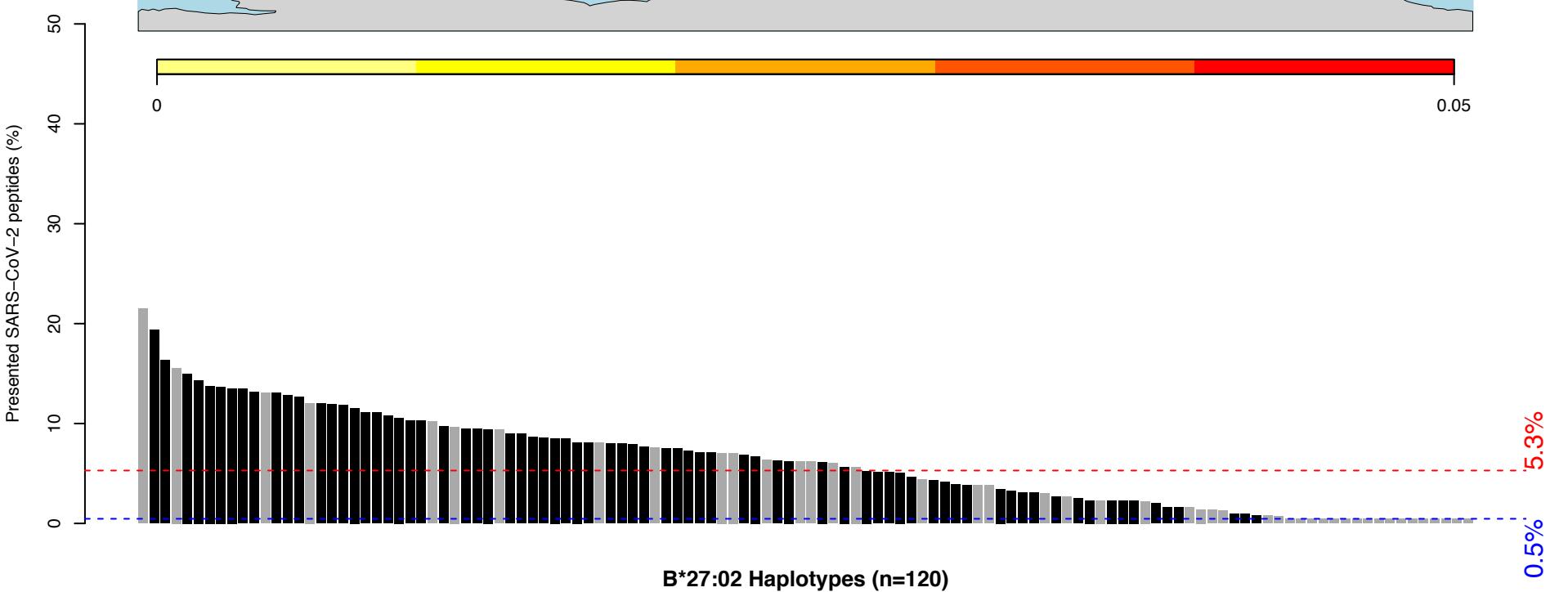
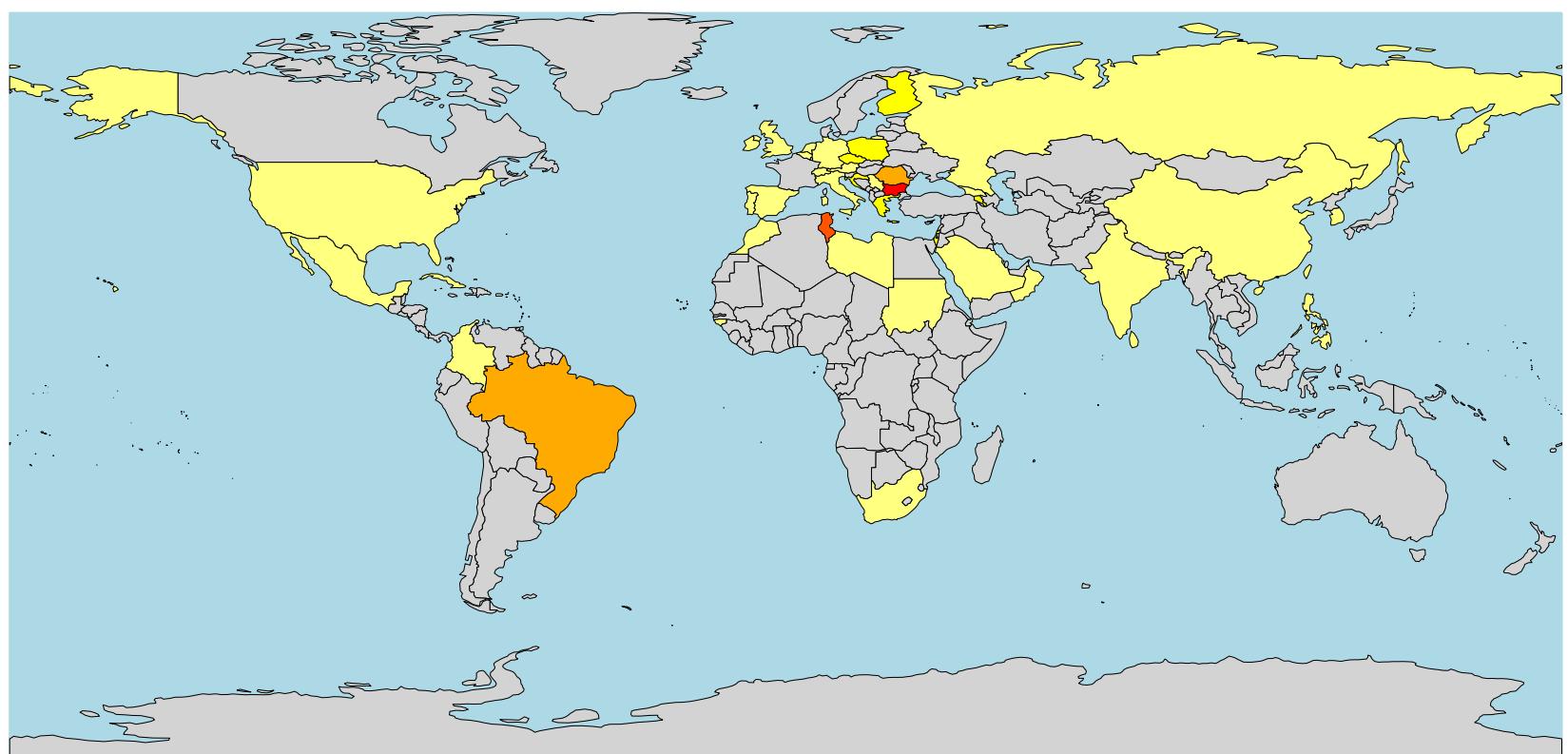
B*18:01
(~1.8% globally)



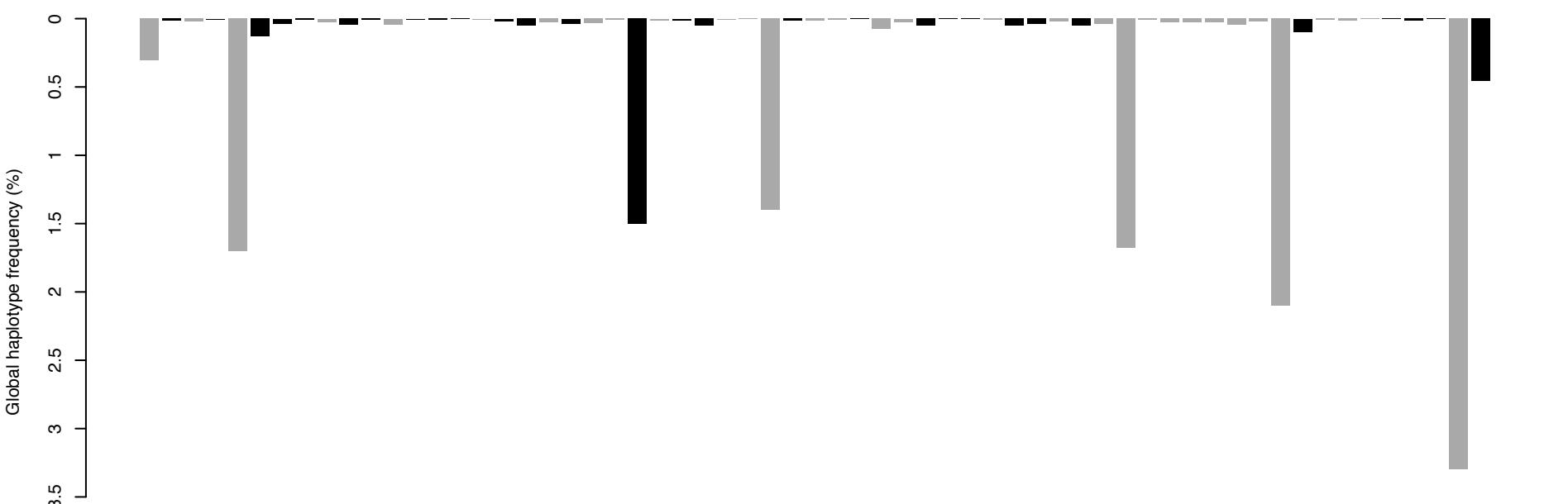
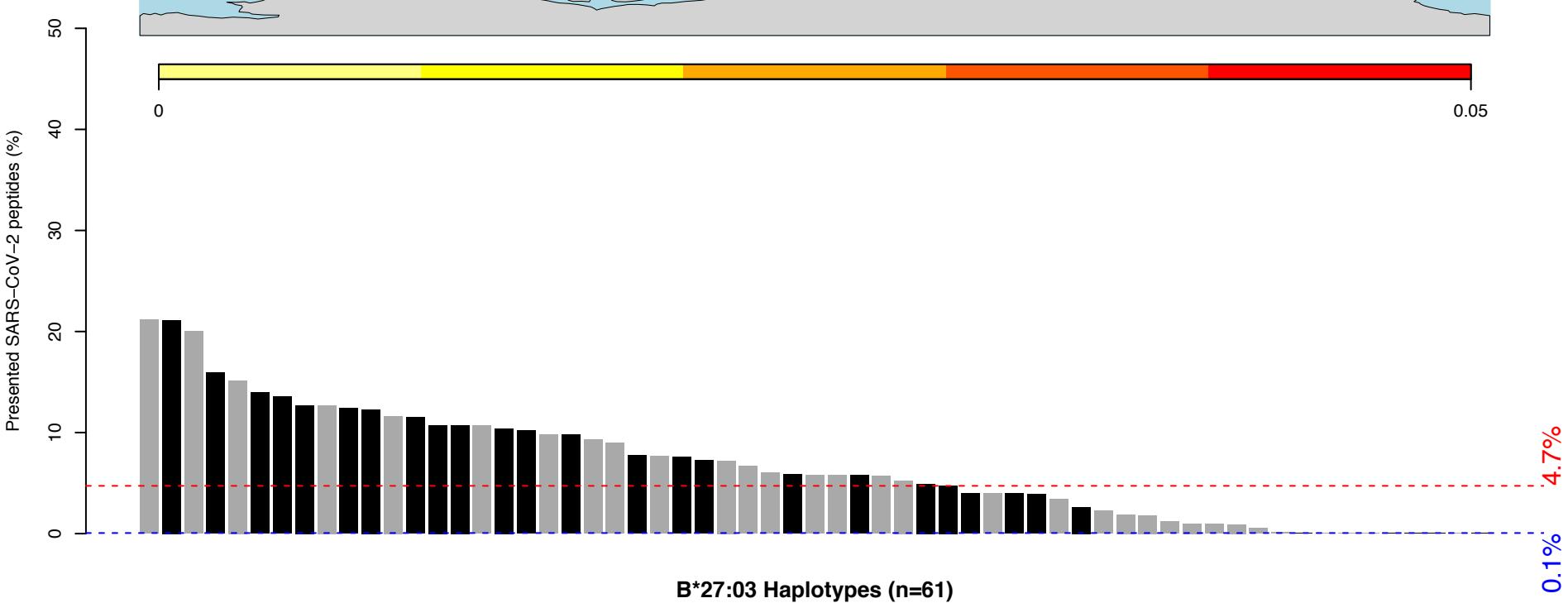
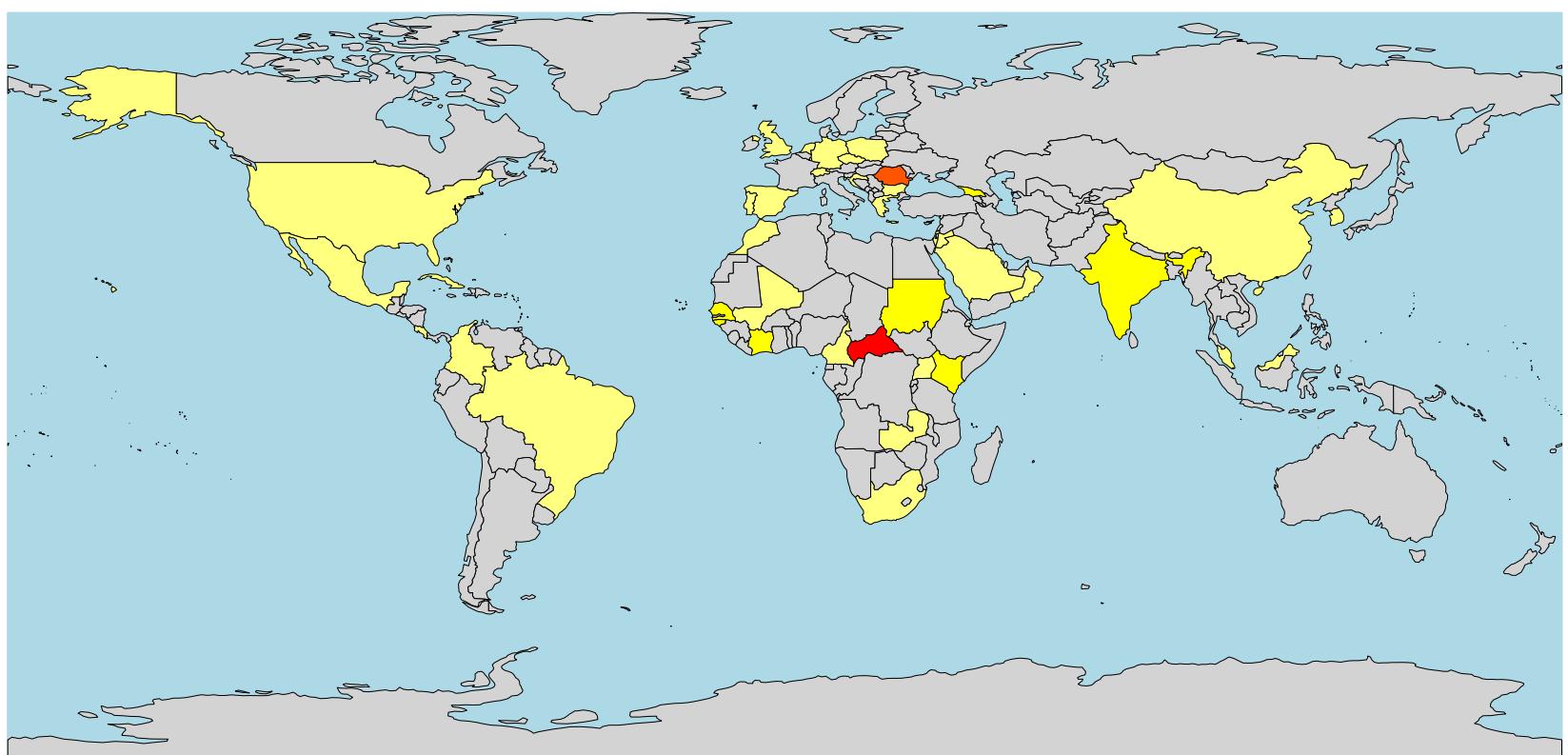
B*18:03
(~0.12% globally)



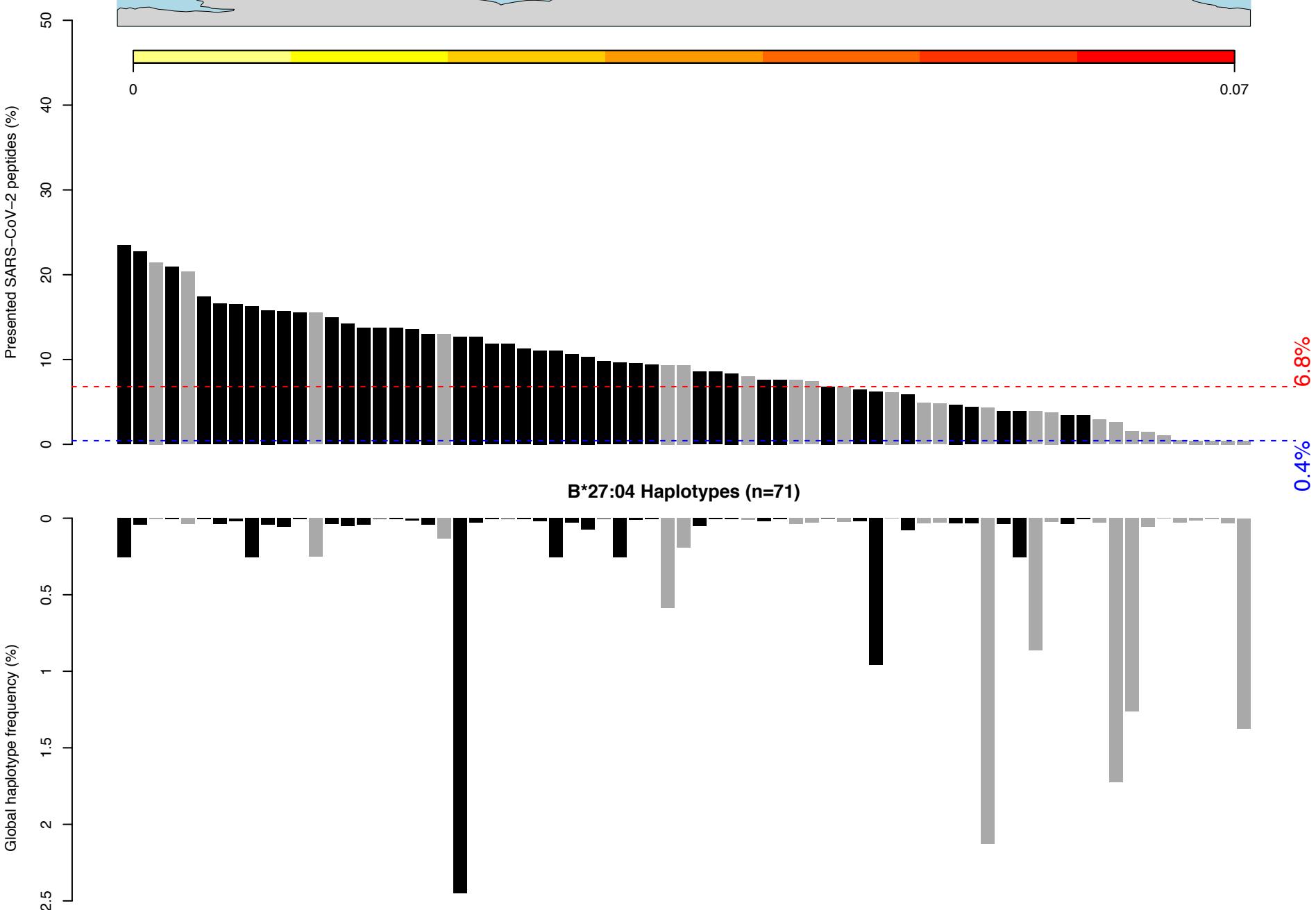
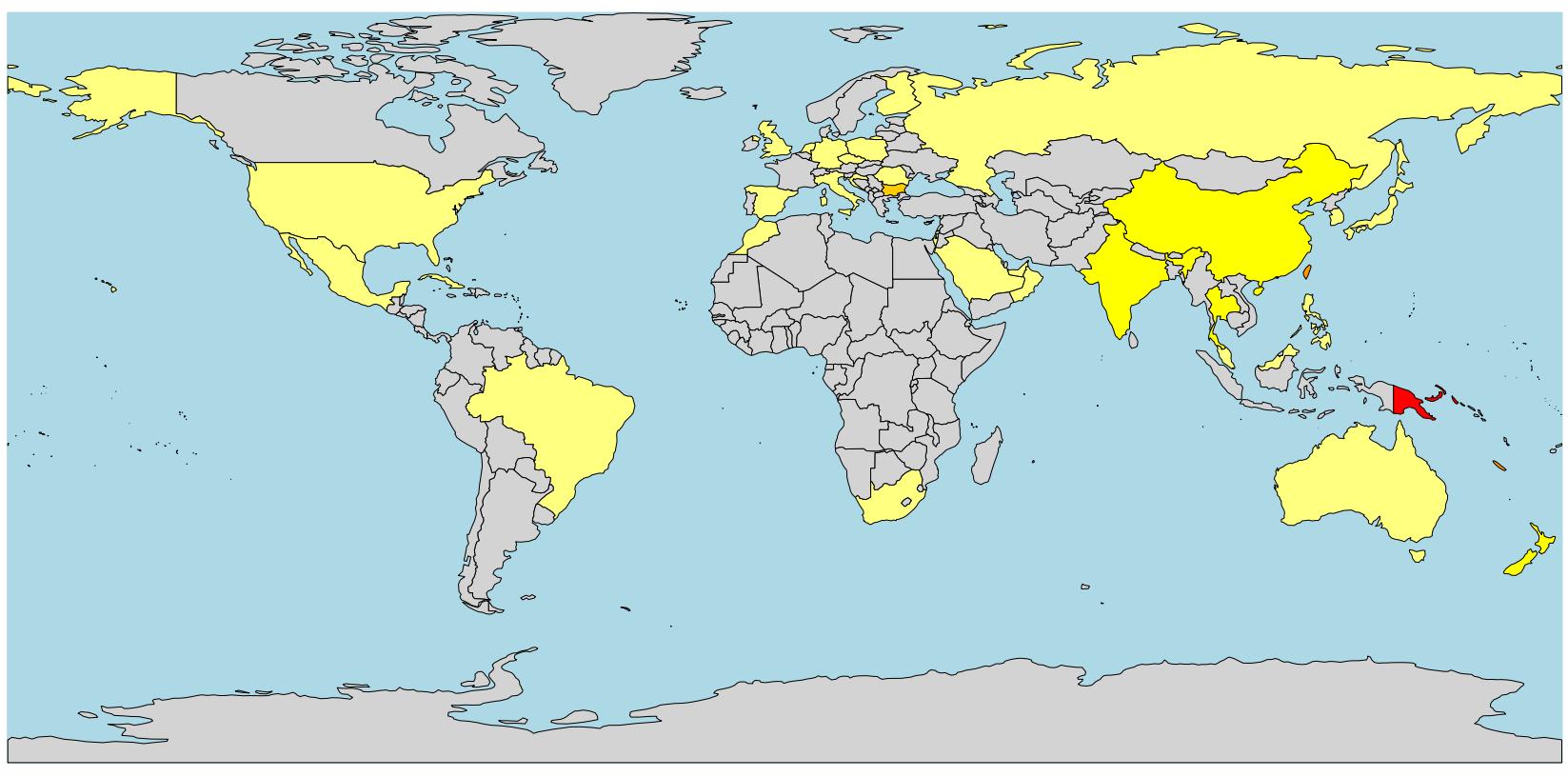
B*27:02
(~0.42% globally)



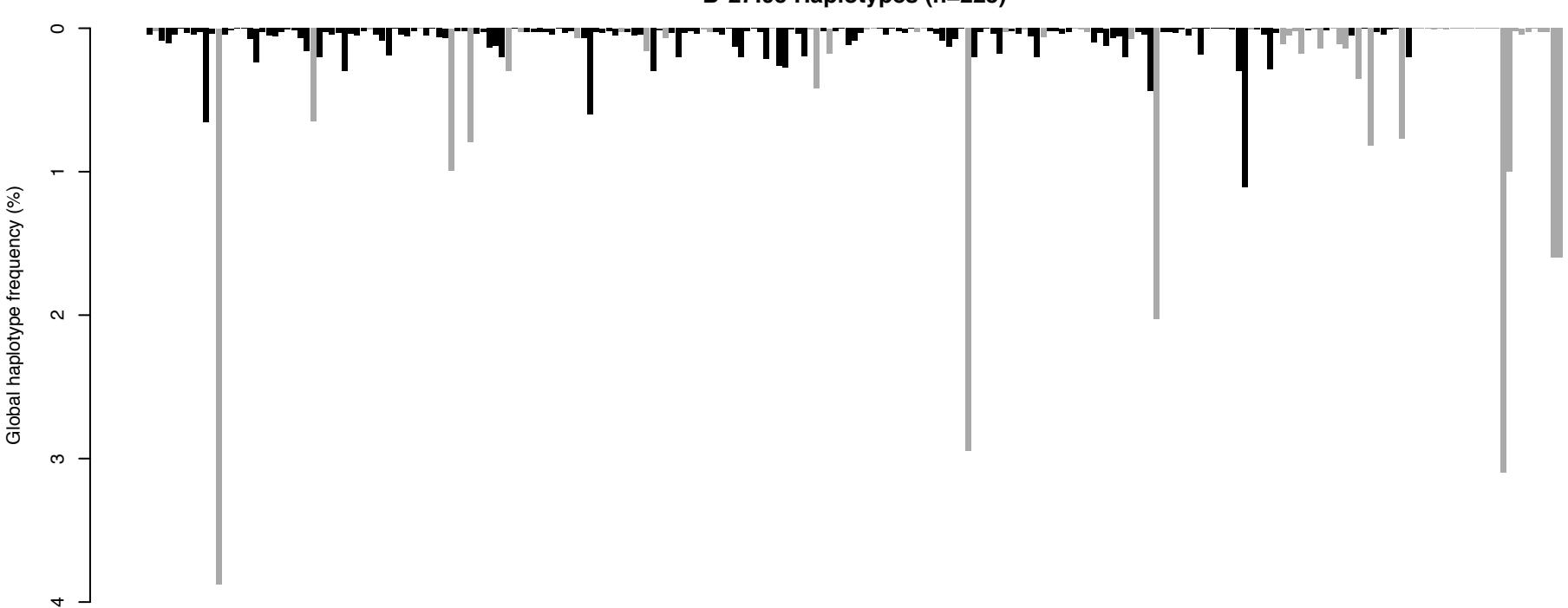
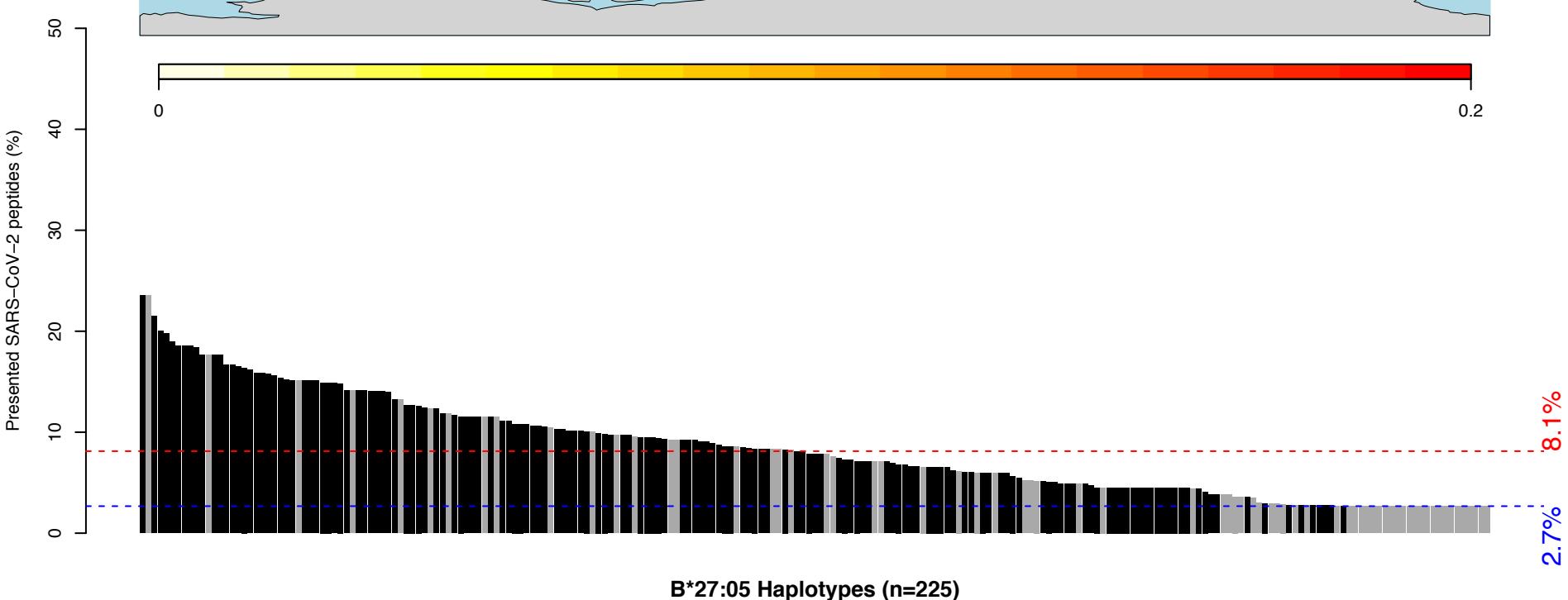
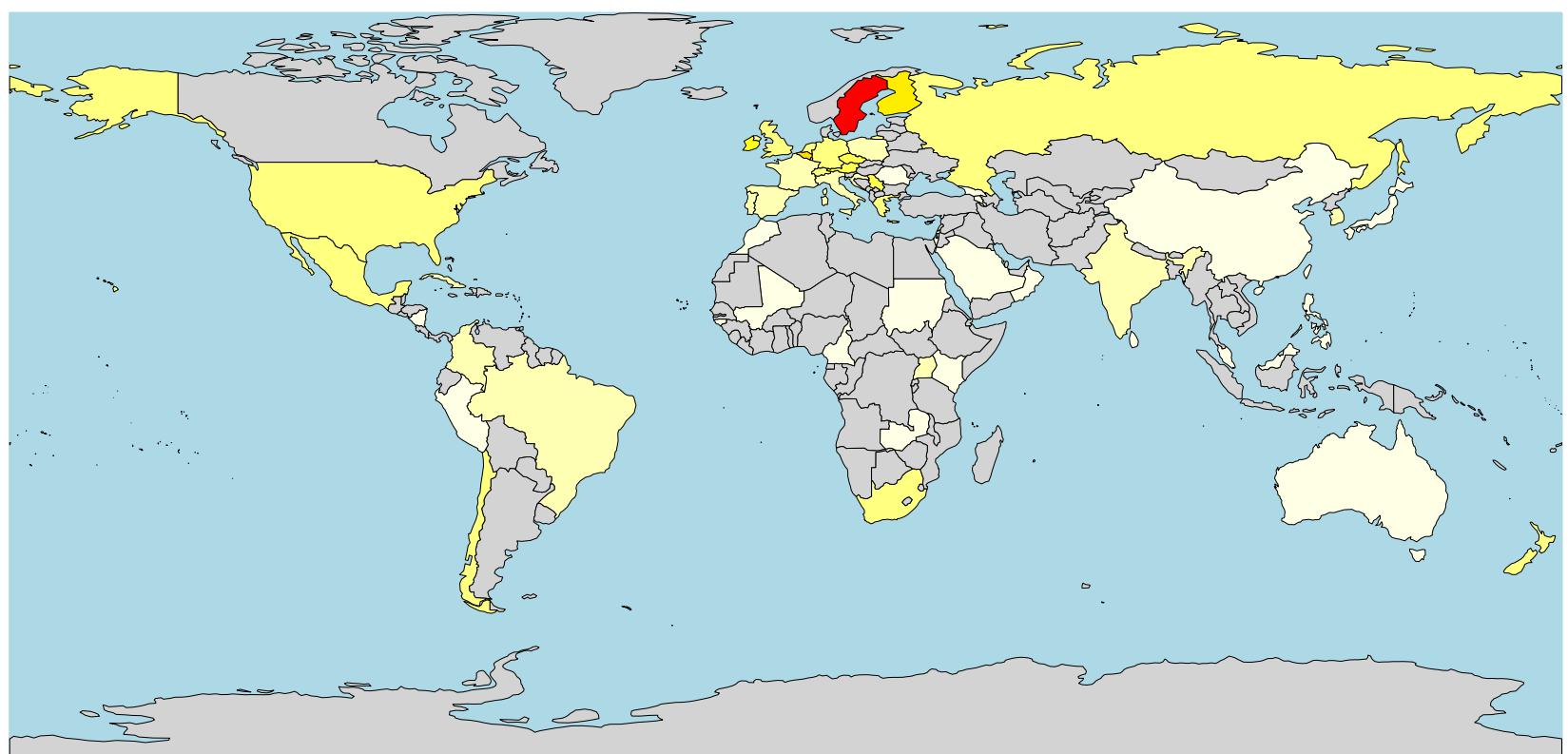
B*27:03
(~0.49% globally)



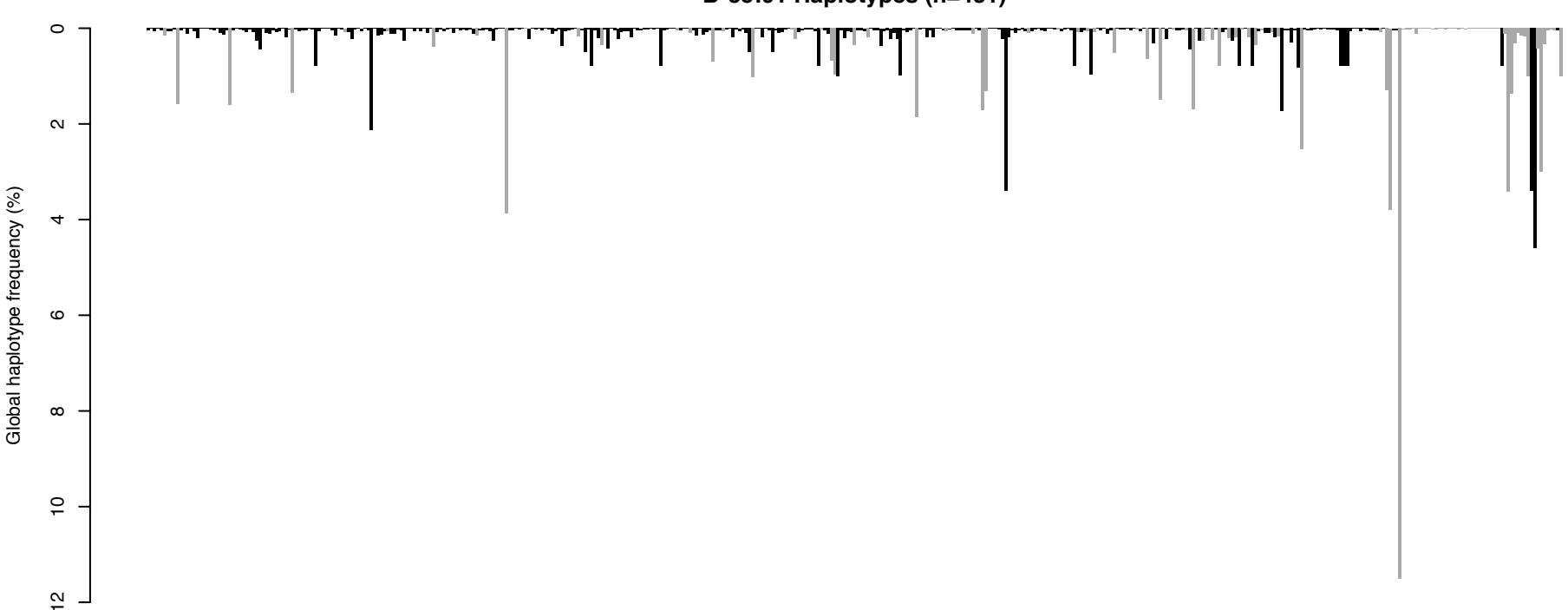
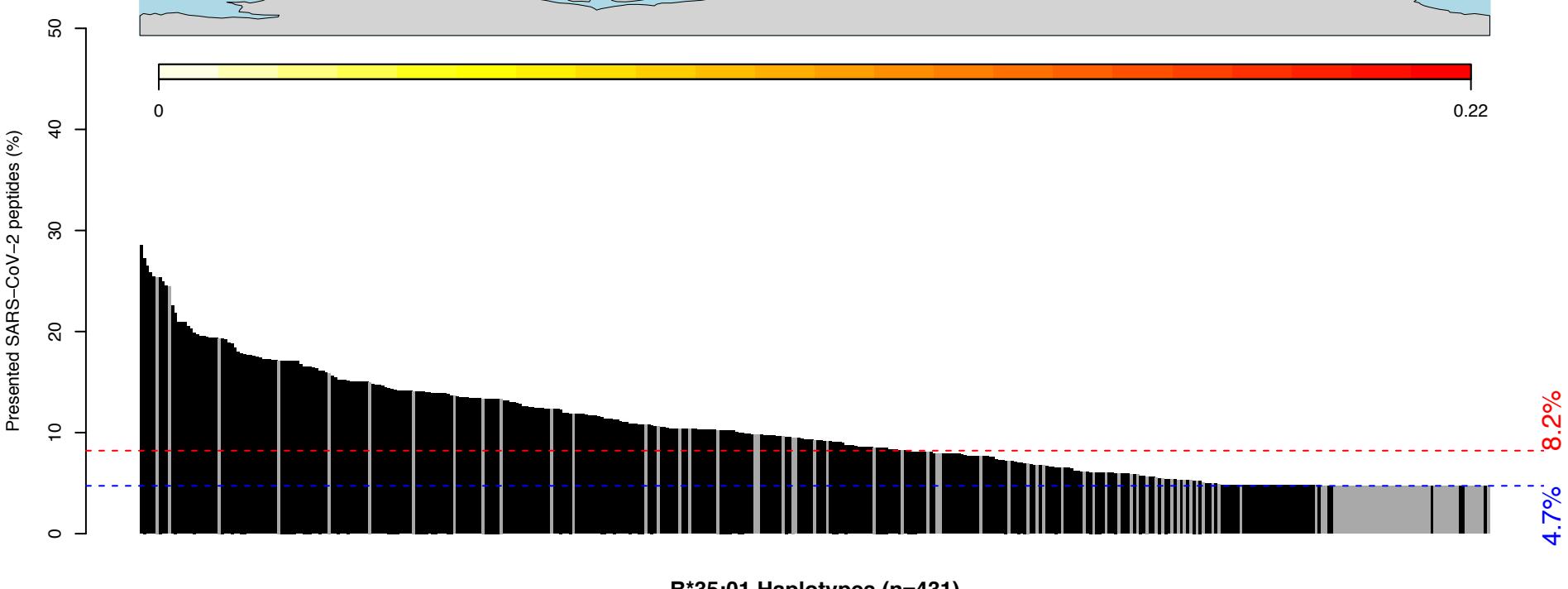
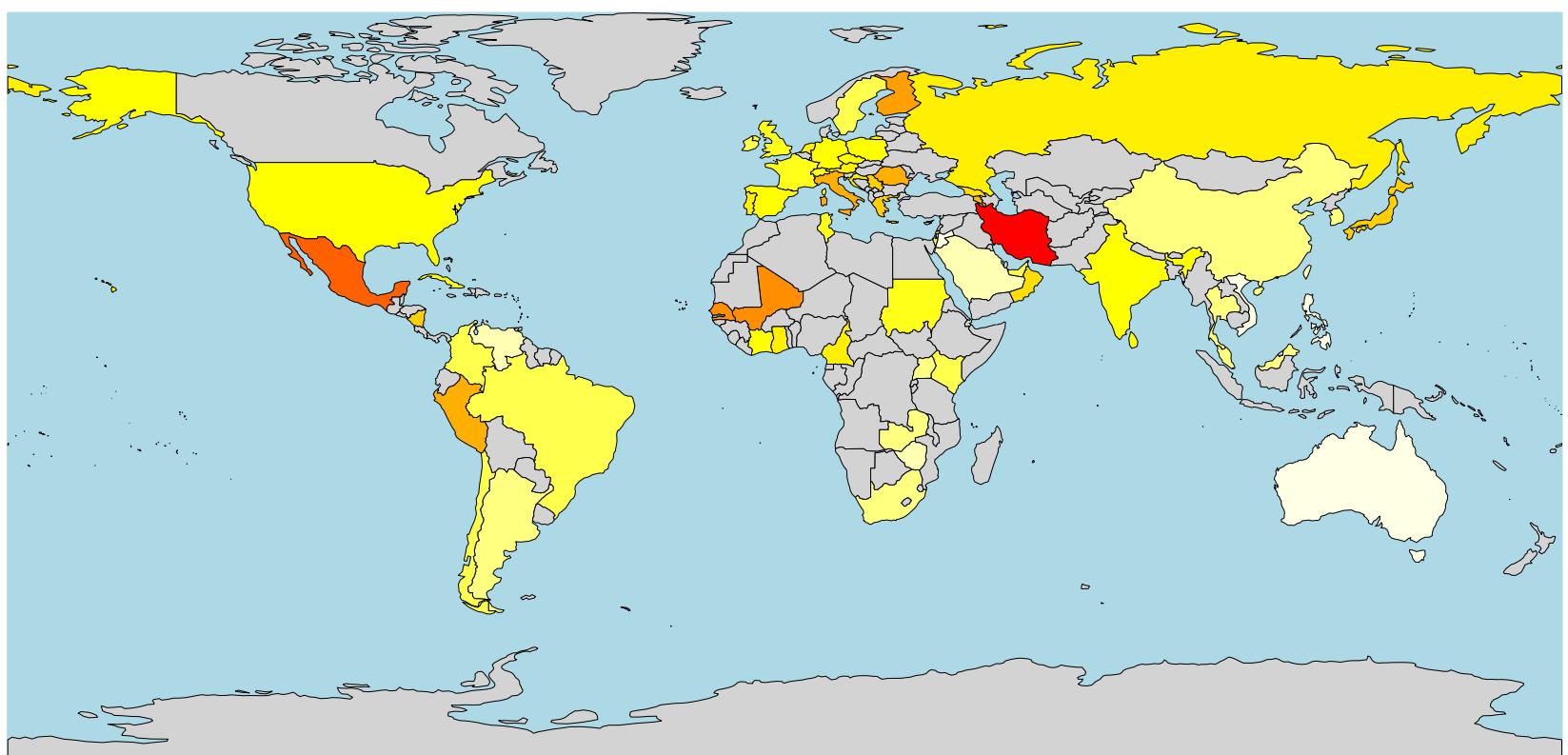
B*27:04
(~1.2% globally)



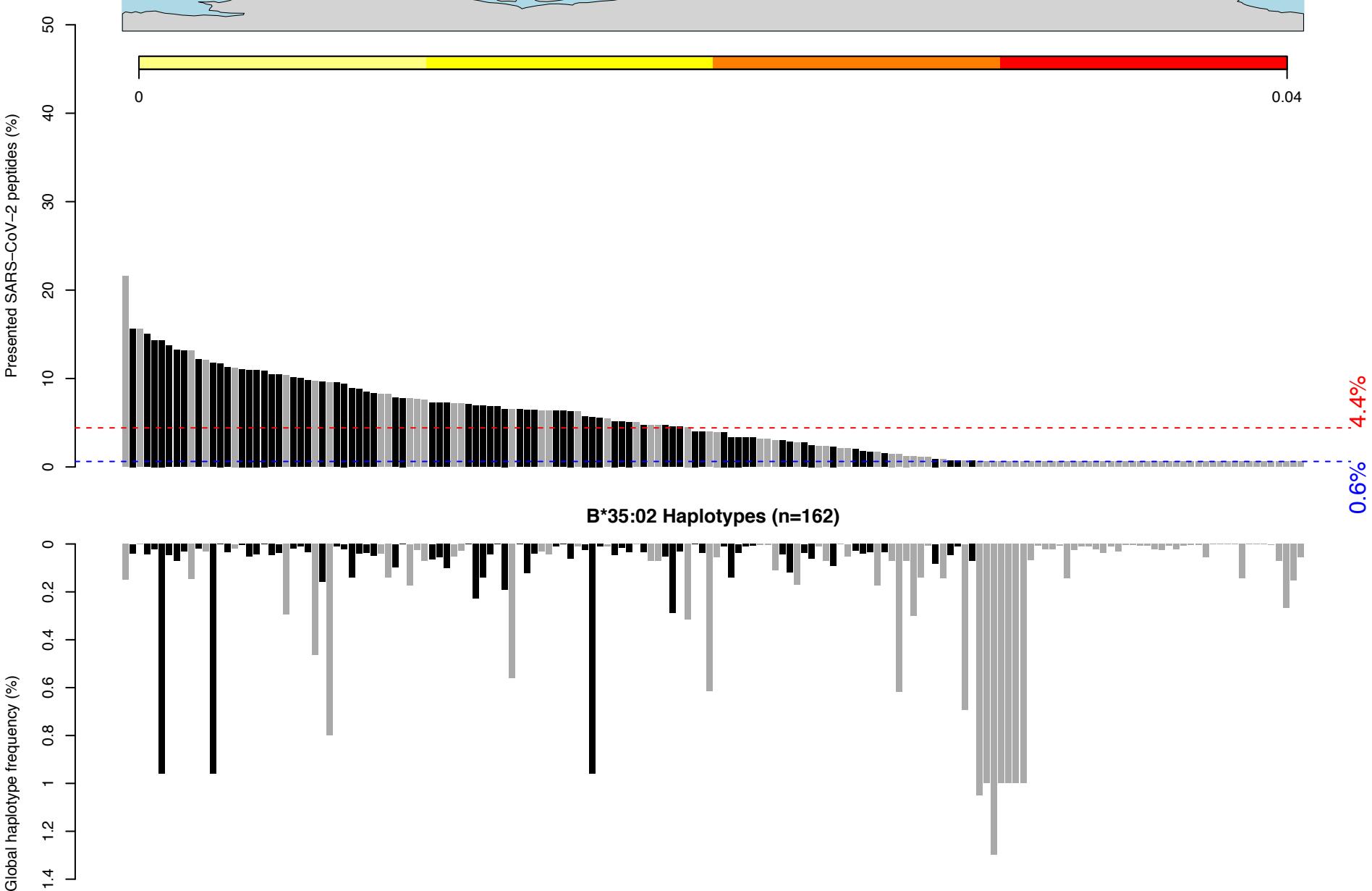
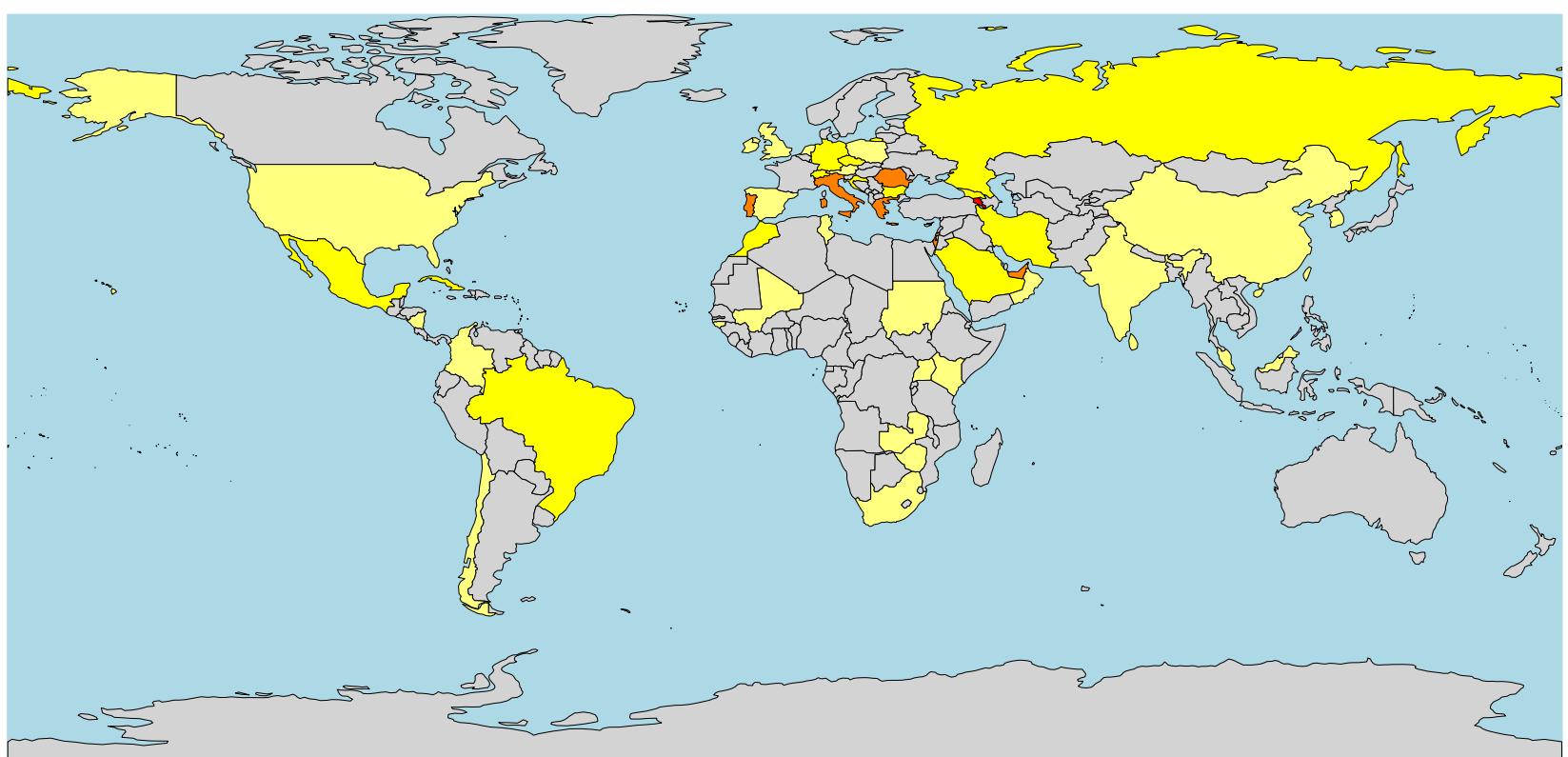
B*27:05
(~0.61% globally)



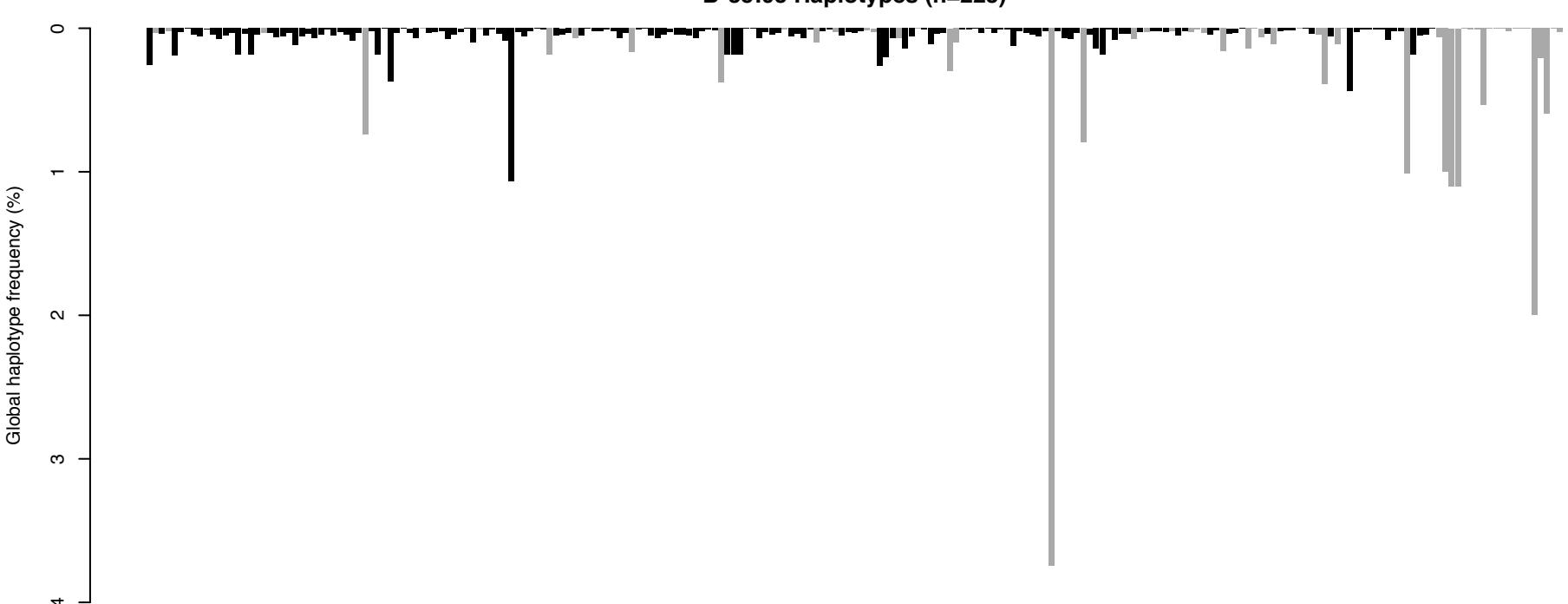
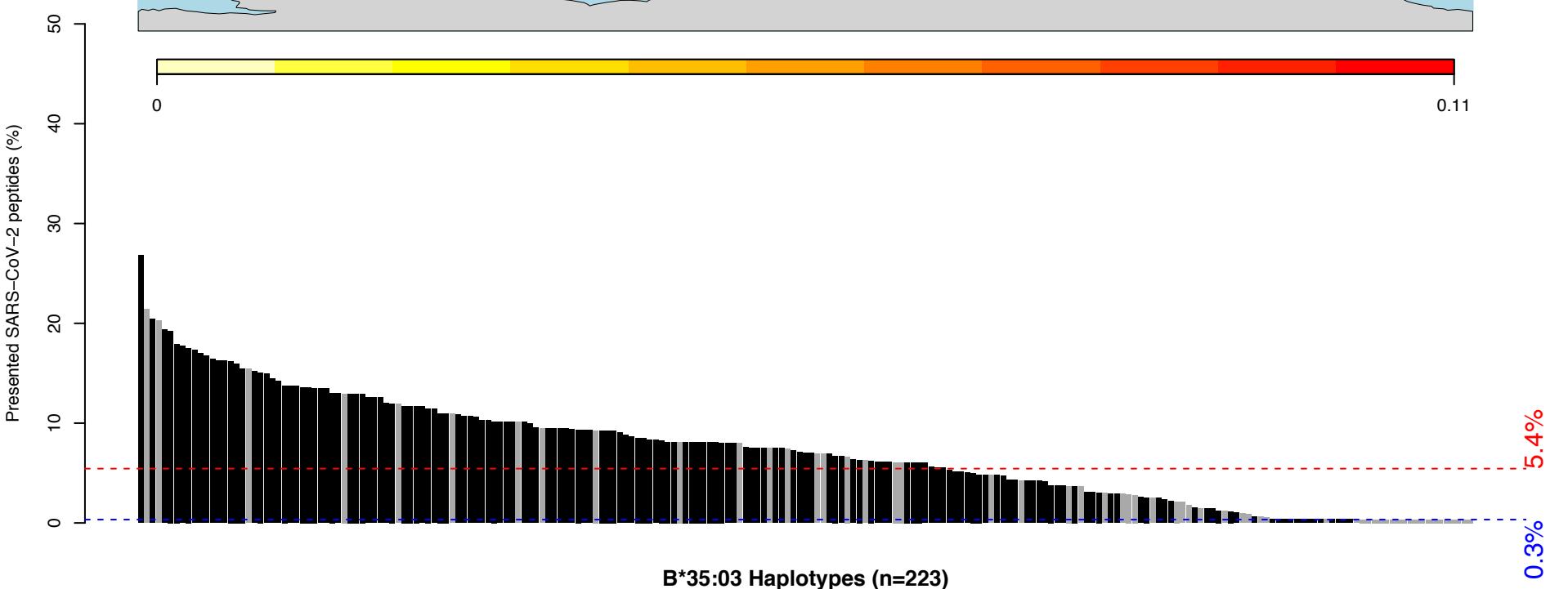
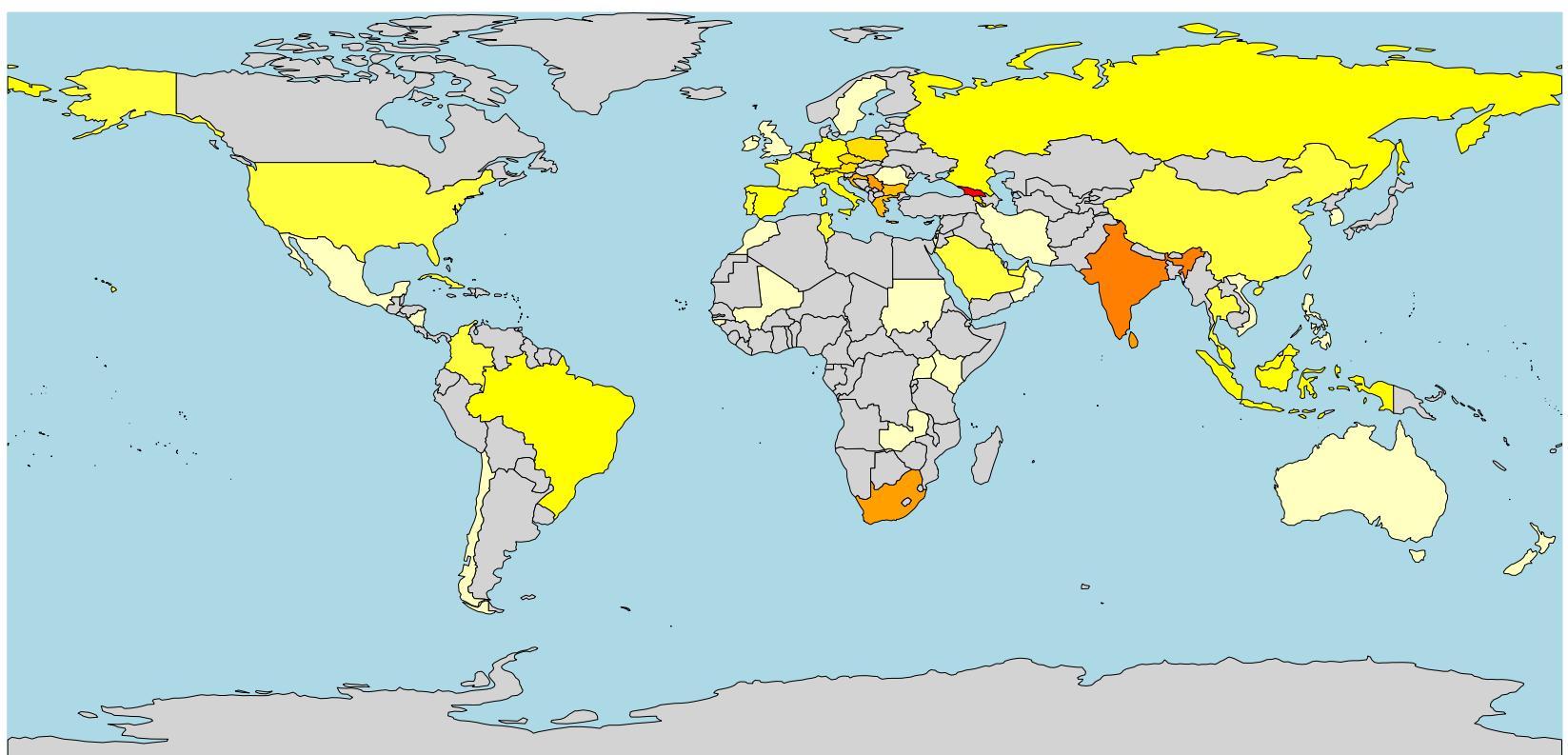
B*35:01
(~2.7% globally)



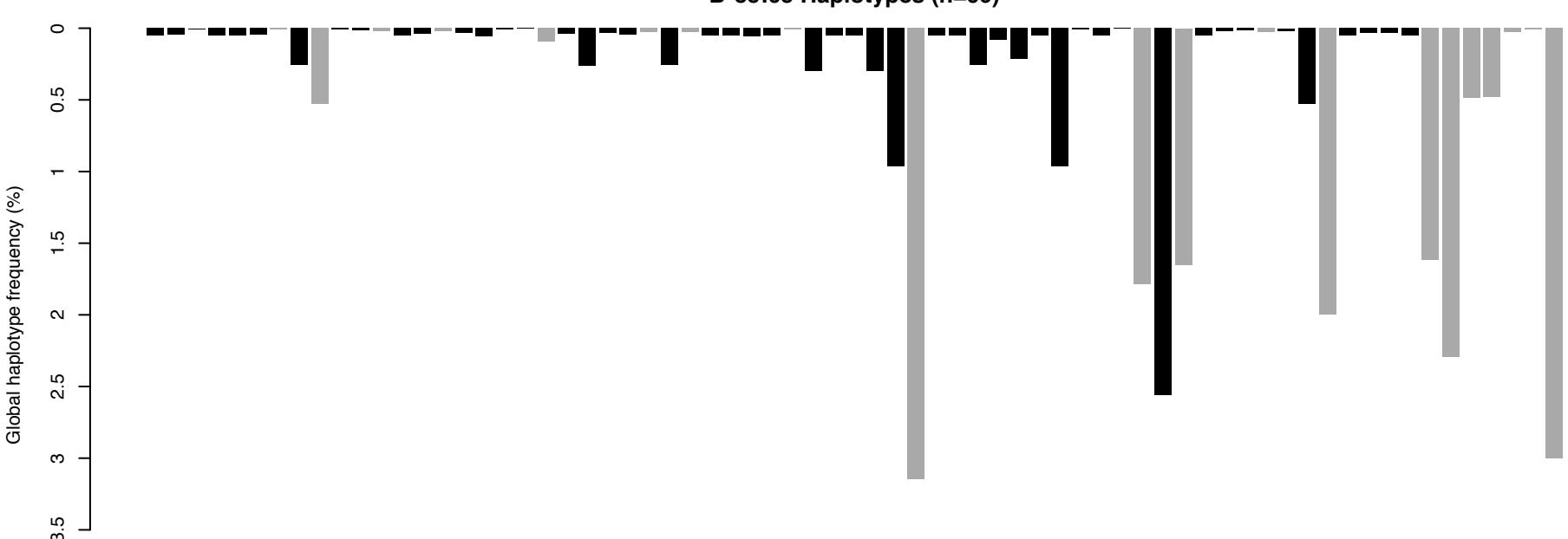
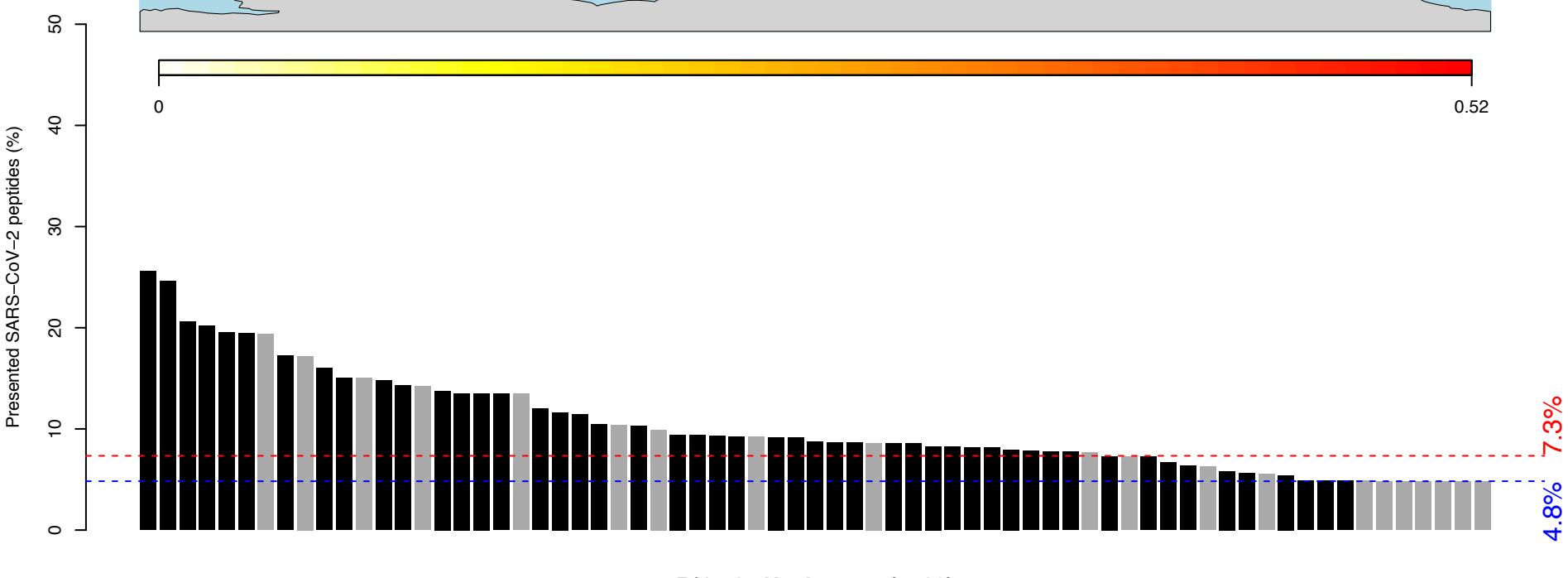
B*35:02
(~0.62% globally)



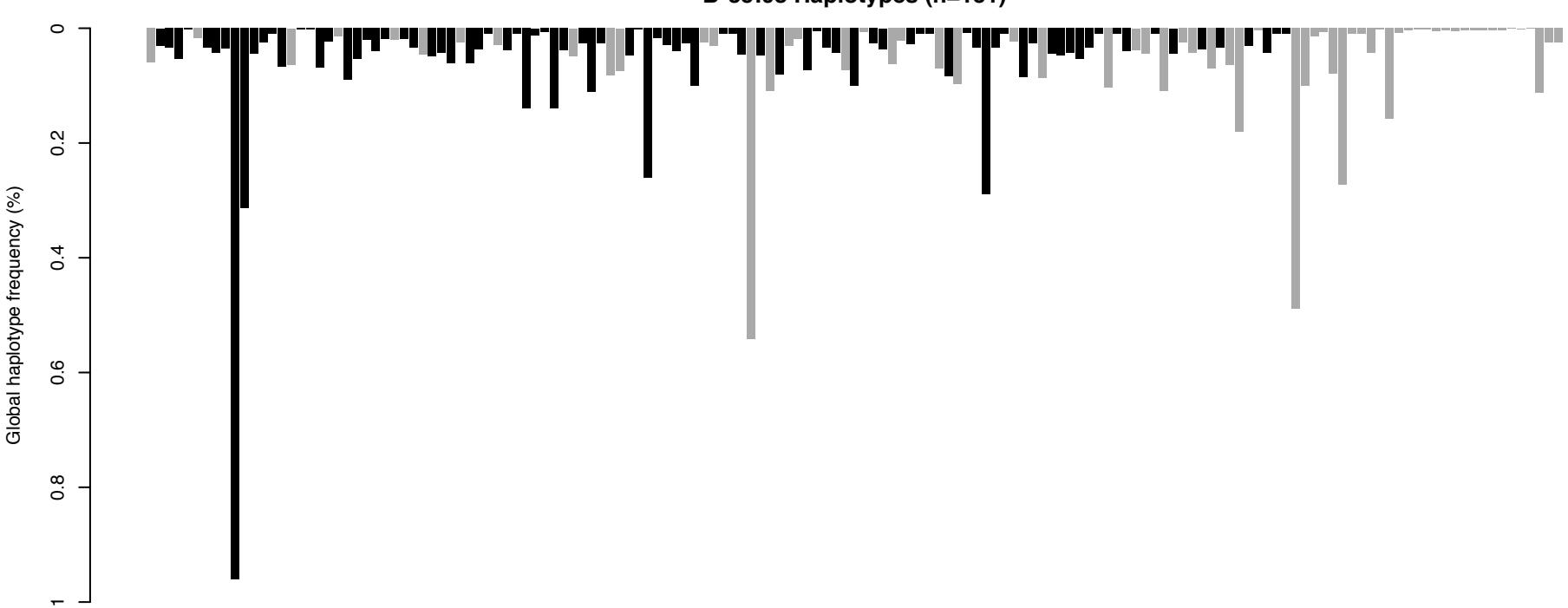
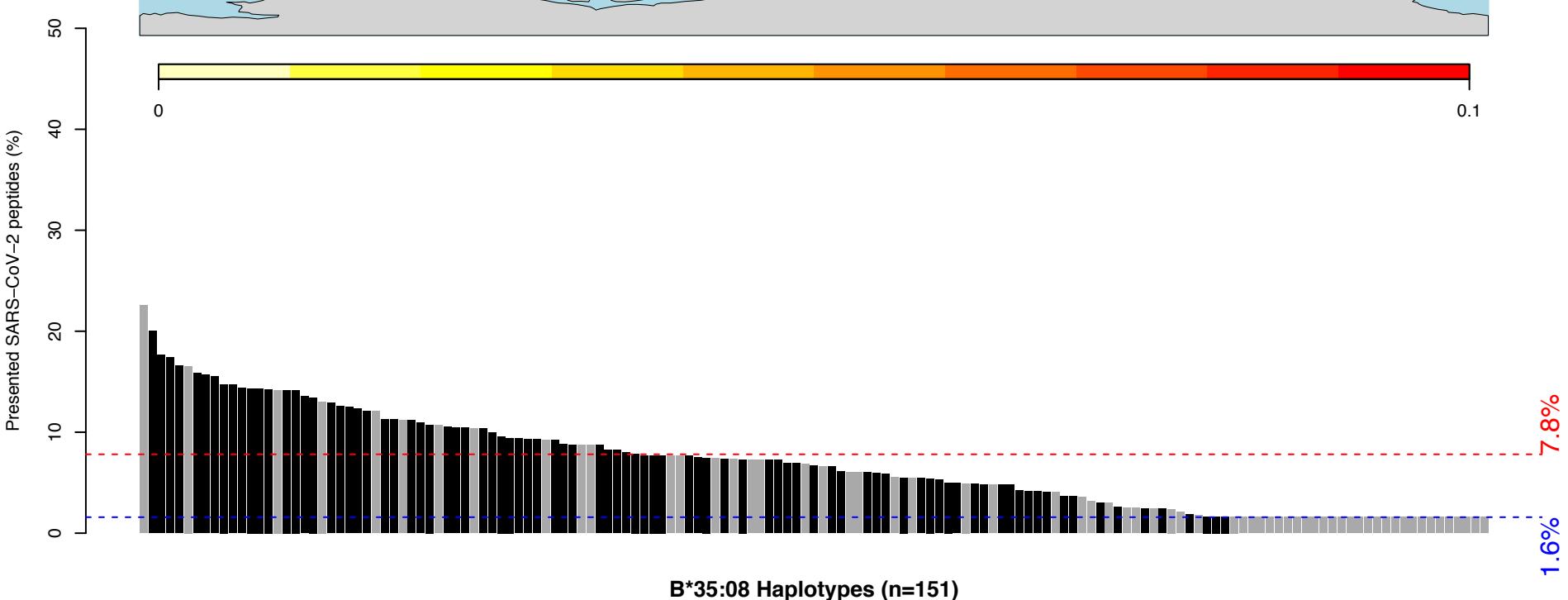
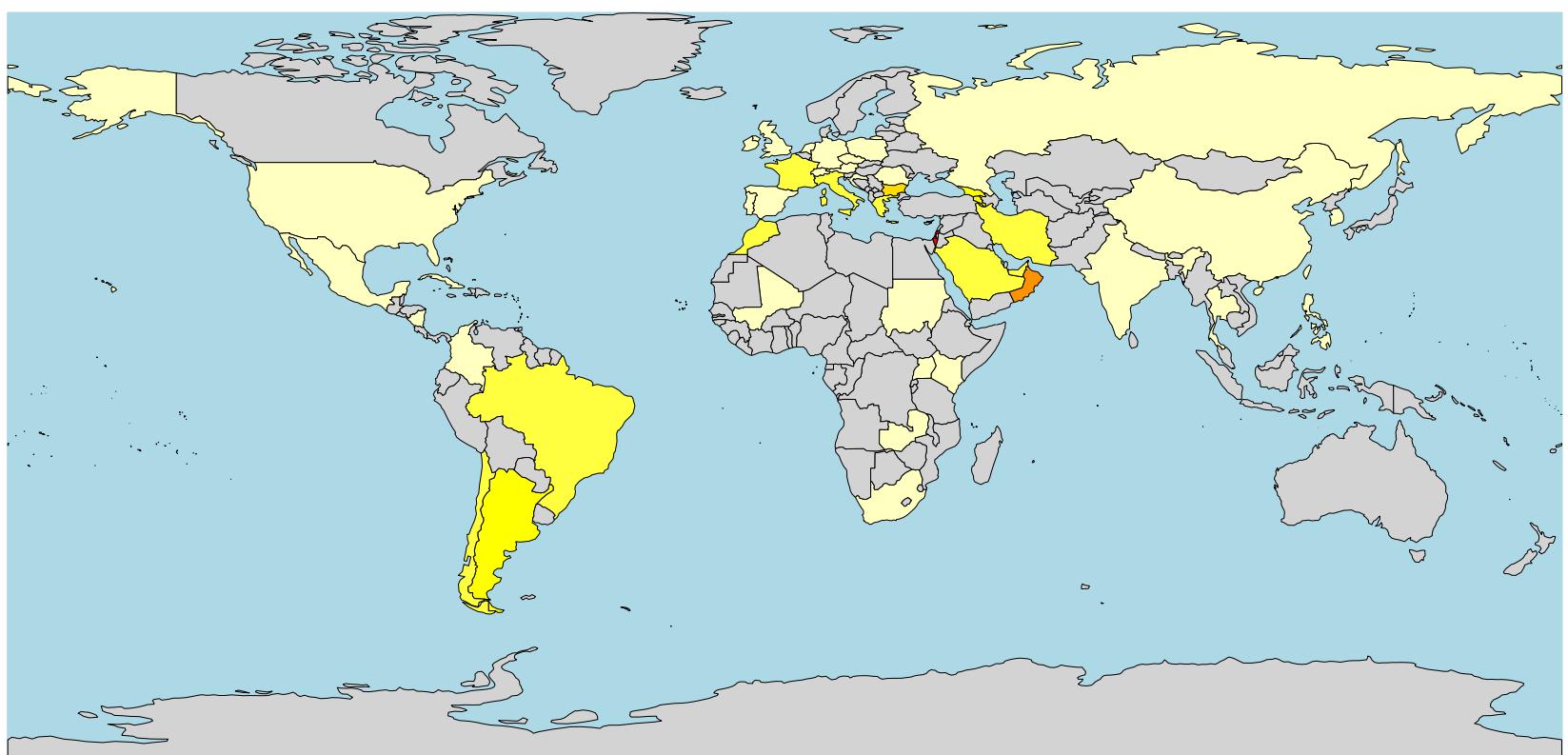
B*35:03
(~3.1% globally)



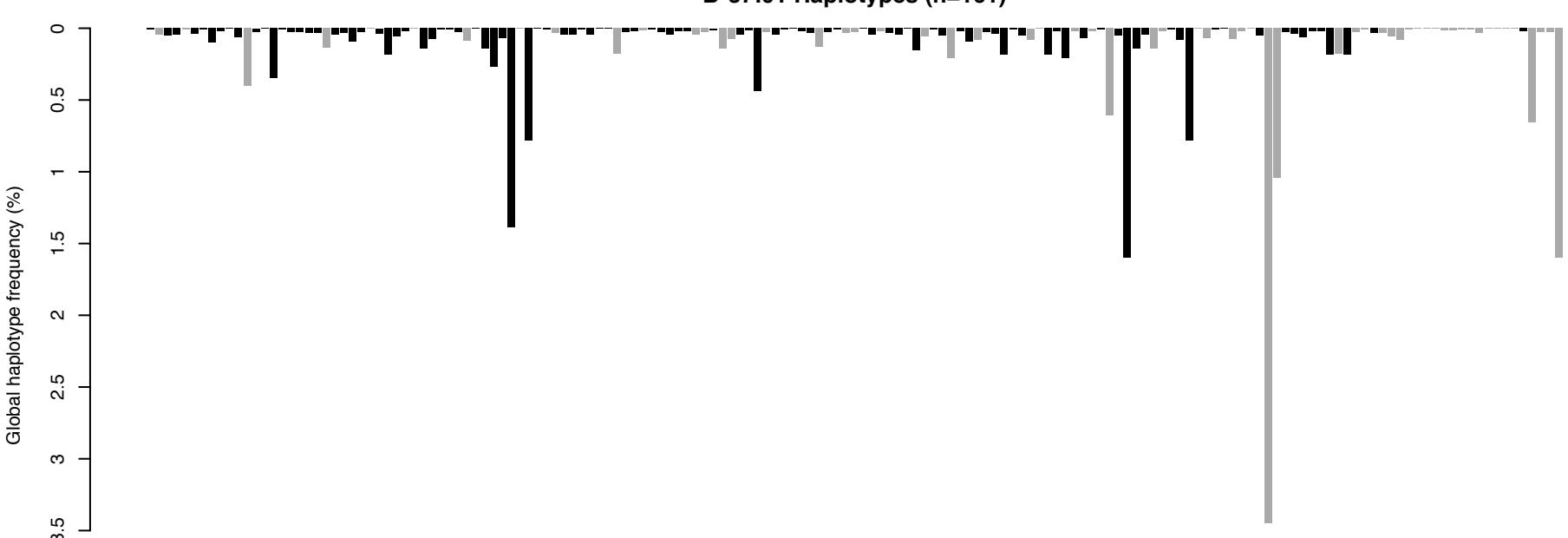
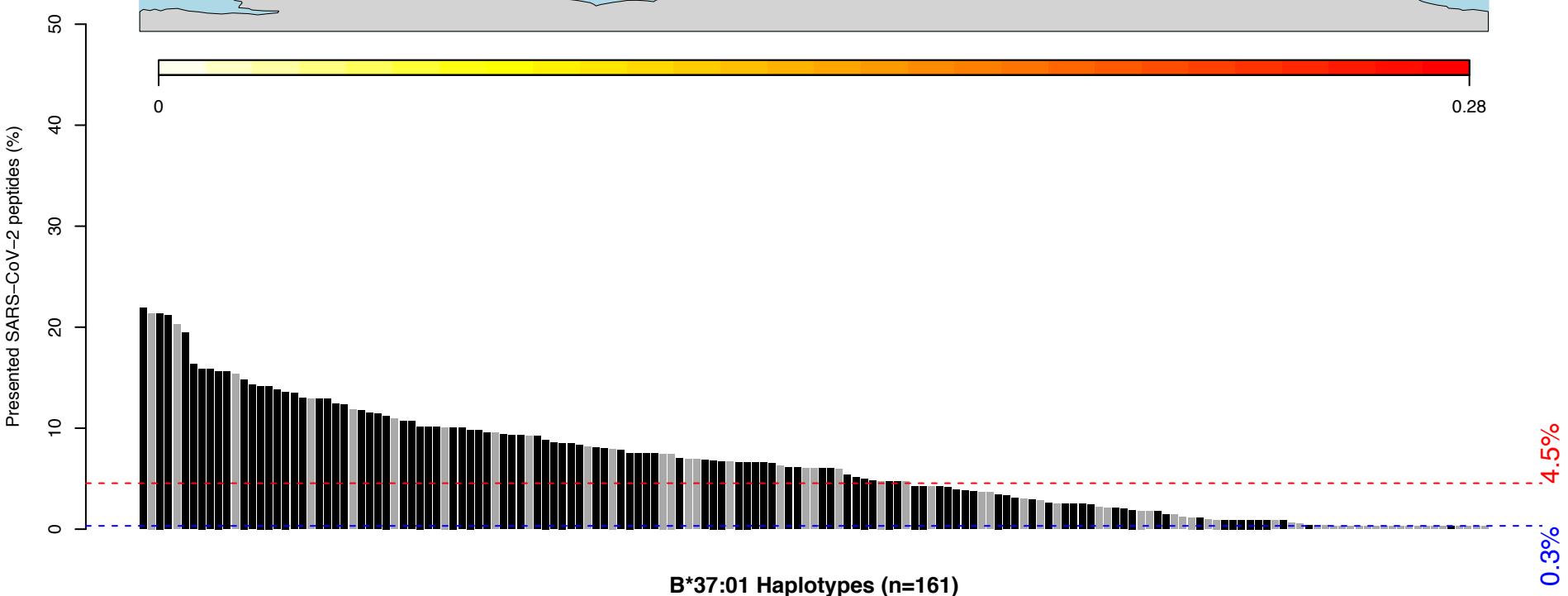
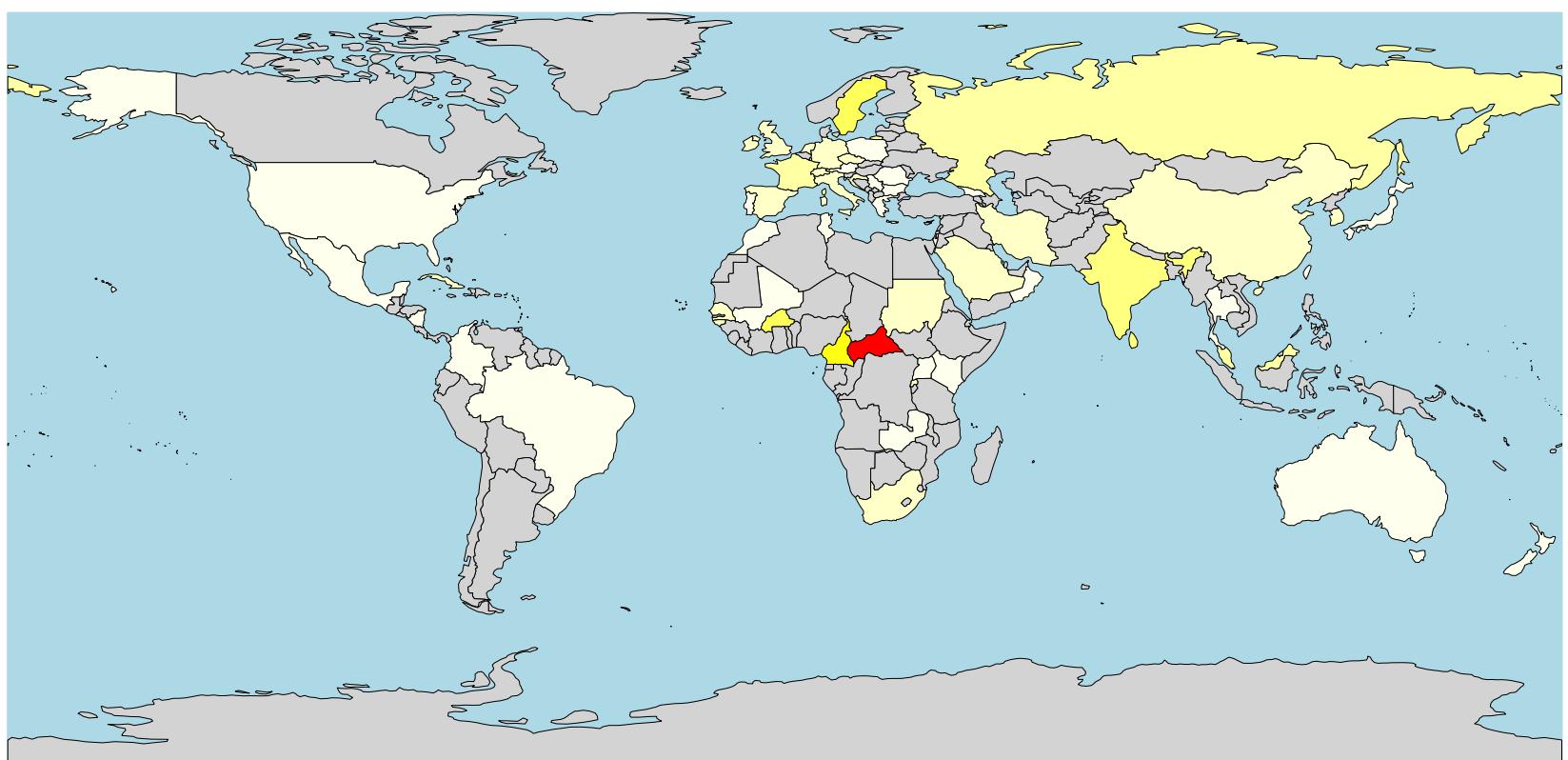
B*35:05
(~1.9% globally)



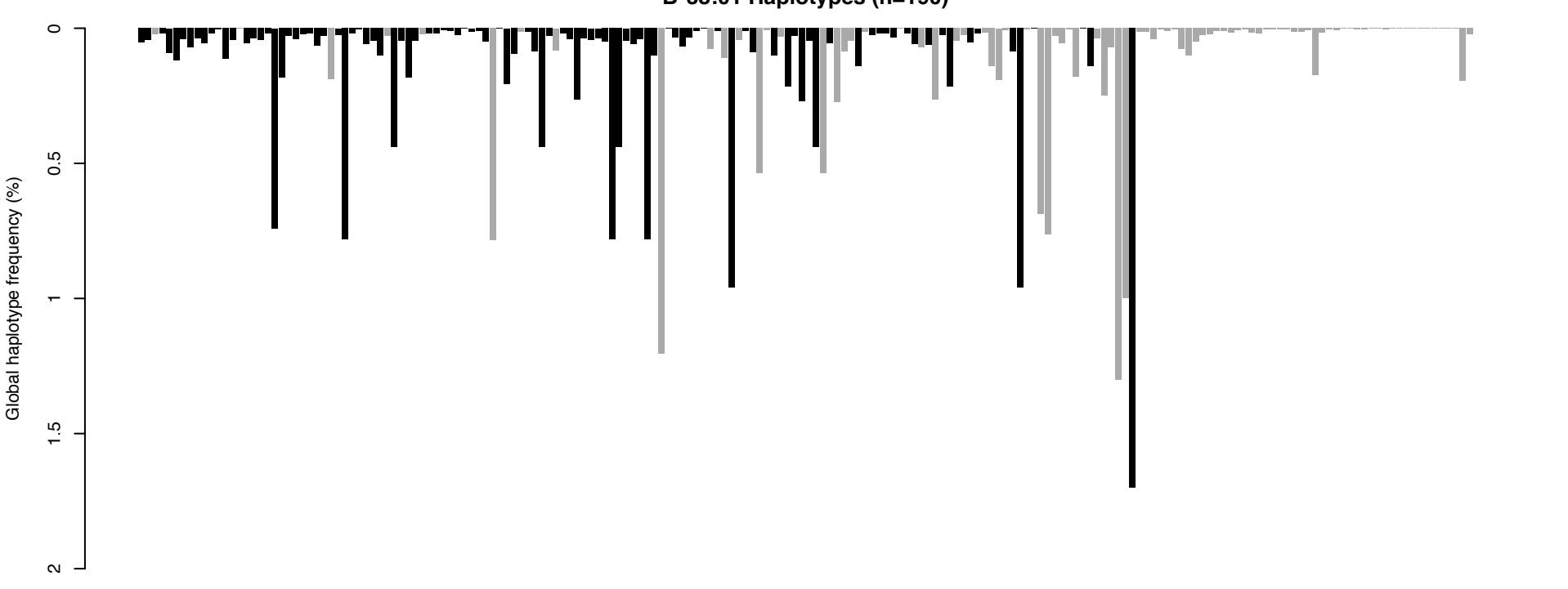
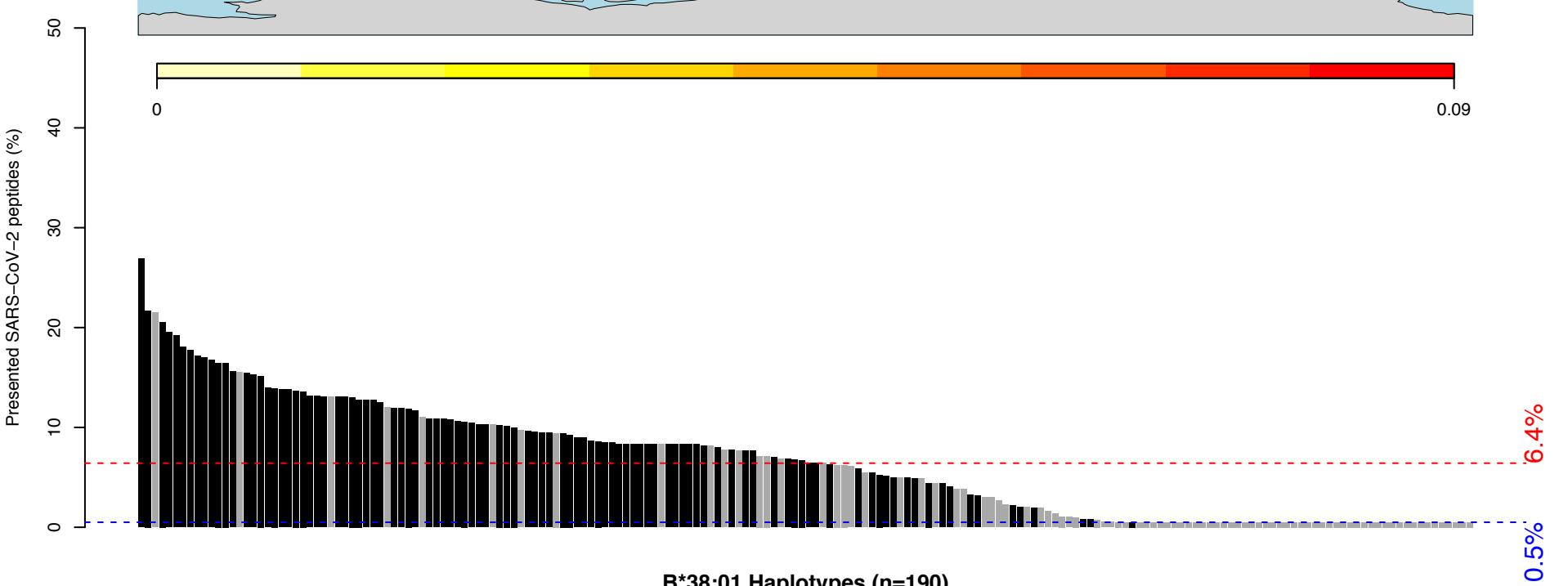
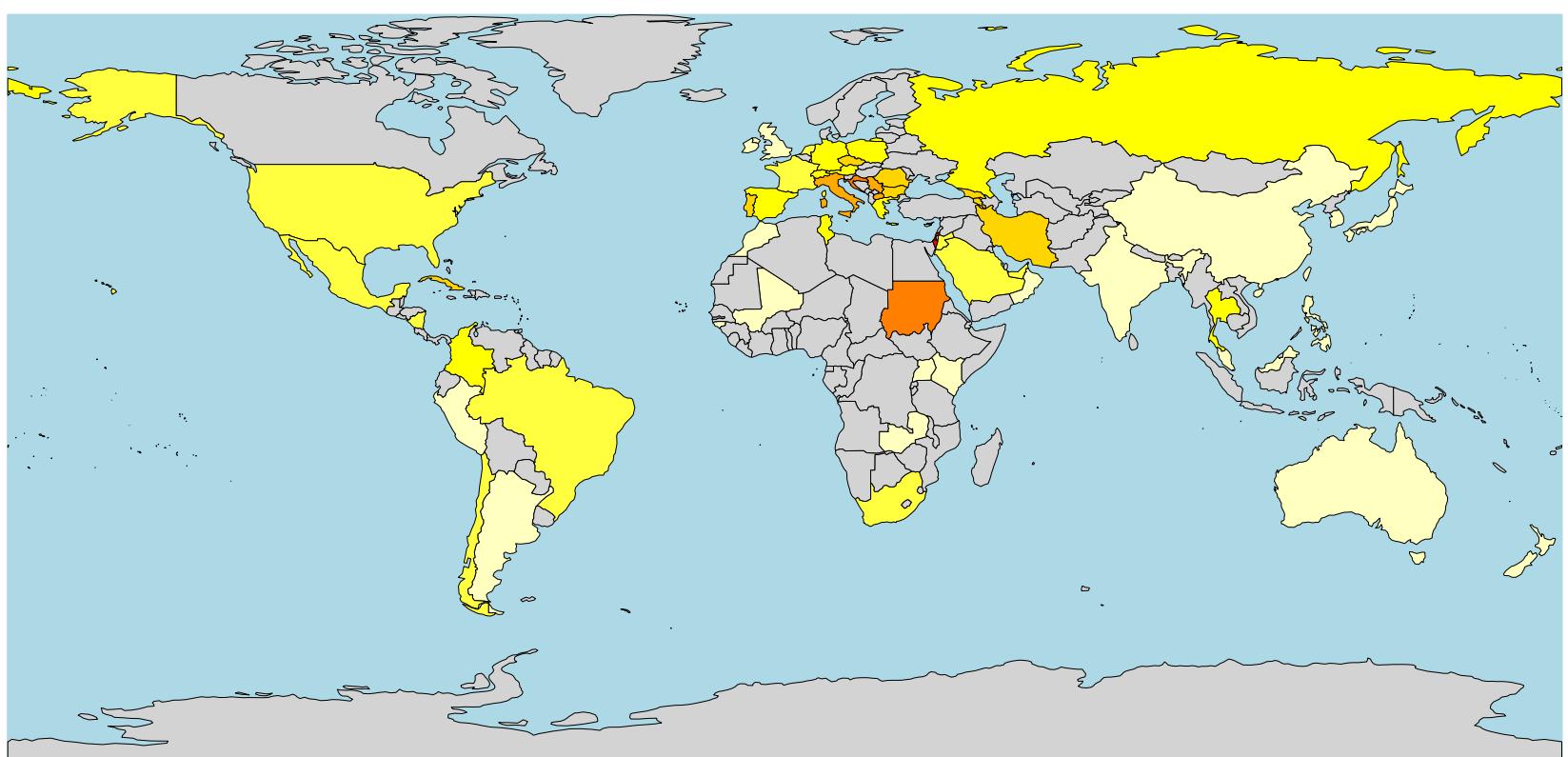
B*35:08
(~0.39% globally)



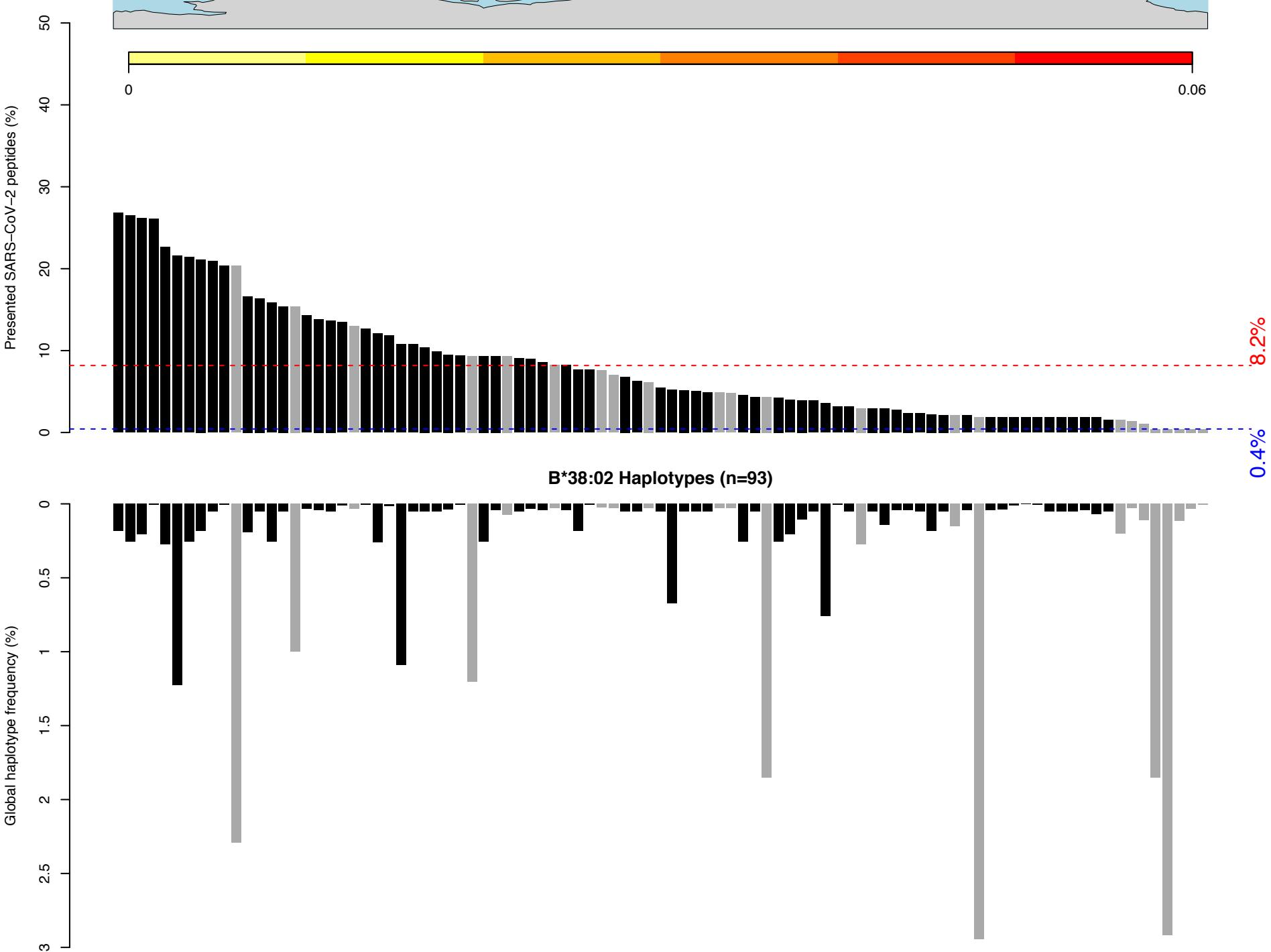
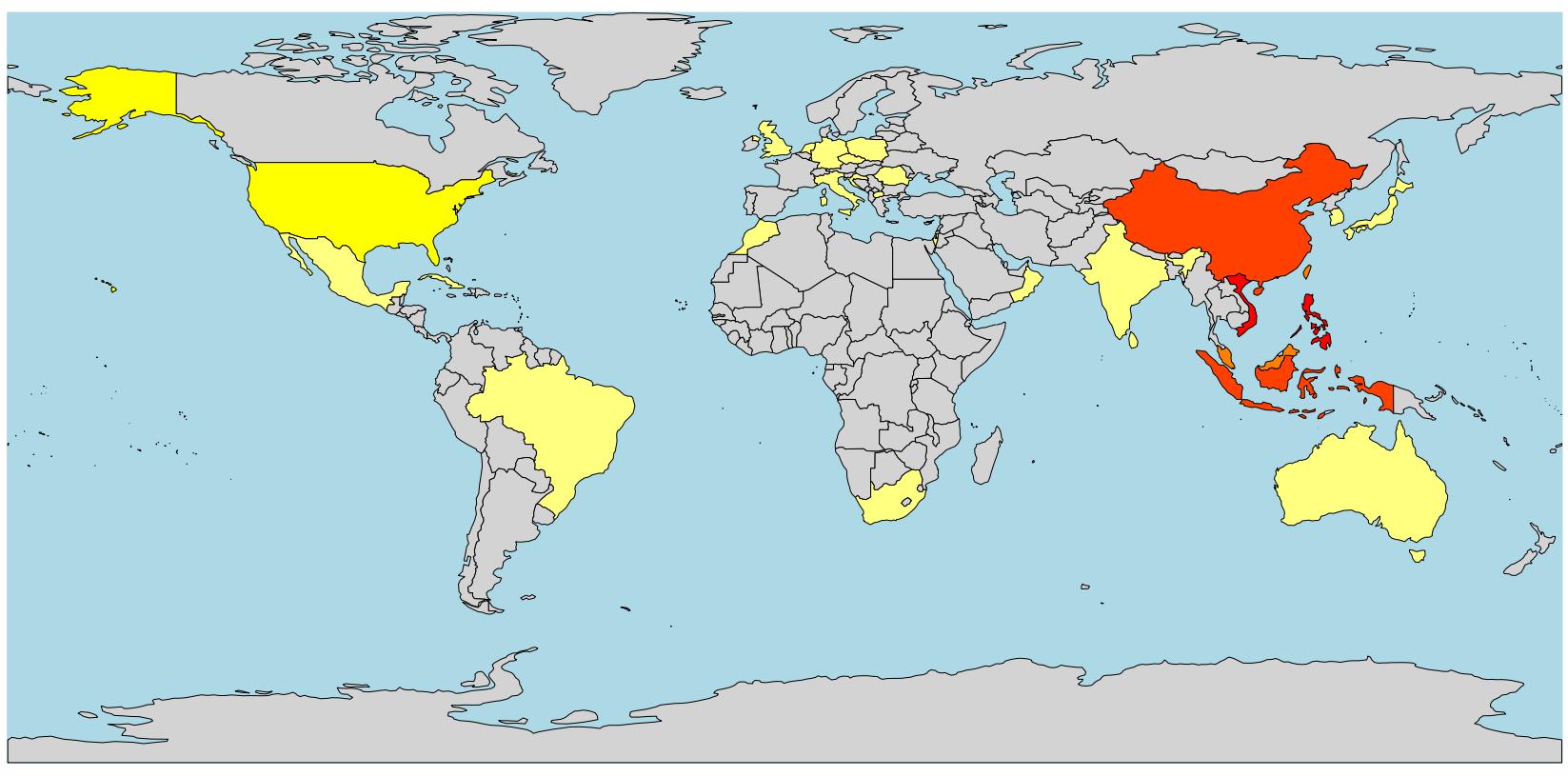
B*37:01
(~2% globally)



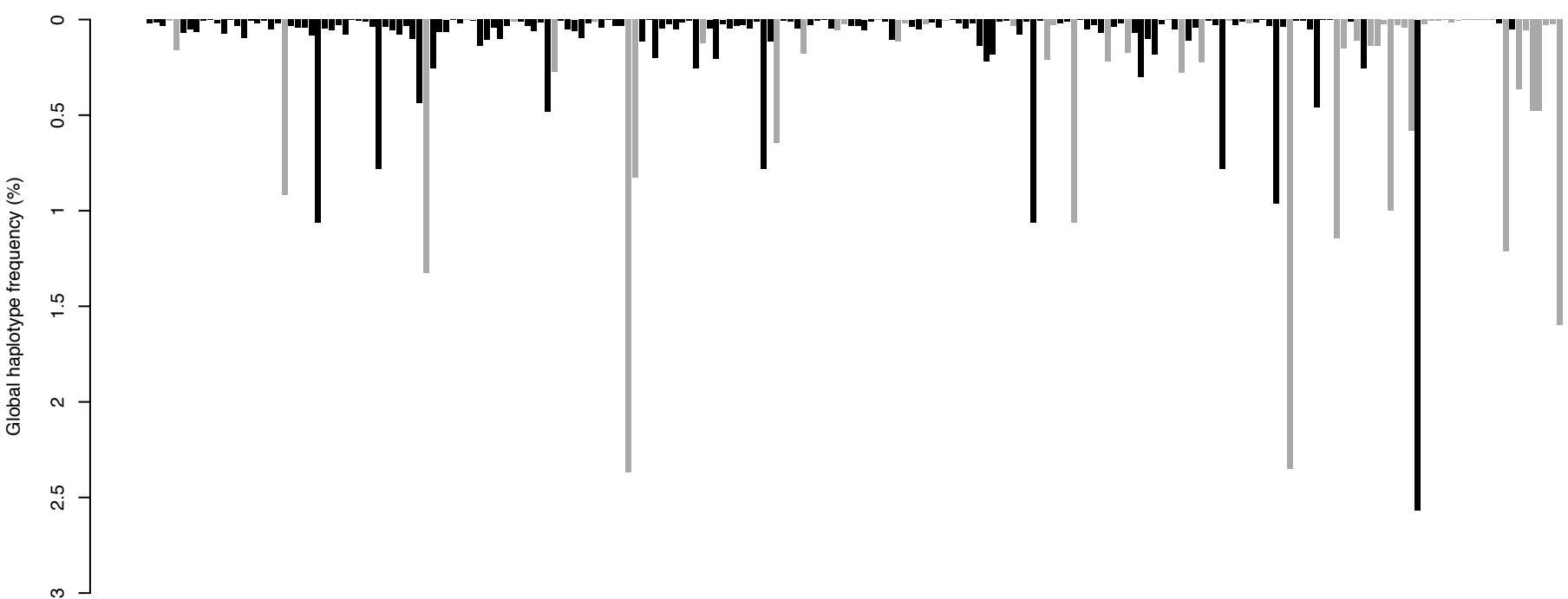
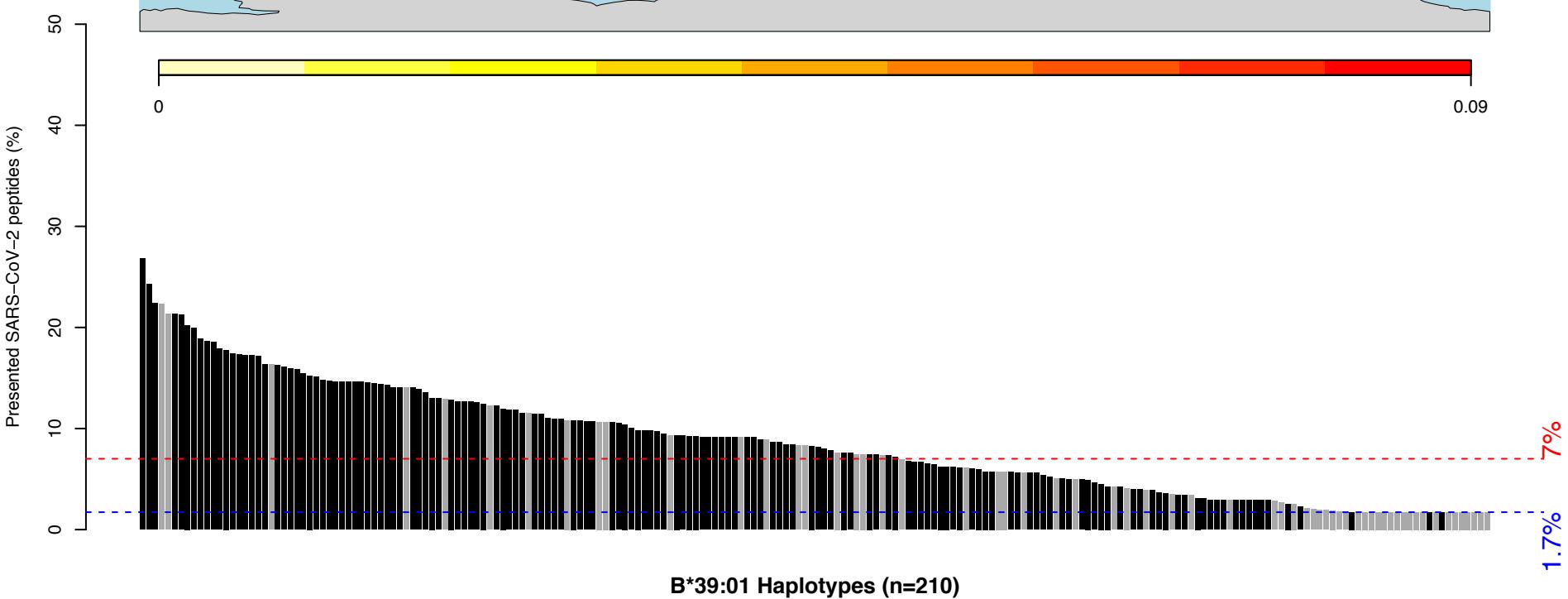
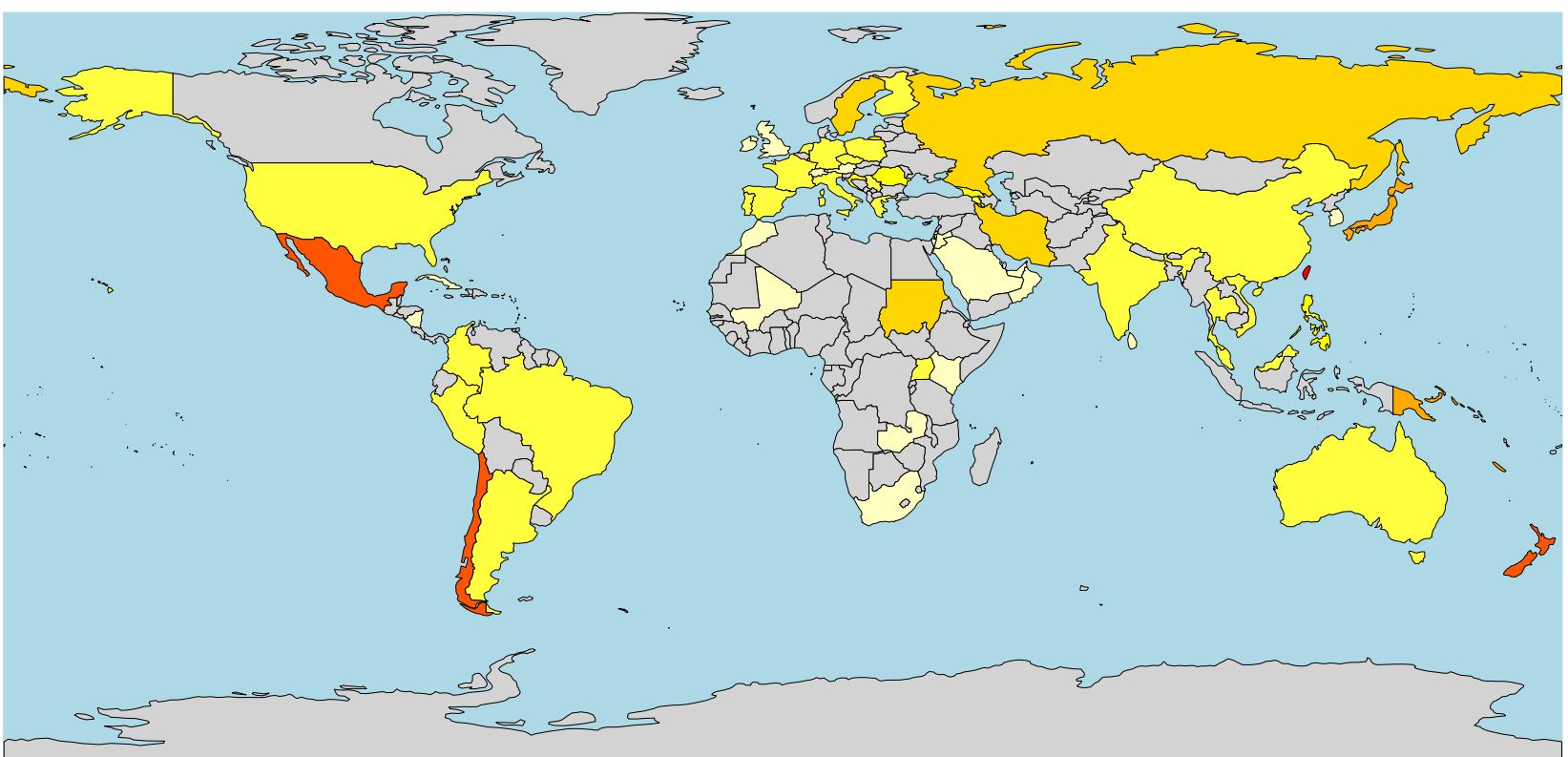
B*38:01
(~1.1% globally)



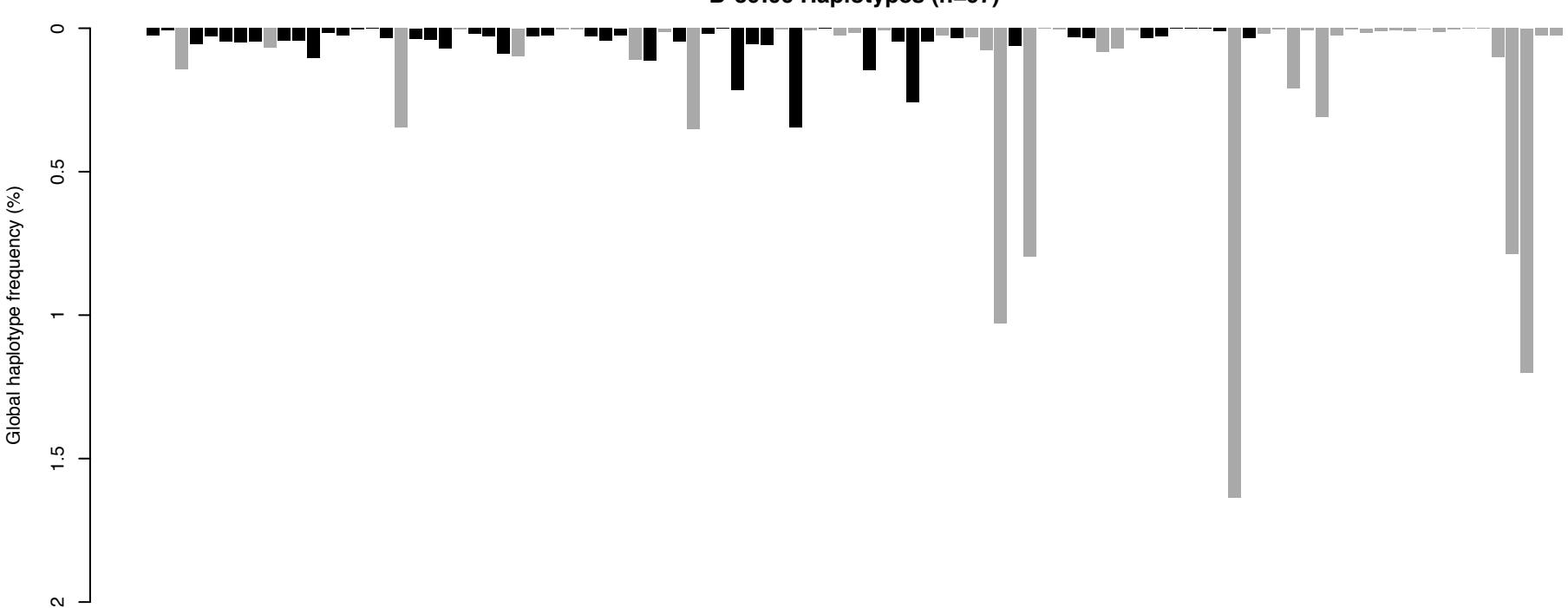
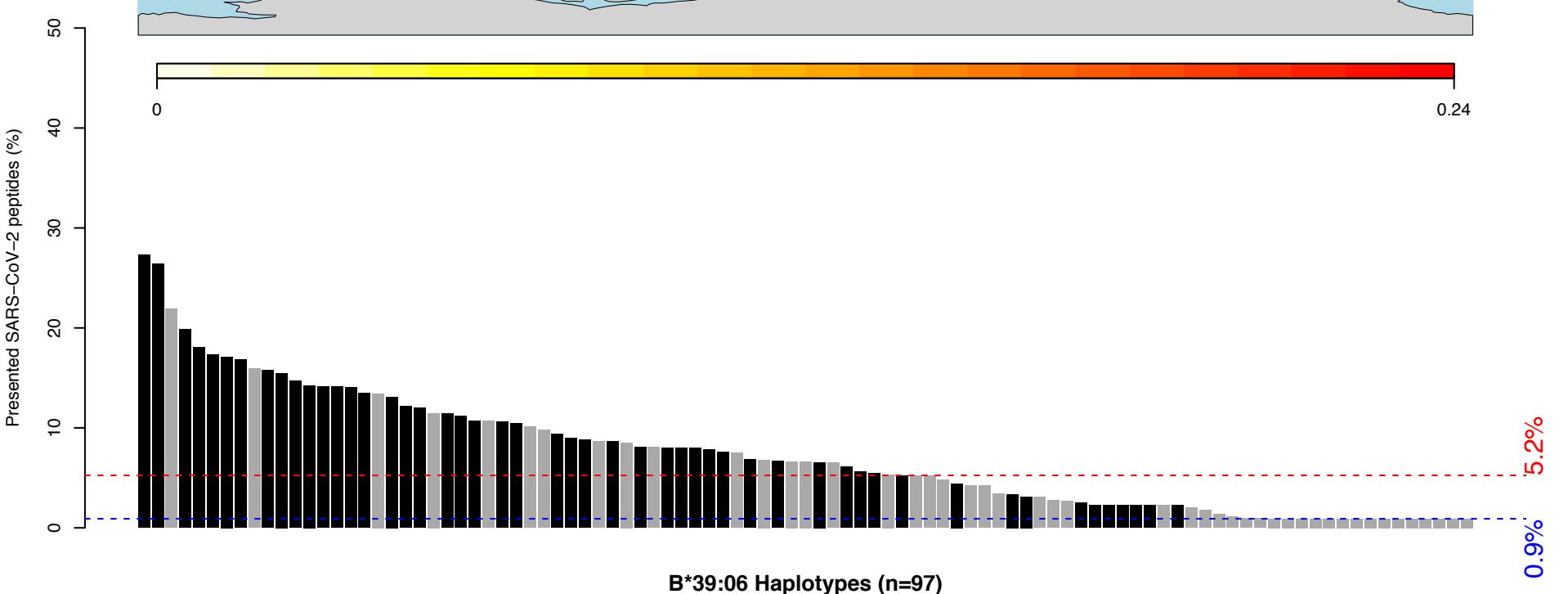
B*38:02
(~2.1% globally)



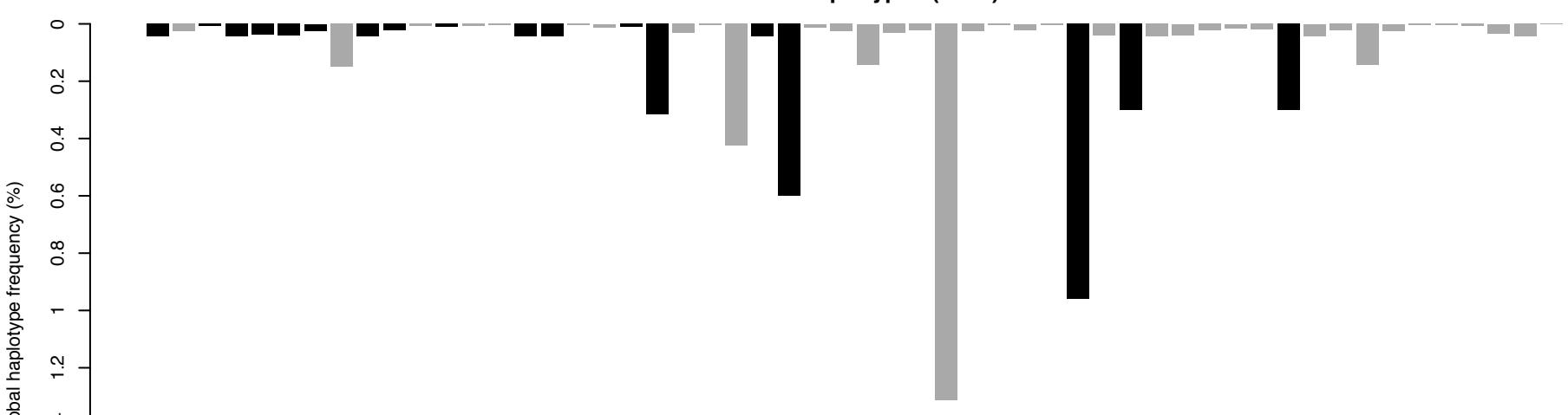
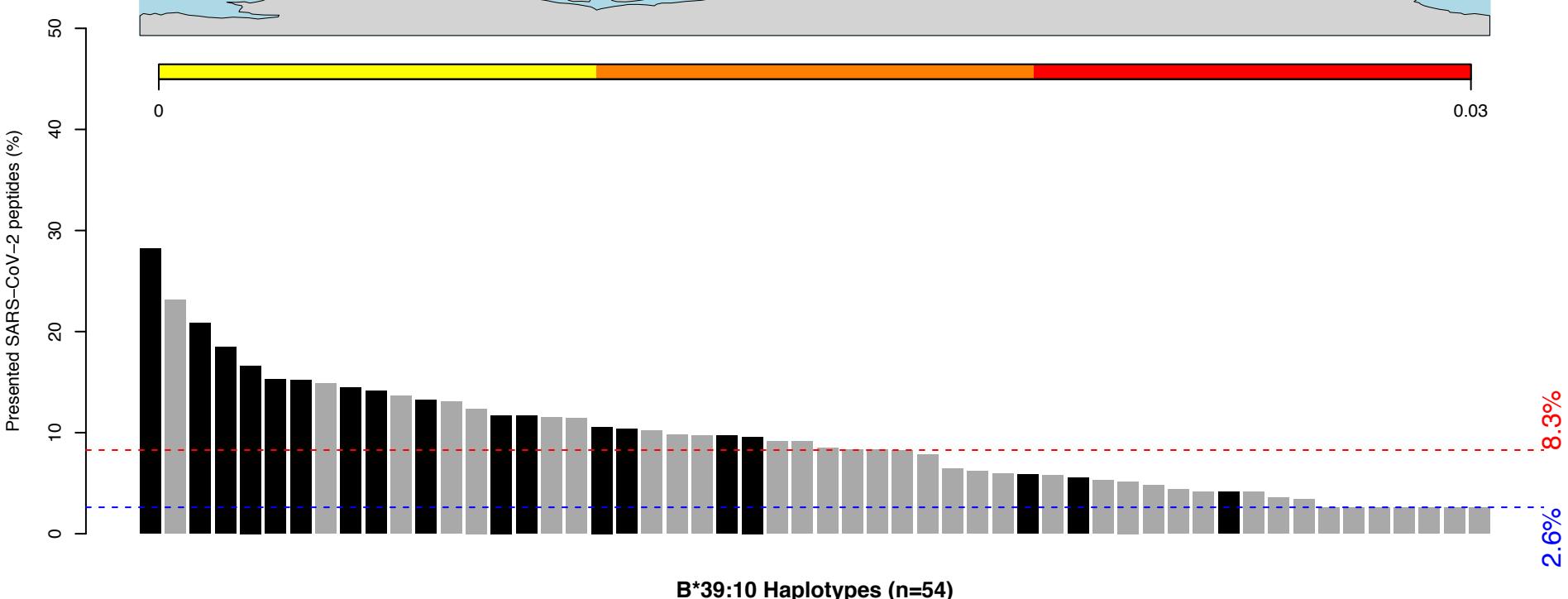
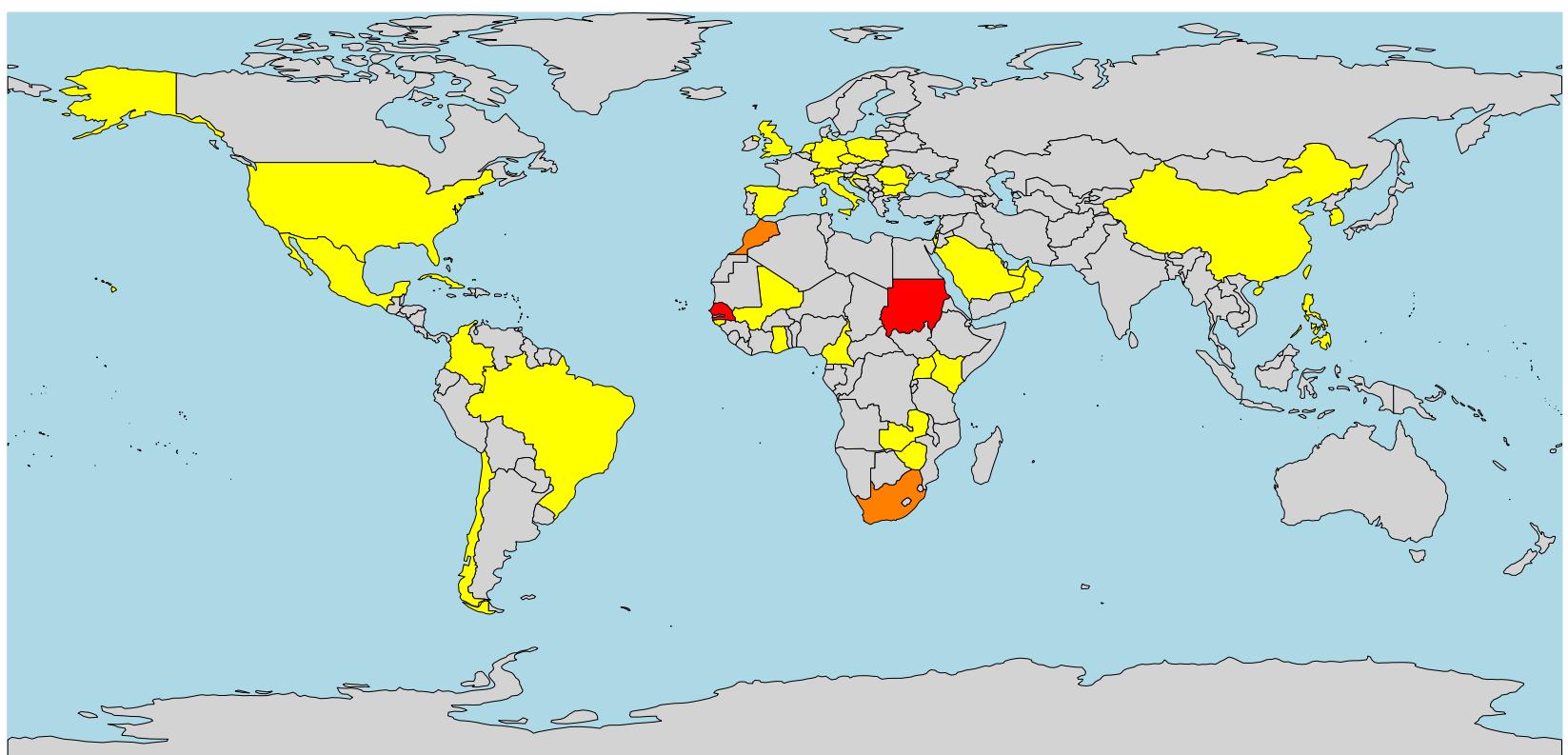
B*39:01
(~1.2% globally)



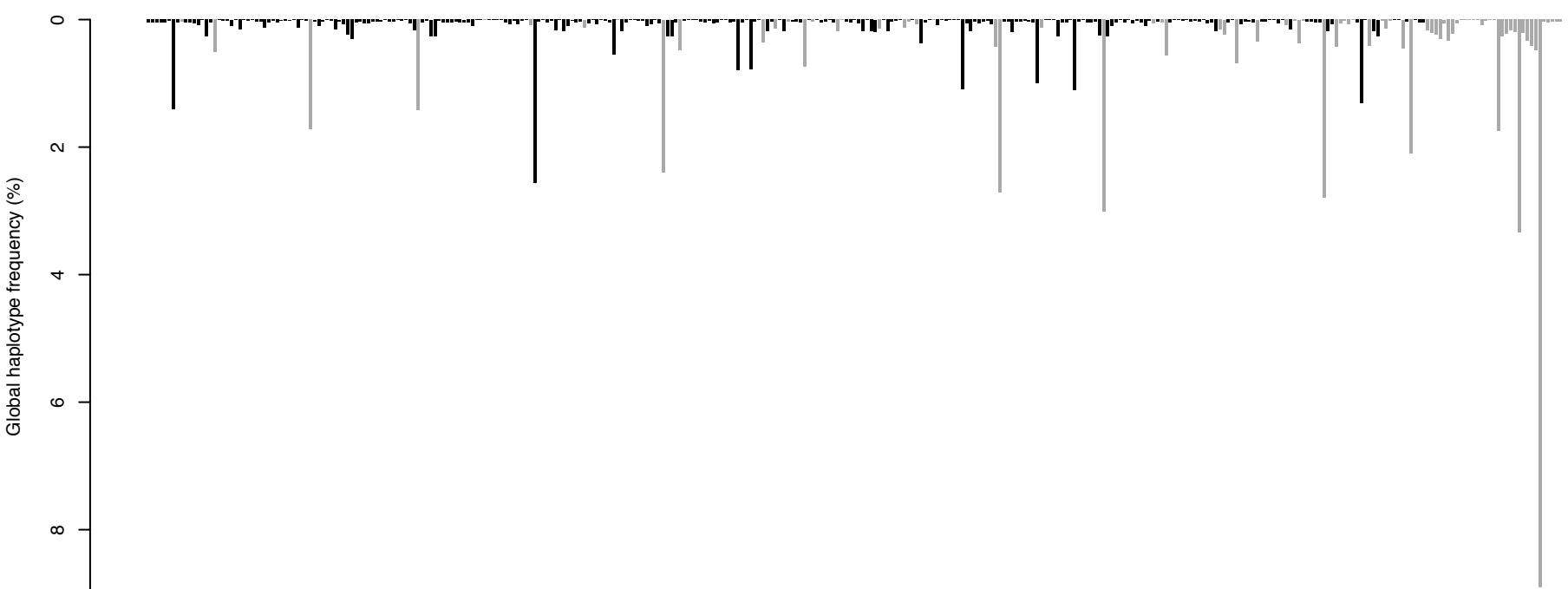
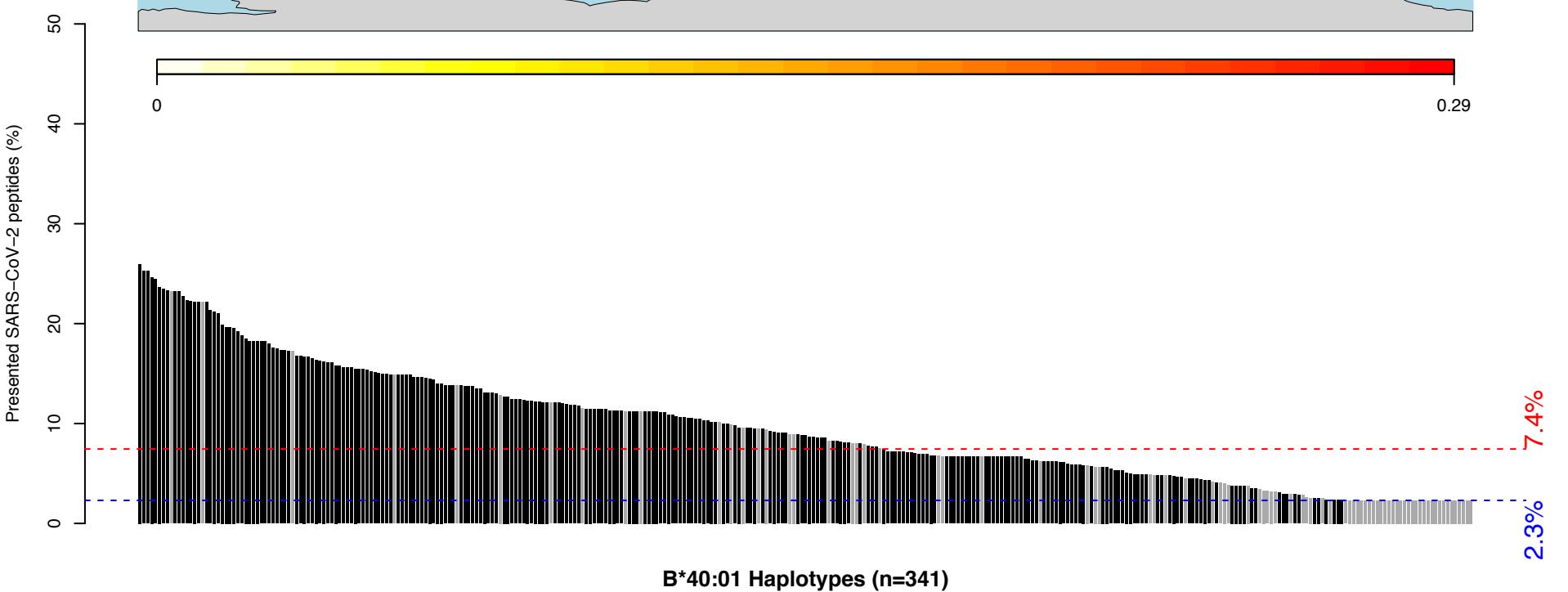
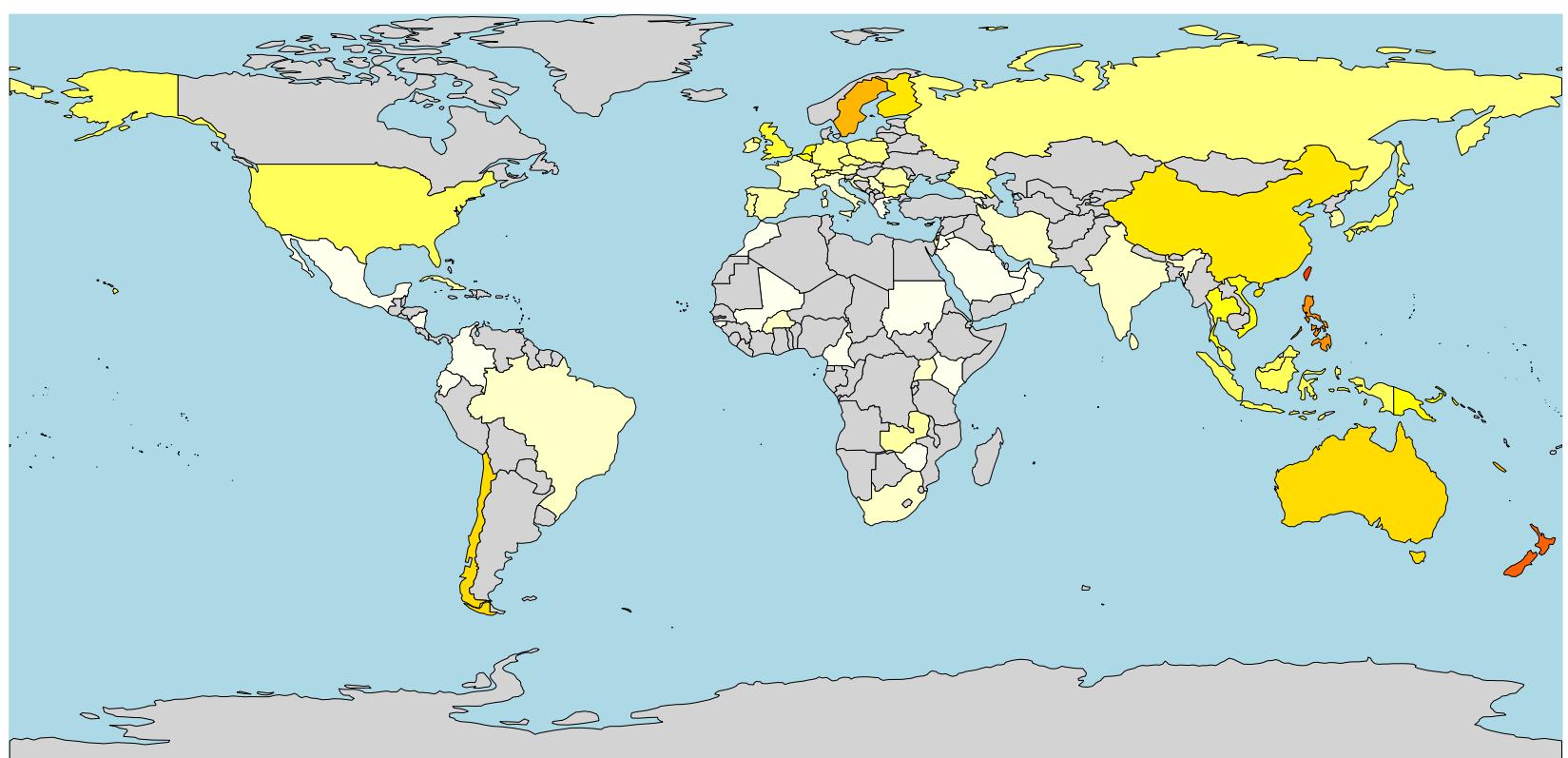
B*39:06
(~0.41% globally)



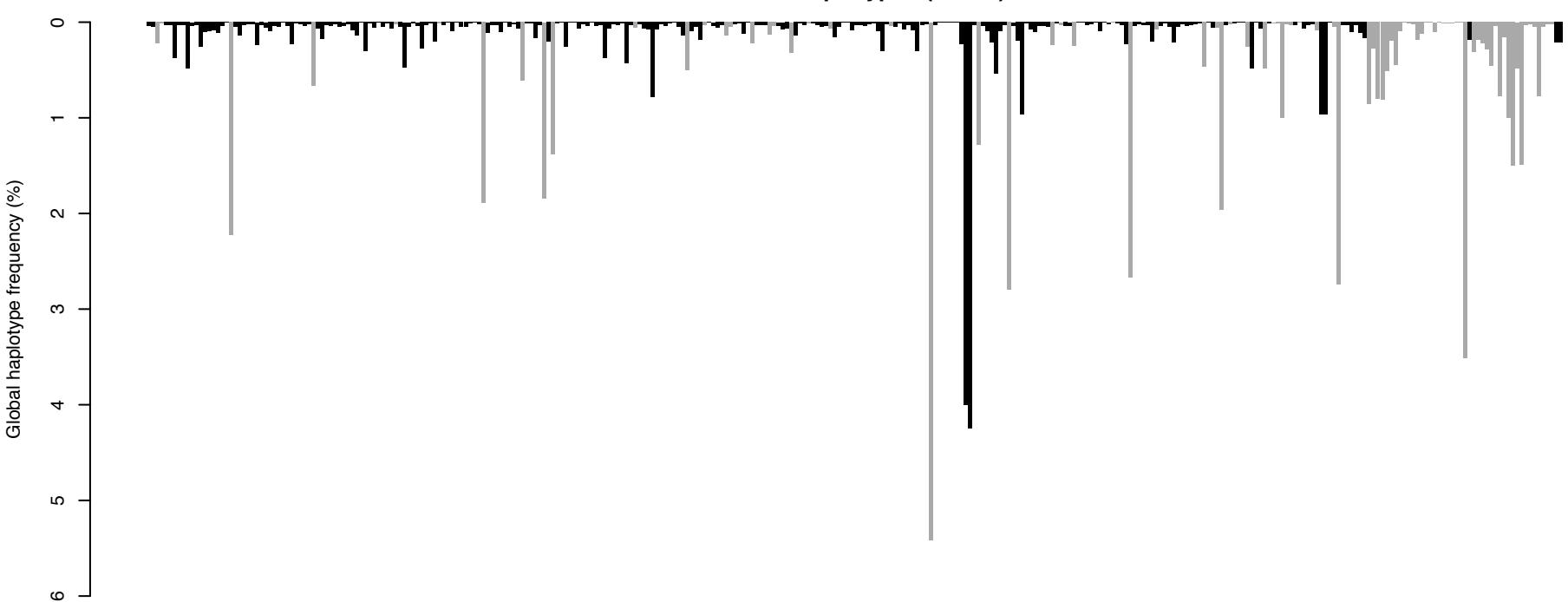
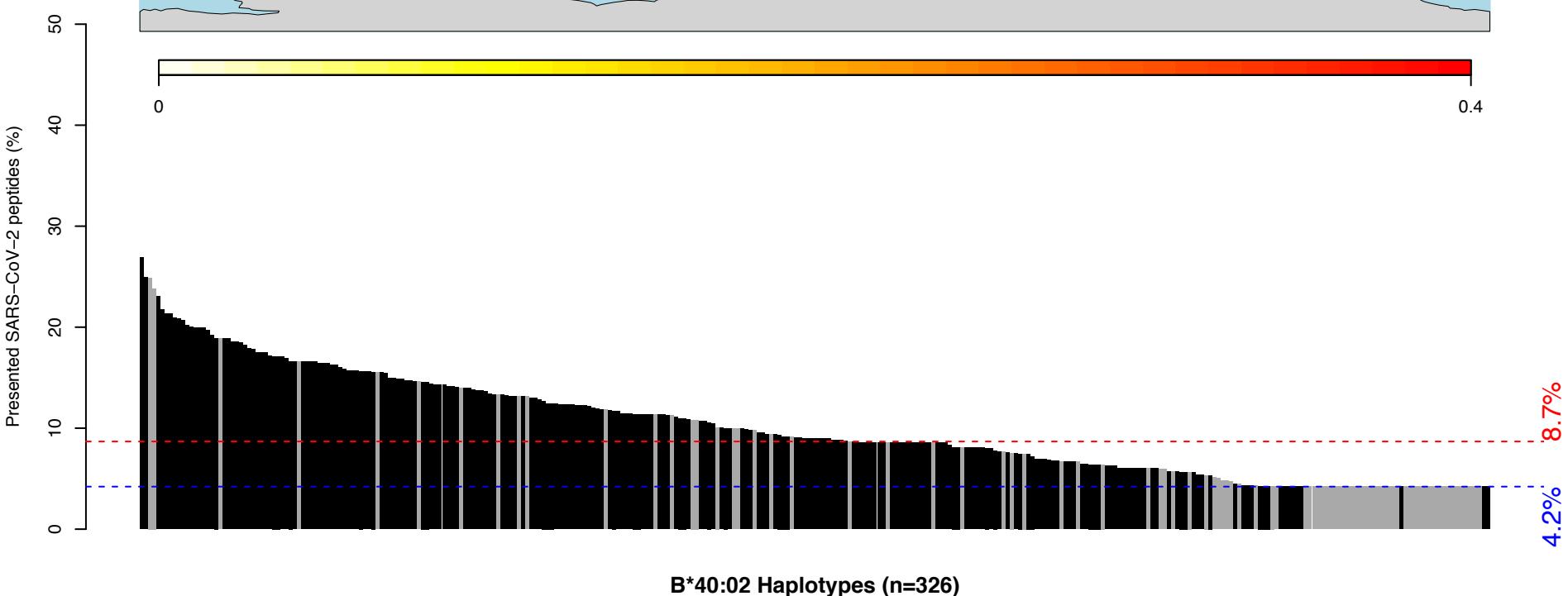
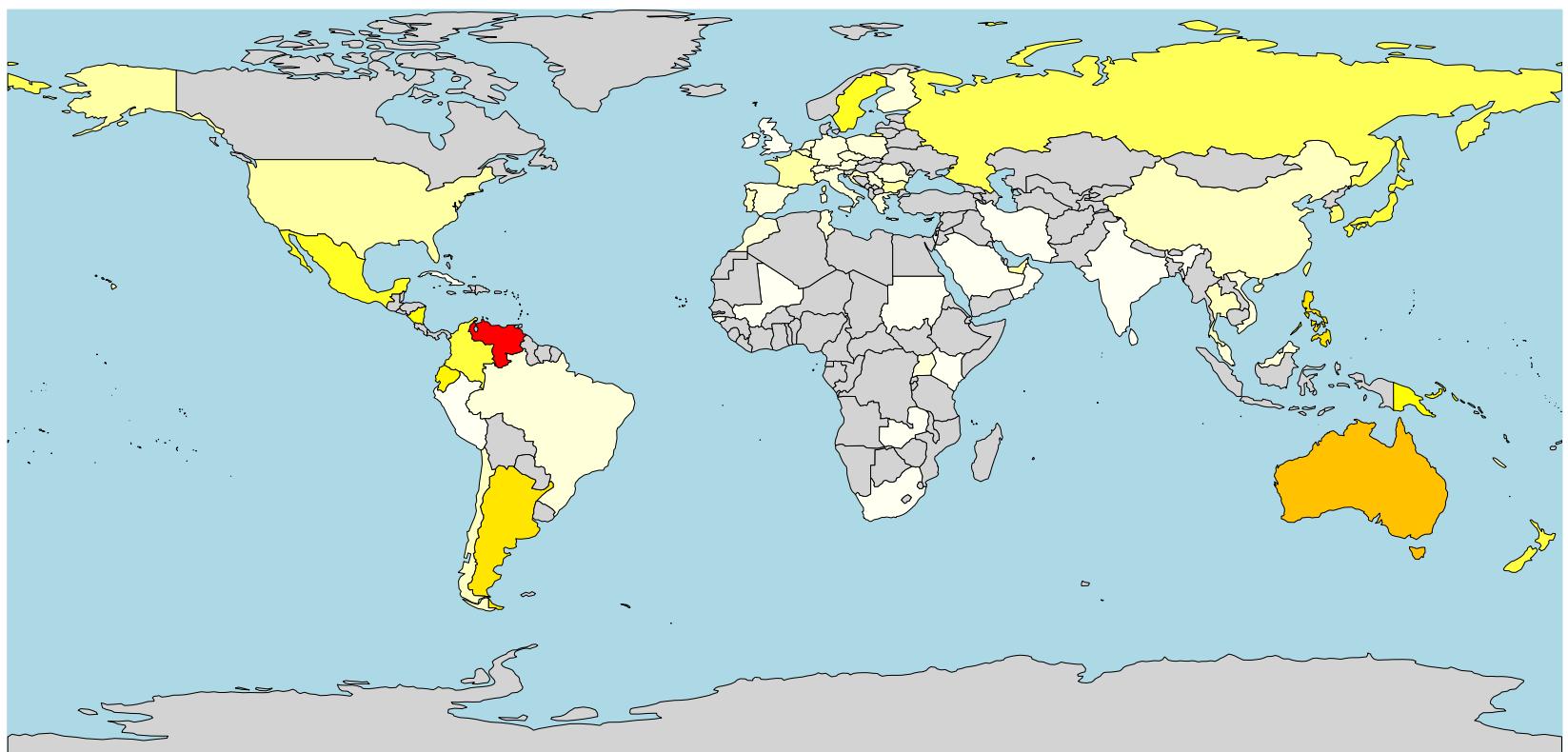
B*39:10
(~0.19% globally)



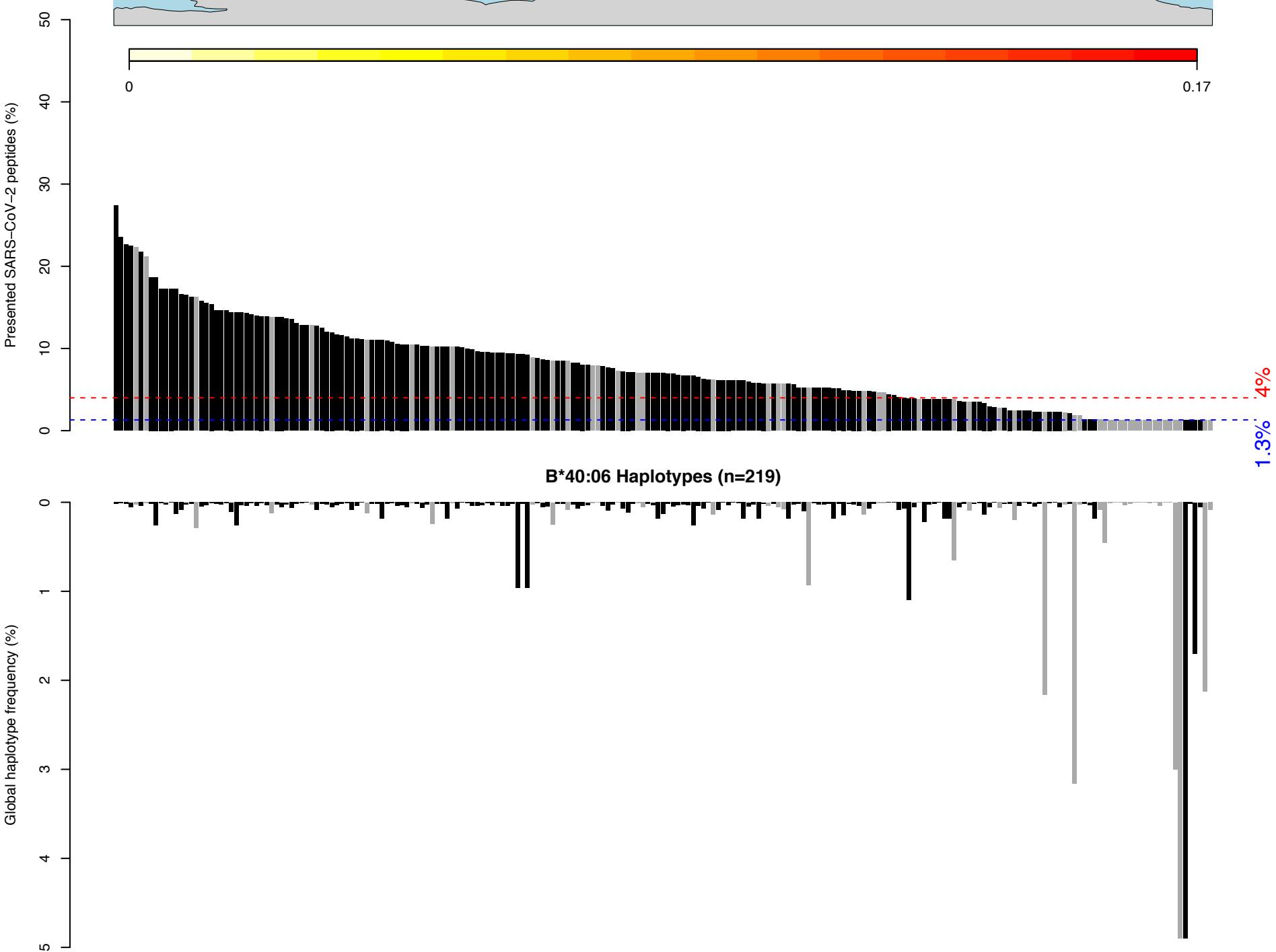
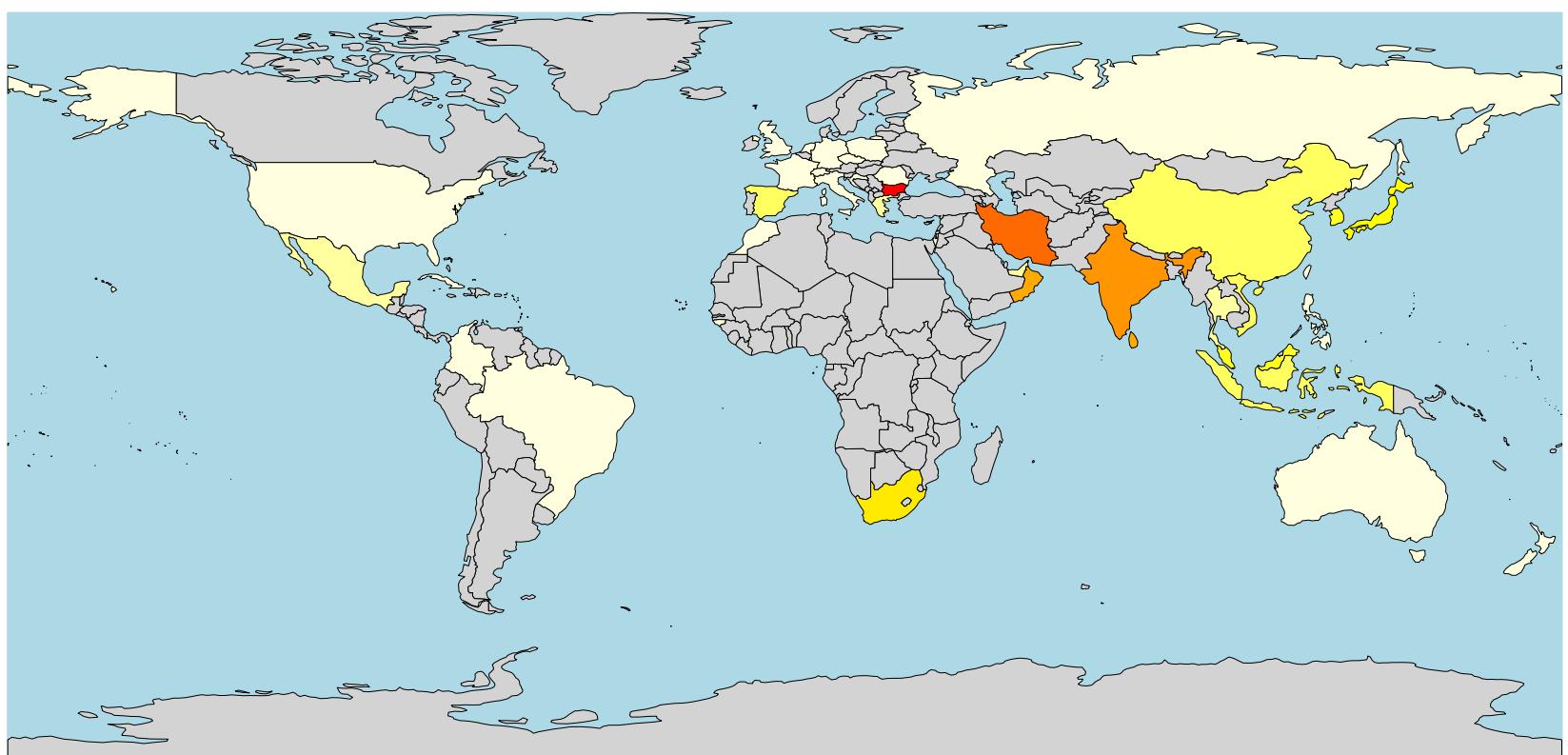
B*40:01
(~2.6% globally)



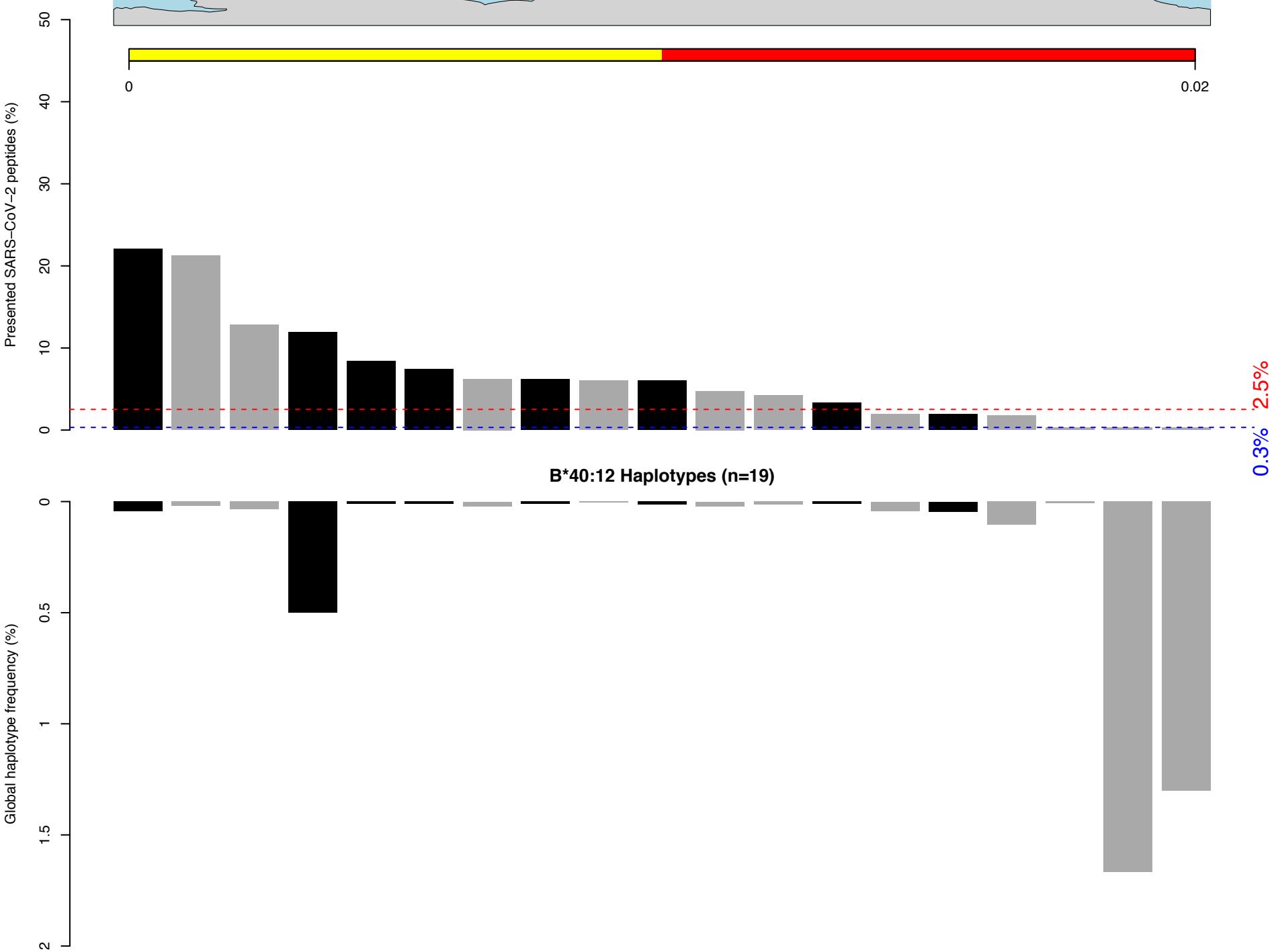
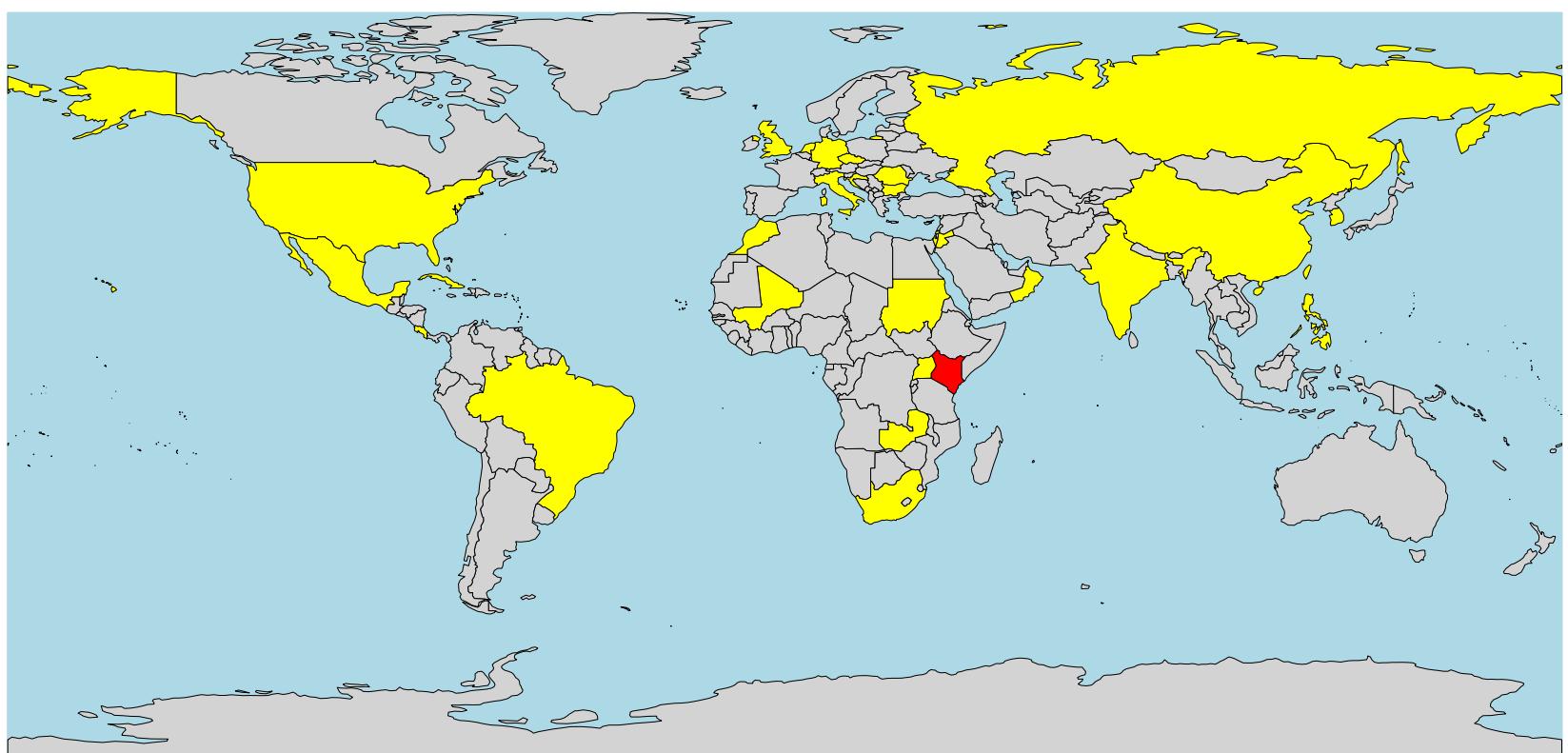
B*40:02
(~3% globally)



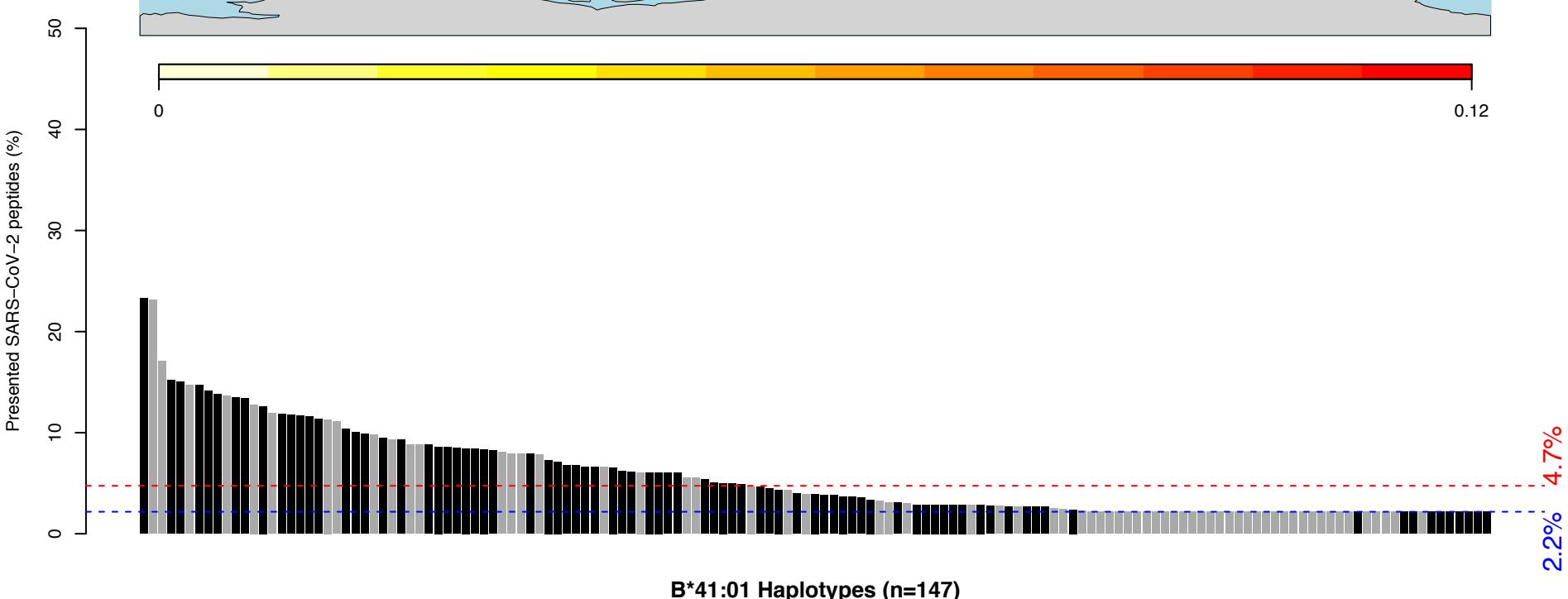
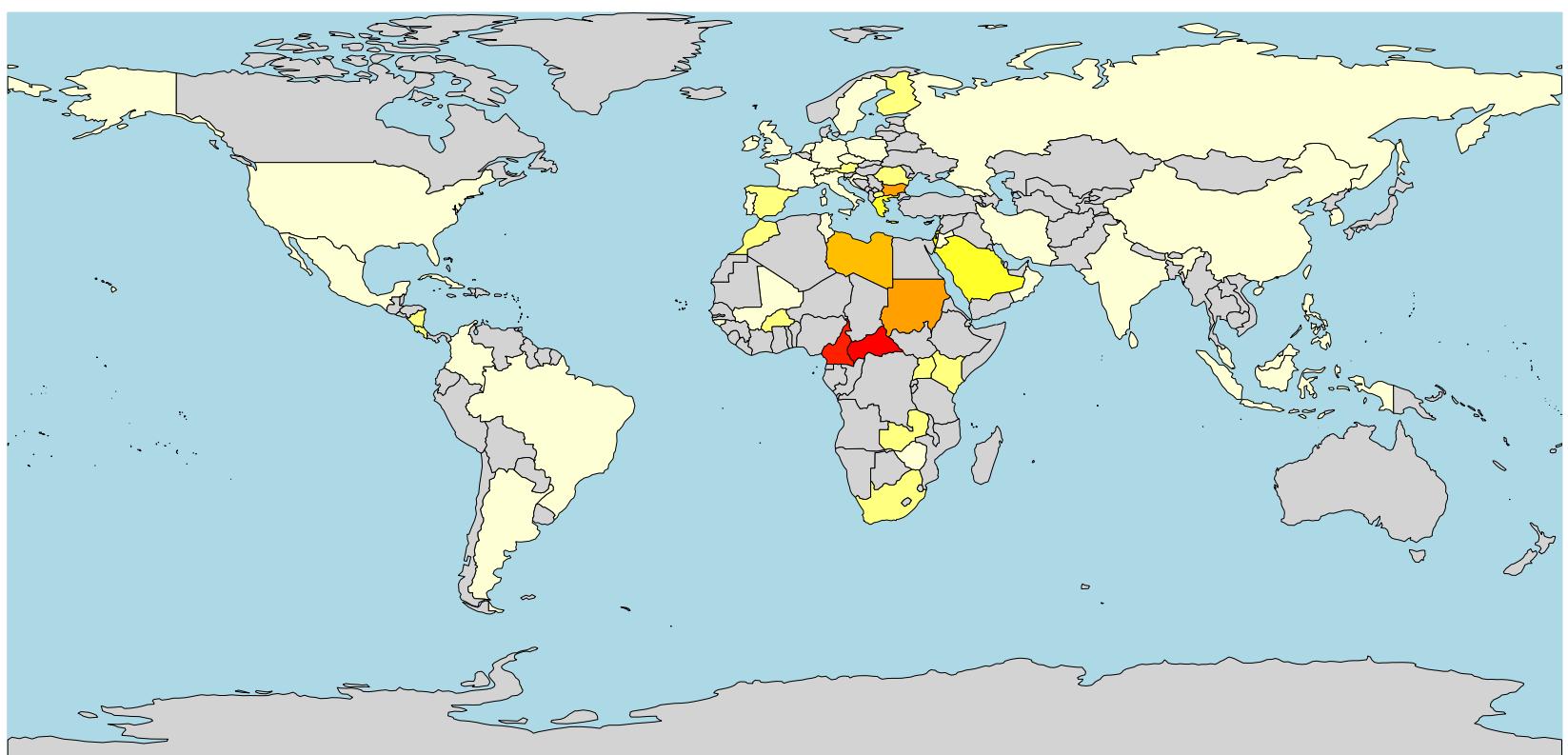
B*40:06
(~2.8% globally)



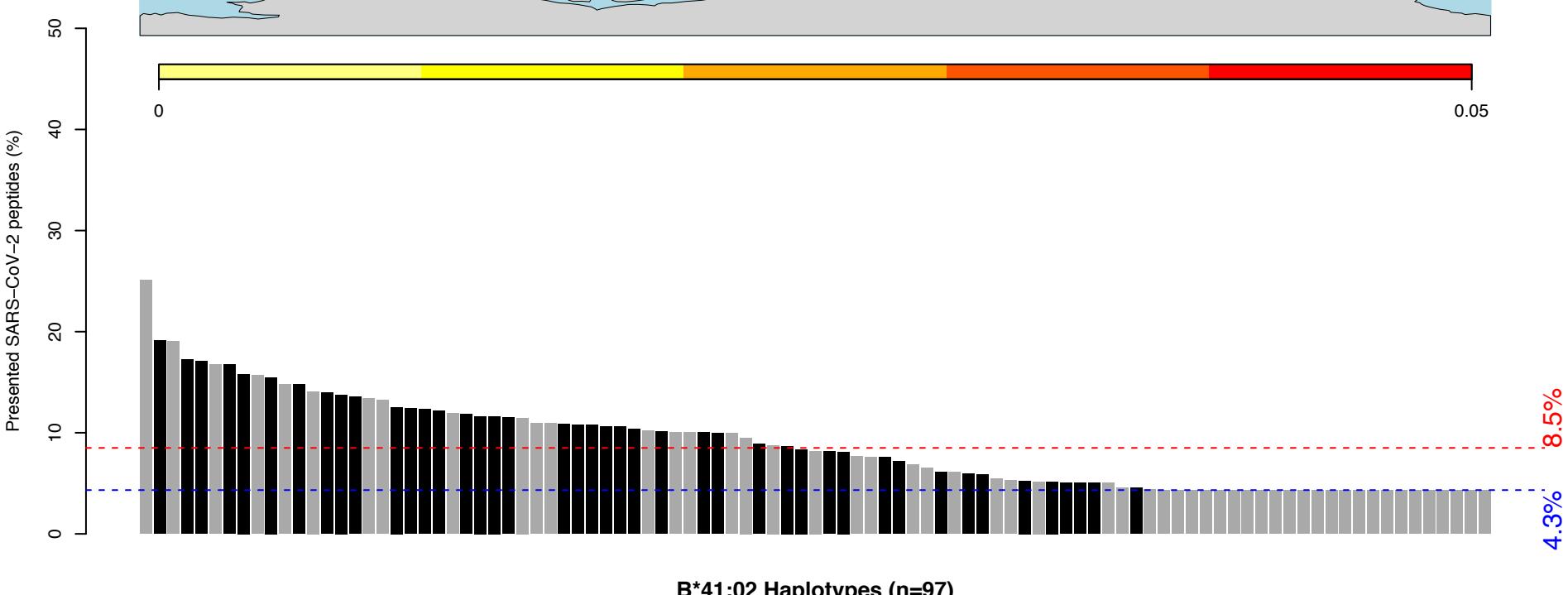
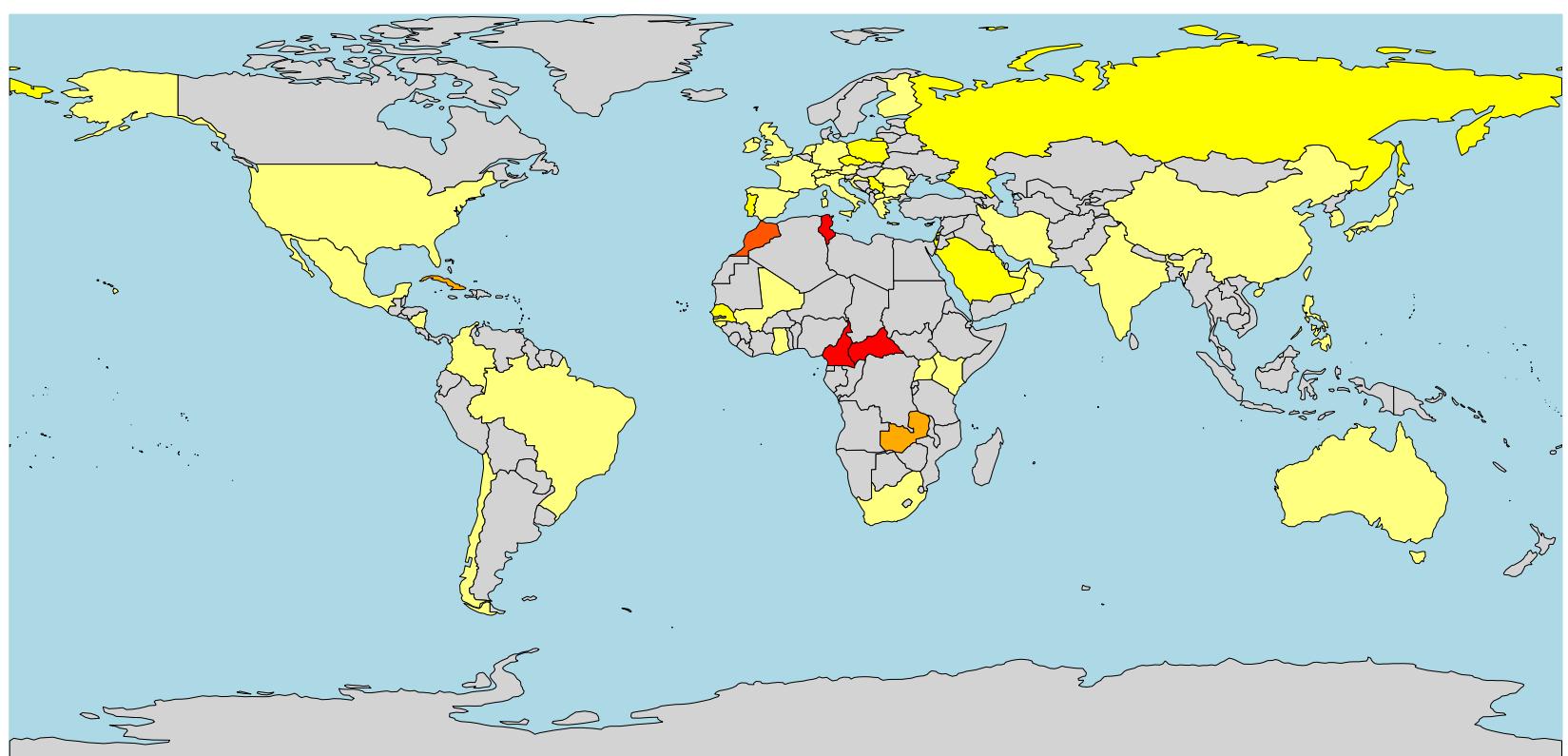
B*40:12
(~0.21% globally)



B*41:01
(~0.48% globally)



B*41:02
(~0.33% globally)



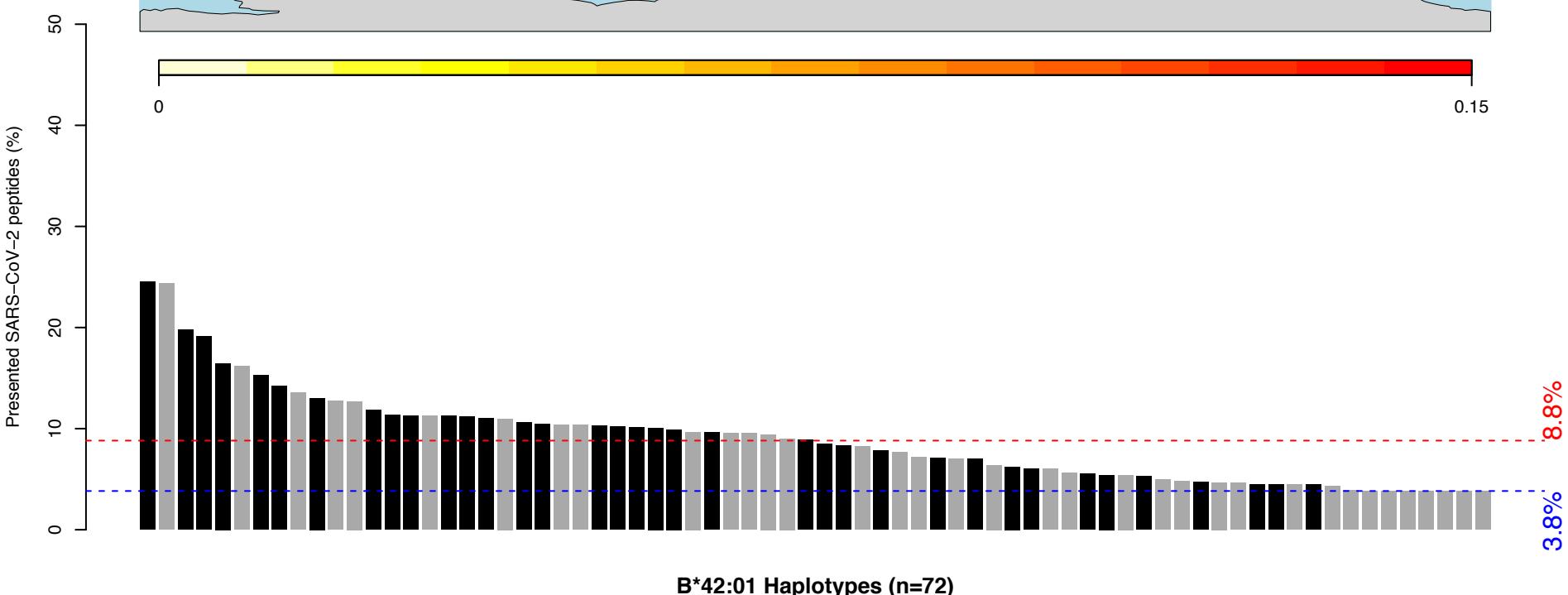
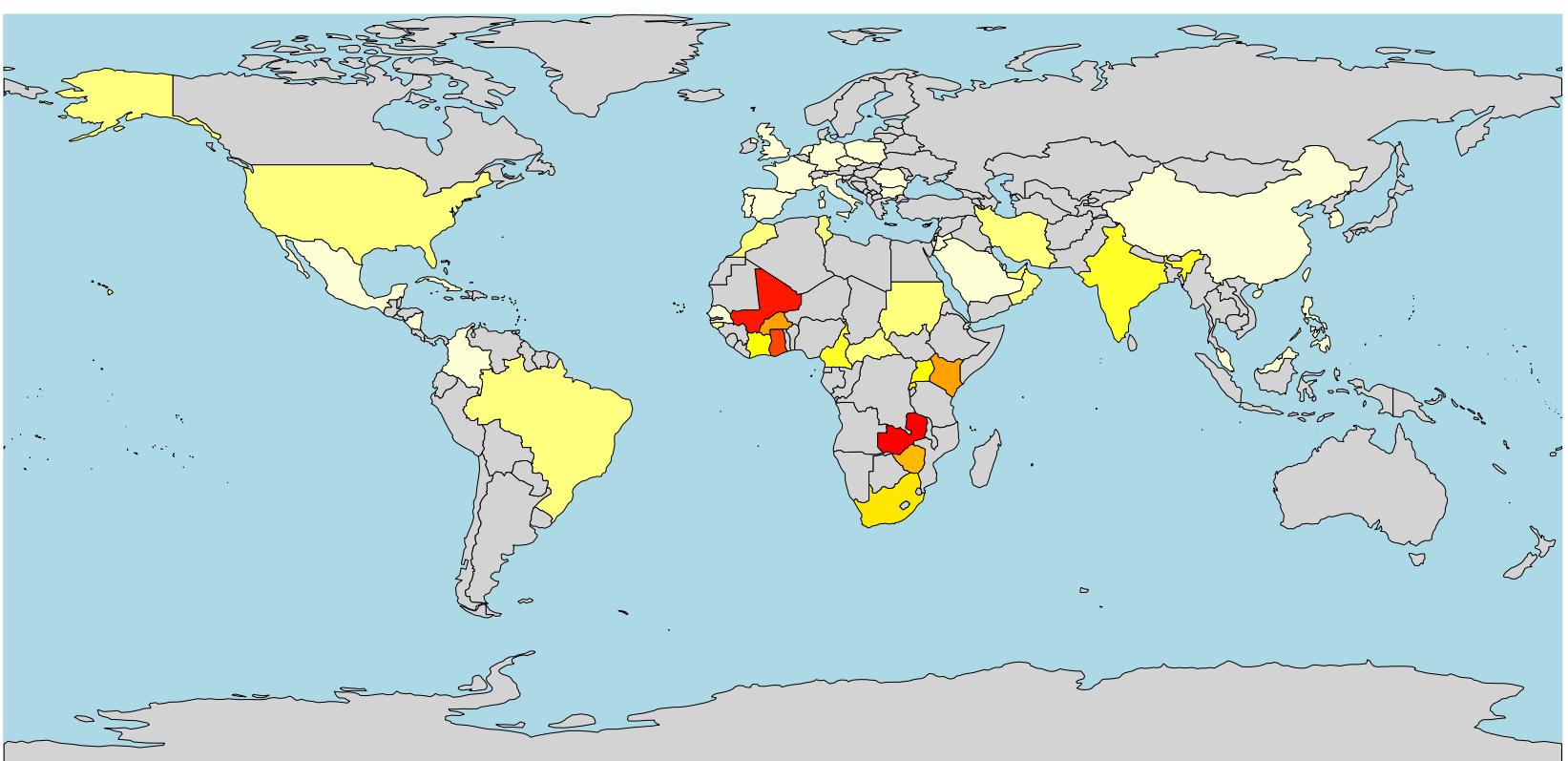
B*41:02 Haplotypes (n=97)



8.5%

4.3%

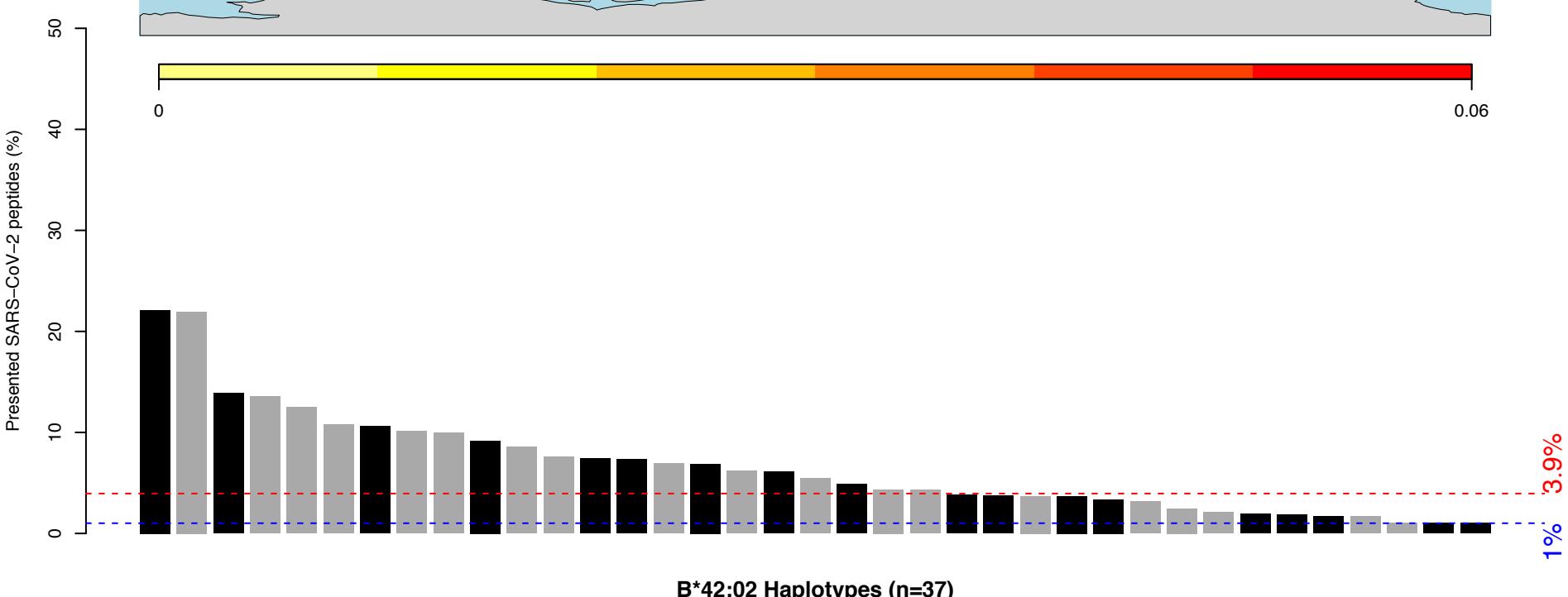
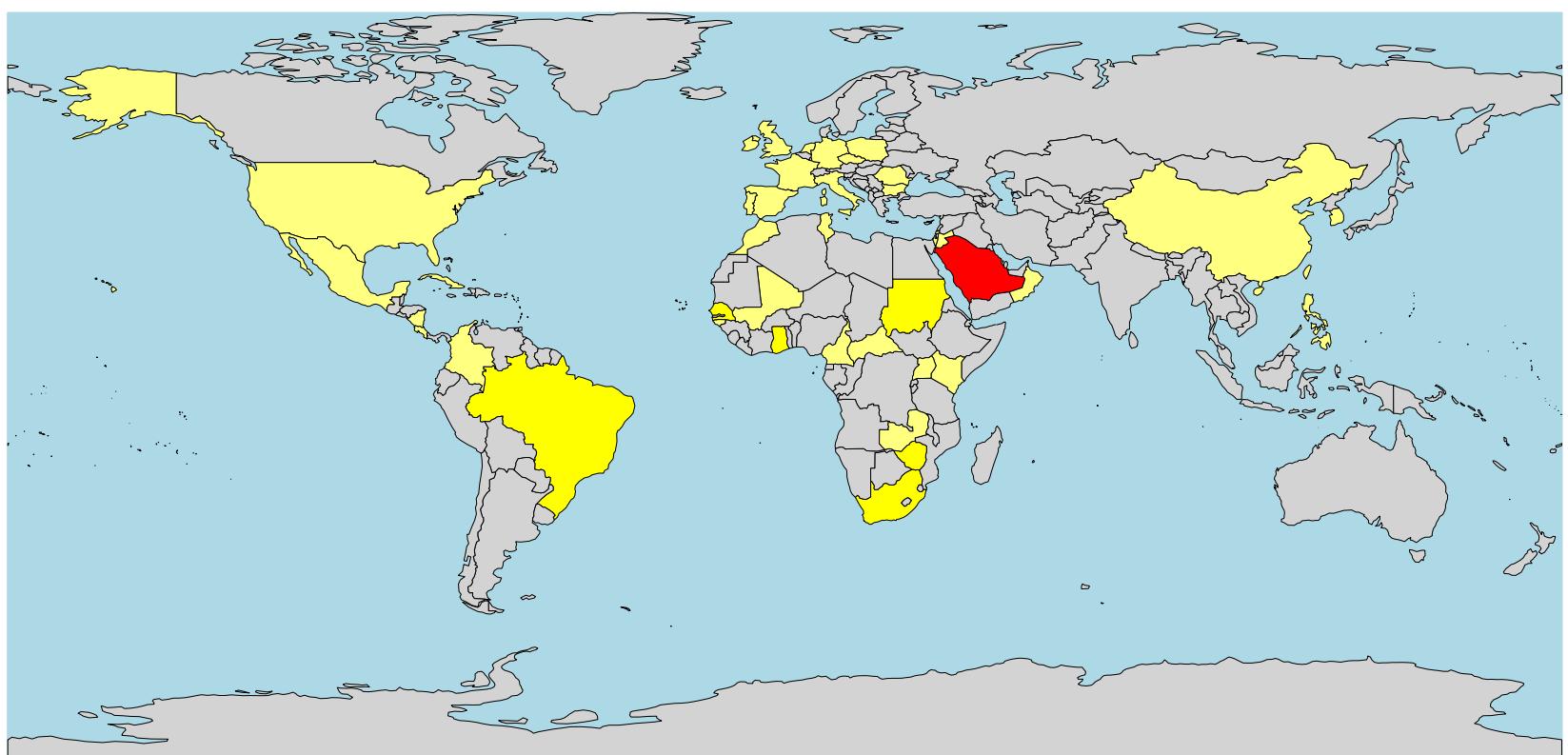
B*42:01
(~1.2% globally)



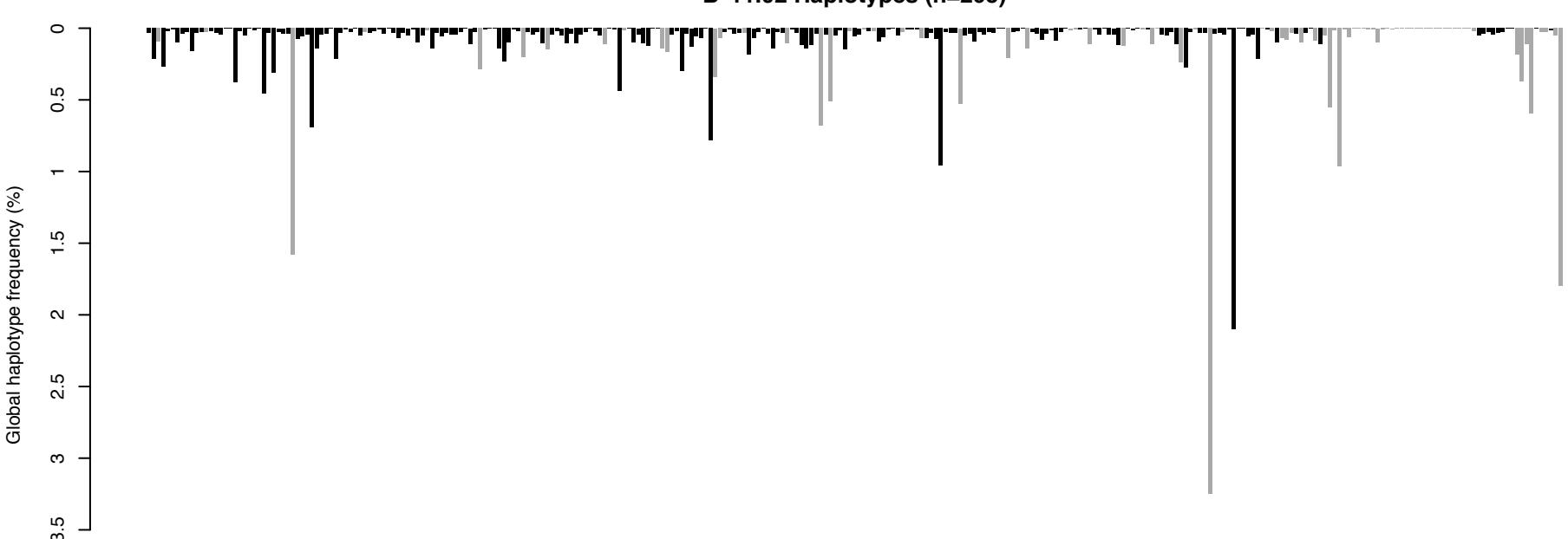
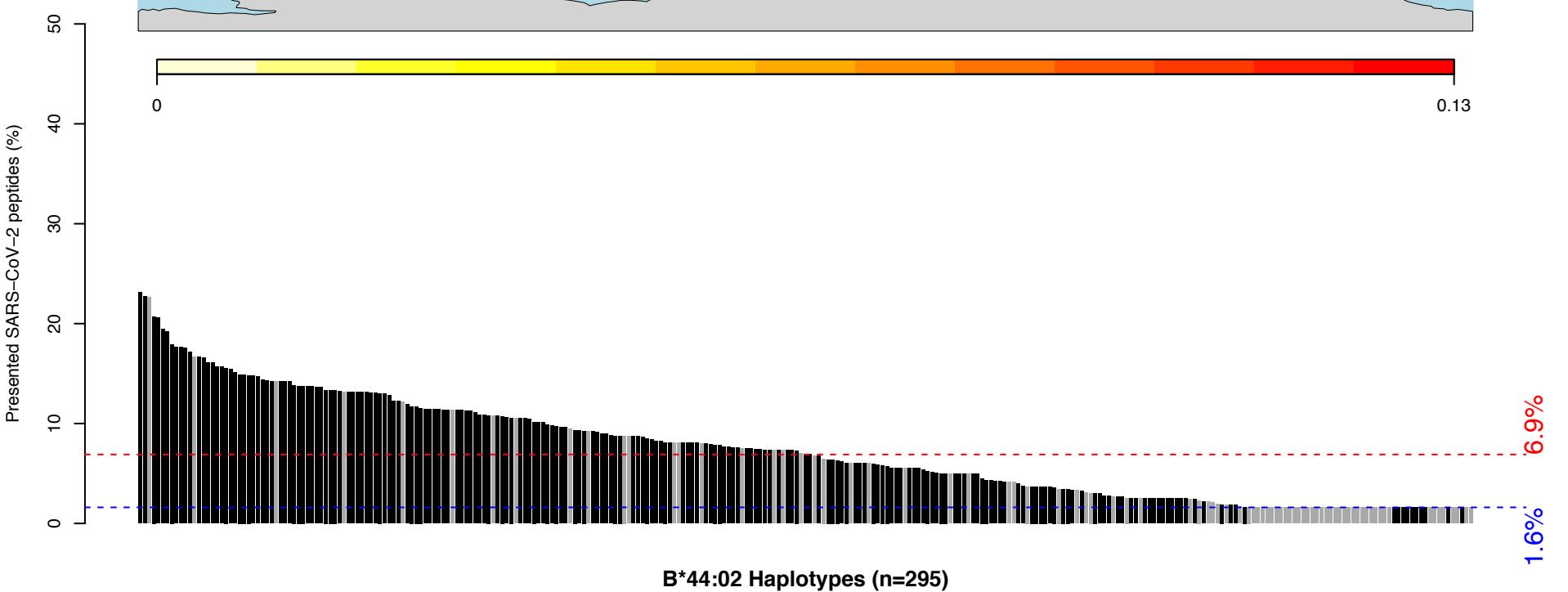
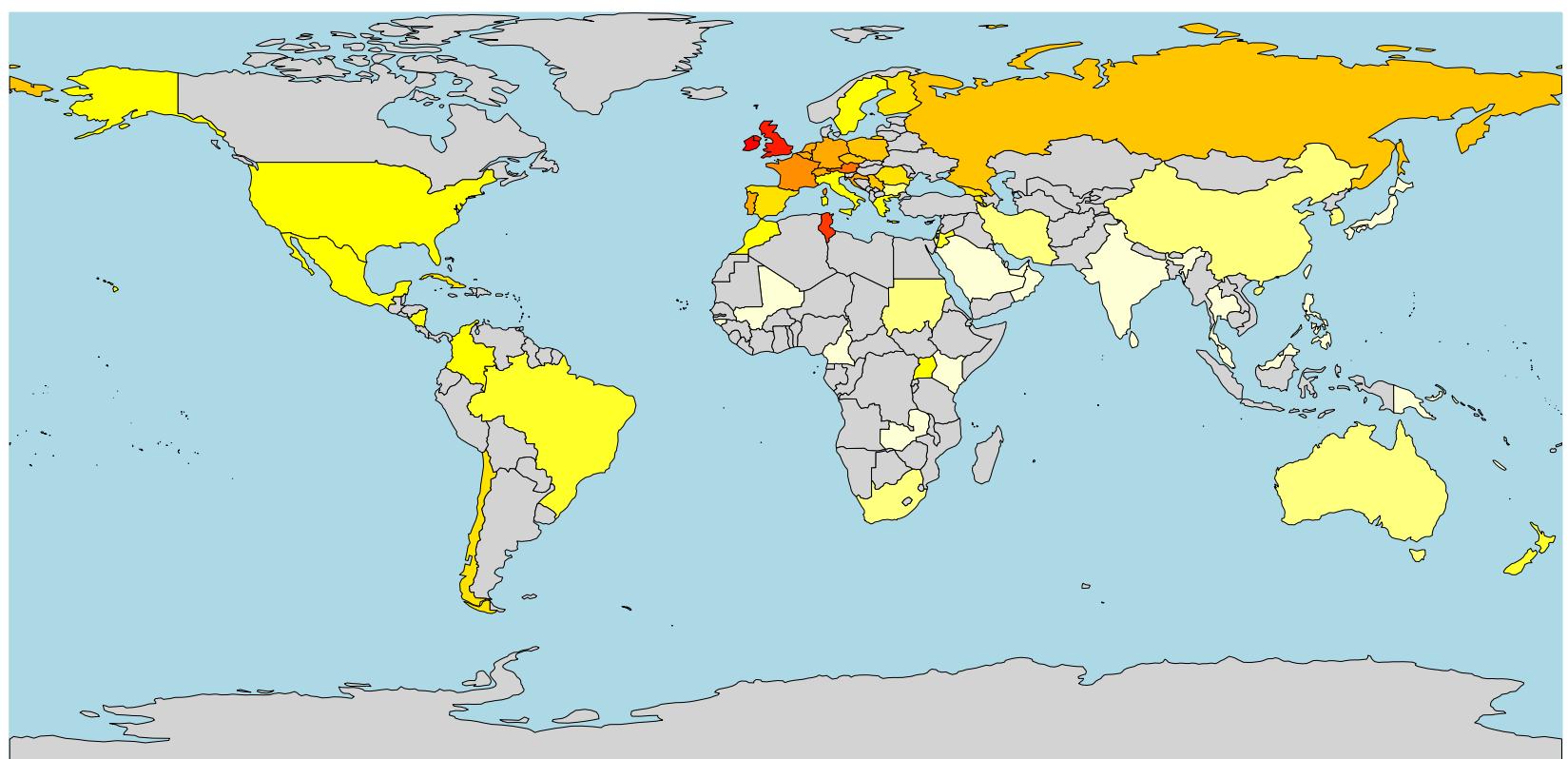
B*42:01 Haplotypes (n=72)



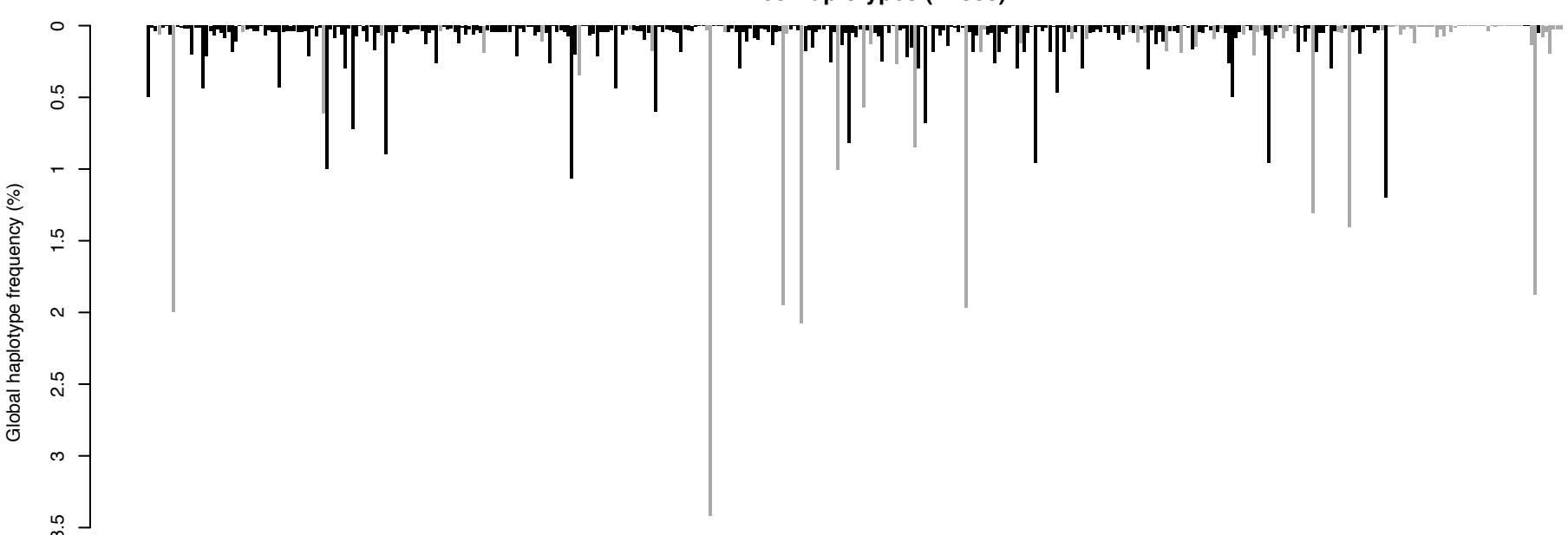
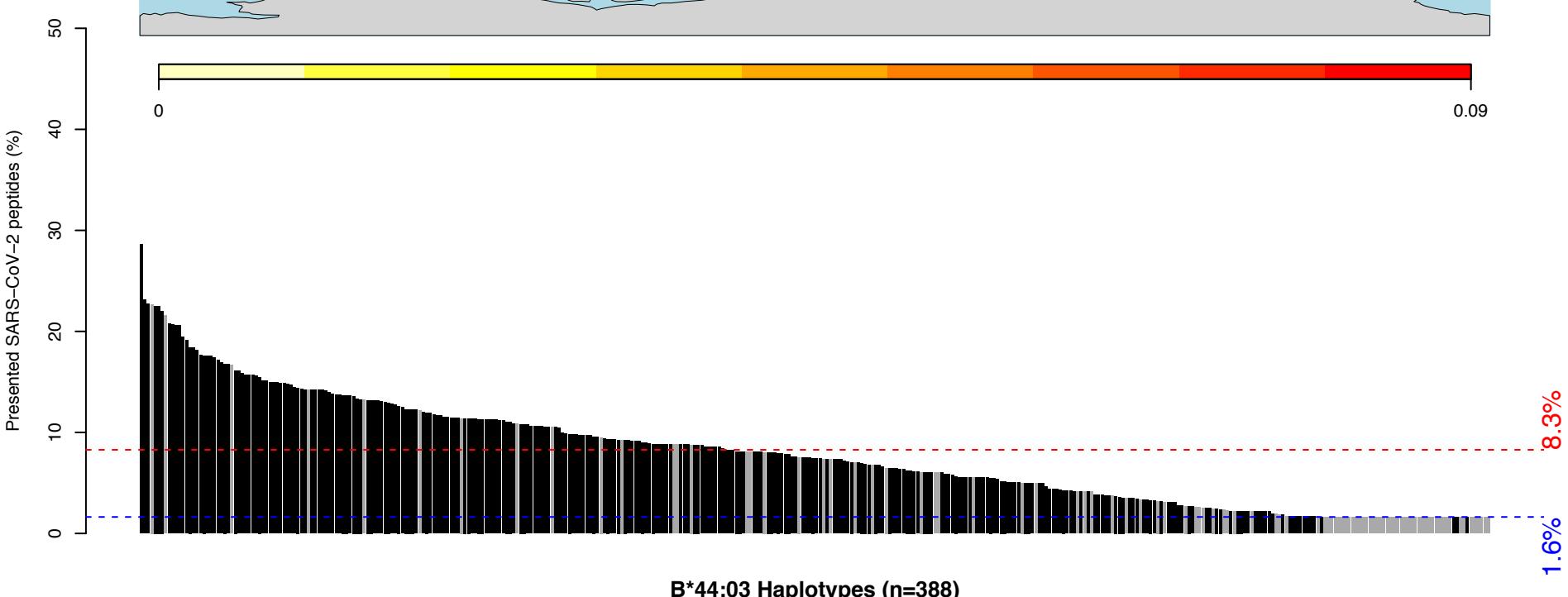
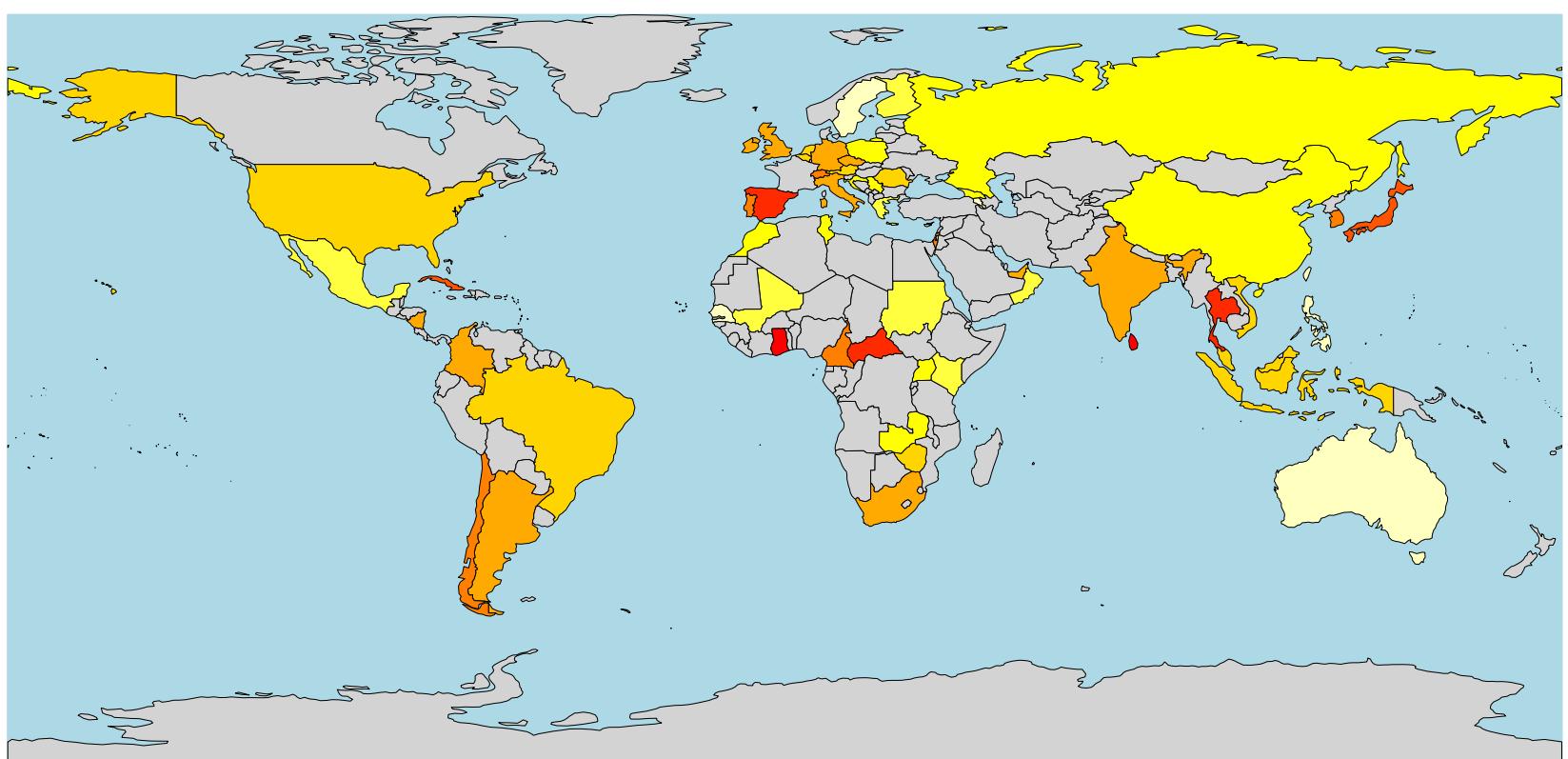
B*42:02
(~0.27% globally)



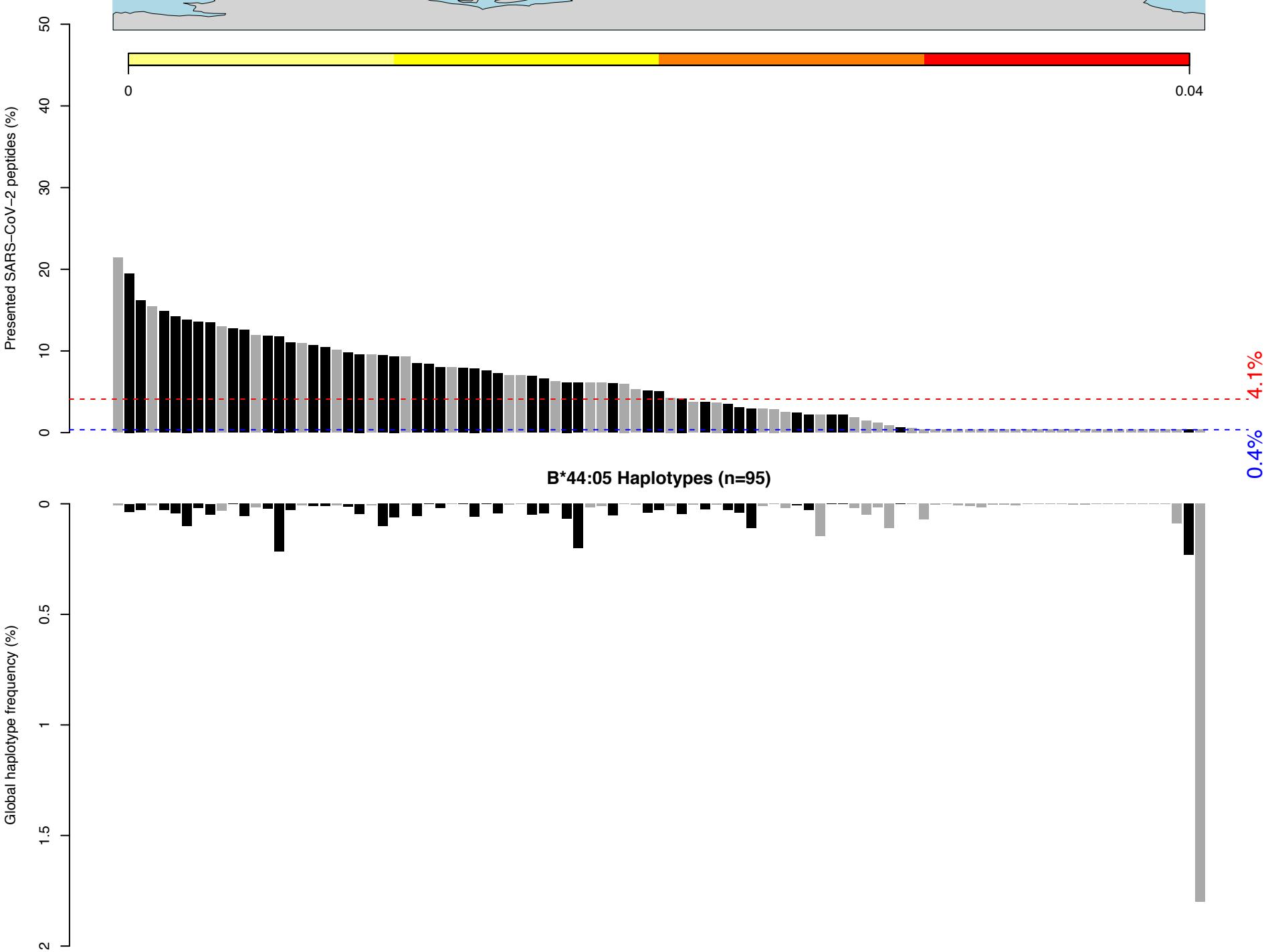
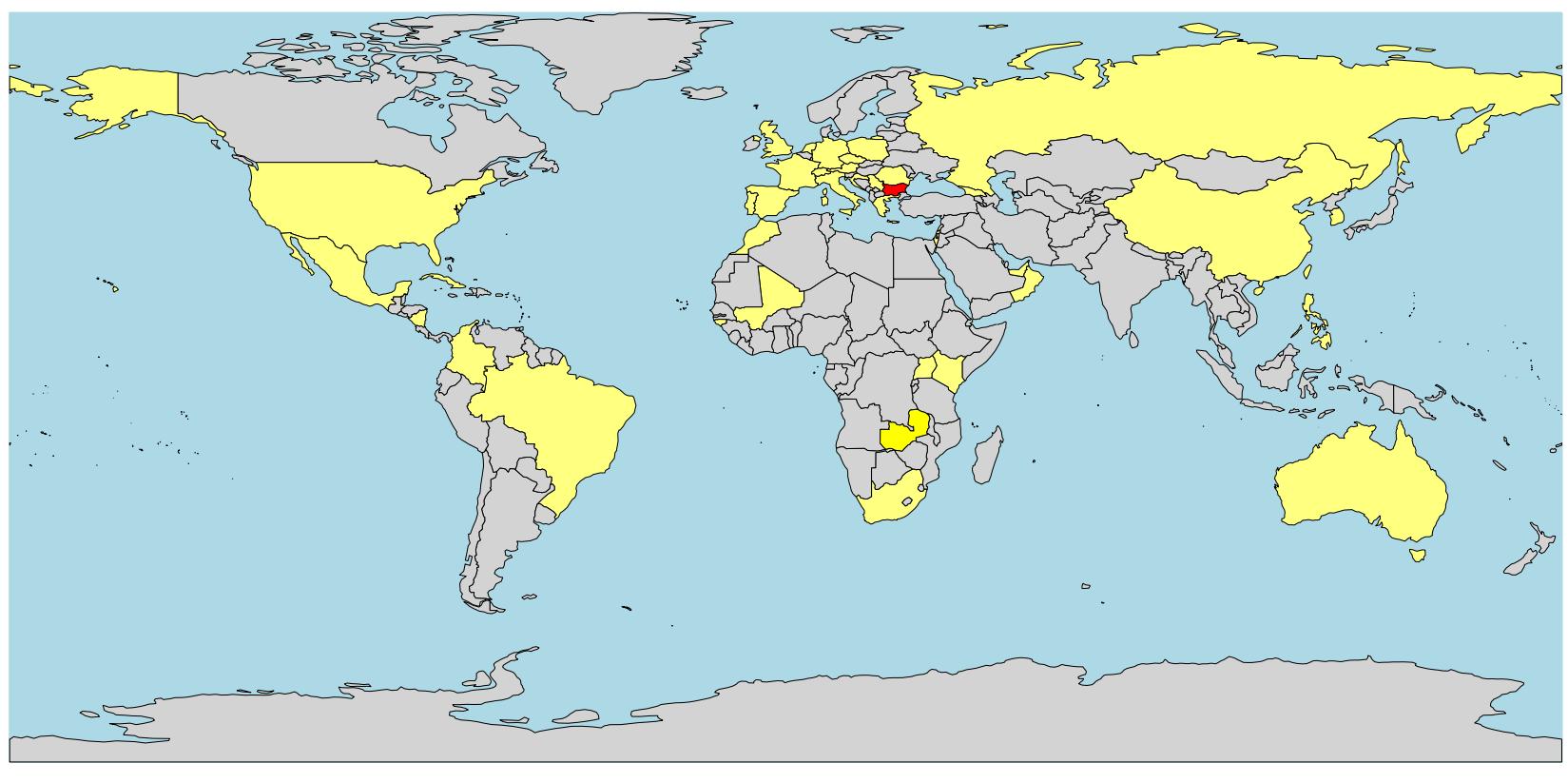
B*44:02
(~1.3% globally)



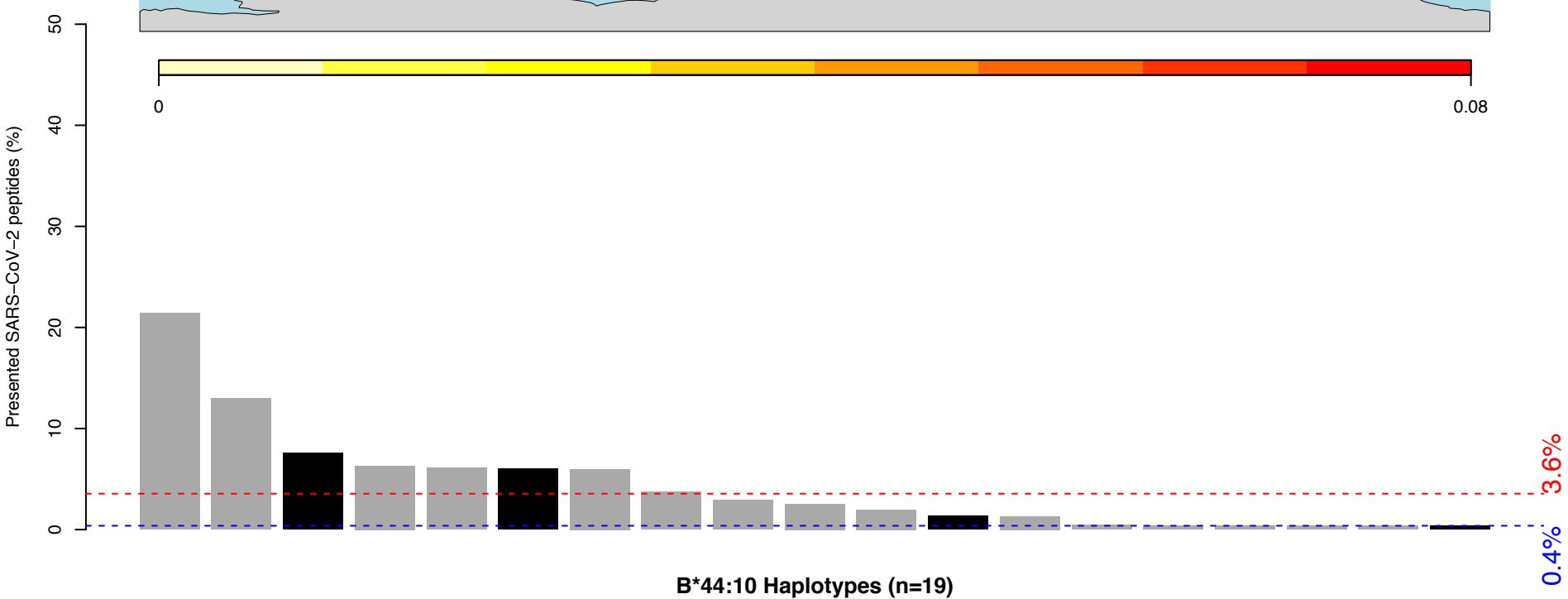
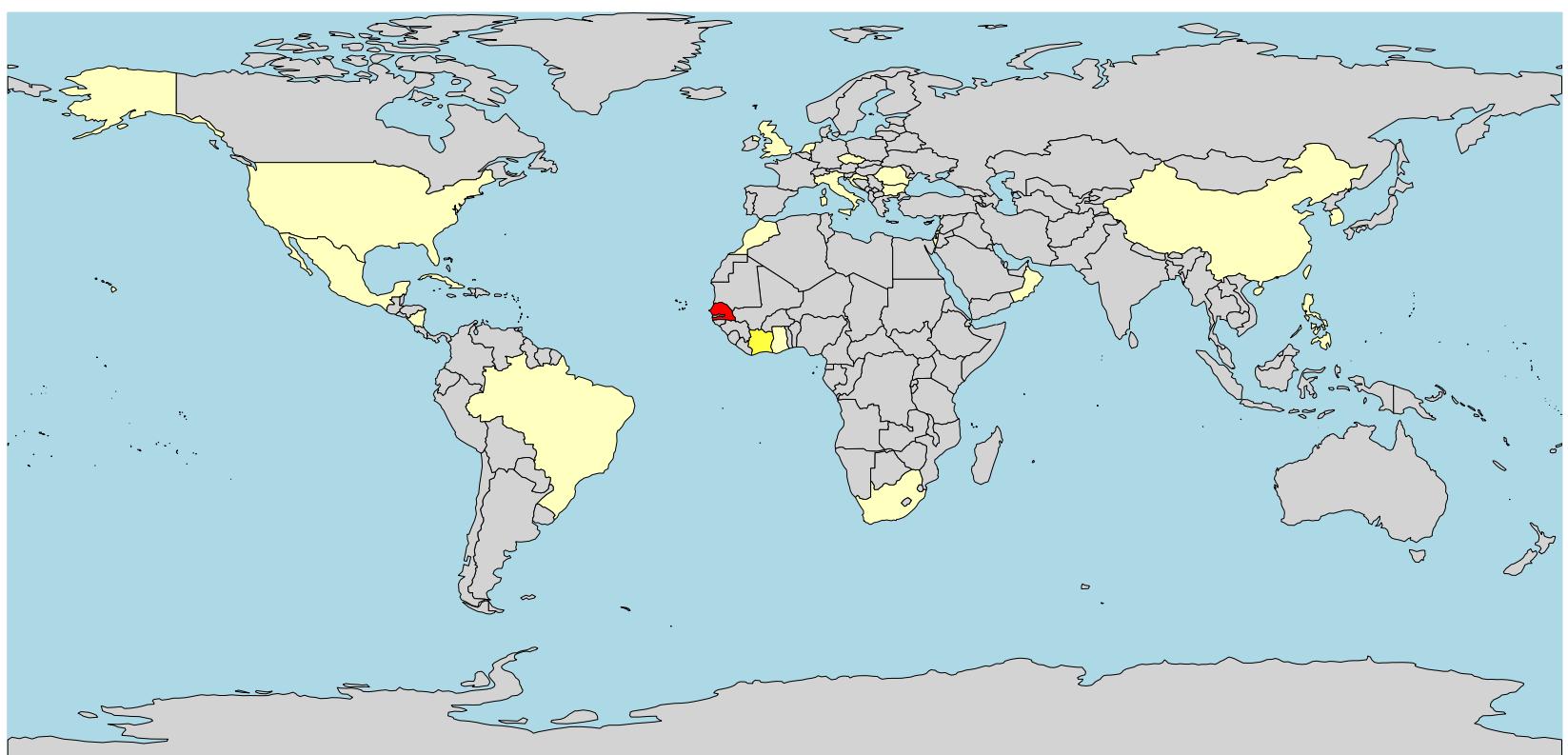
B*44:03
(~2.6% globally)



B*44:05
(~0.17% globally)



B*44:10
(~0.042% globally)



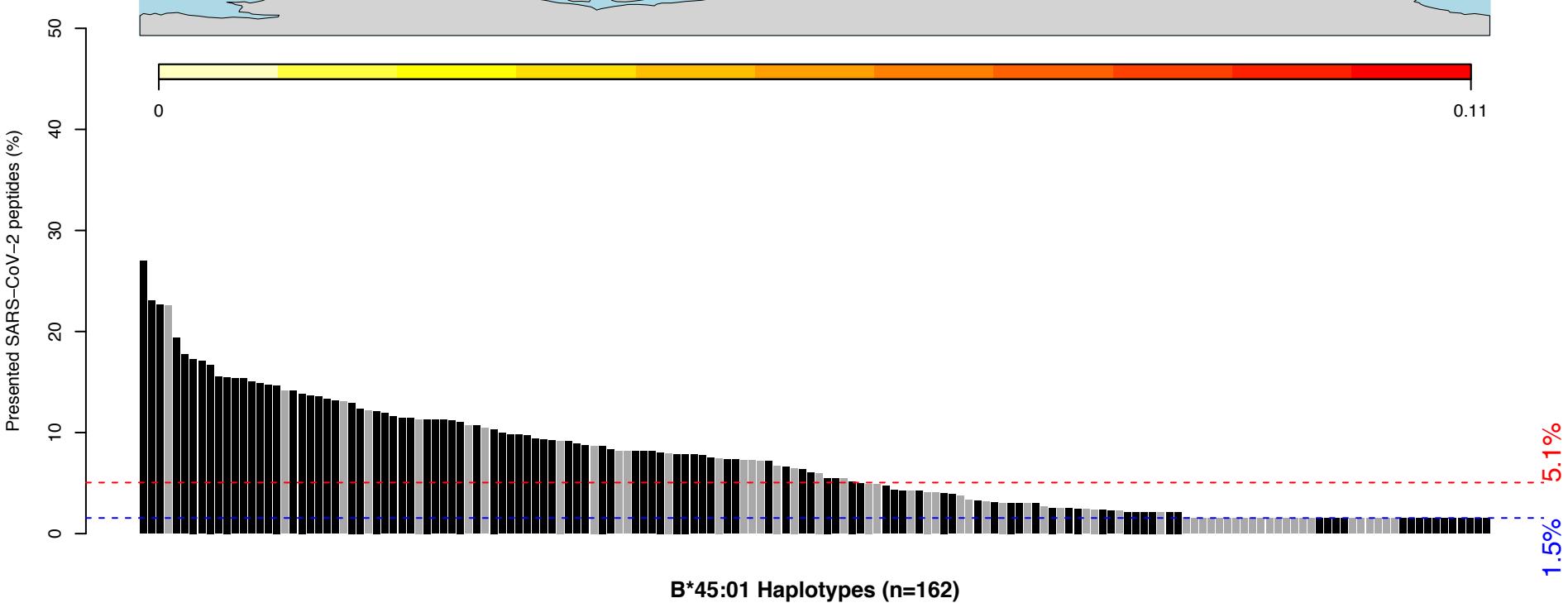
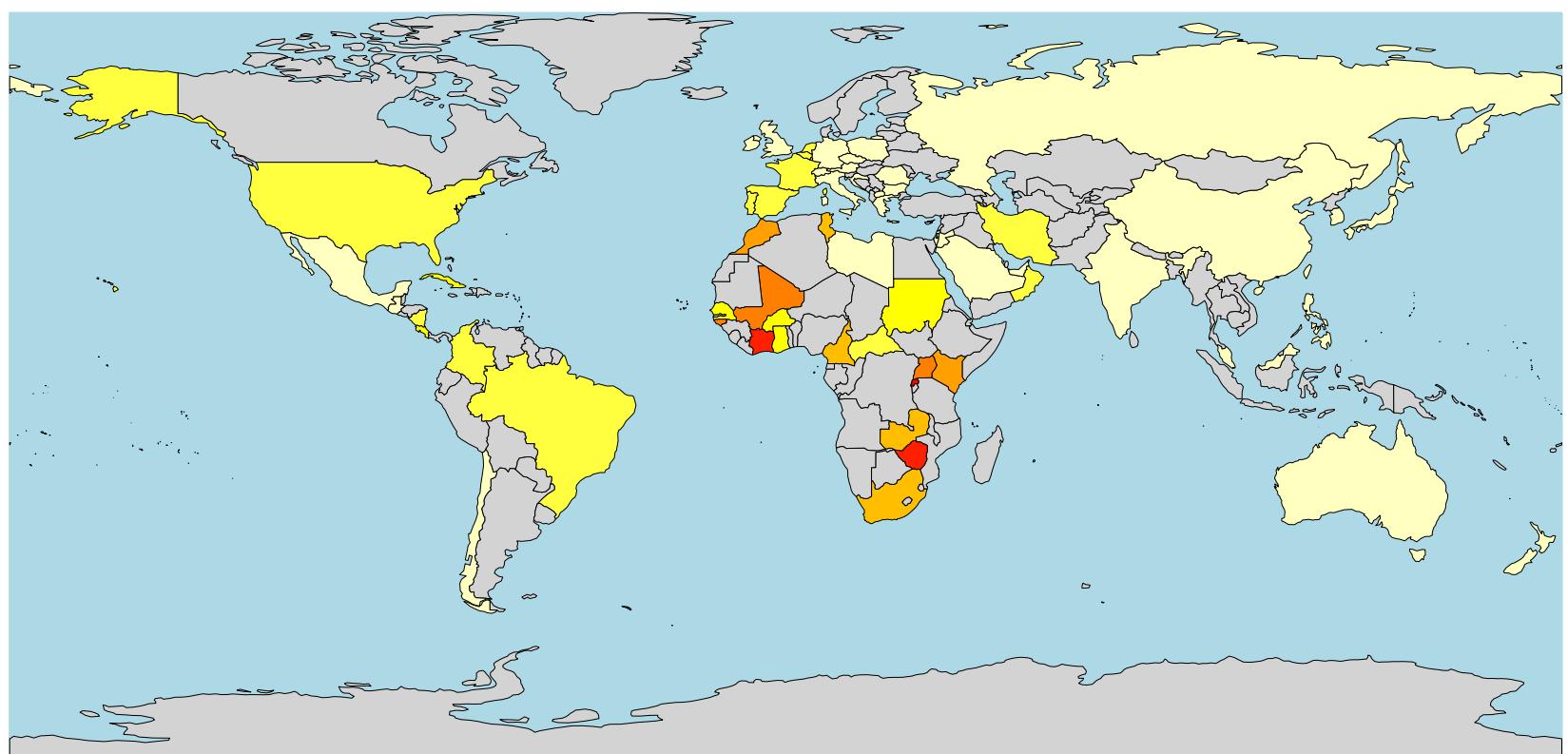
B*44:10 Haplotypes (n=19)



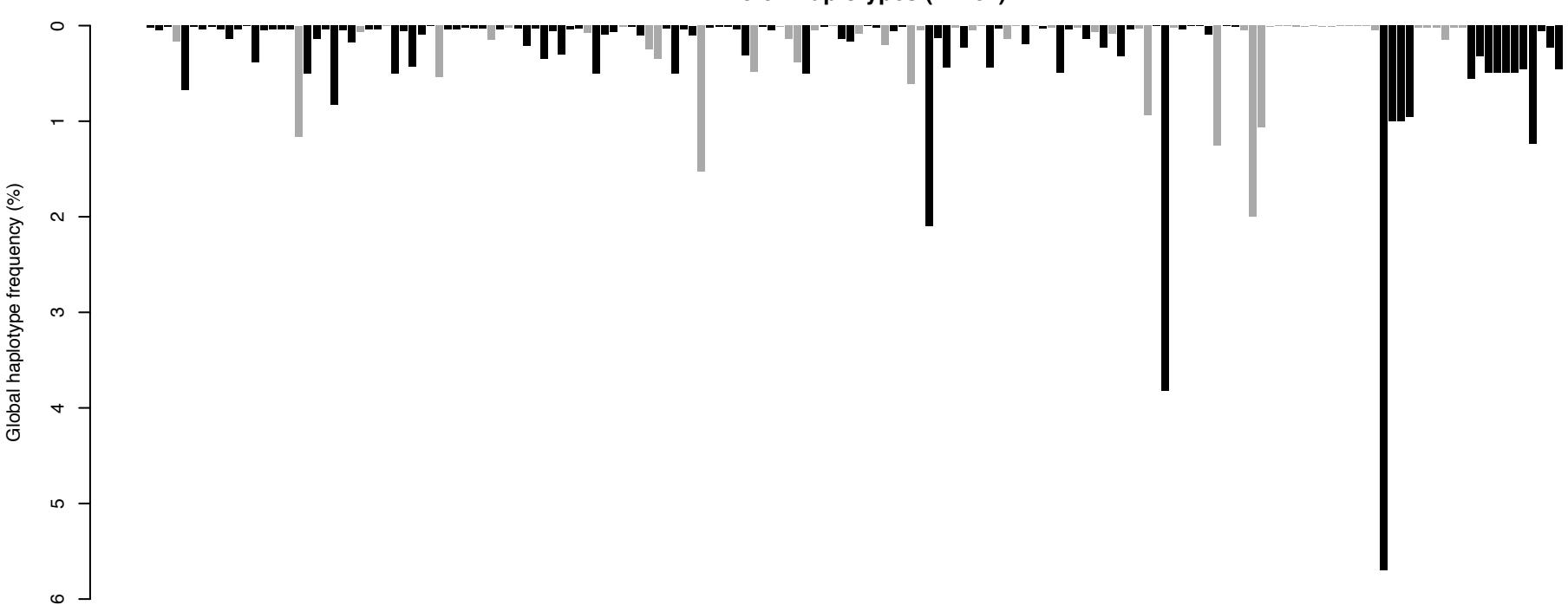
0.4%

3.6%

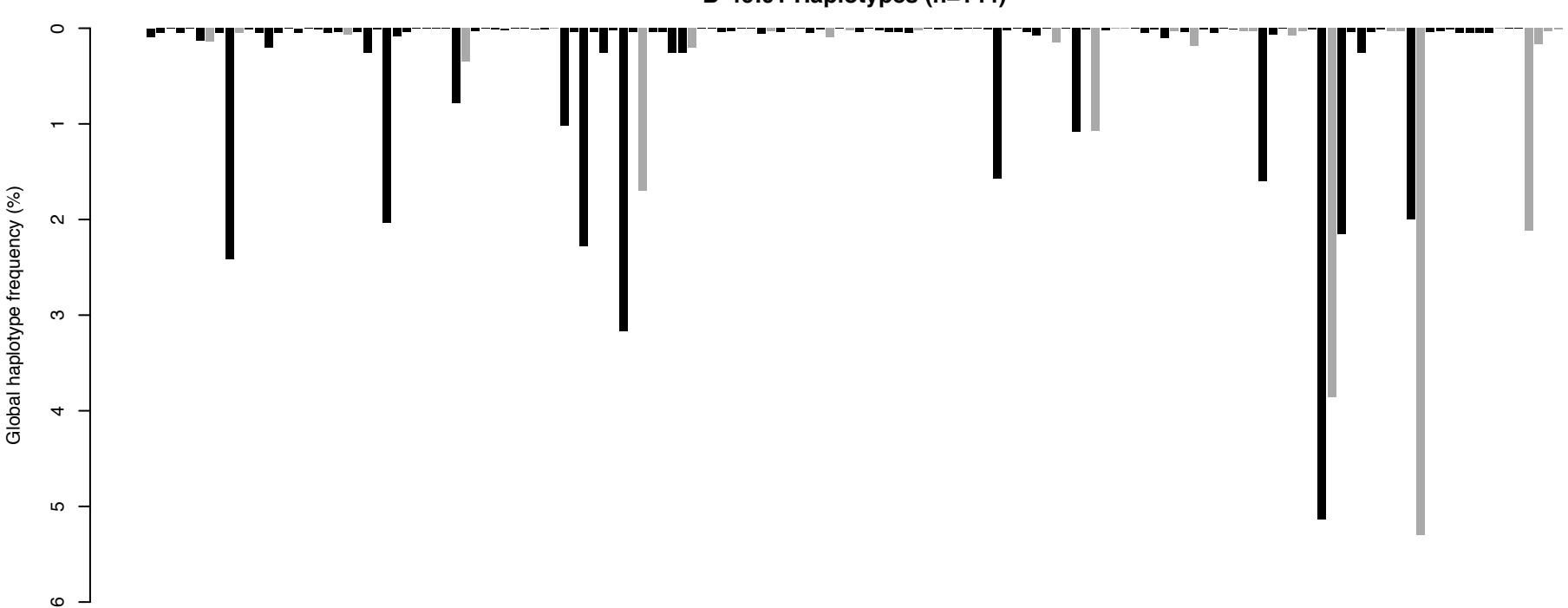
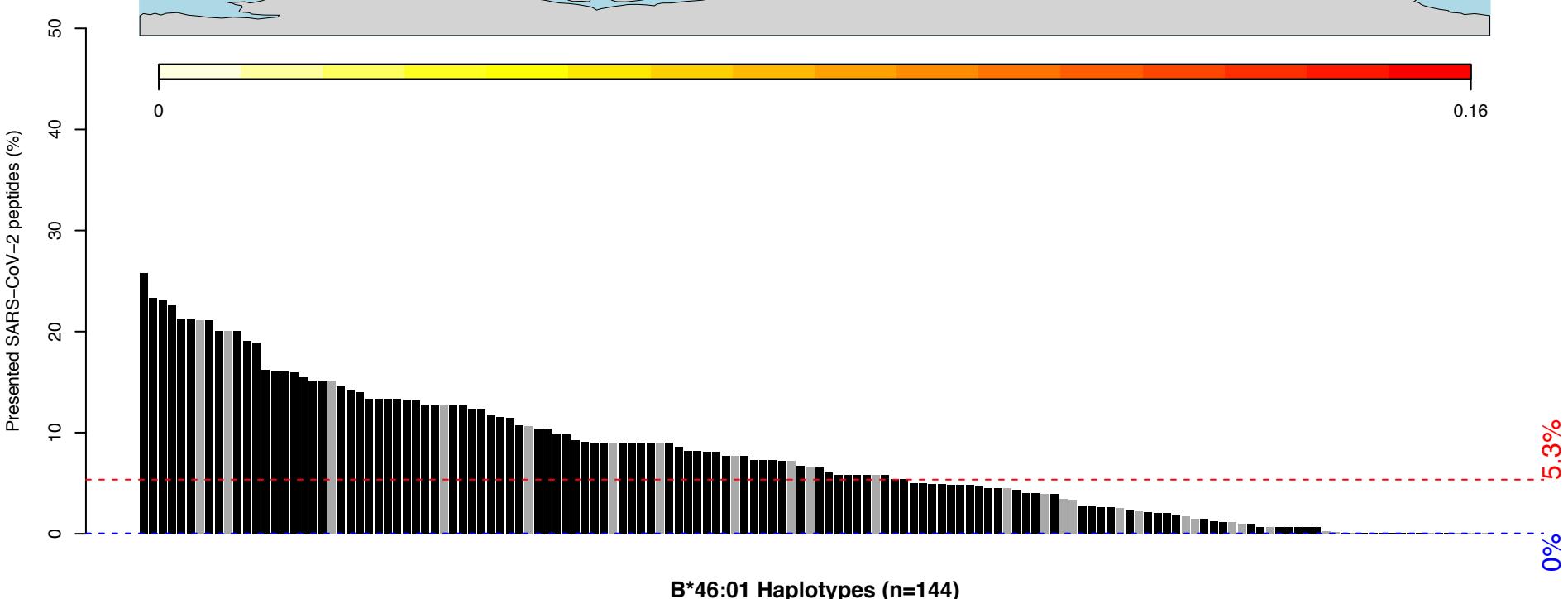
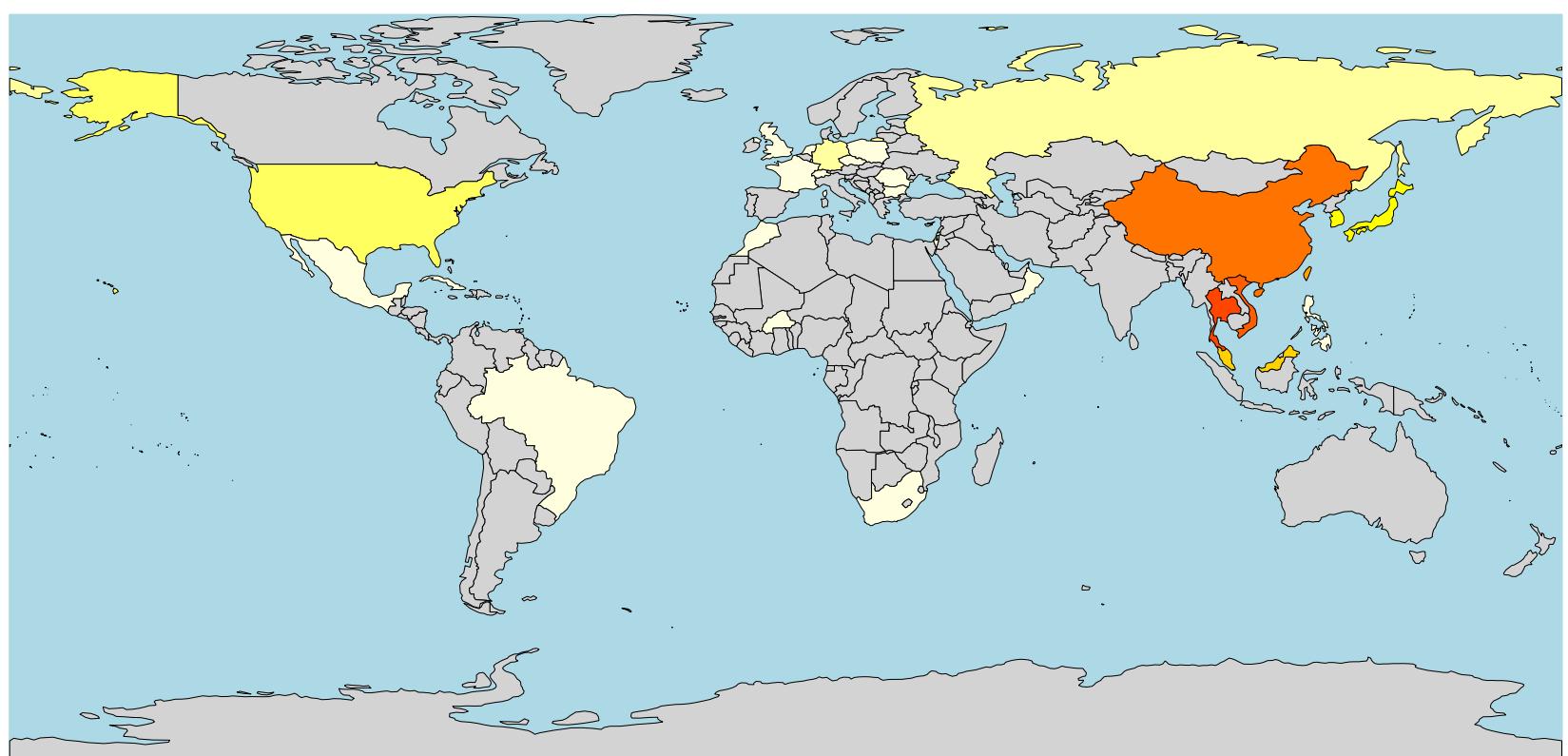
B*45:01
(~0.75% globally)



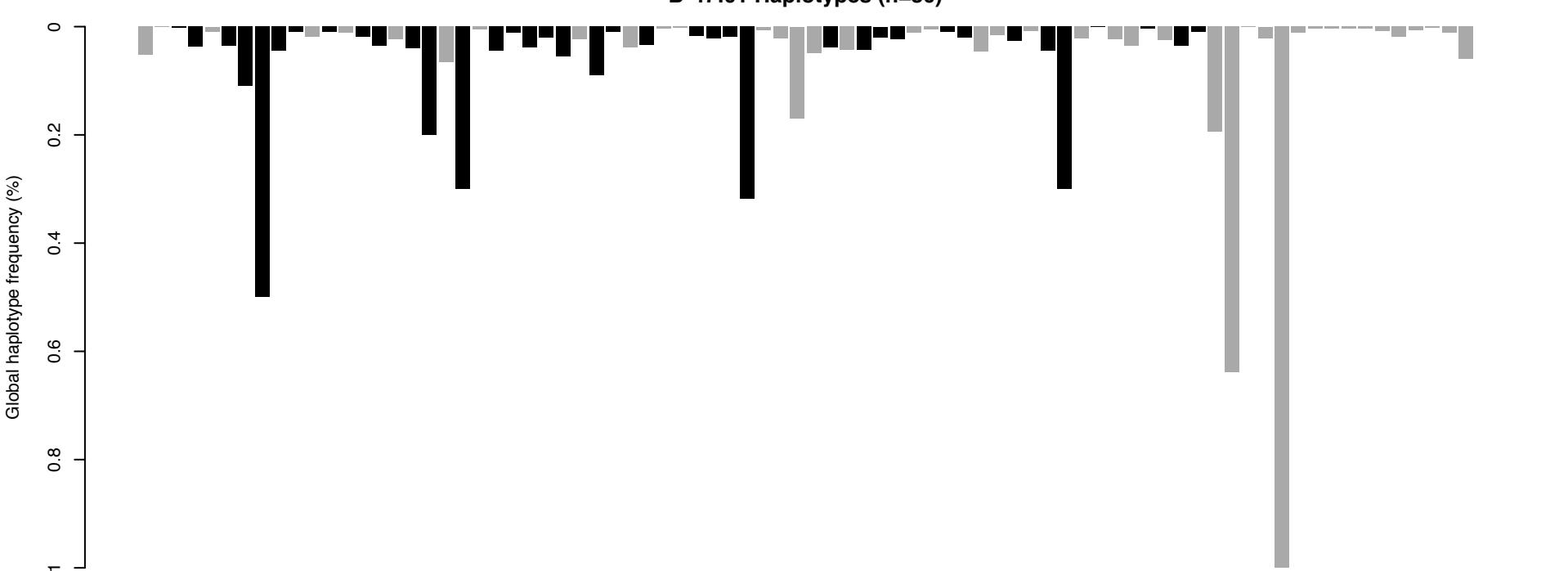
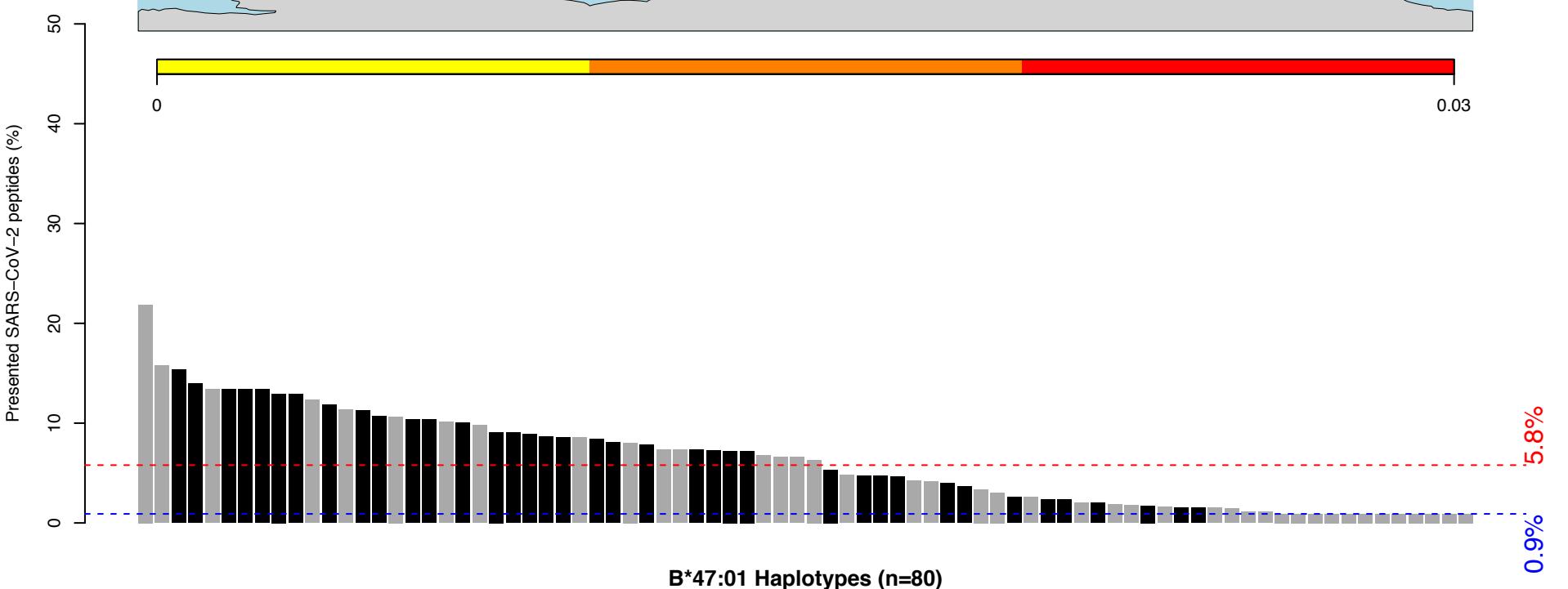
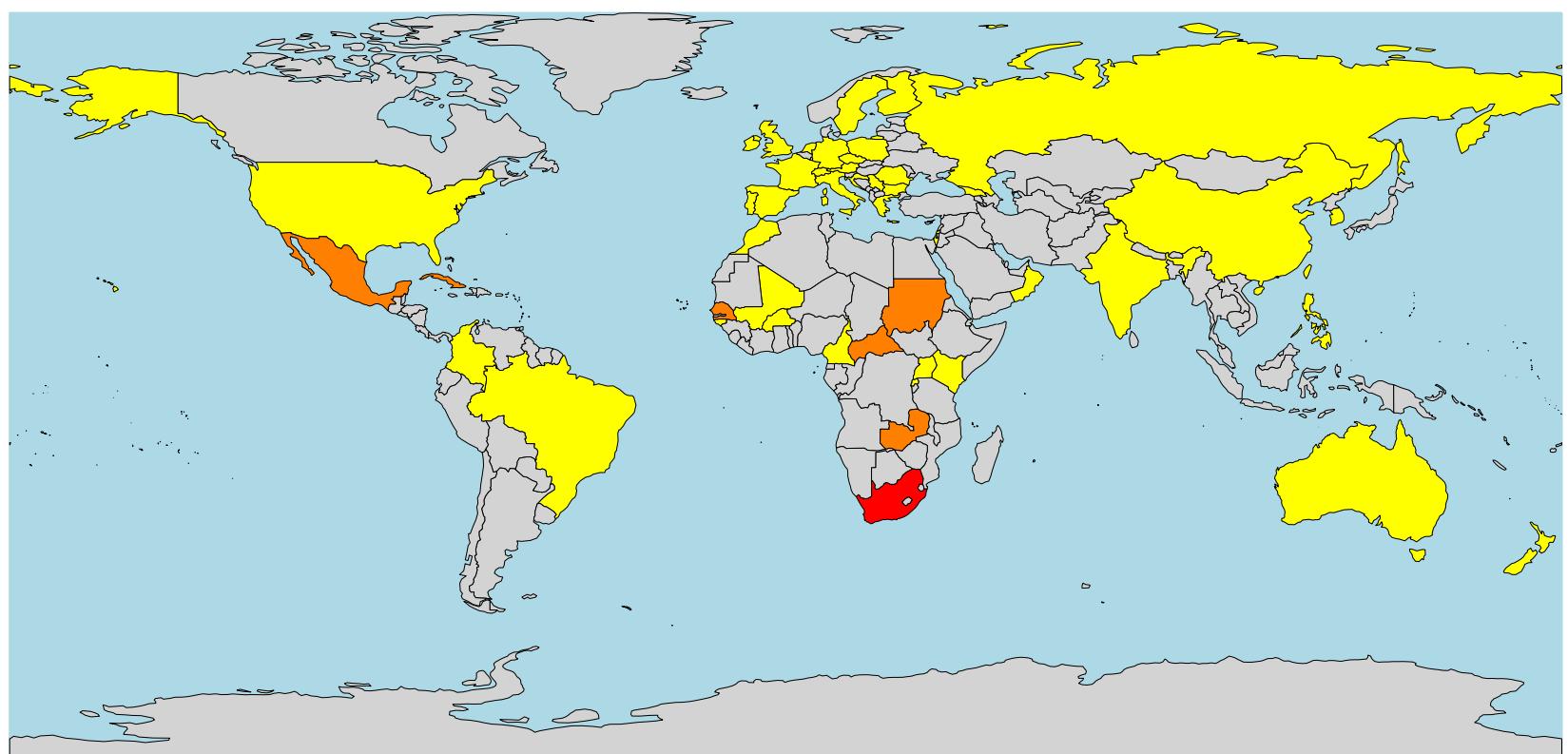
B*45:01 Haplotypes (n=162)



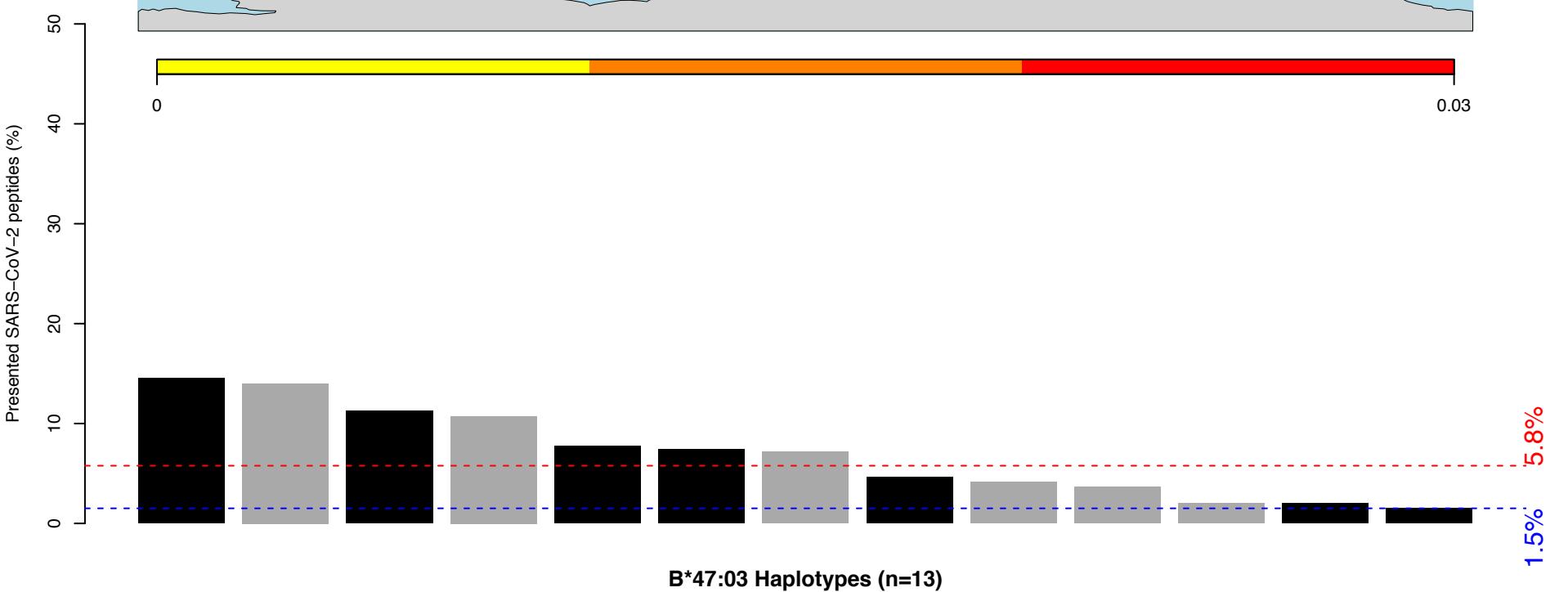
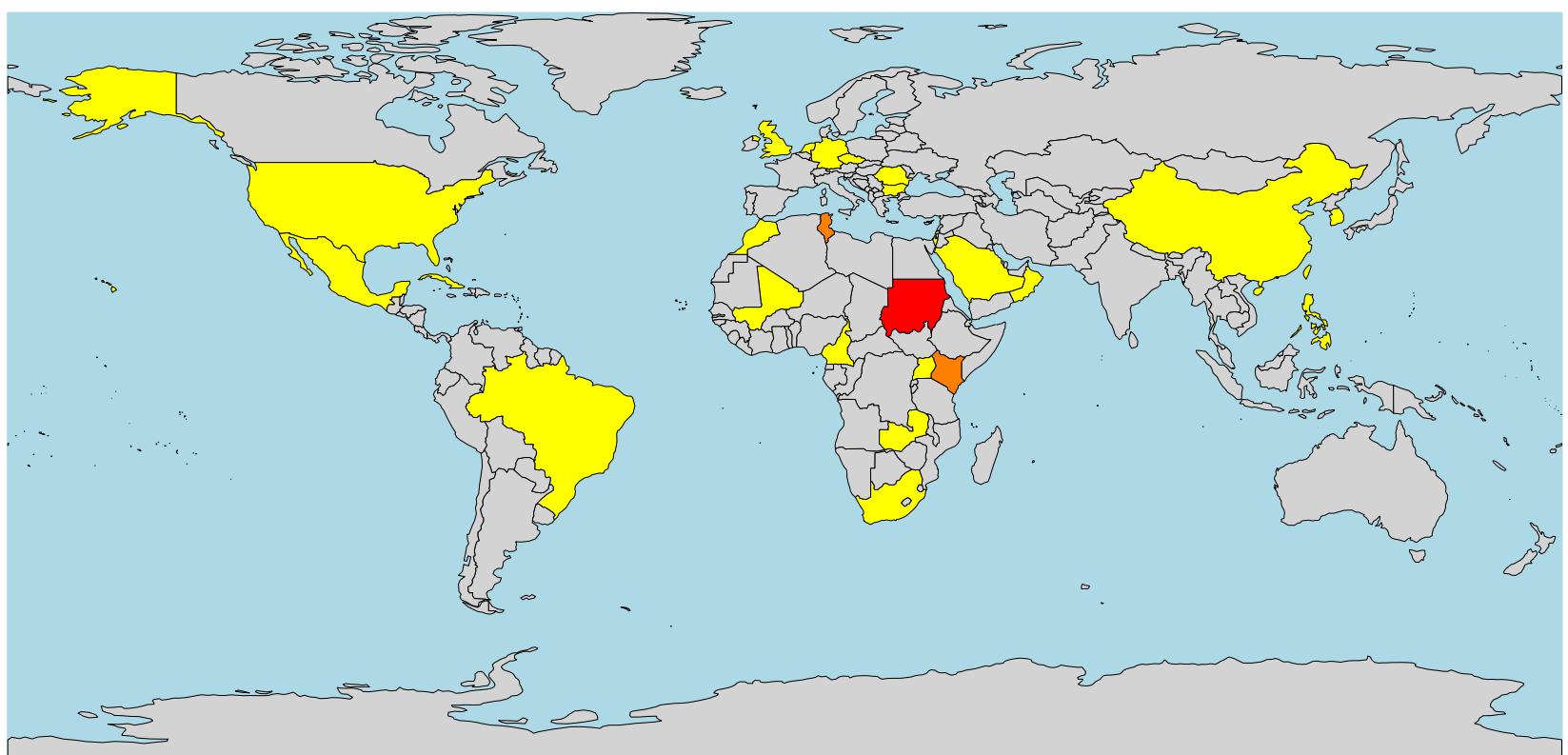
B*46:01
(~6.1% globally)



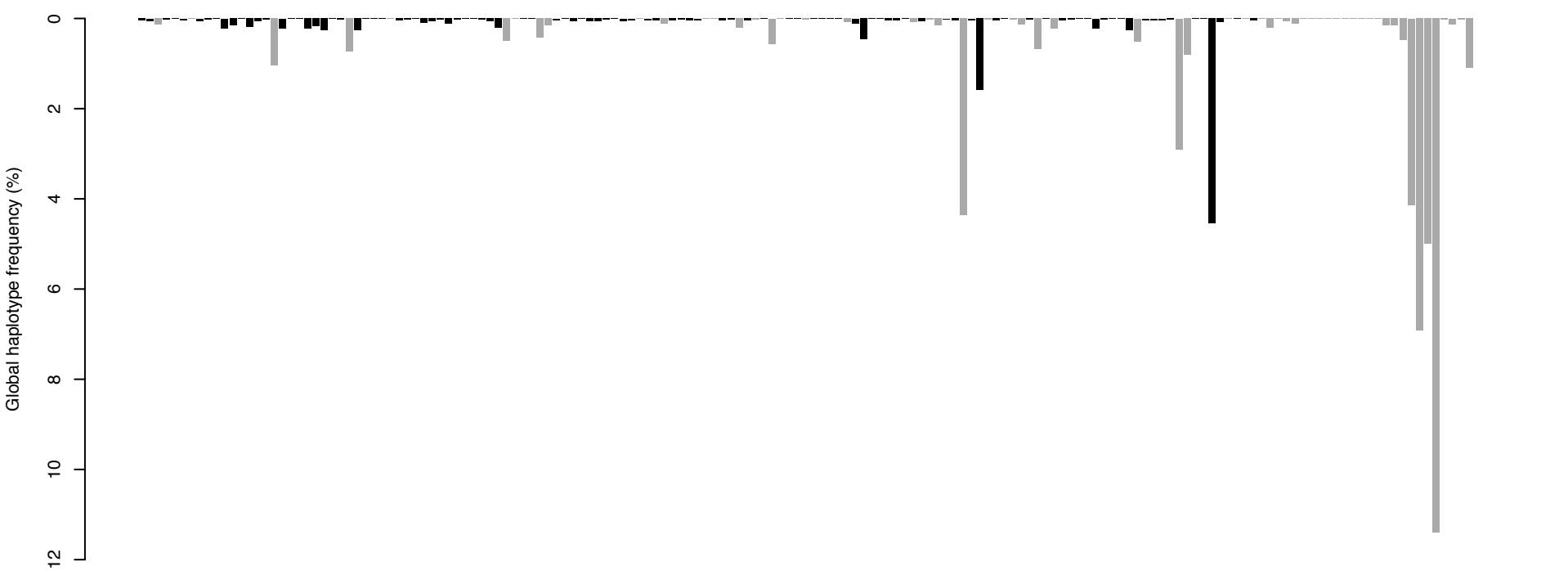
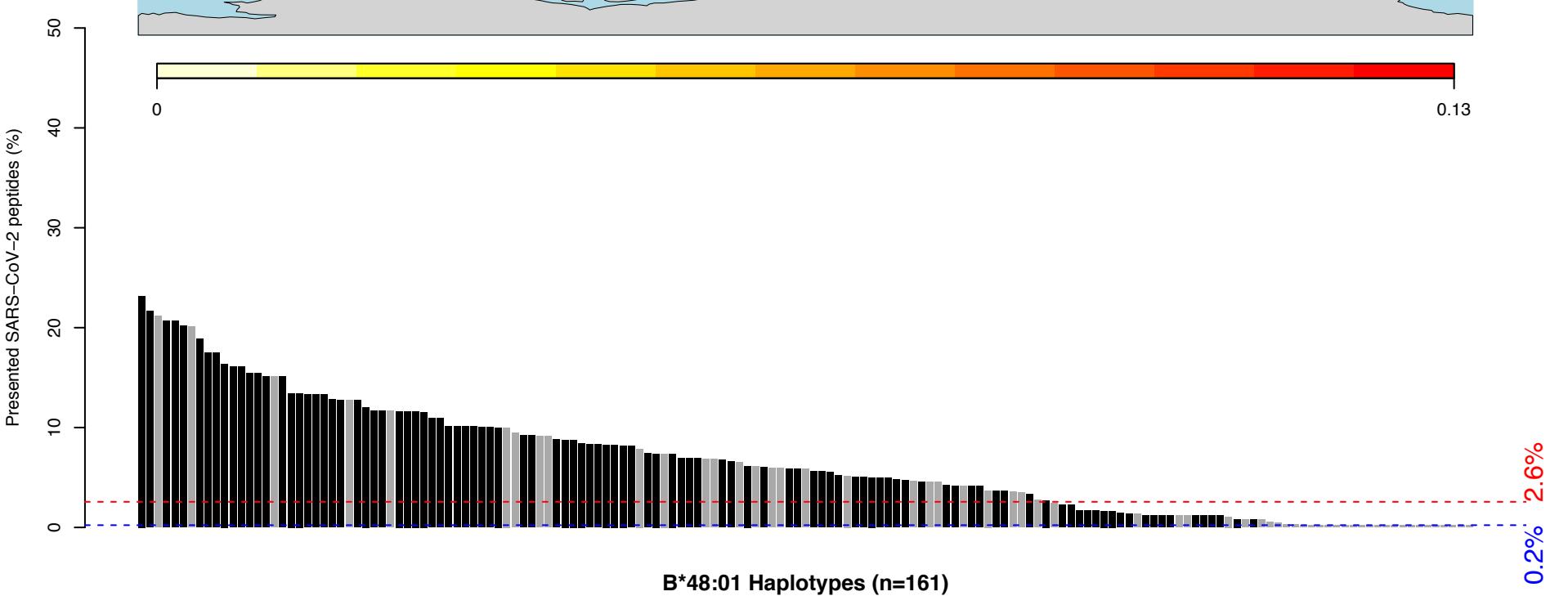
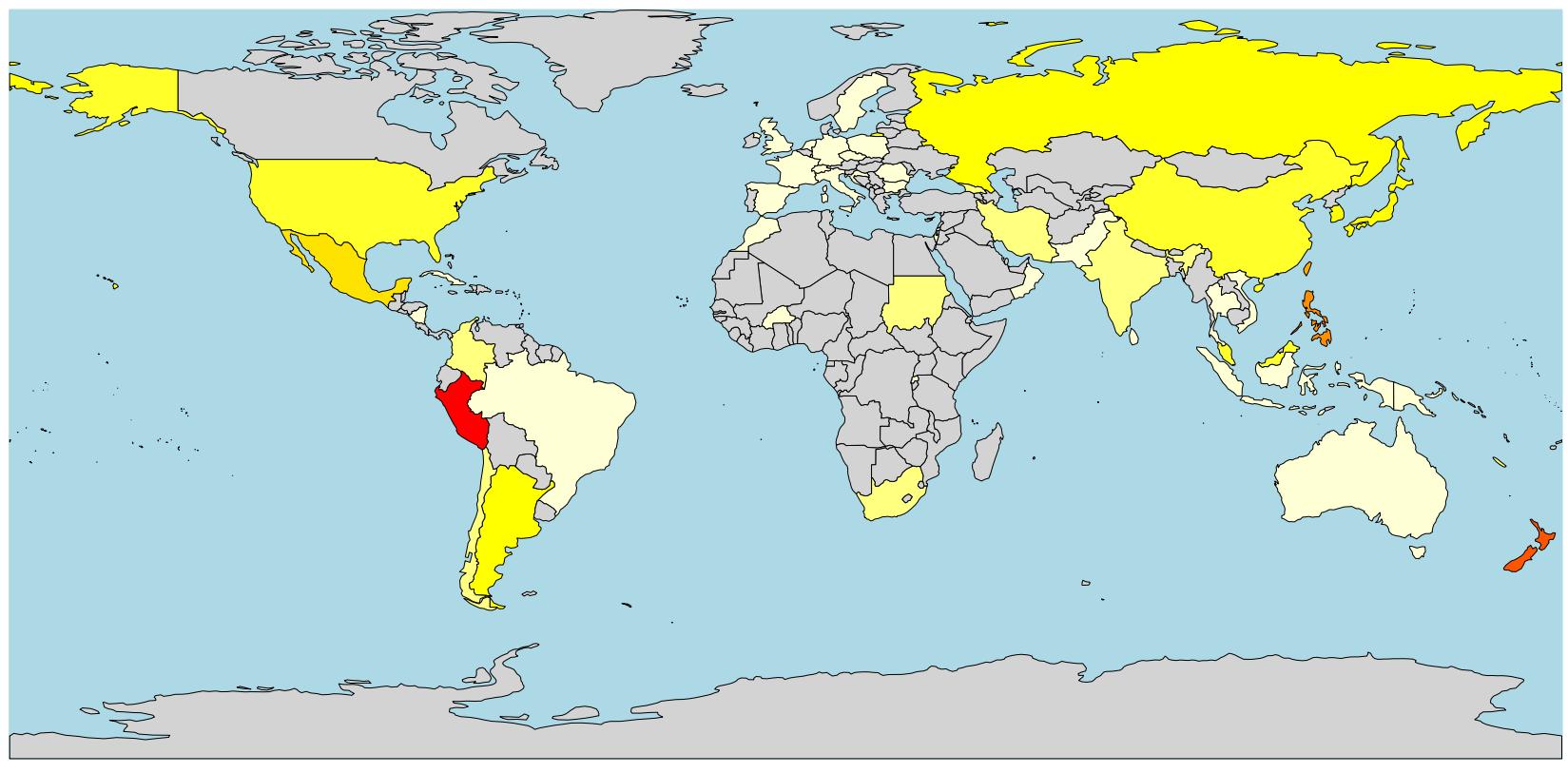
B*47:01
(~0.24% globally)



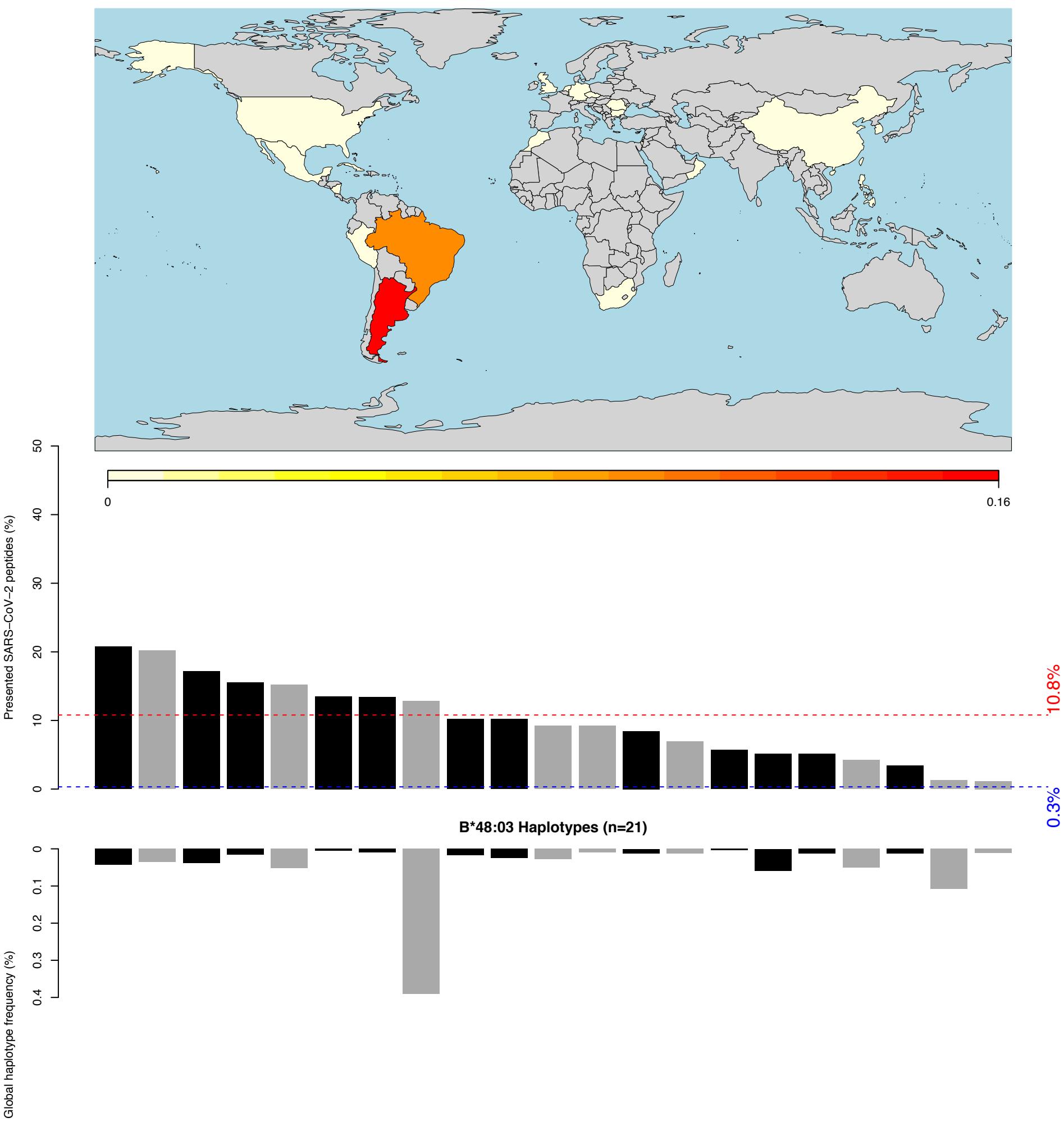
B*47:03
(~0.069% globally)



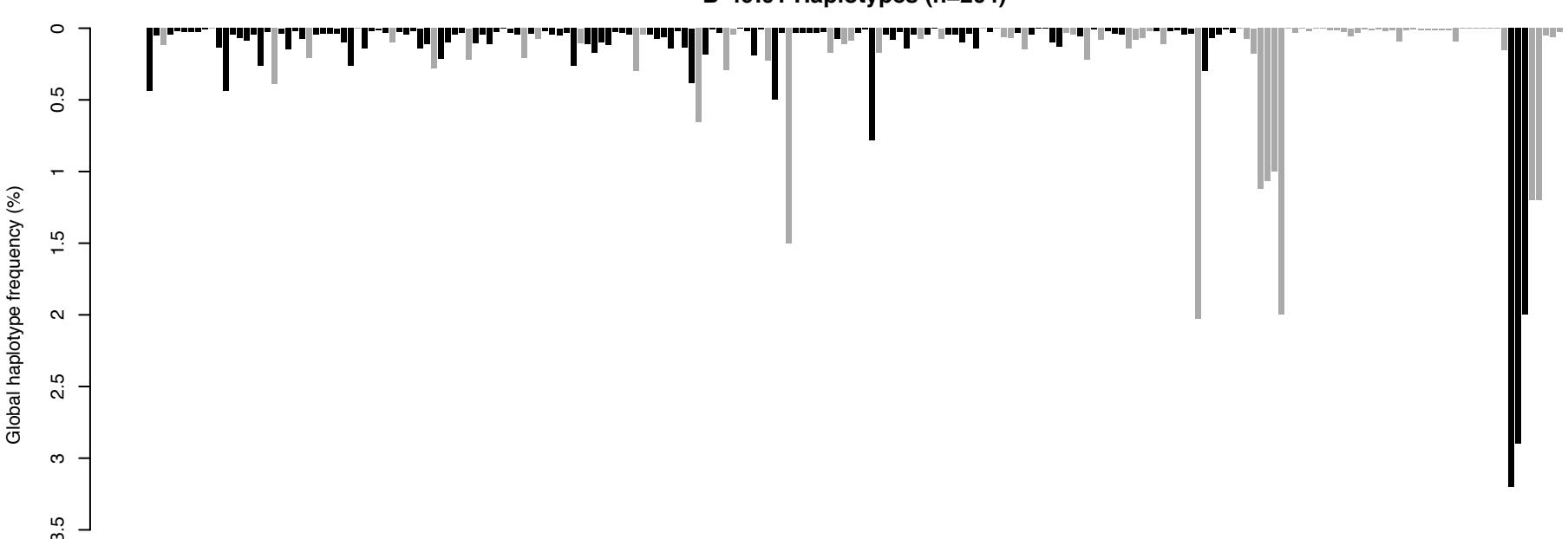
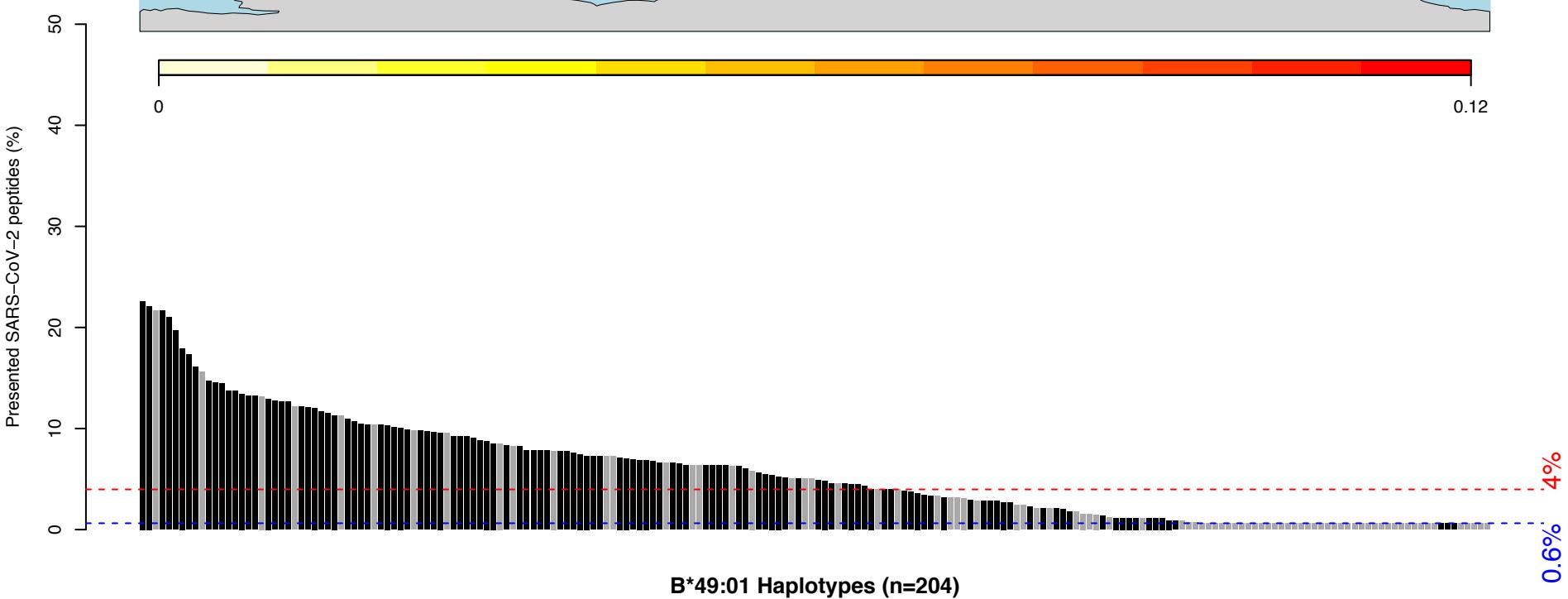
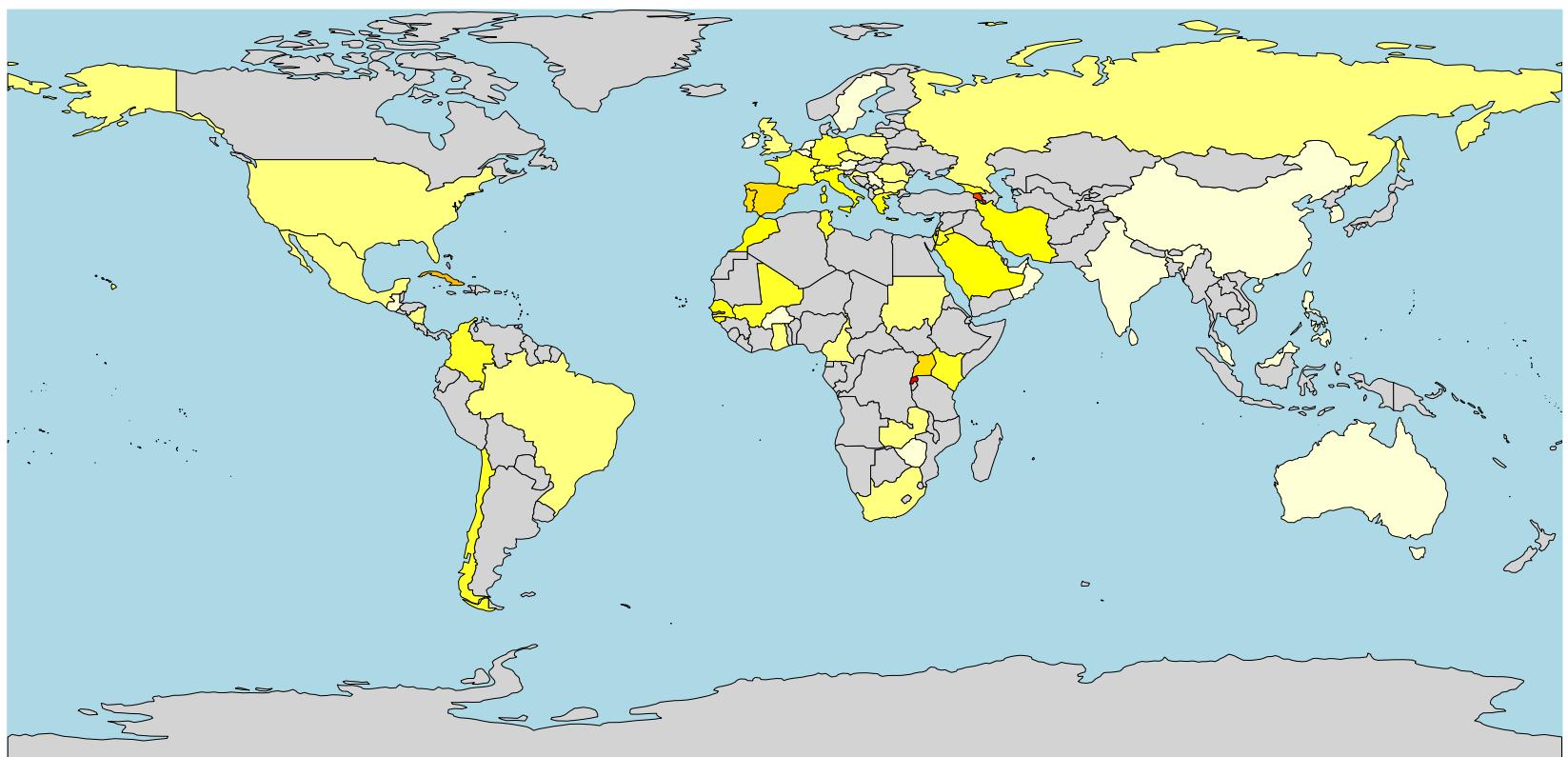
B*48:01
(~2.1% globally)



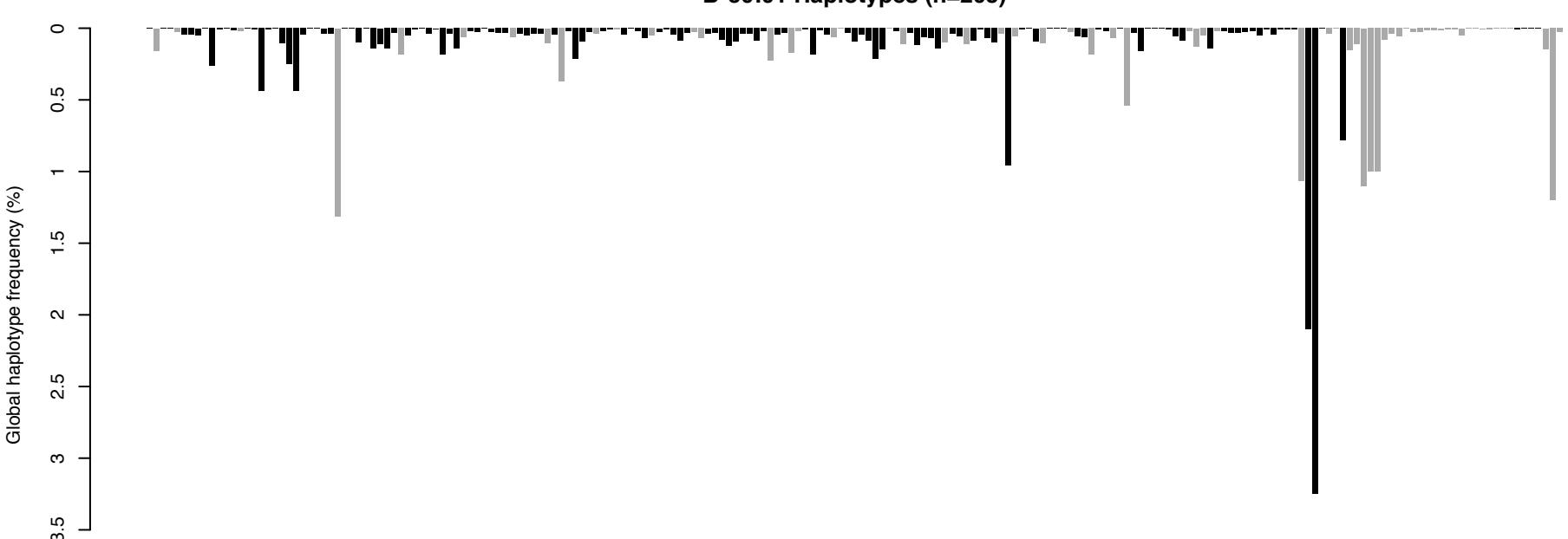
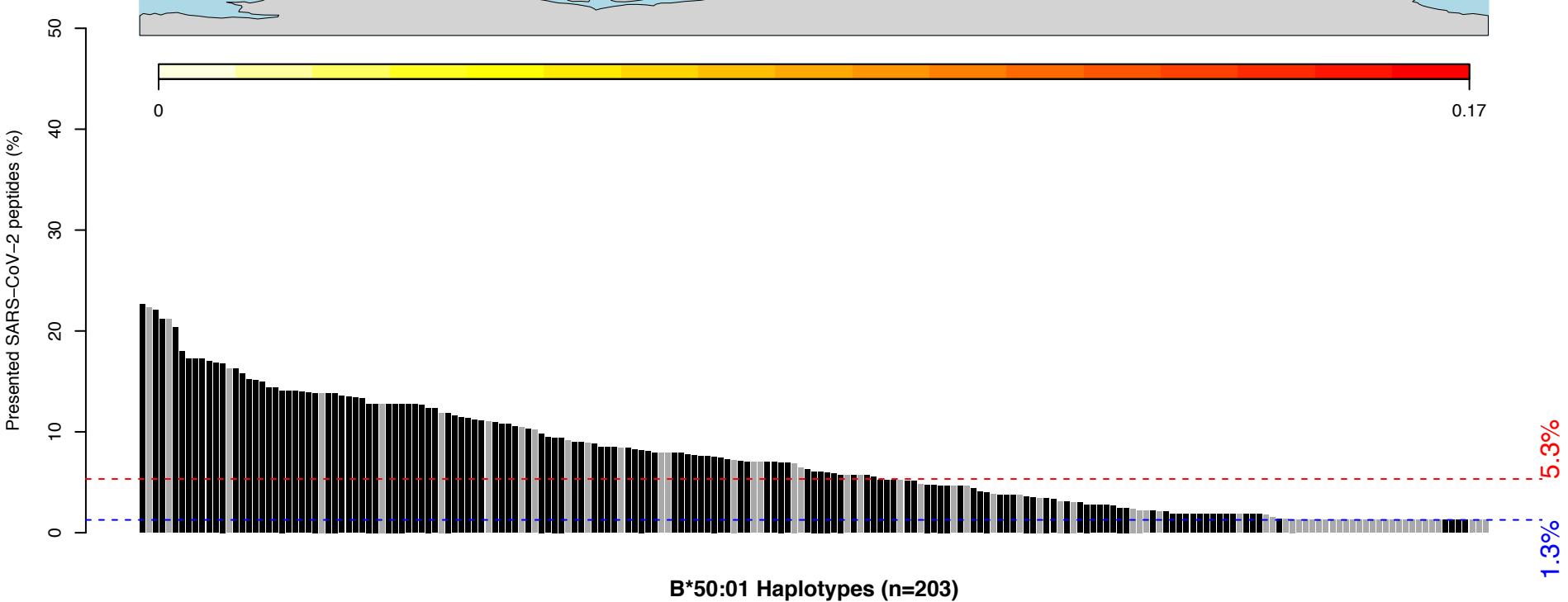
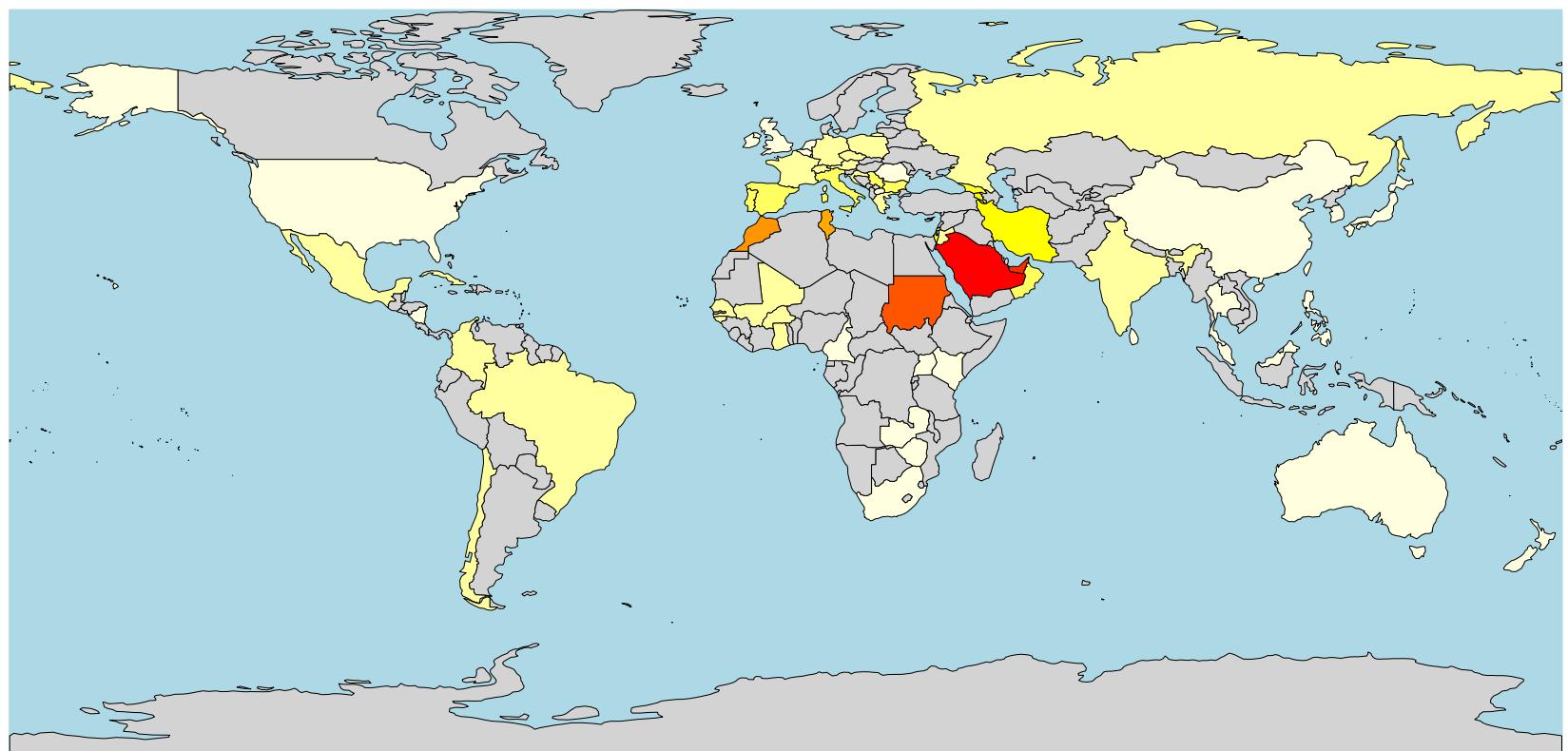
B*48:03
(~1.1% globally)



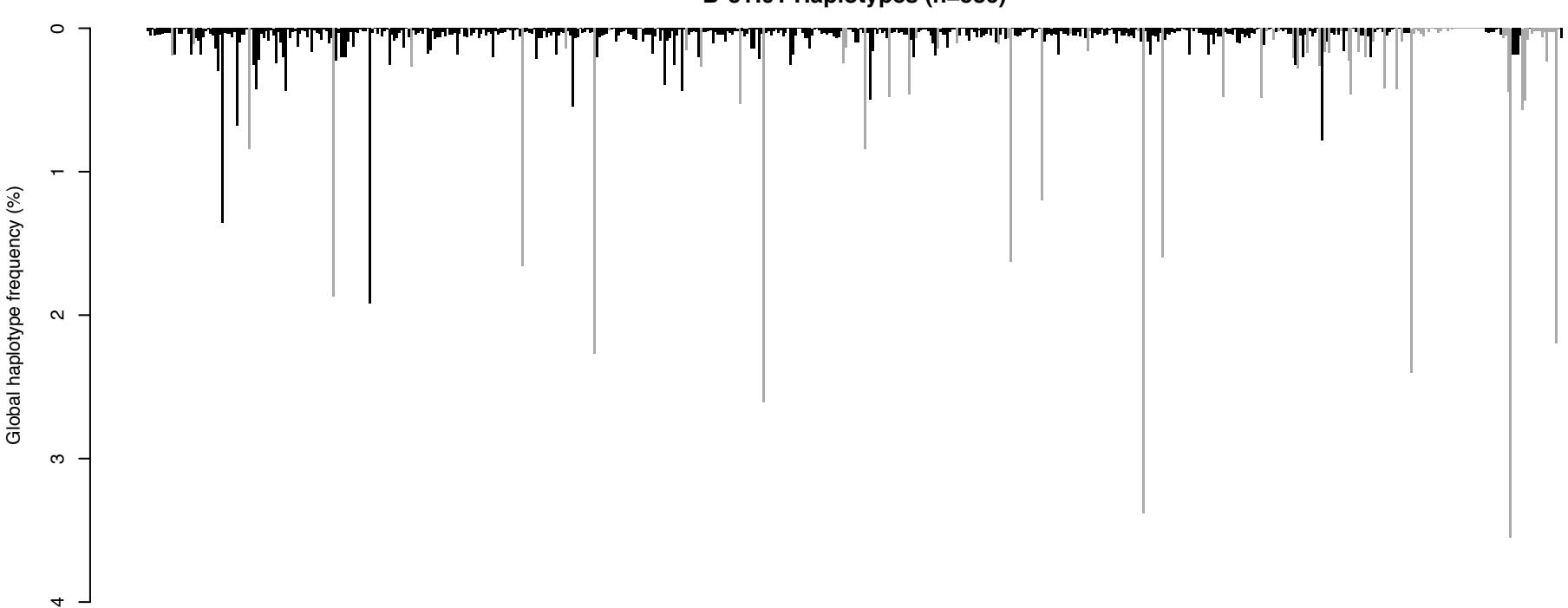
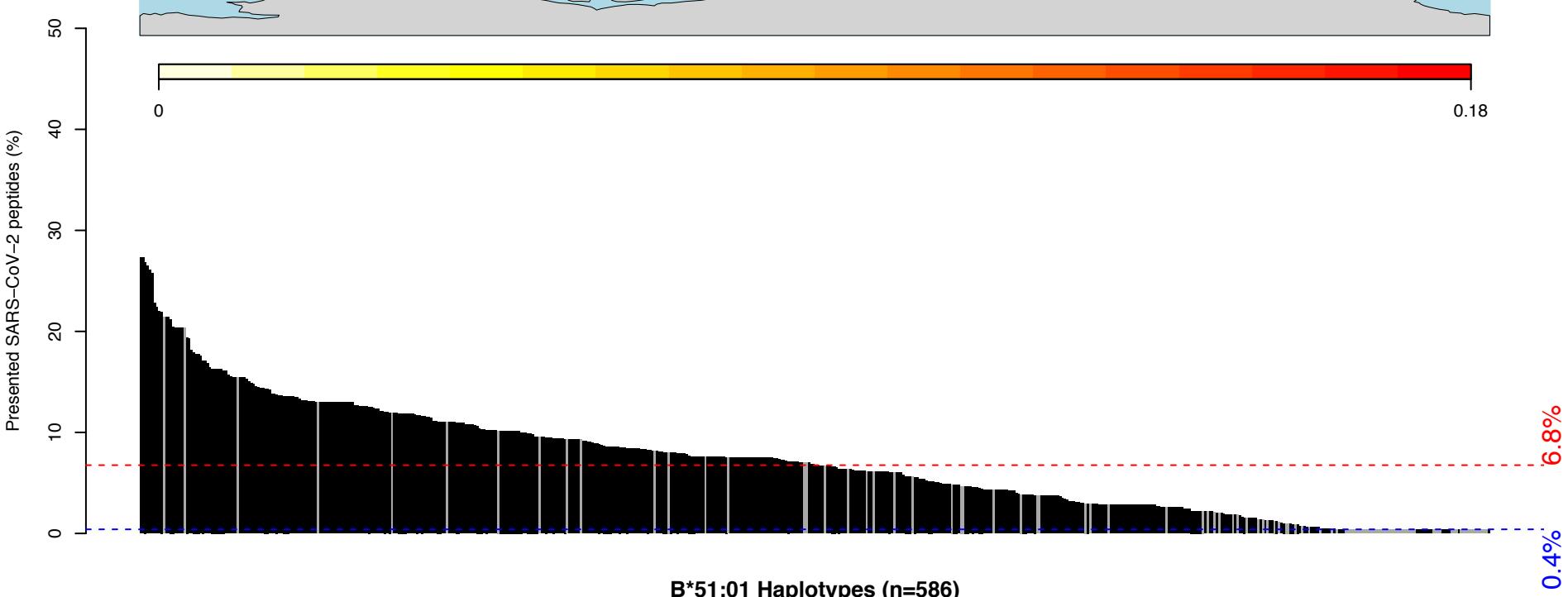
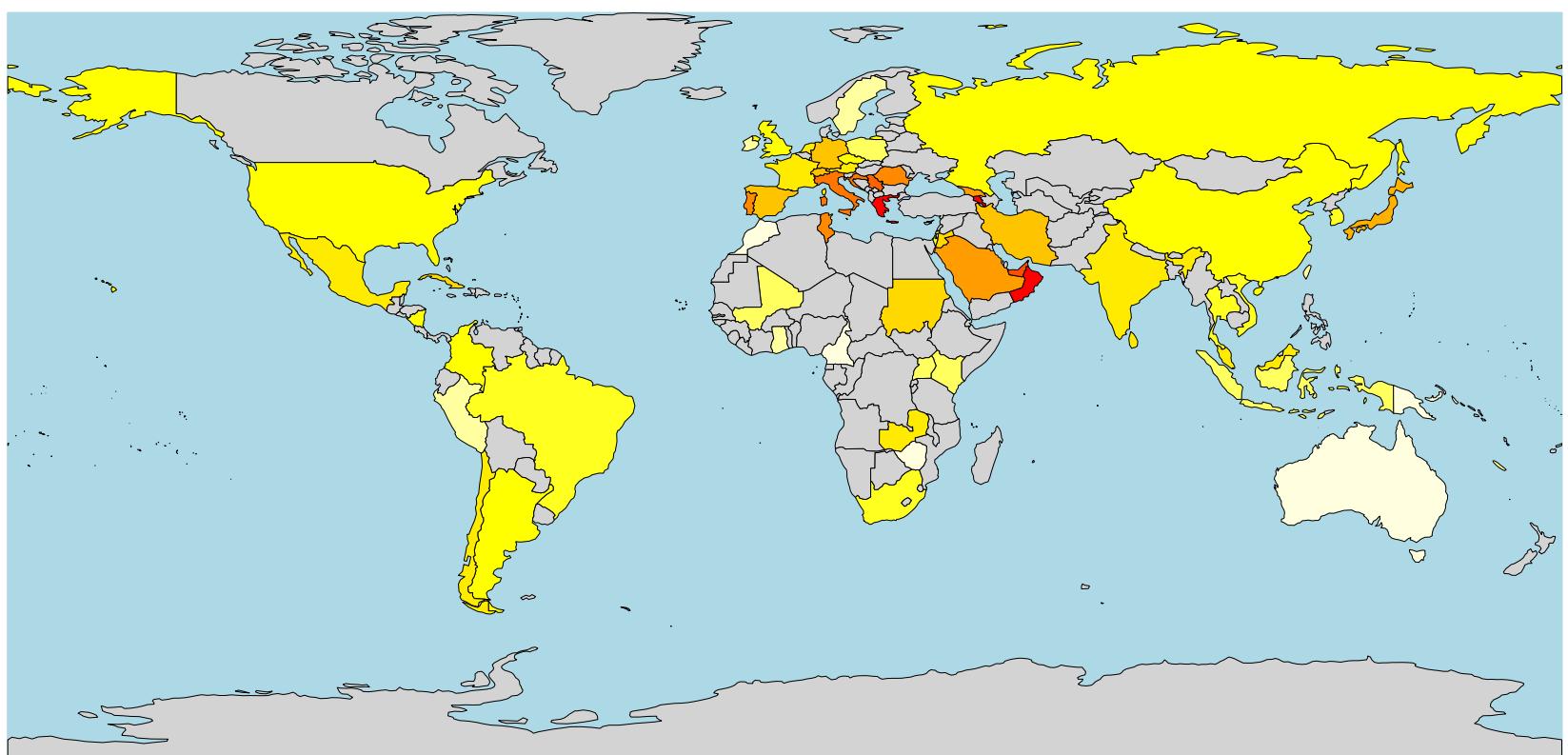
B*49:01
(~1.1% globally)



B*50:01
(~1.3% globally)



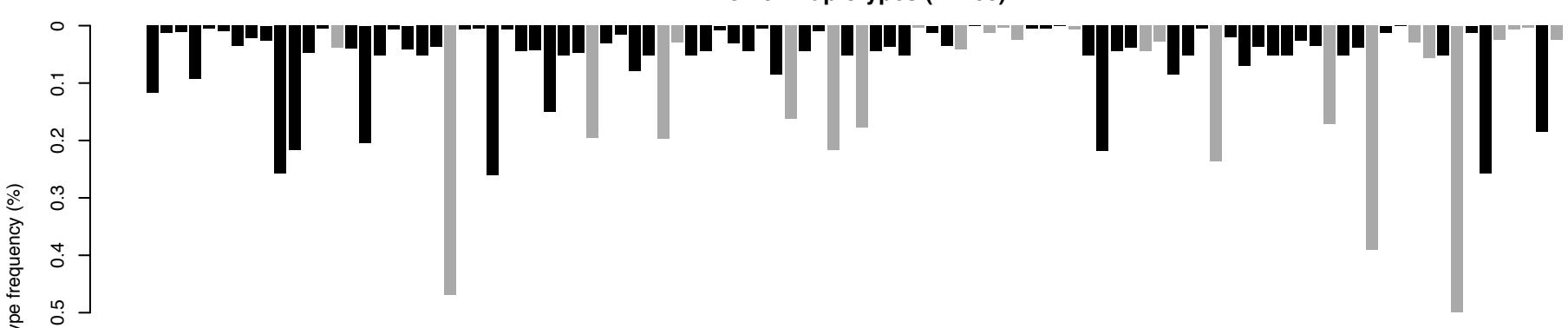
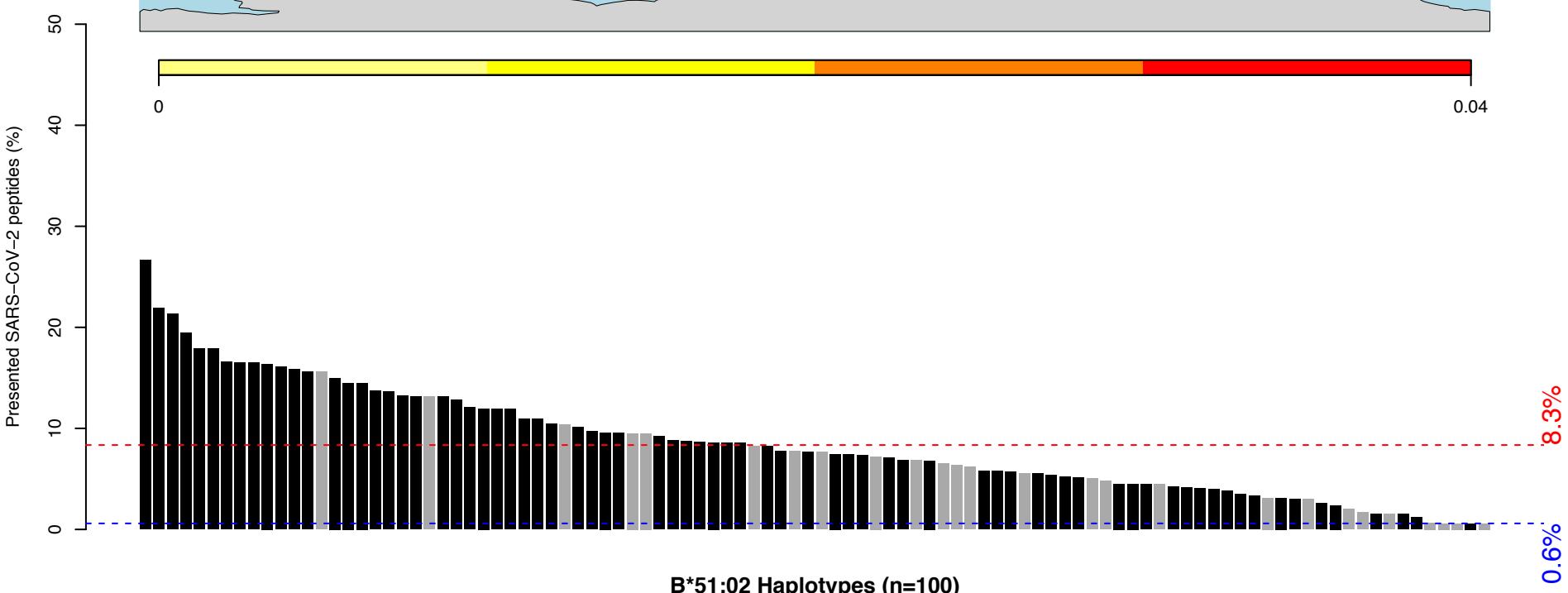
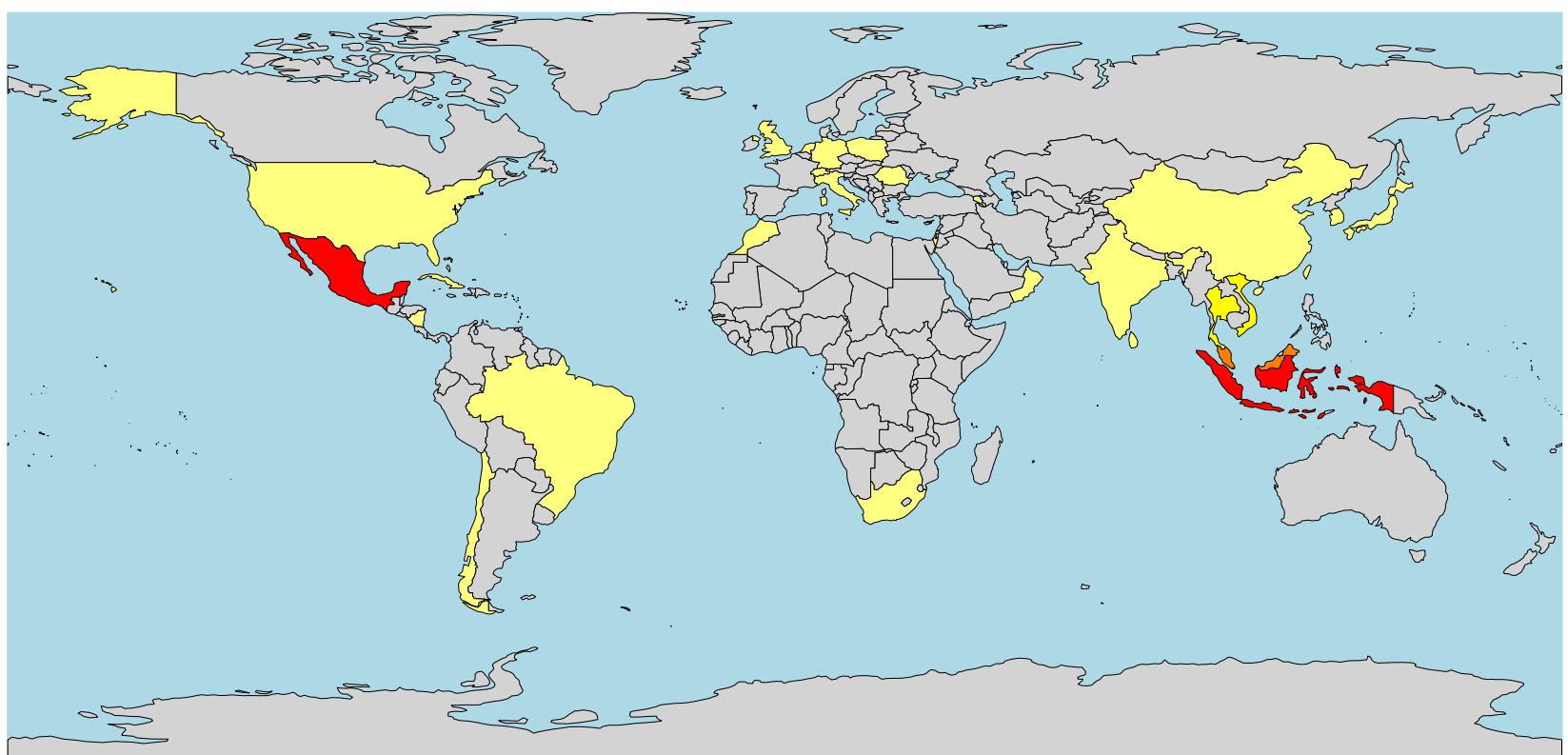
B*51:01
(~2.3% globally)



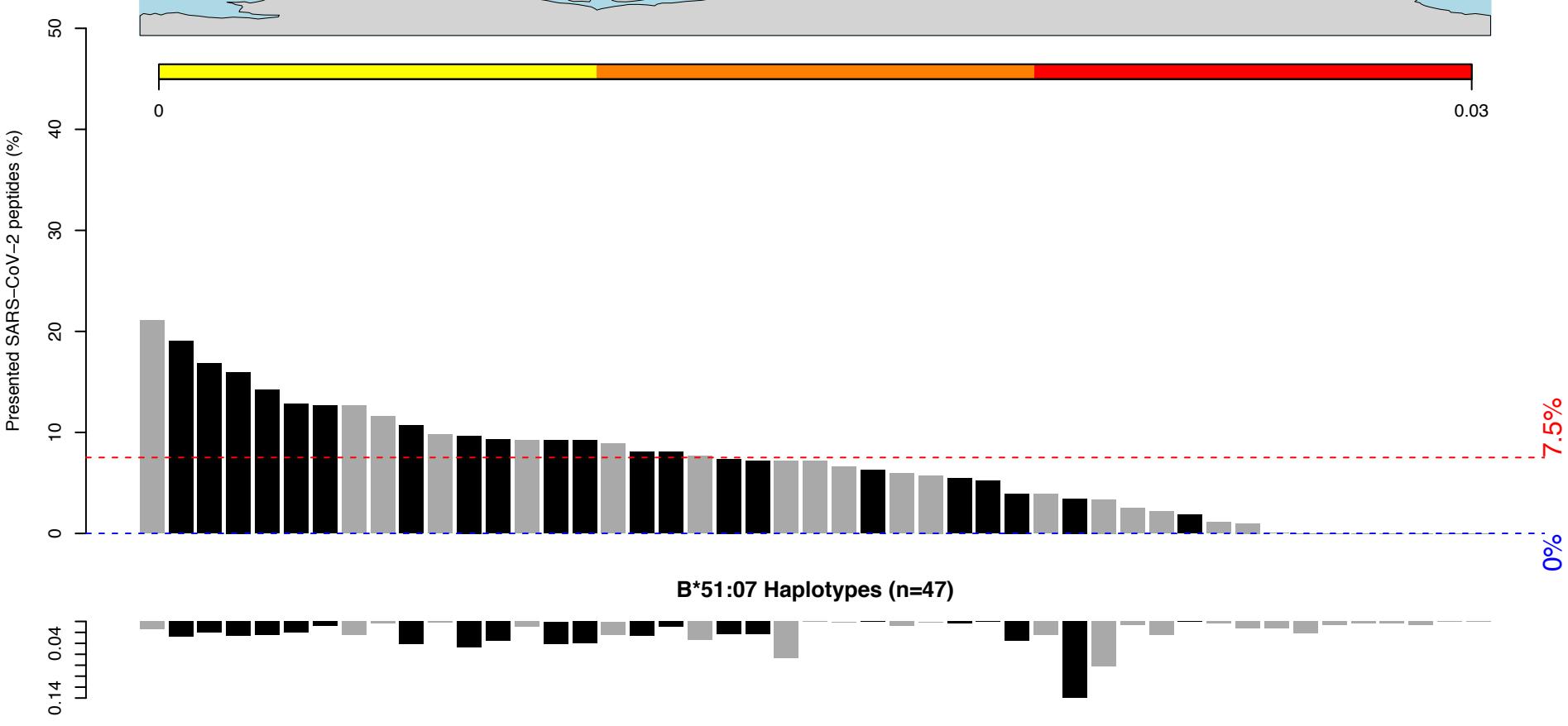
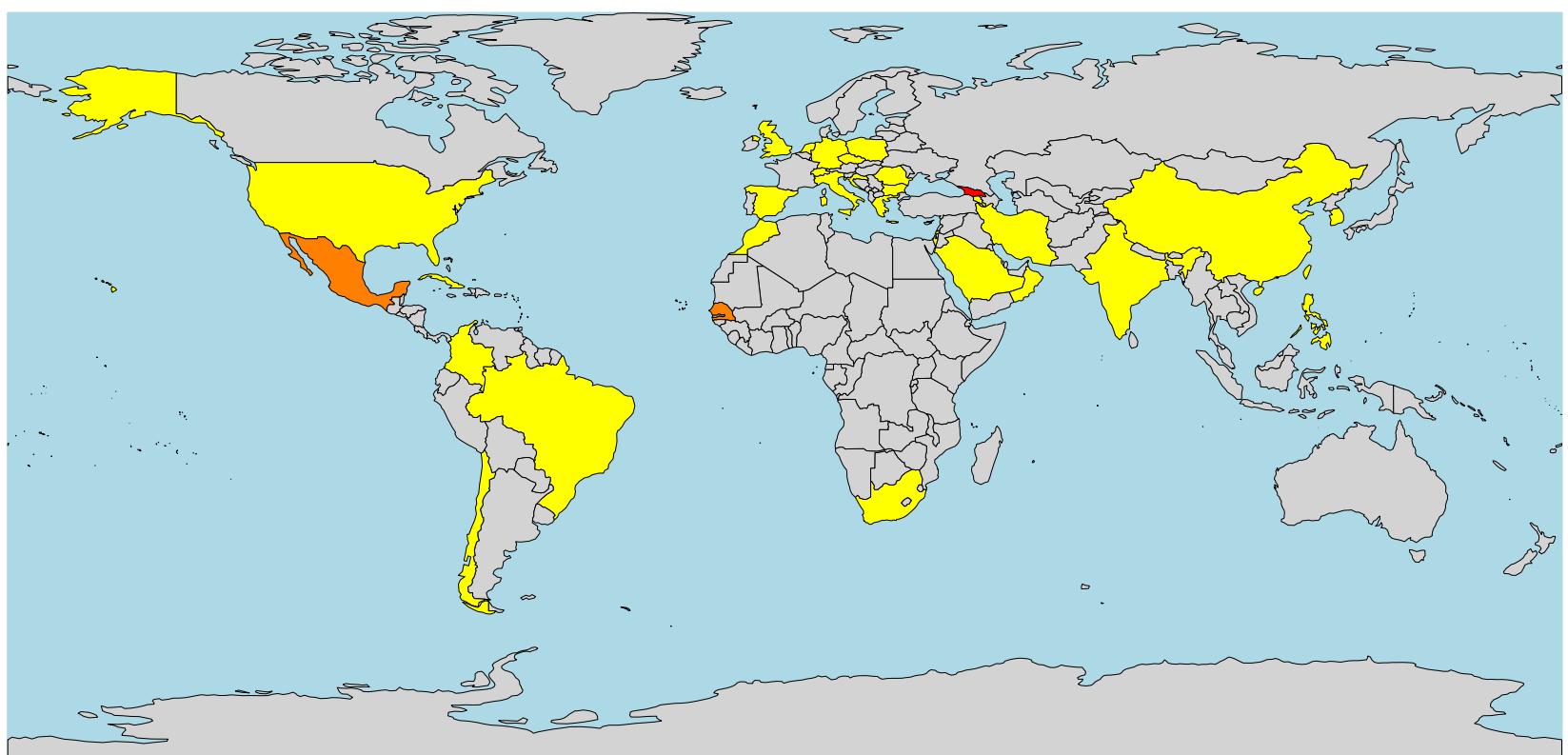
6.8%

0.4%

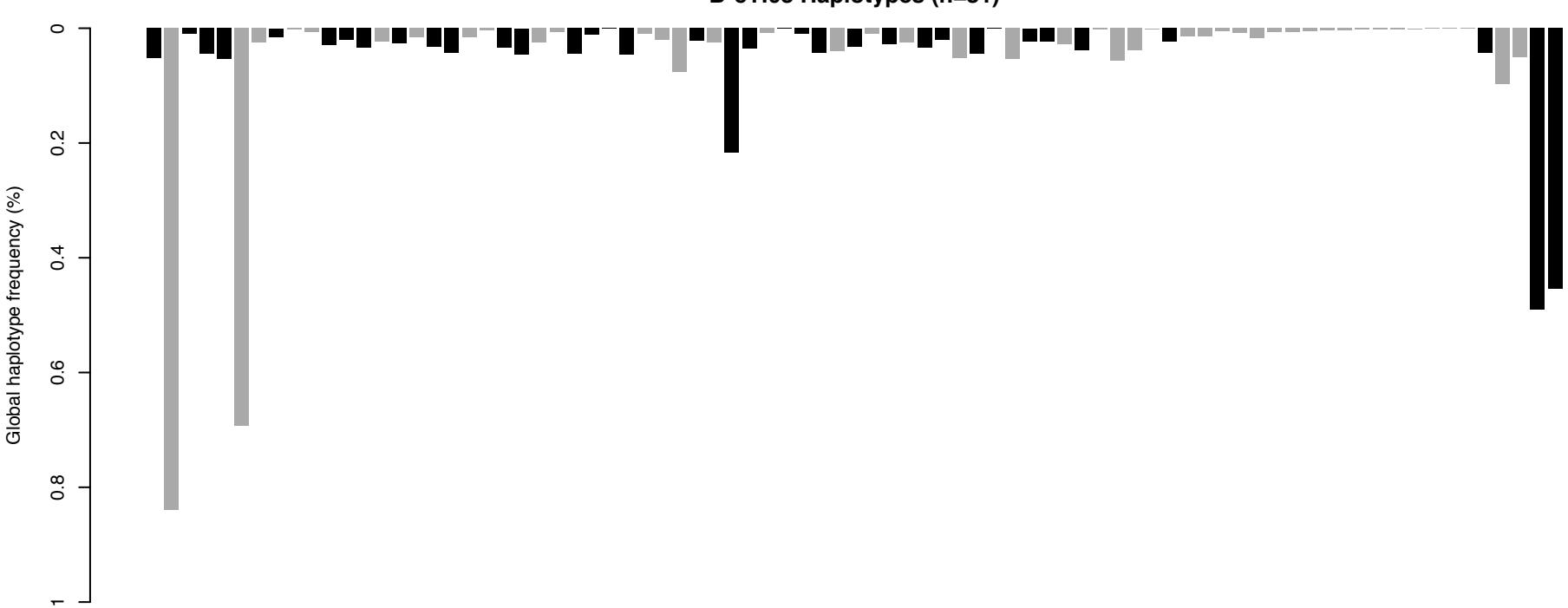
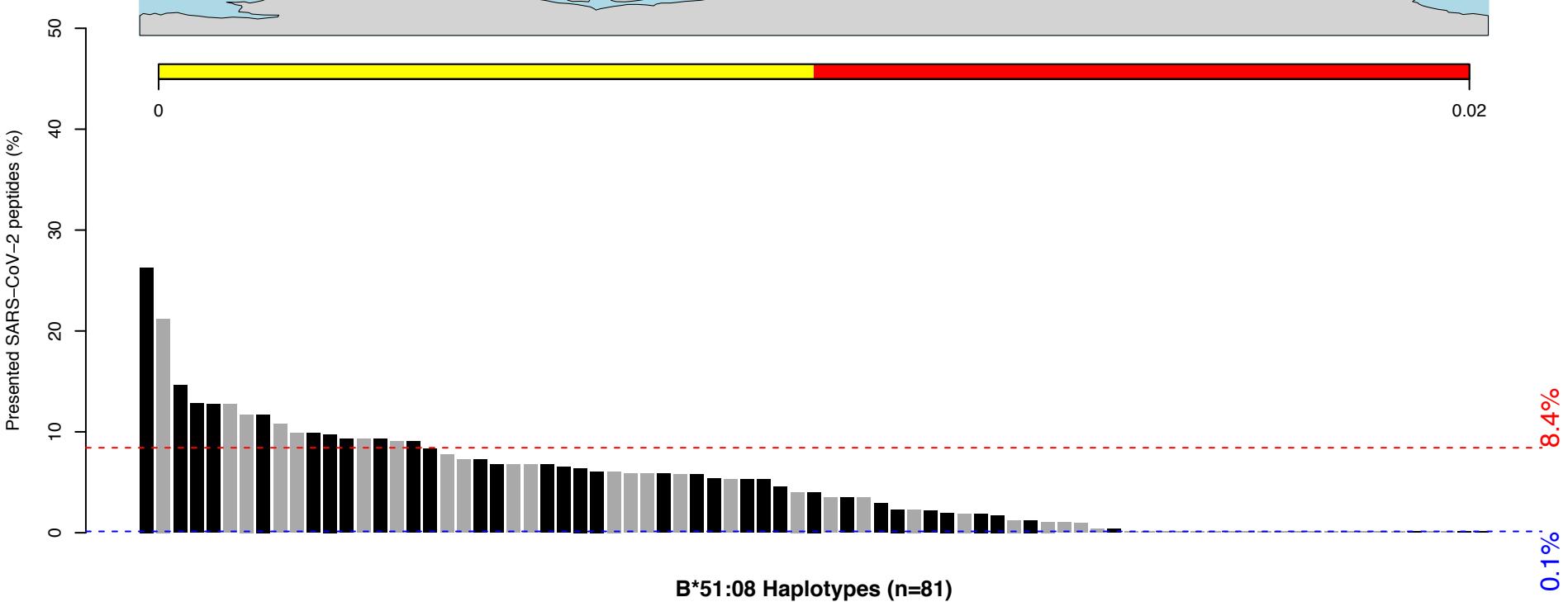
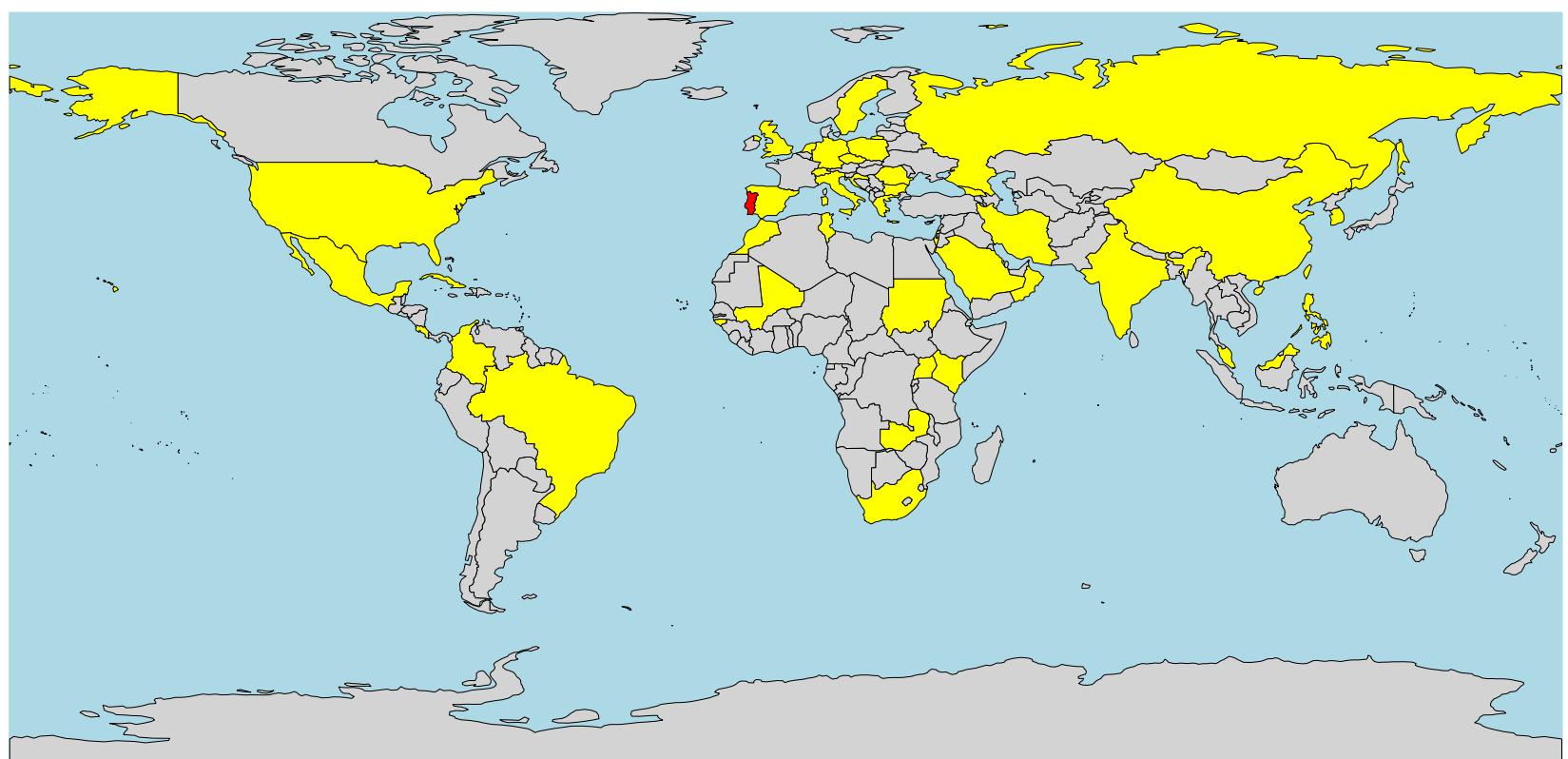
B*51:02
(~0.99% globally)



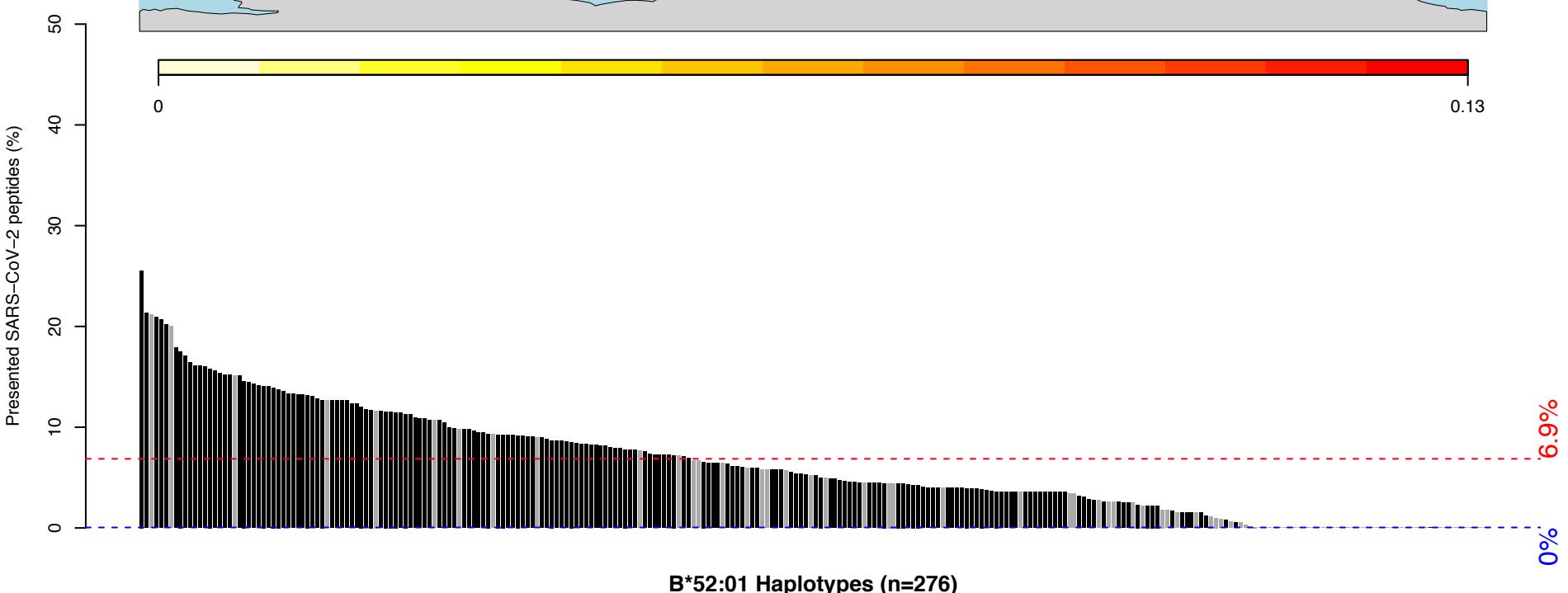
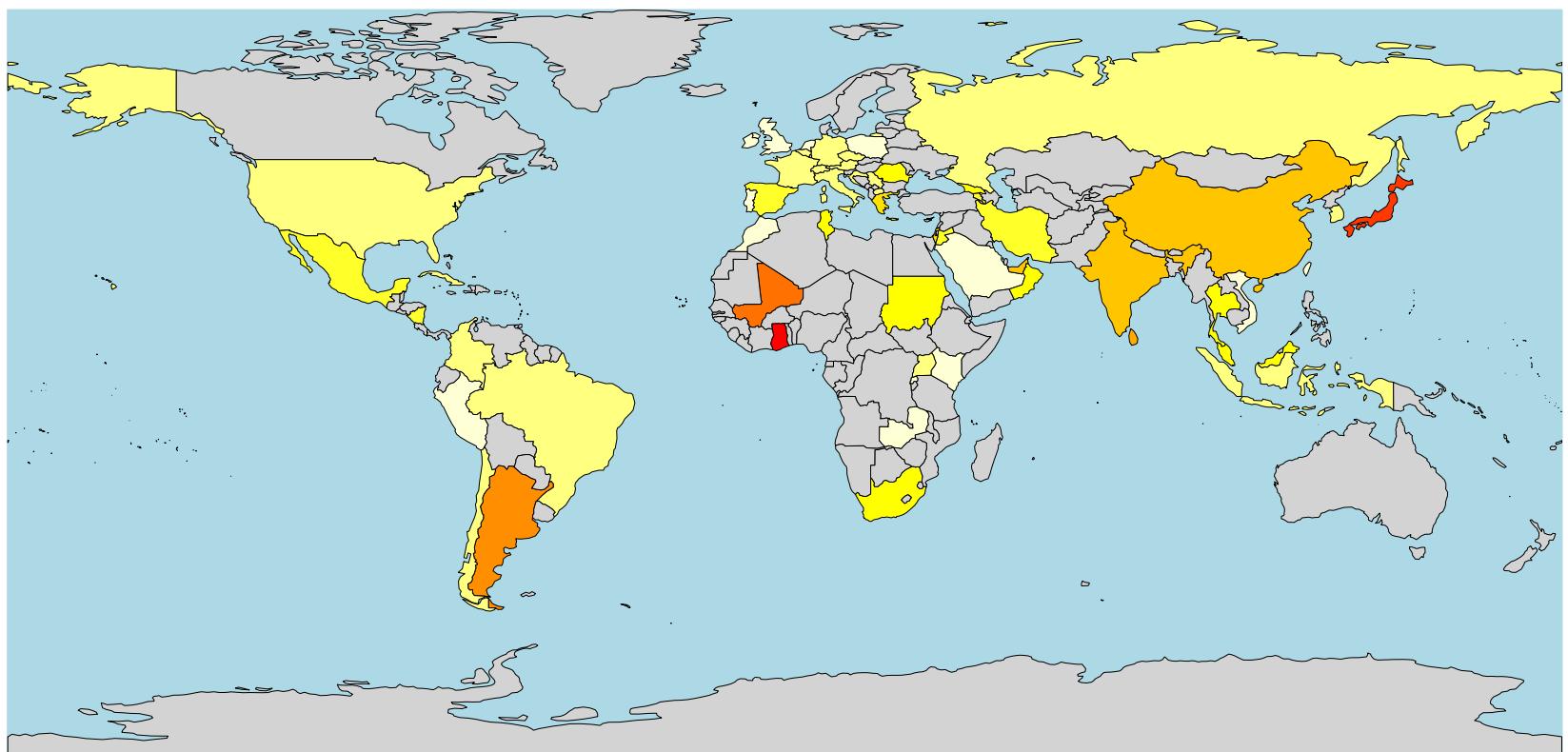
B*51:07
(~0.29% globally)



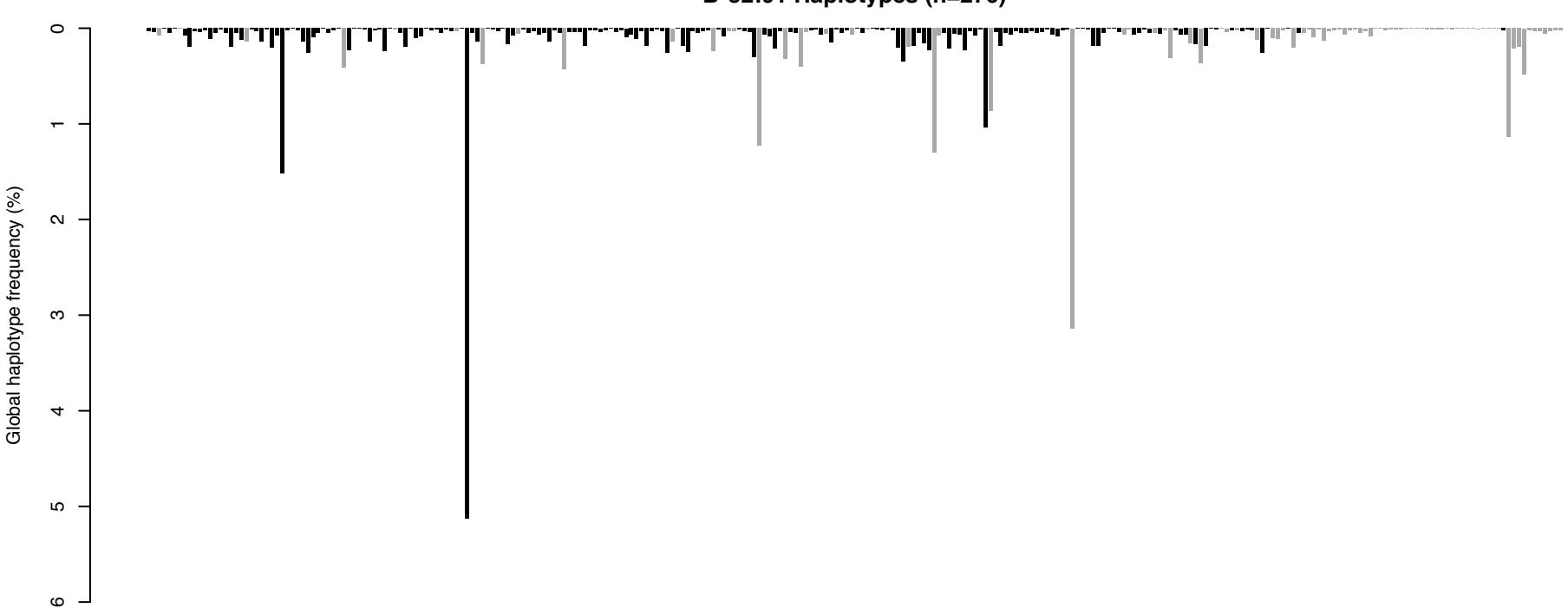
B*51:08
(~0.13% globally)



B*52:01
(~2.5% globally)



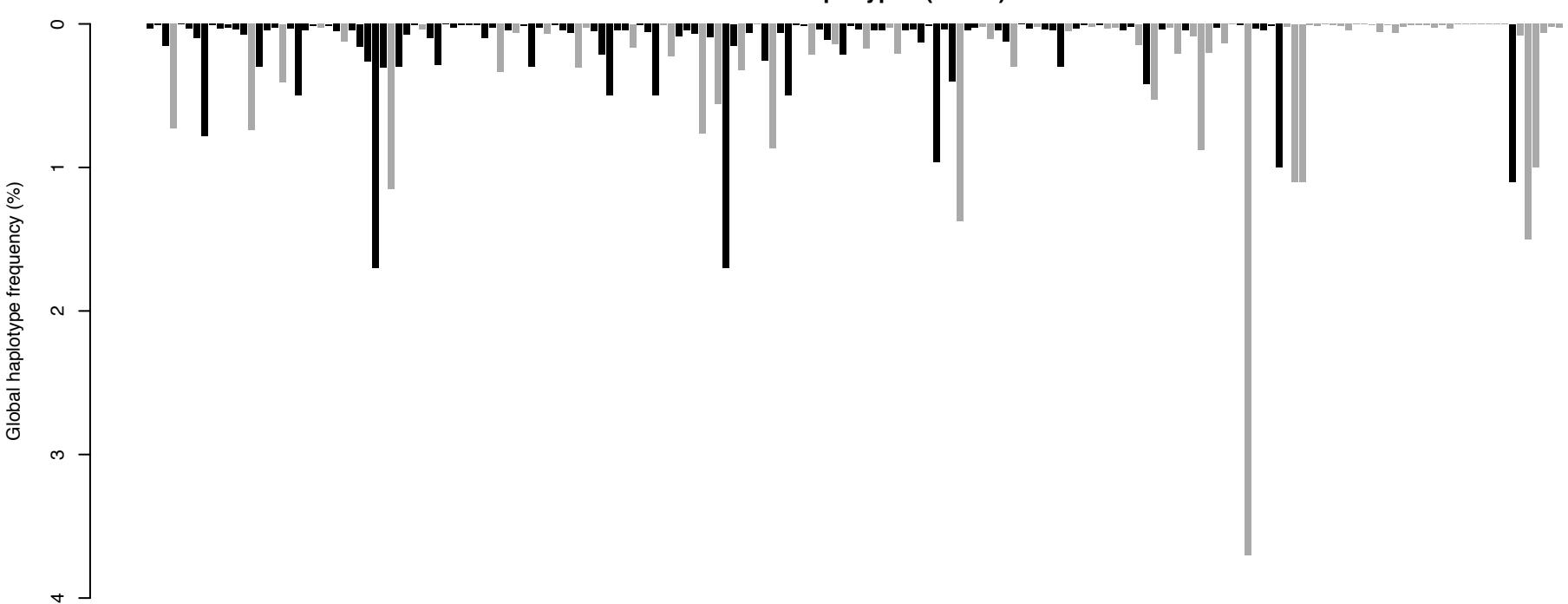
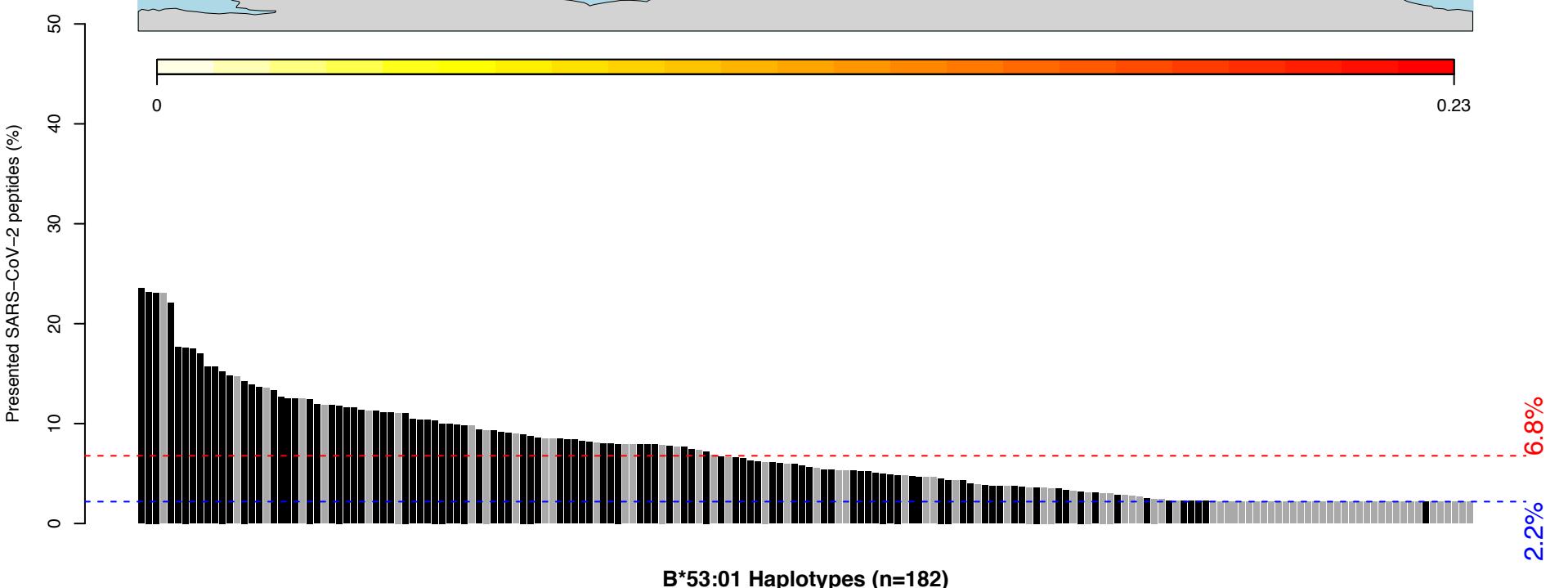
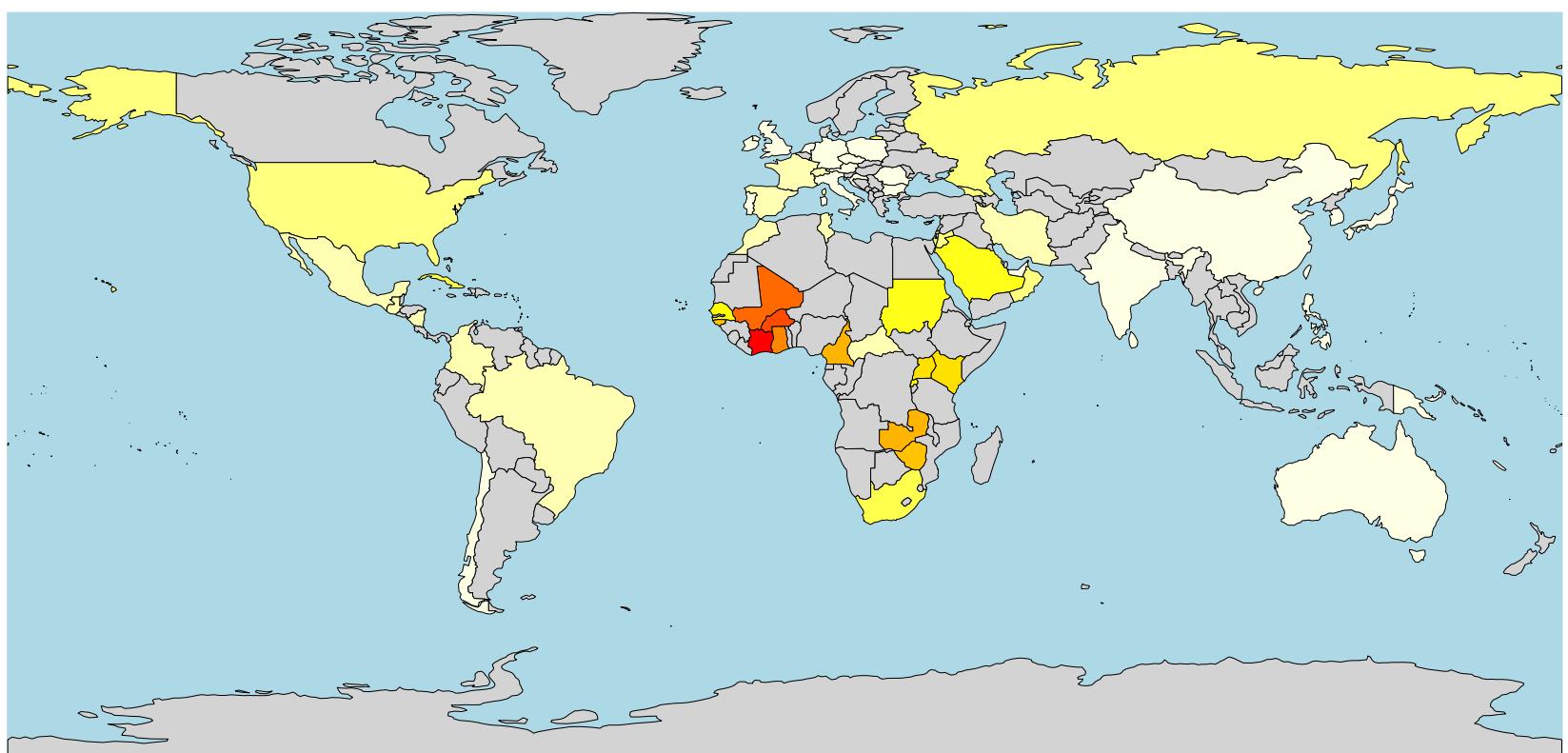
B*52:01 Haplotypes (n=276)



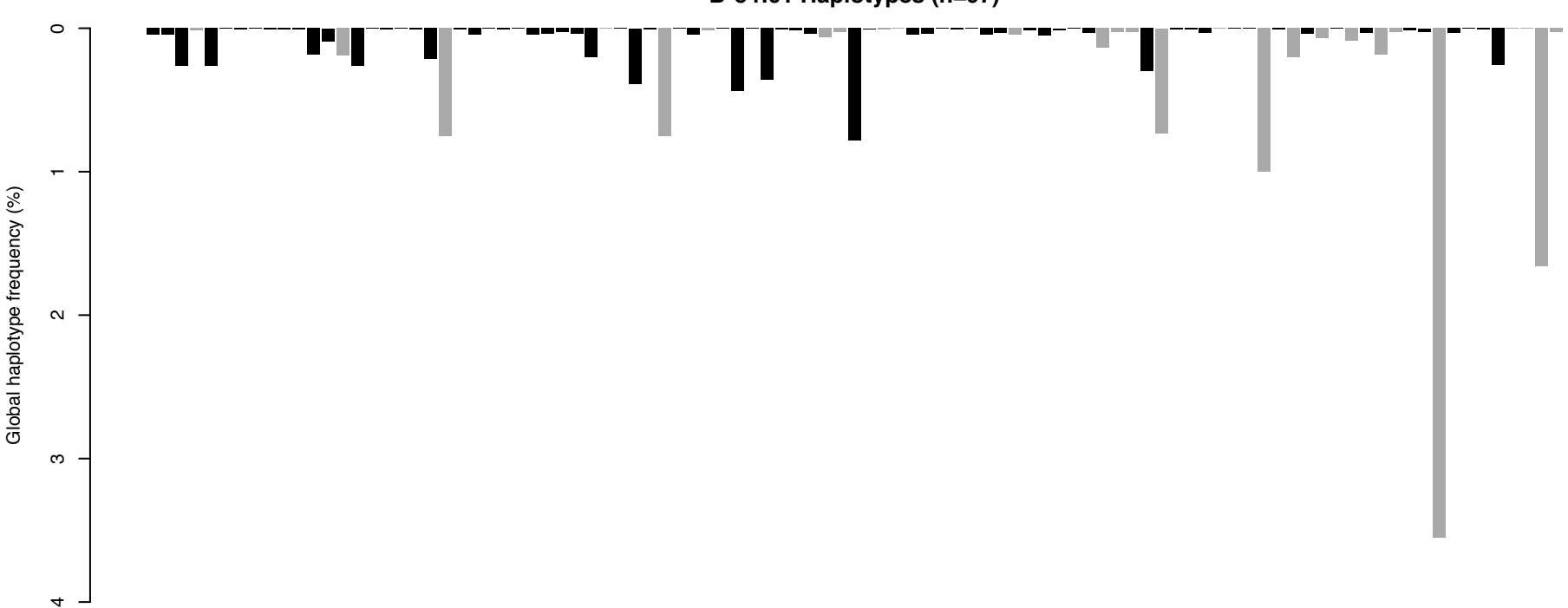
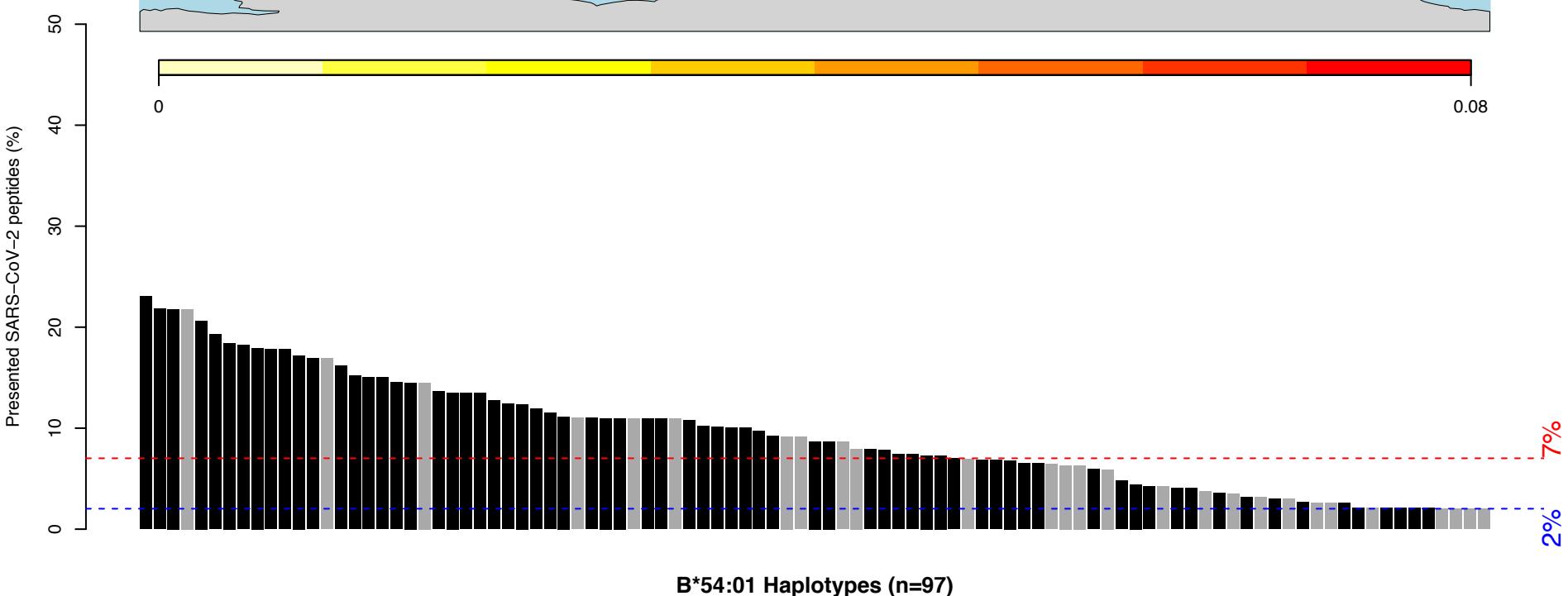
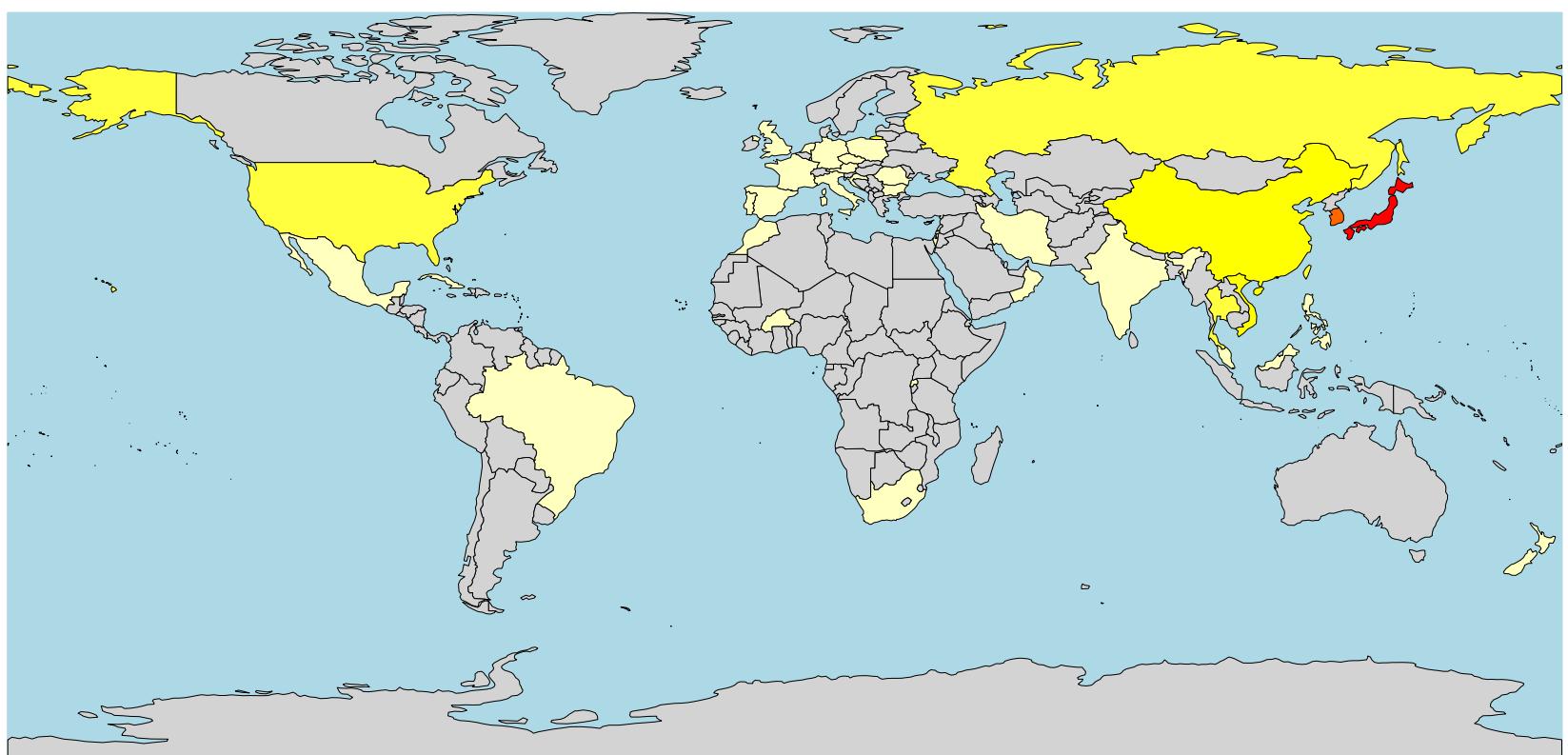
6.9%

0%

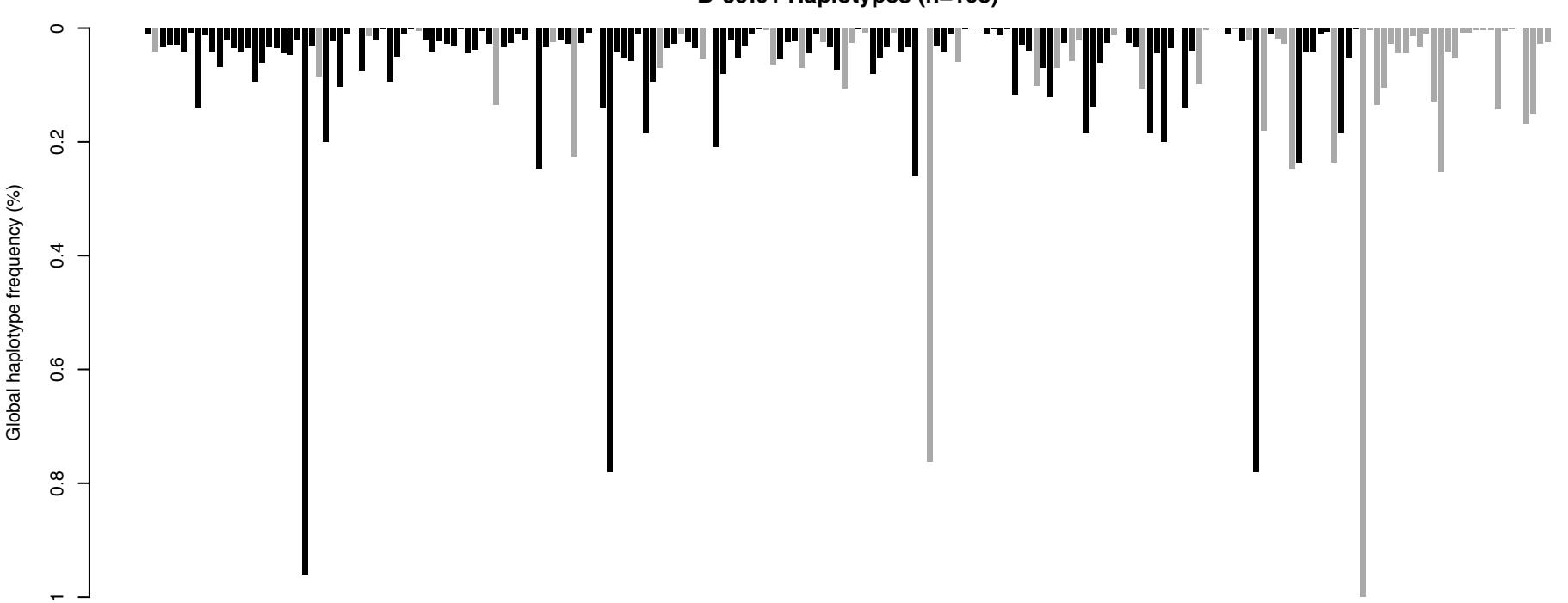
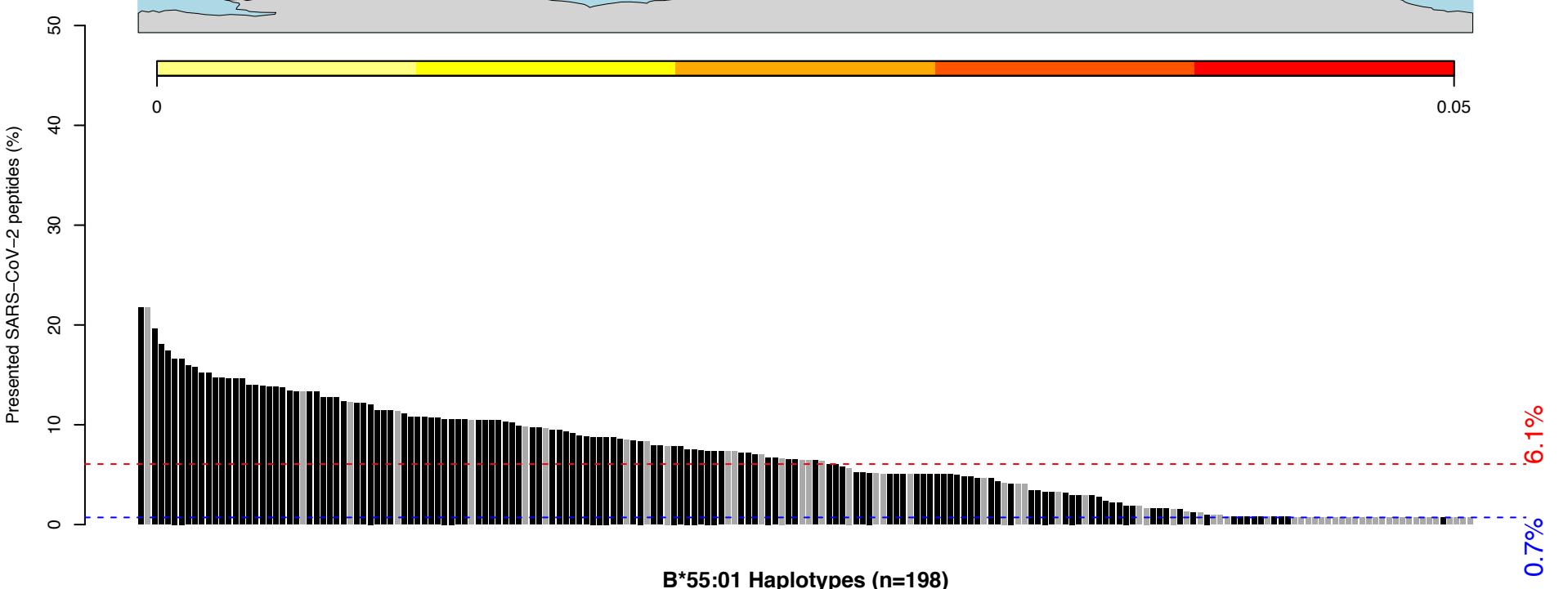
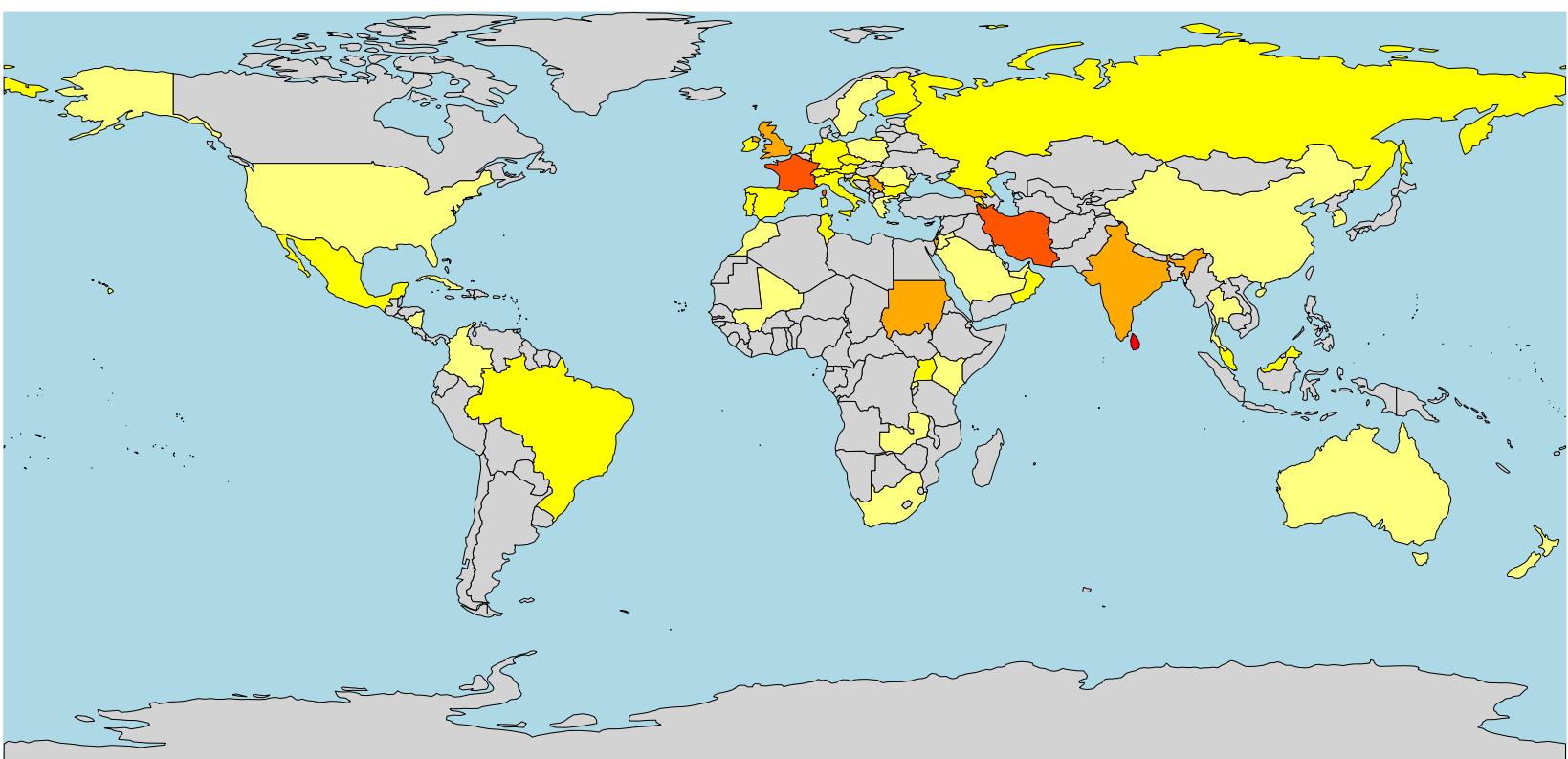
B*53:01
(~0.86% globally)



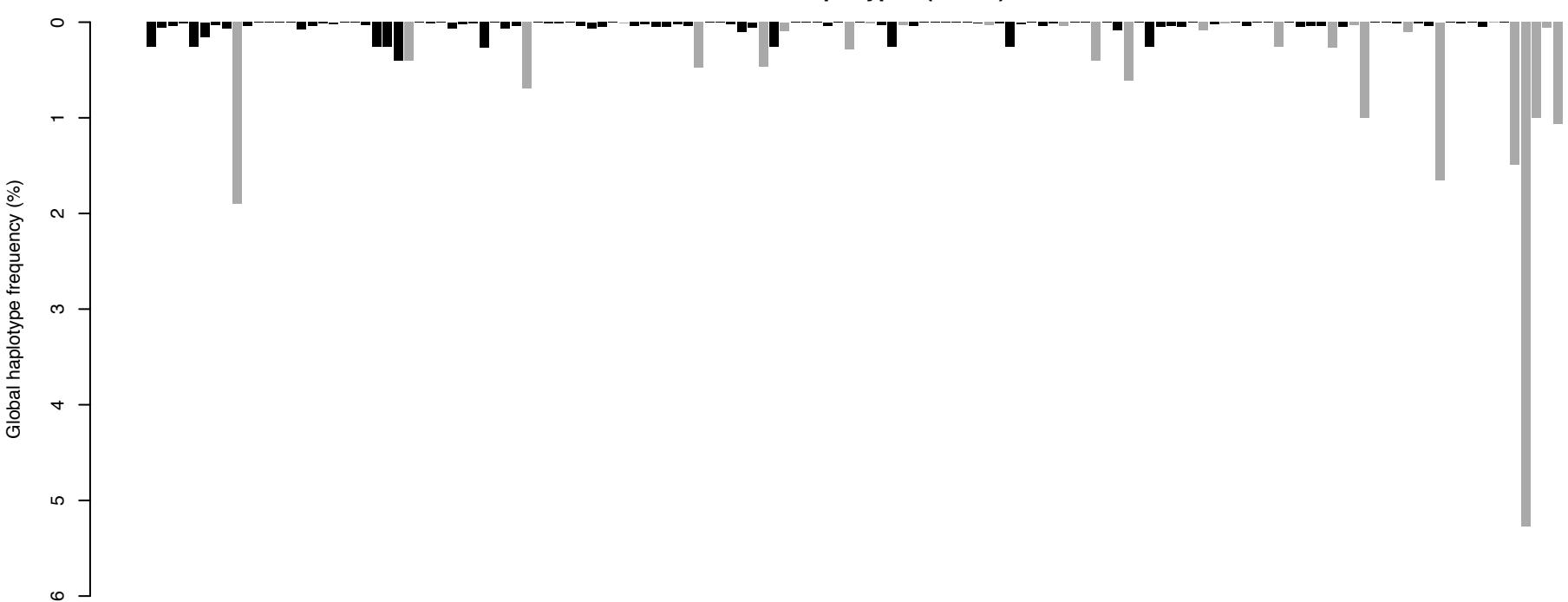
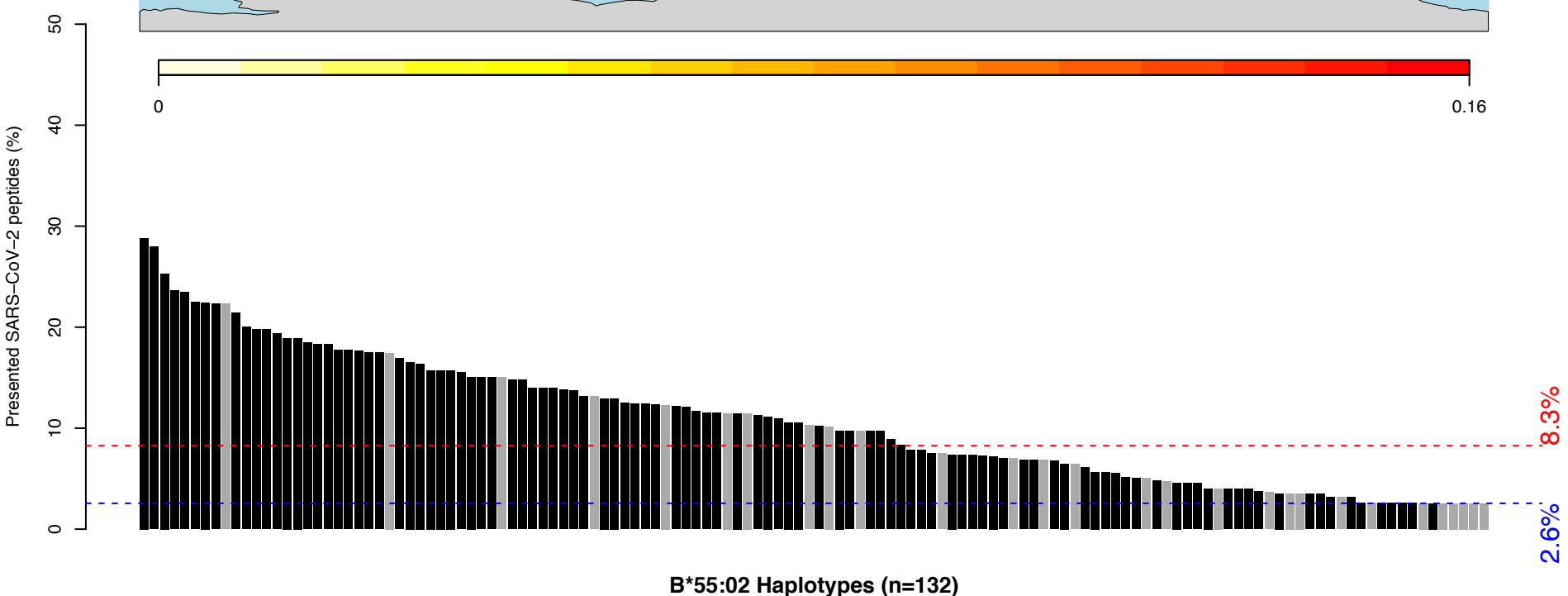
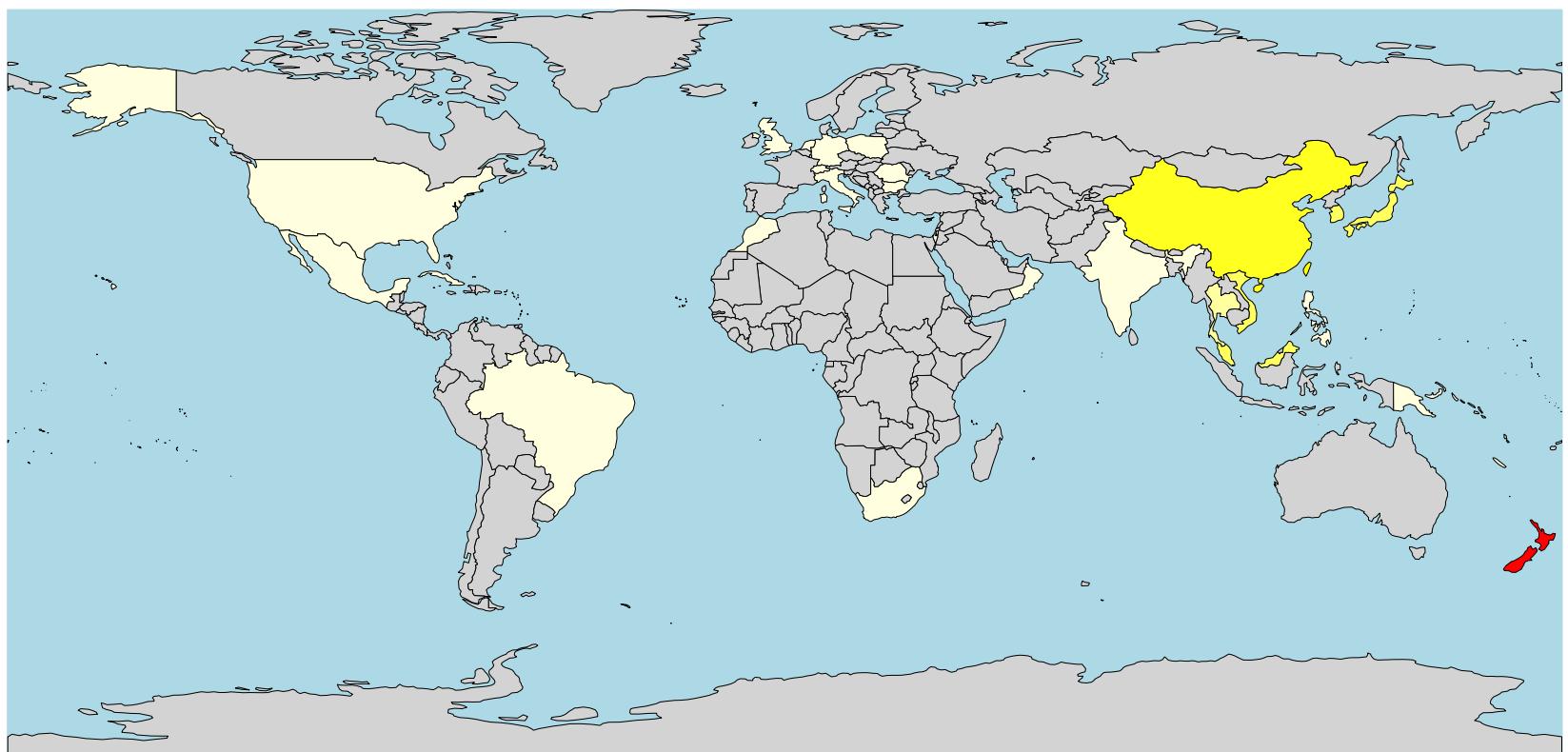
B*54:01
(~1.4% globally)



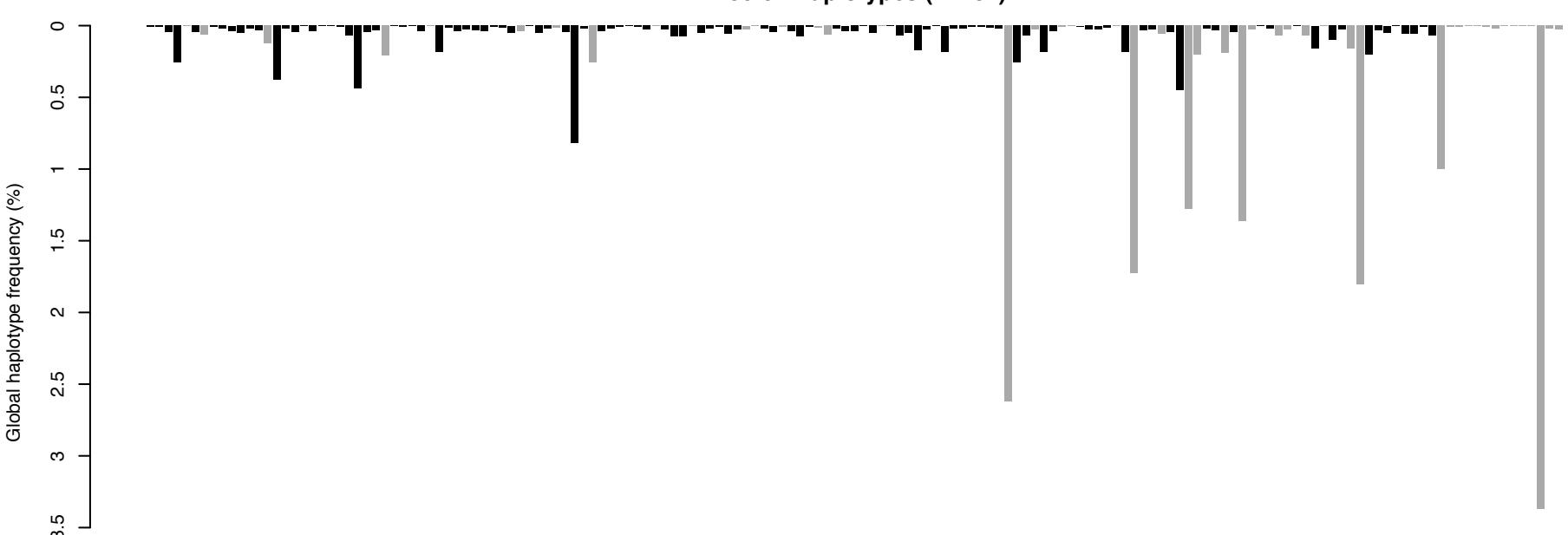
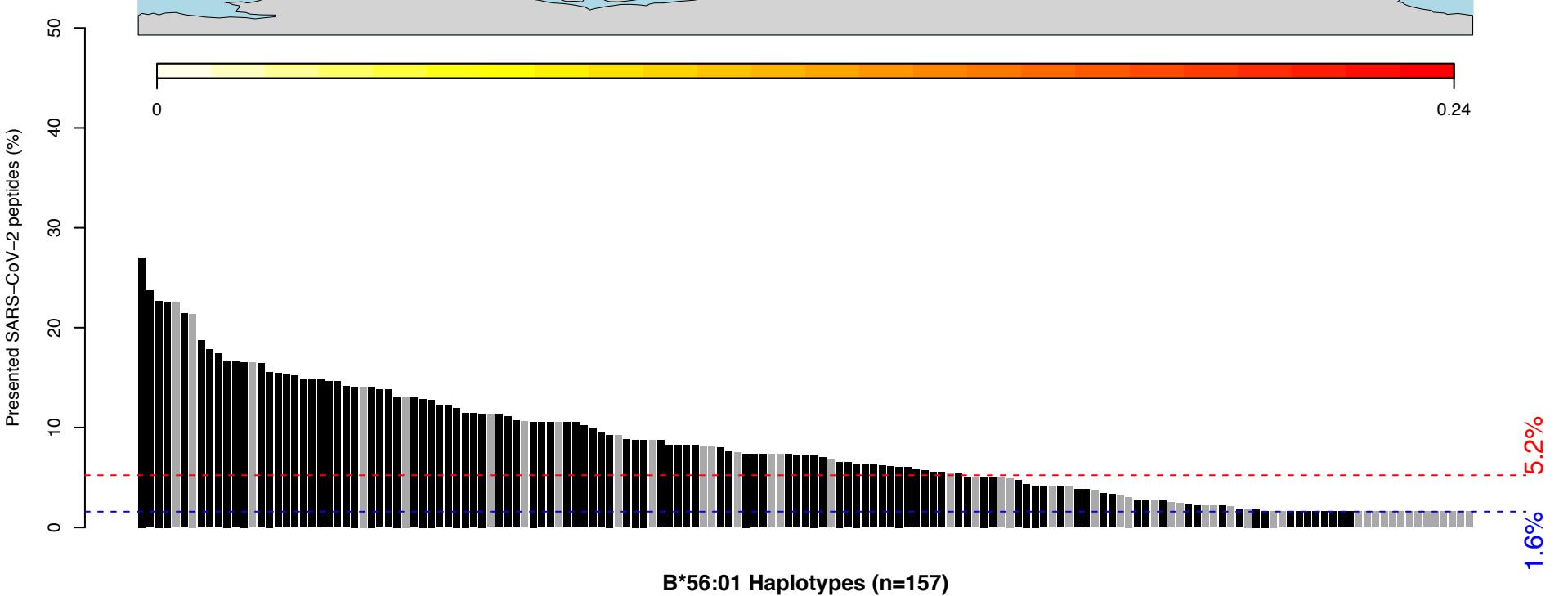
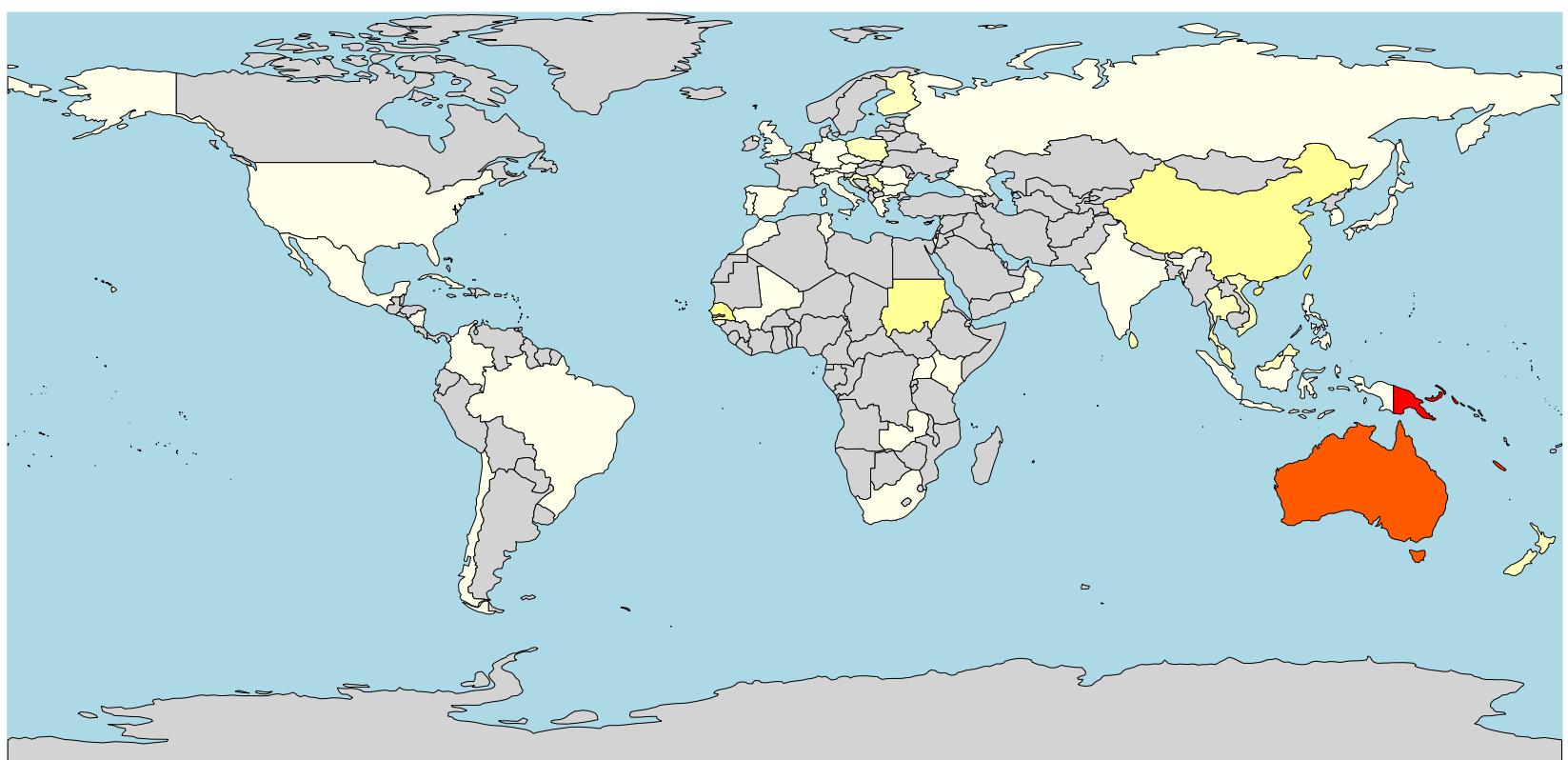
B*55:01
(~1.5% globally)



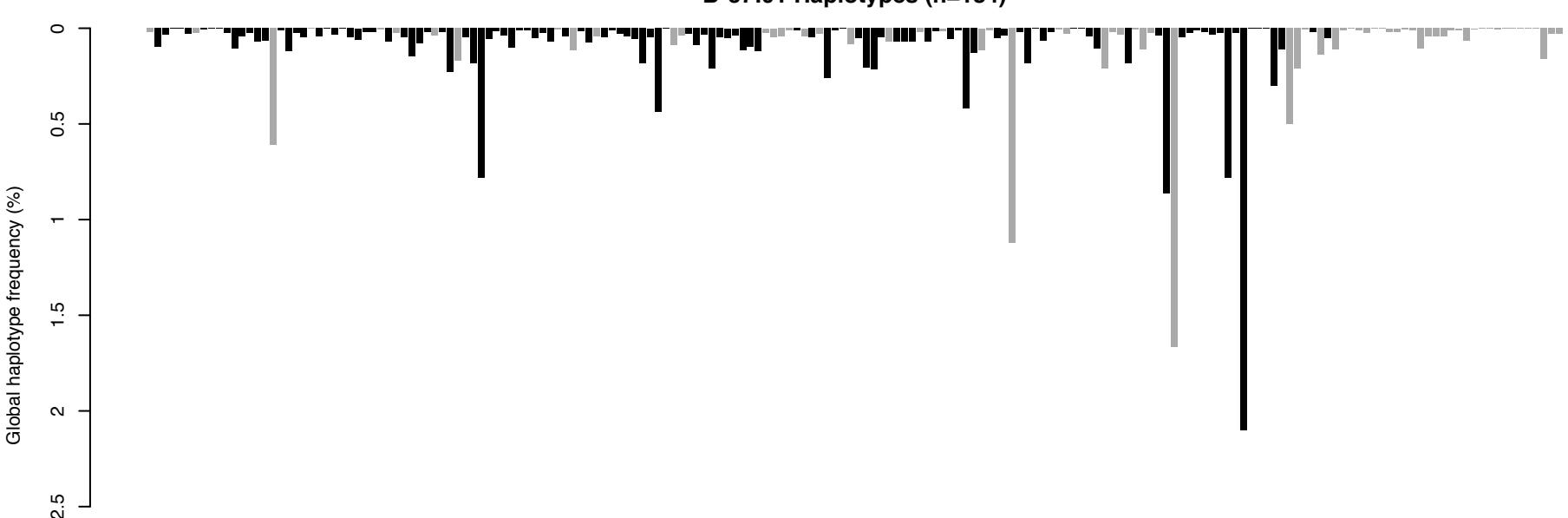
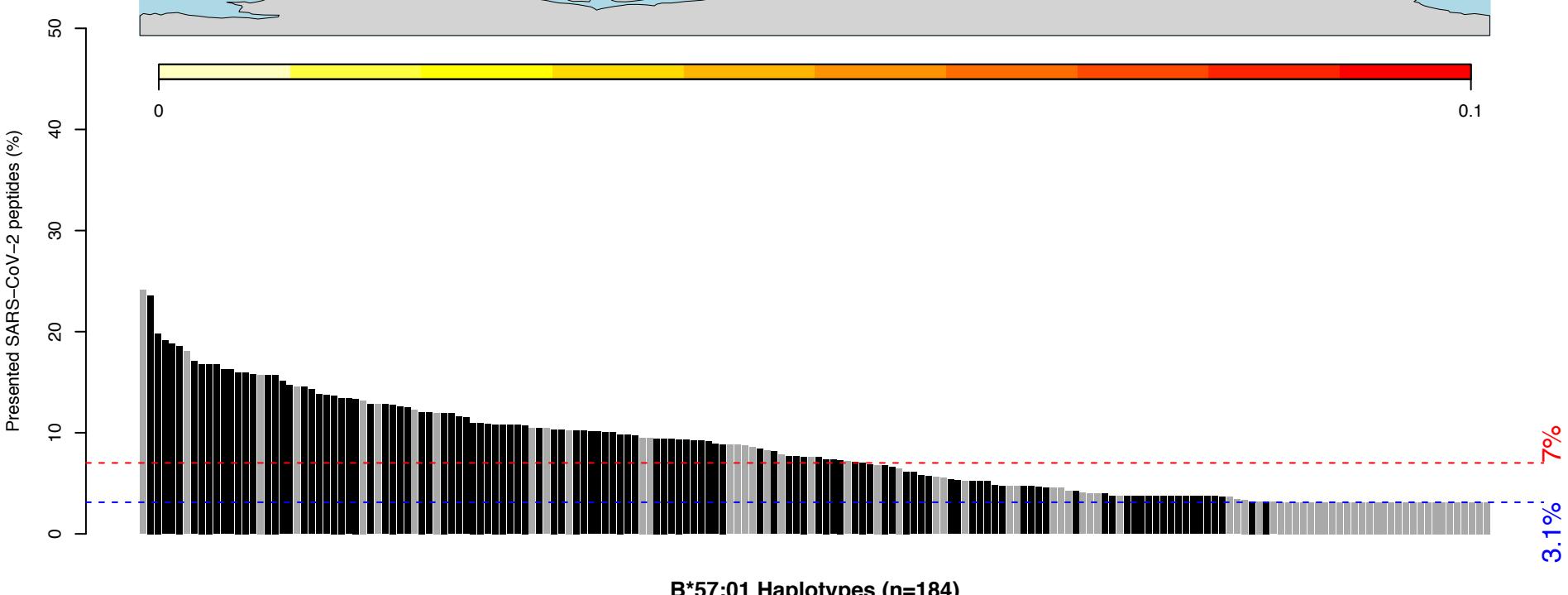
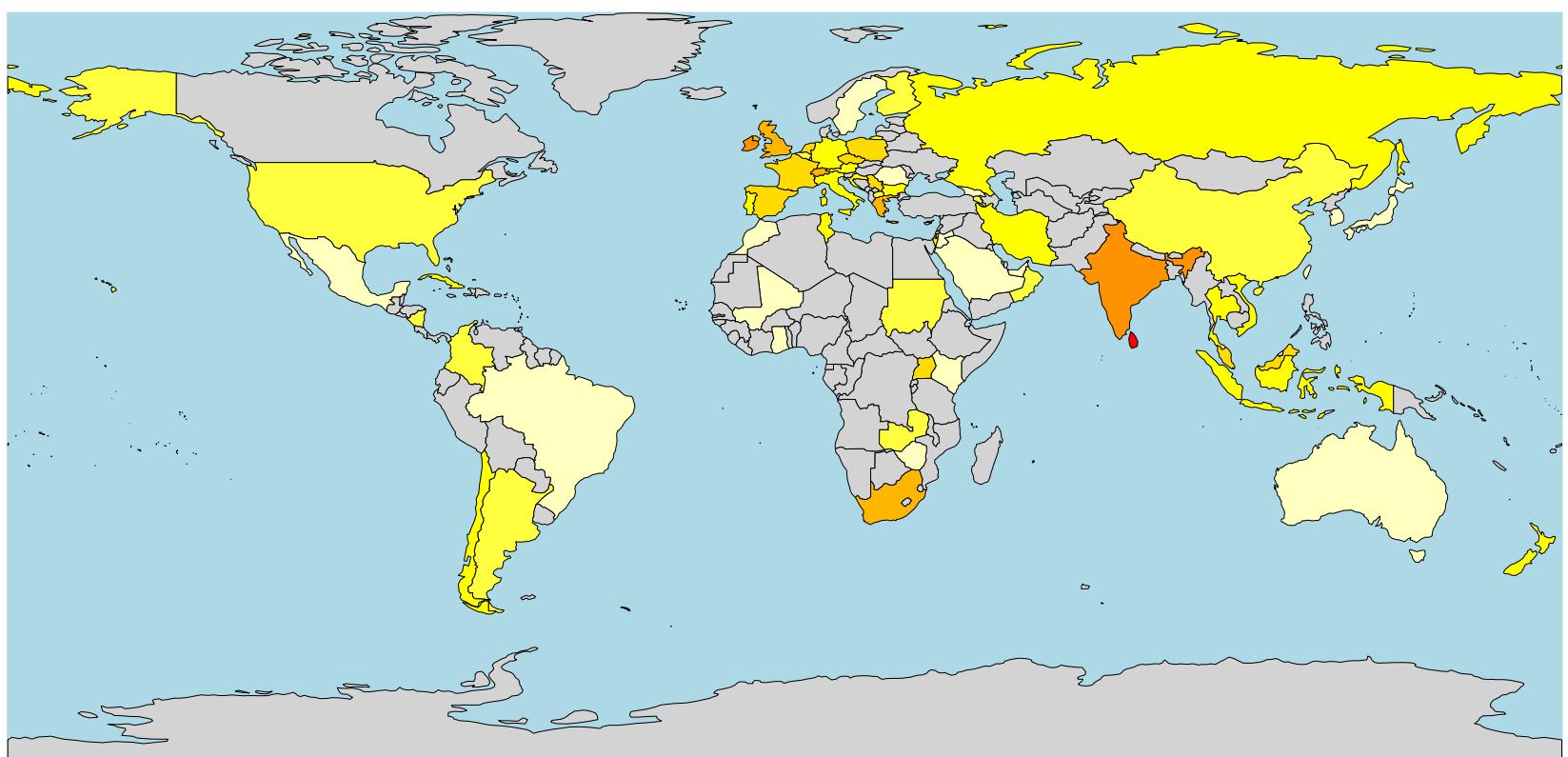
B*55:02
(~1.2% globally)



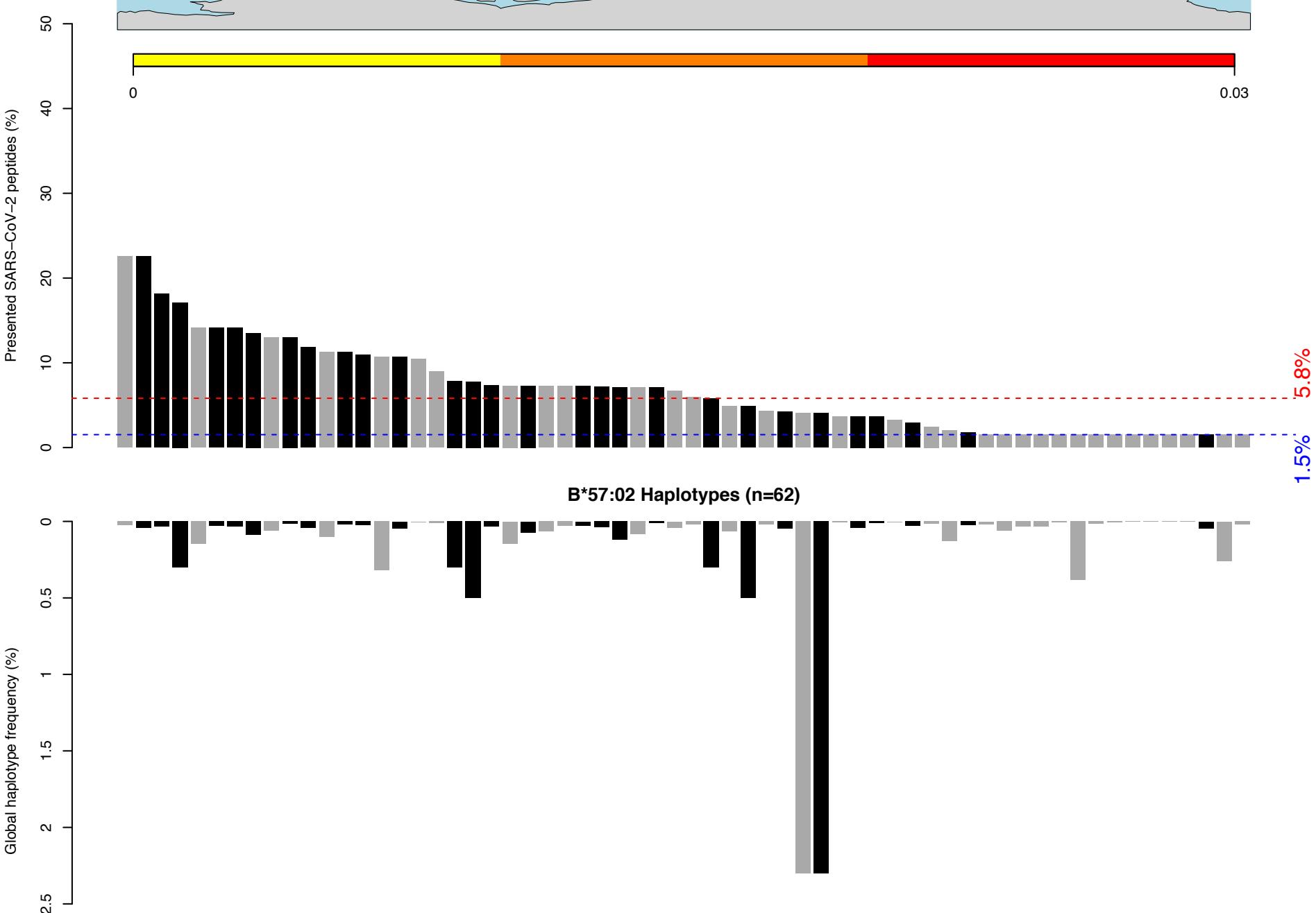
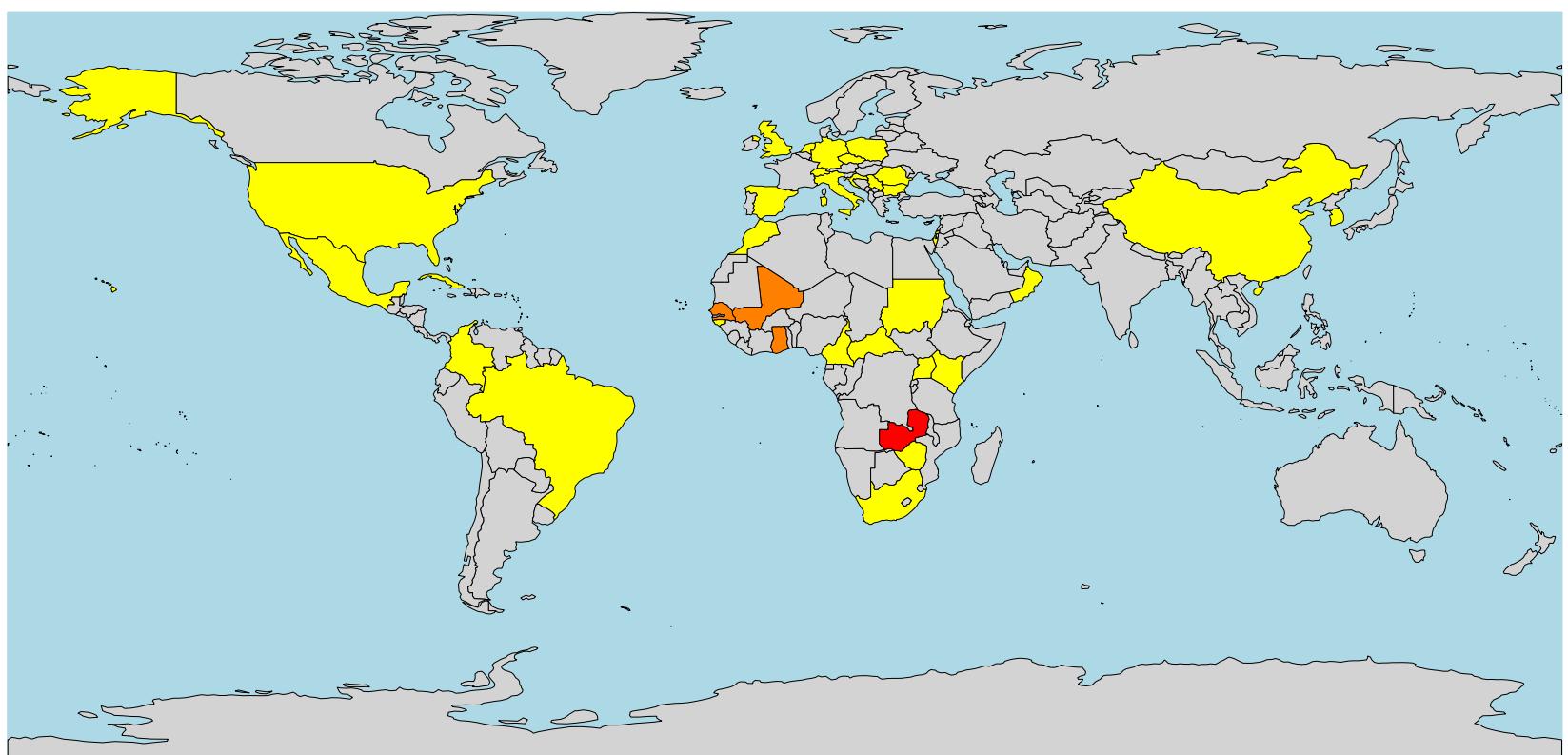
B*56:01
(~1.2% globally)



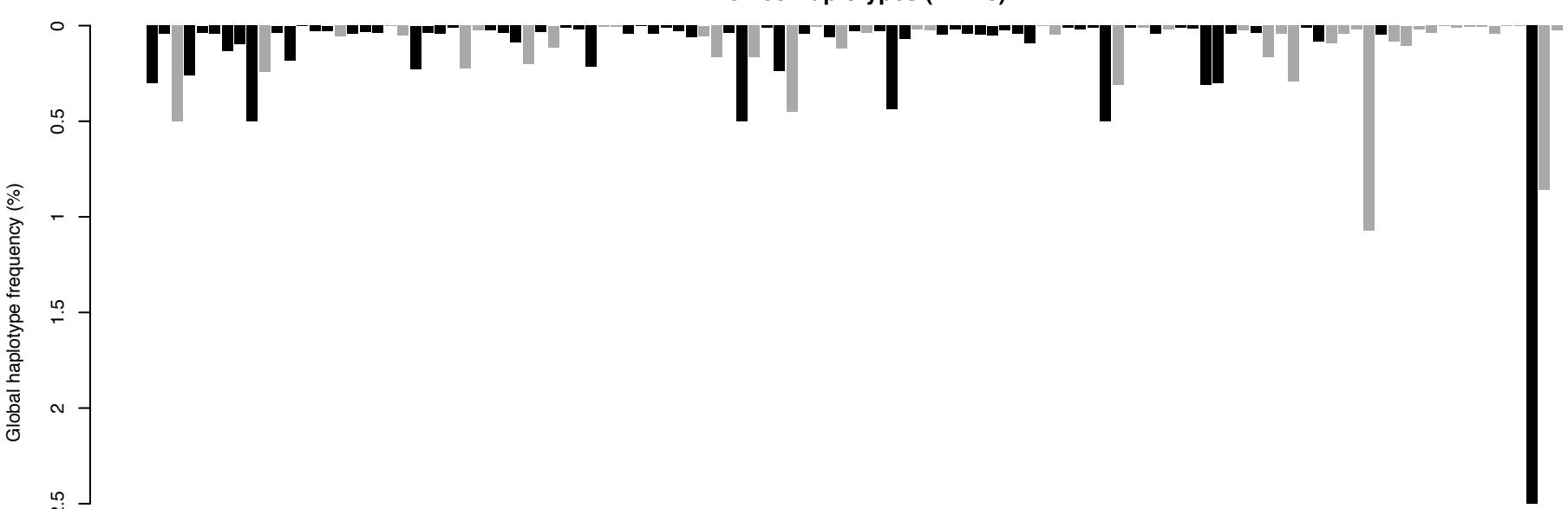
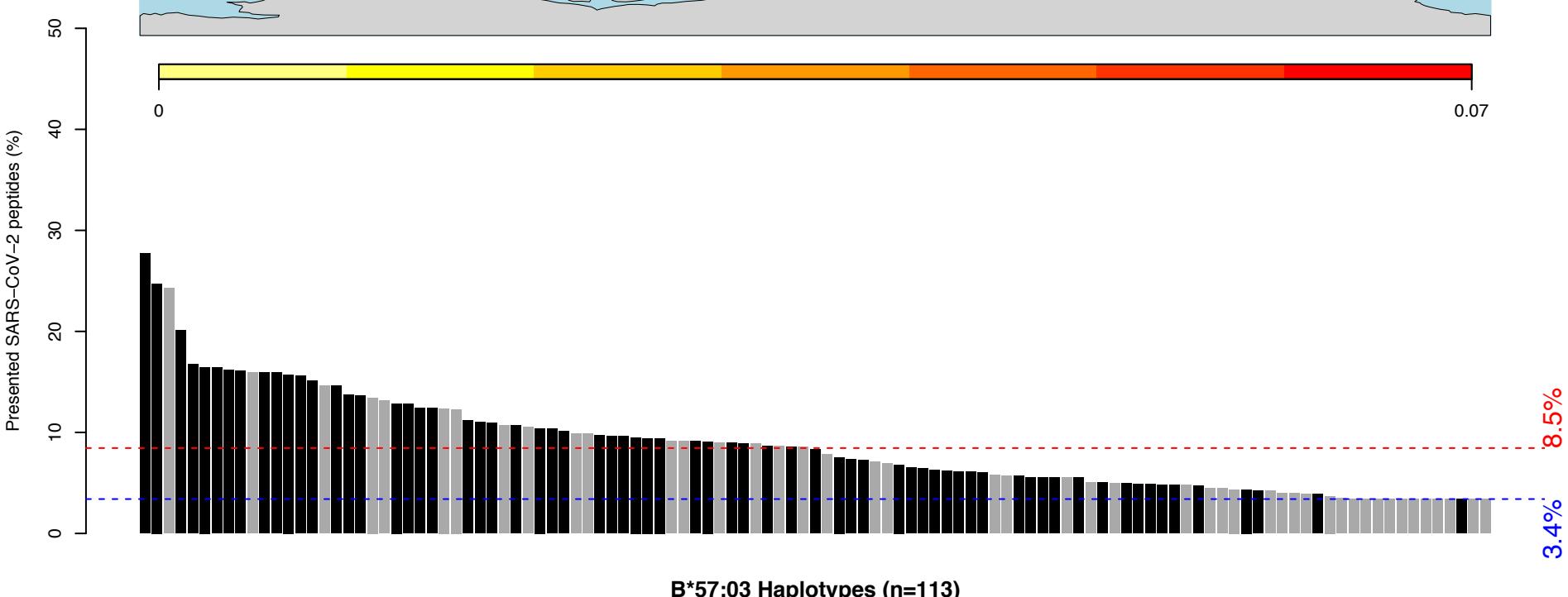
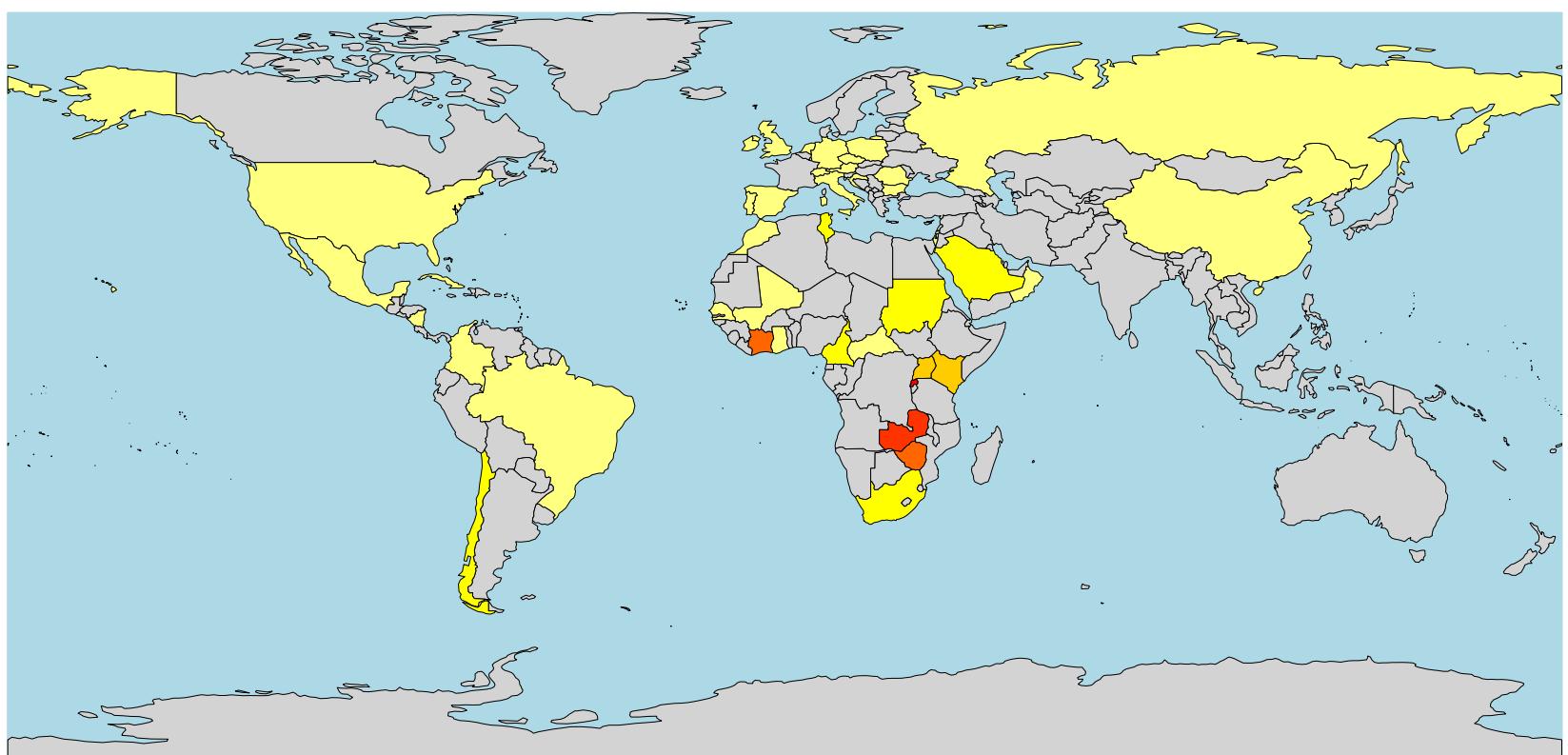
B*57:01
(~2.3% globally)



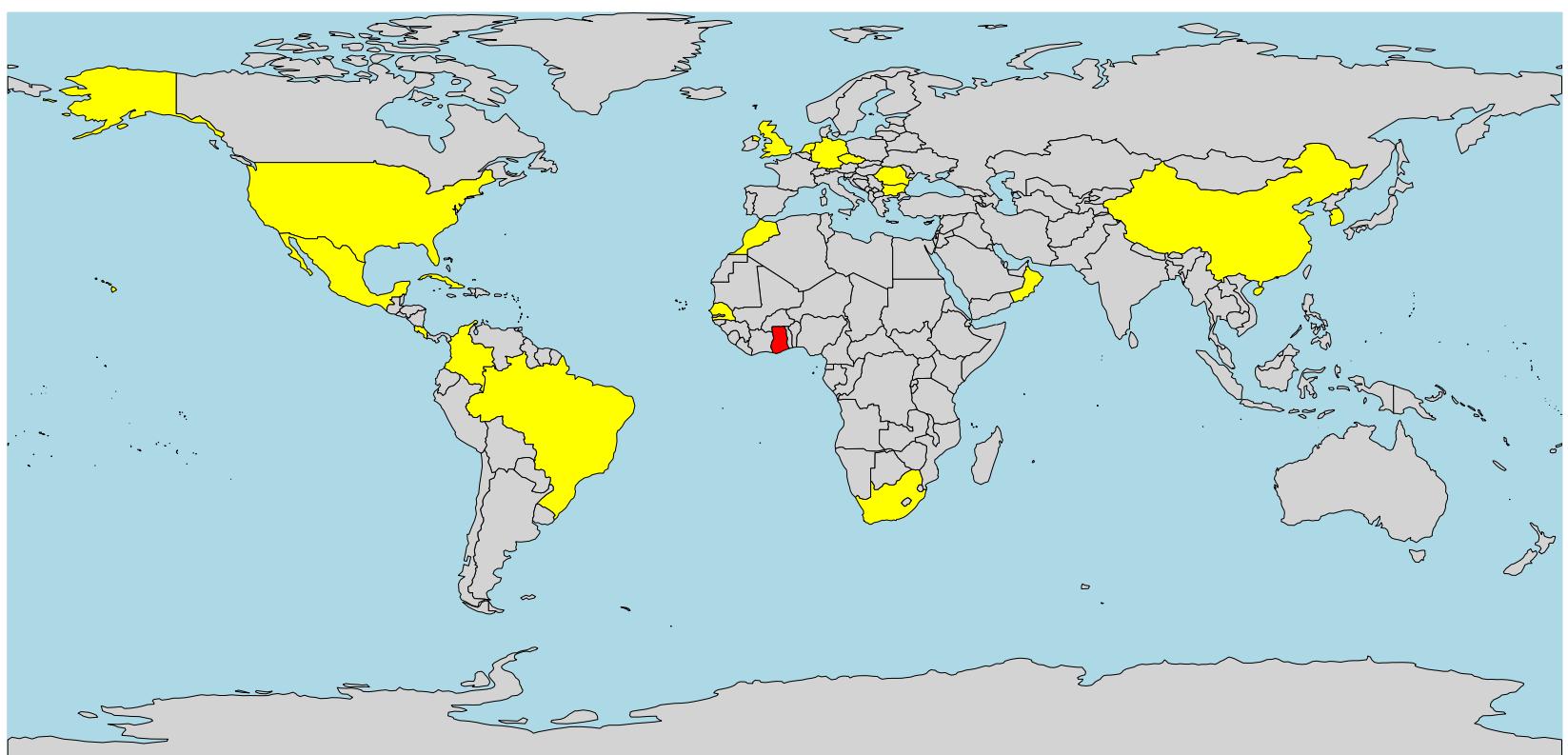
B*57:02
(~0.18% globally)



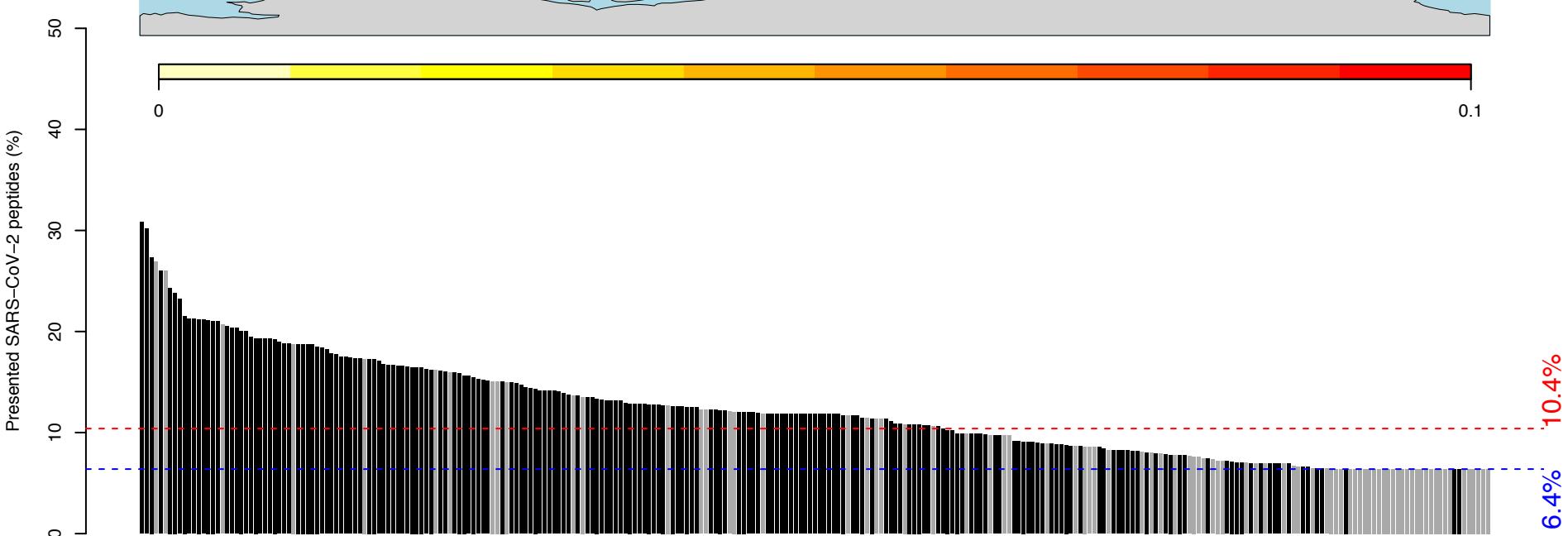
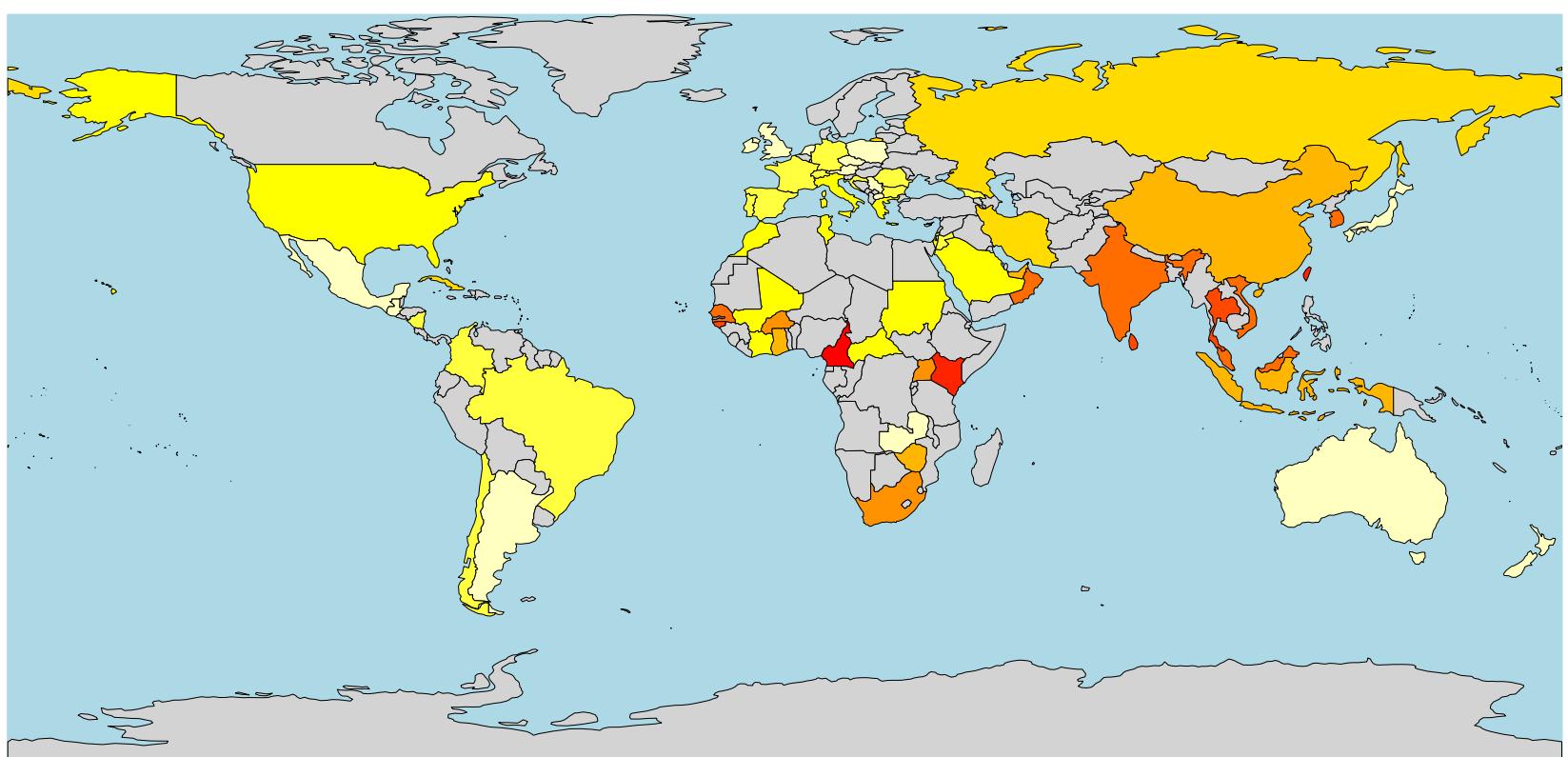
B*57:03
(~0.33% globally)



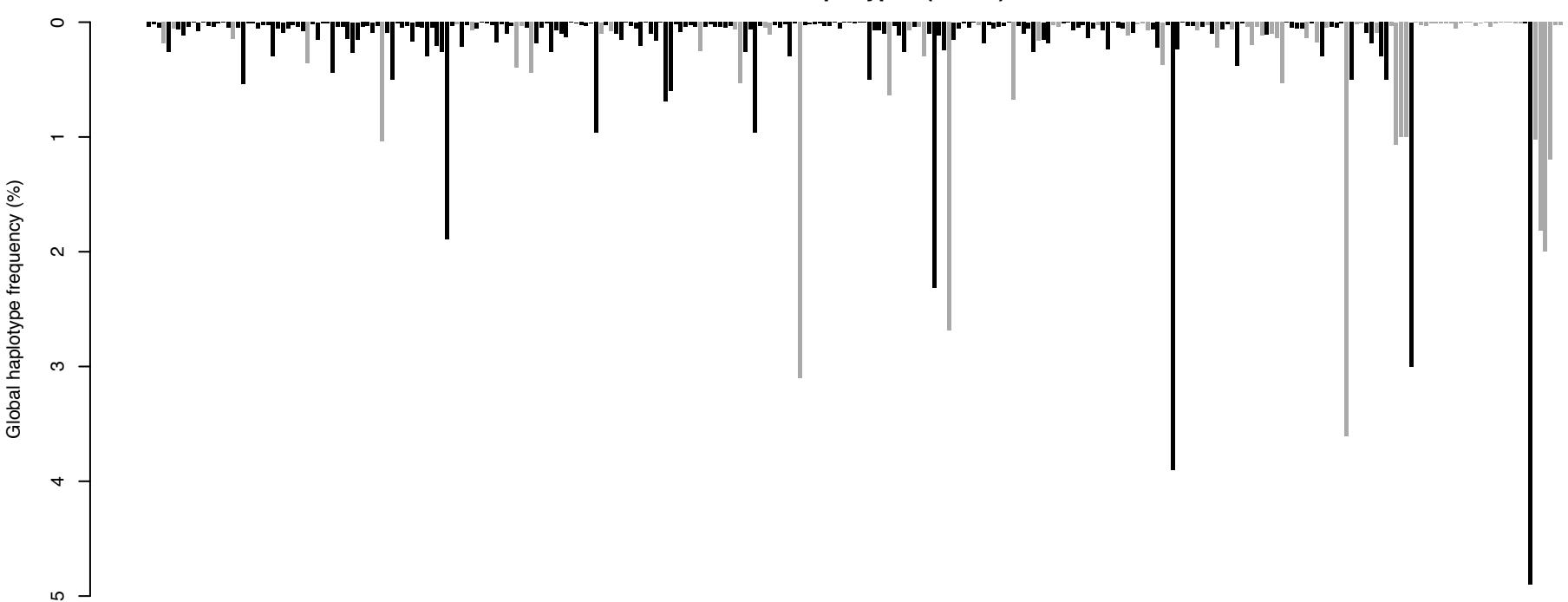
B*57:04
(~0.031% globally)



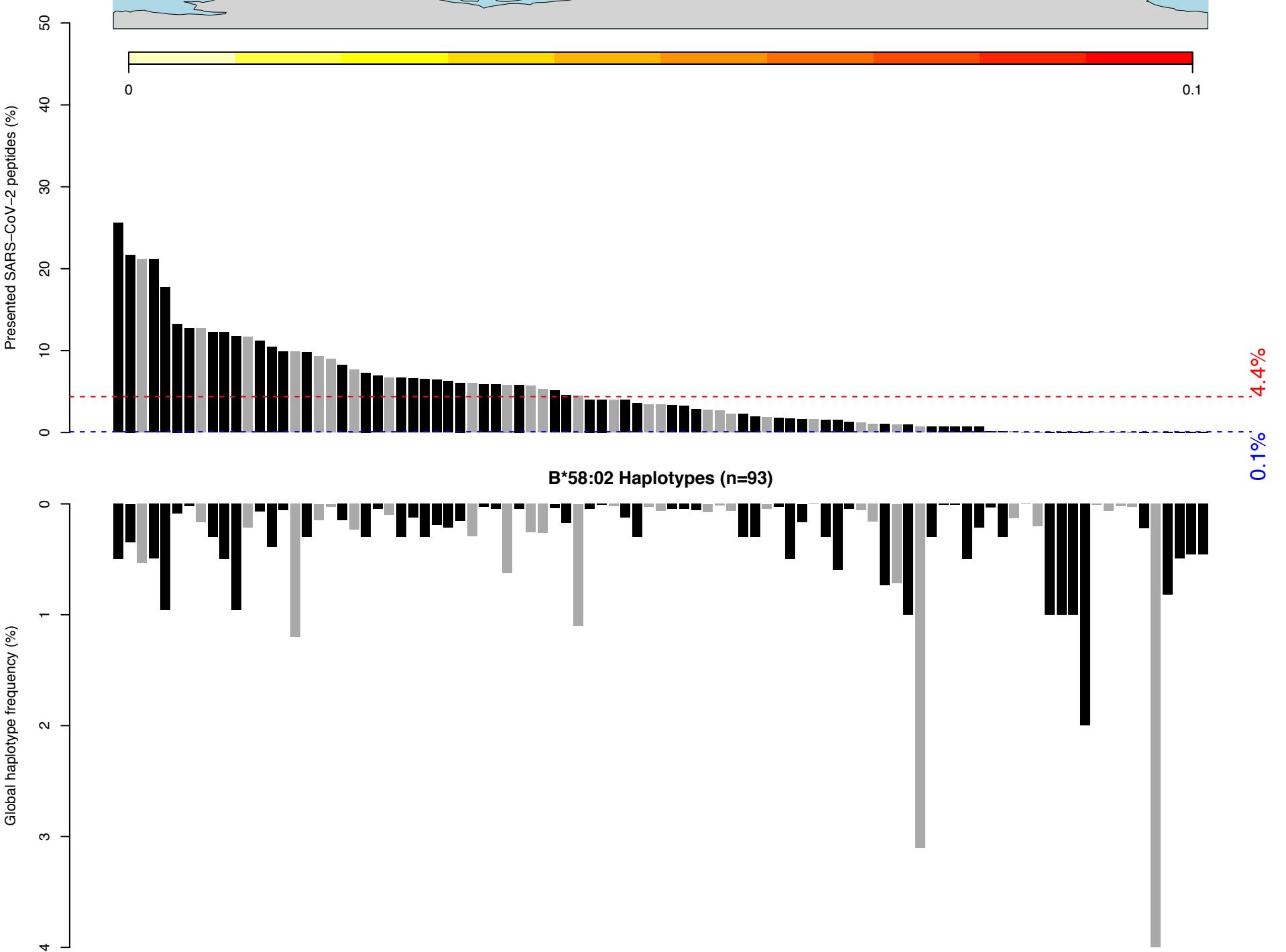
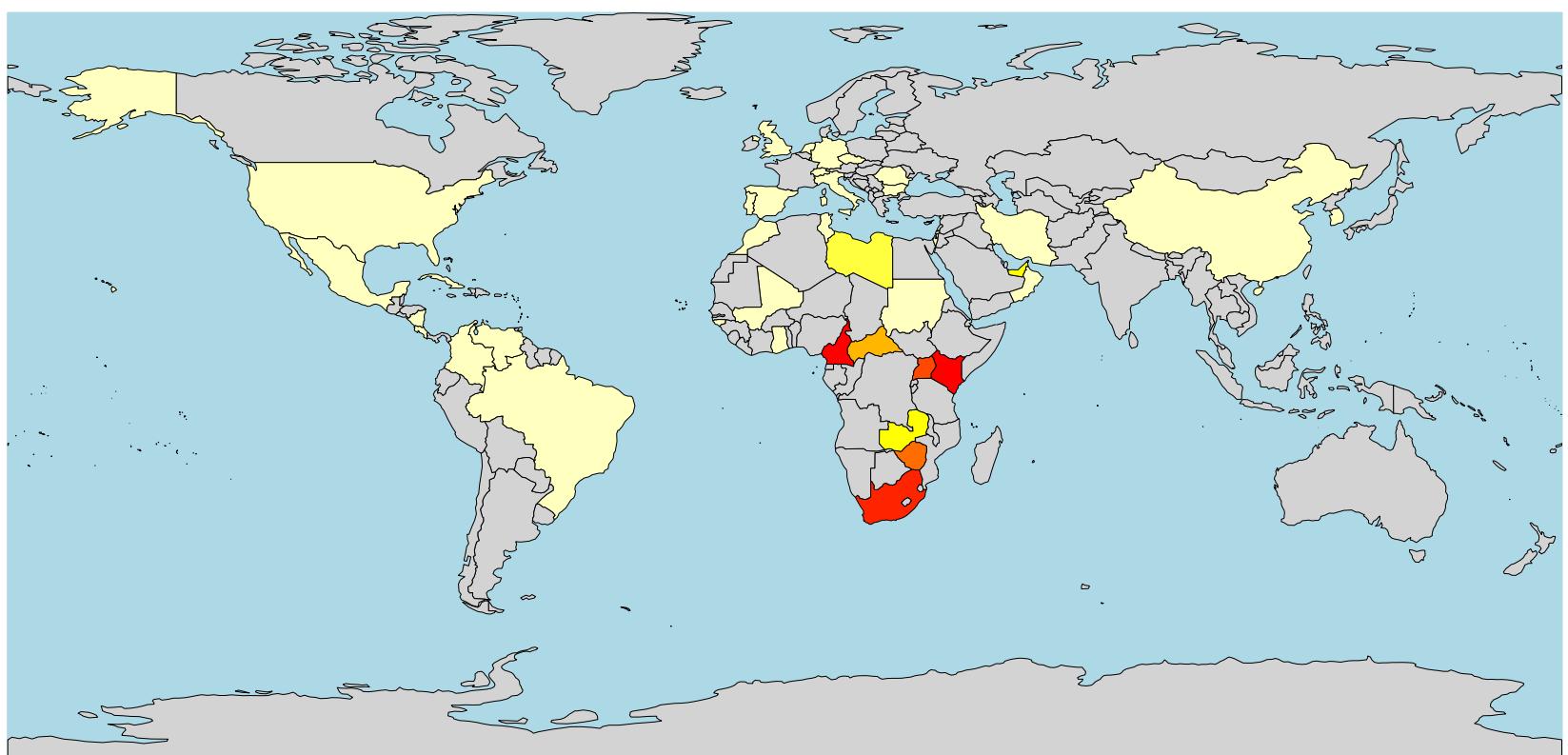
B*58:01
(~4.1% globally)



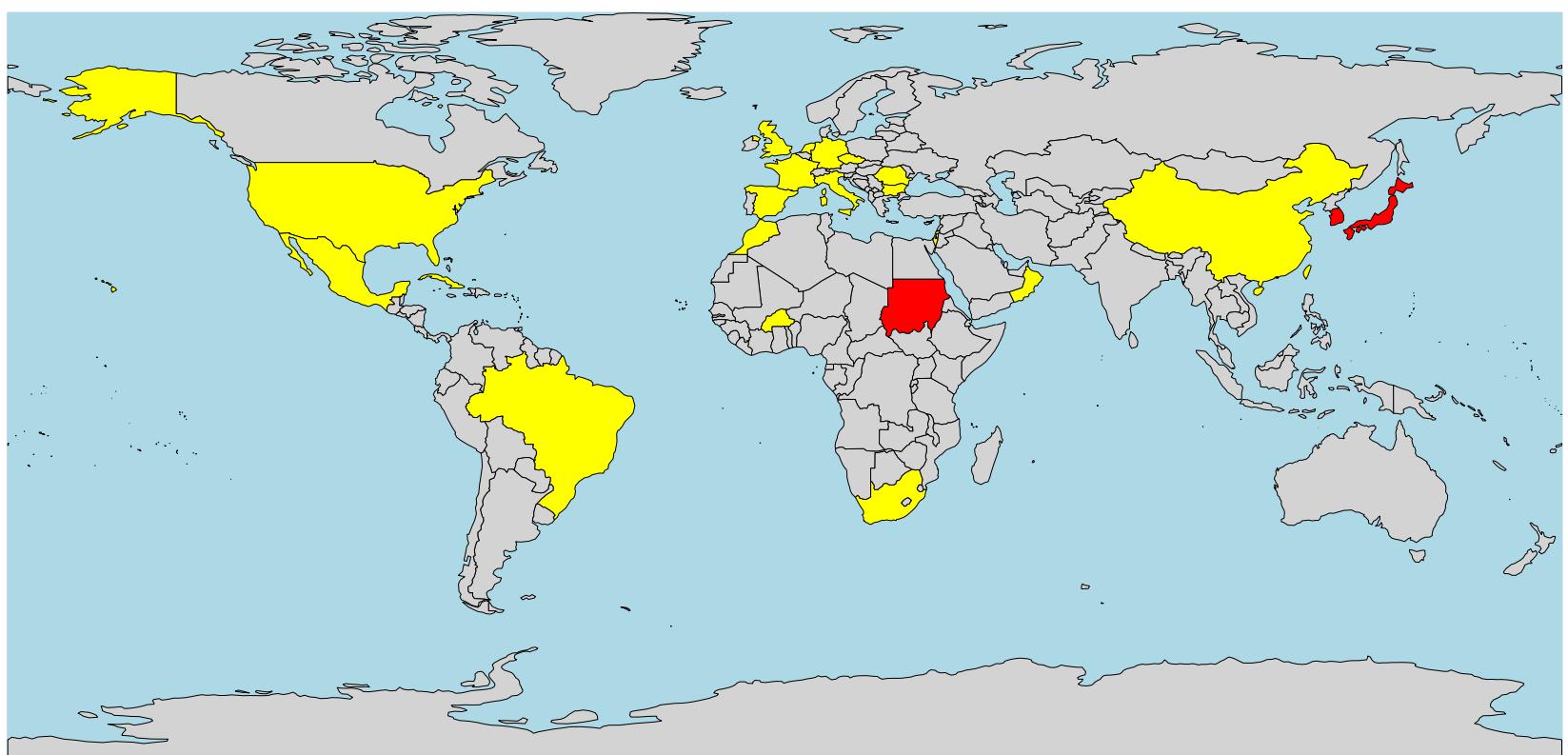
B*58:01 Haplotypes (n=285)



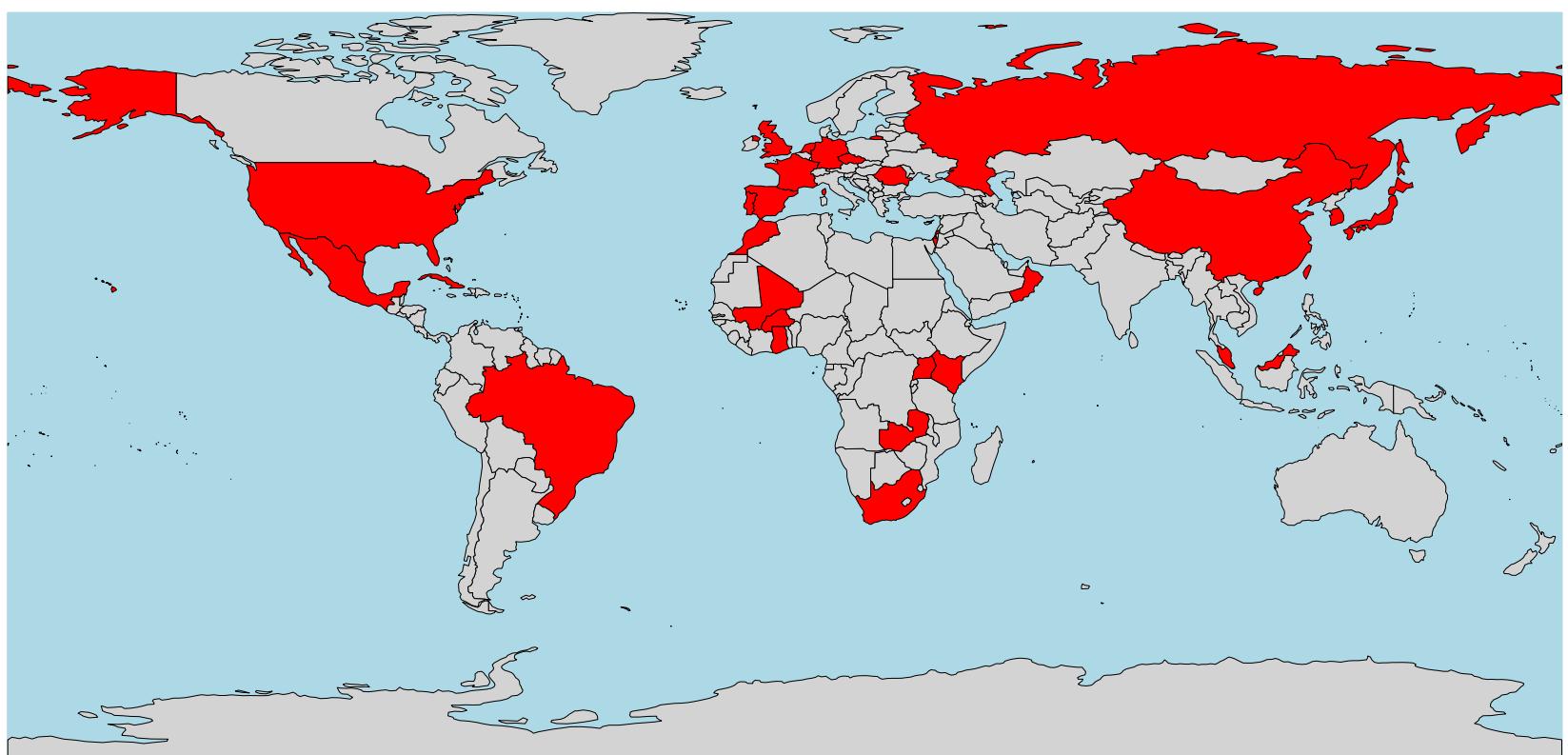
B*58:02
(~0.91% globally)



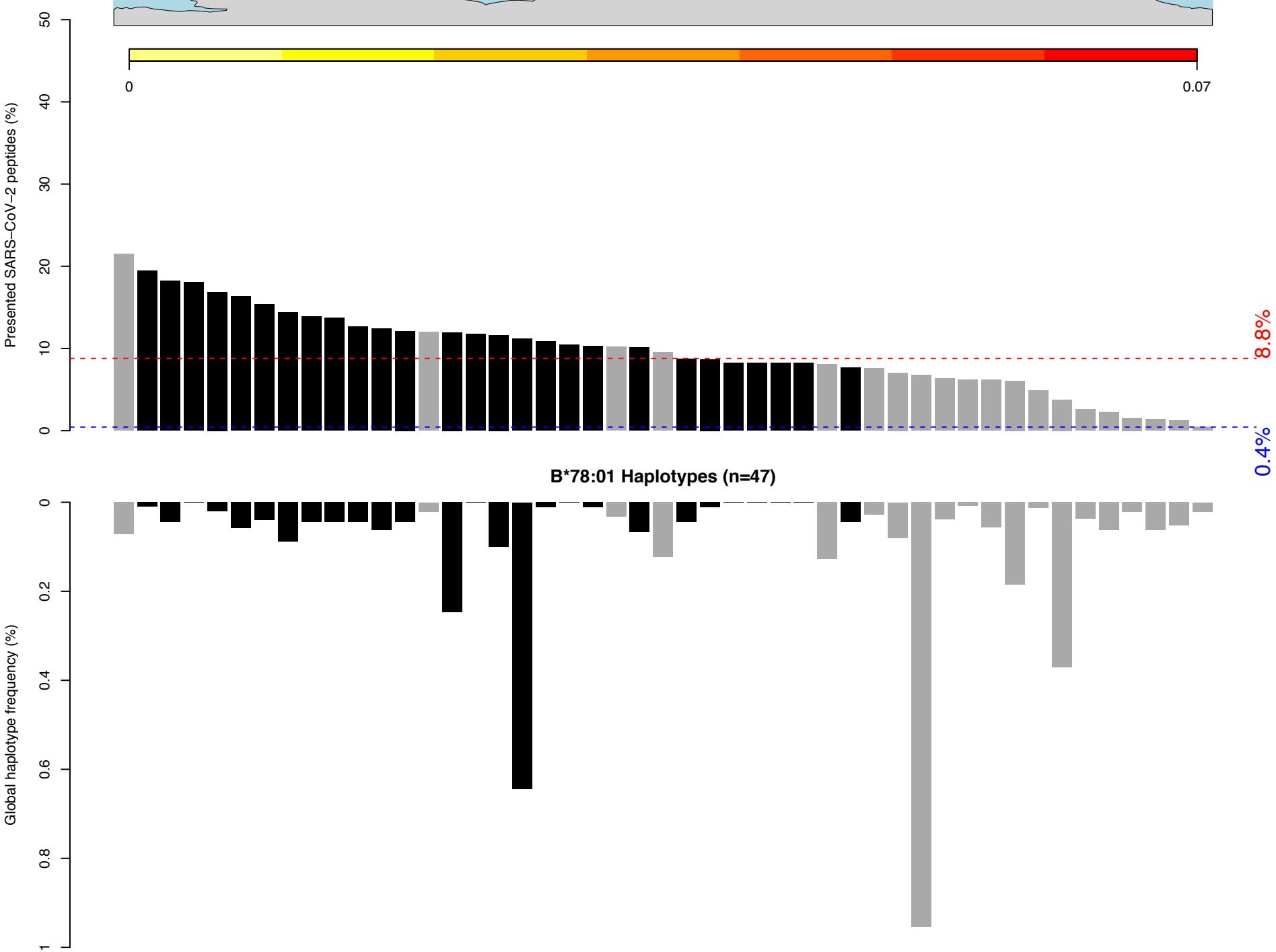
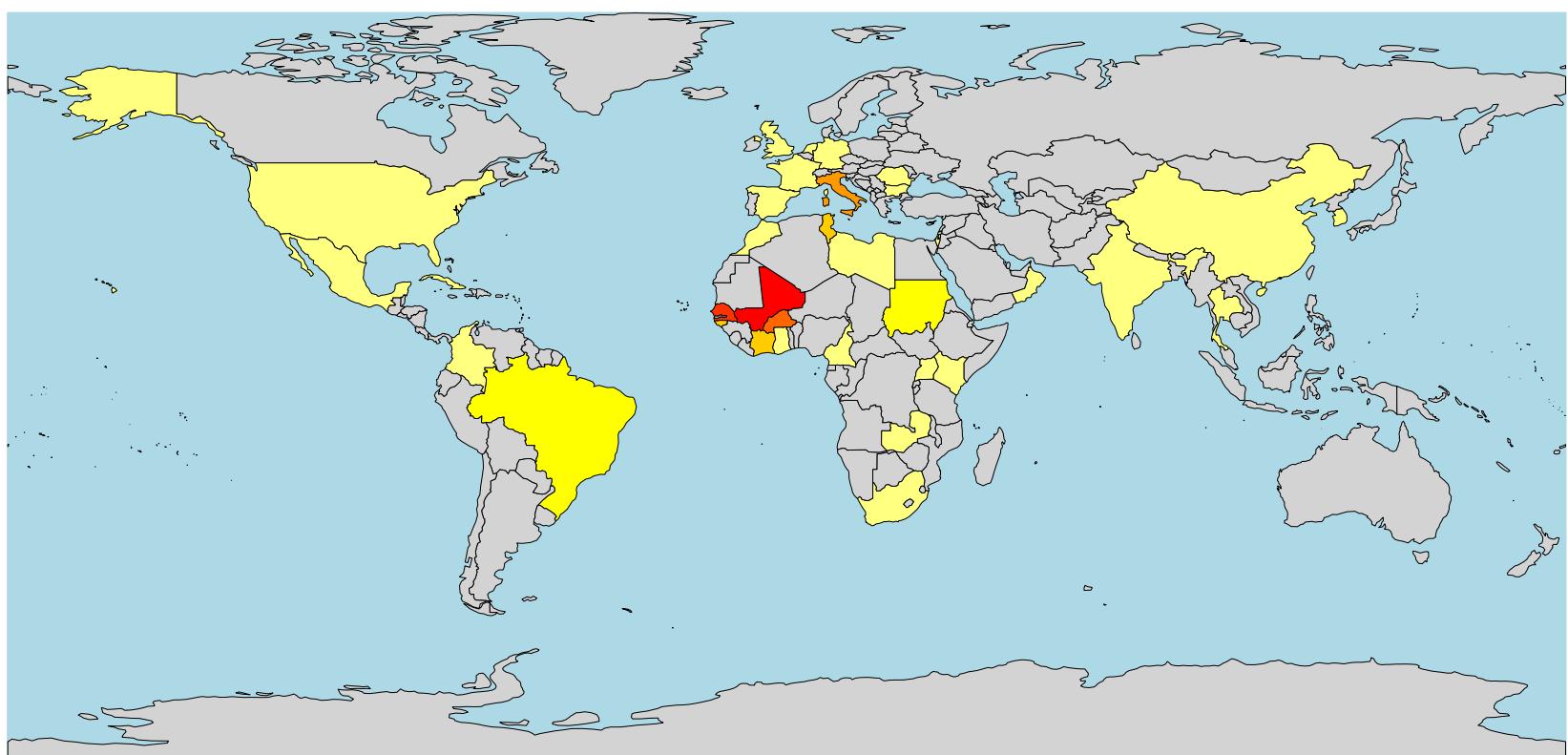
B*59:01
(~0.25% globally)



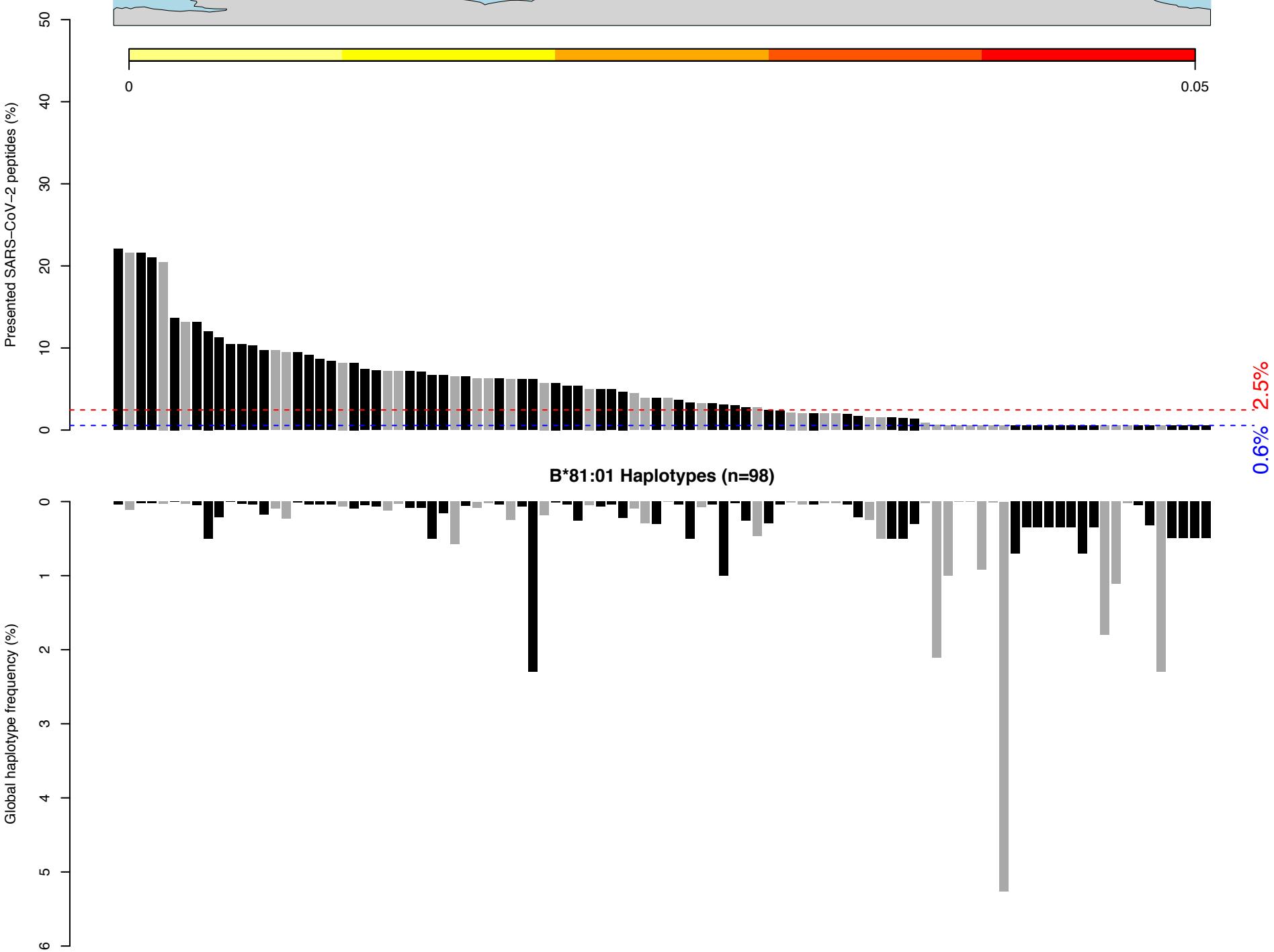
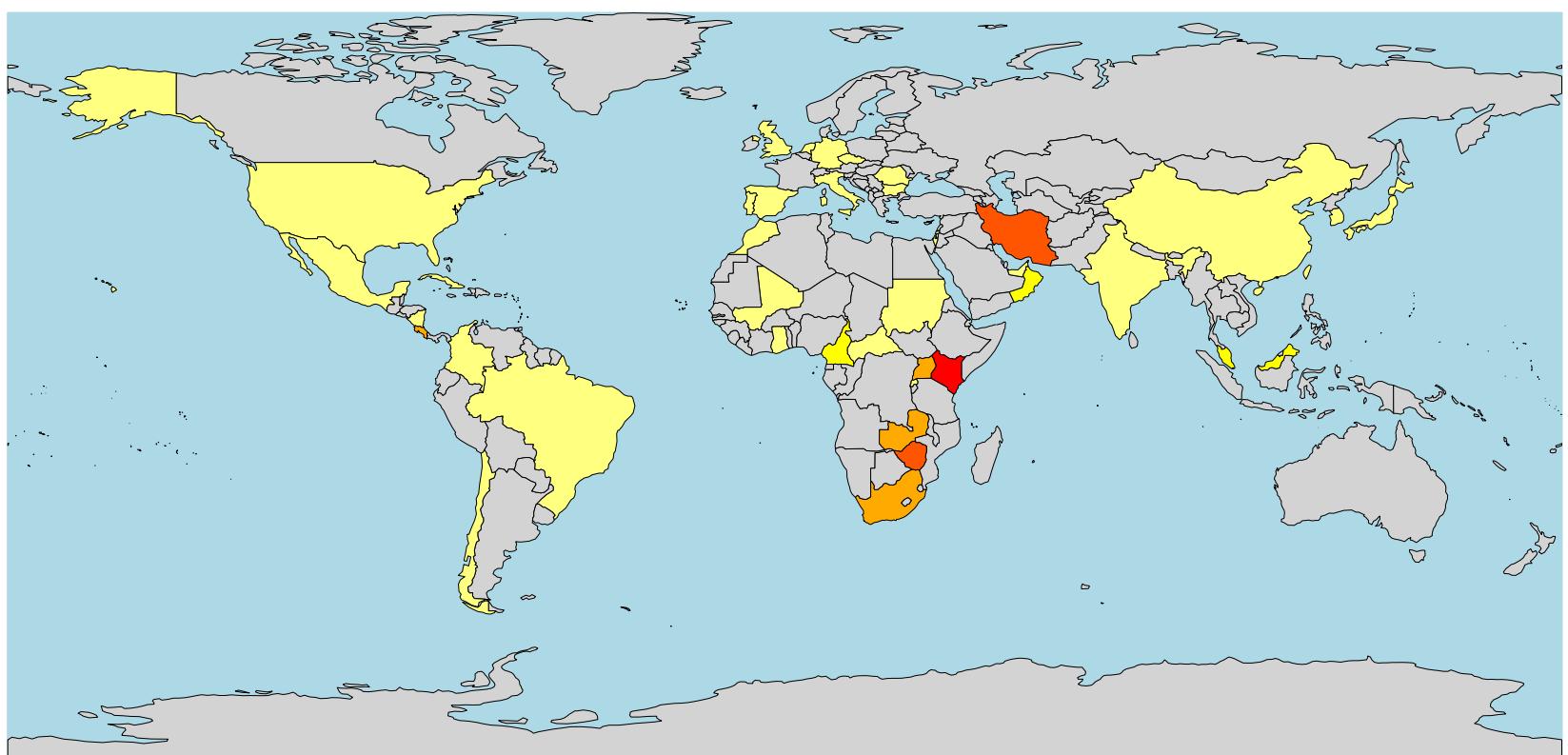
B*67:01
(~0.23% globally)



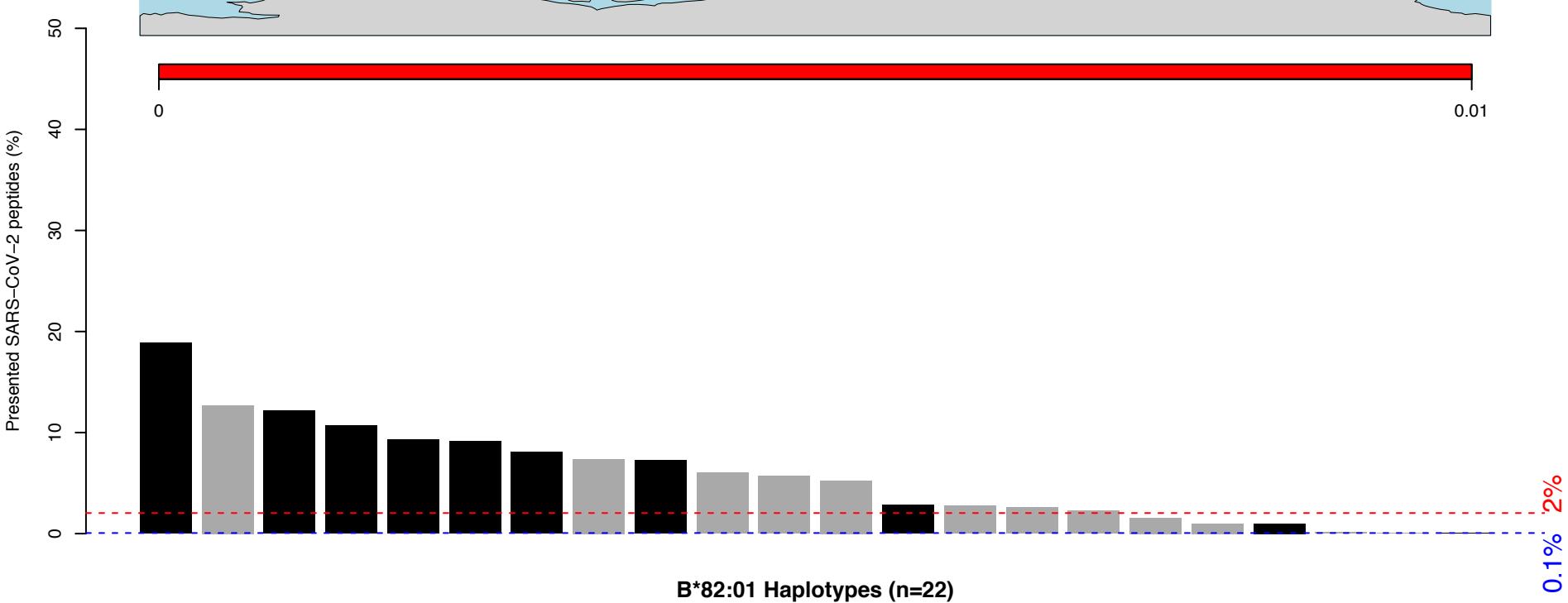
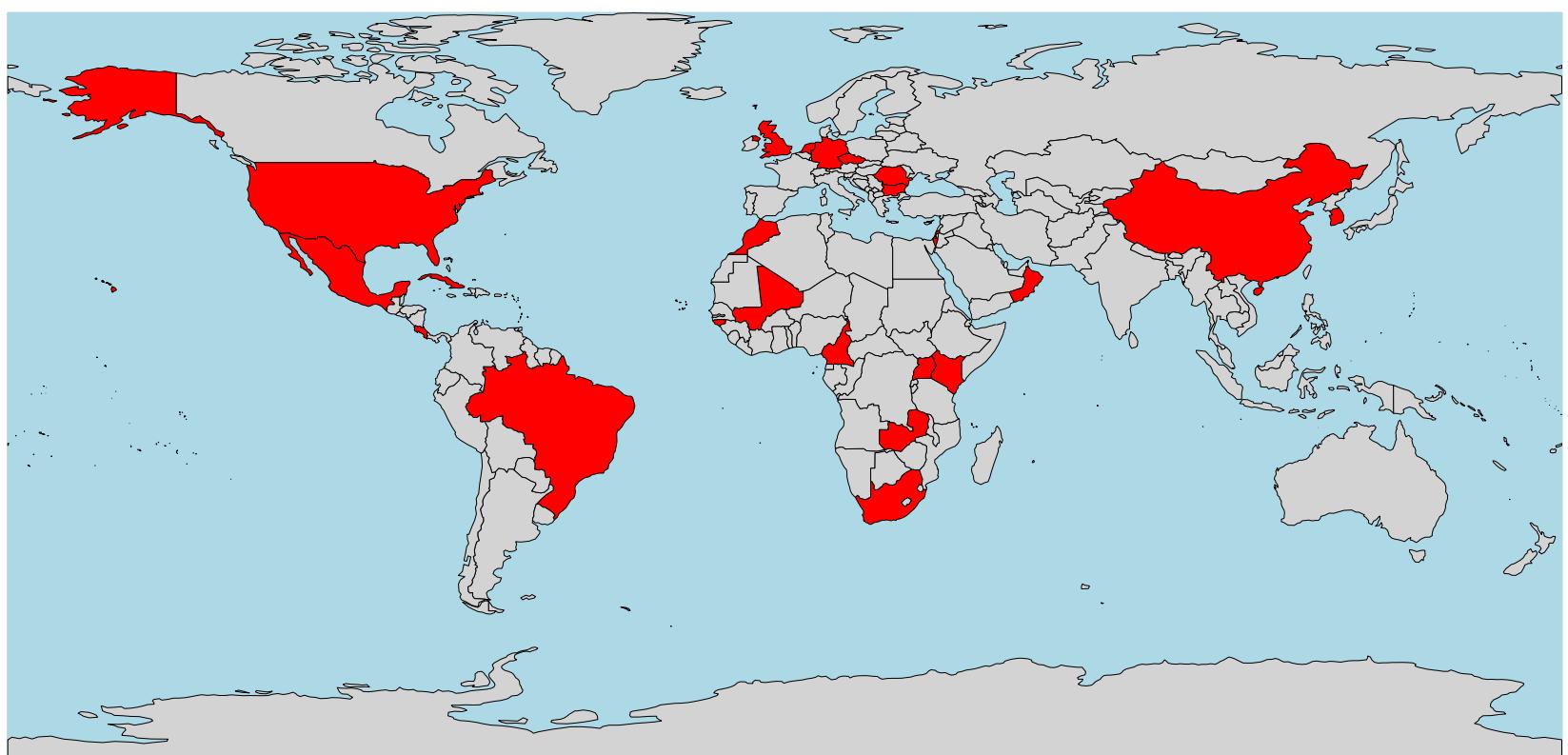
B*78:01
(~0.45% globally)



B*81:01
(~0.44% globally)

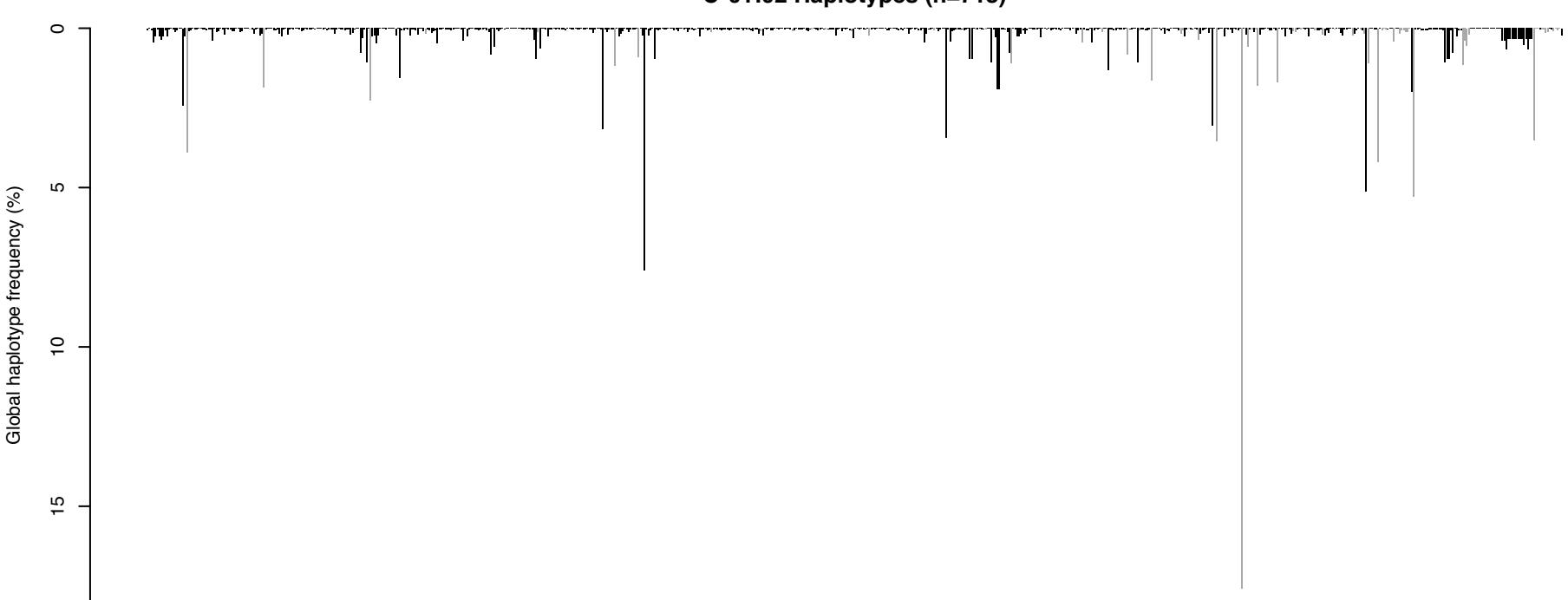
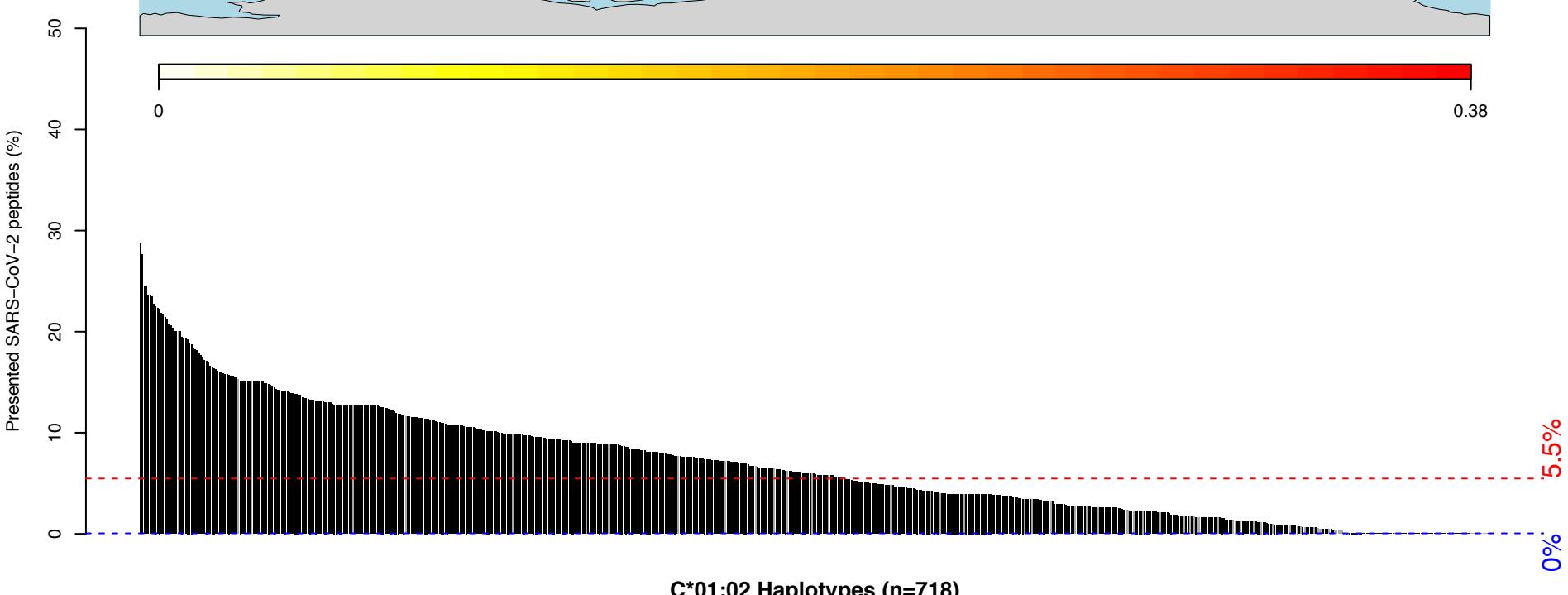
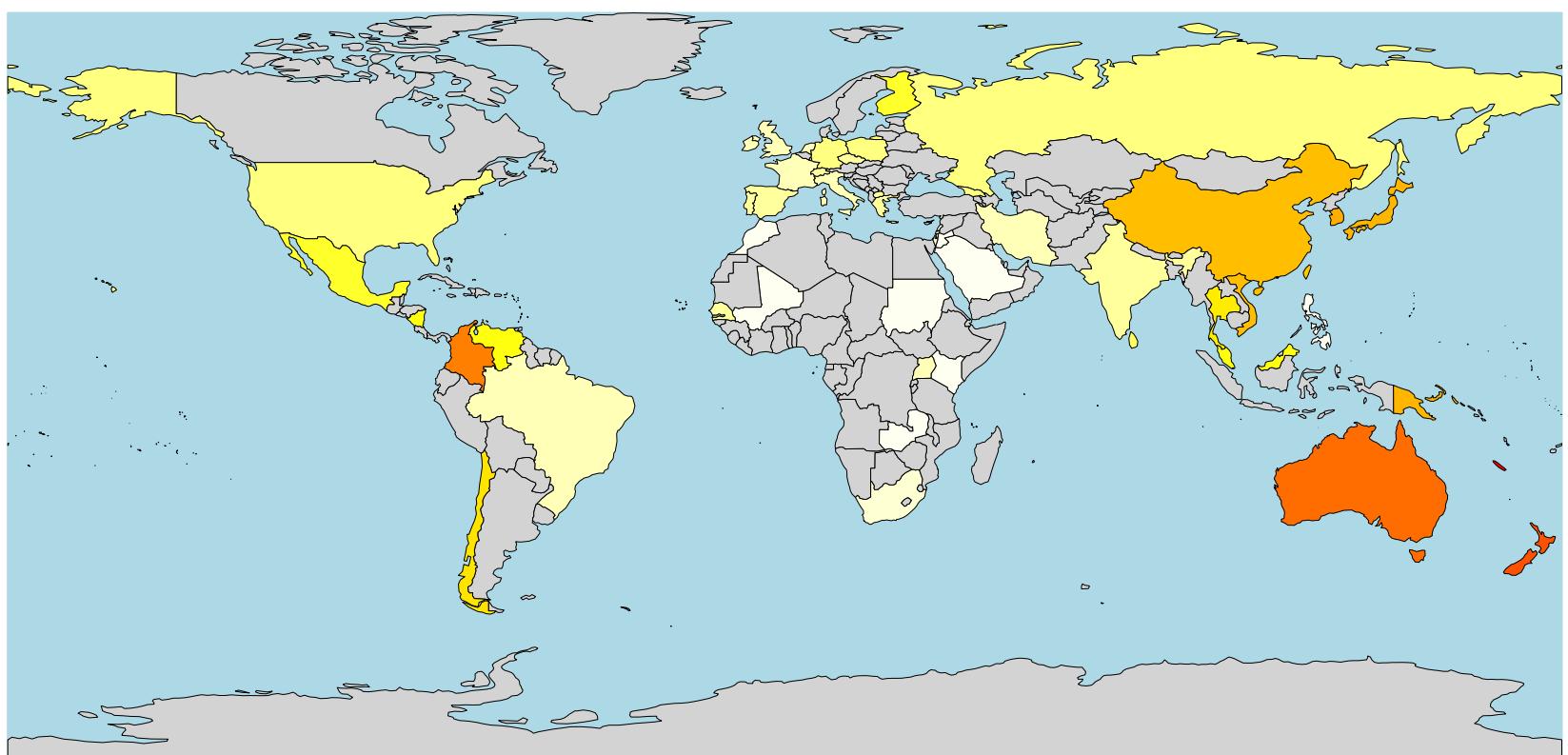


B*82:01
(~0.078% globally)

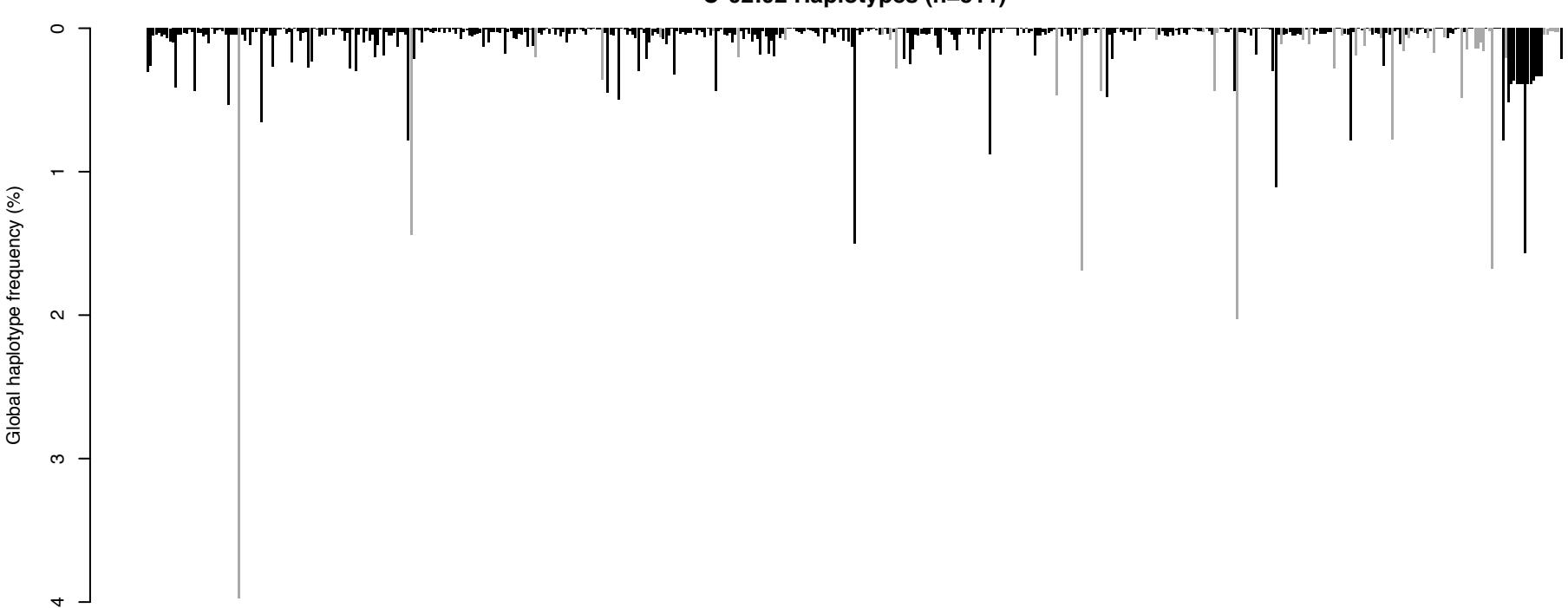
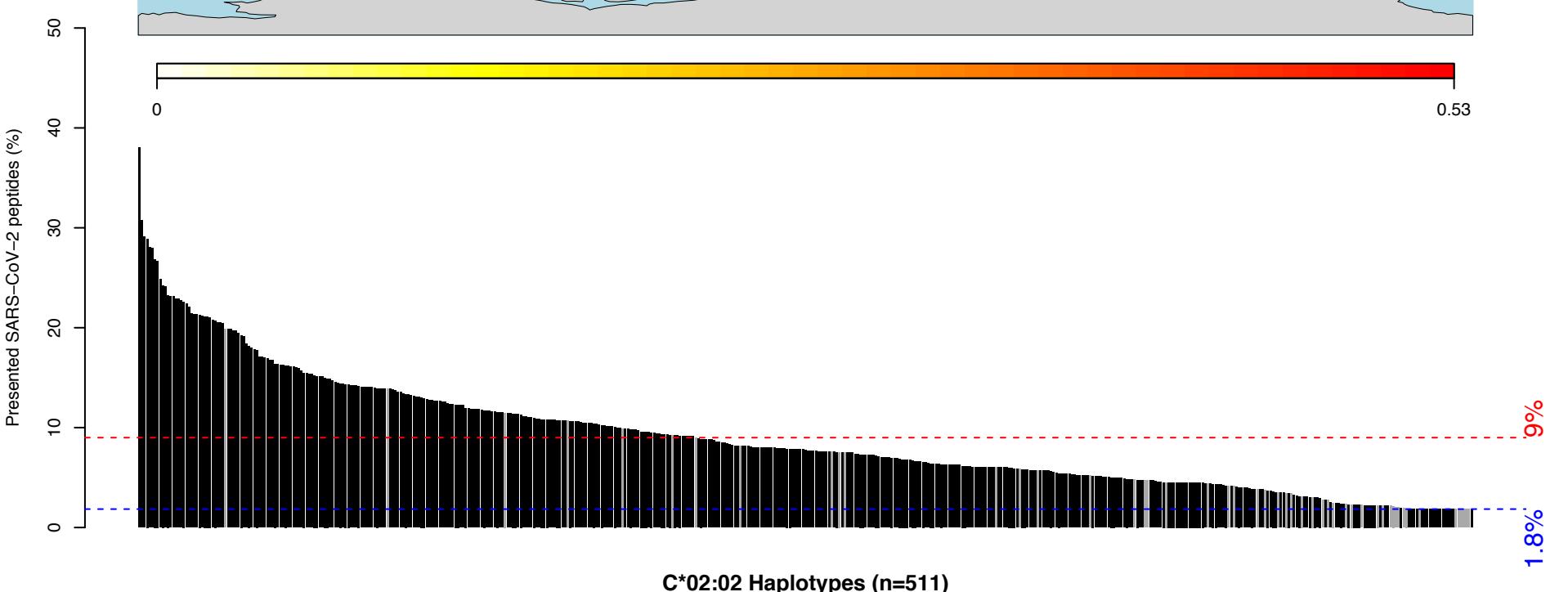
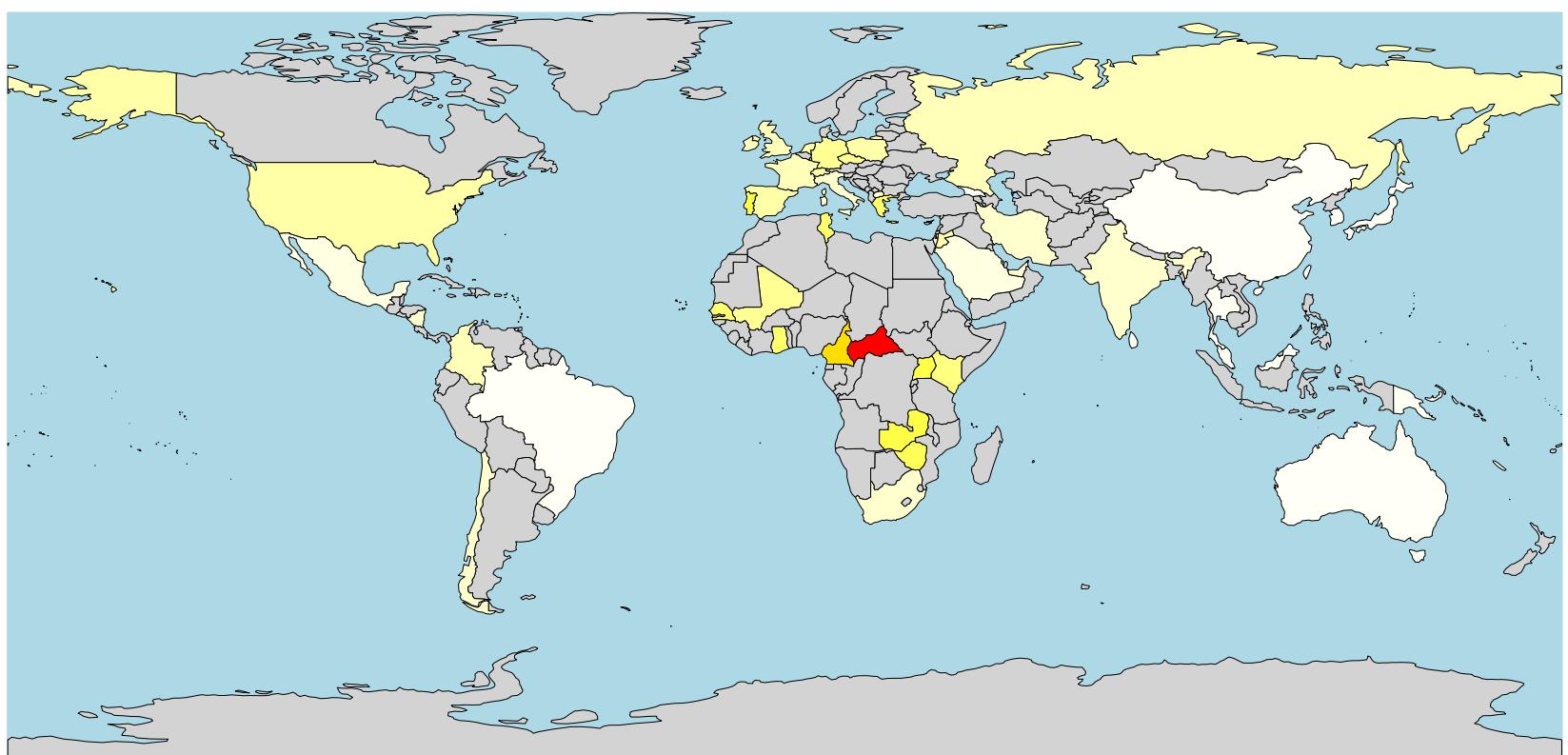


0.1%
2%

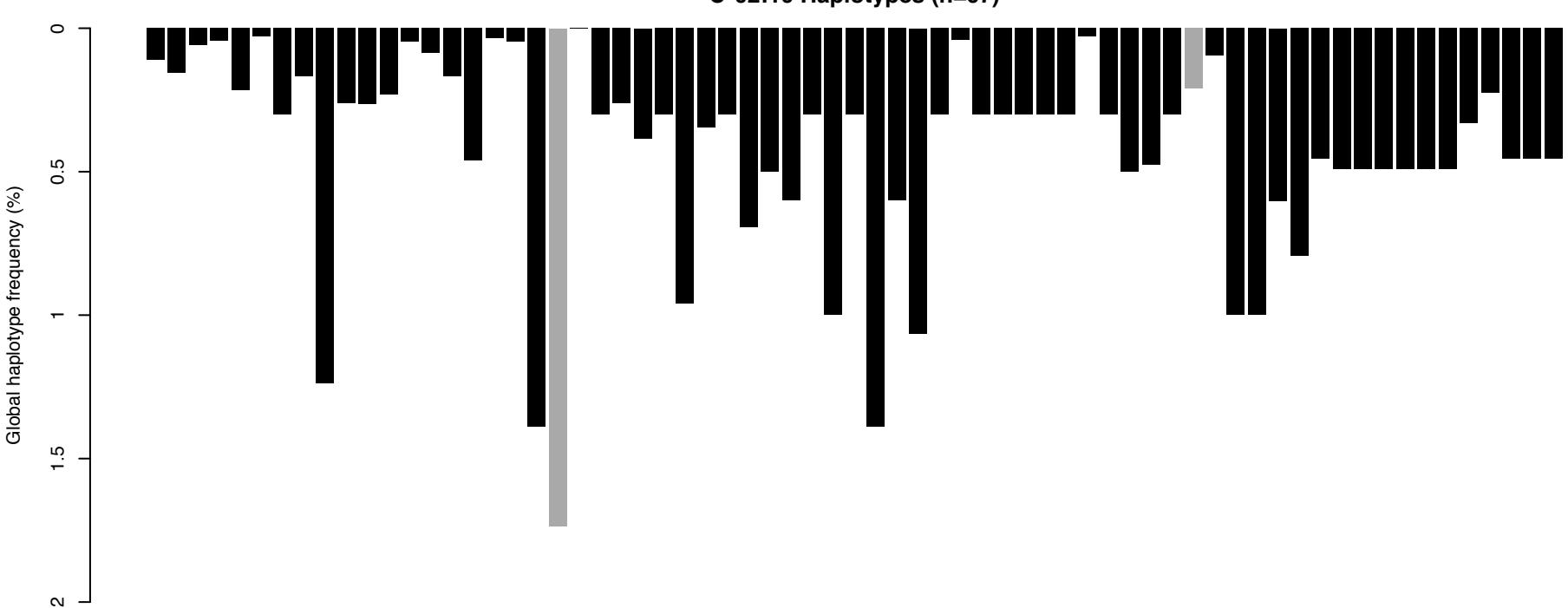
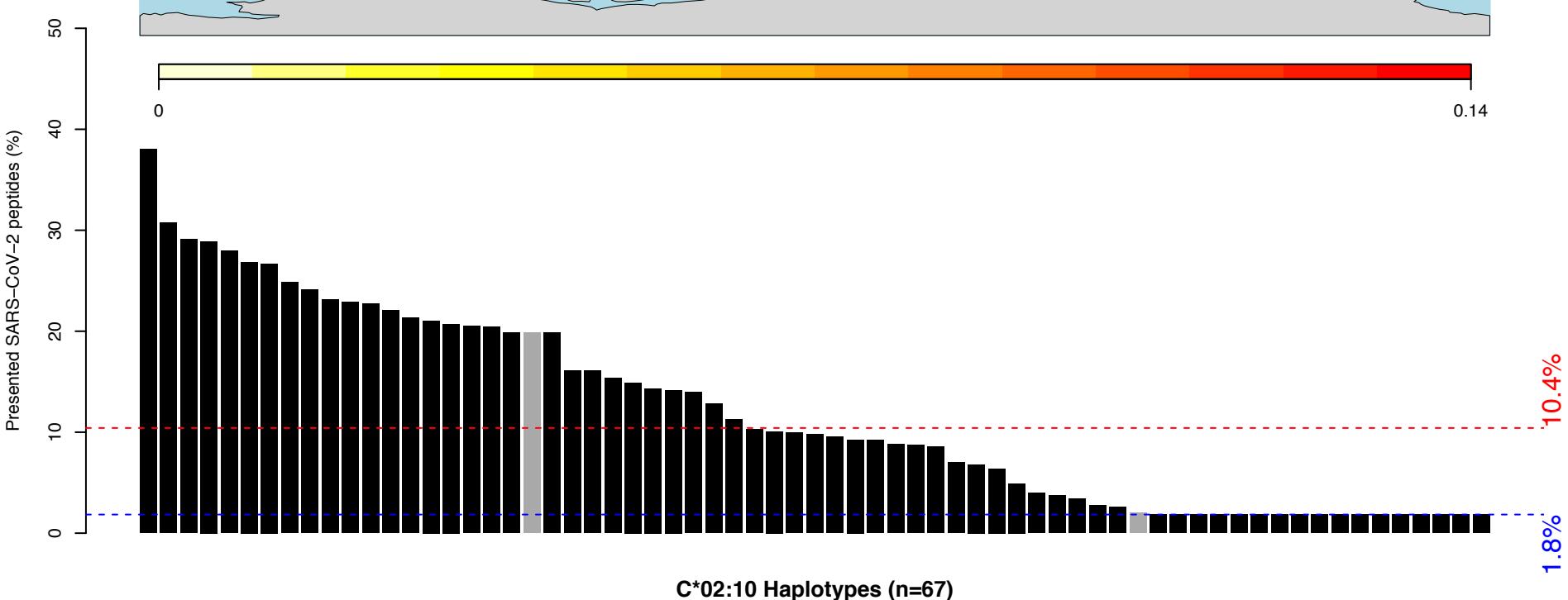
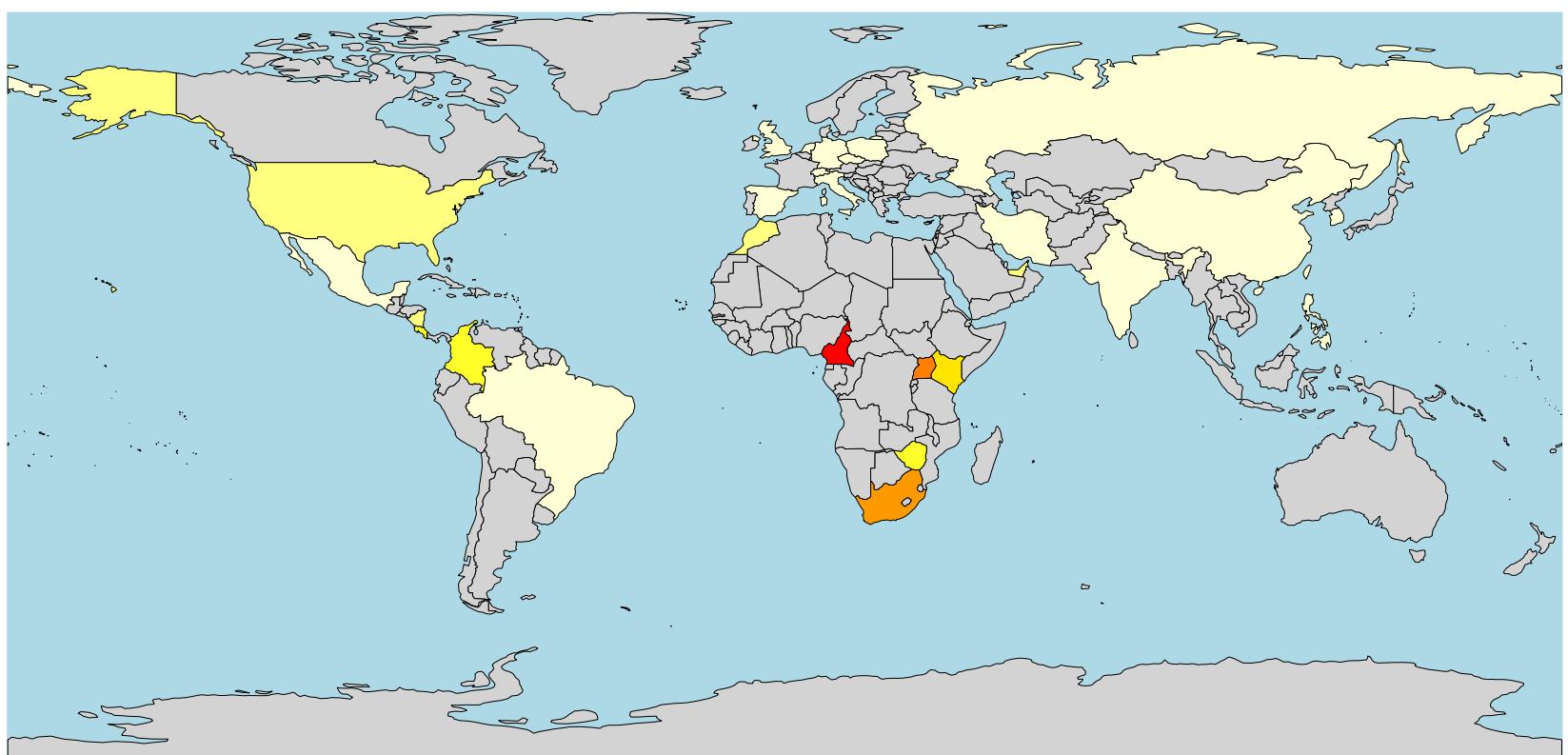
C*01:02
(~7.8% globally)



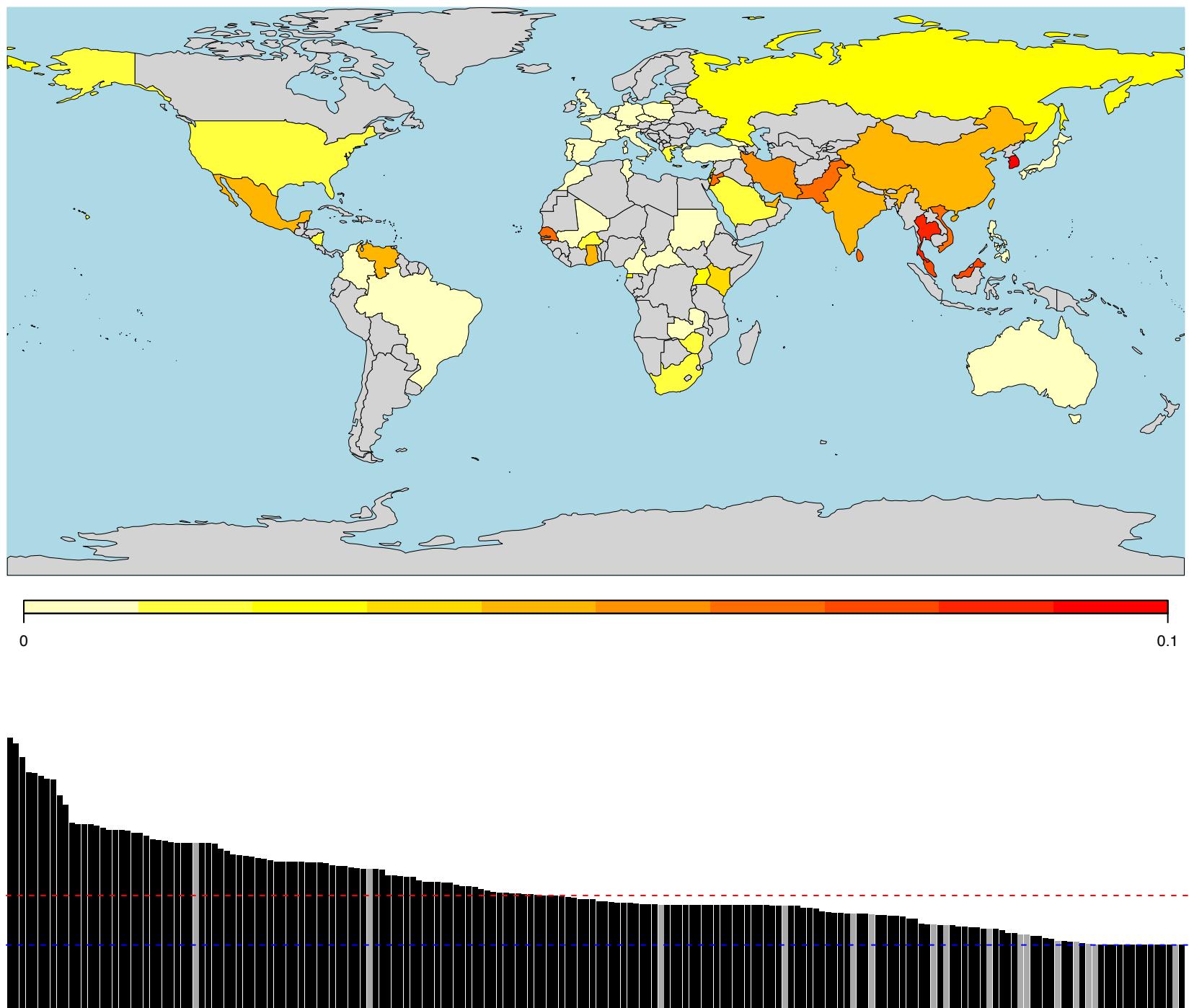
C*02:02
(~1.5% globally)



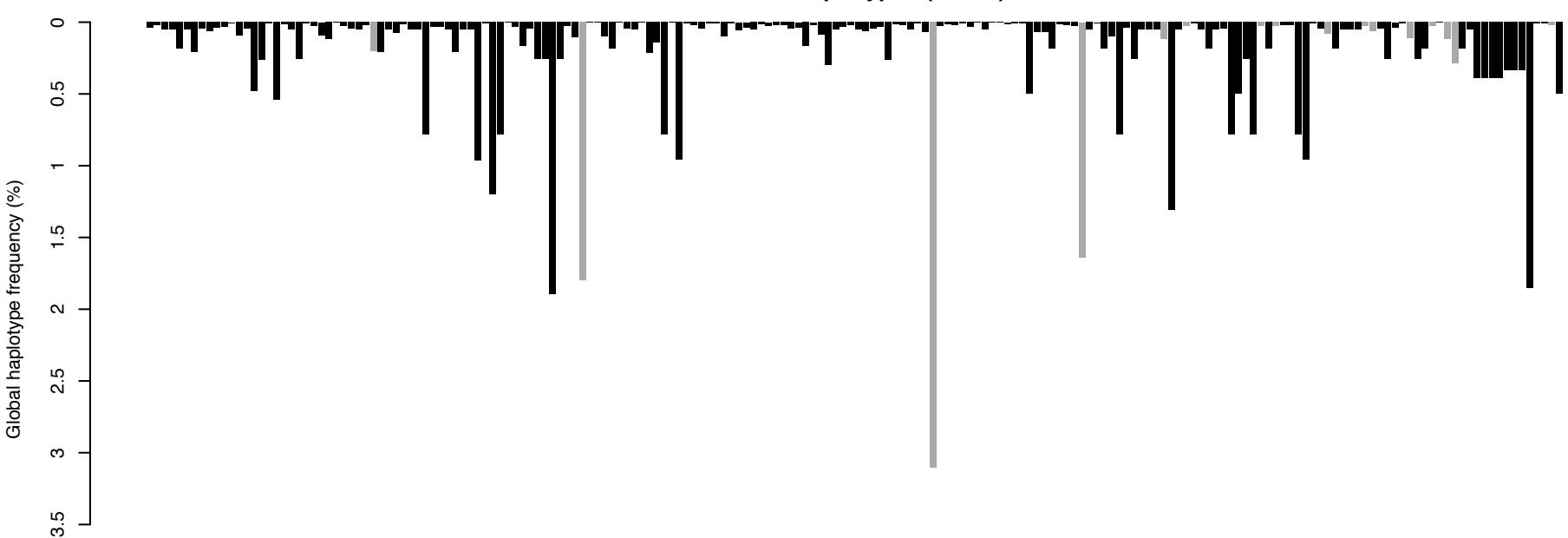
C*02:10
(~0.53% globally)



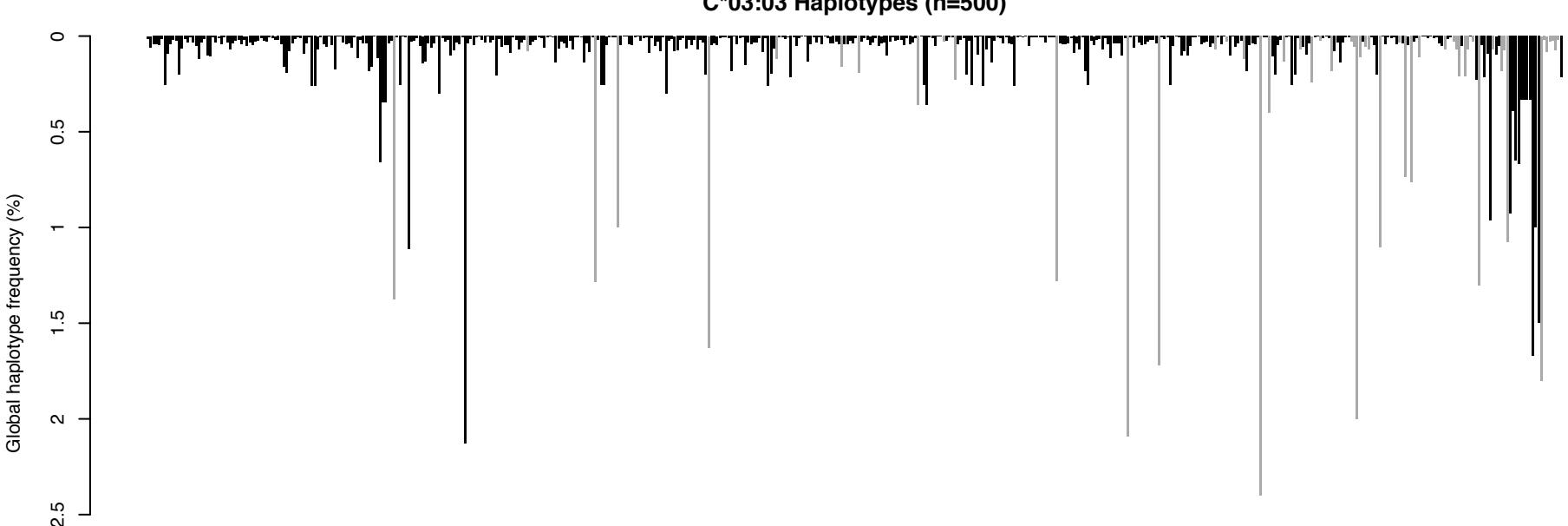
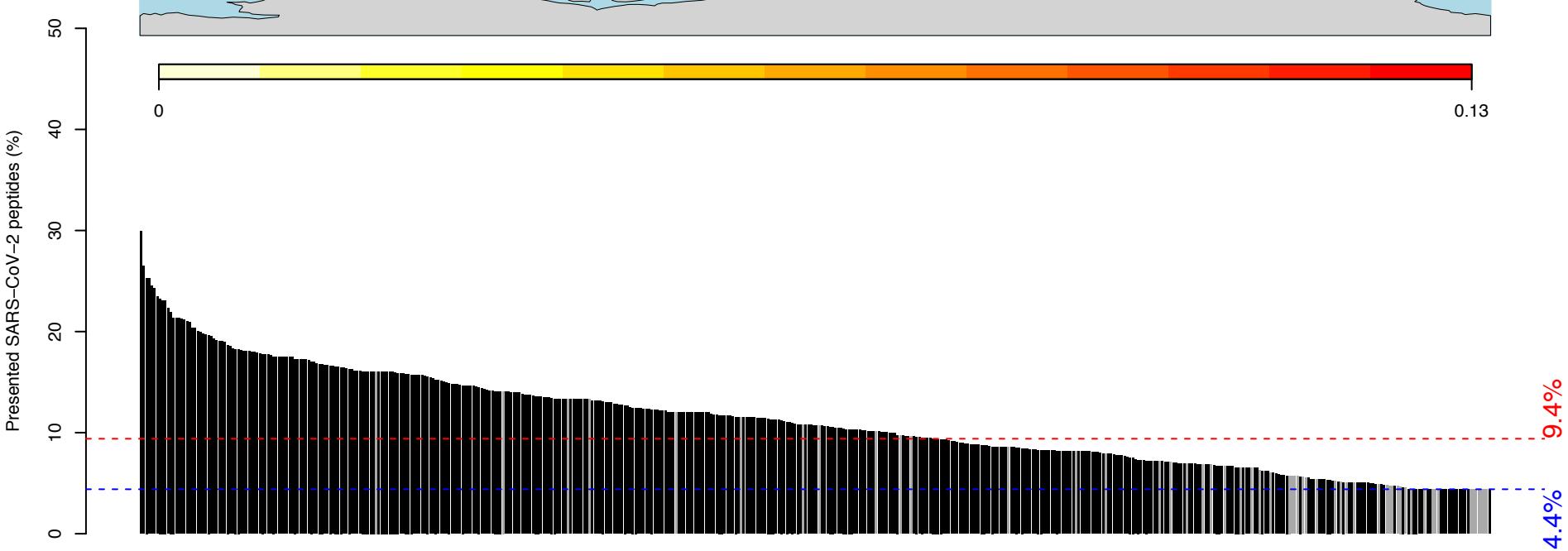
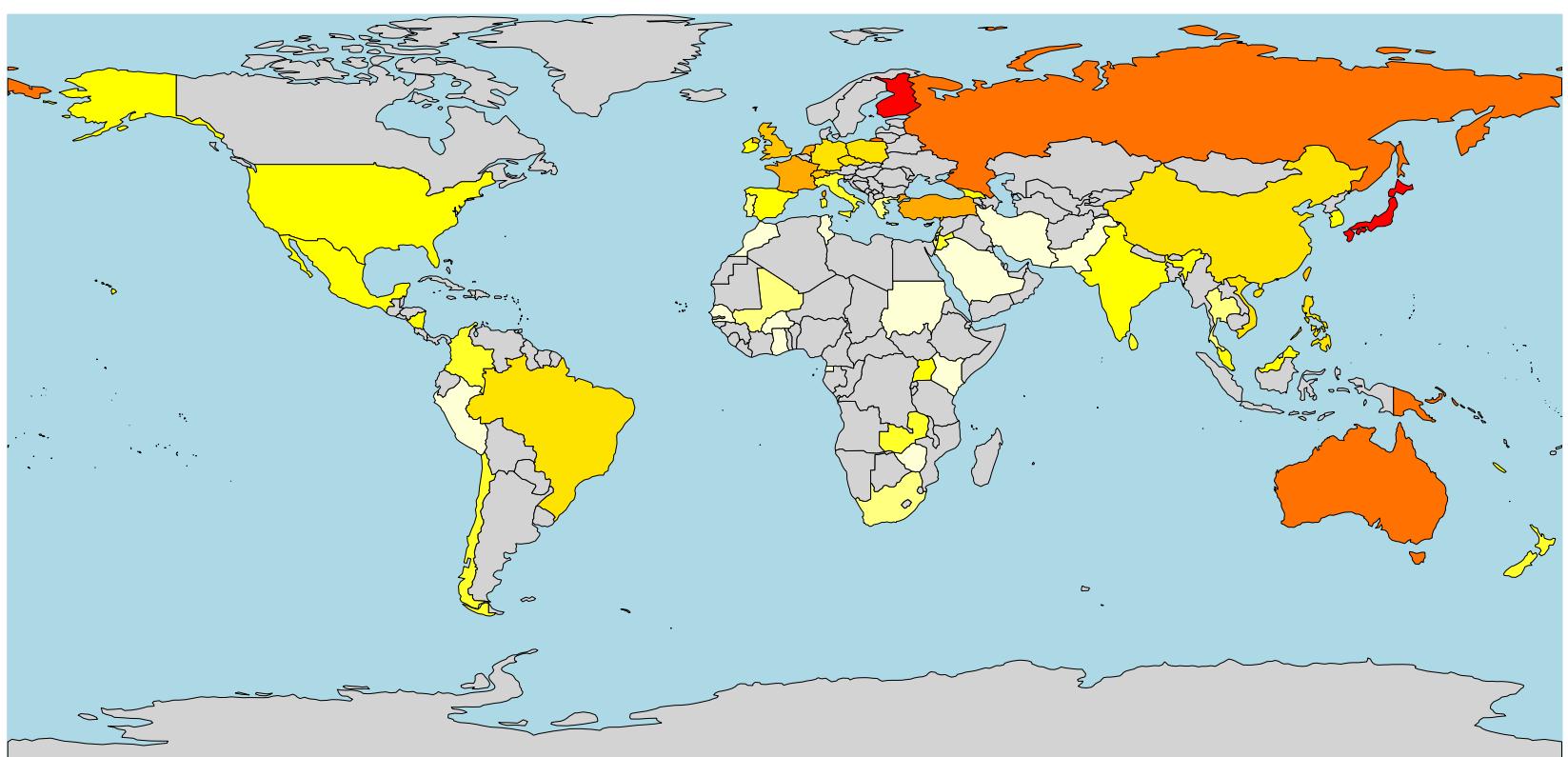
C*03:02
(~2.6% globally)



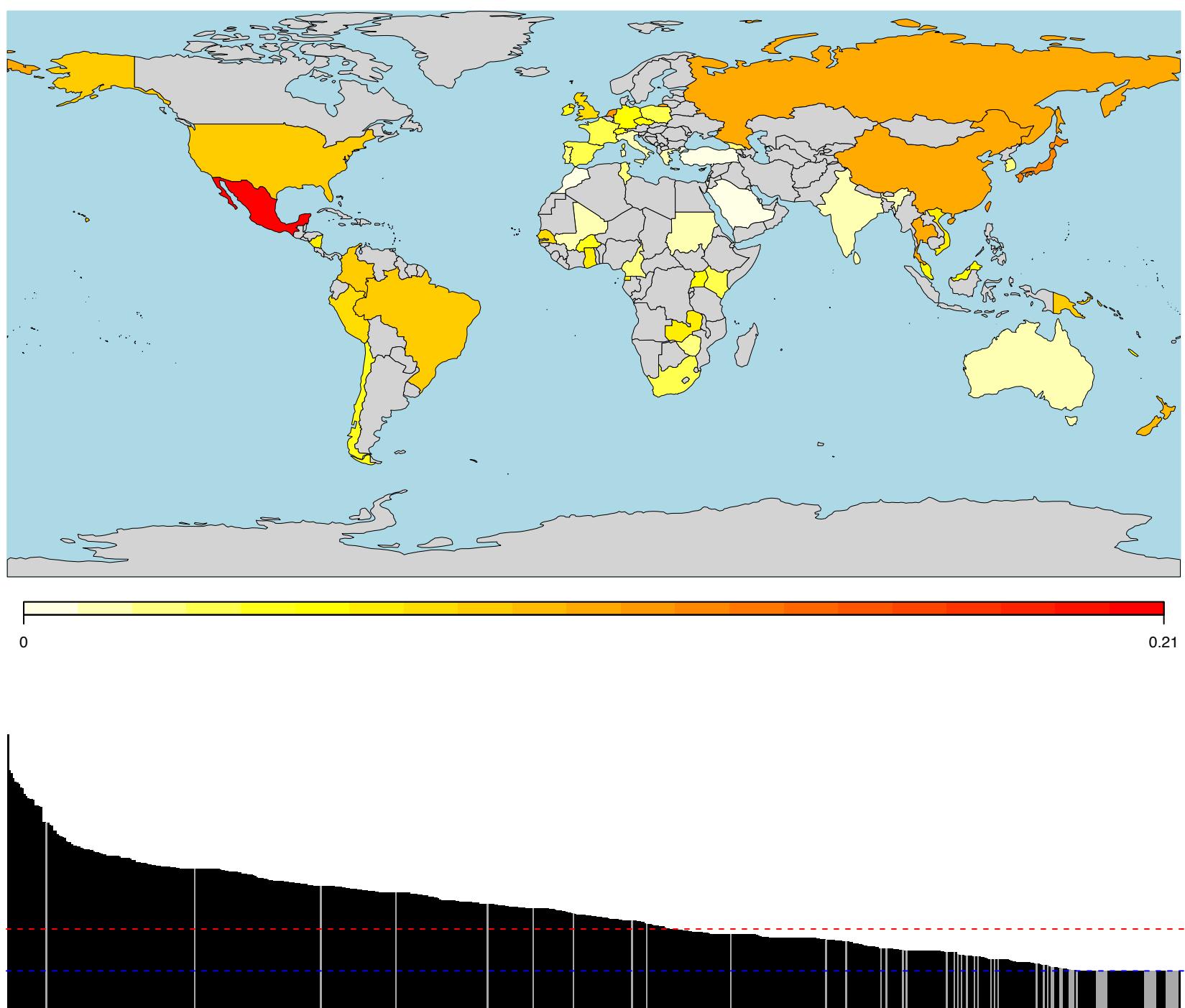
C*03:02 Haplotypes (n=190)



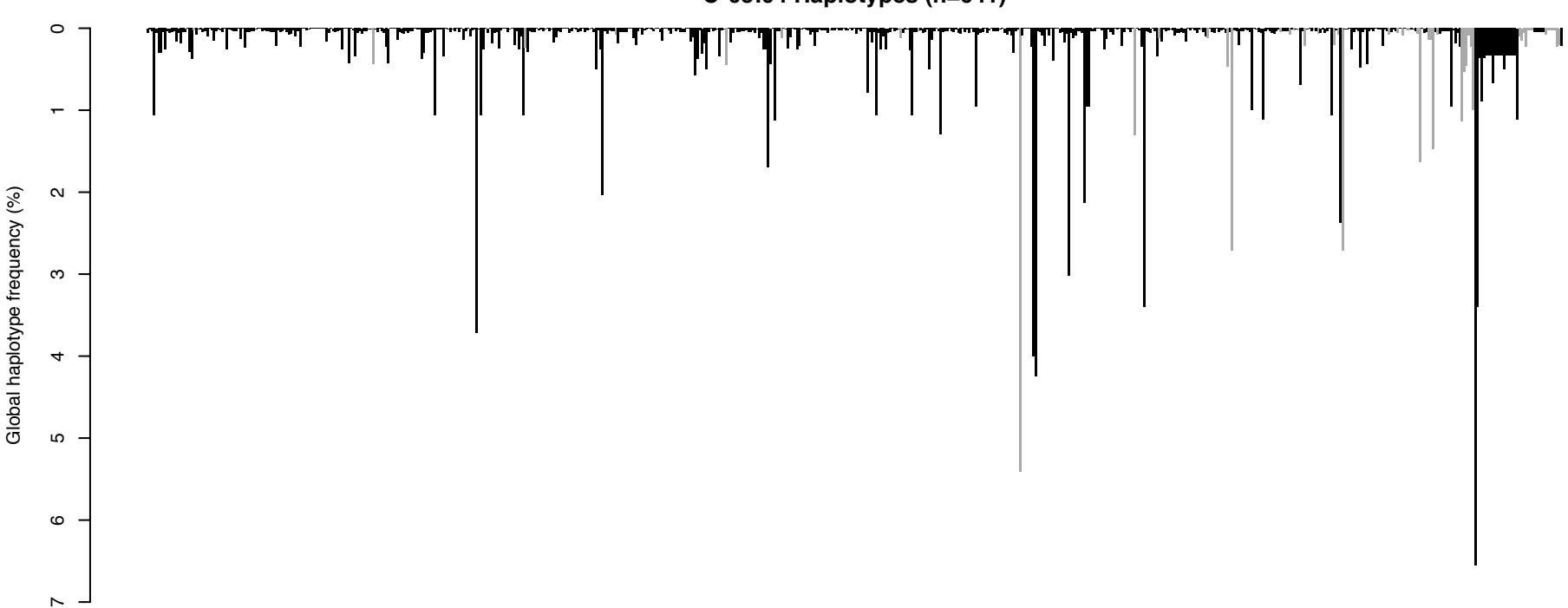
C*03:03
(~2.8% globally)



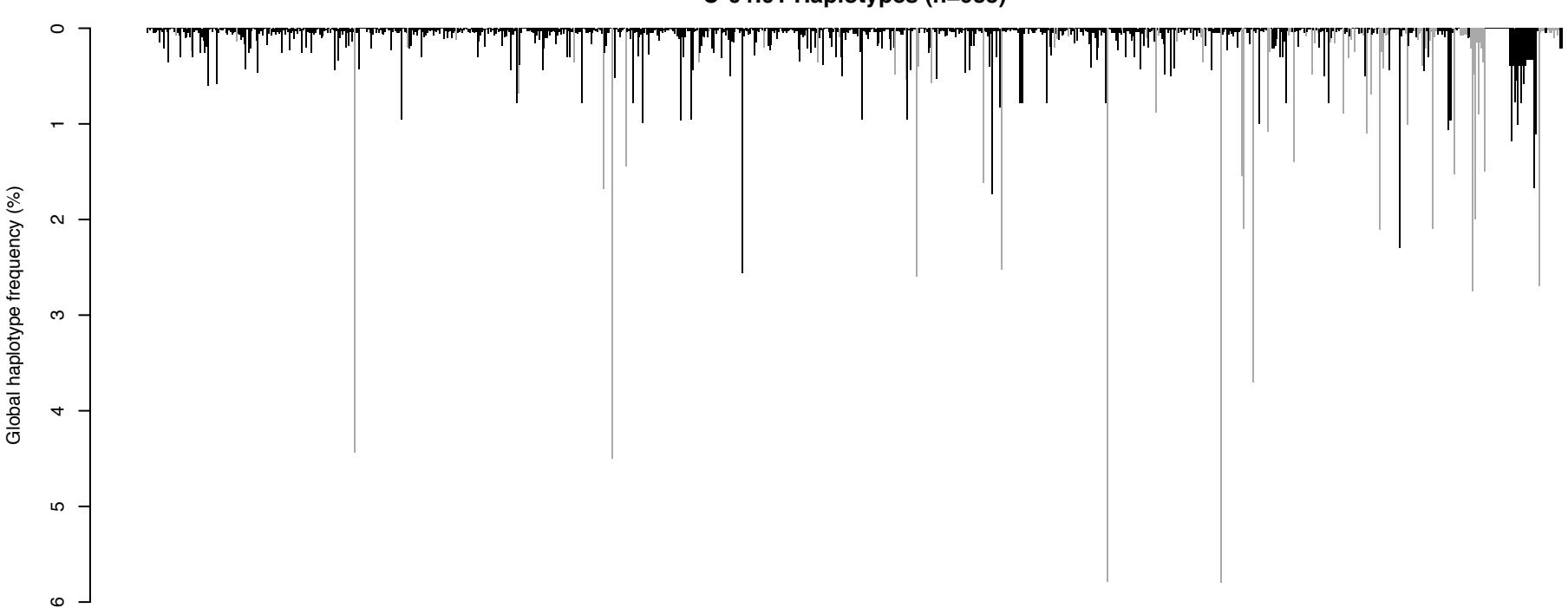
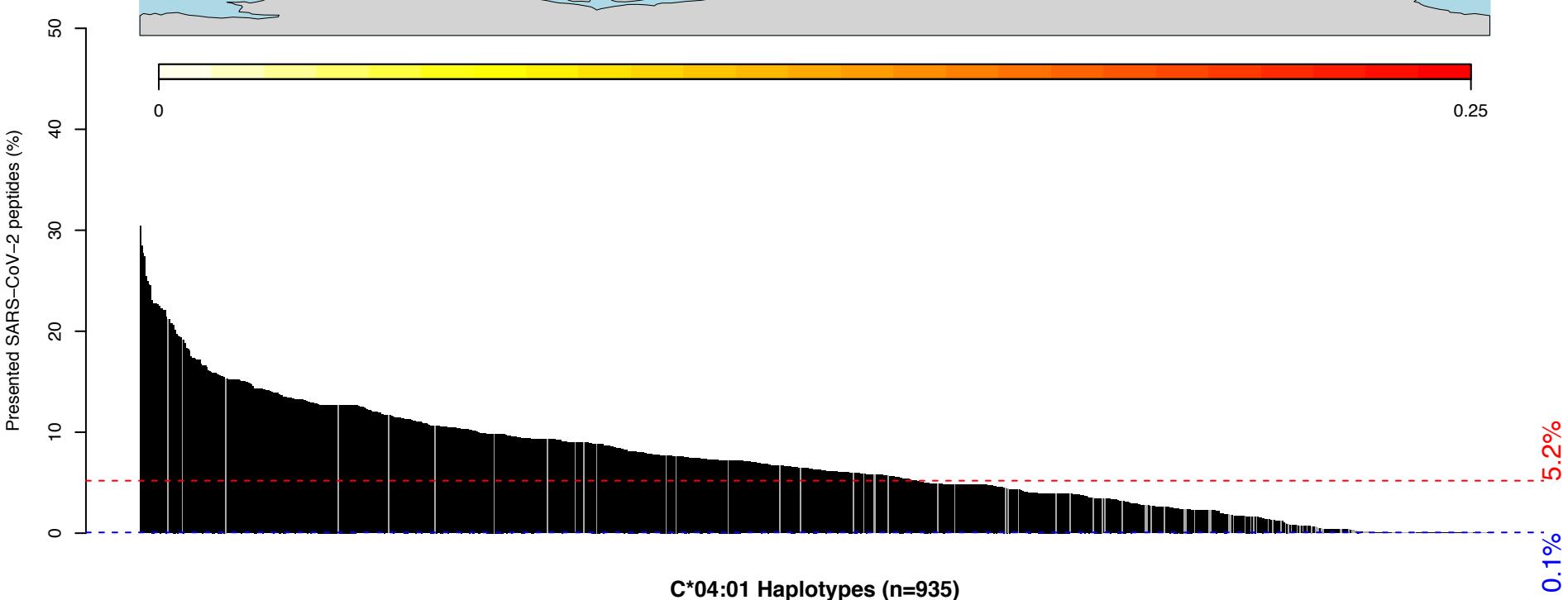
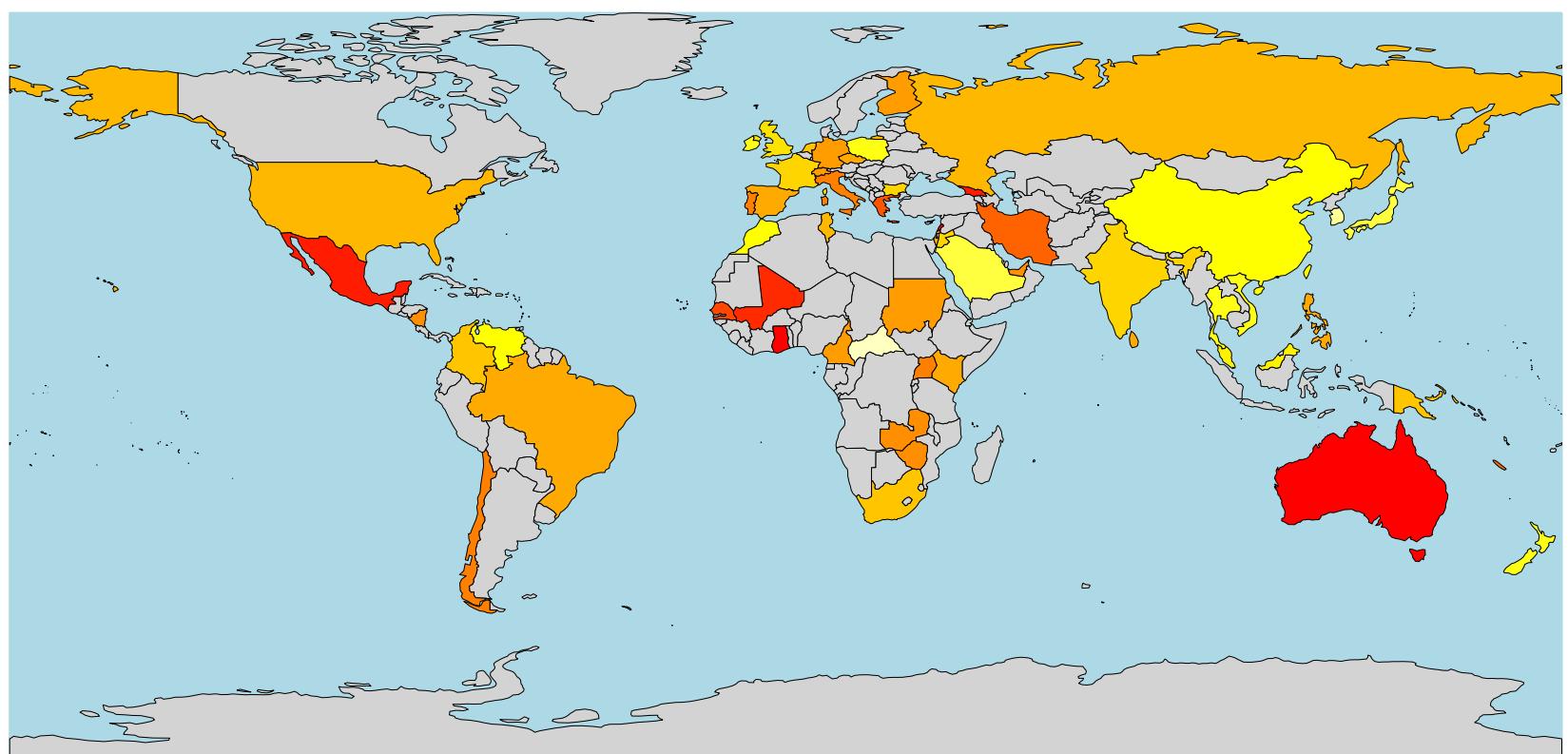
C*03:04
(~3.9% globally)



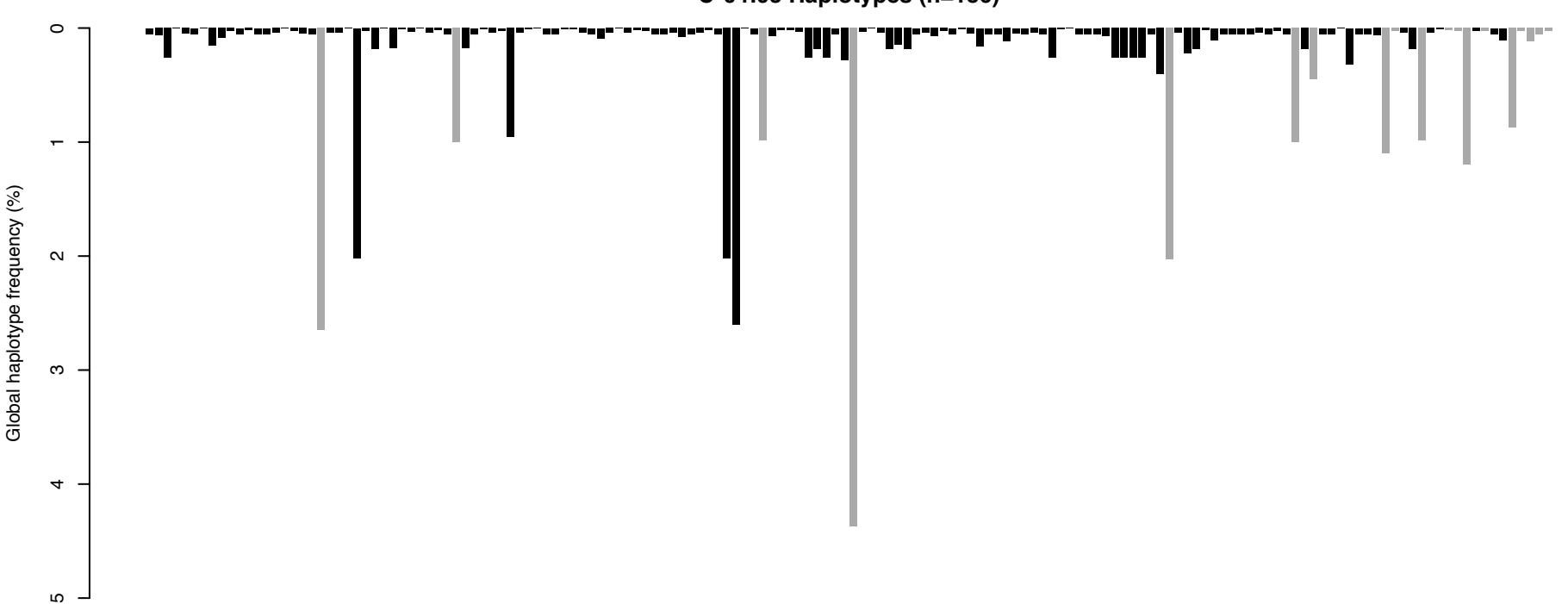
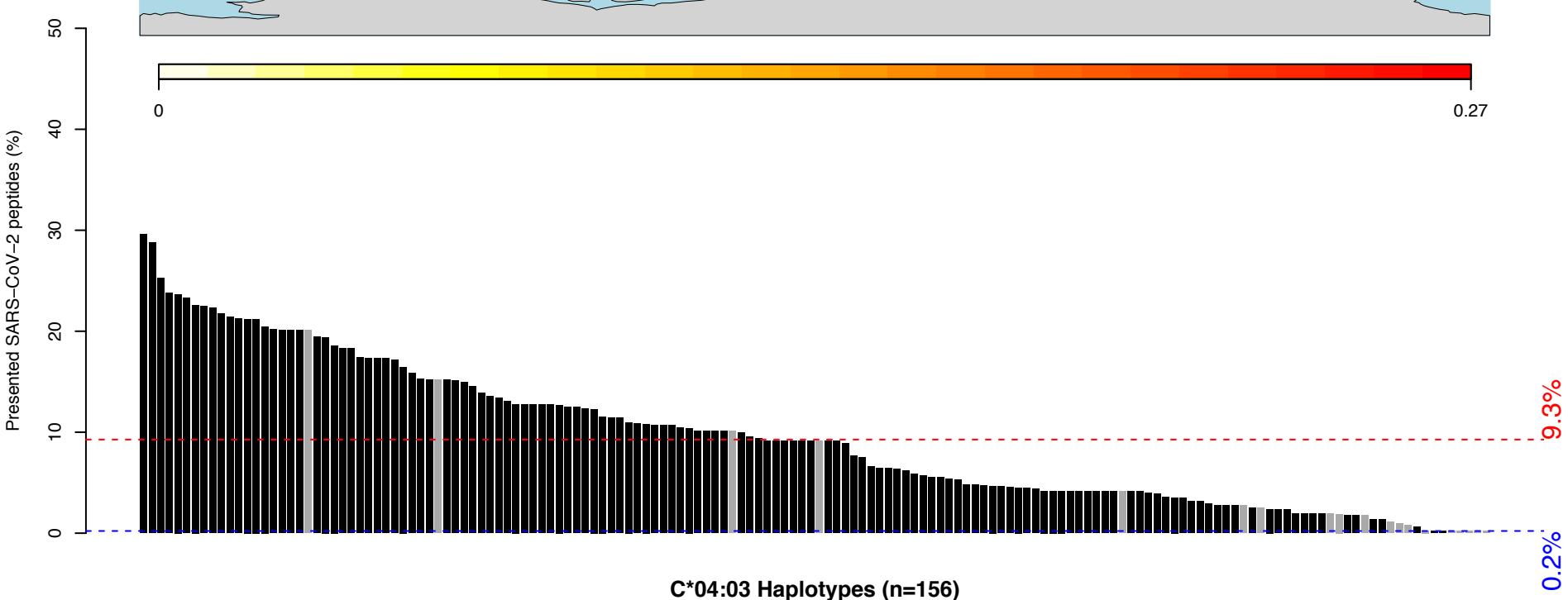
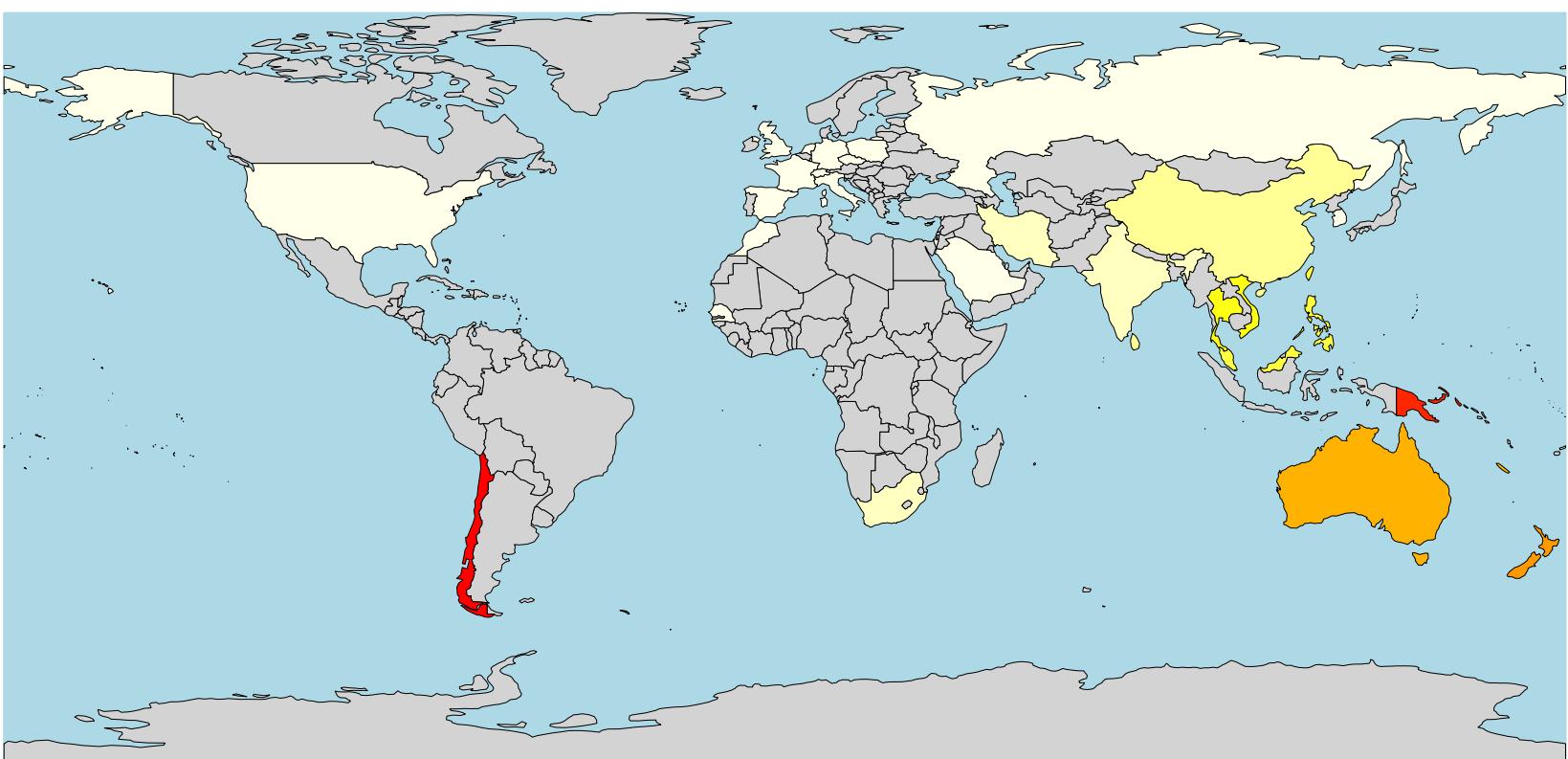
C*03:04 Haplotypes (n=641)



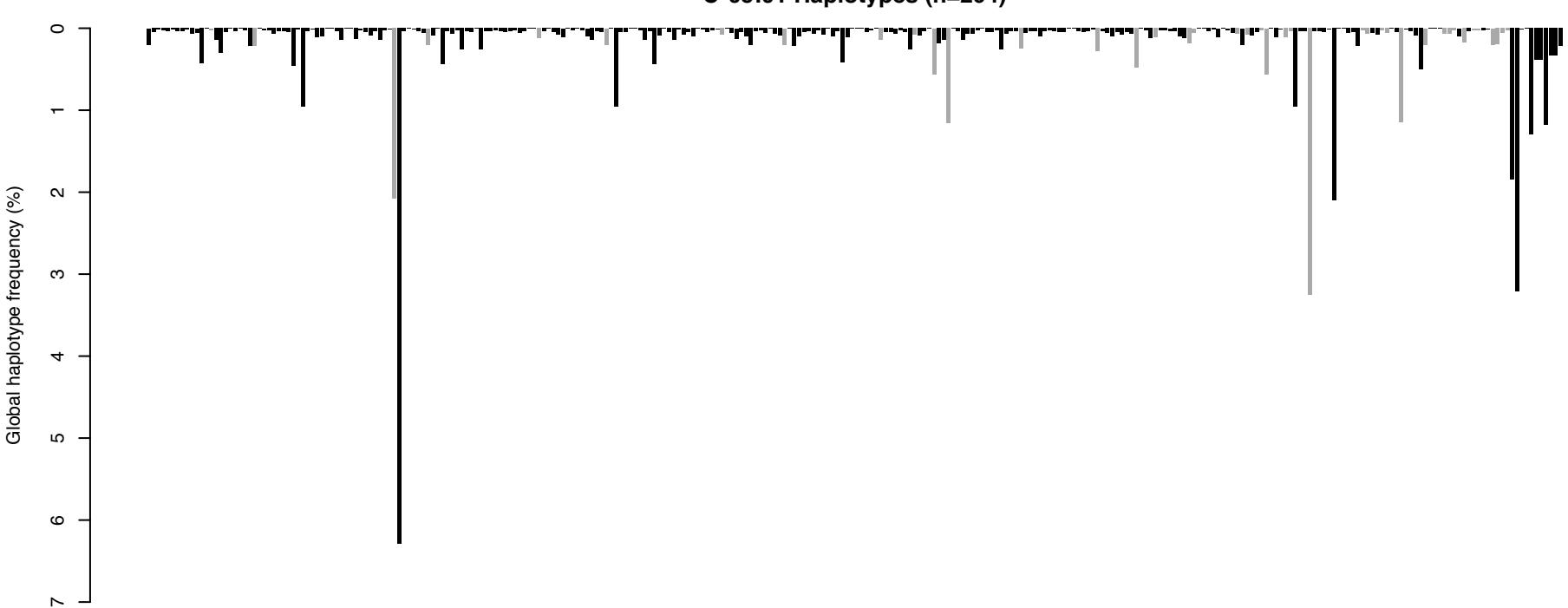
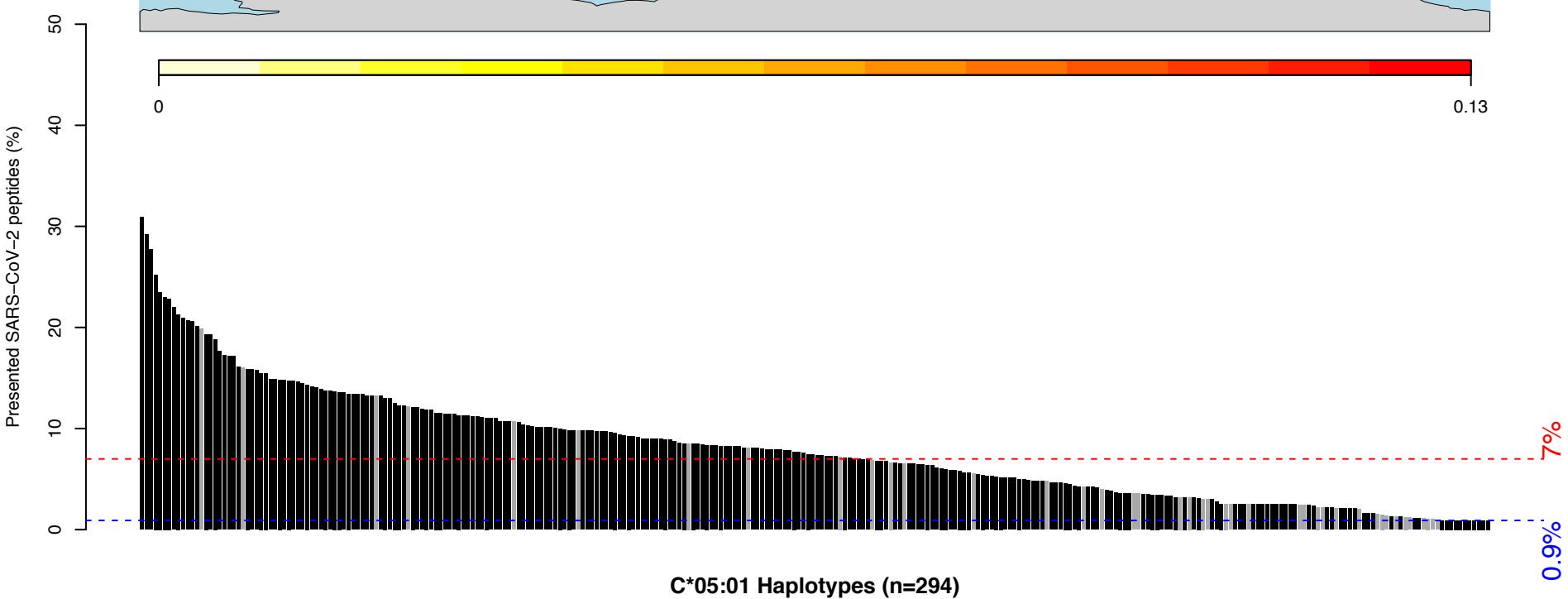
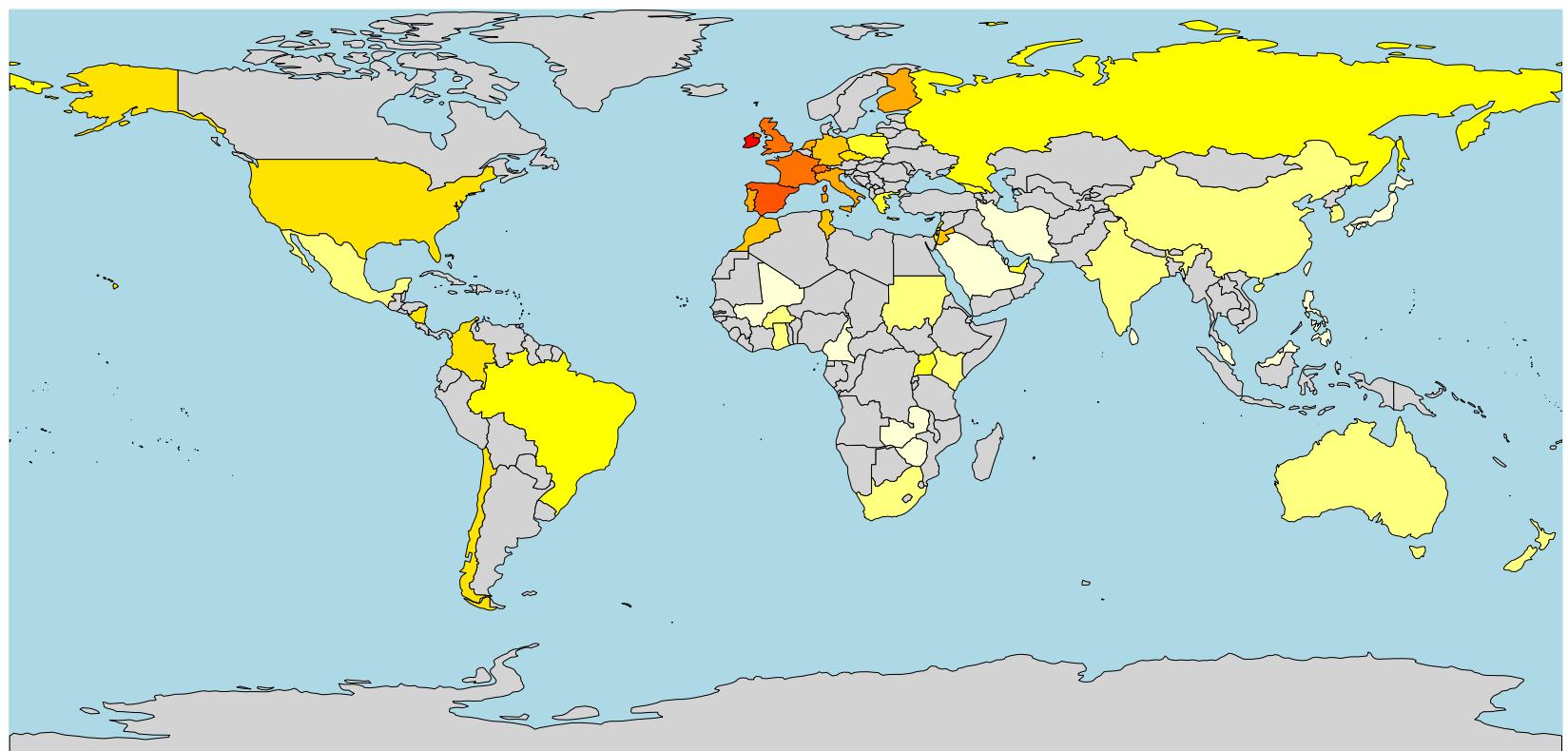
C*04:01
(~6.4% globally)



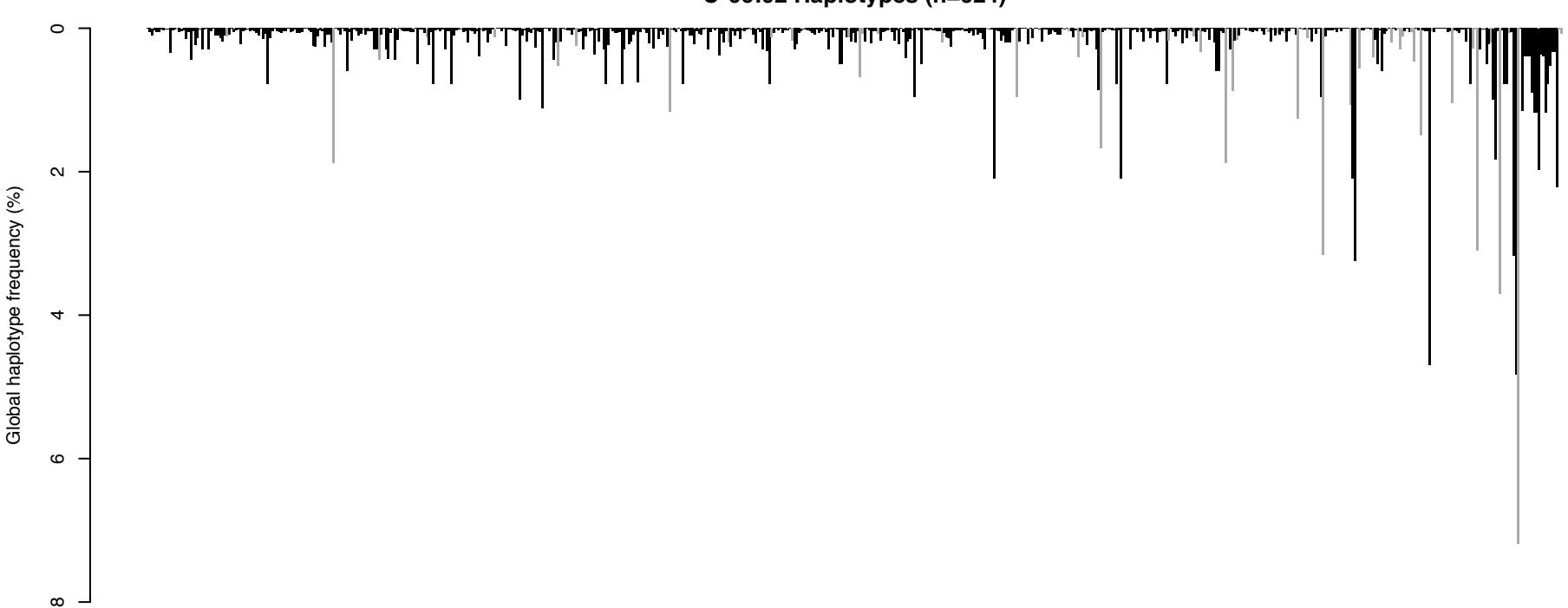
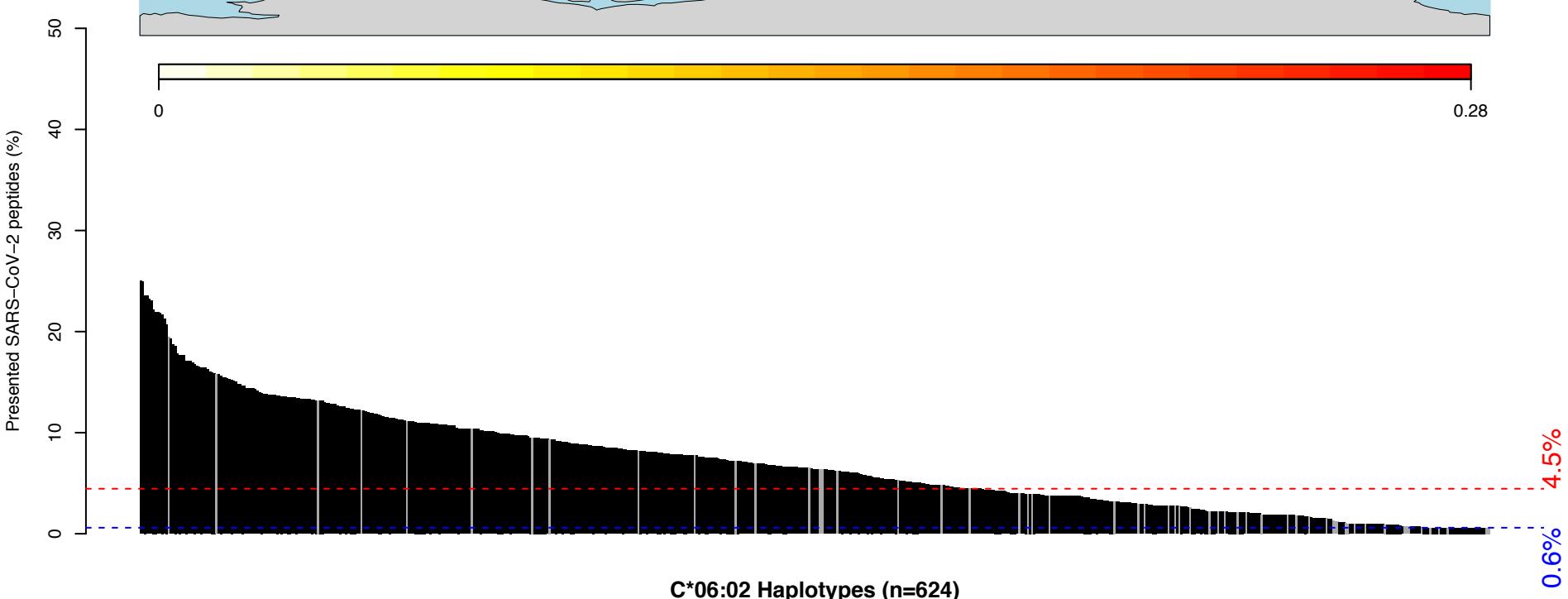
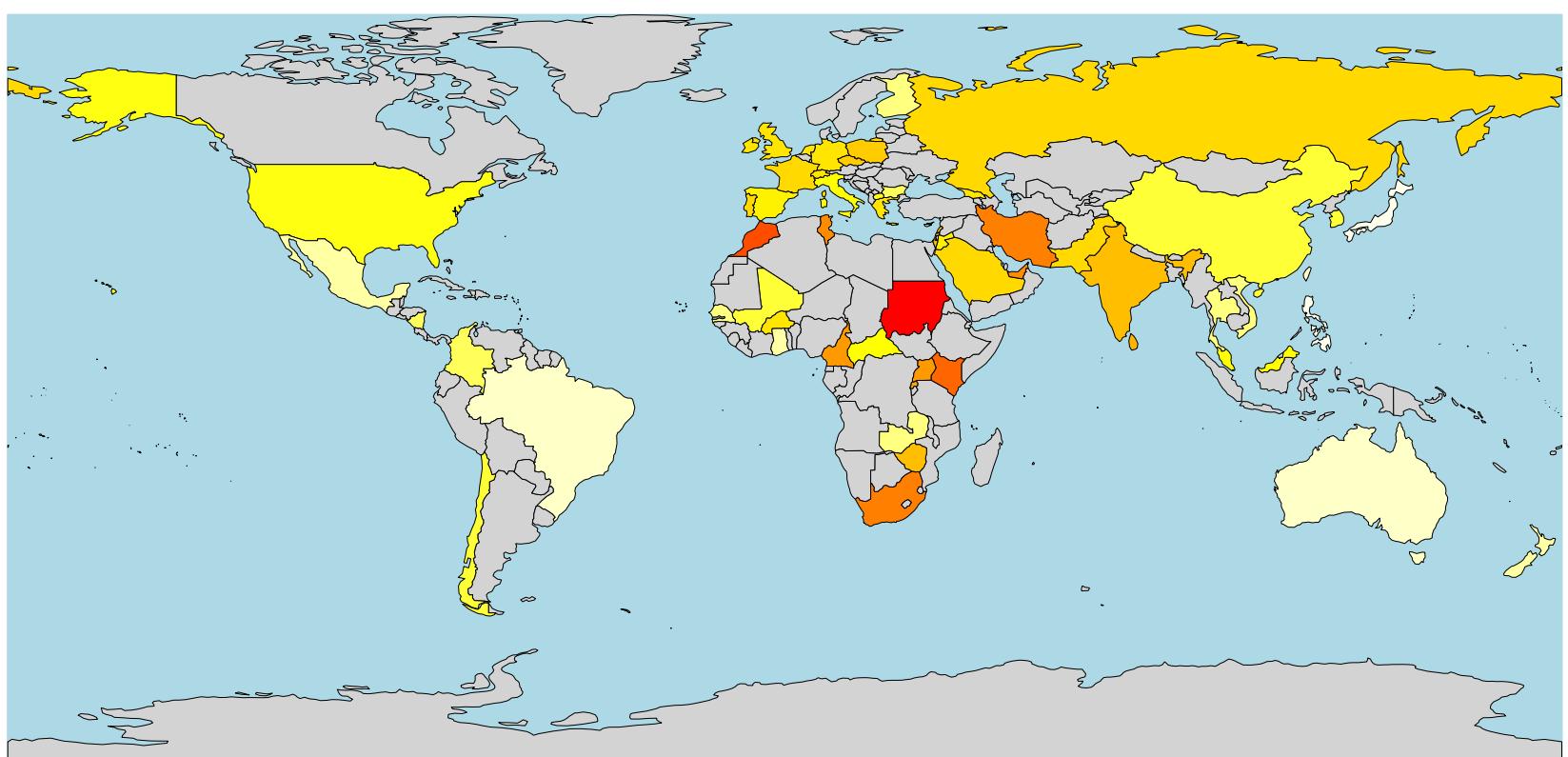
C*04:03
(~2.1% globally)



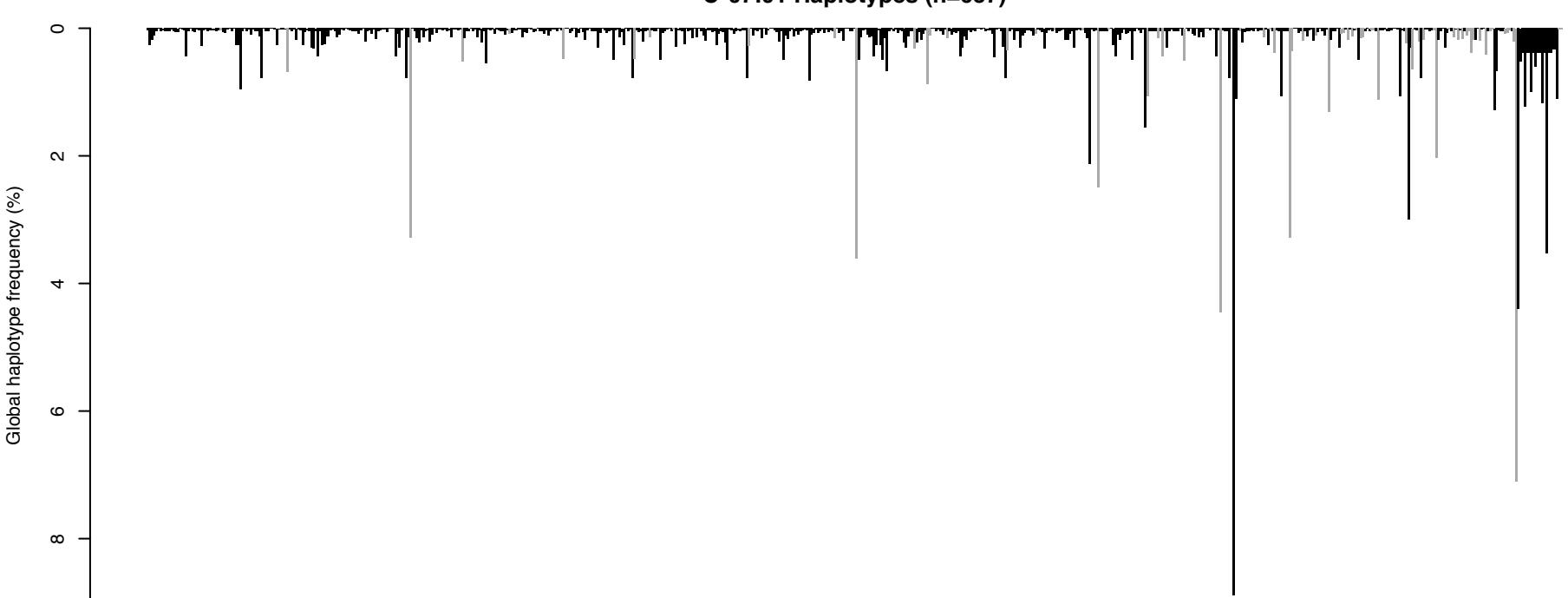
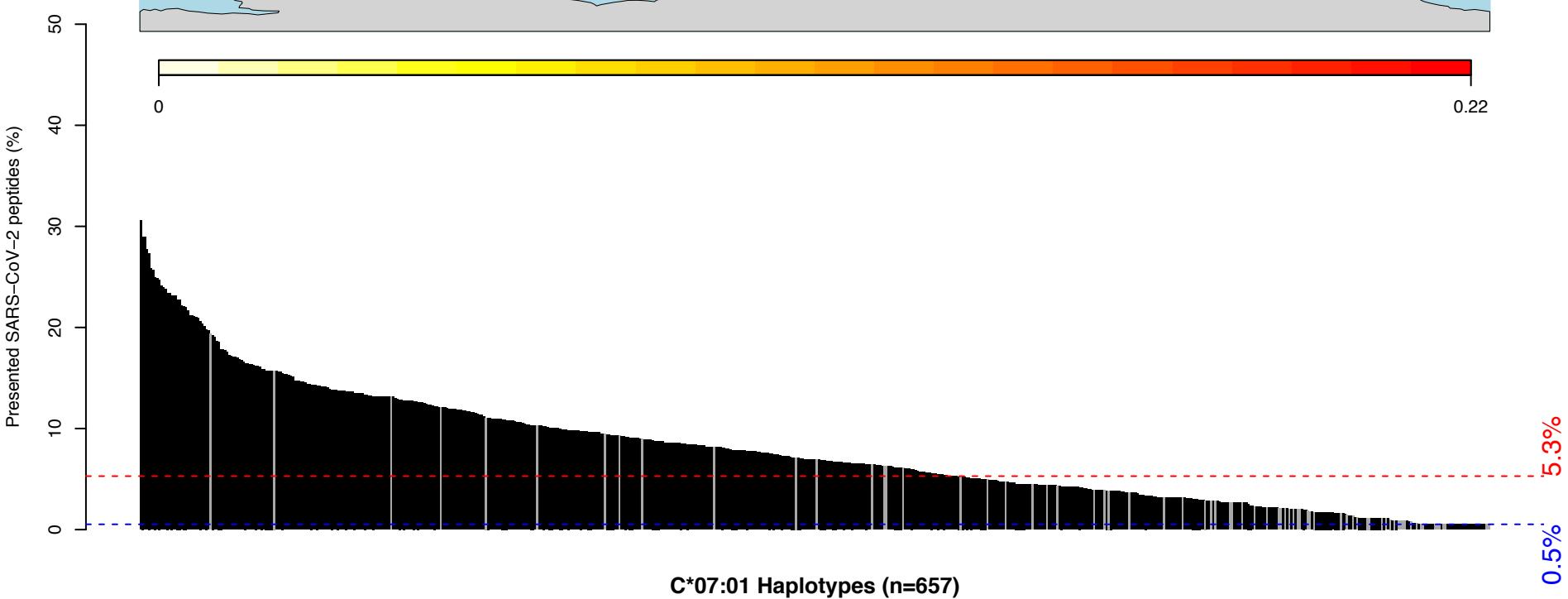
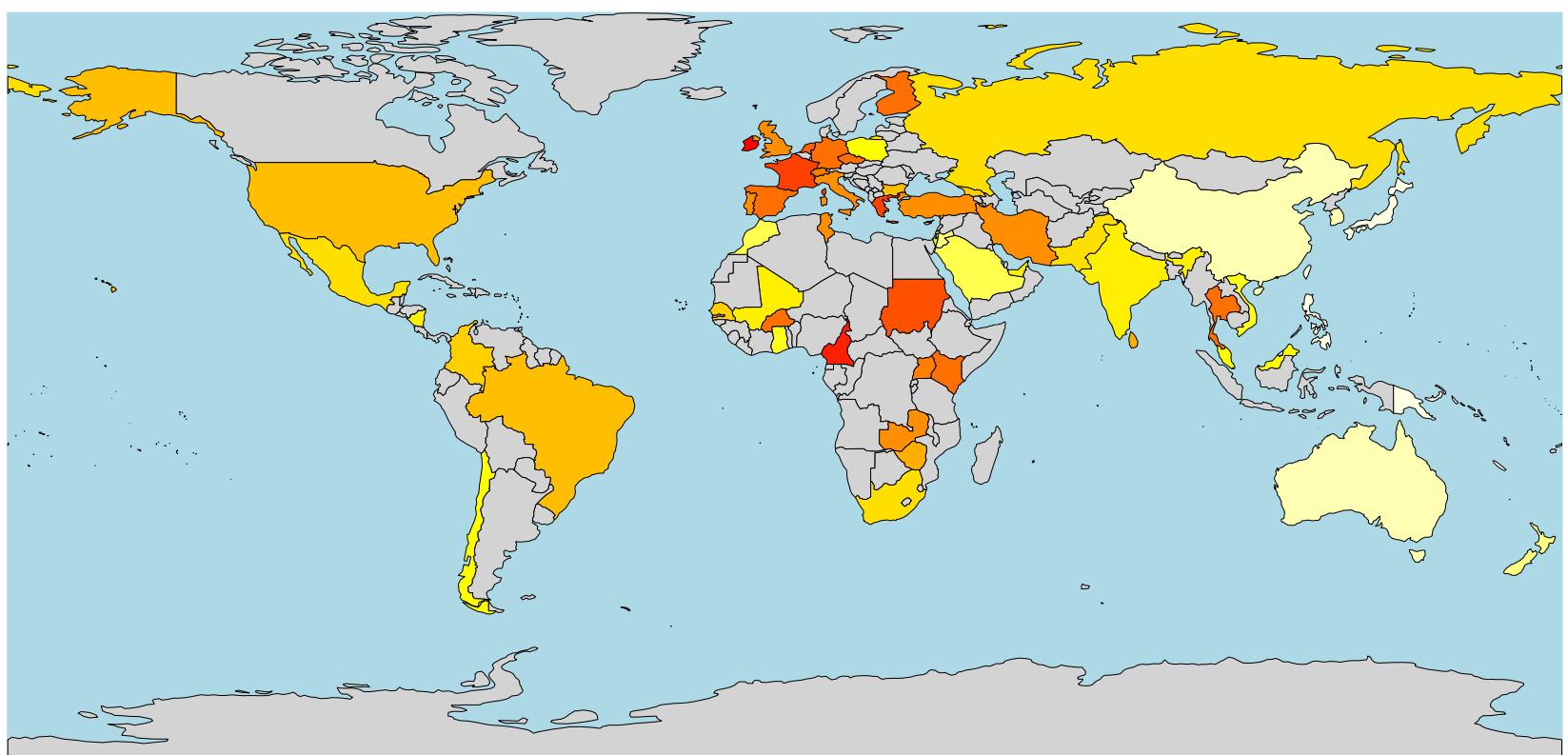
C*05:01
(~2.2% globally)



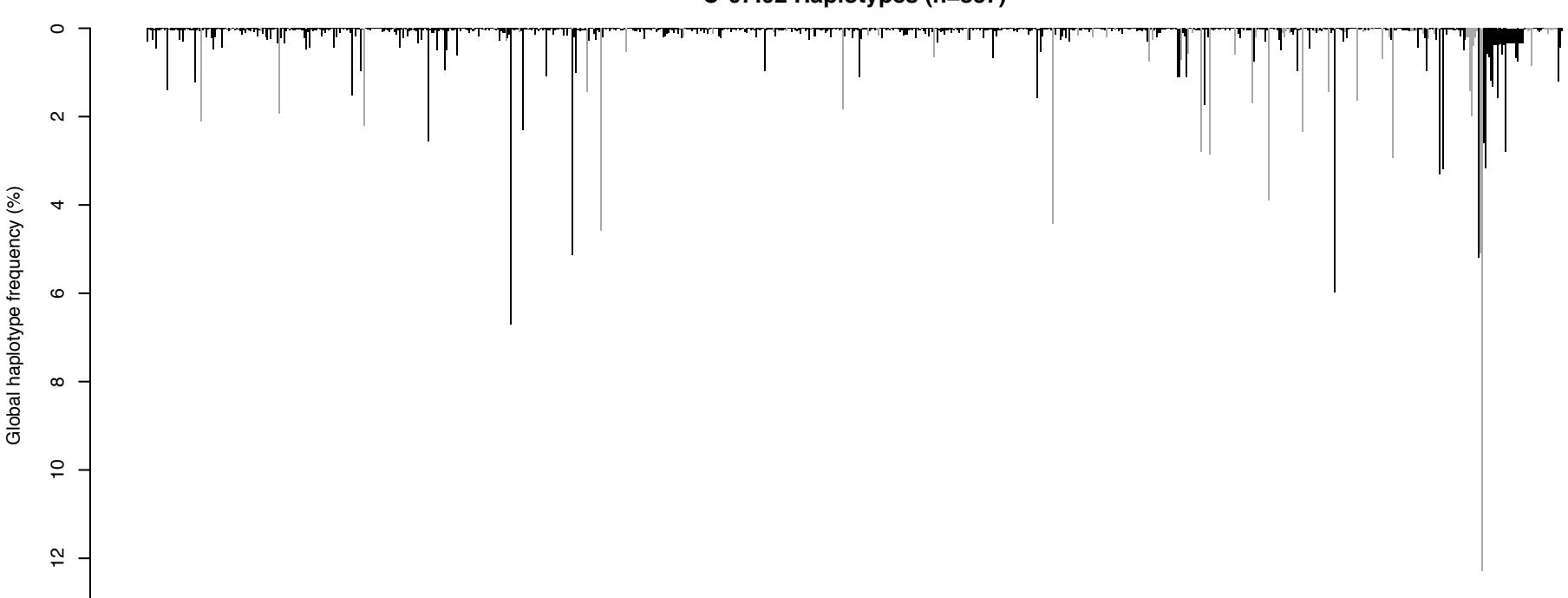
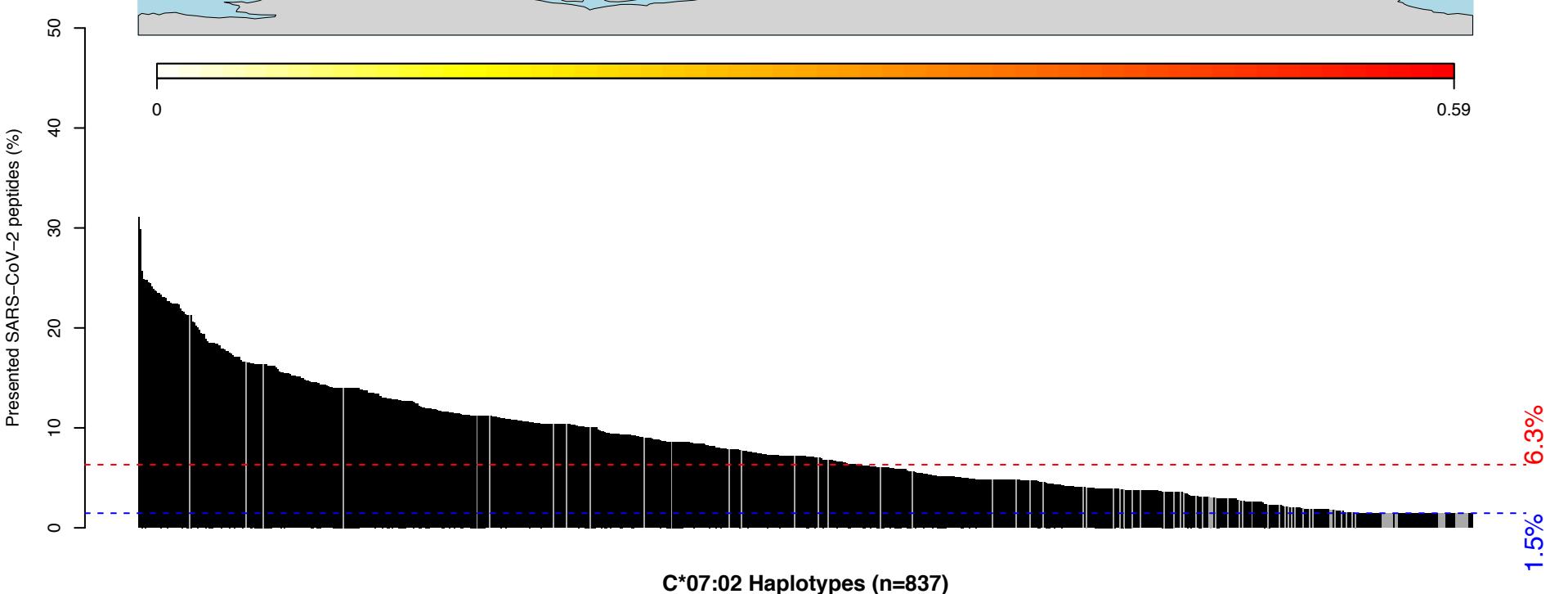
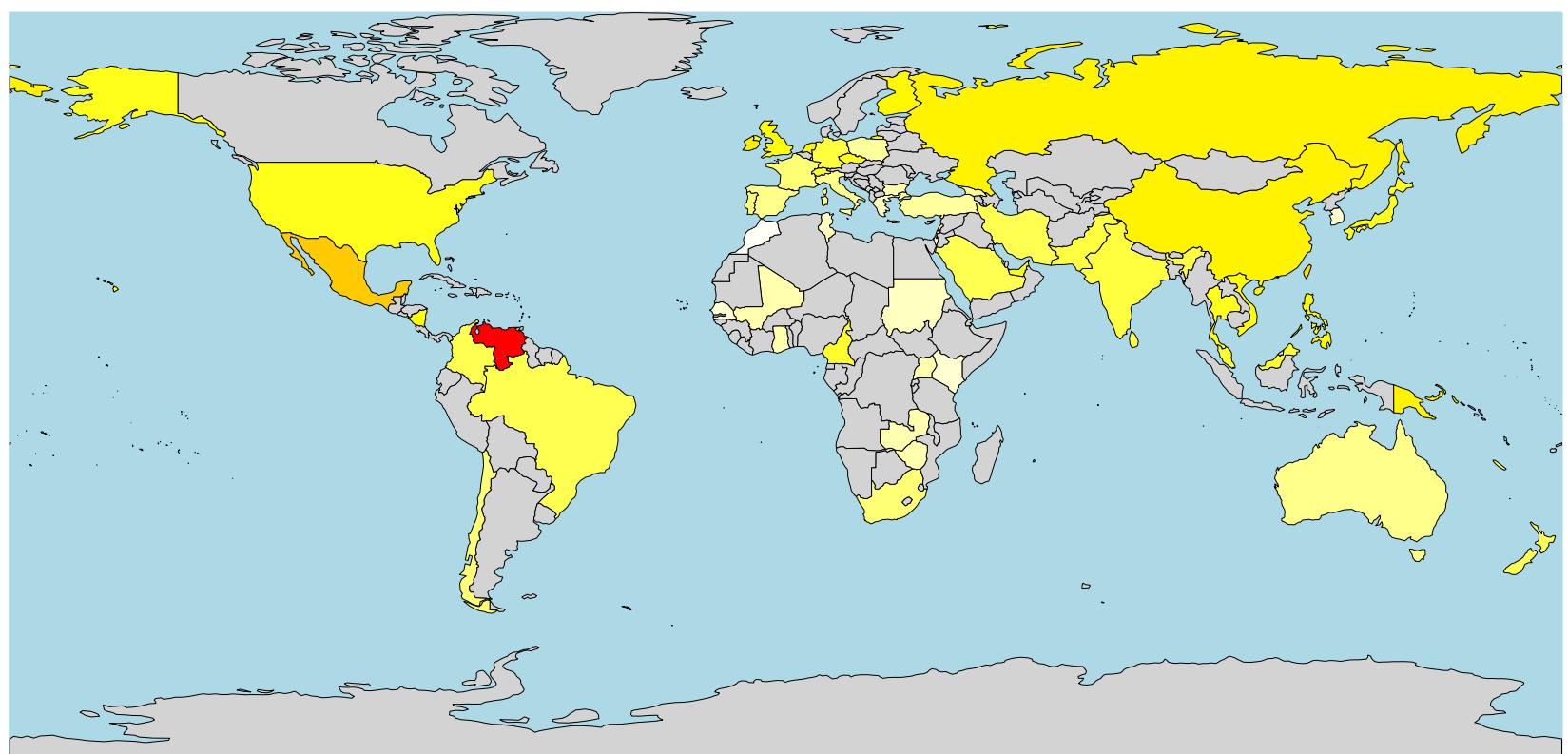
C*06:02
(~8.3% globally)



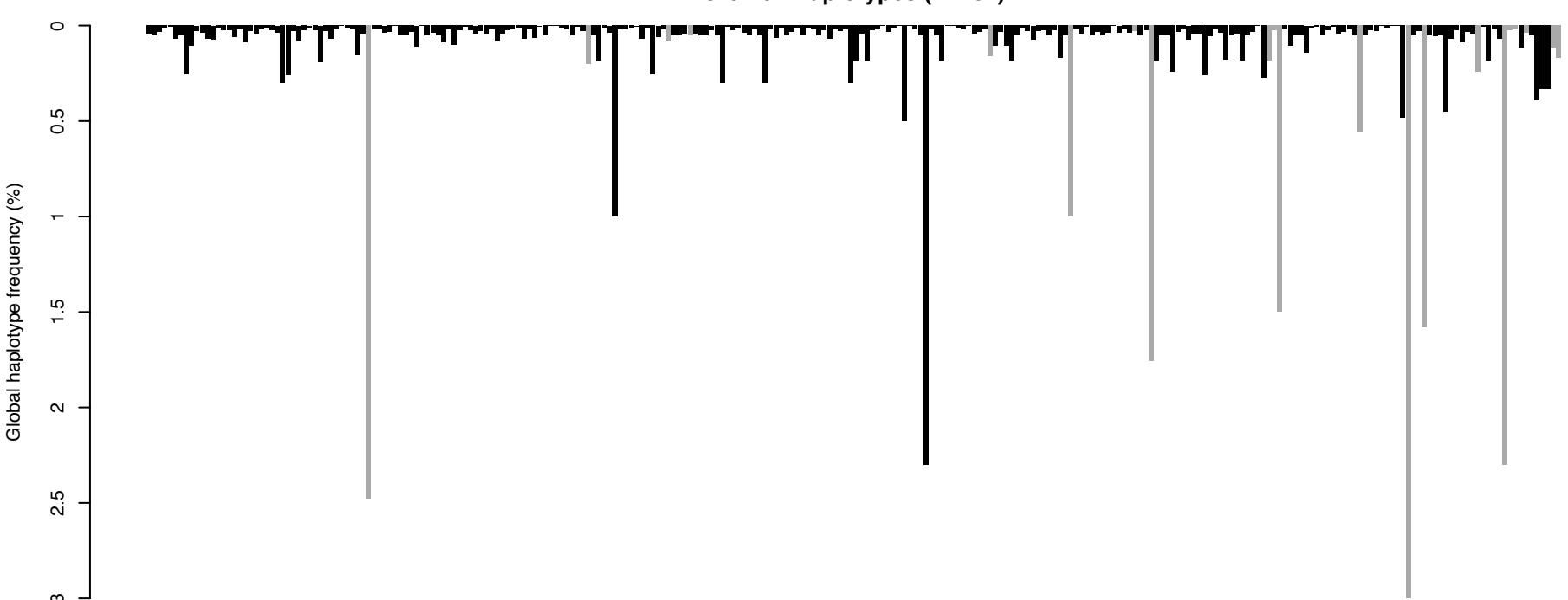
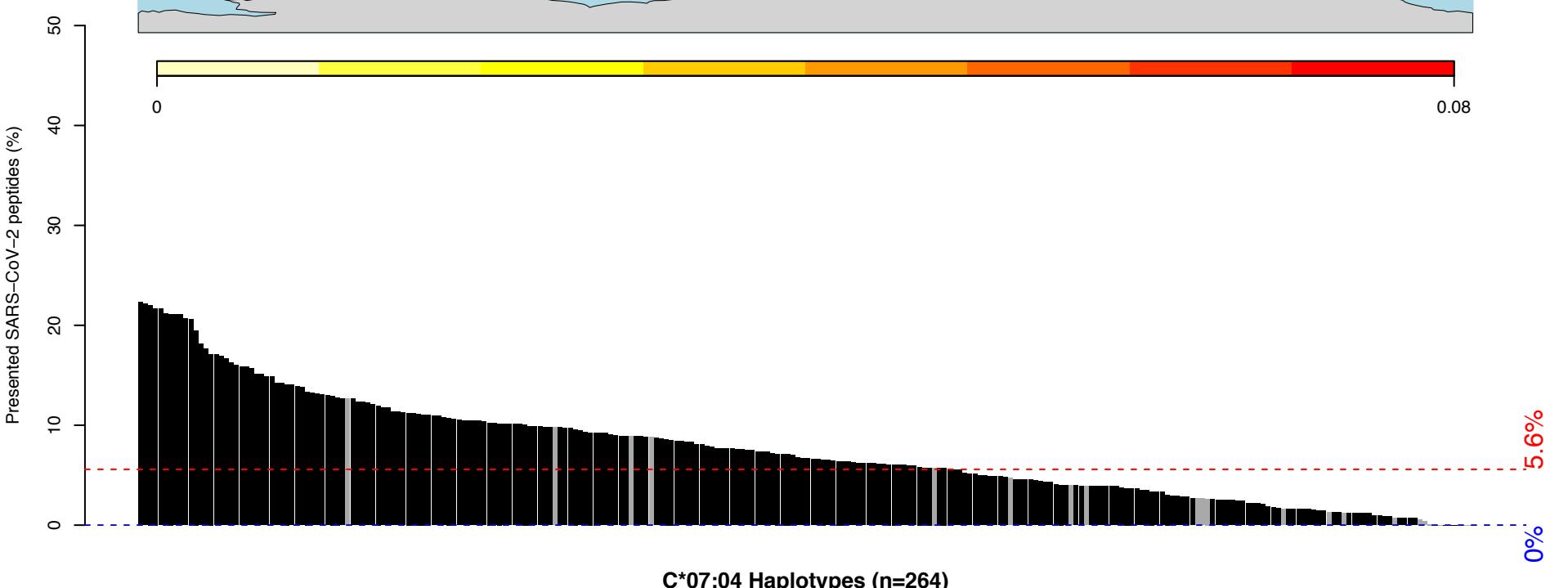
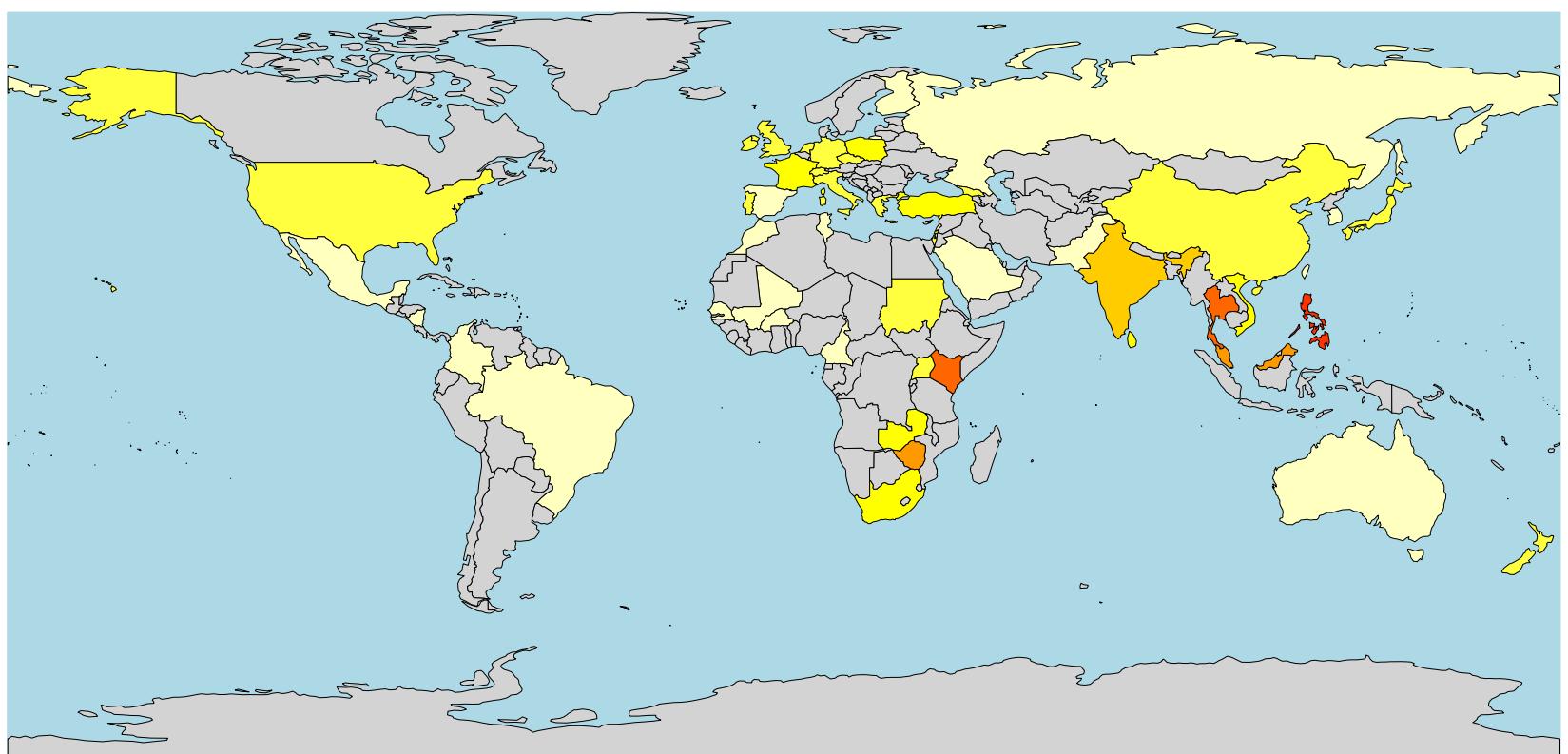
C*07:01
(~3.6% globally)



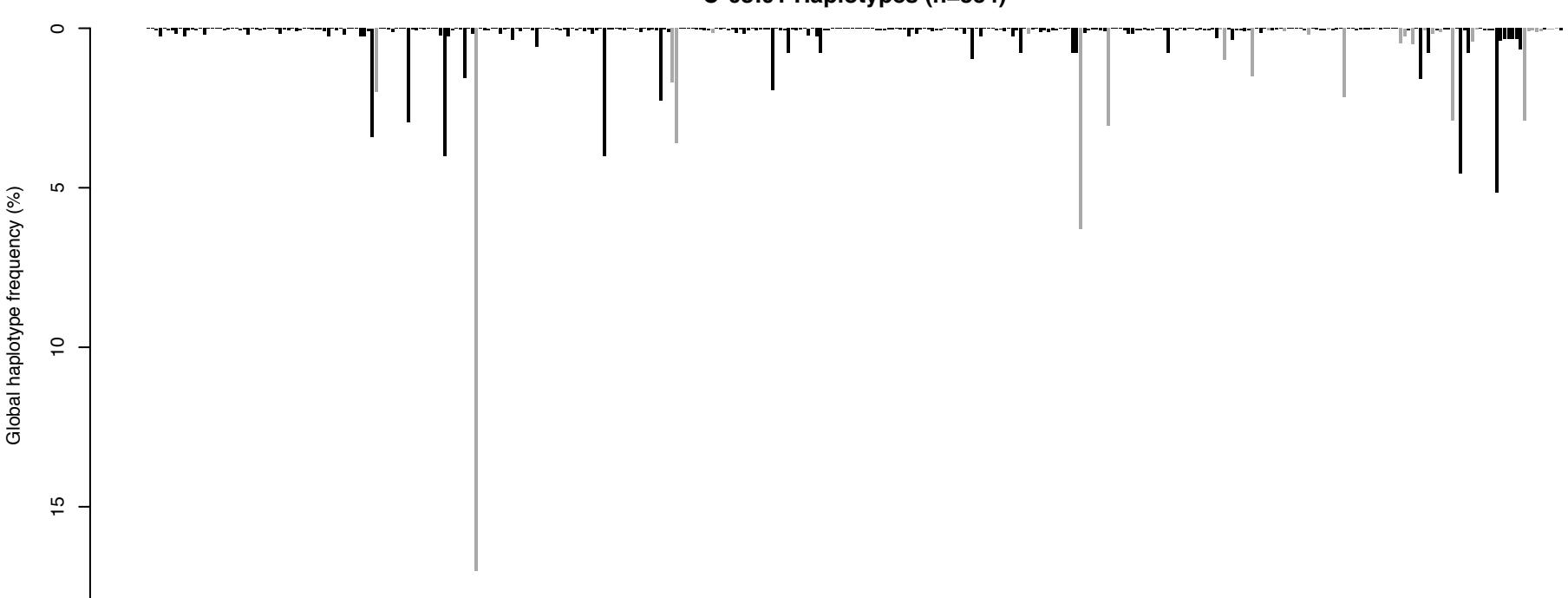
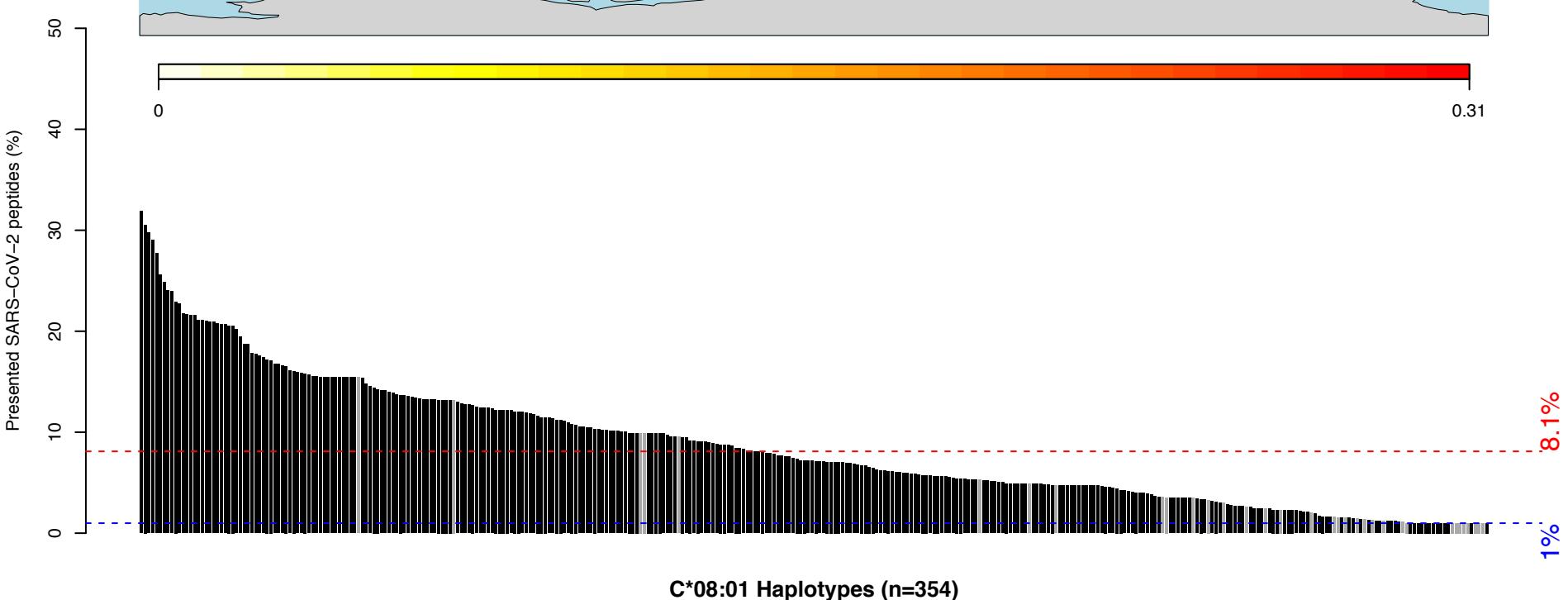
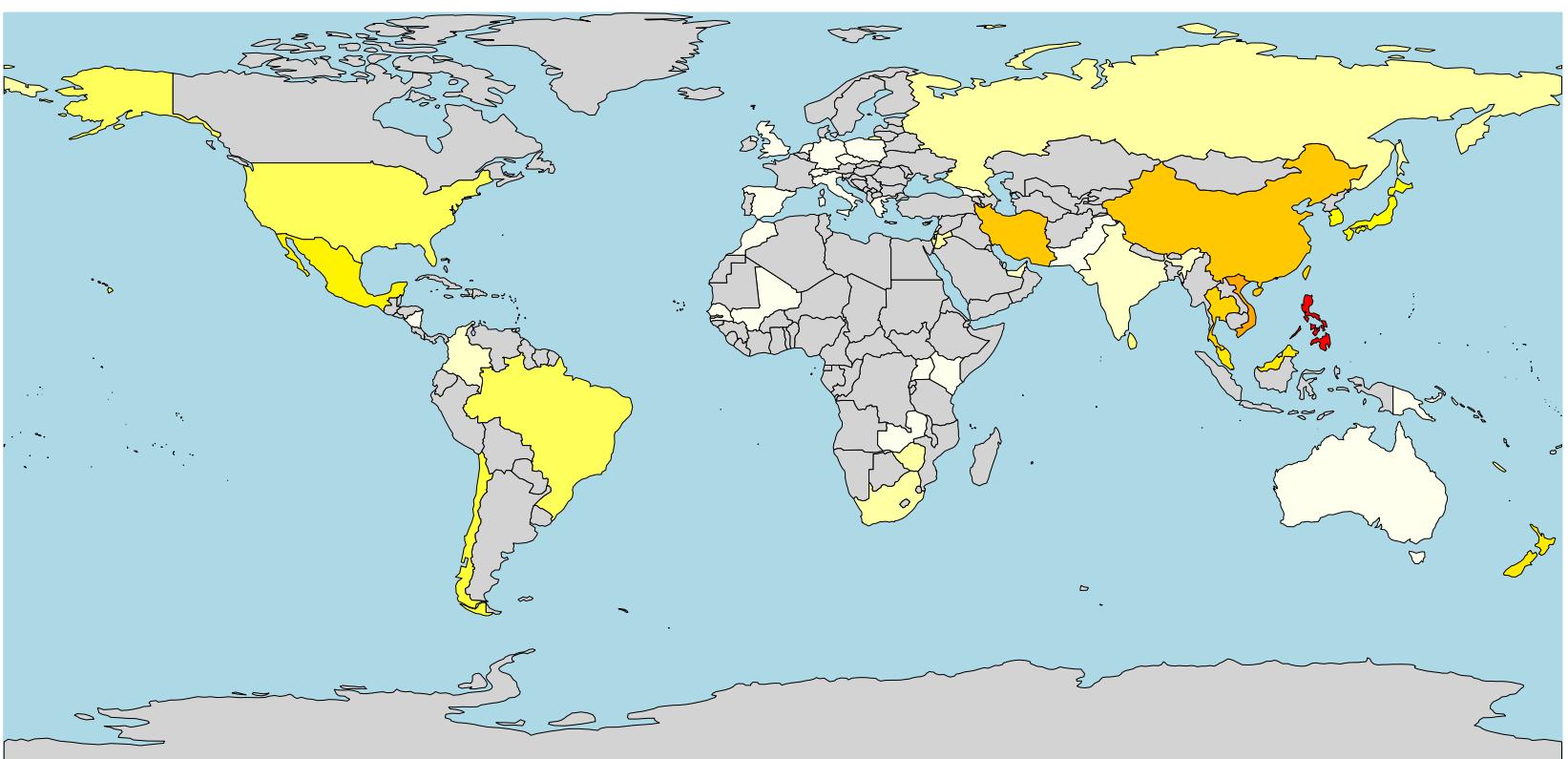
C*07:02
(~7.9% globally)



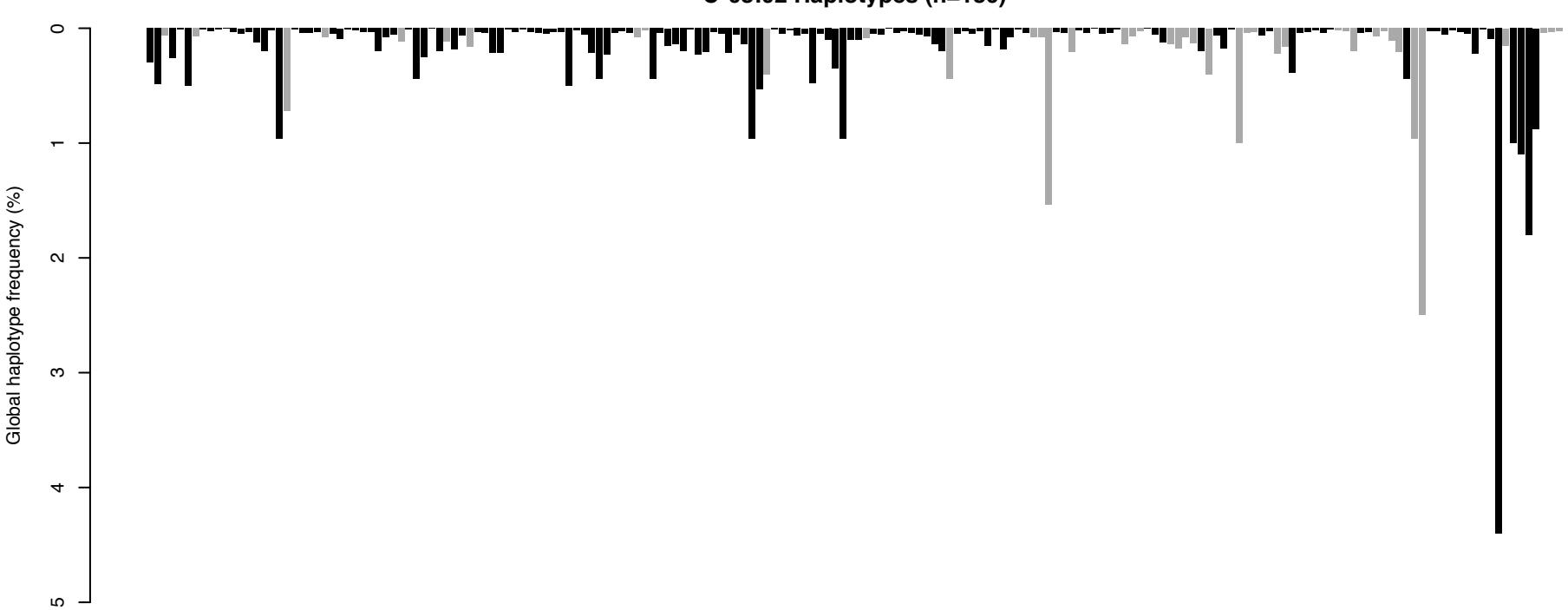
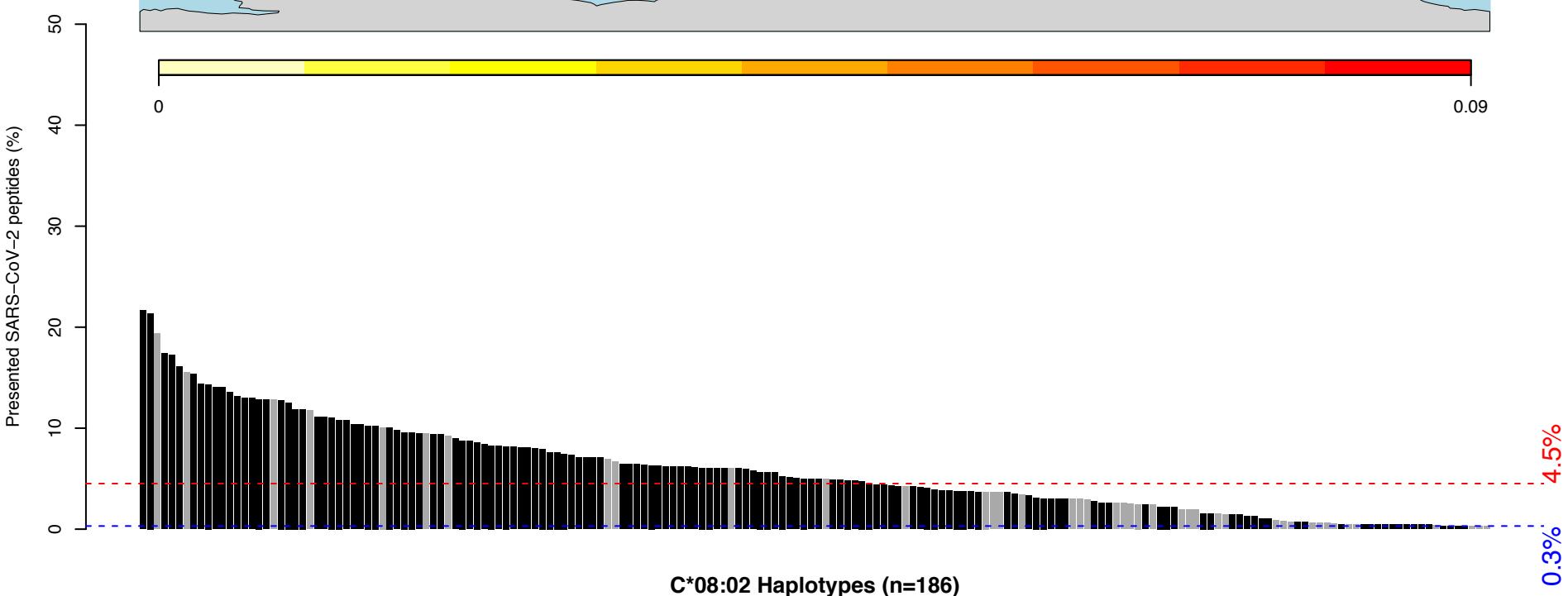
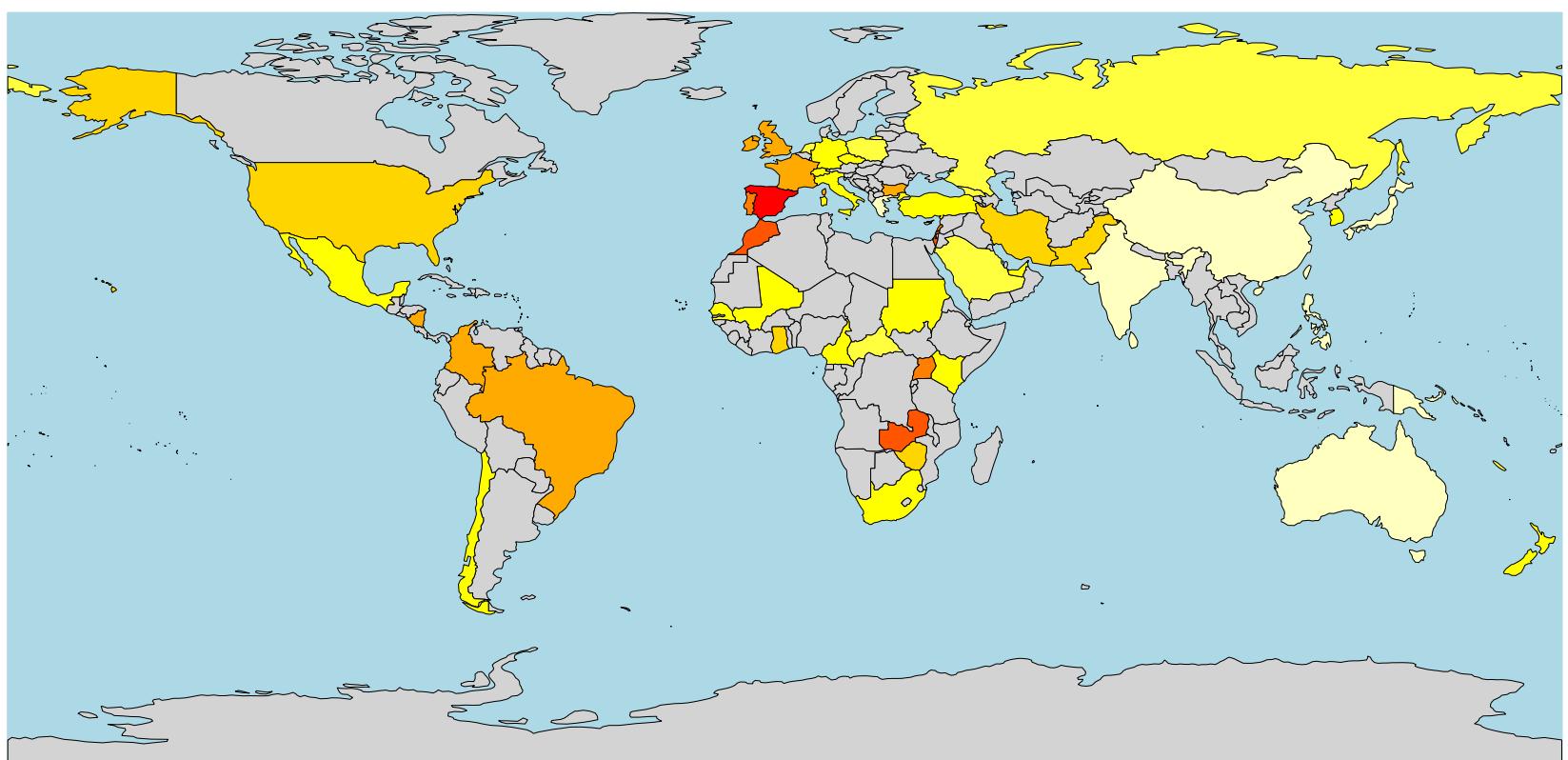
C*07:04
(~1.8% globally)



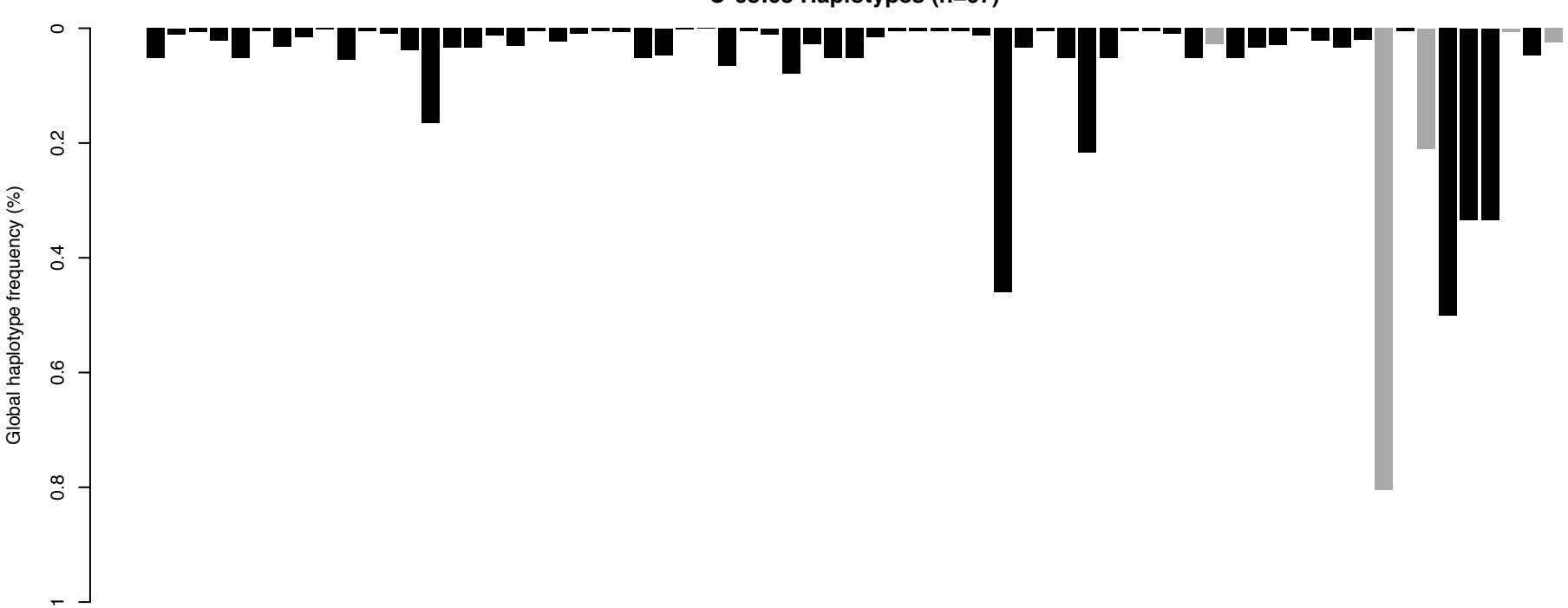
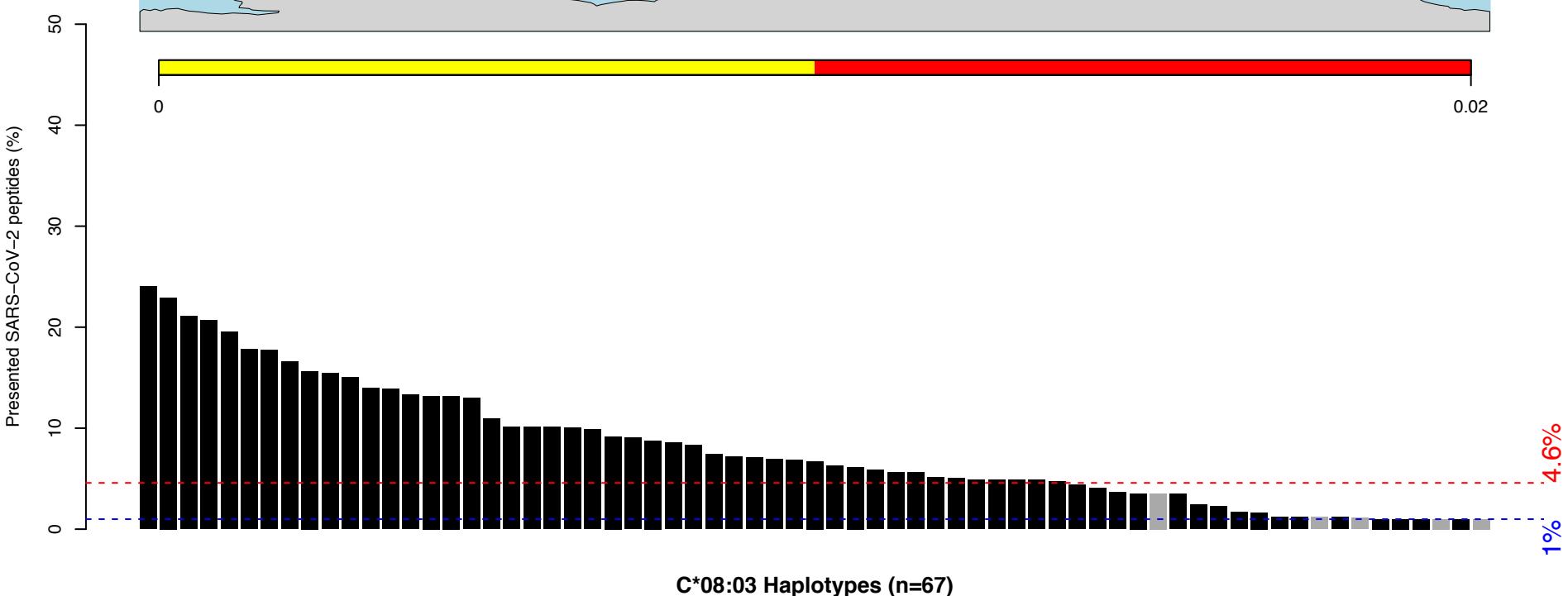
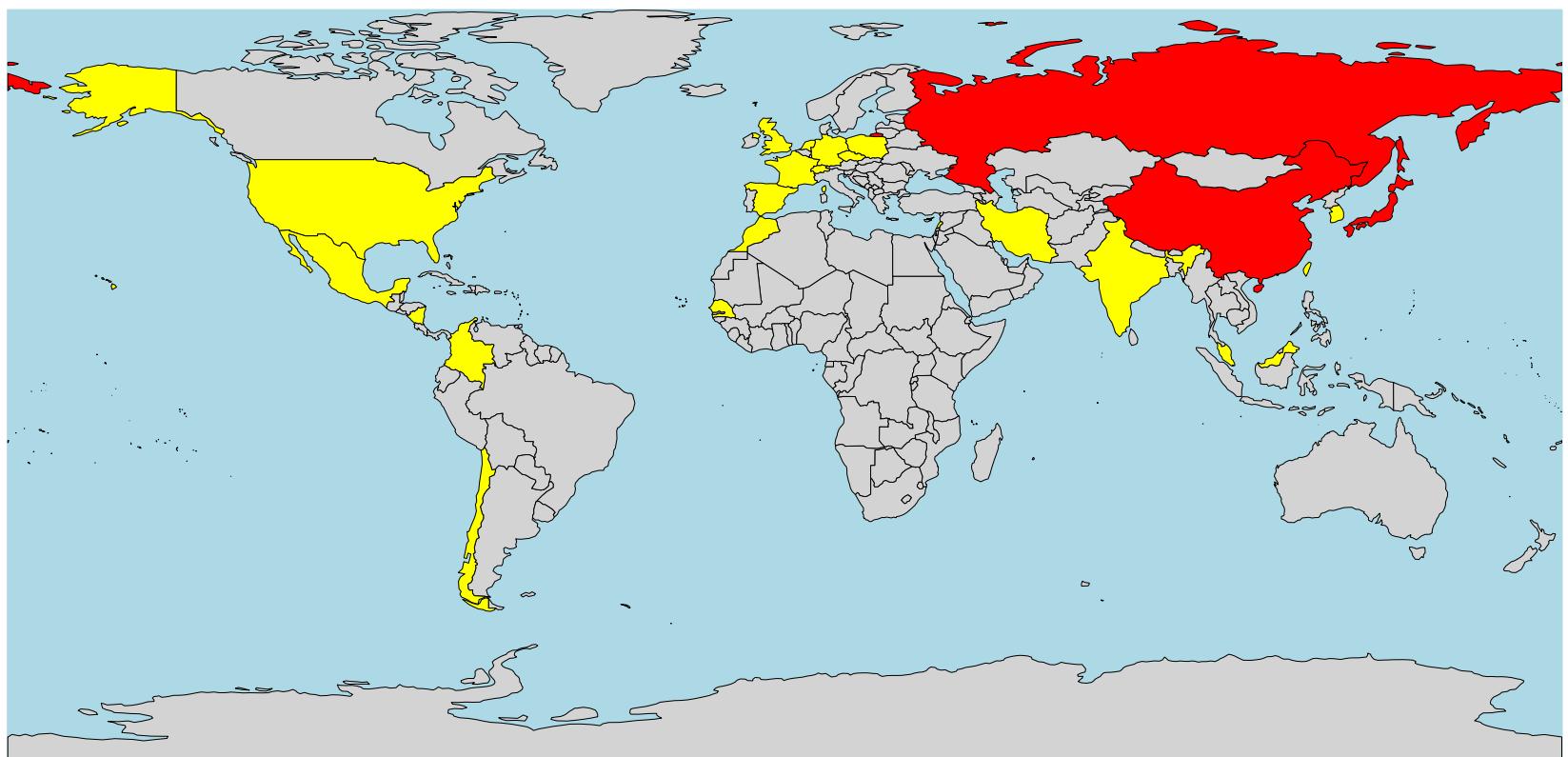
C*08:01
(~5.3% globally)



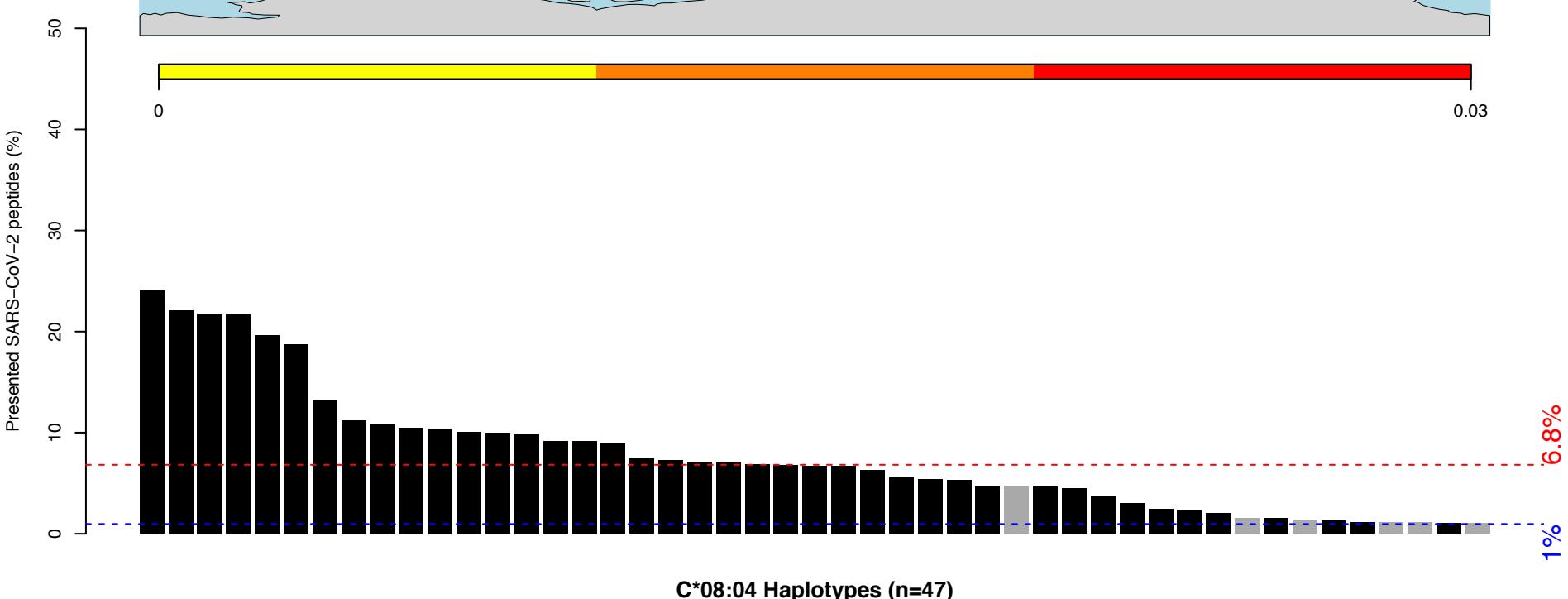
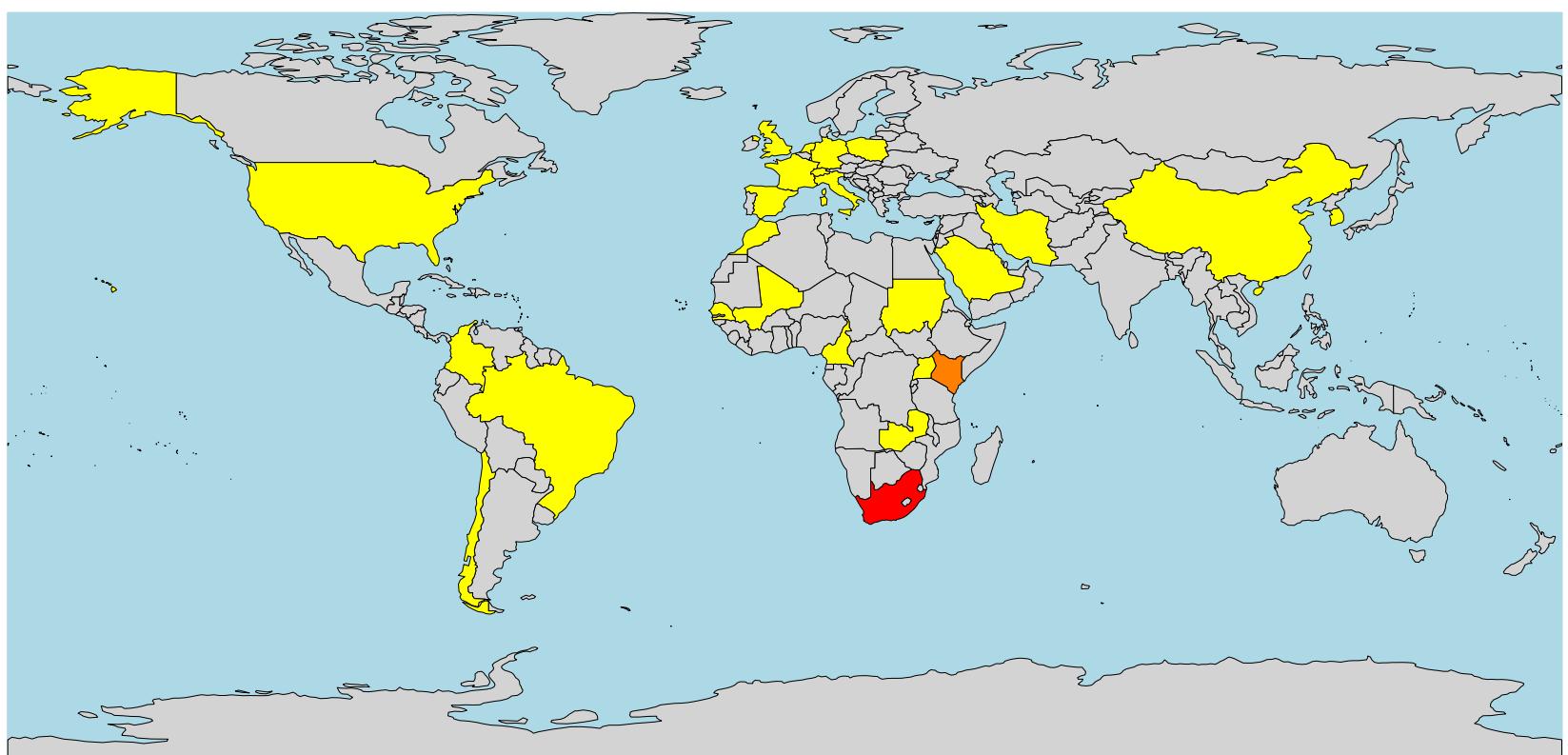
C*08:02
(~1.9% globally)



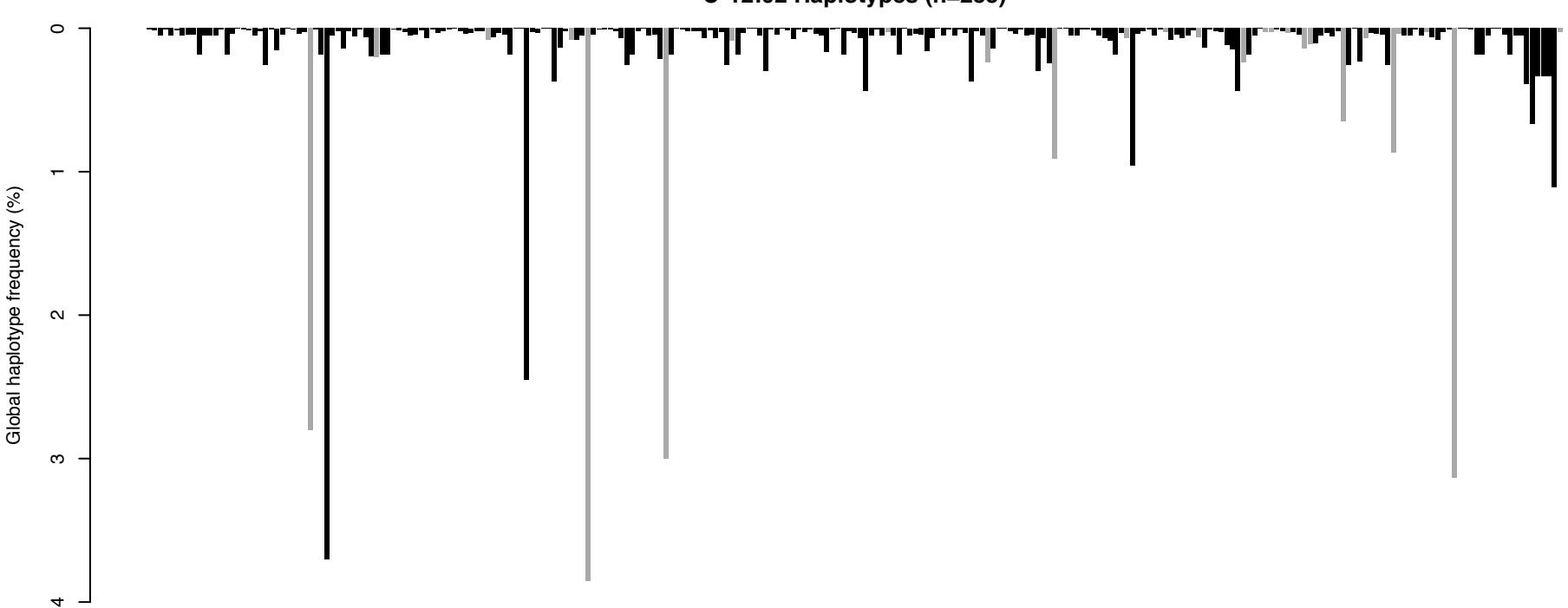
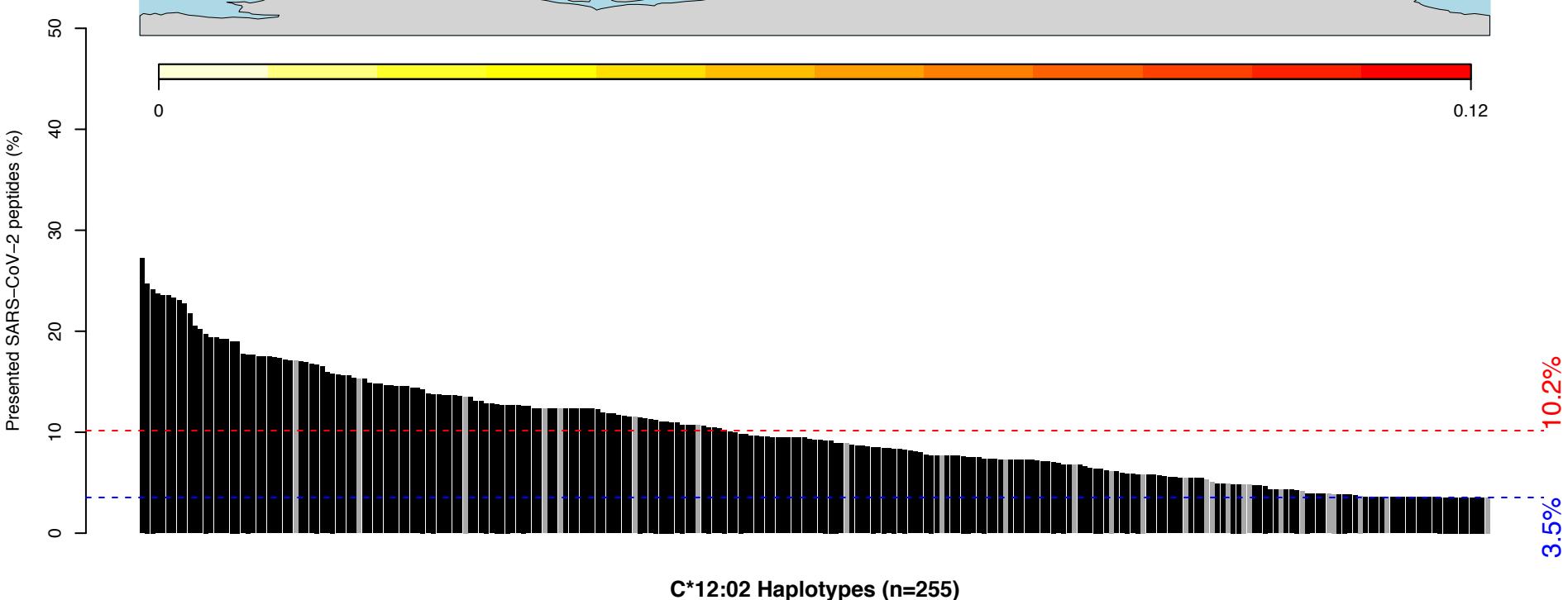
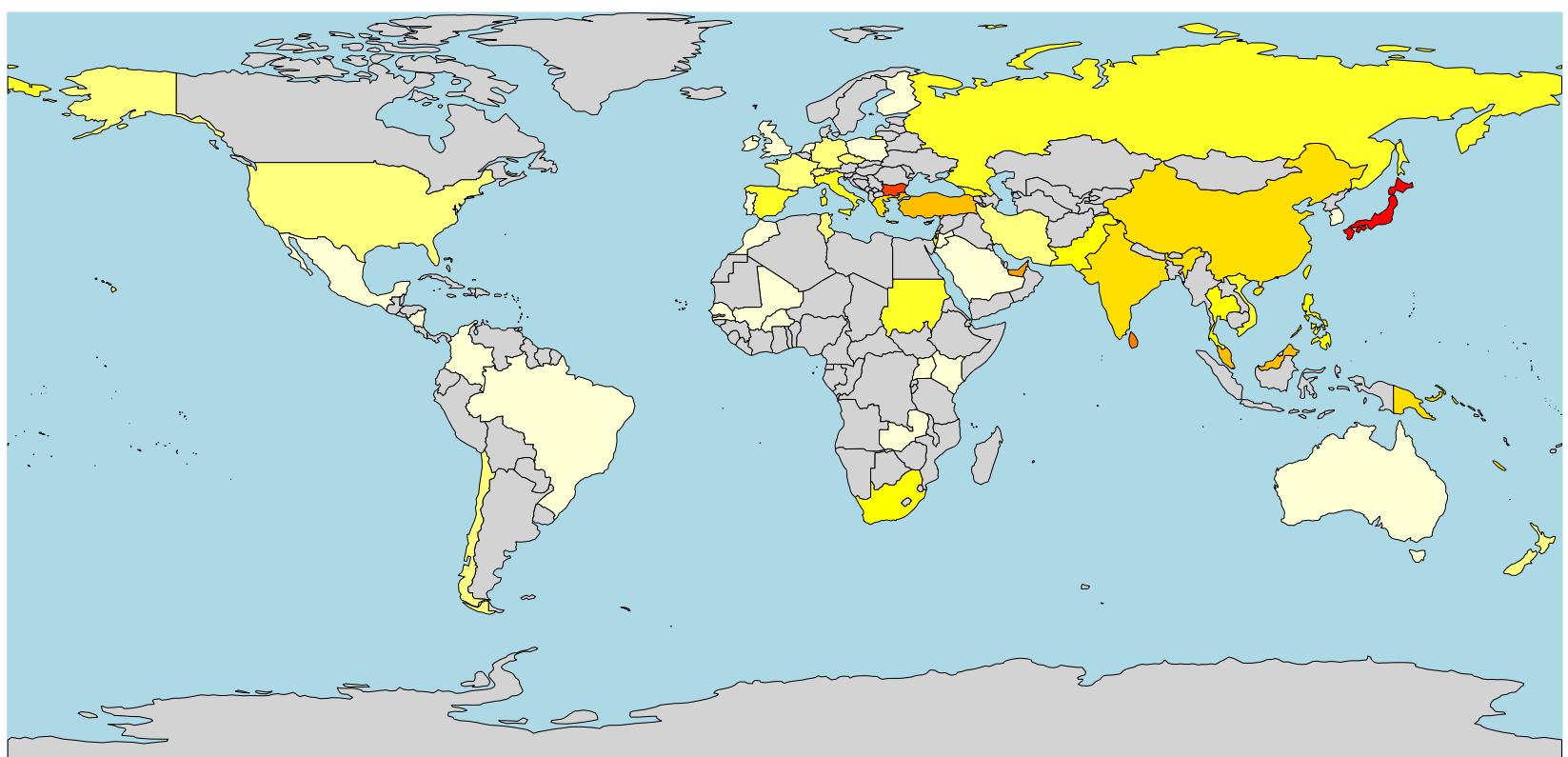
C*08:03
(~1.3% globally)



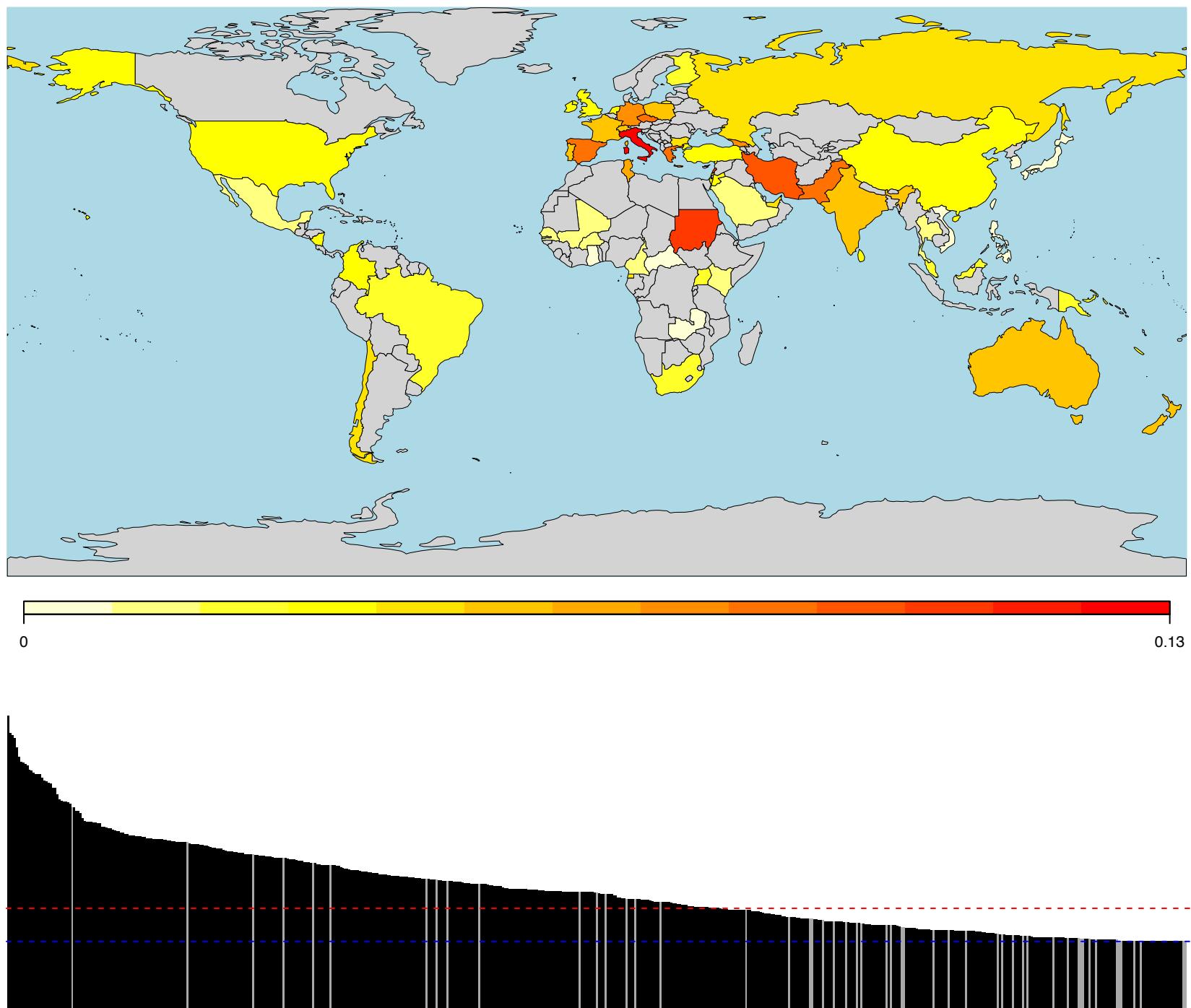
C*08:04
(~0.22% globally)



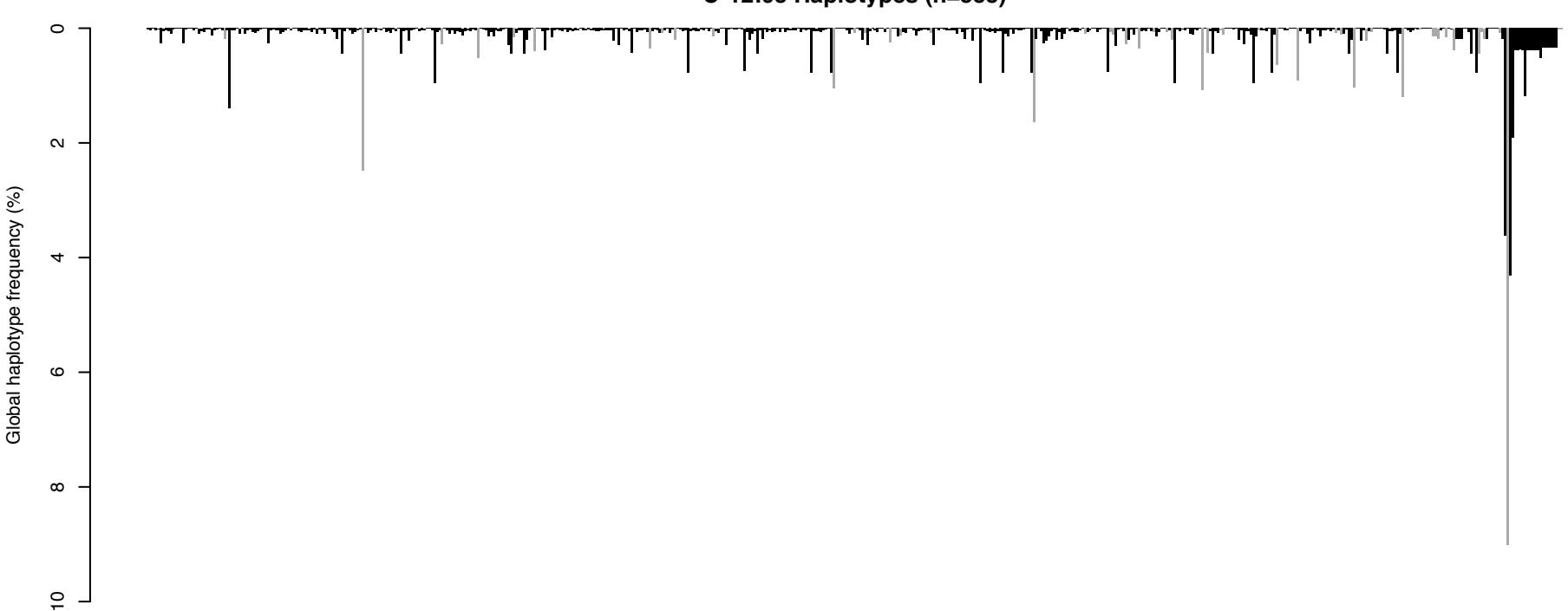
C*12:02
(~2.4% globally)



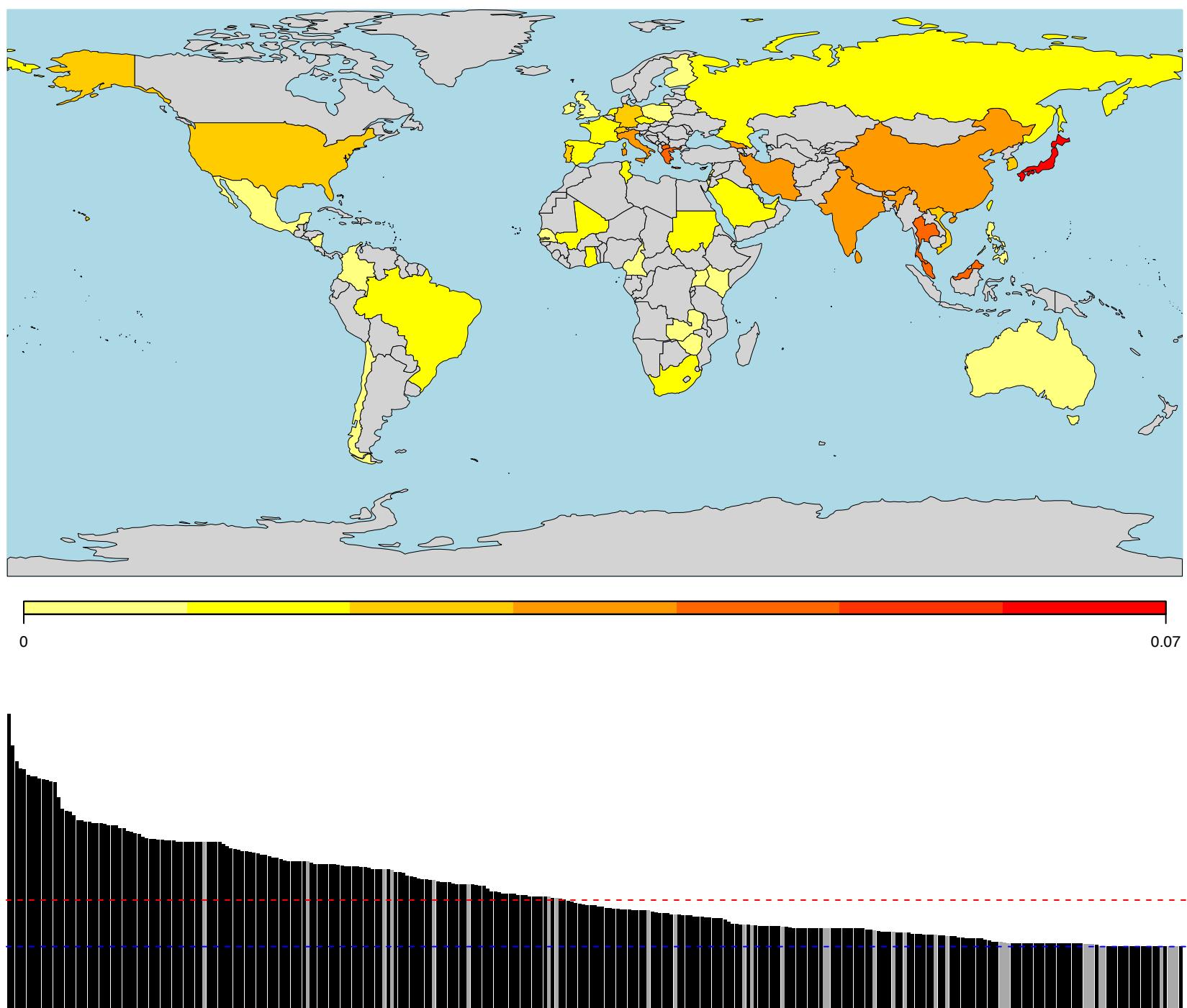
C*12:03
(~3% globally)



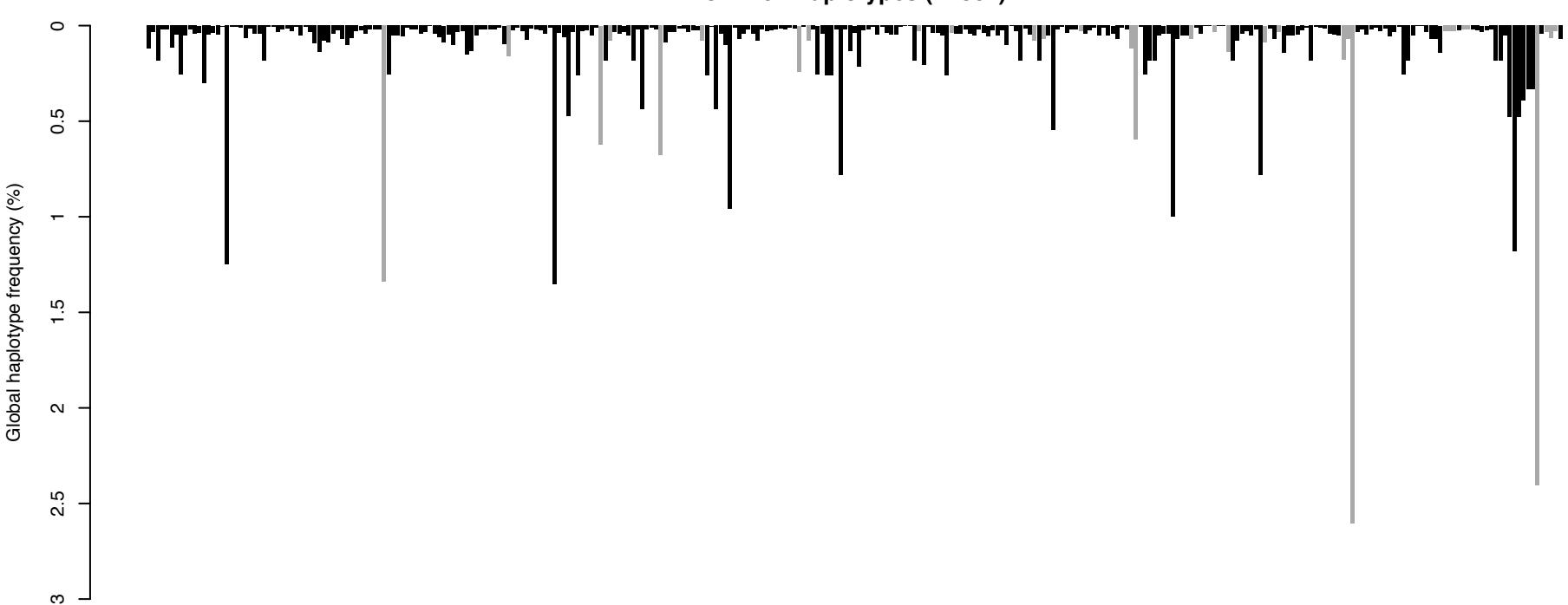
C*12:03 Haplotypes (n=553)



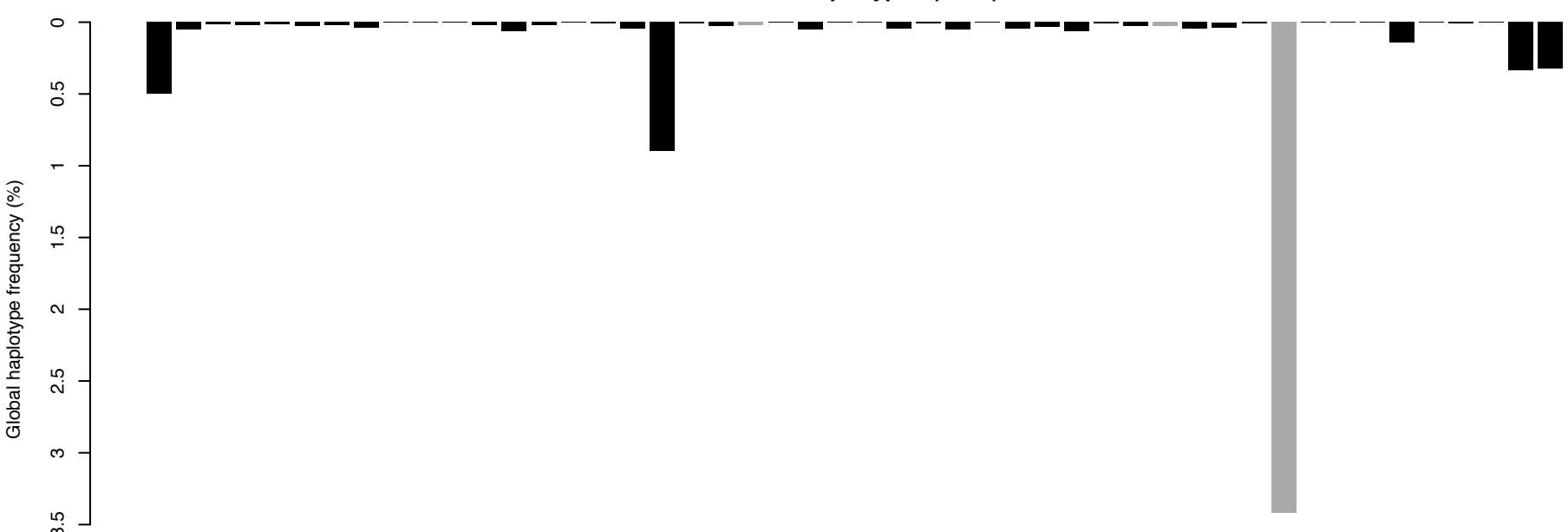
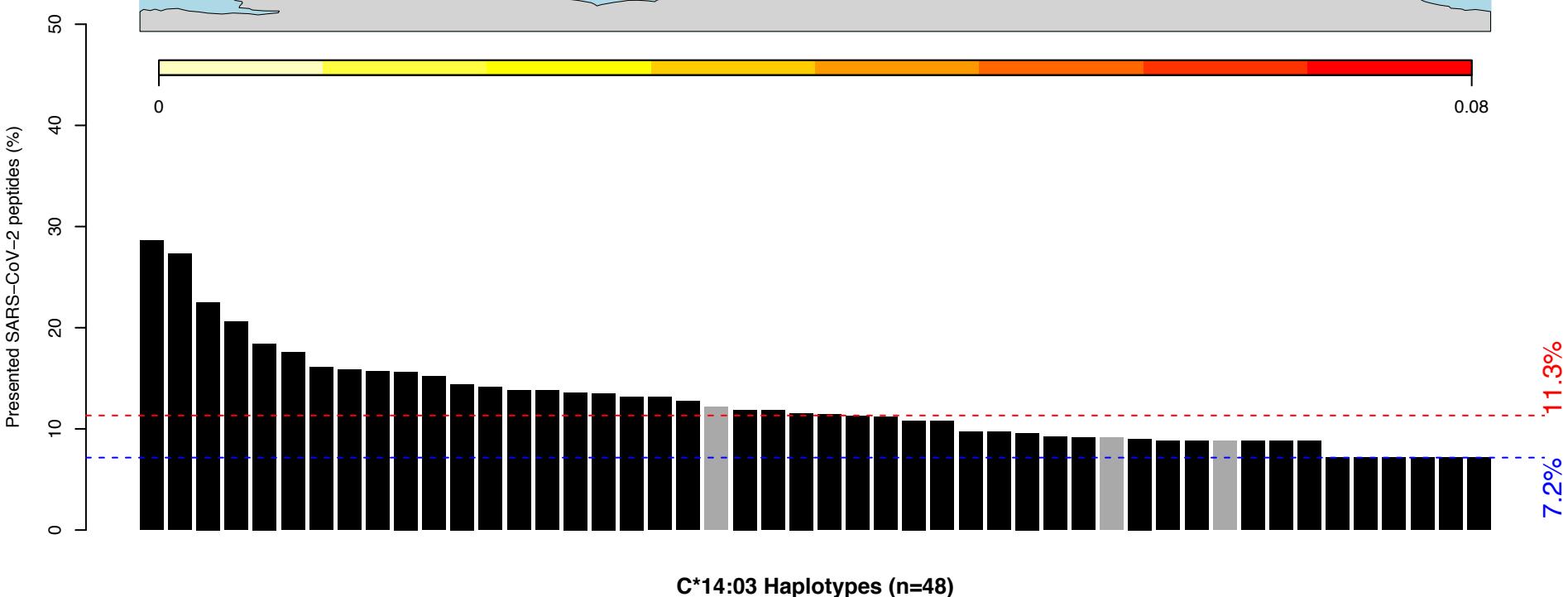
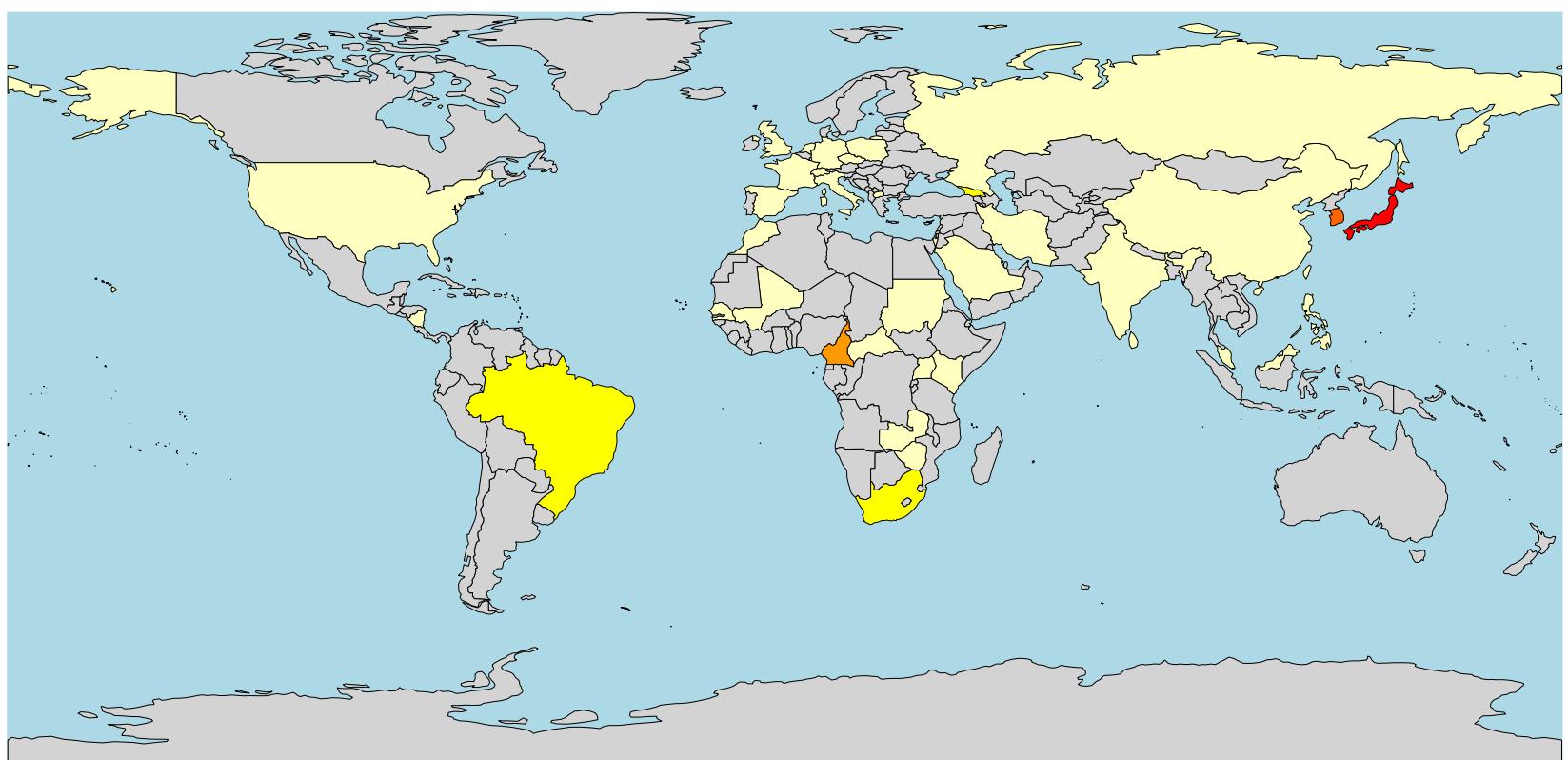
C*14:02
(~2.1% globally)



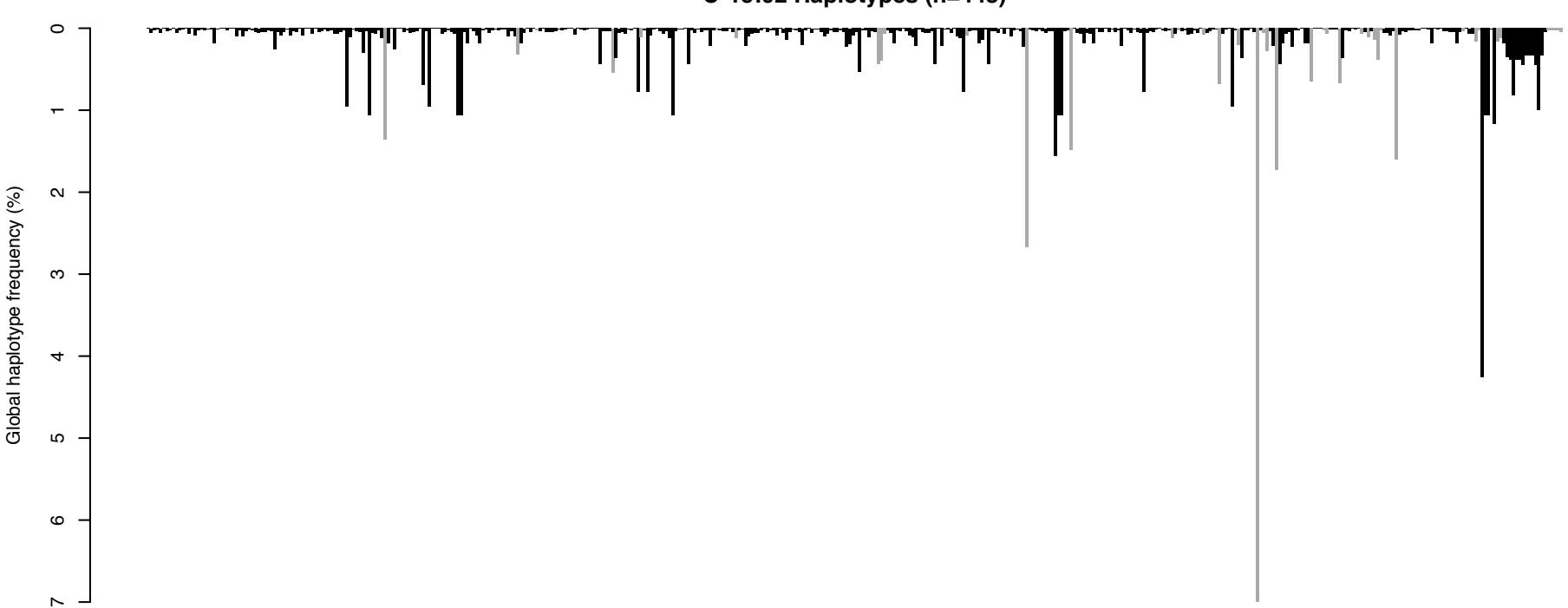
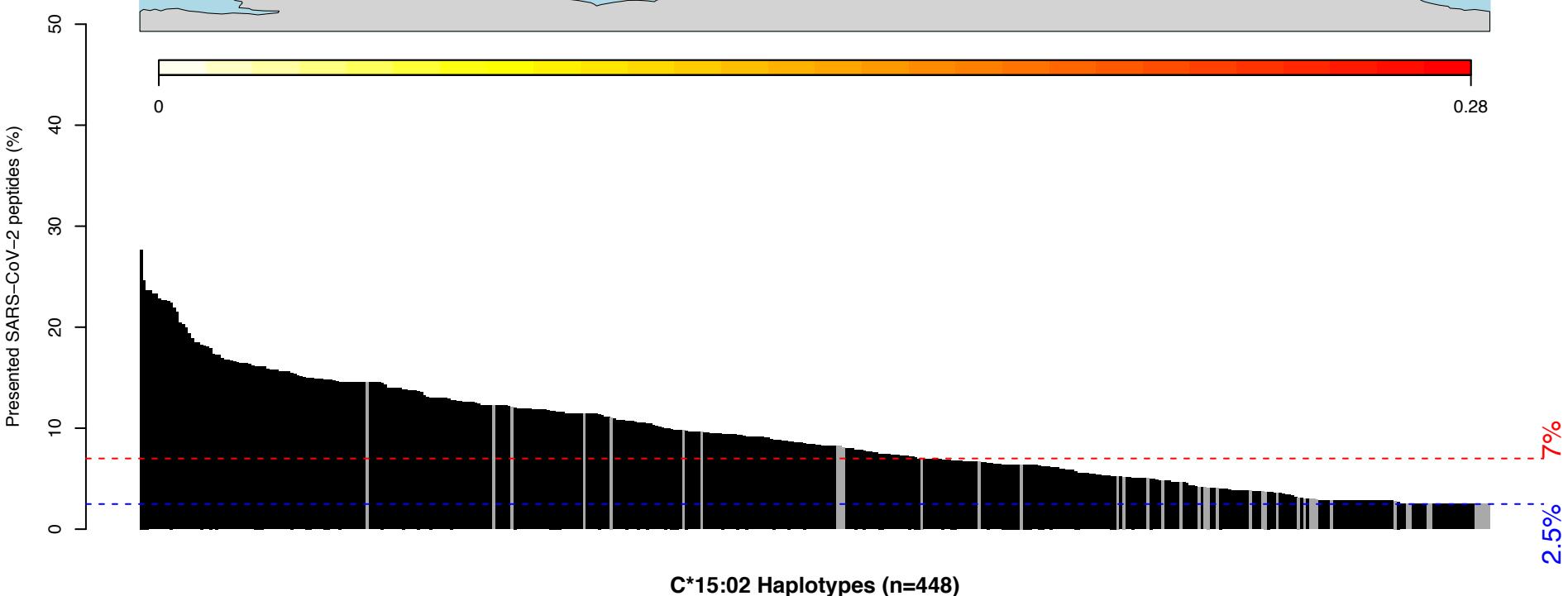
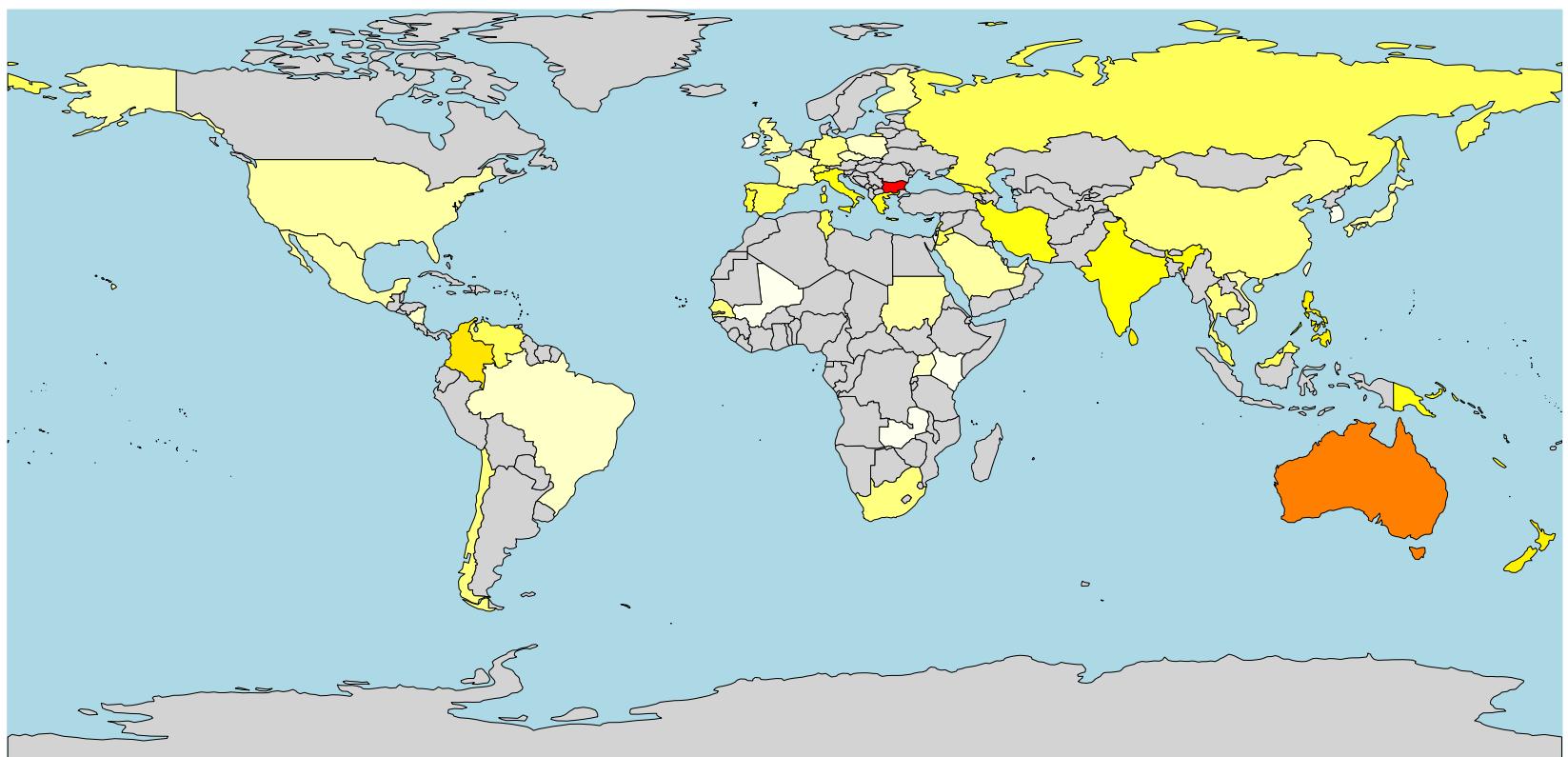
C*14:02 Haplotypes (n=307)



C*14:03
(~0.88% globally)



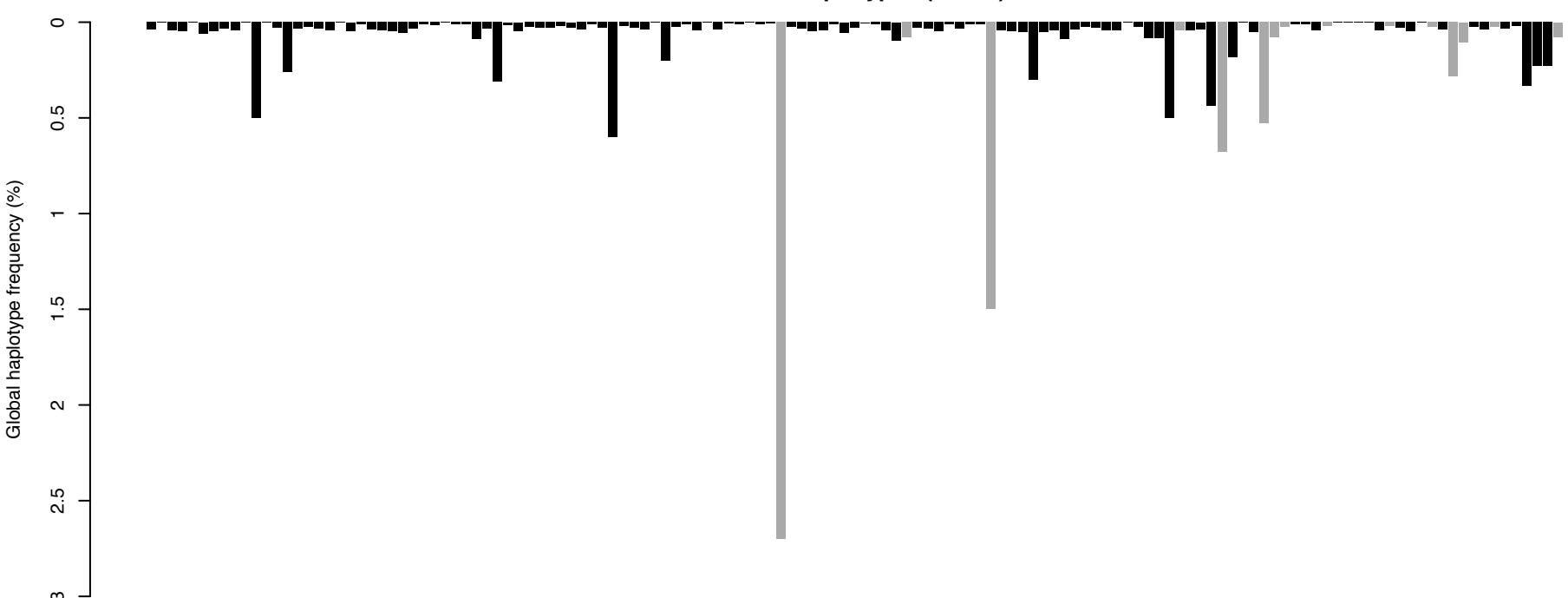
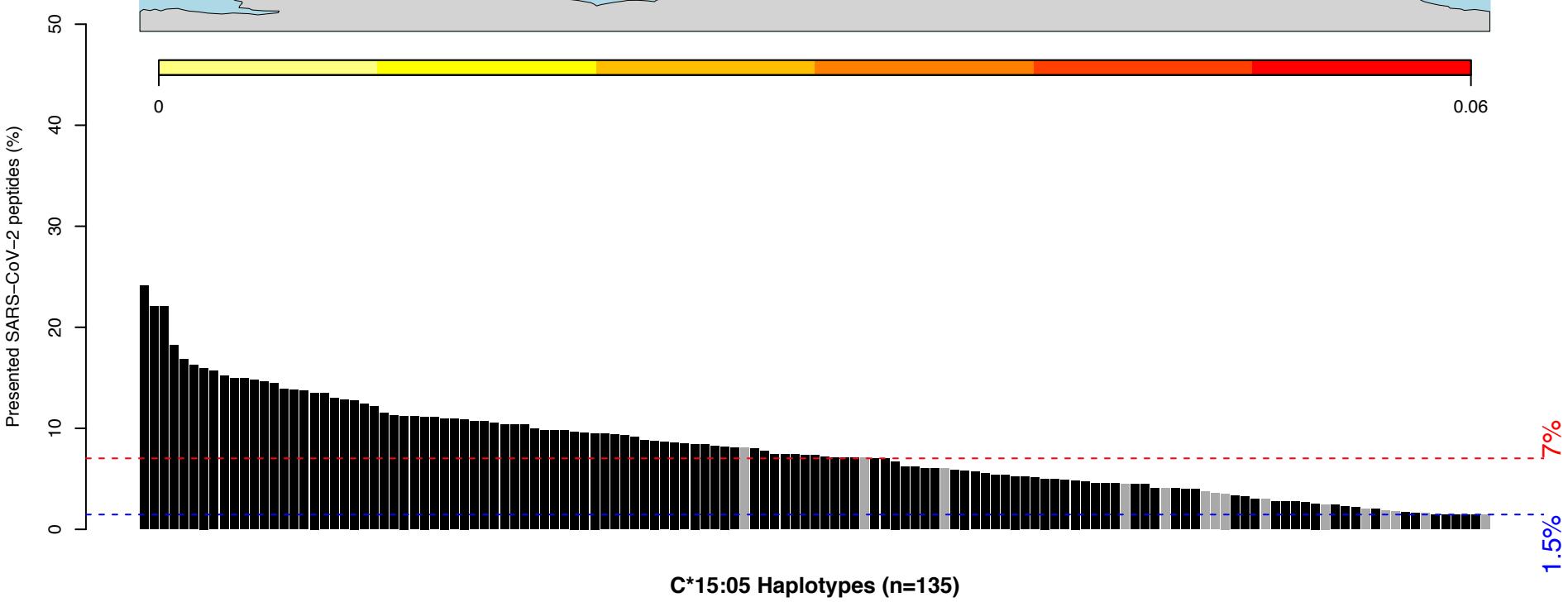
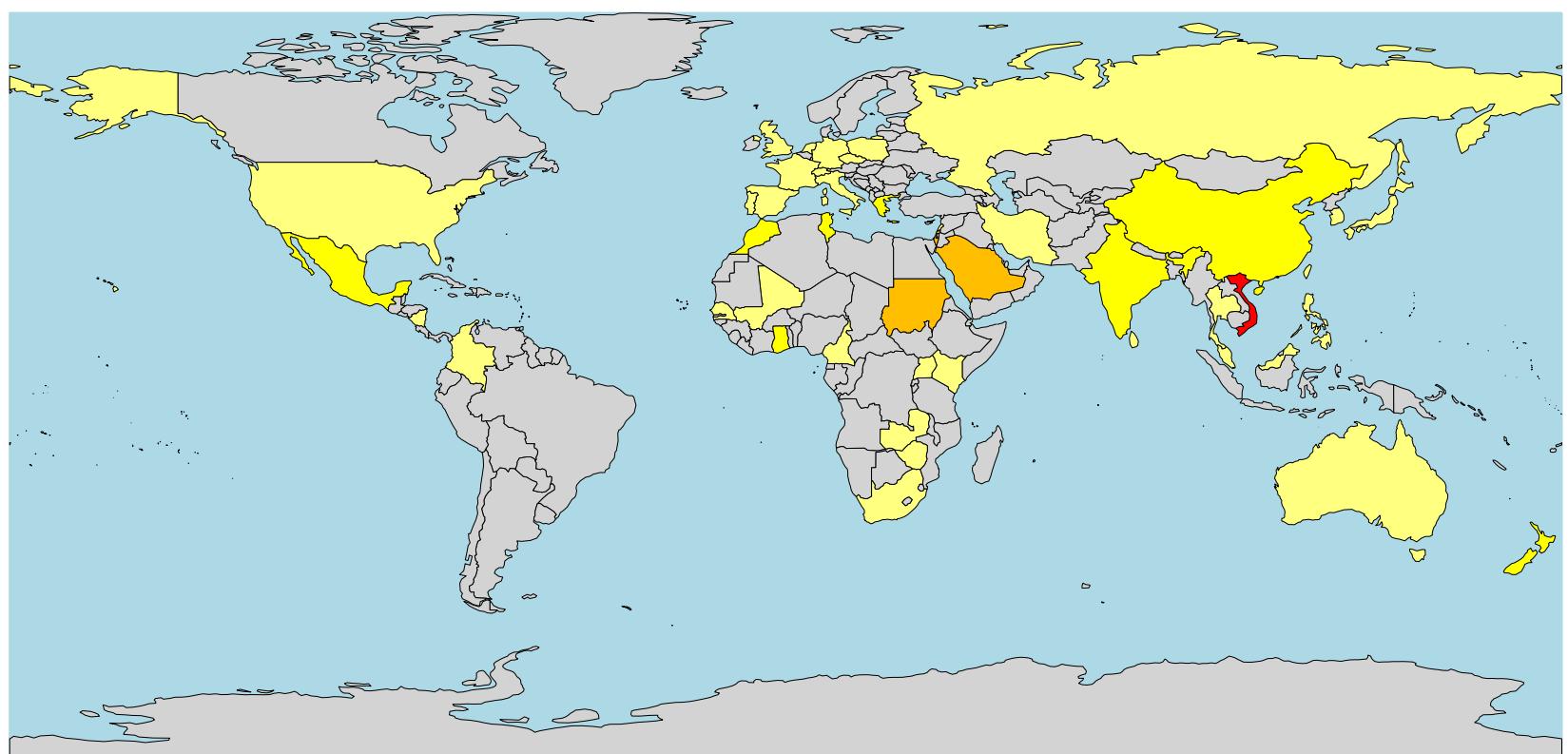
C*15:02
(~4% globally)



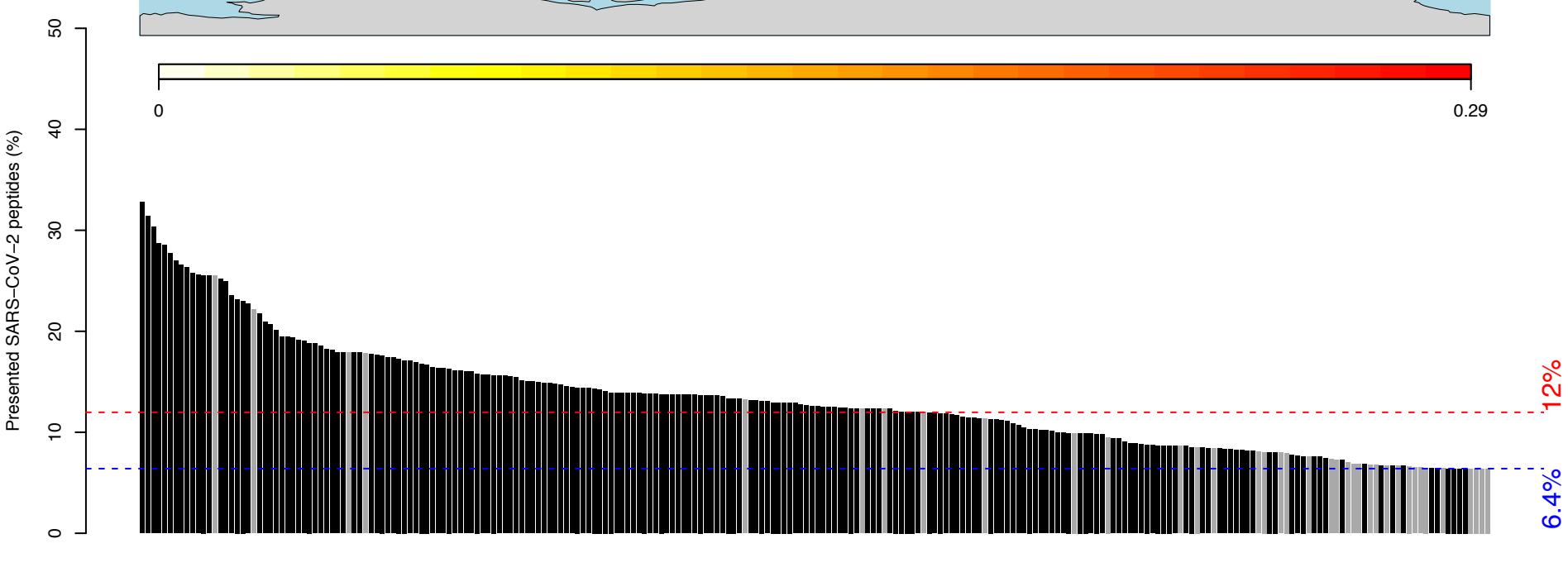
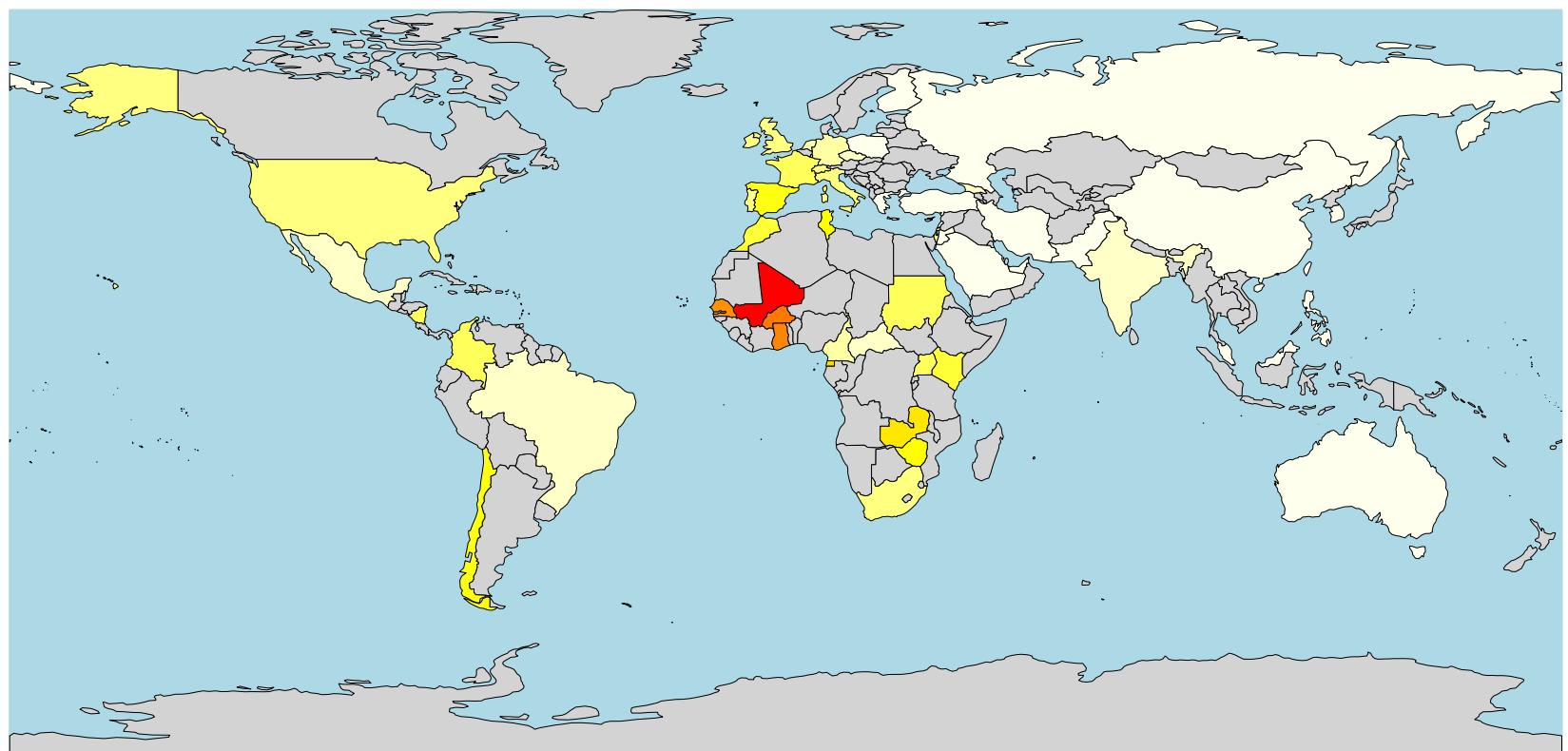
7%

2.5%

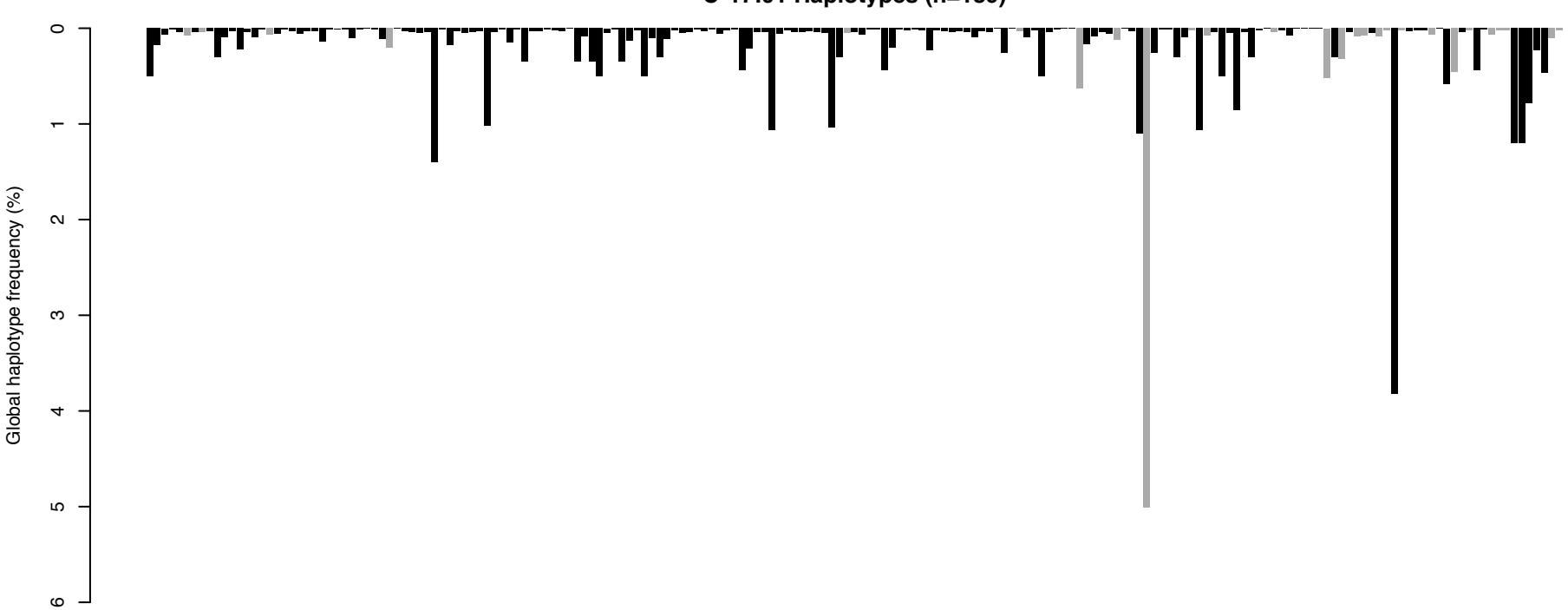
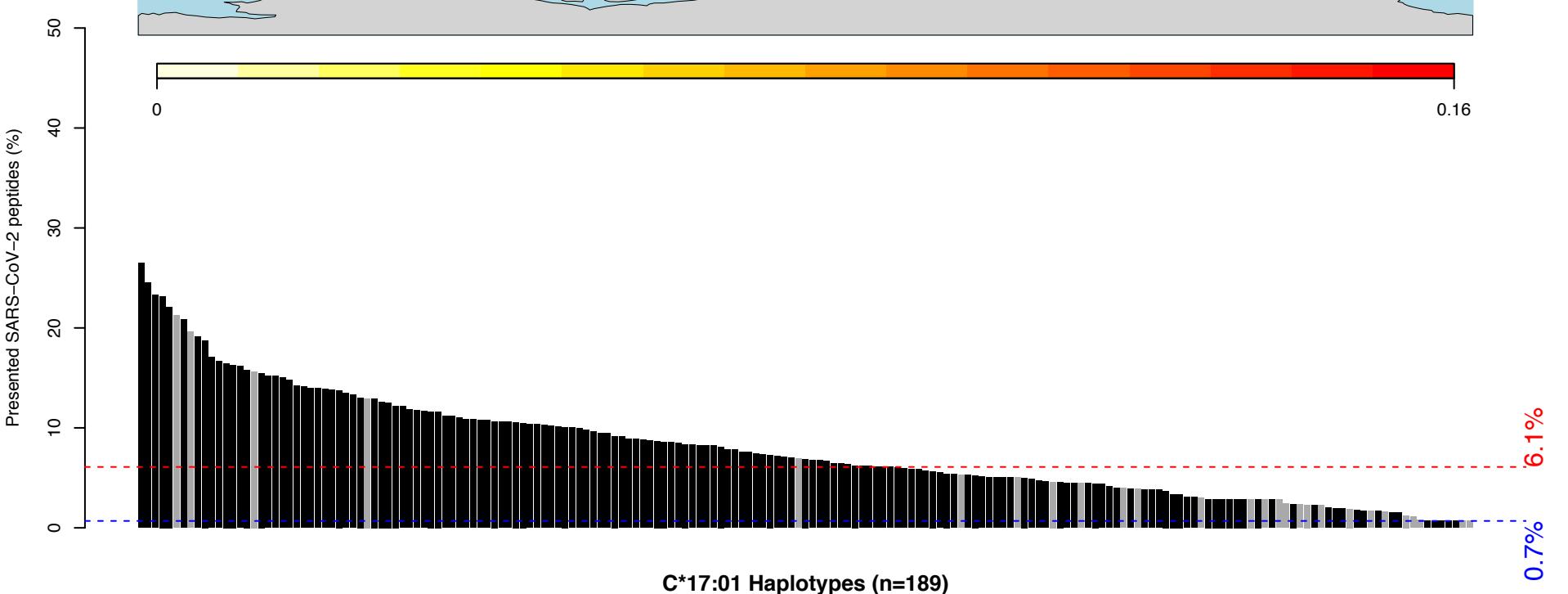
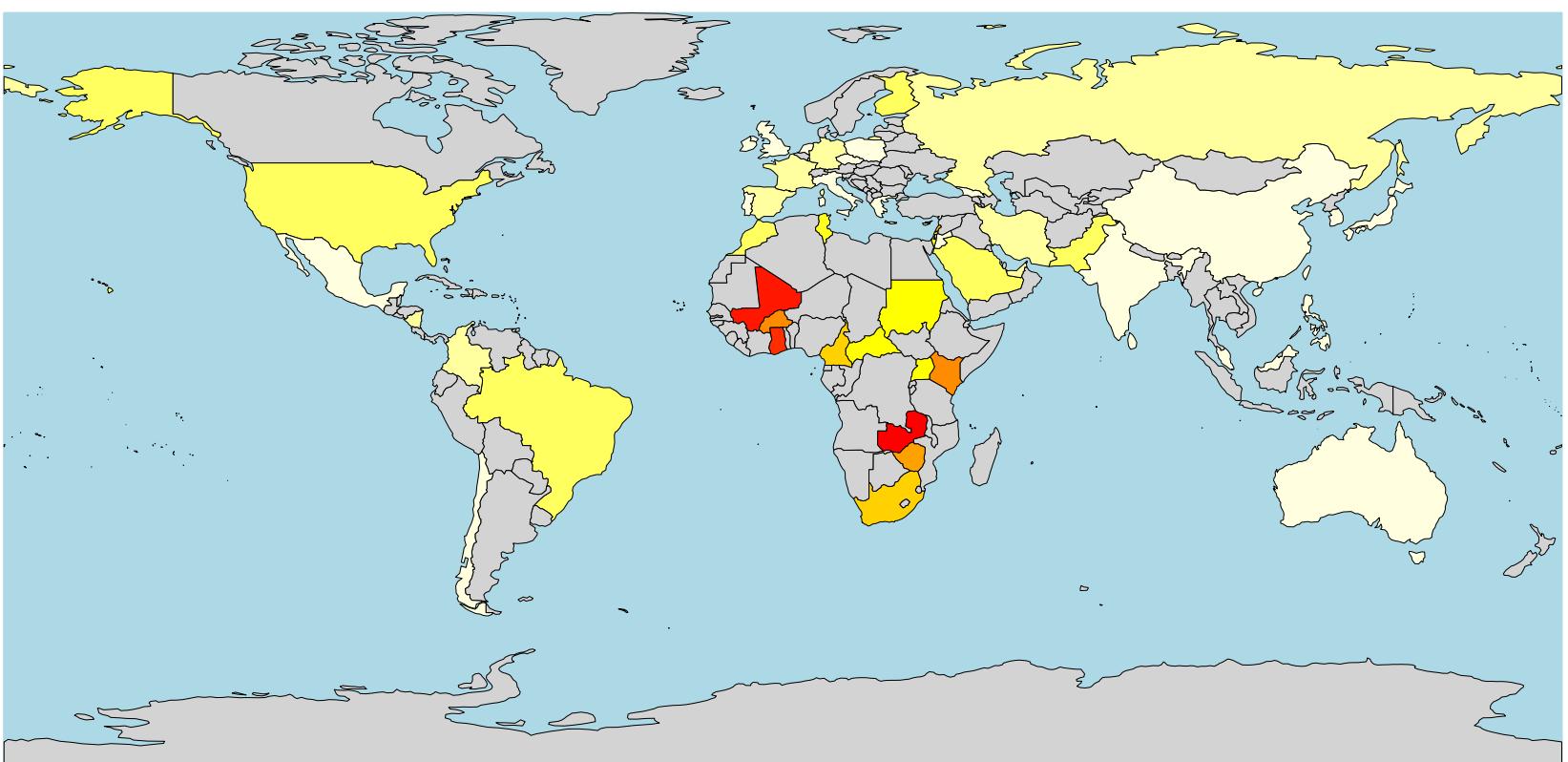
C*15:05
(~0.56% globally)



C*16:01
(~2% globally)



C*17:01
(~1.1% globally)



C*18:01
(~1% globally)

