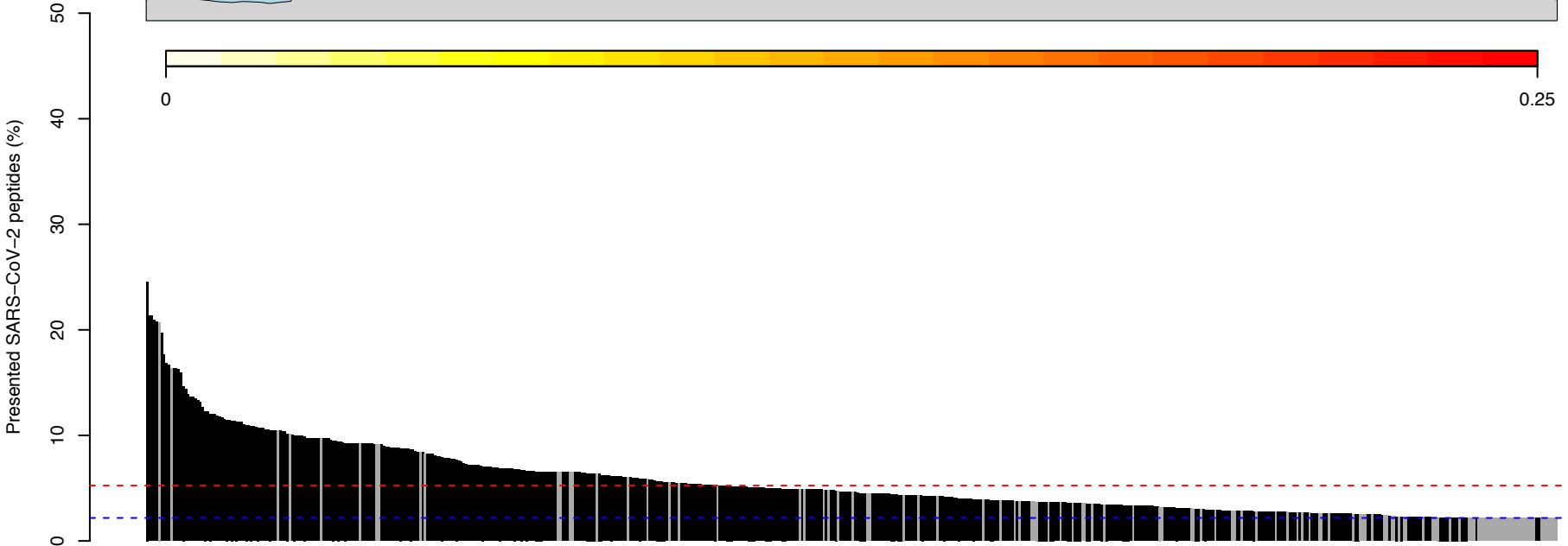
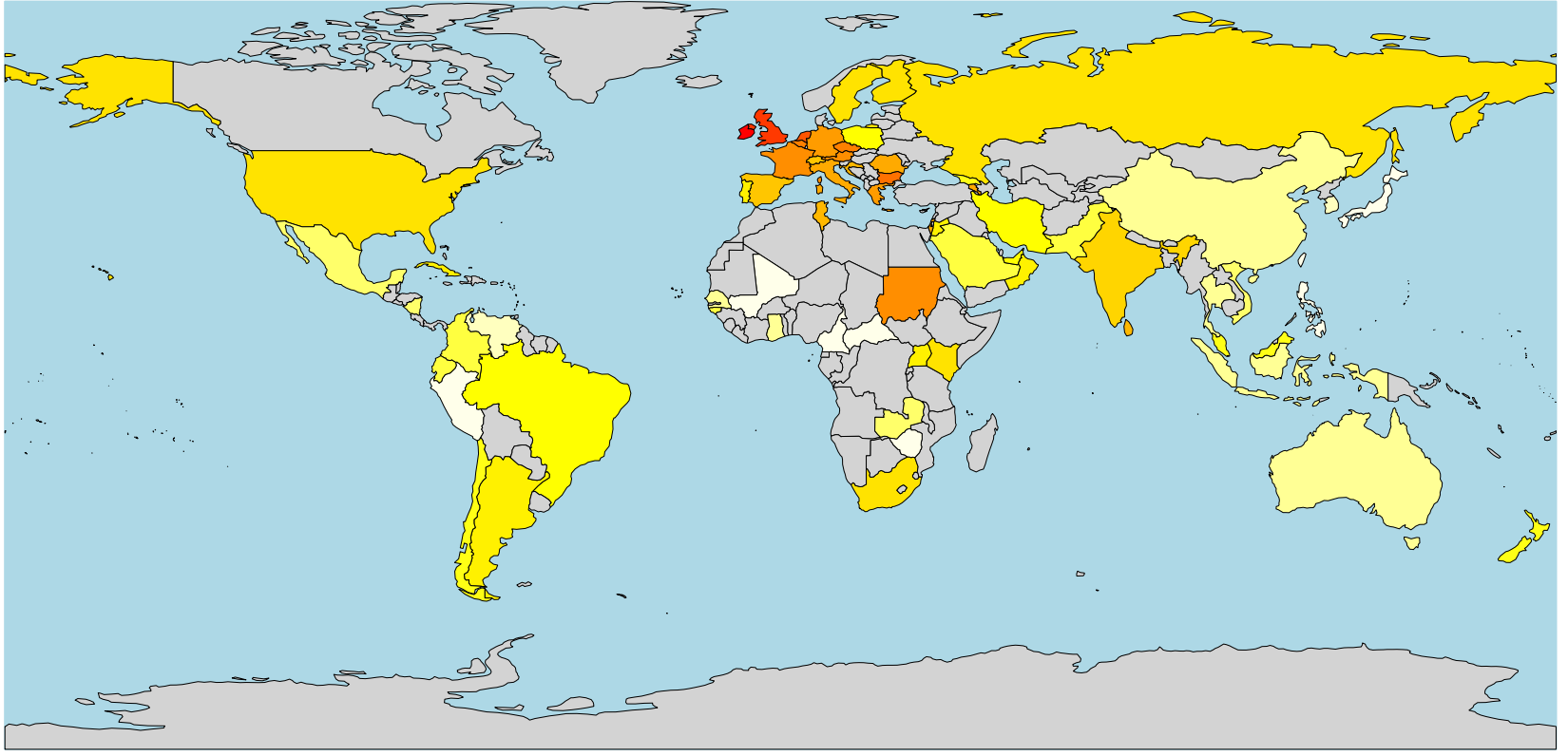
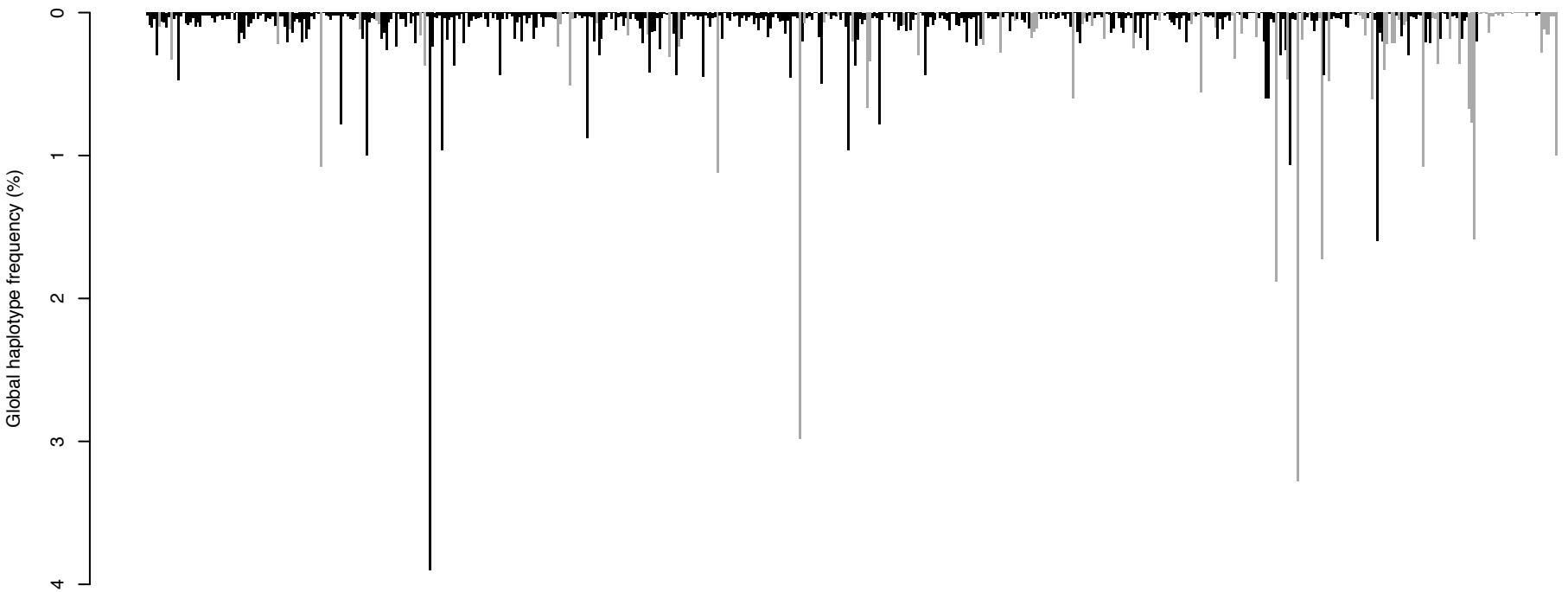


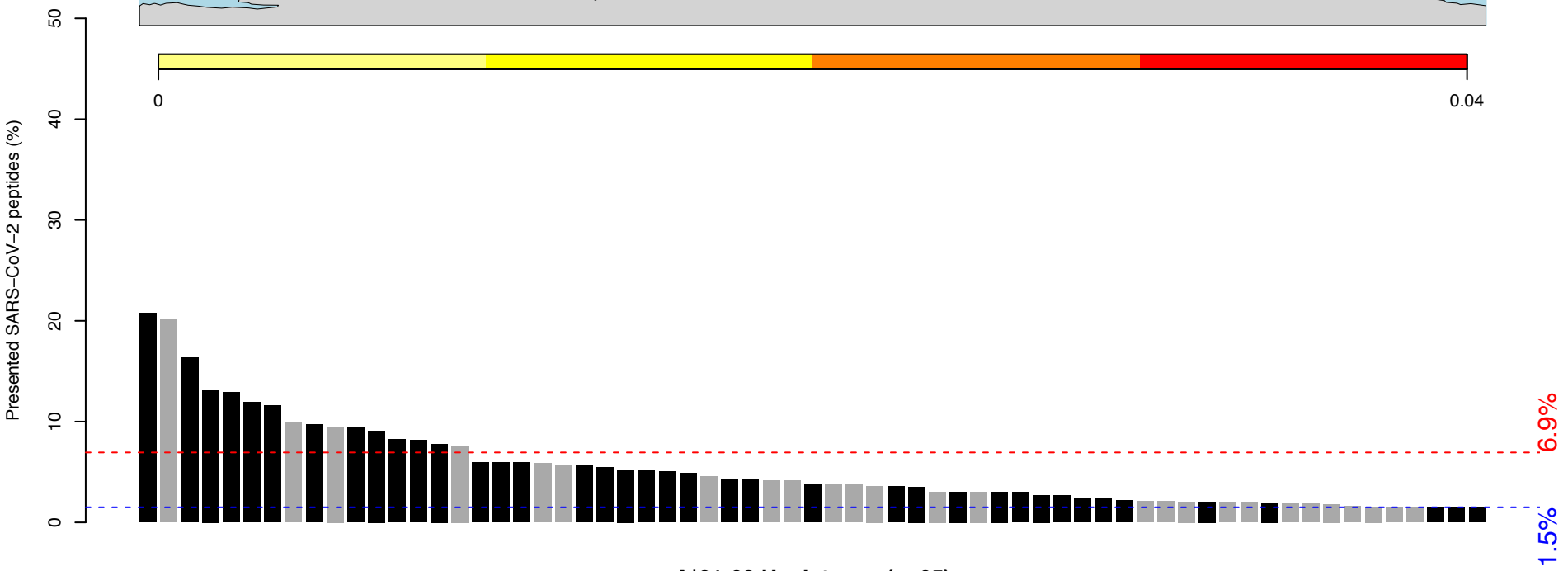
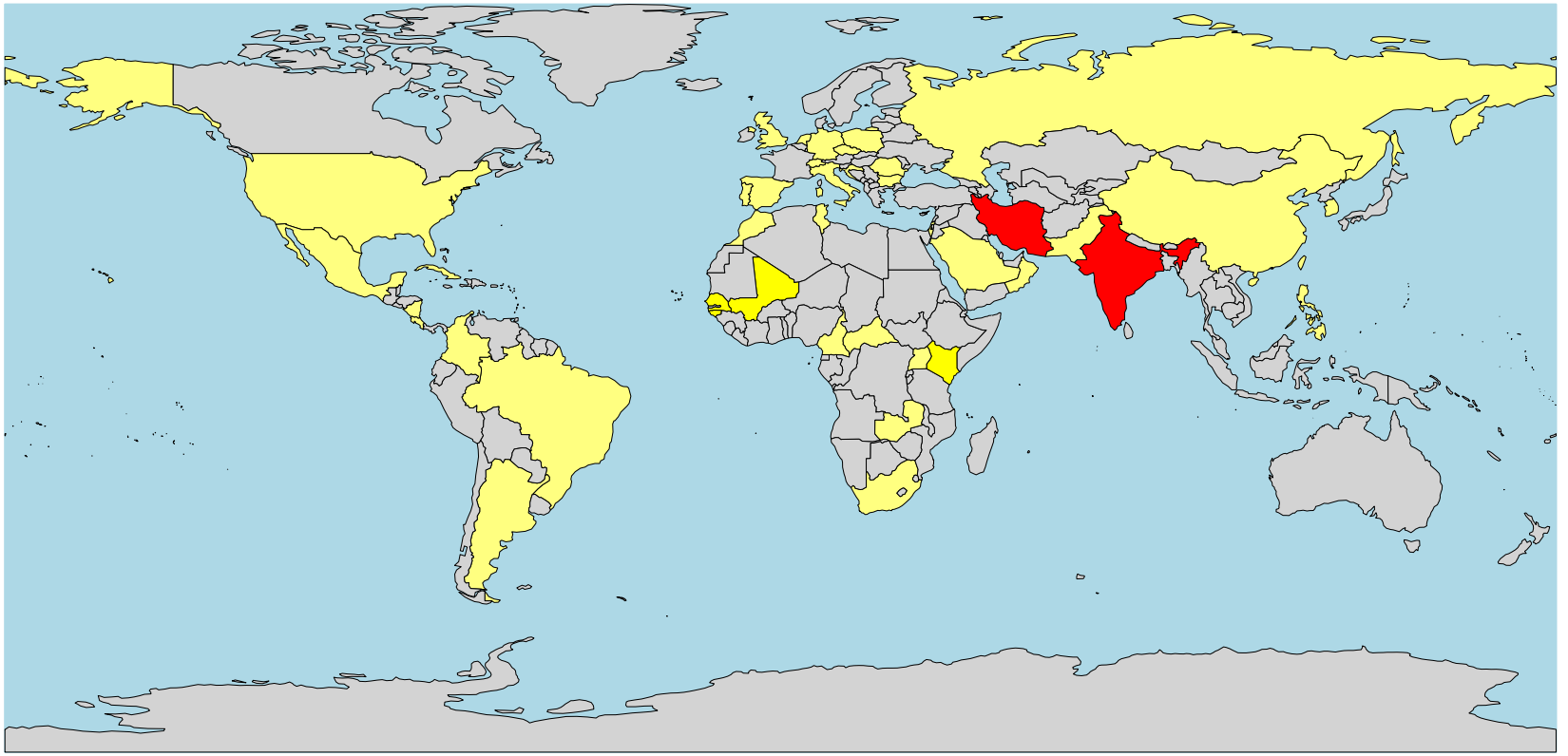
A*01:01
(~5% globally)



A*01:01 Haplotypes (n=584)



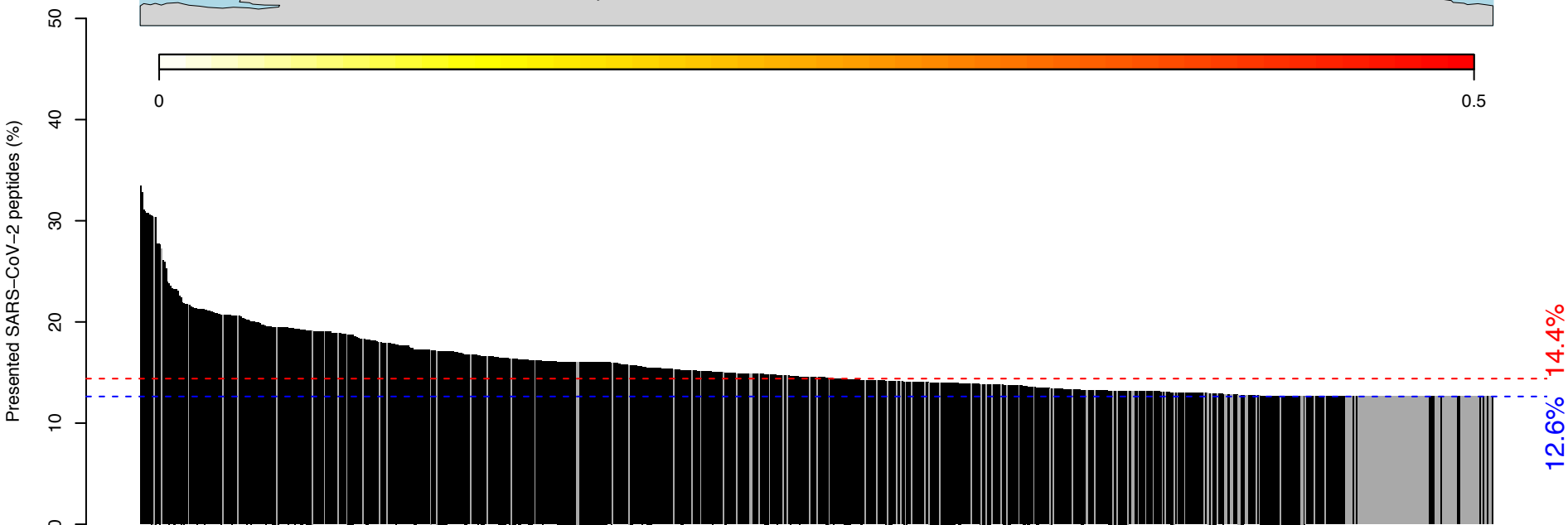
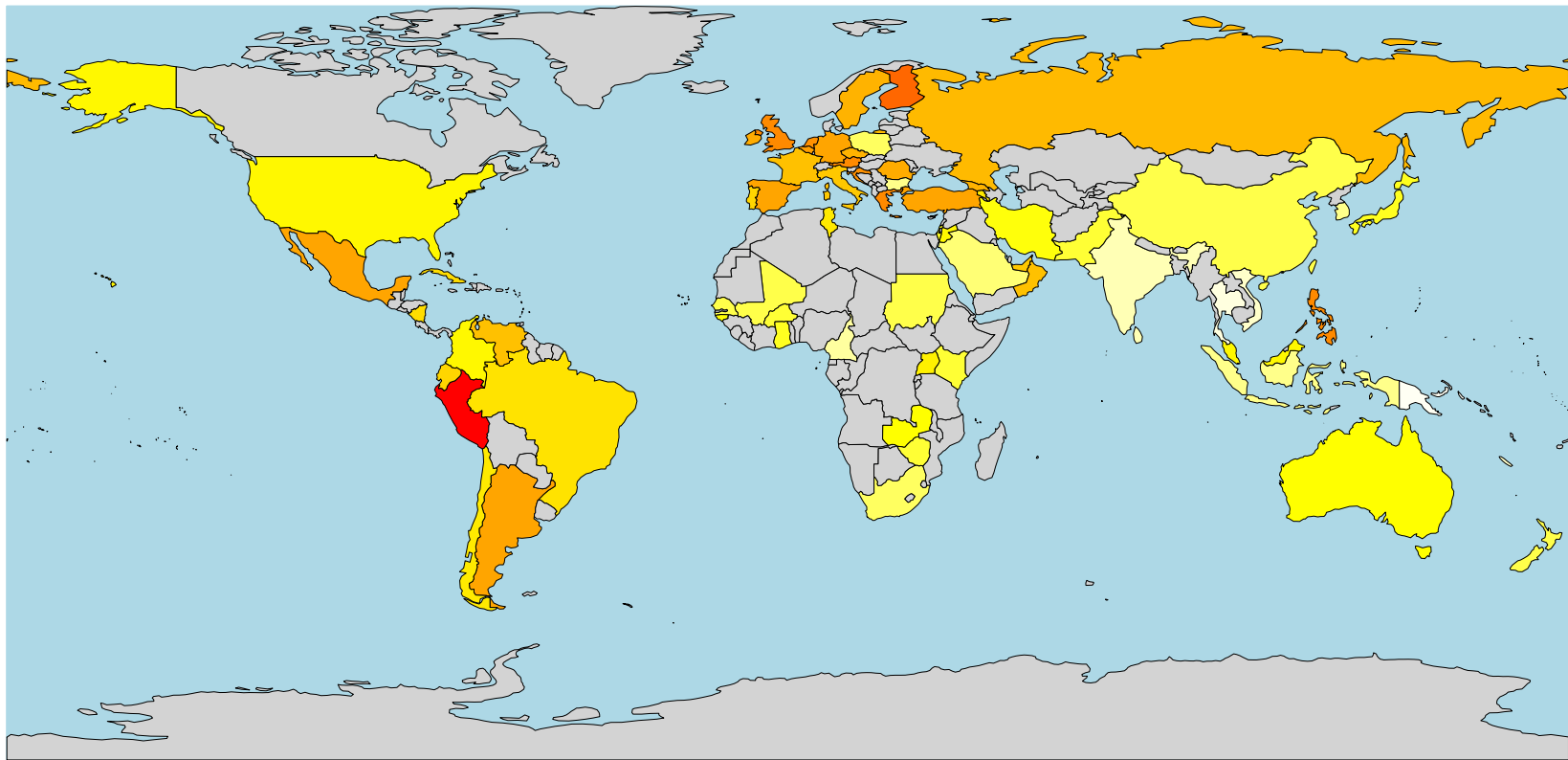
A*01:02
(~1% globally)



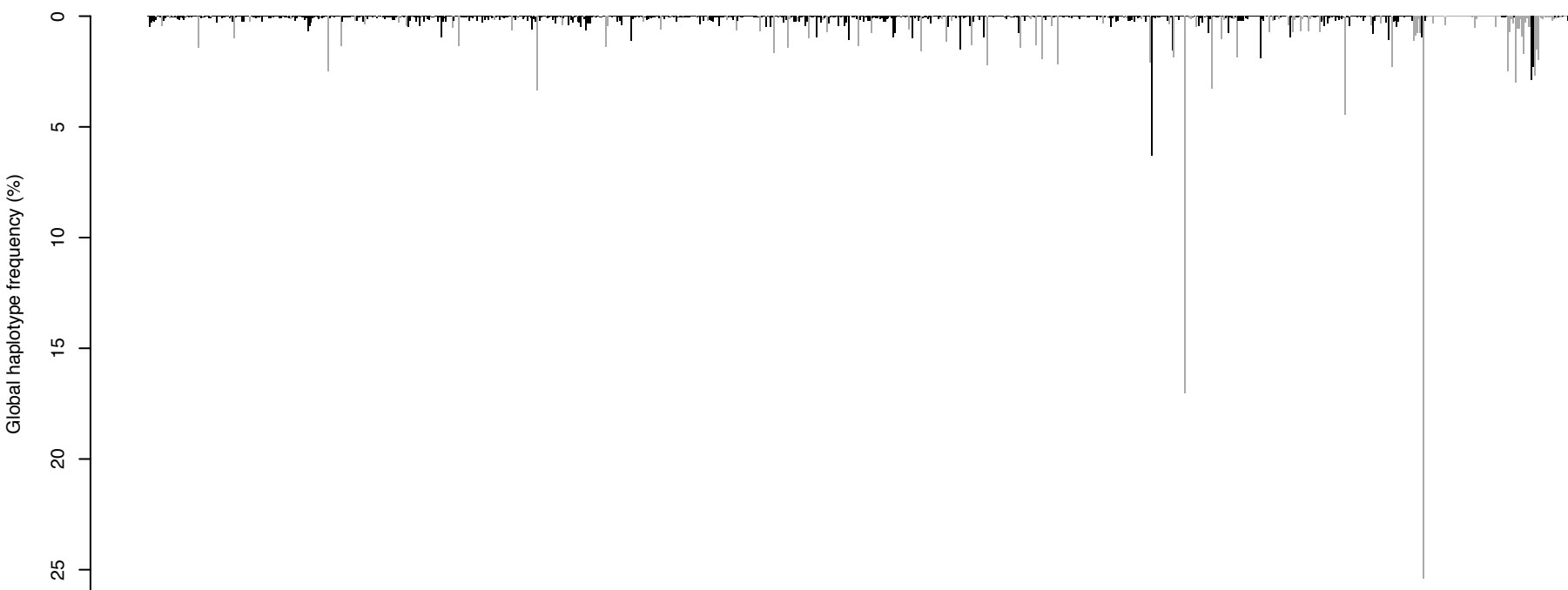
A*01:02 Haplotypes (n=65)



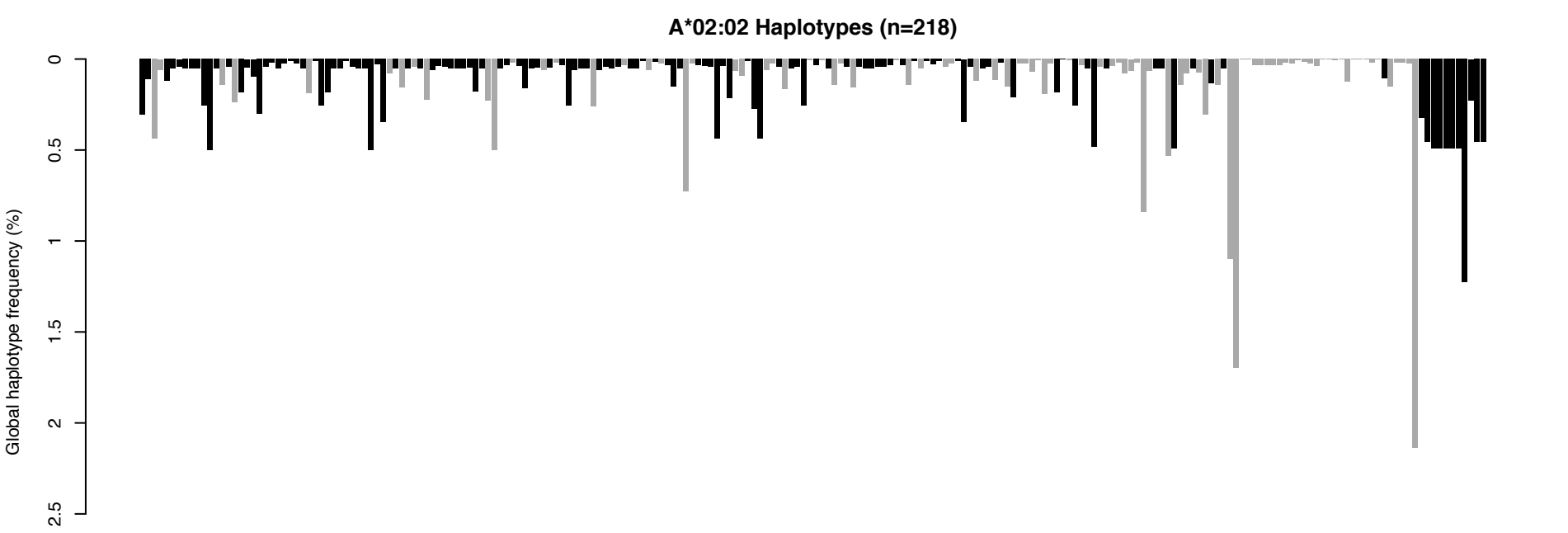
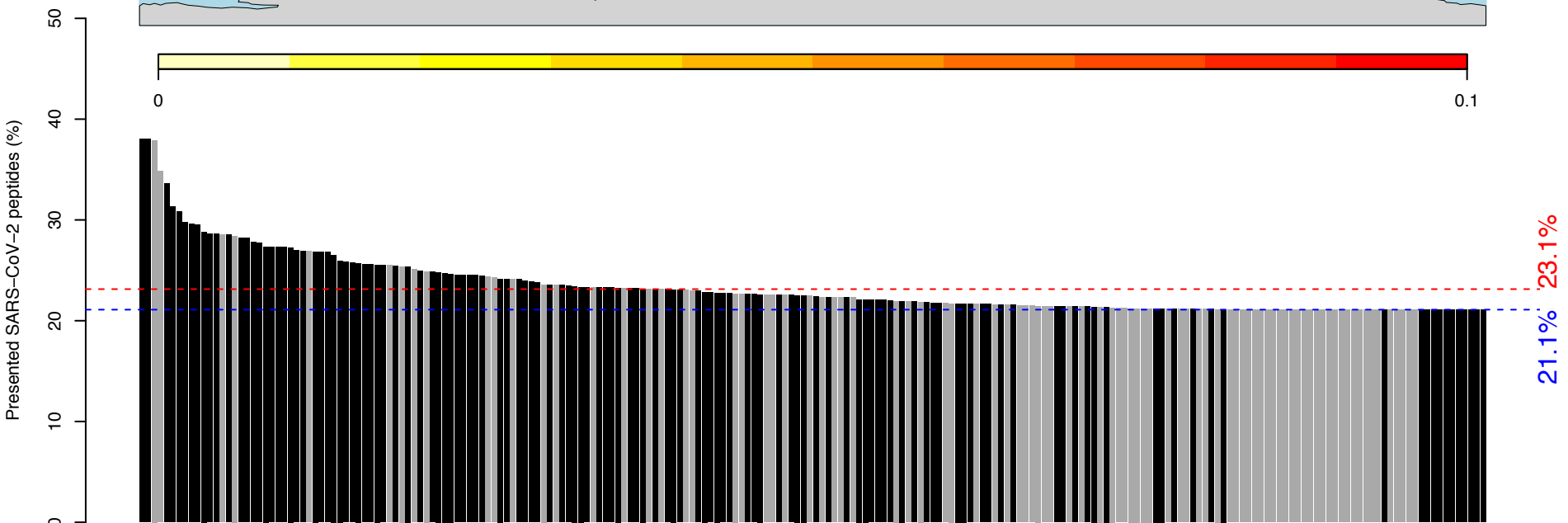
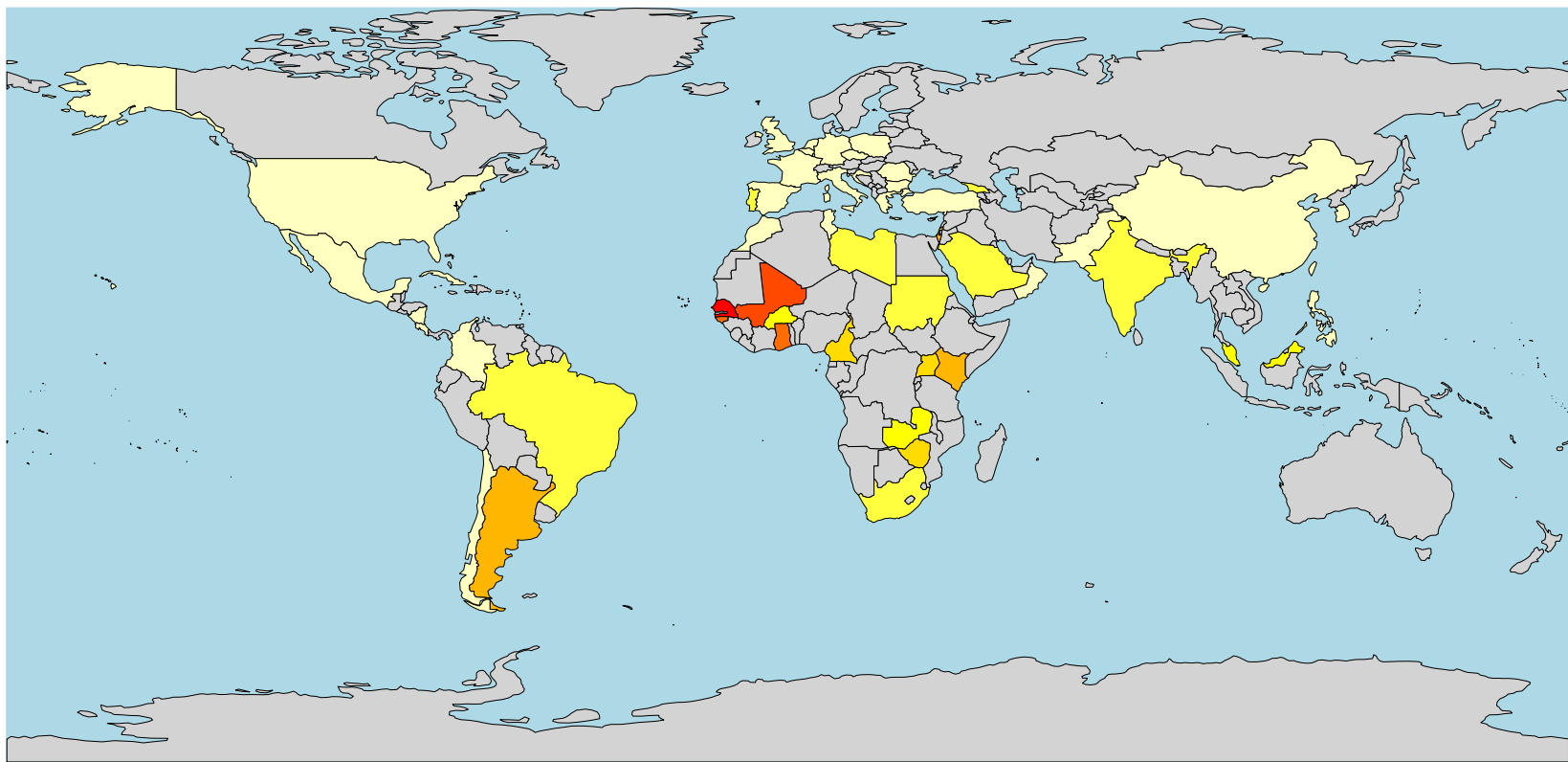
A*02:01
(~3.2% globally)



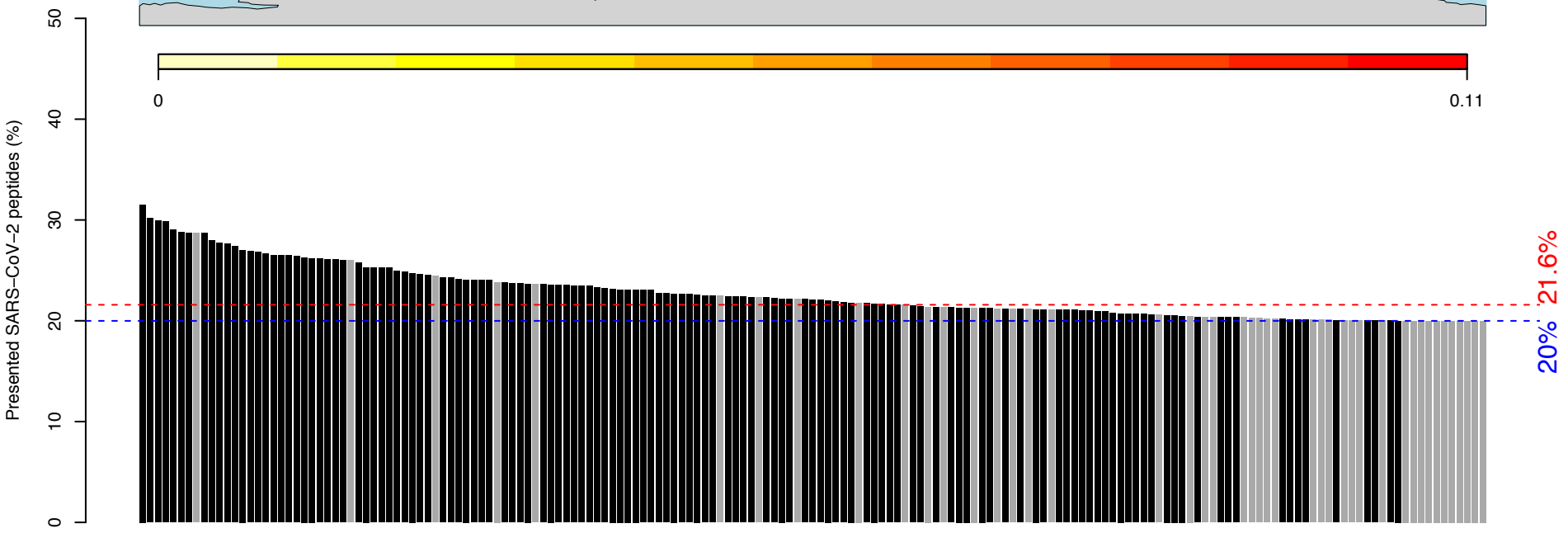
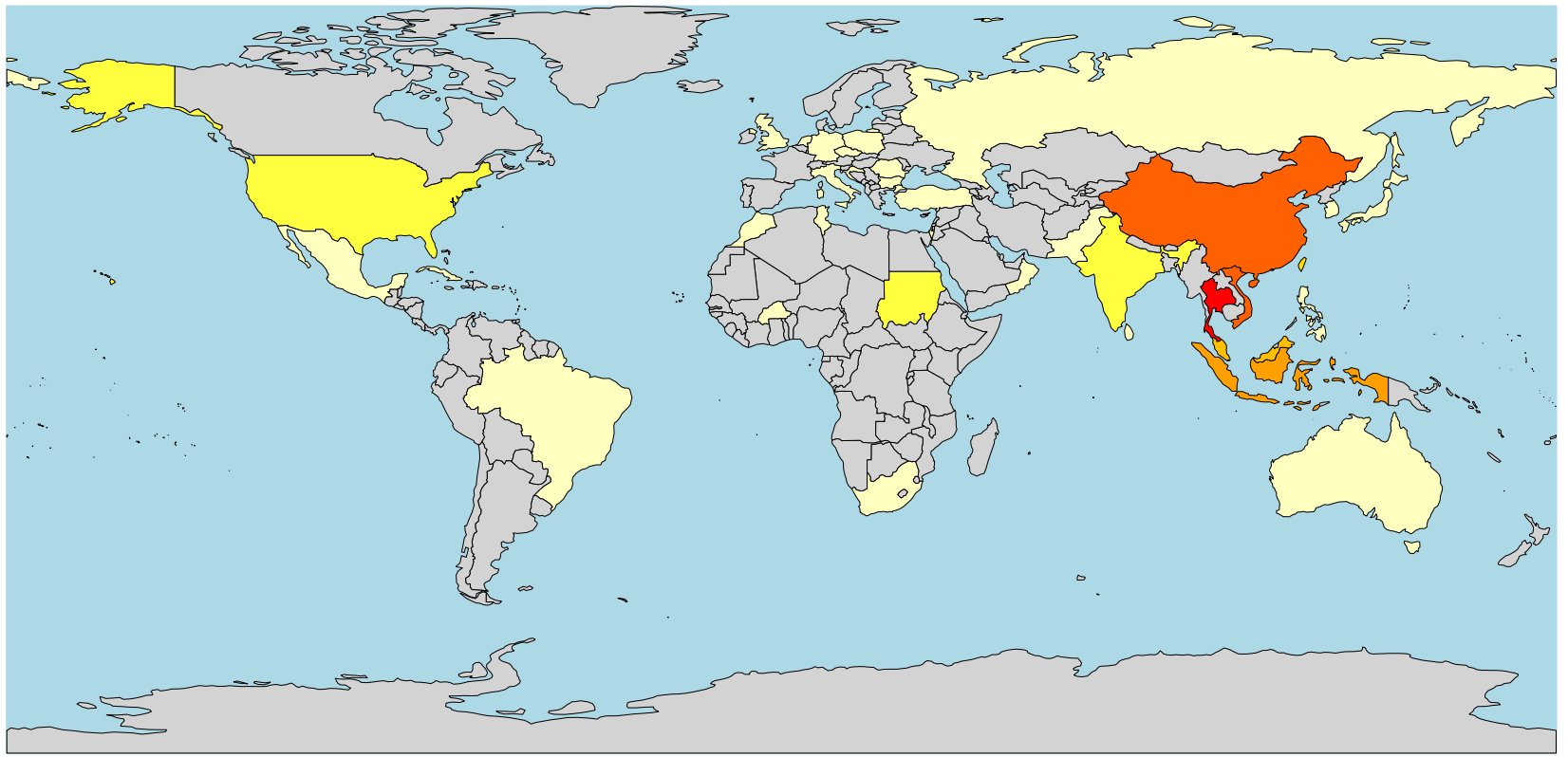
A*02:01 Haplotypes (n=906)



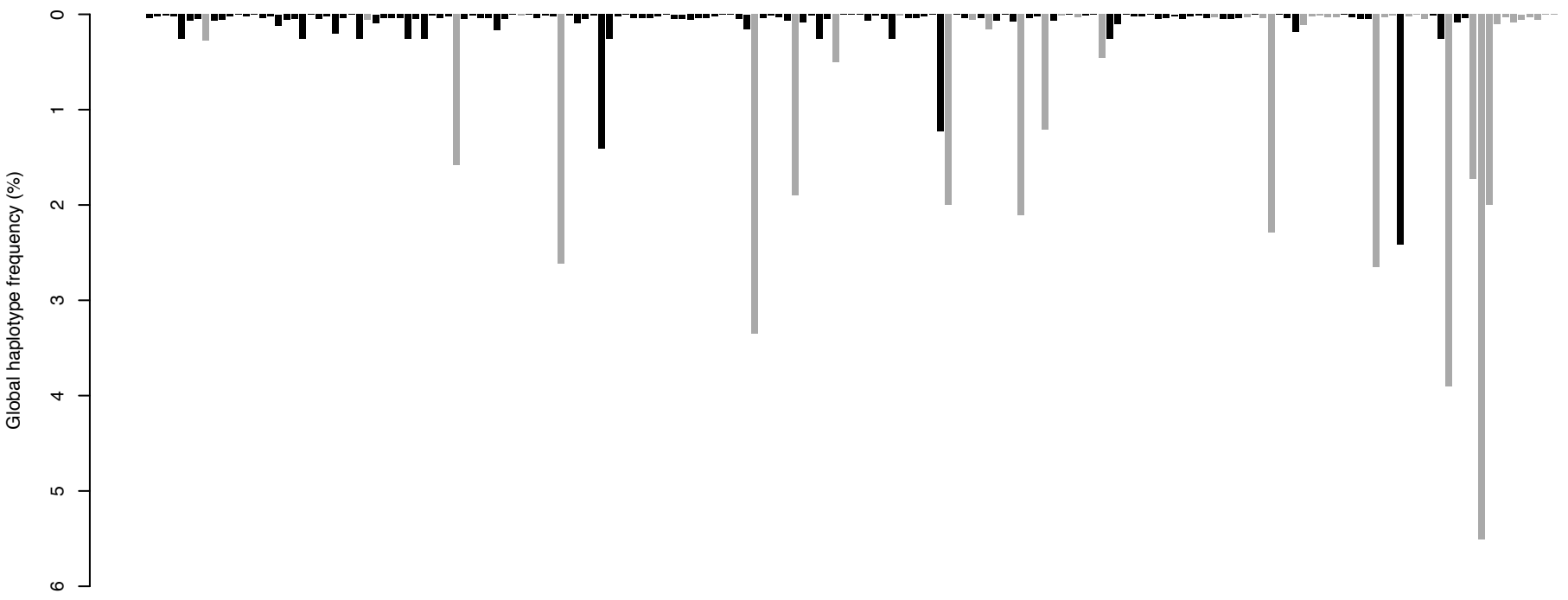
A*02:02
(~1.1% globally)



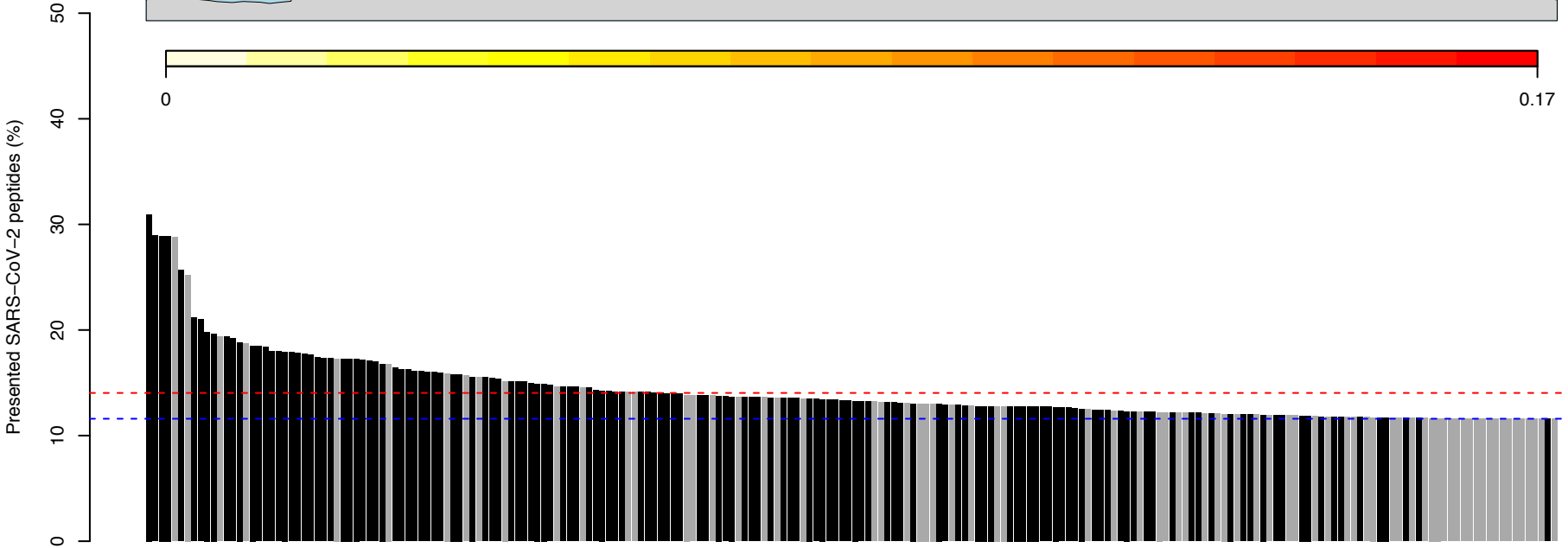
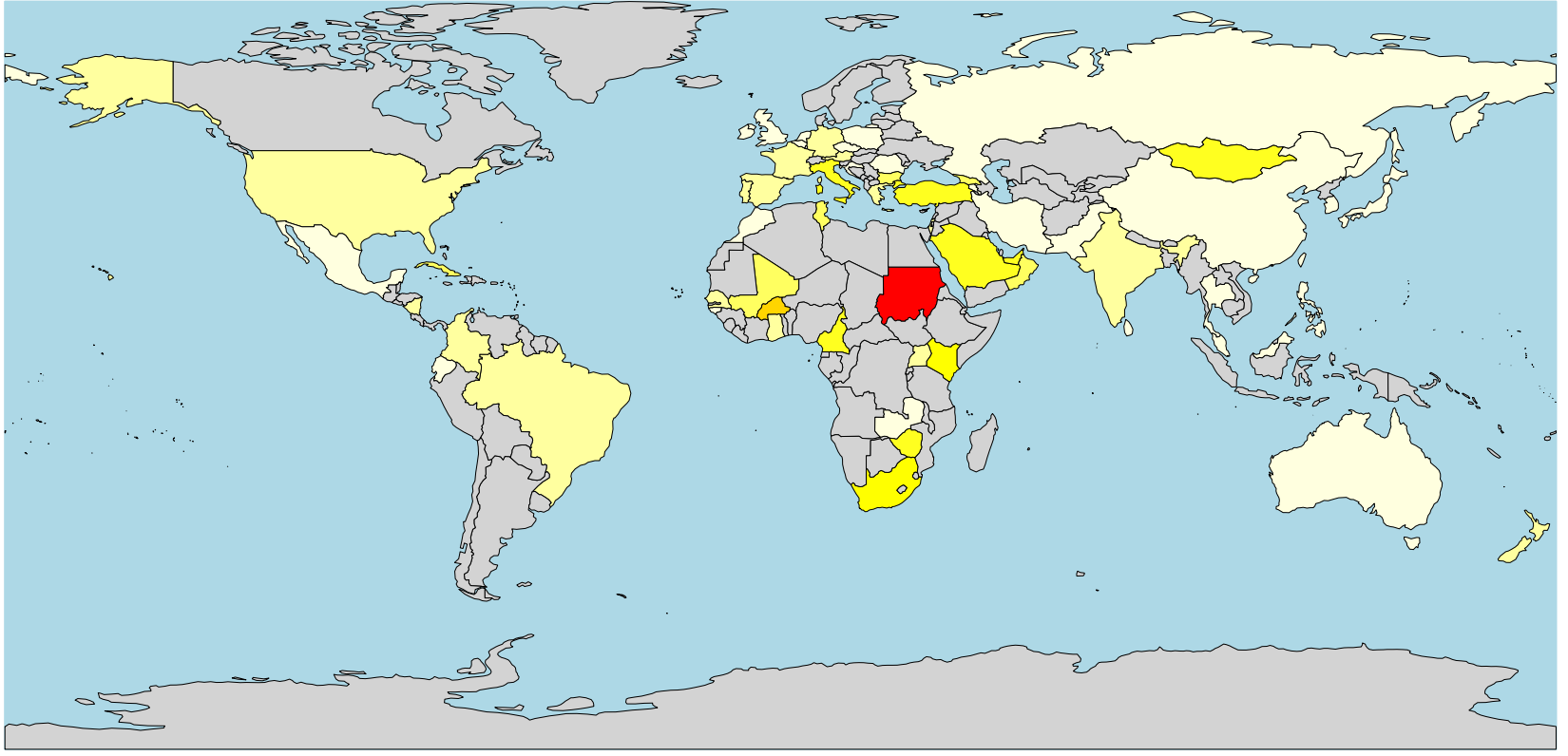
A*02:03
(~3.4% globally)



A*02:03 Haplotypes (n=175)



A*02:05
(~0.91% globally)



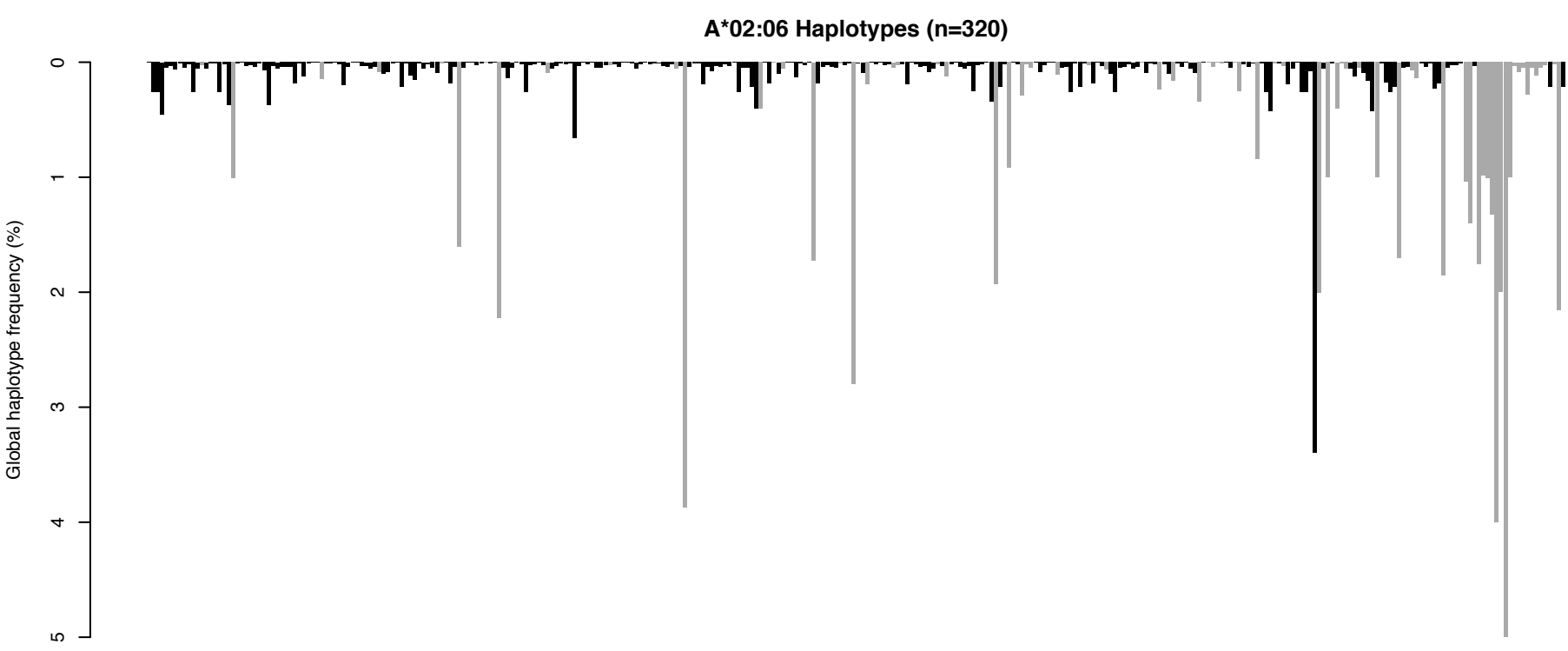
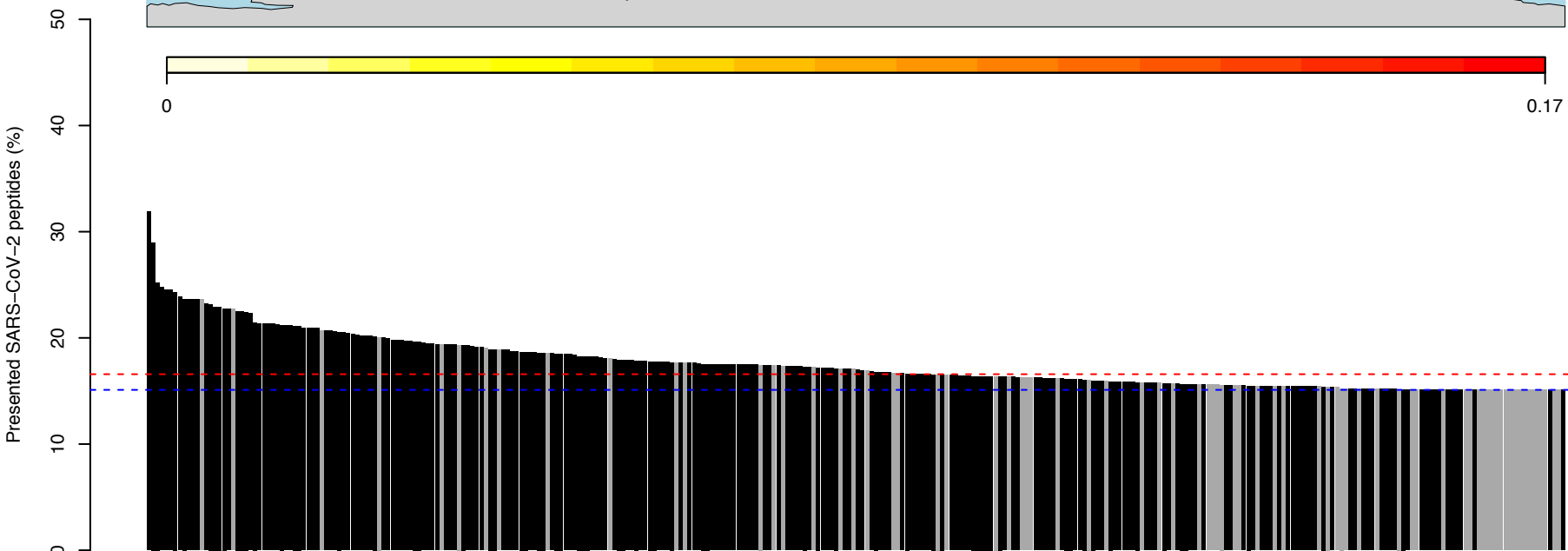
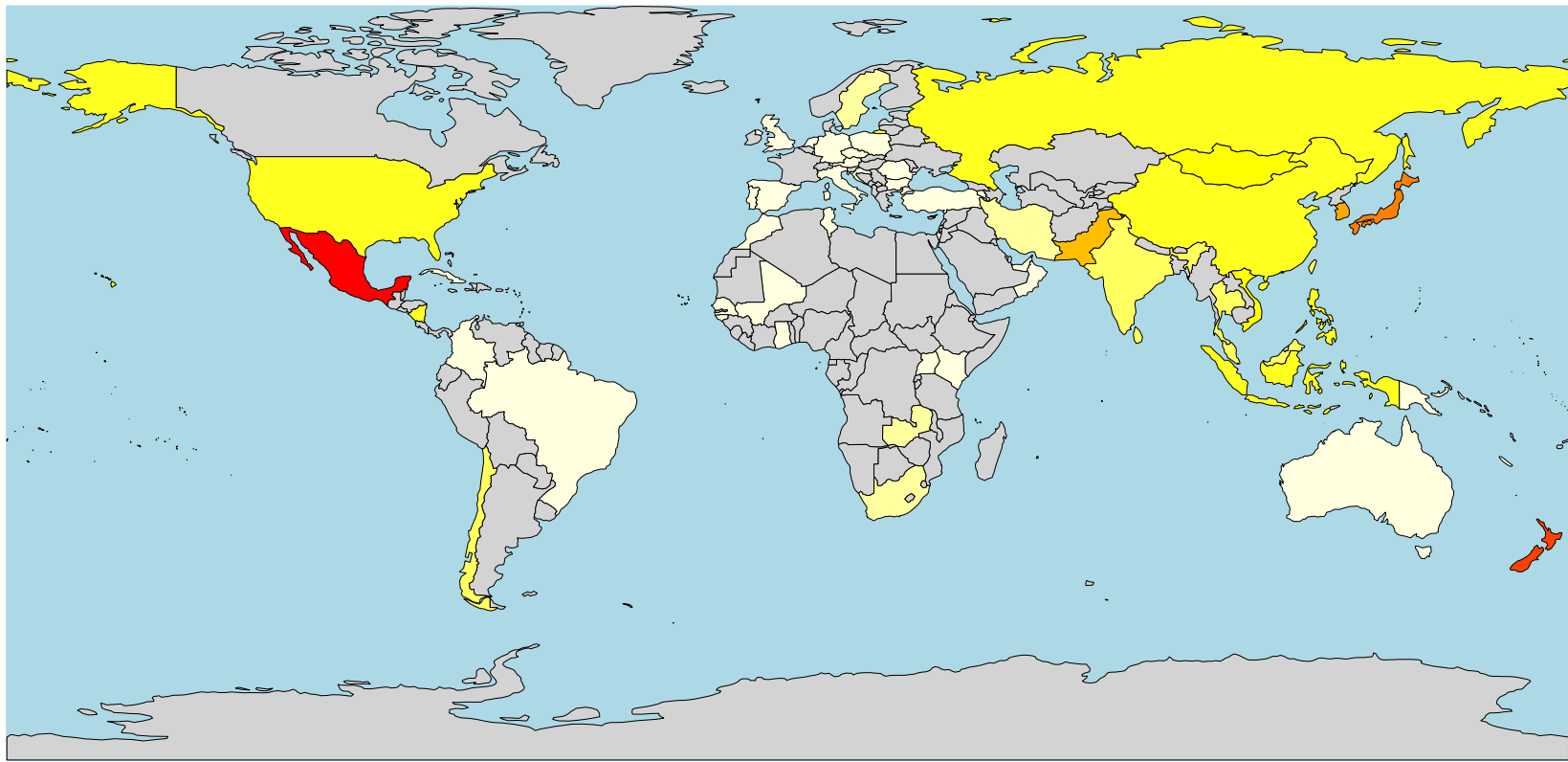
14%

11.6%

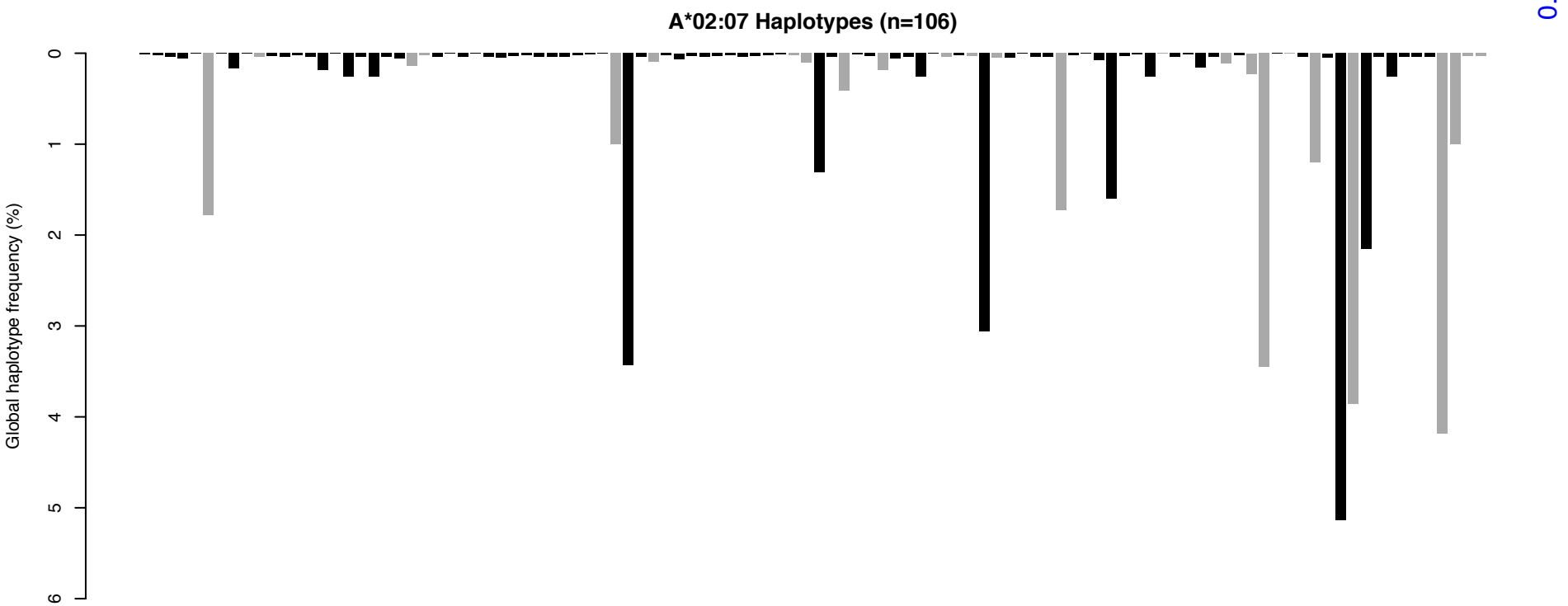
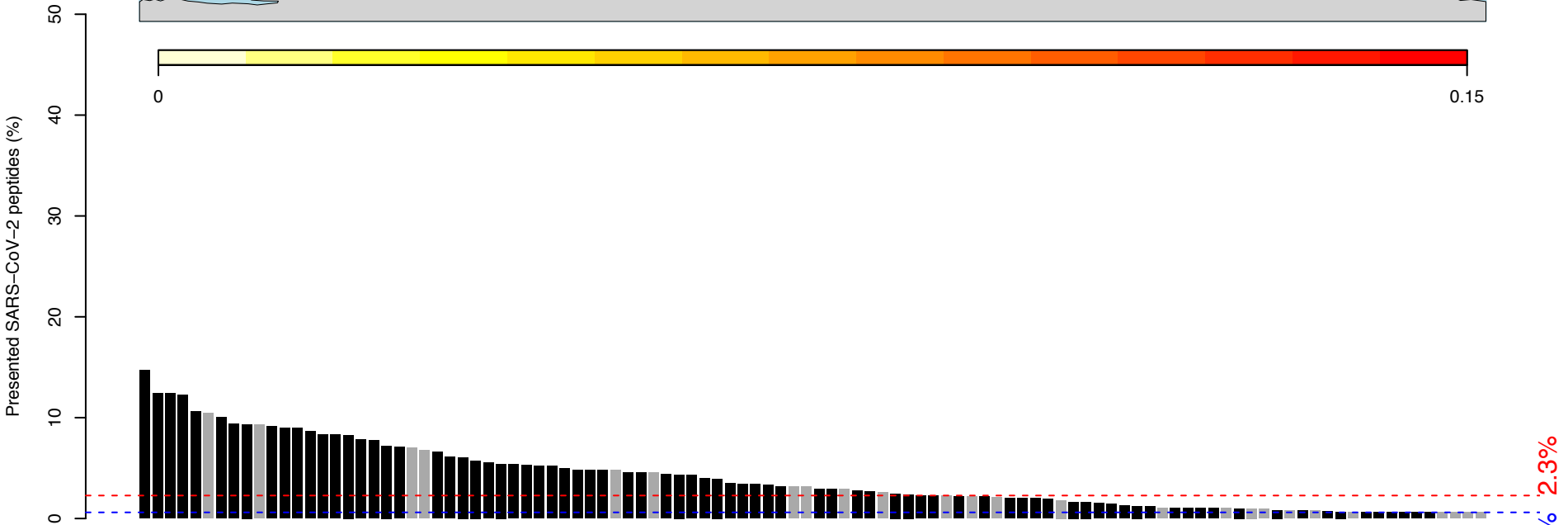
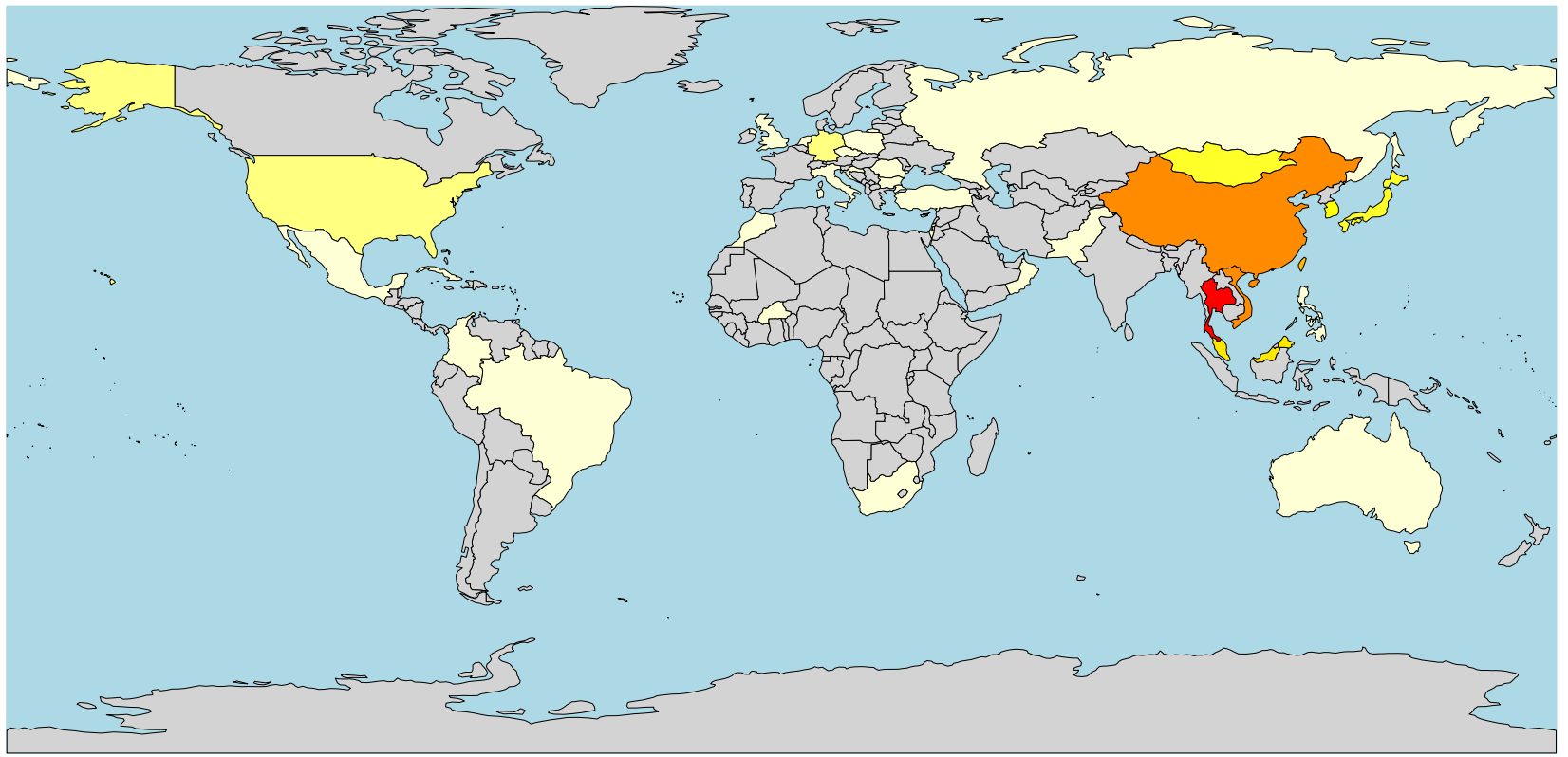
A*02:05 Haplotypes (n=218)



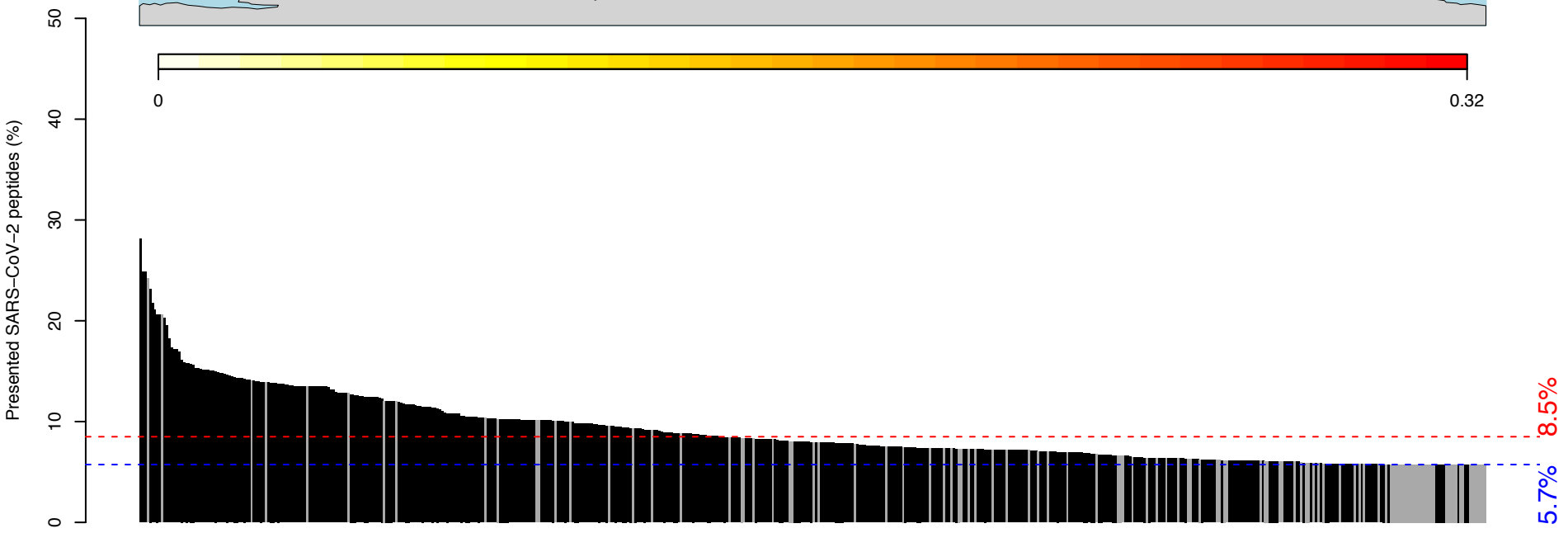
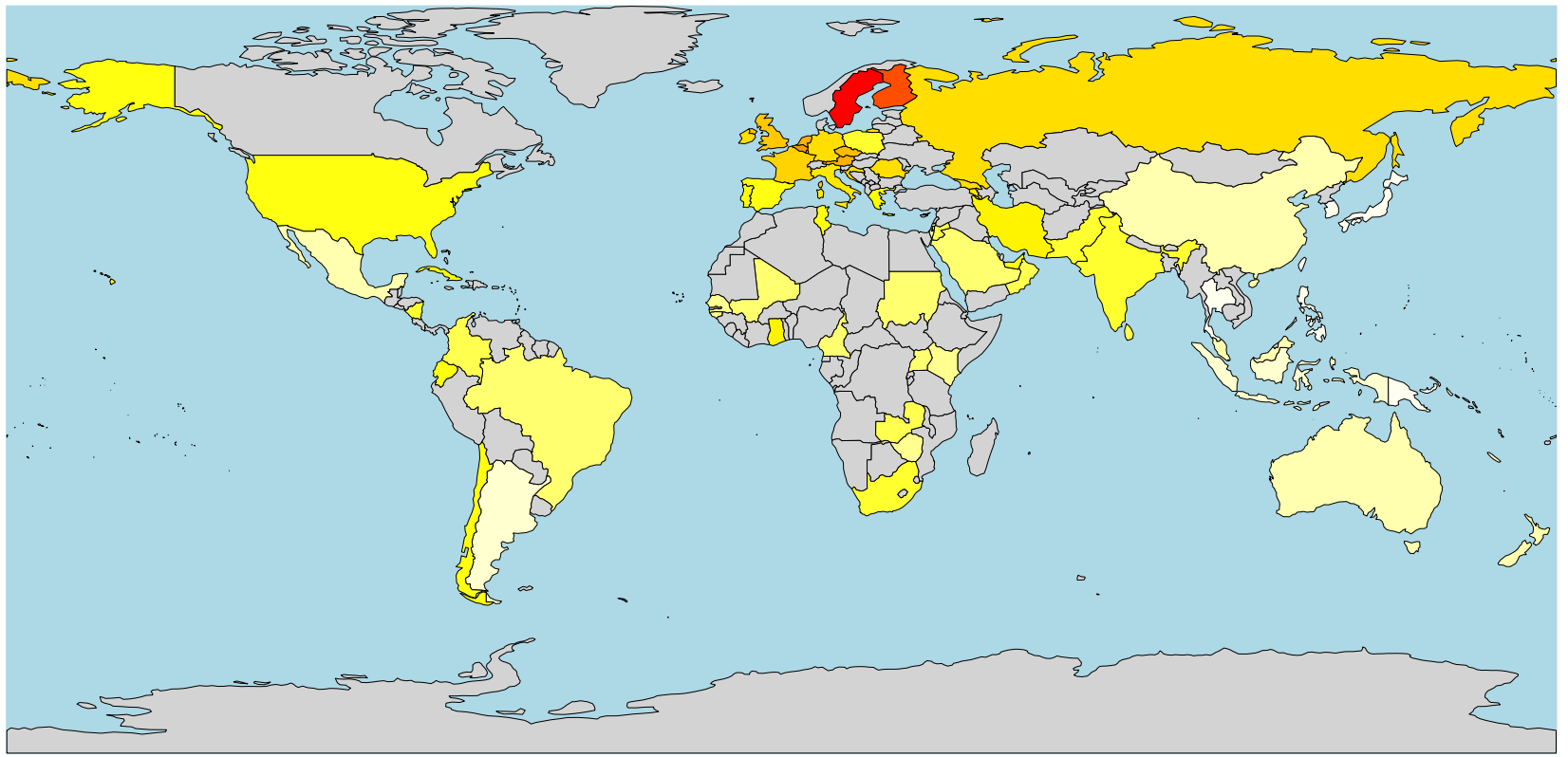
A*02:06
(~2.6% globally)



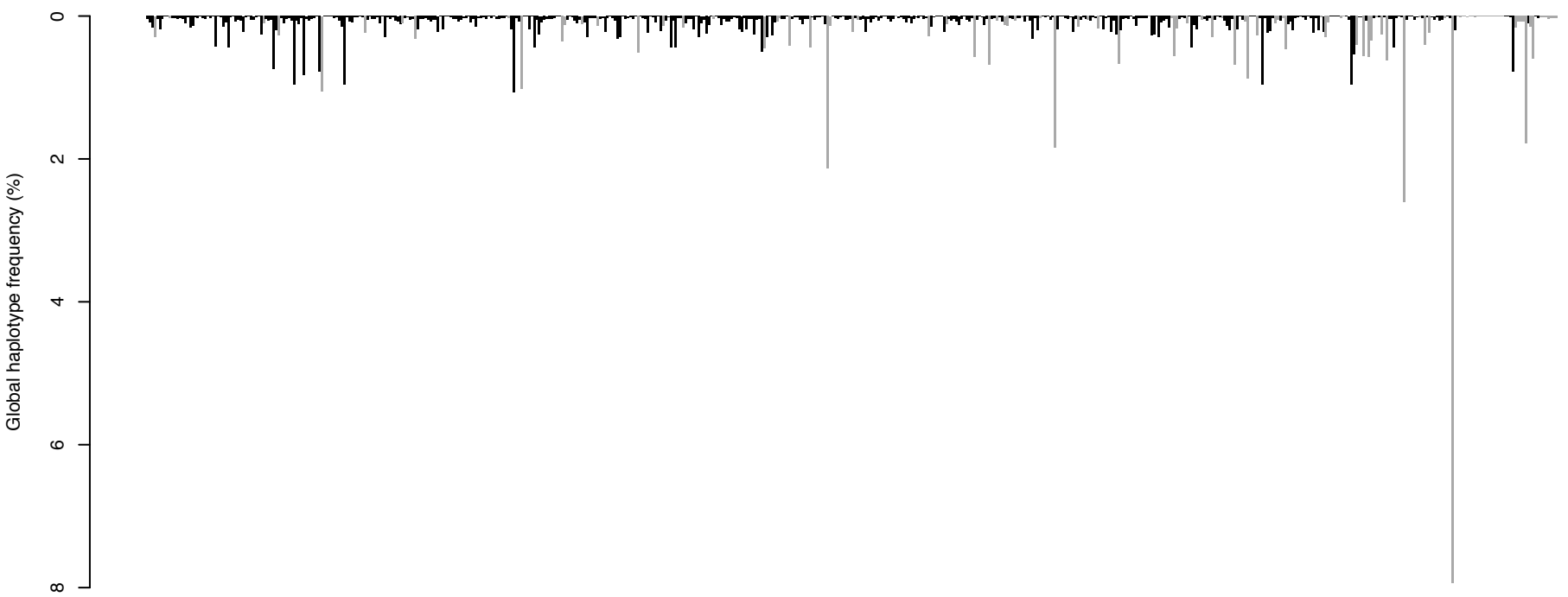
A*02:07
(~4.6% globally)



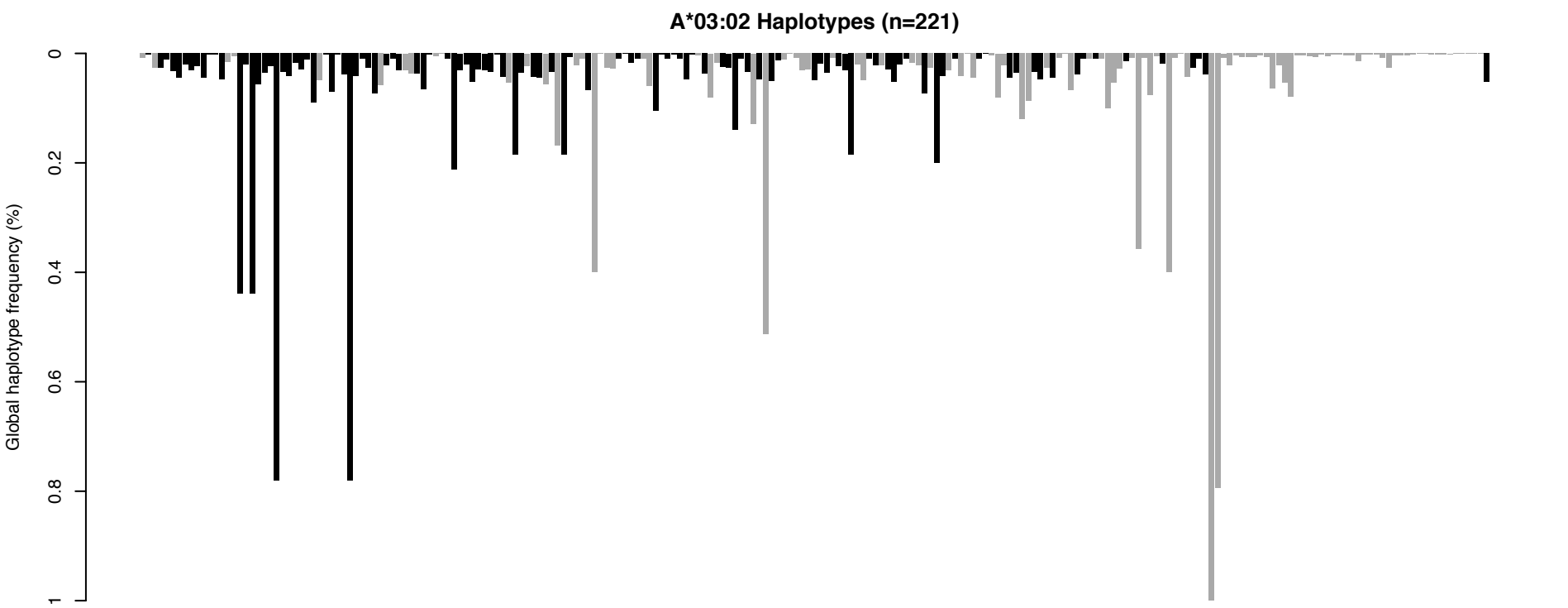
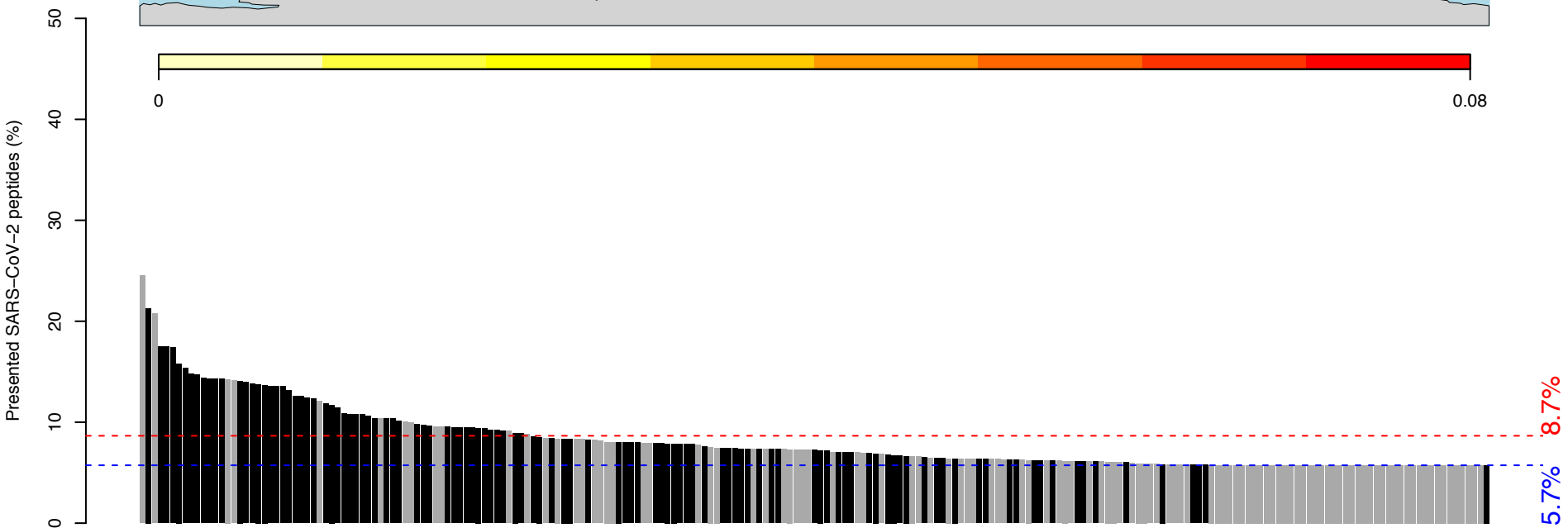
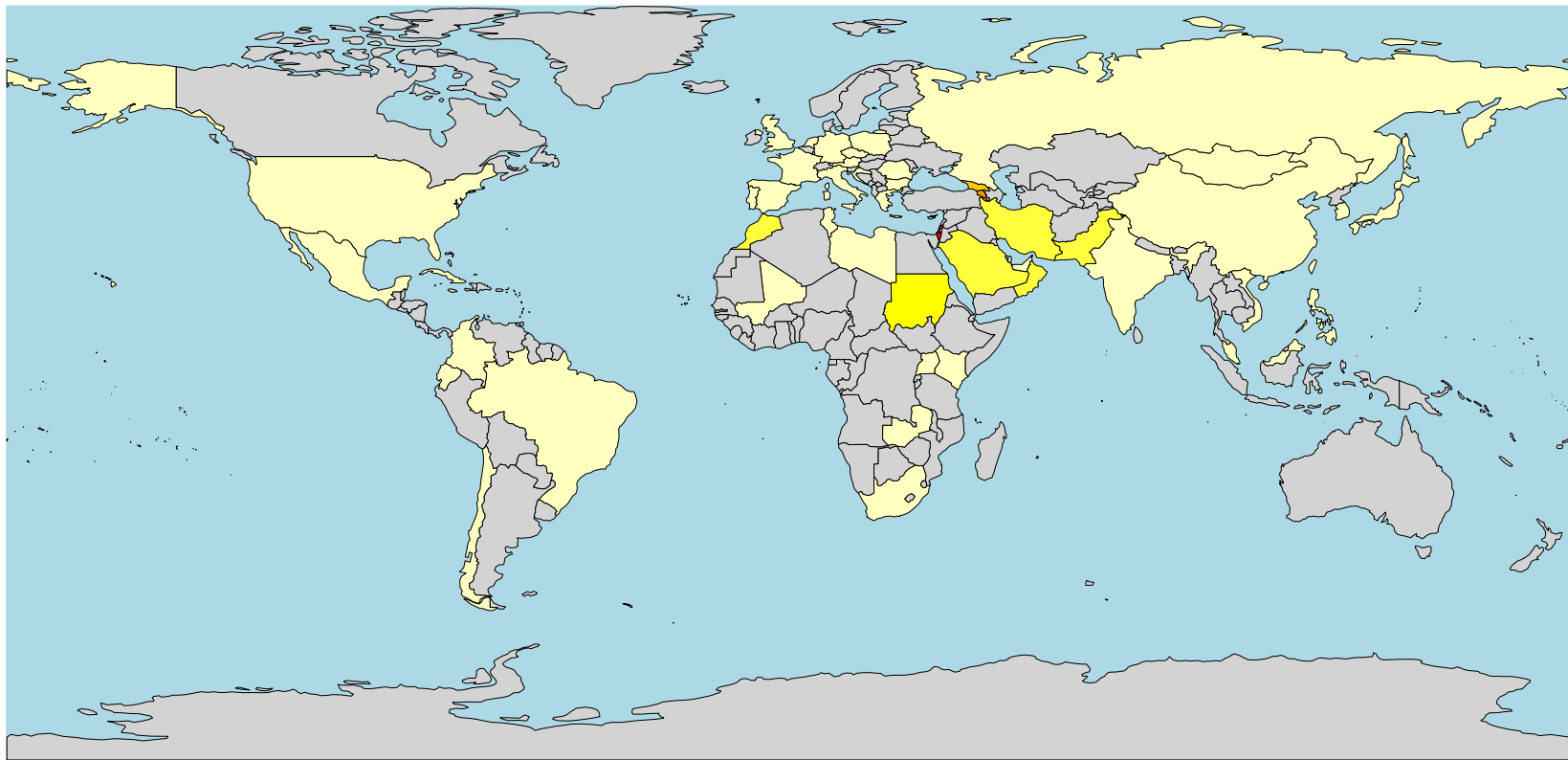
A*03:01
(~2.9% globally)



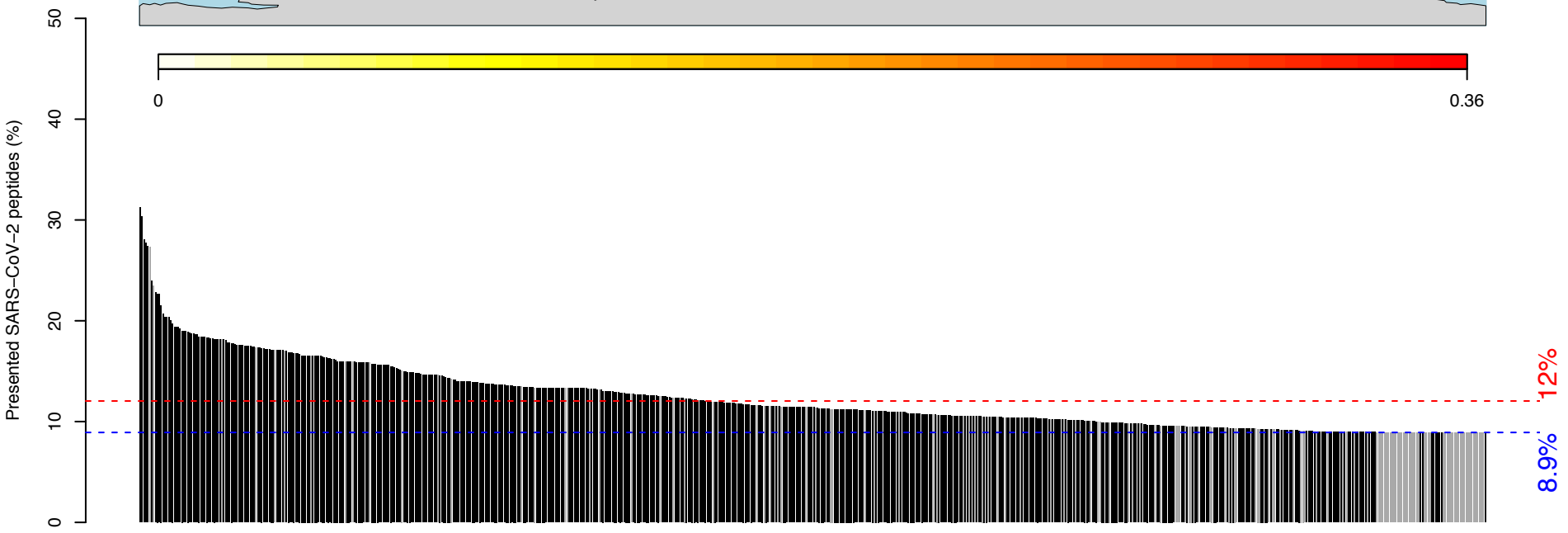
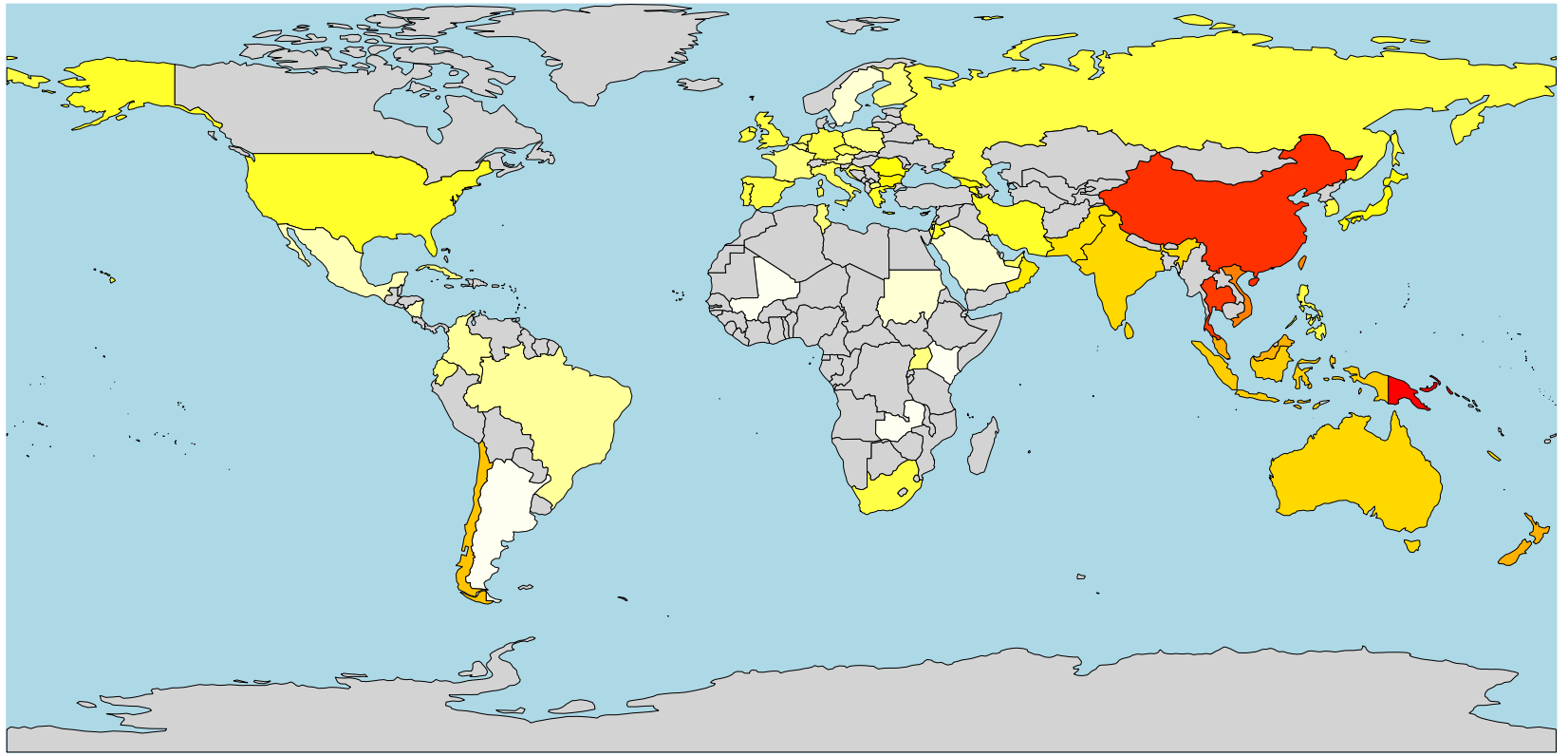
A*03:01 Haplotypes (n=558)



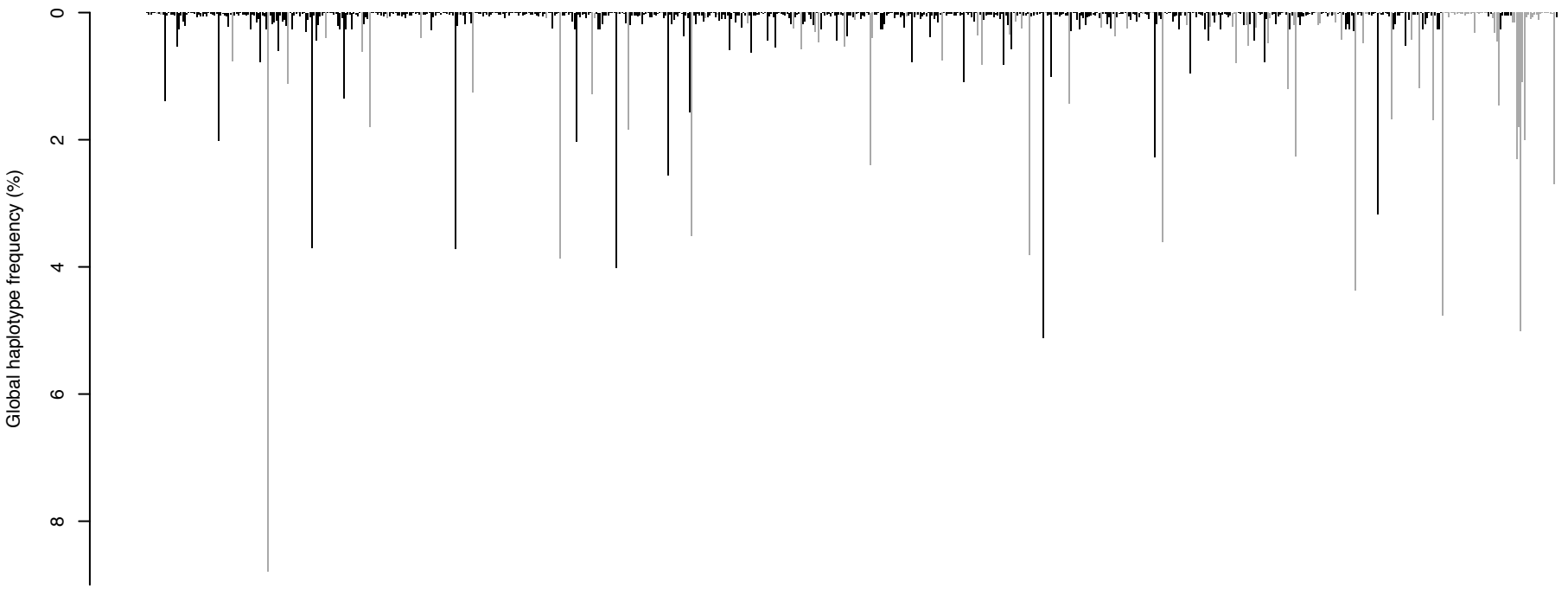
A*03:02
(~0.47% globally)



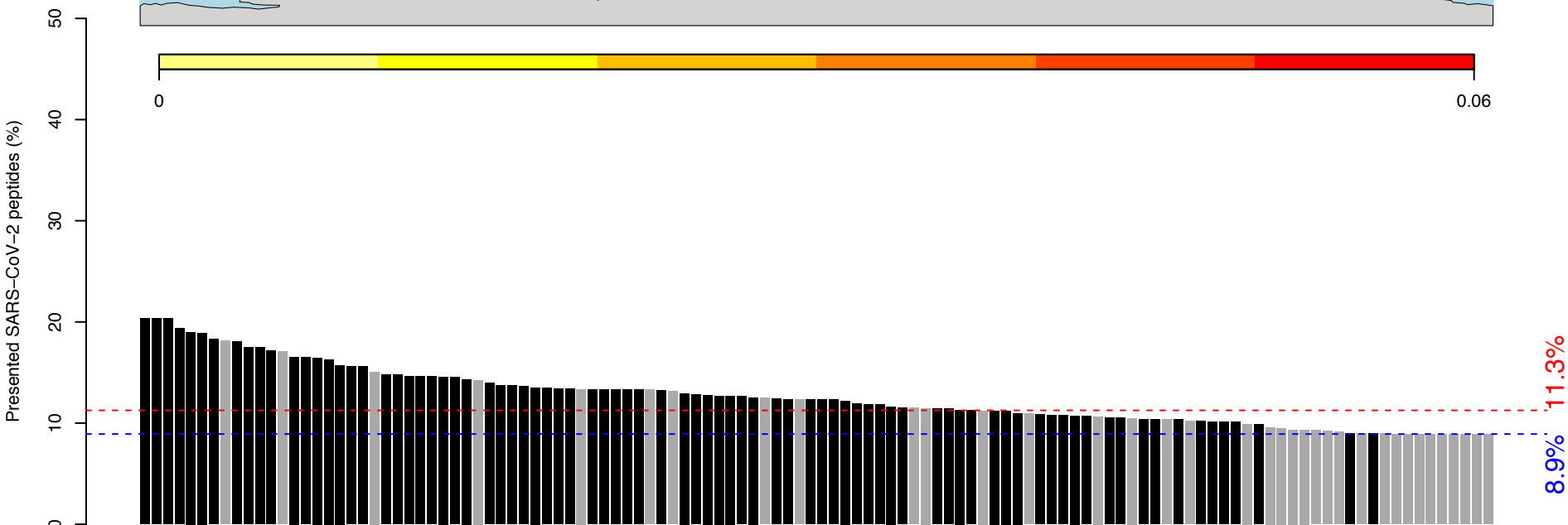
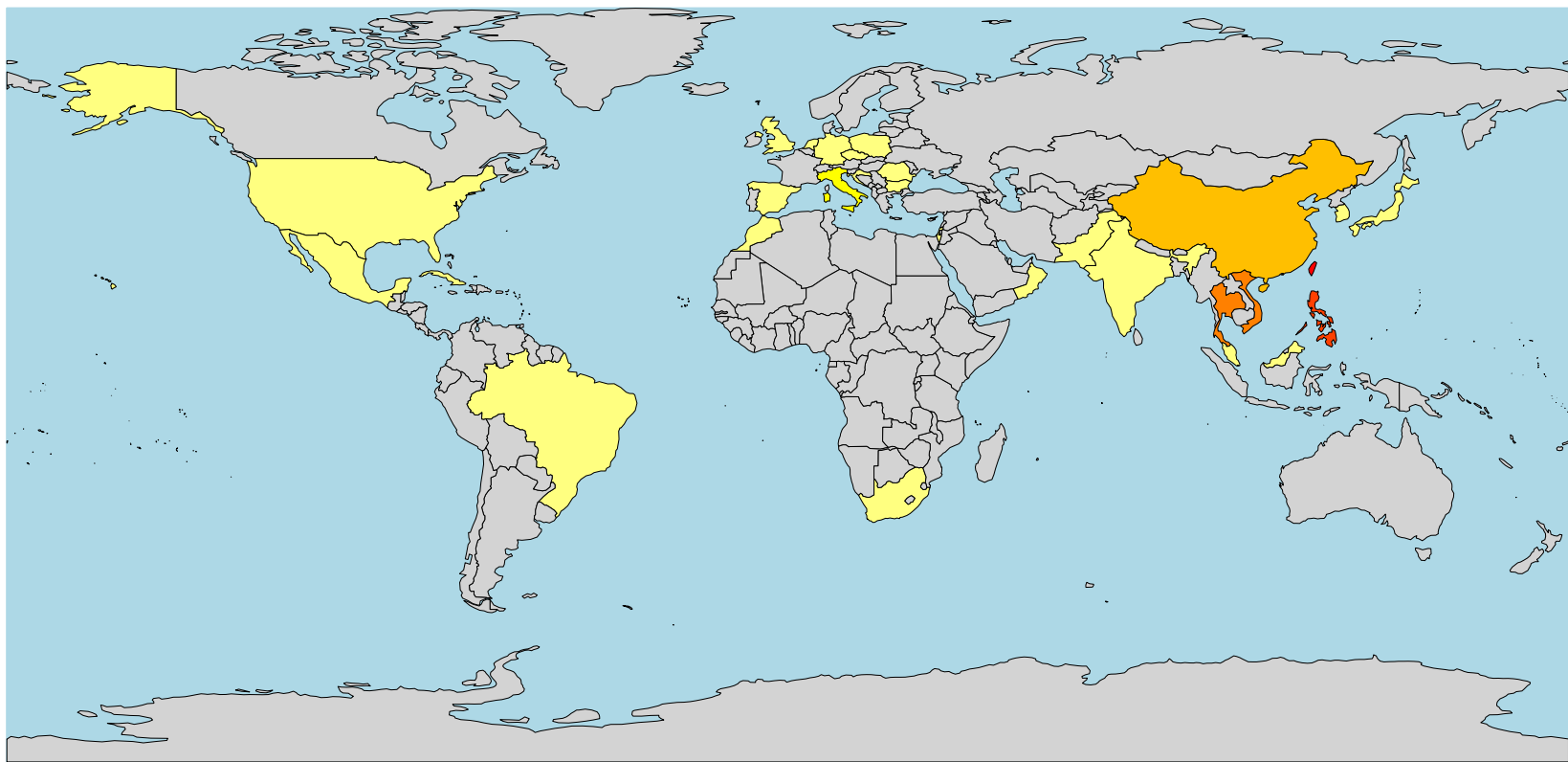
A*11:01
(~14% globally)



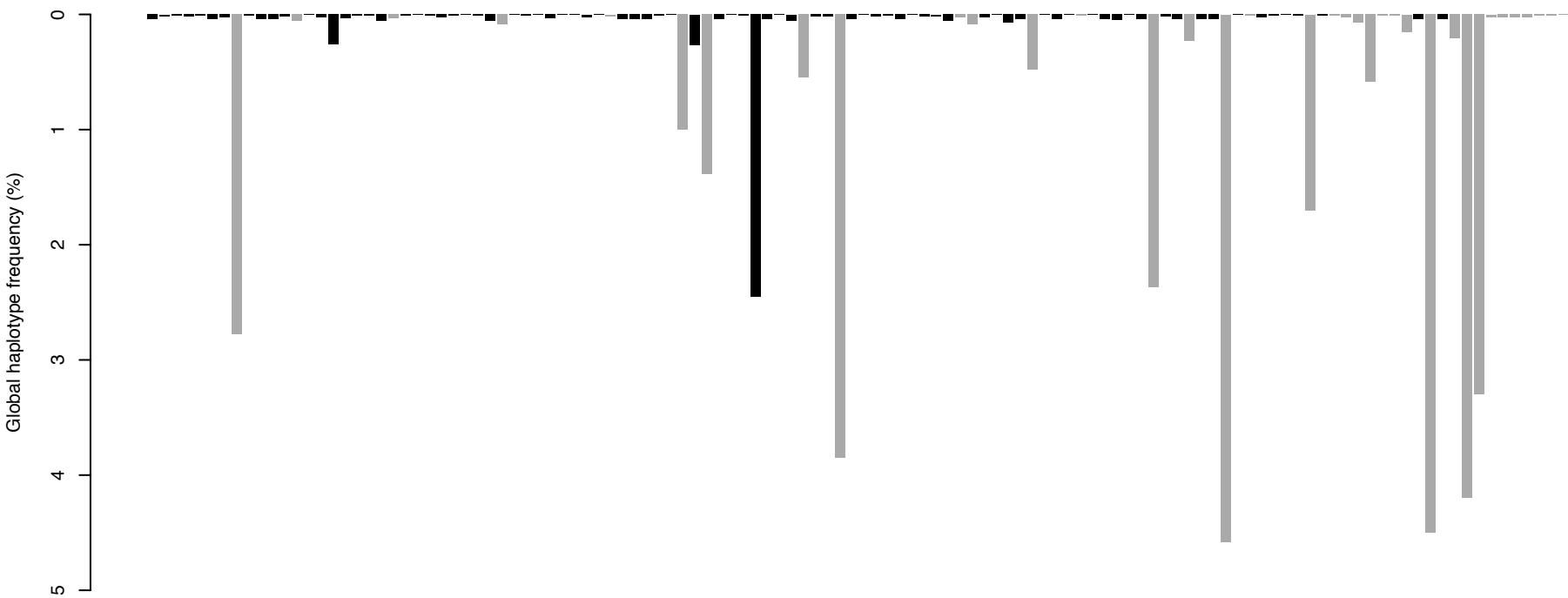
A*11:01 Haplotypes (n=710)



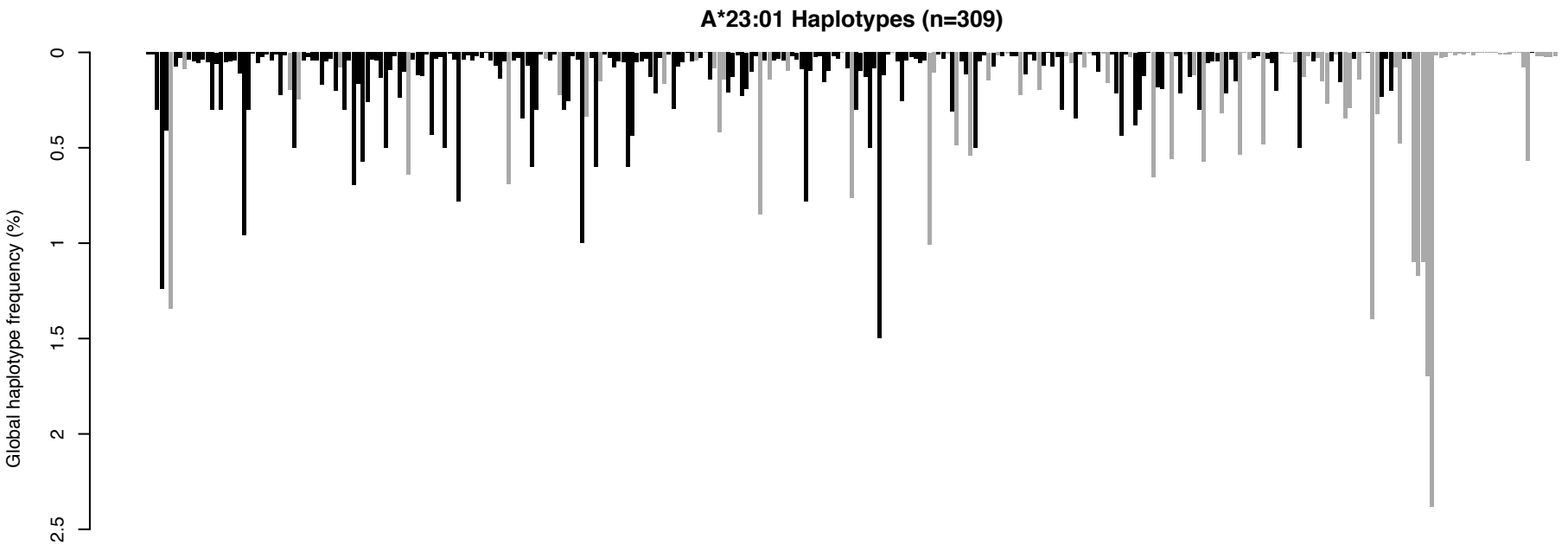
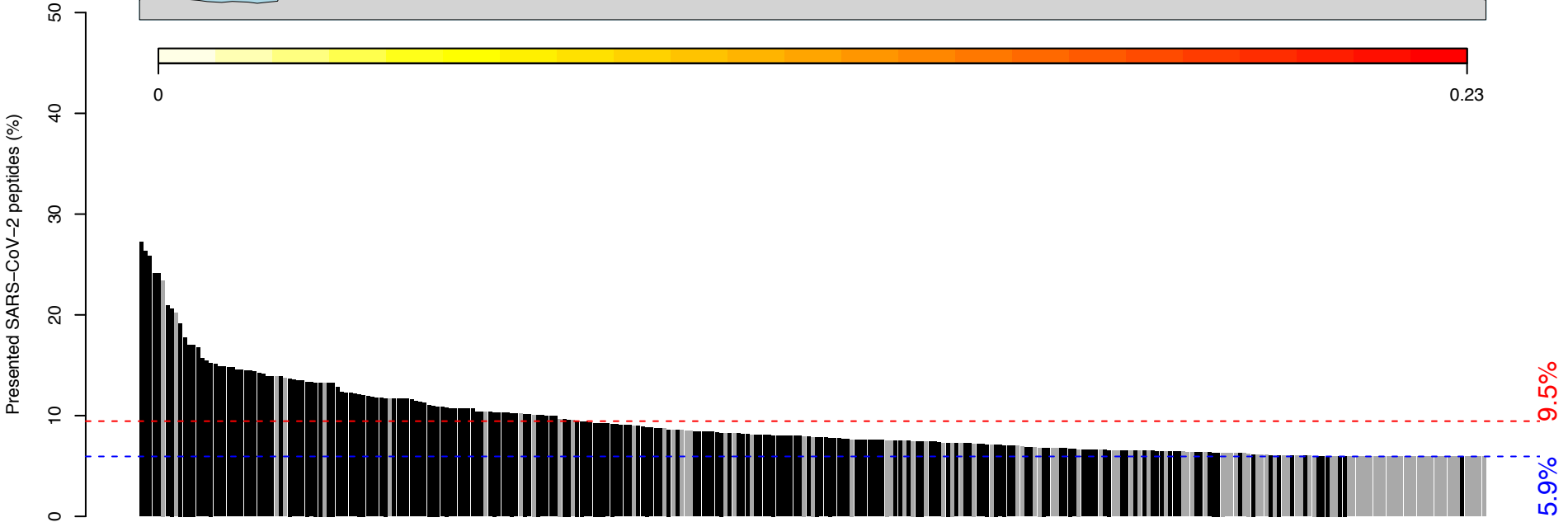
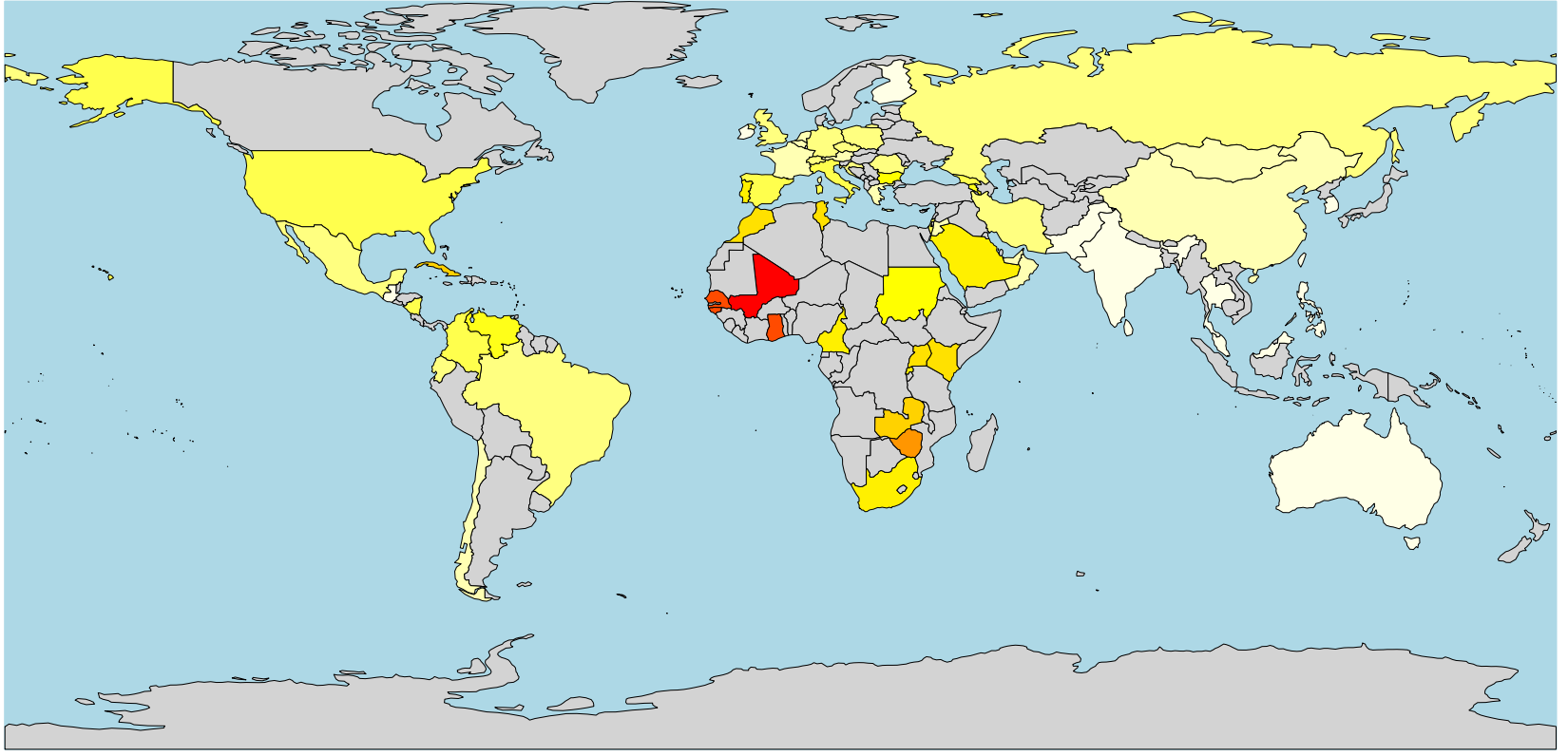
A*11:02
(~1.2% globally)



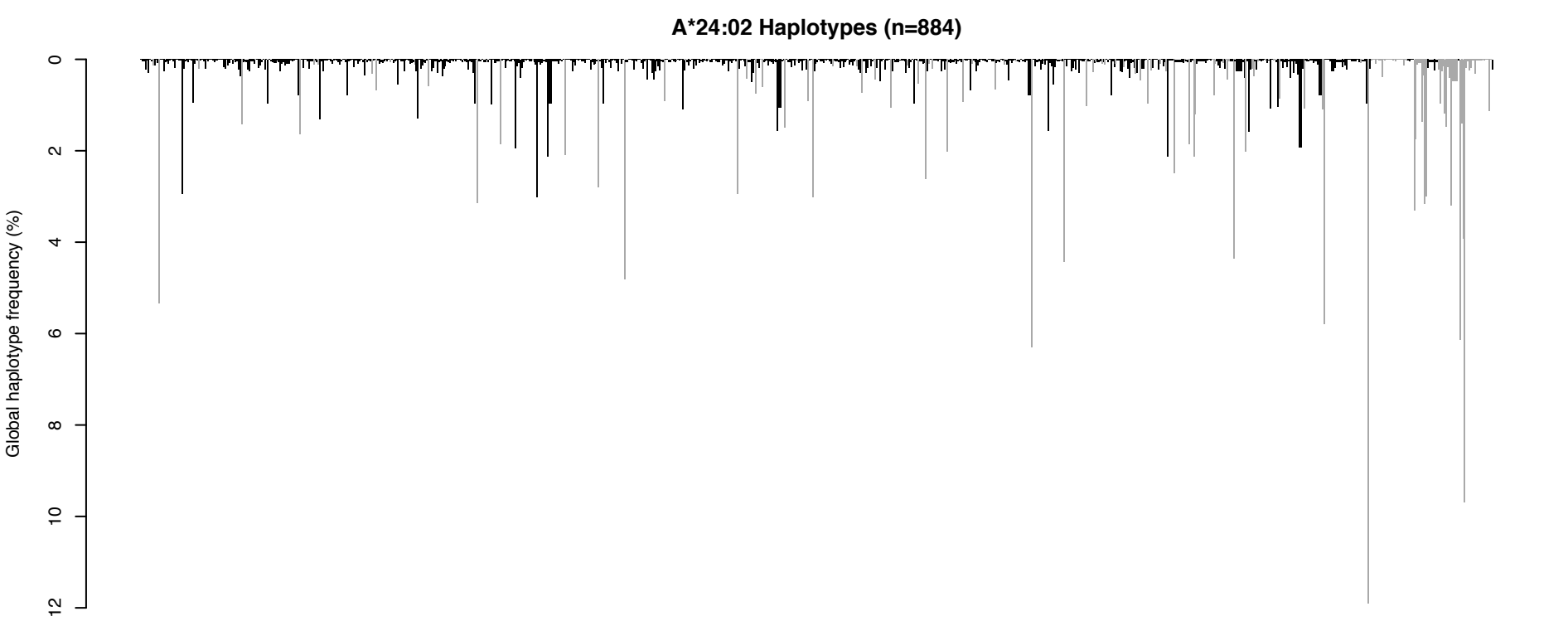
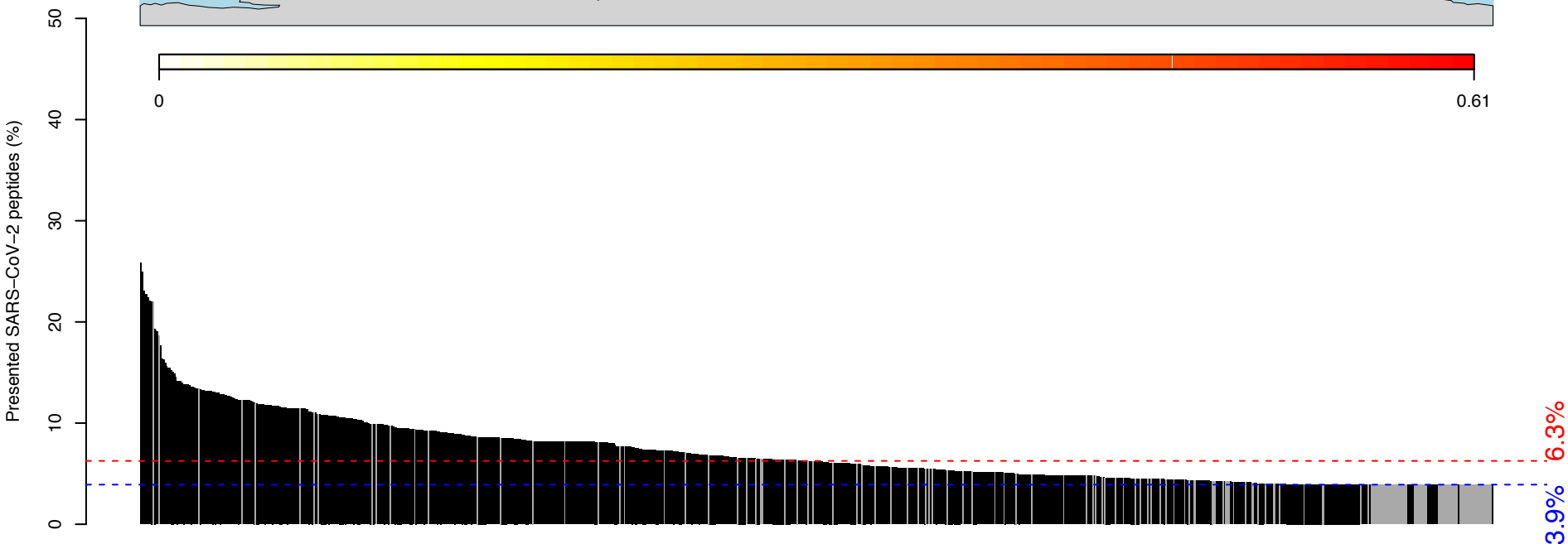
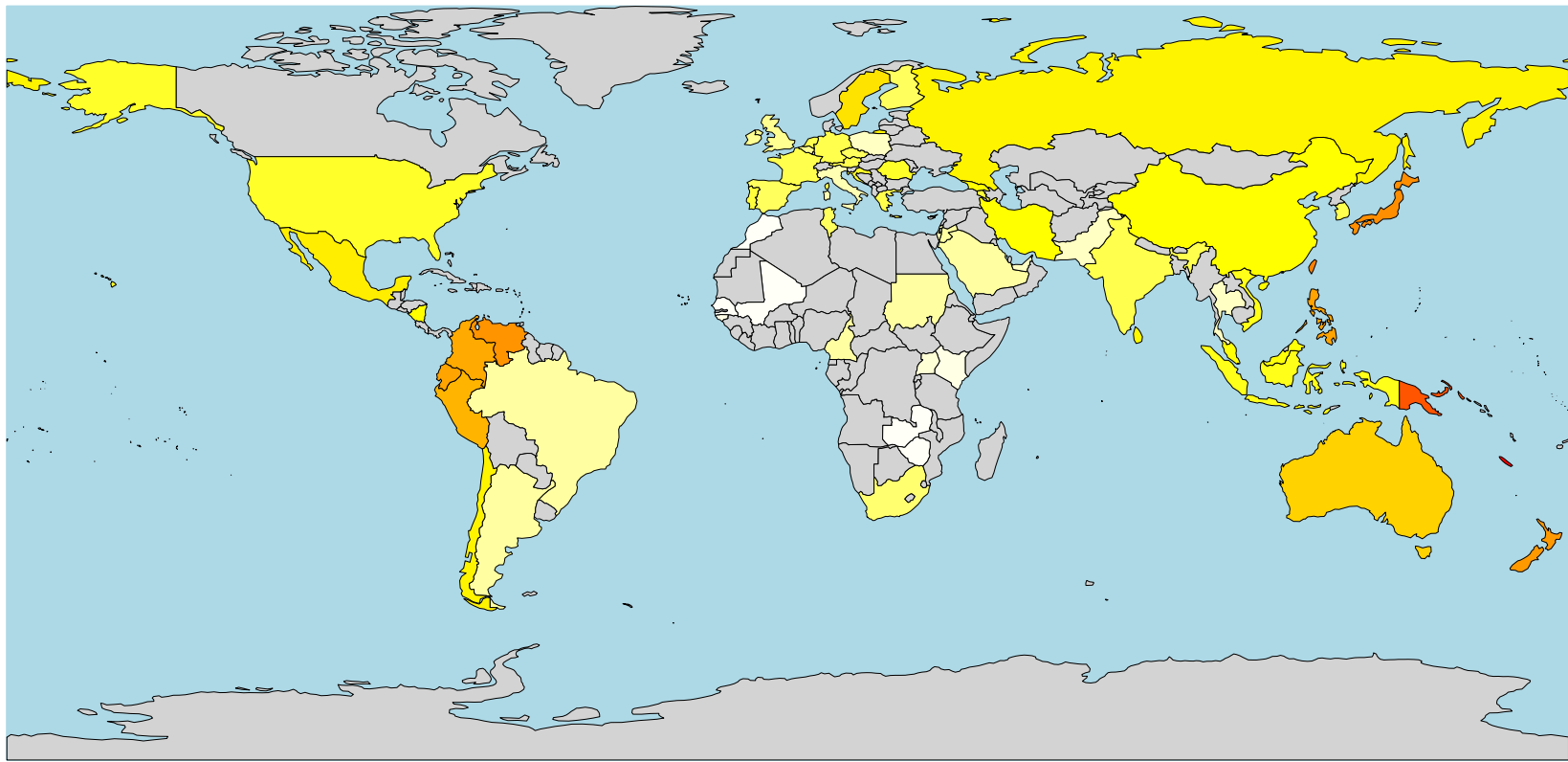
A*11:02 Haplotypes (n=118)



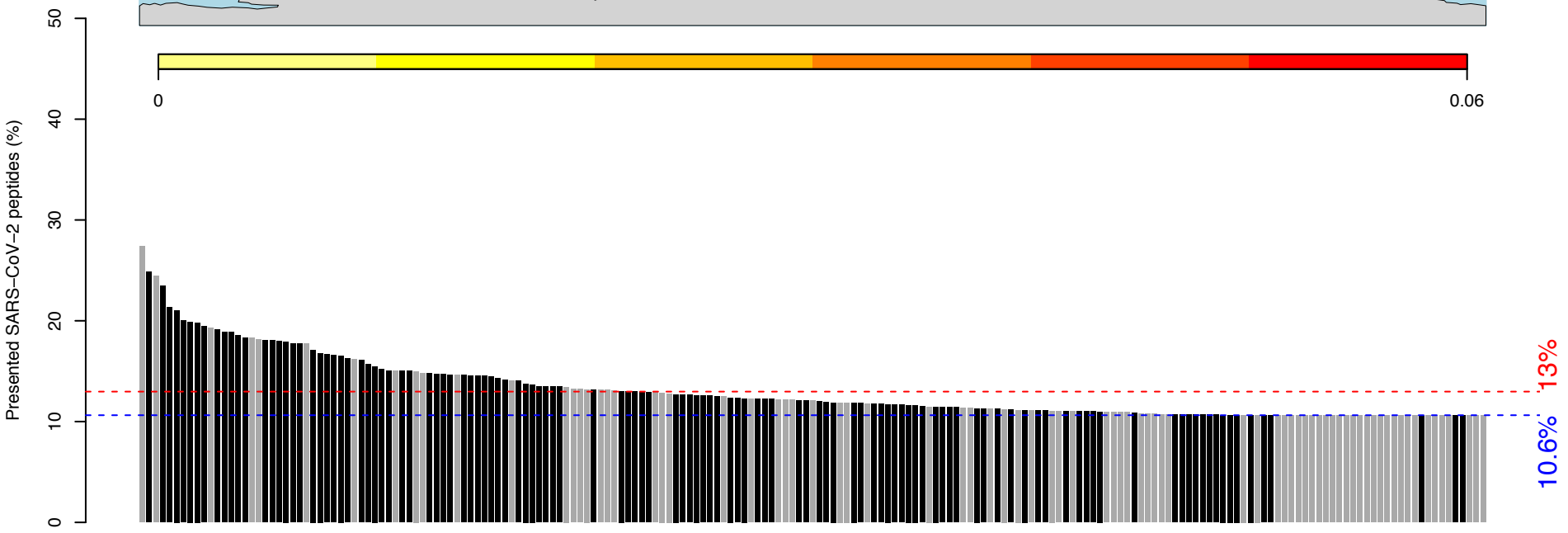
A*23:01
(~1.8% globally)



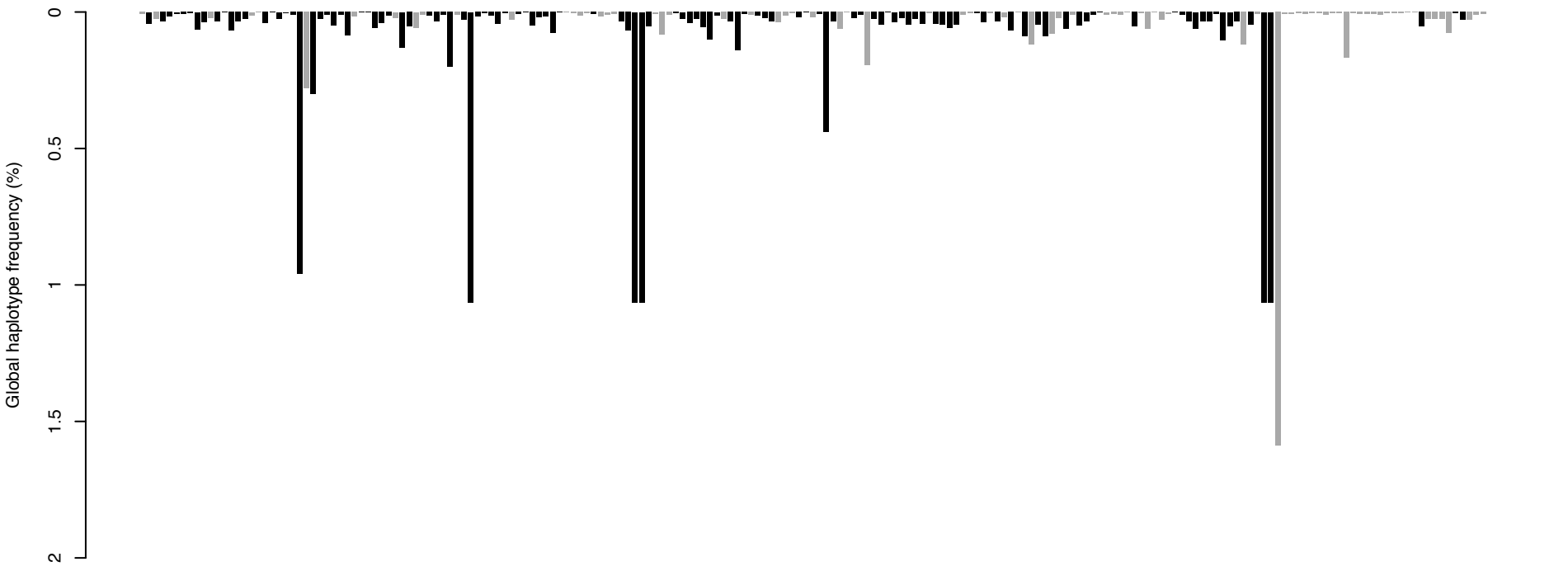
A*24:02
(~6.1% globally)



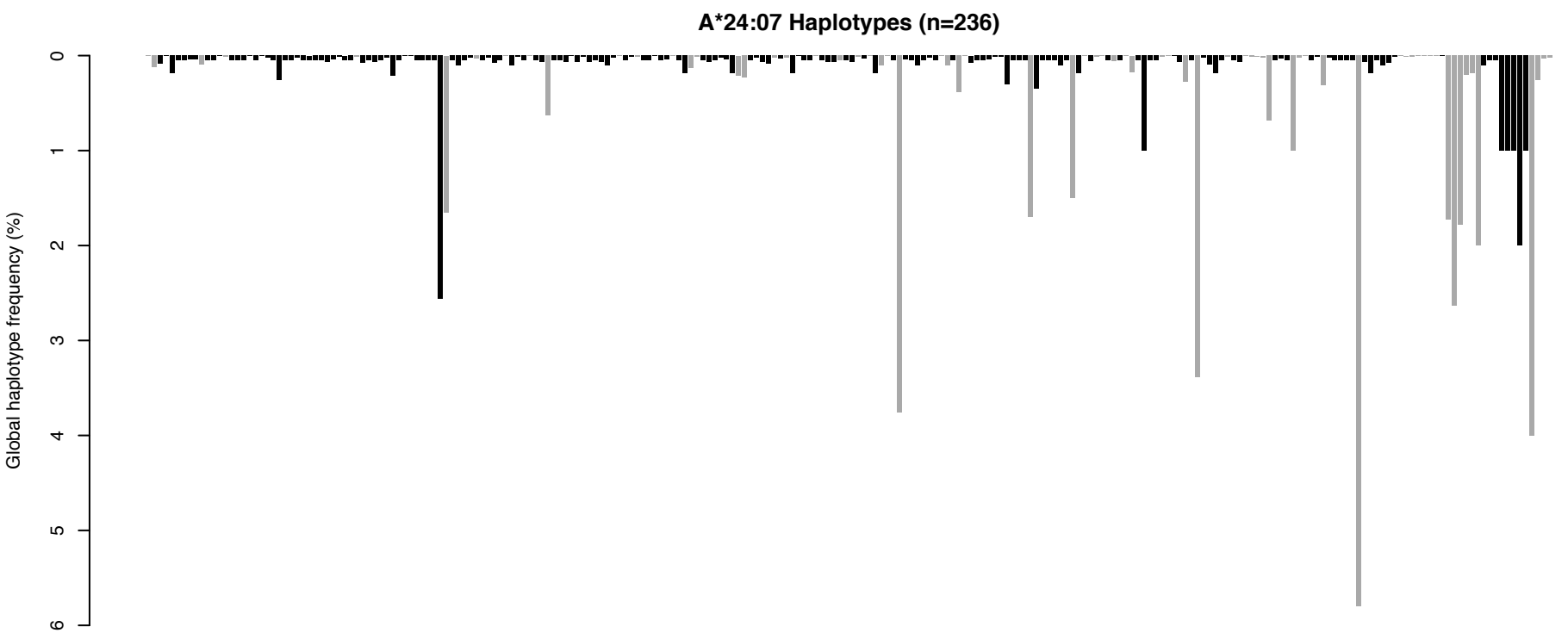
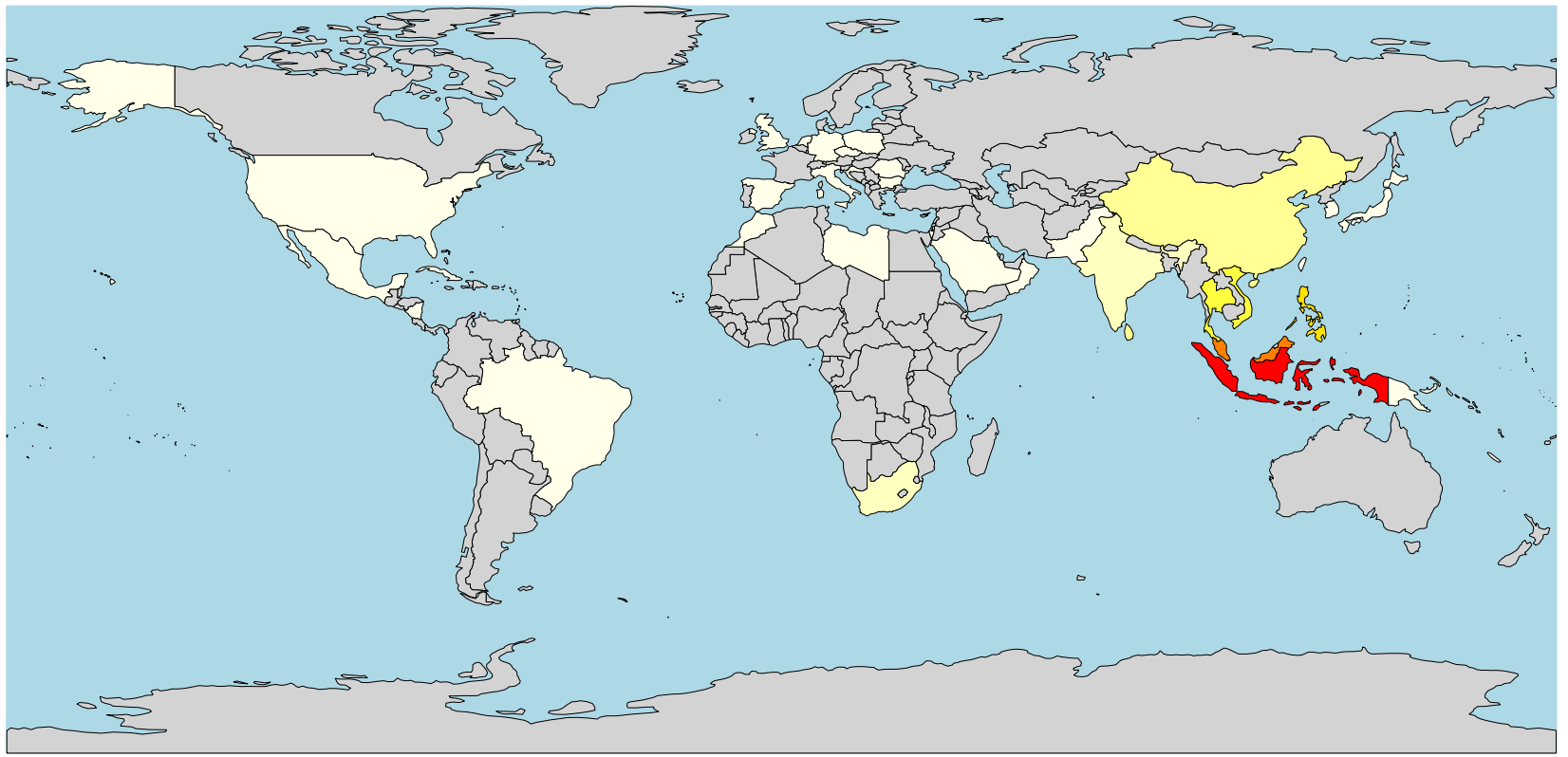
A*24:03
(~0.58% globally)



A*24:03 Haplotypes (n=197)

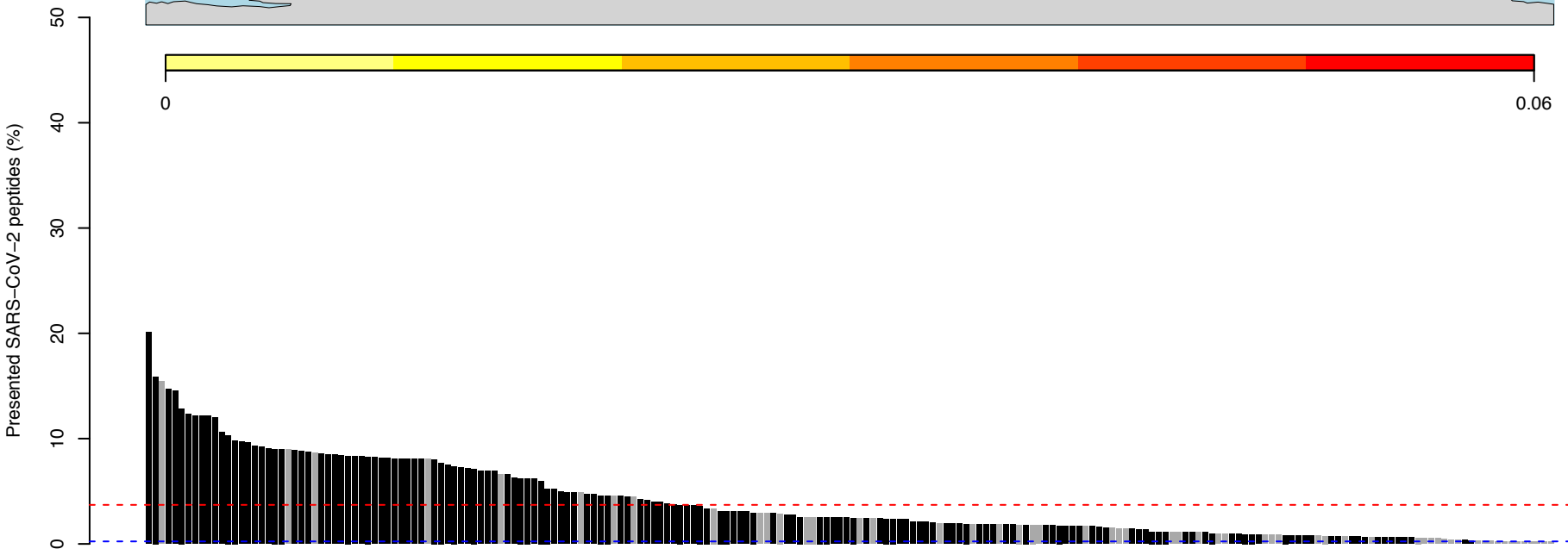
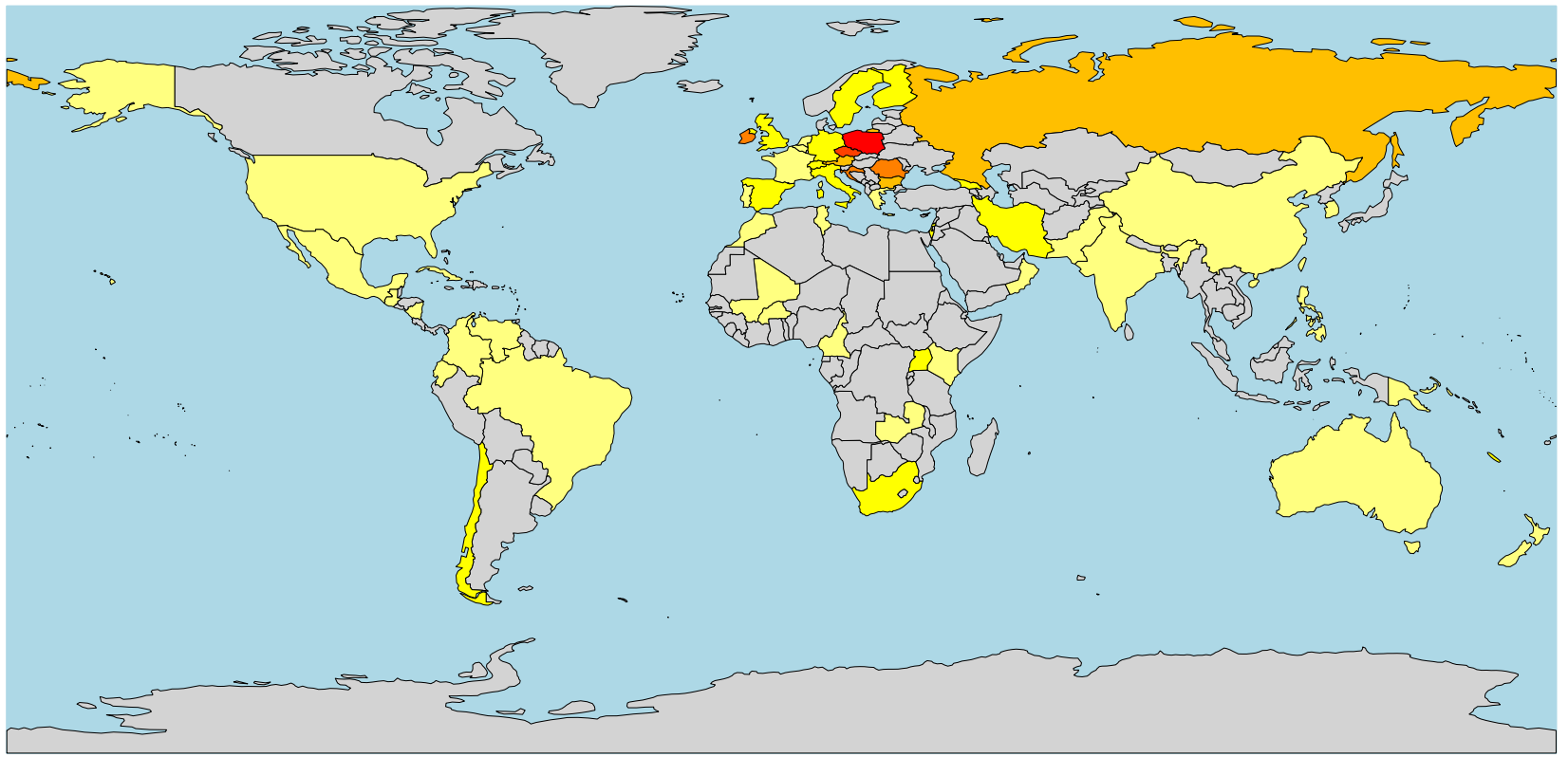


A*24:07
(~2.4% globally)

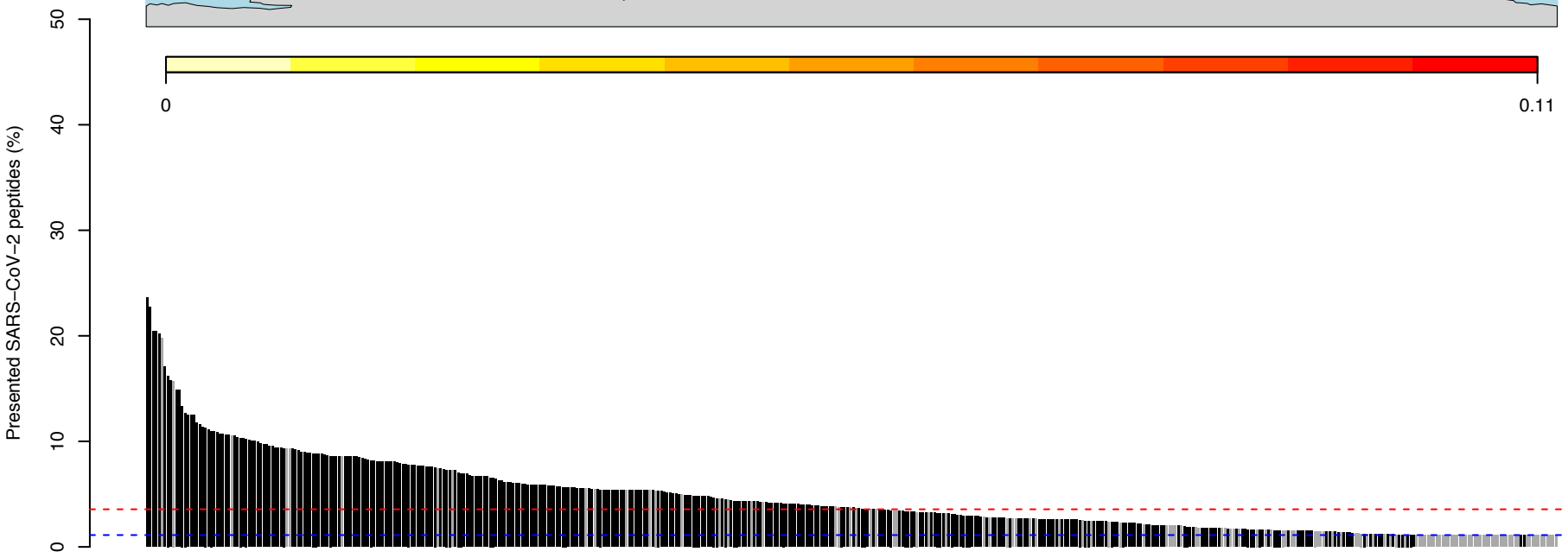
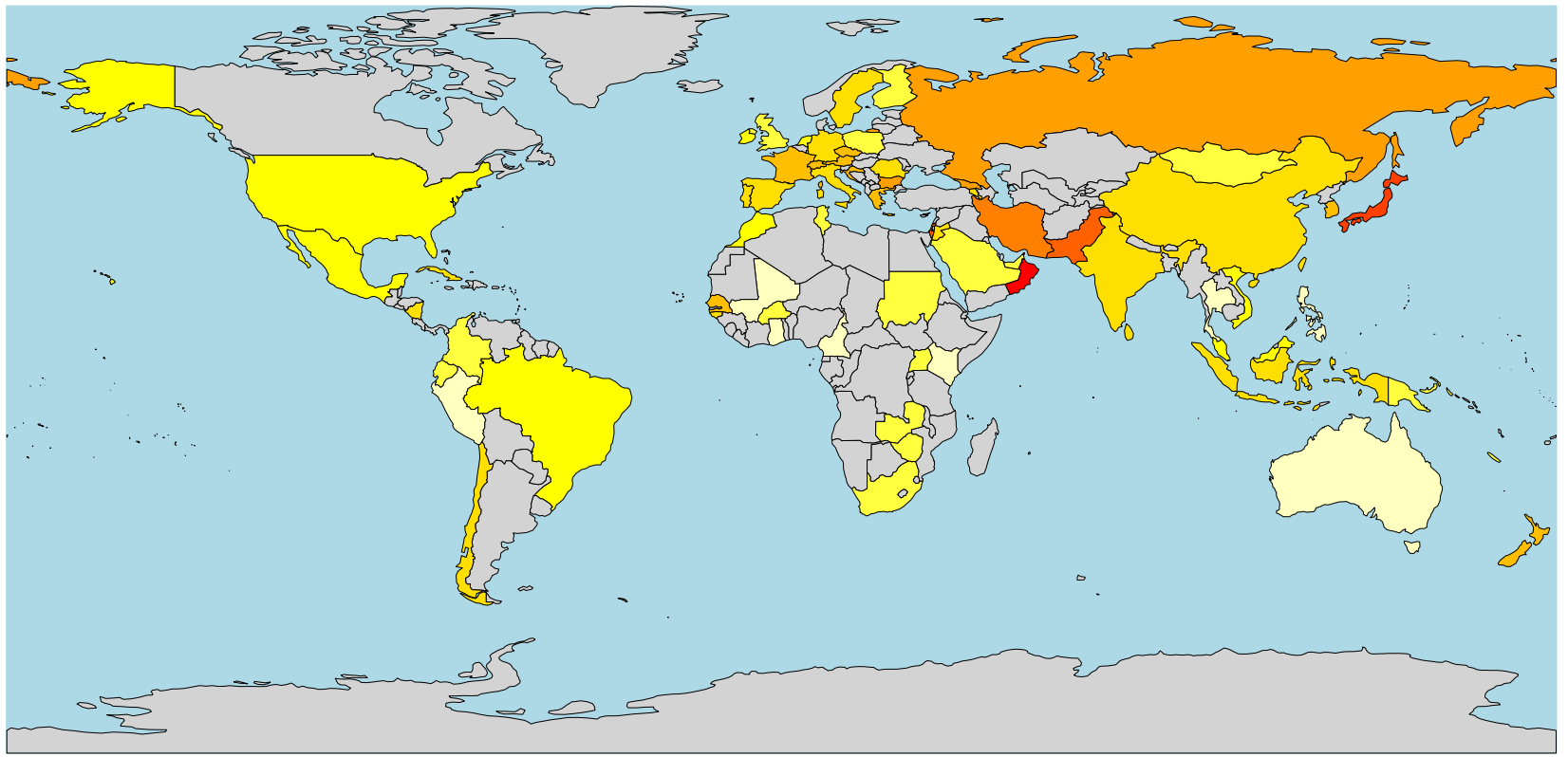


2.5% 3.8%

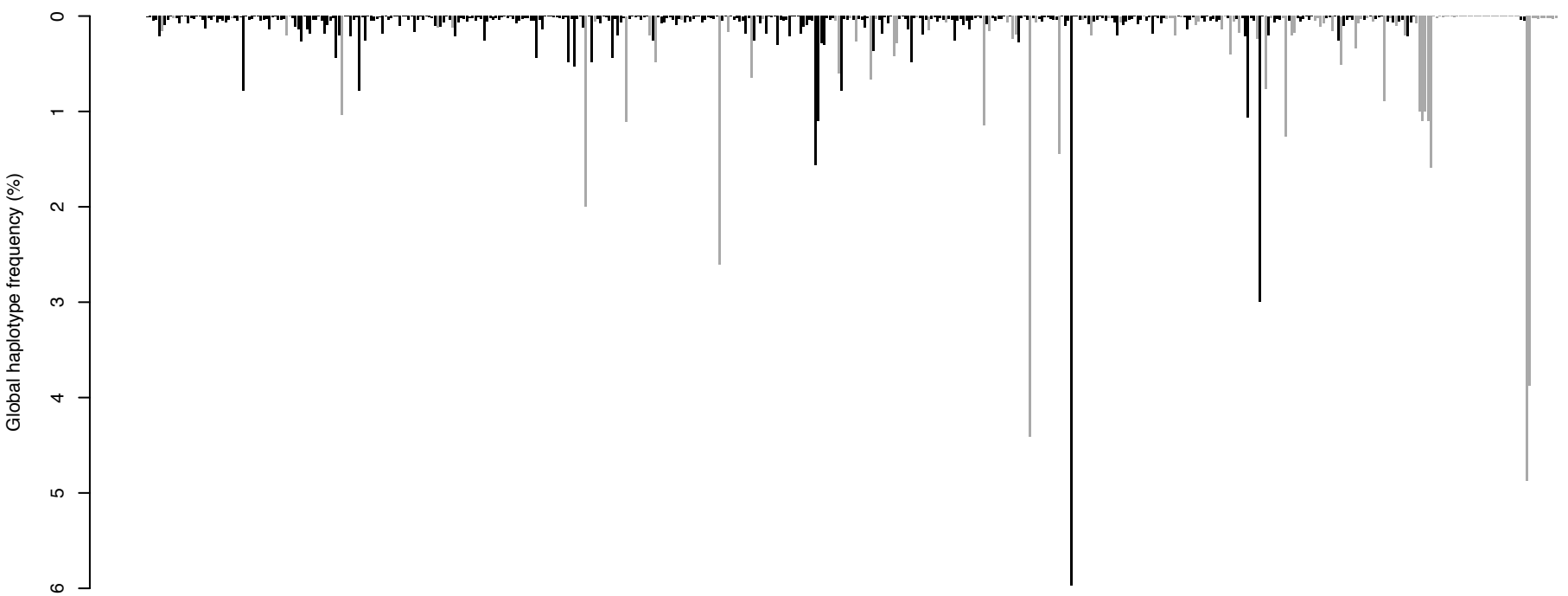
A*25:01
(~0.49% globally)



A*26:01
(~3.2% globally)

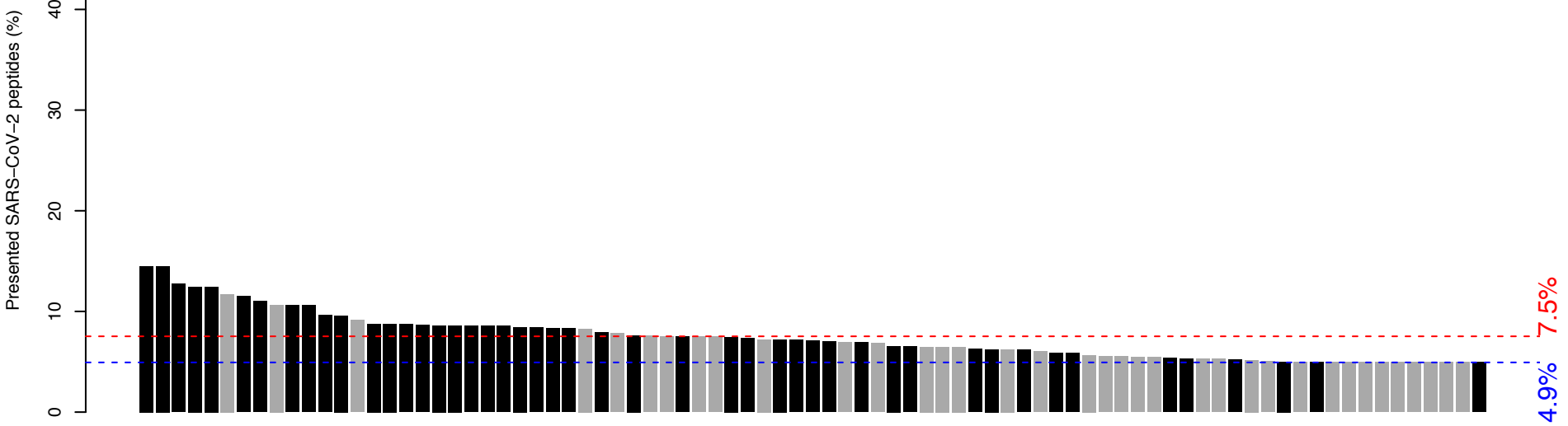
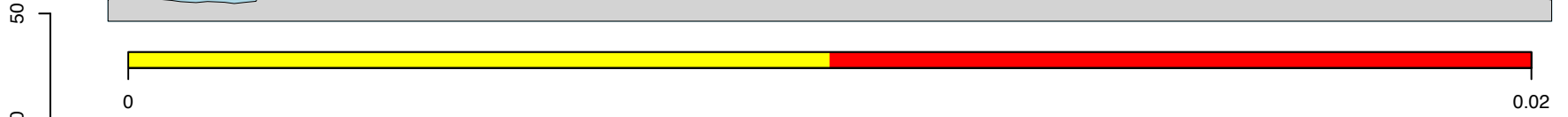
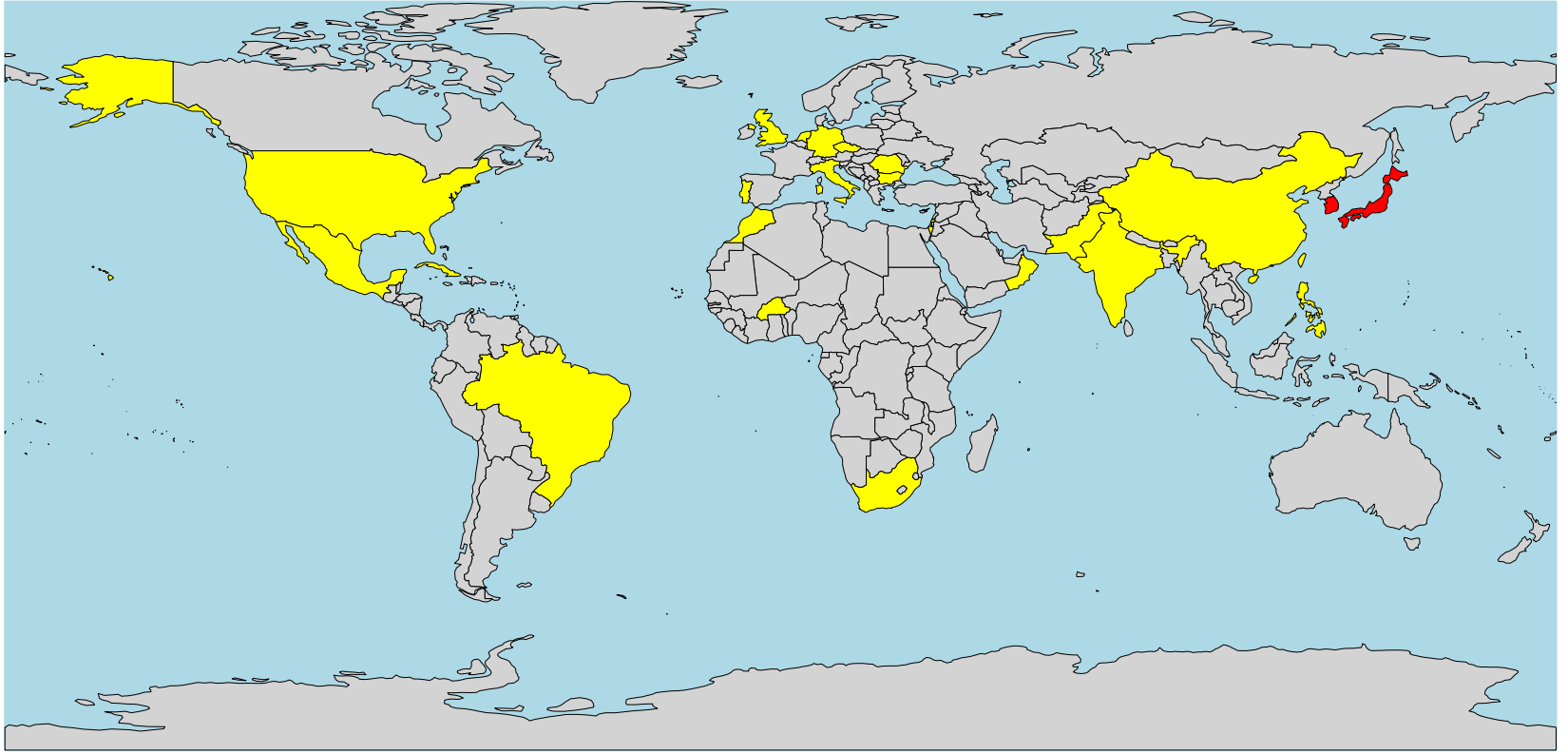


A*26:01 Haplotypes (n=486)



3.6%
1.1%

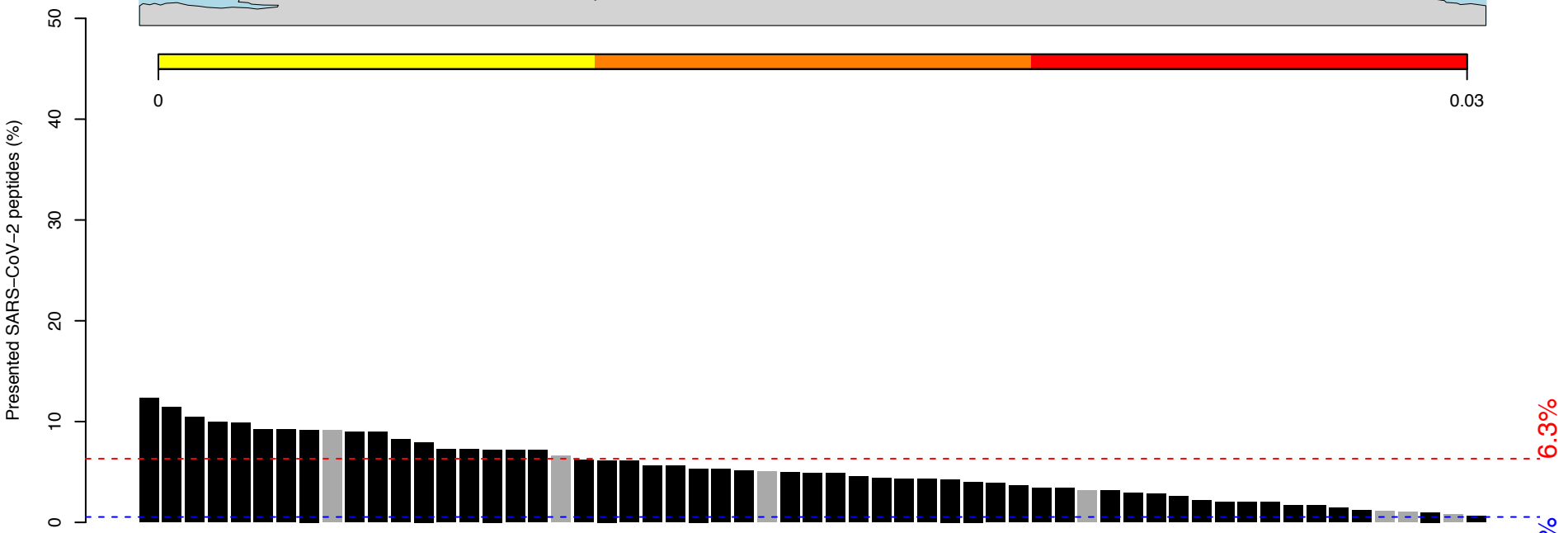
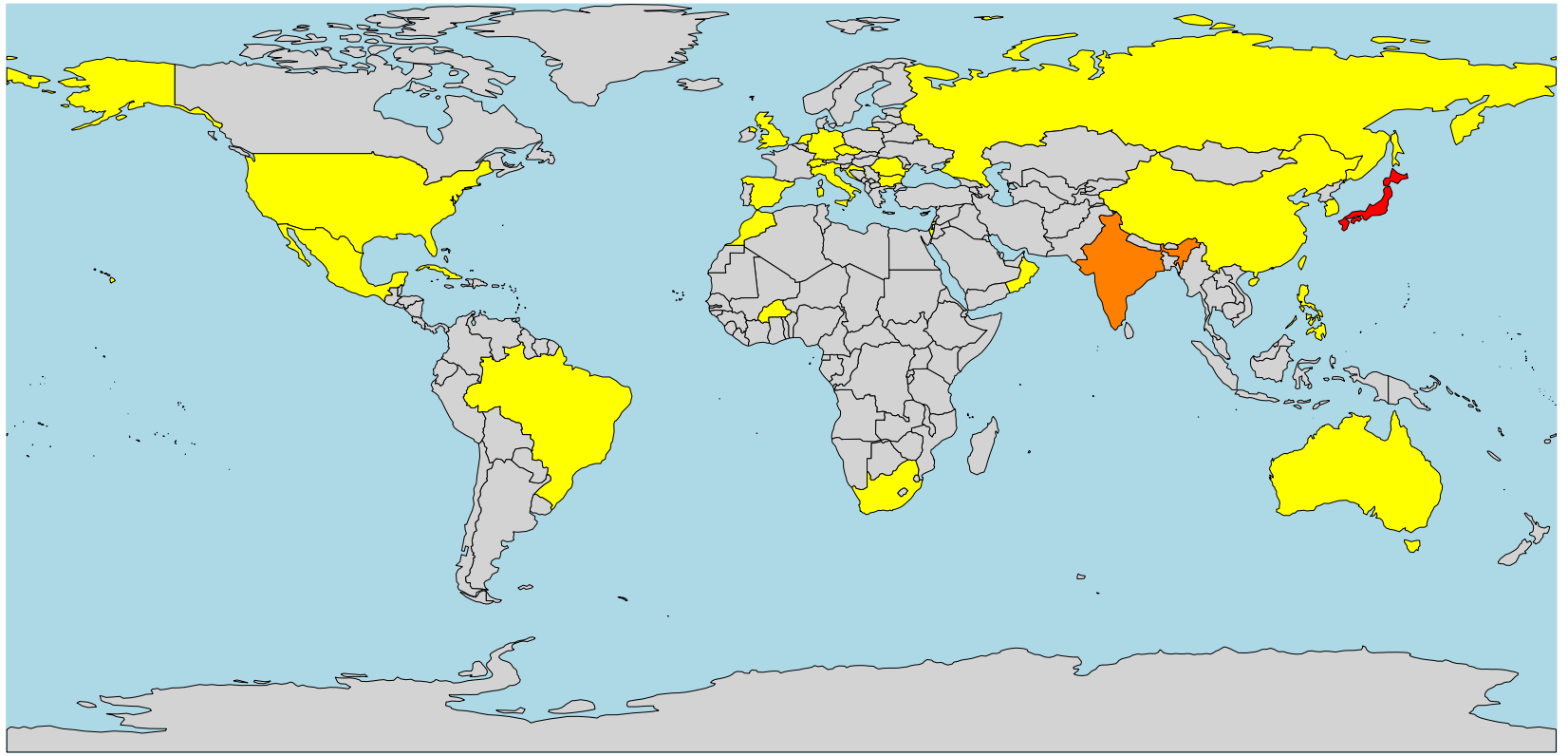
A*26:02
(~0.13% globally)



A*26:02 Haplotypes (n=83)



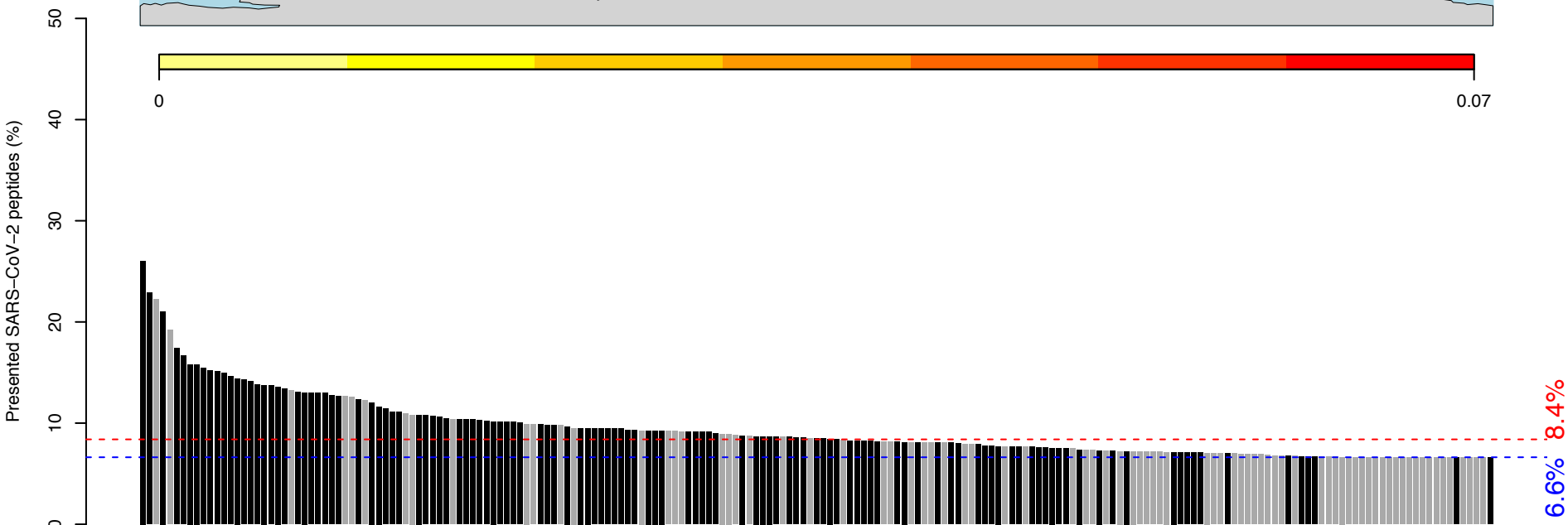
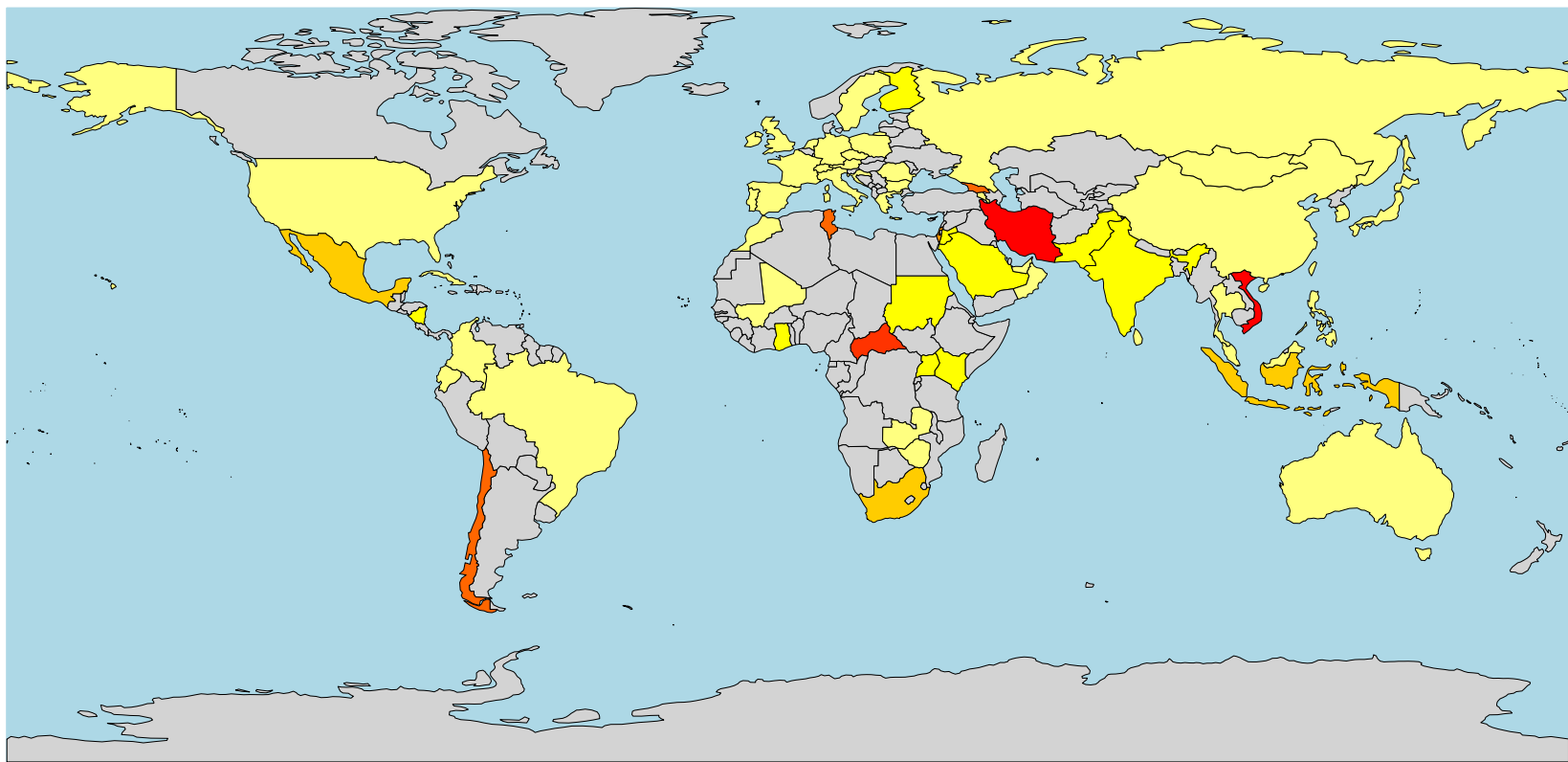
A*26:03
(~0.51% globally)



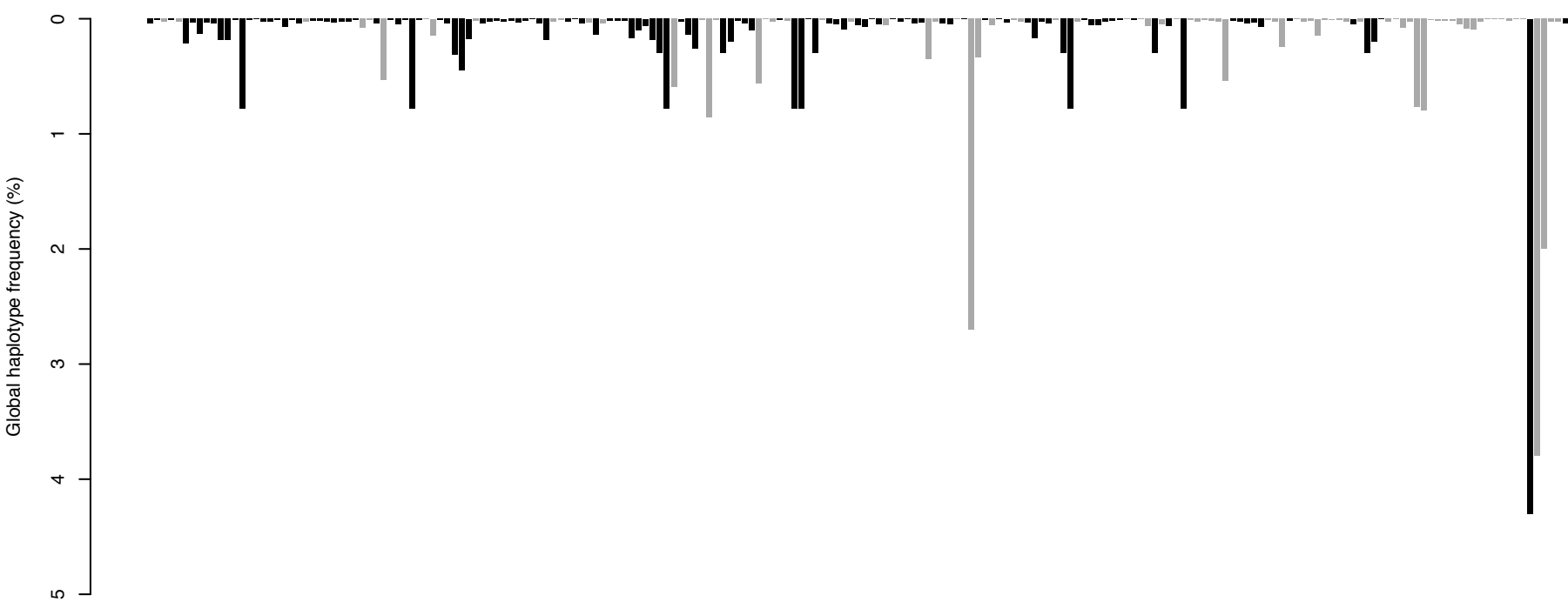
A*26:03 Haplotypes (n=59)



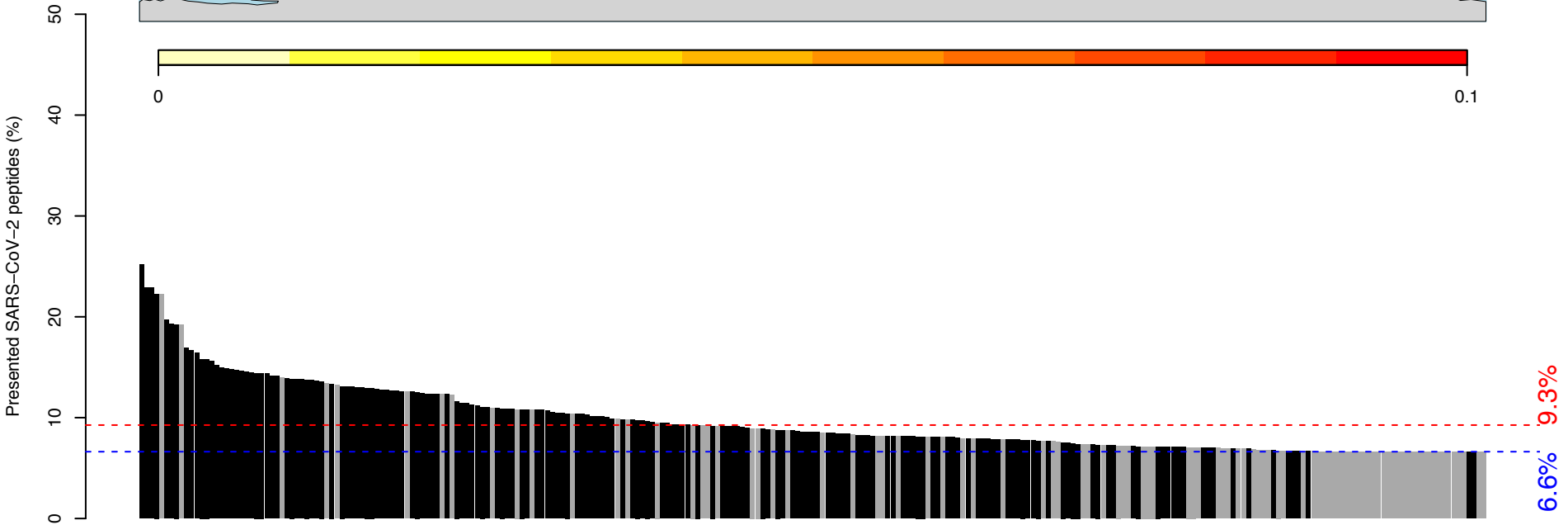
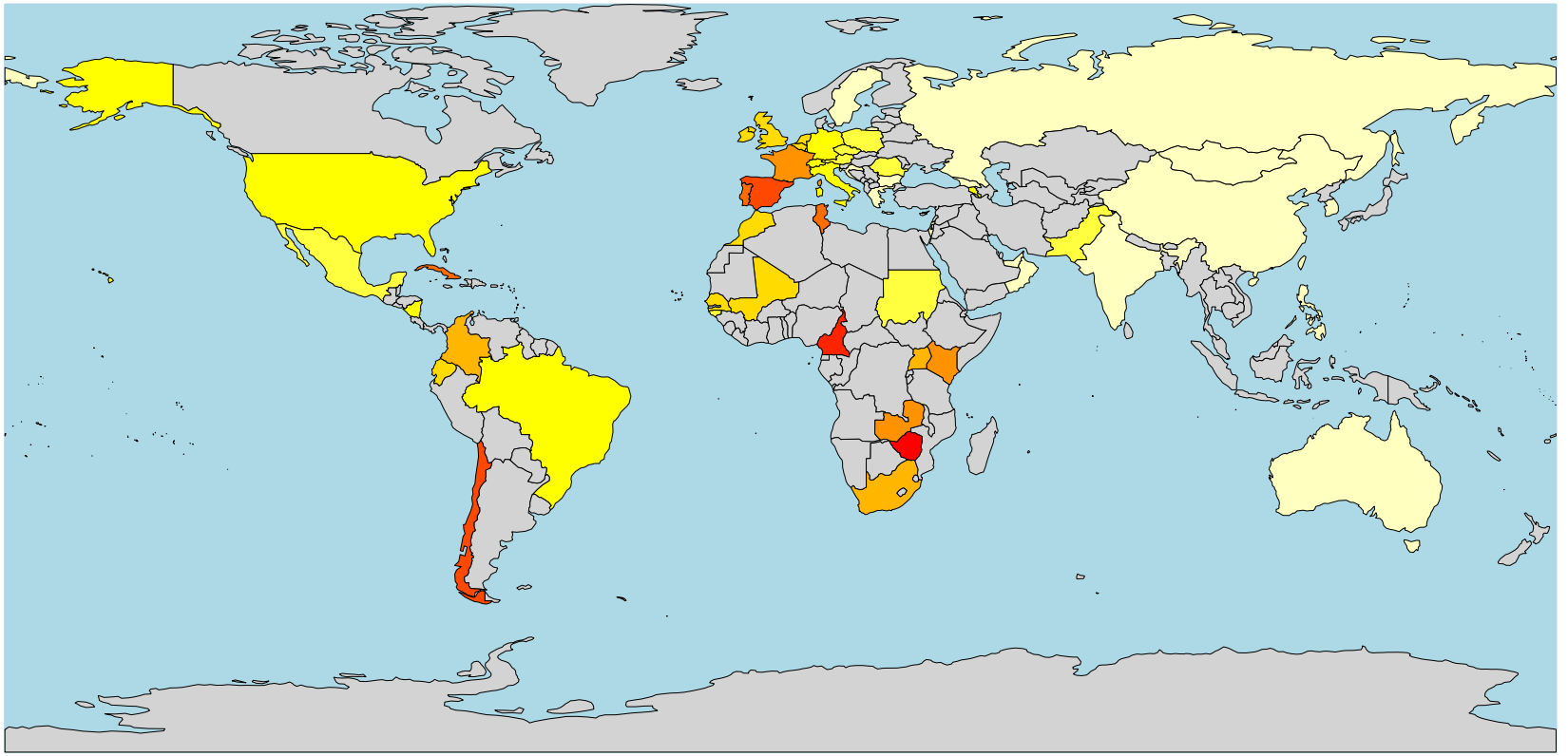
A*29:01
(~1.1% globally)



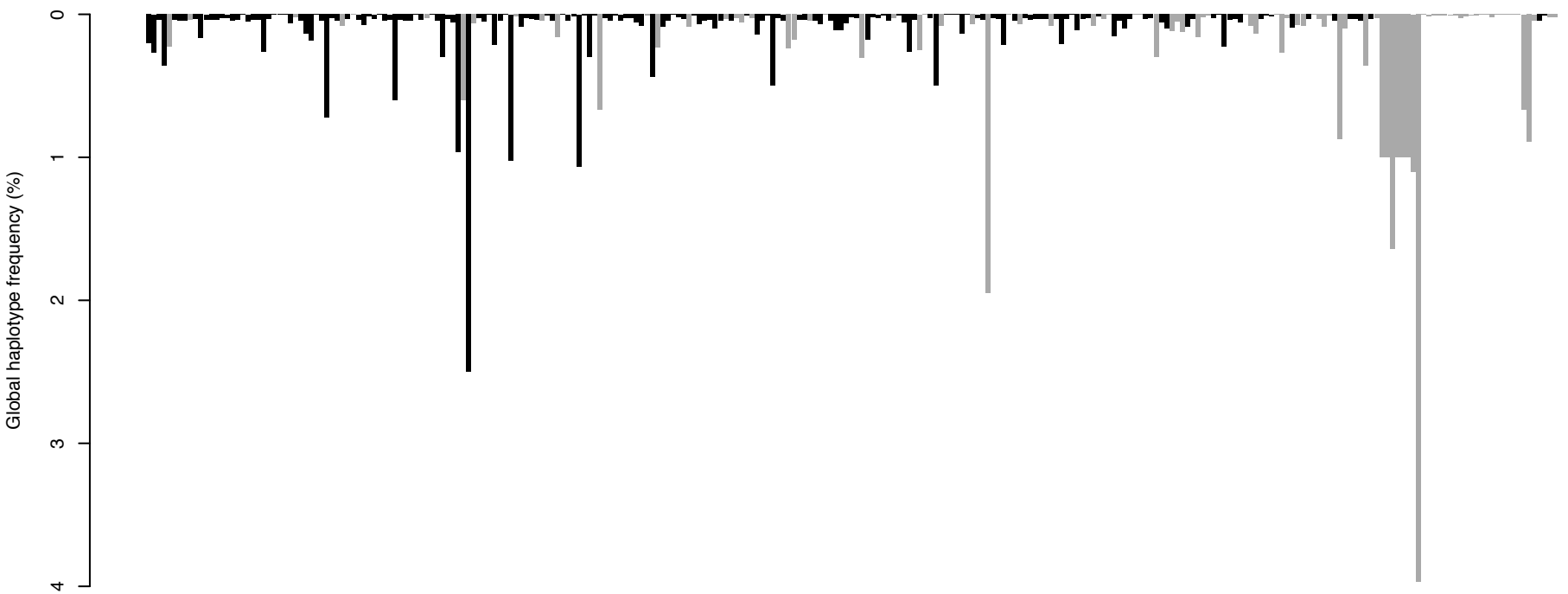
A*29:01 Haplotypes (n=201)



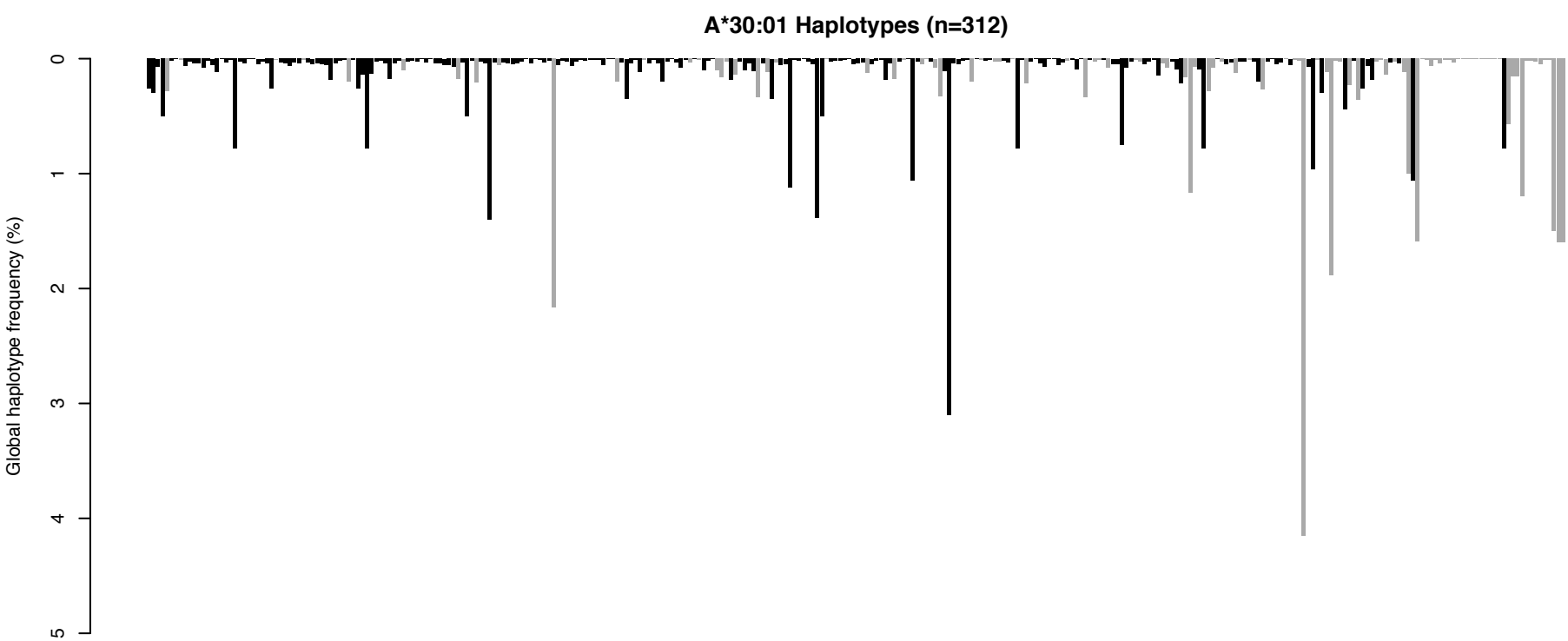
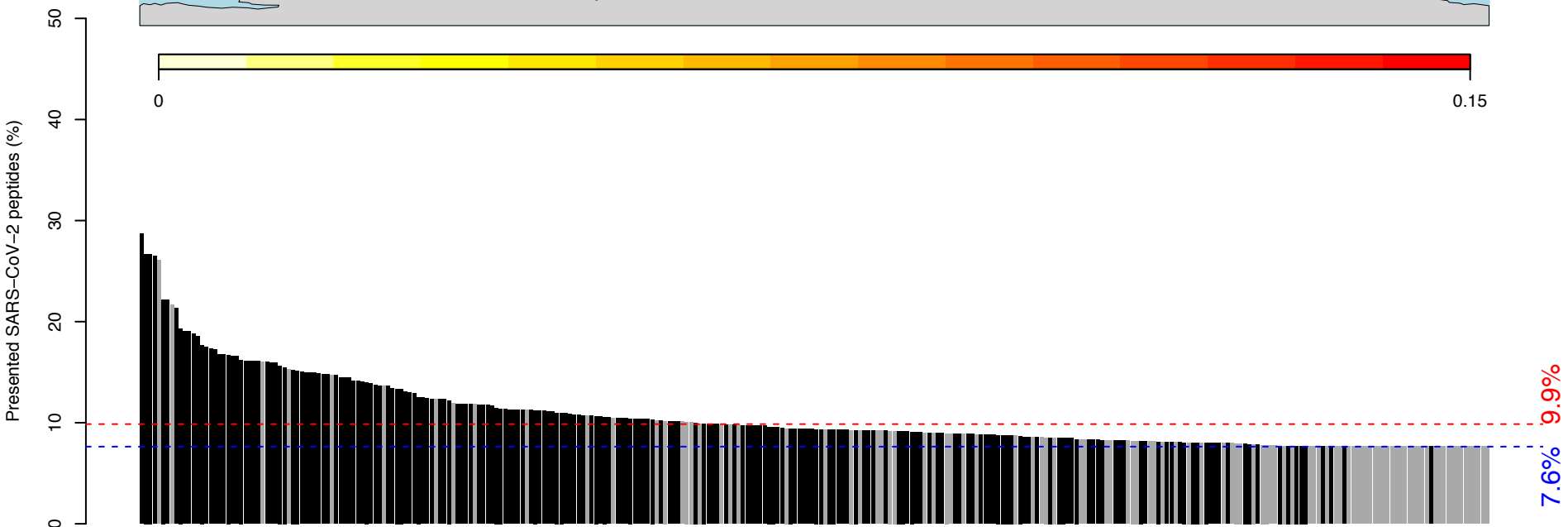
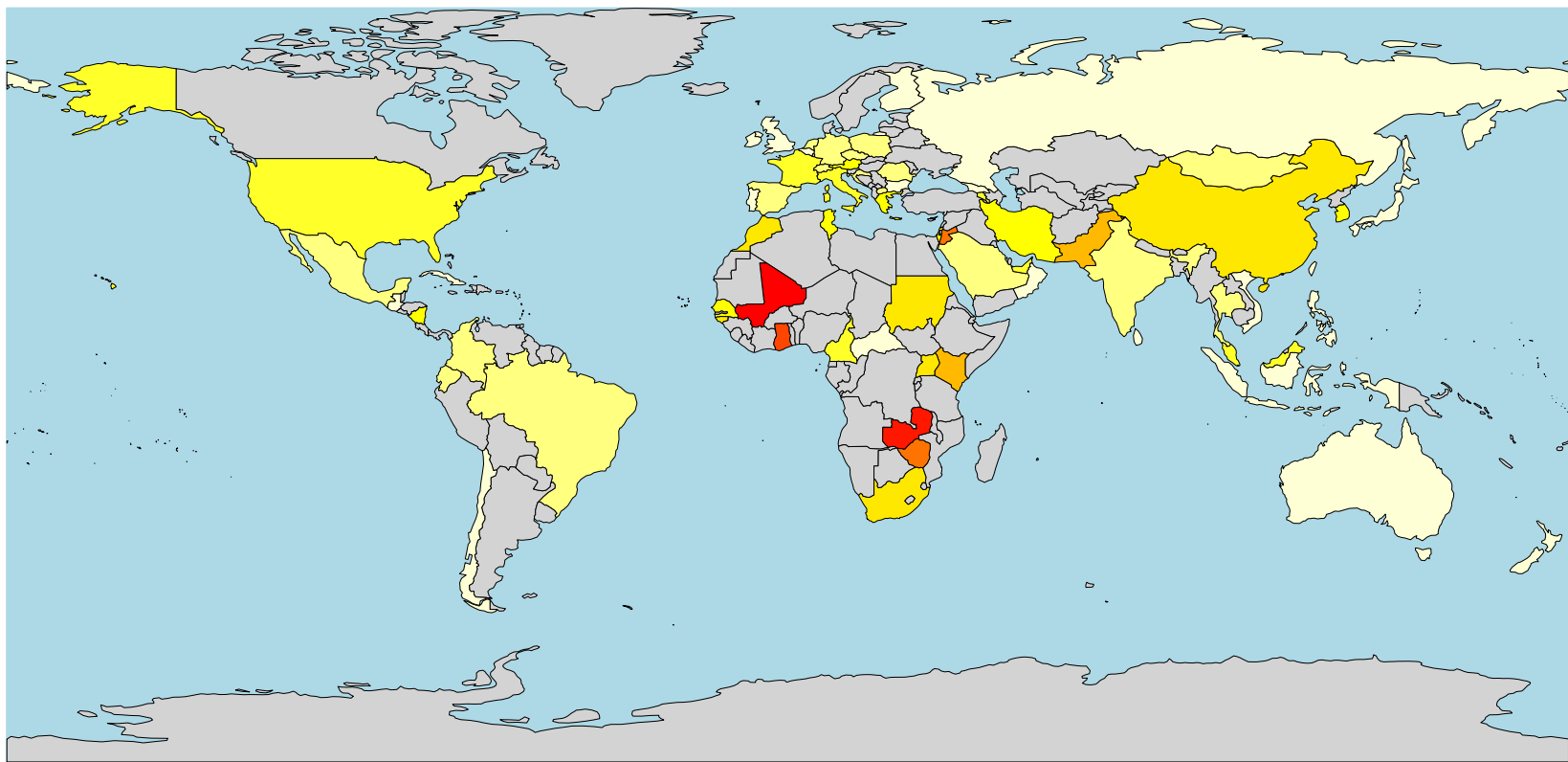
A*29:02
(~0.9% globally)



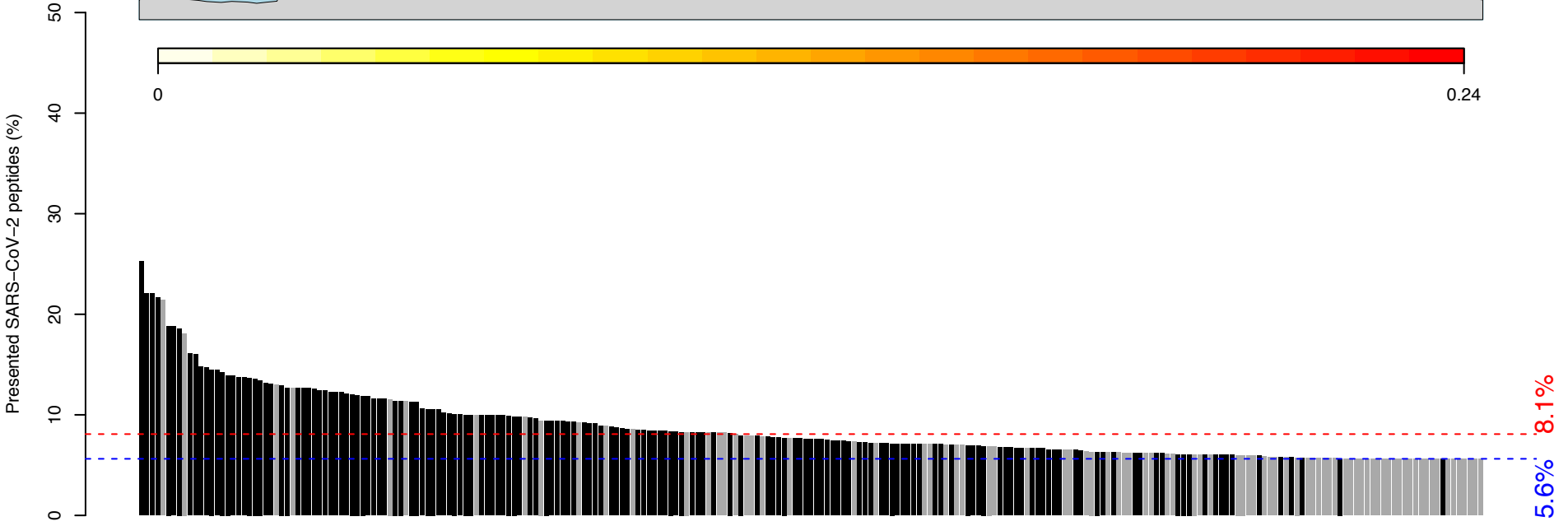
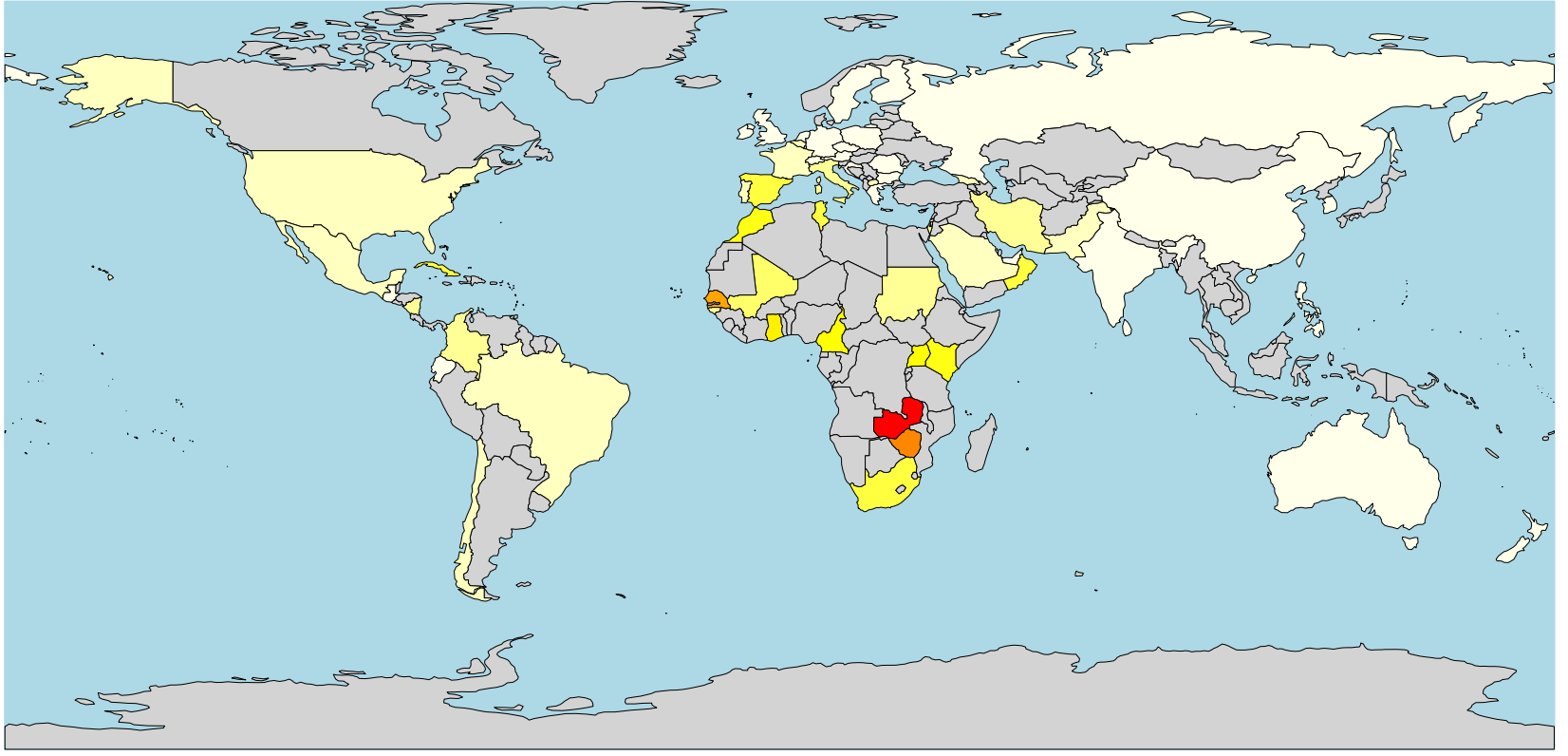
A*29:02 Haplotypes (n=269)



A*30:01
(~2.2% globally)



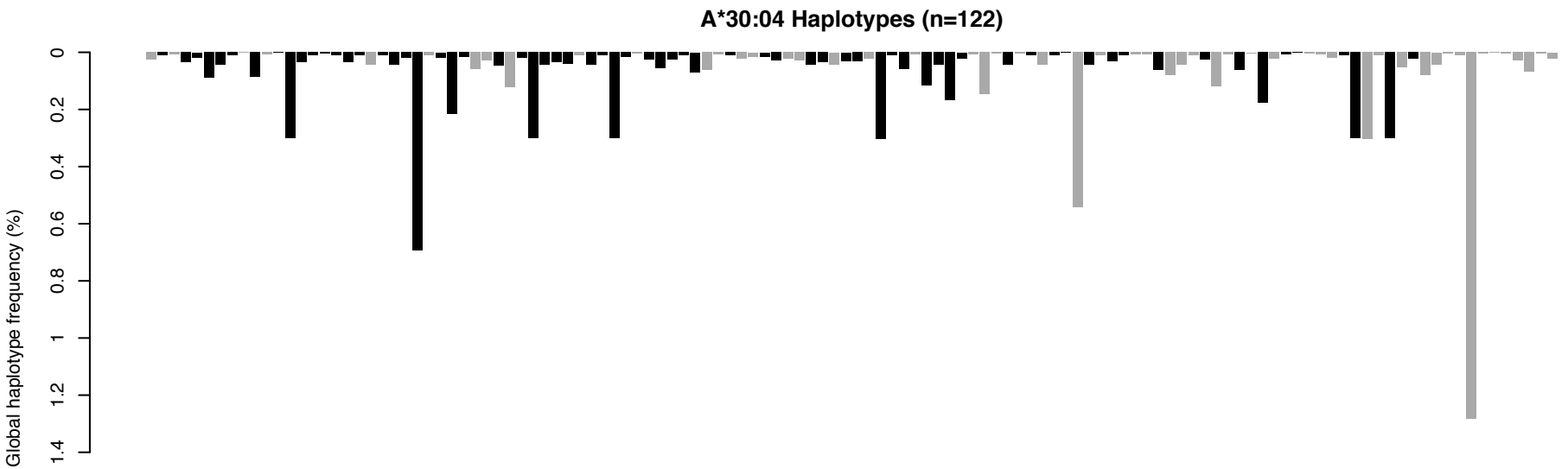
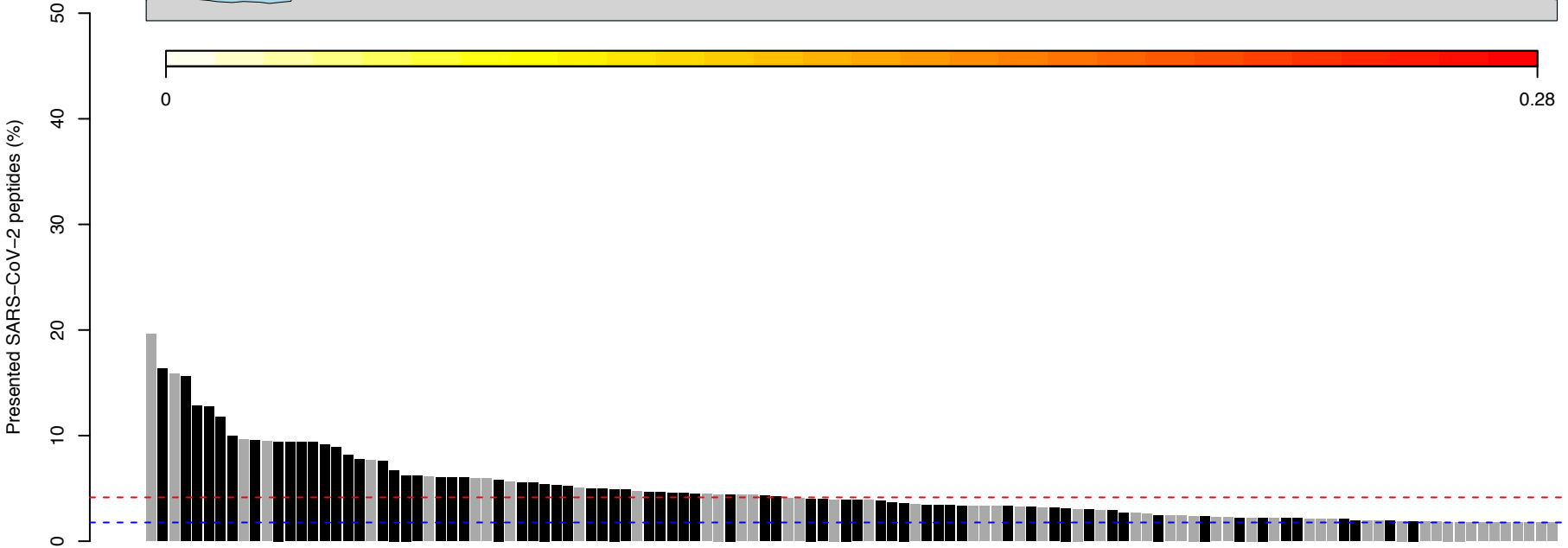
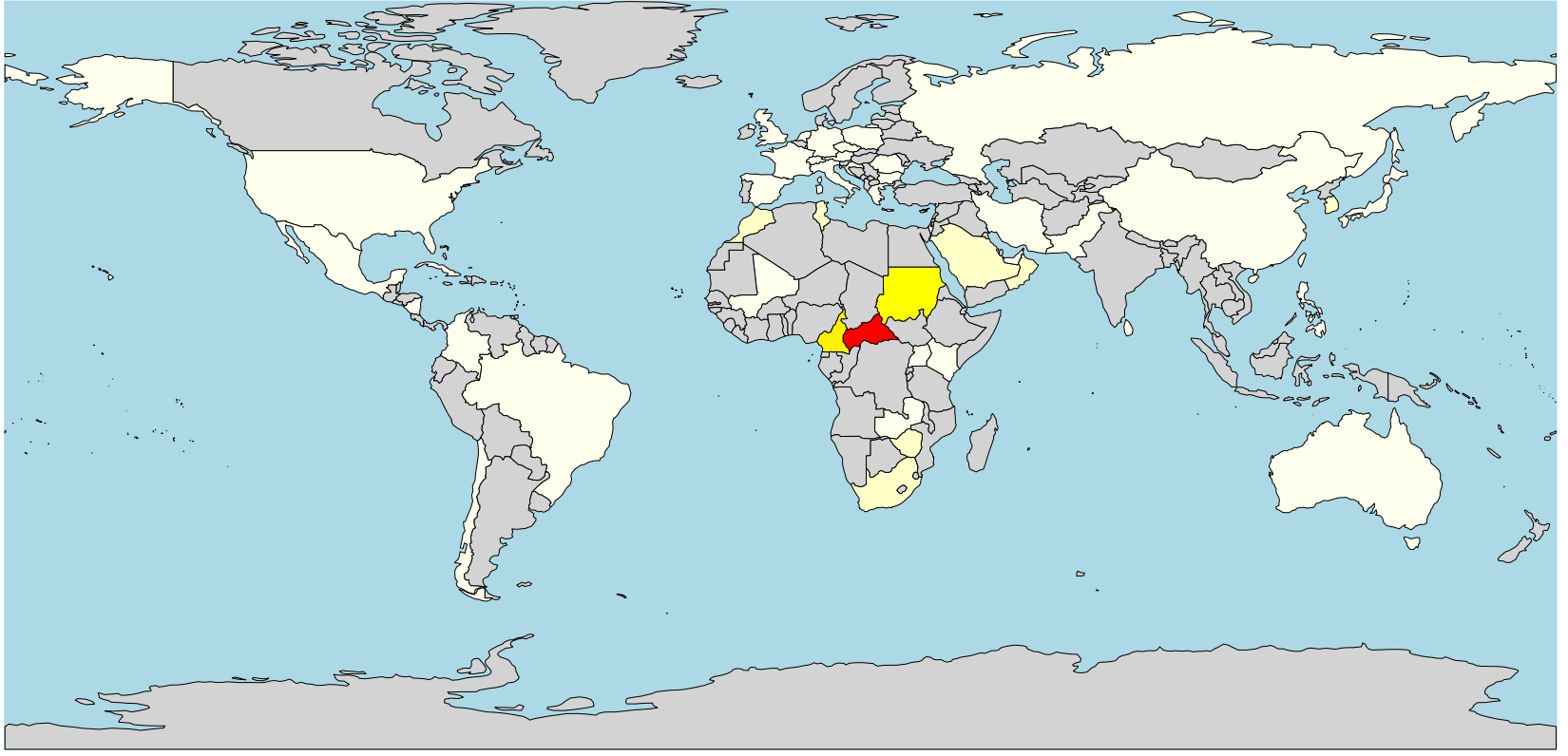
A*30:02
(~0.78% globally)



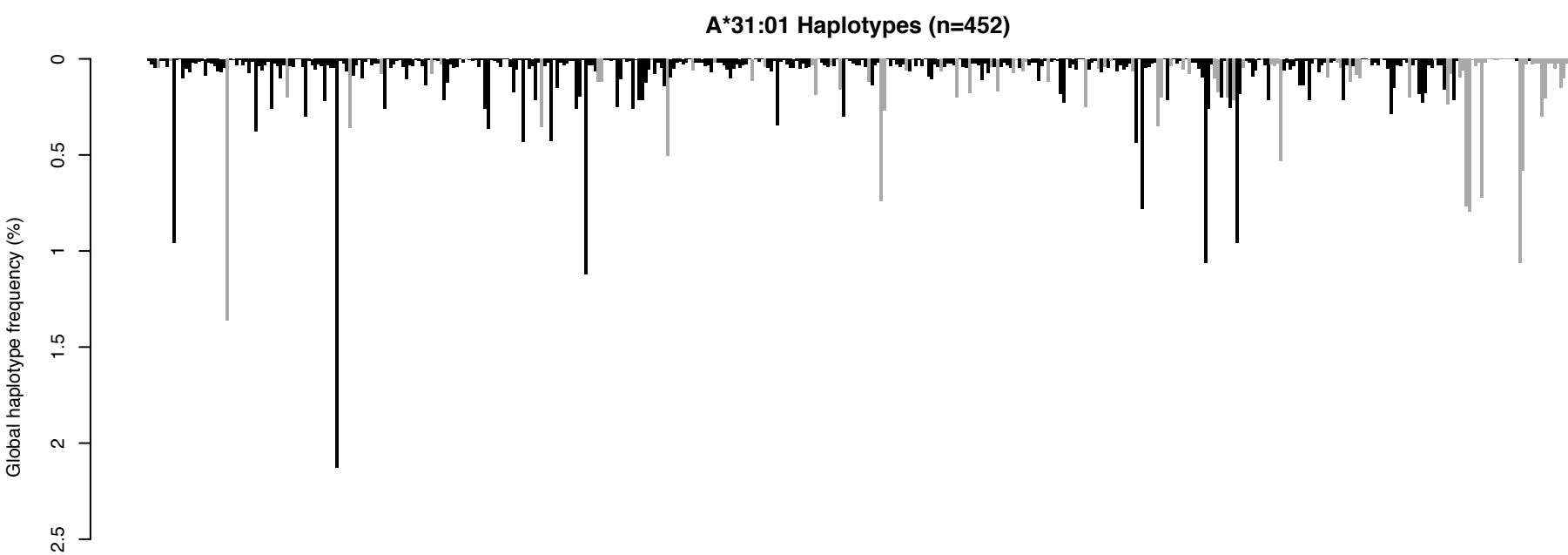
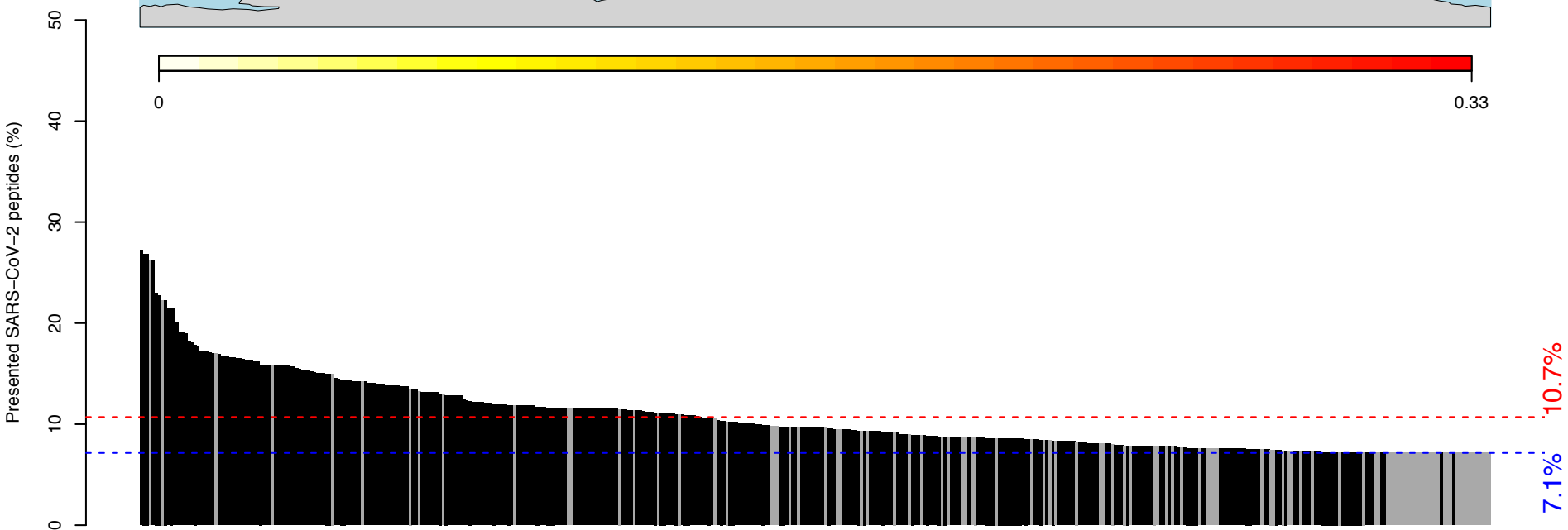
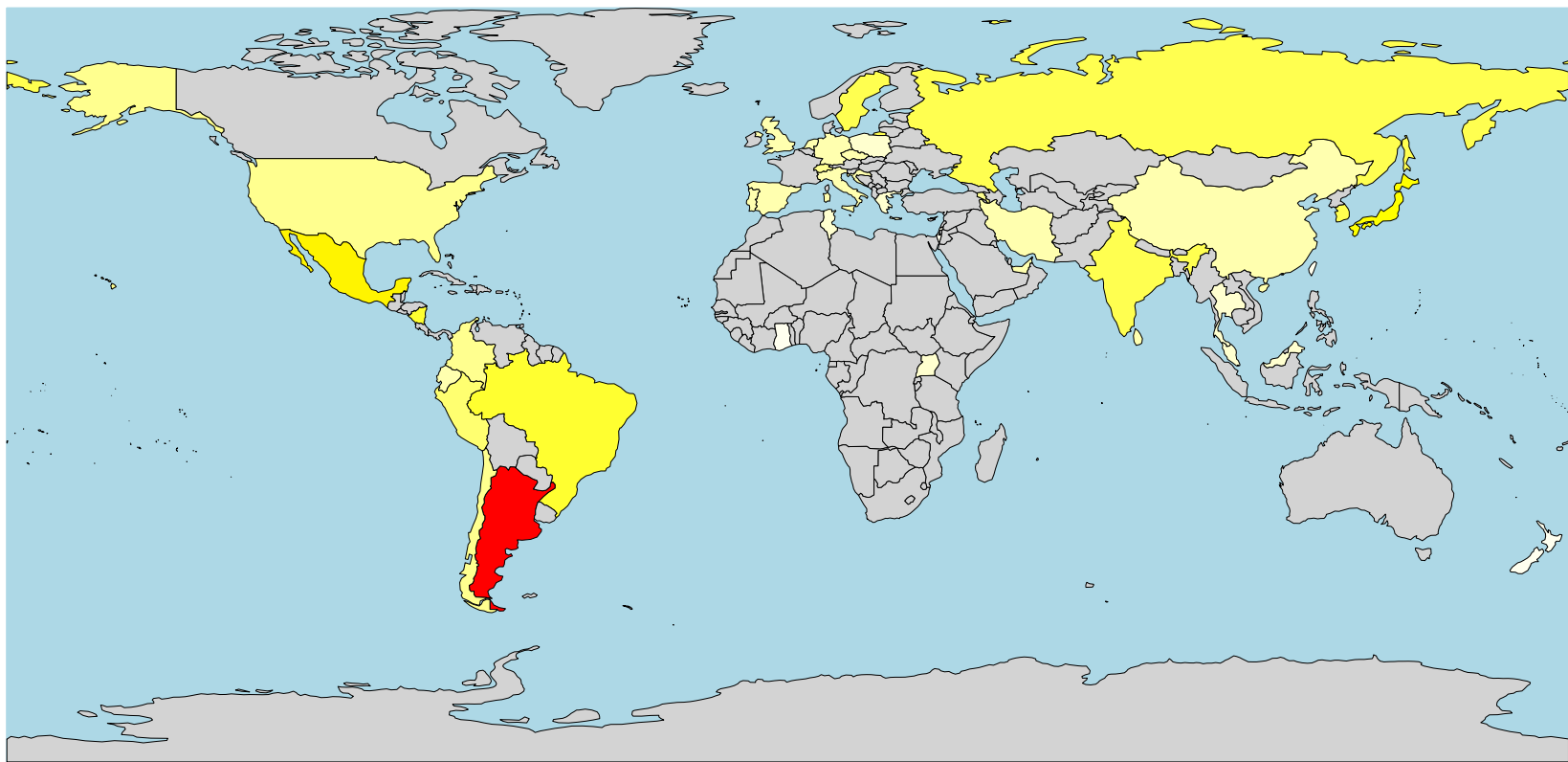
A*30:02 Haplotypes (n=249)



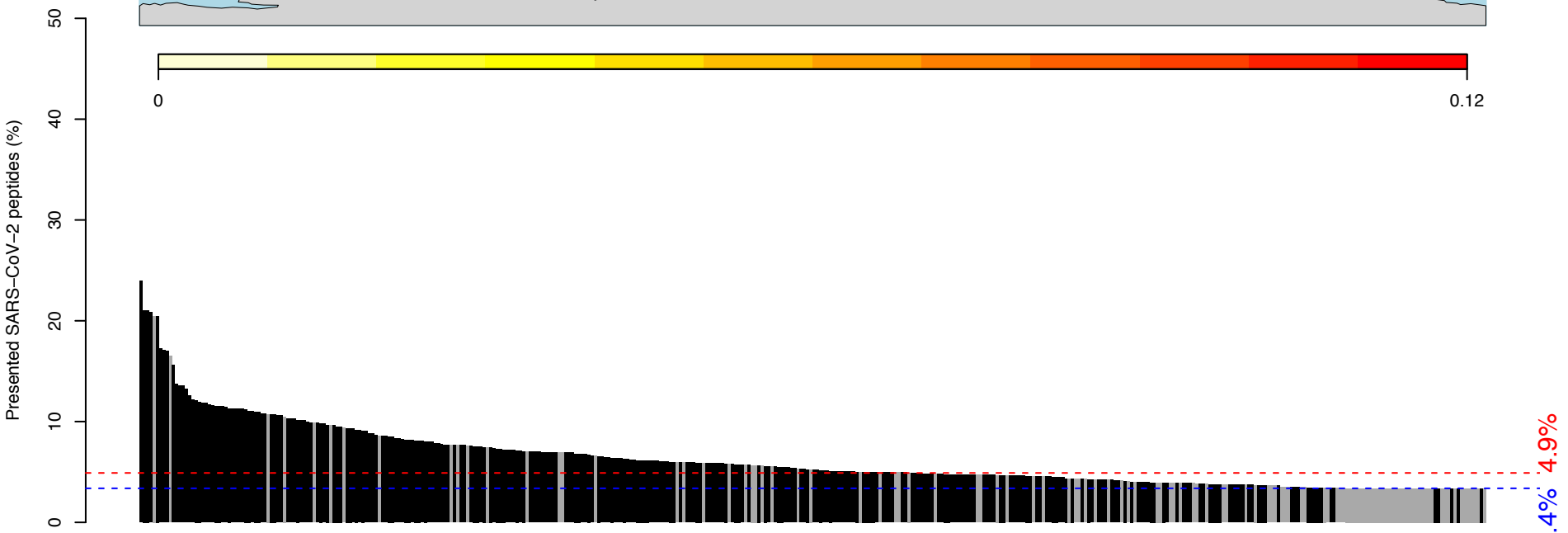
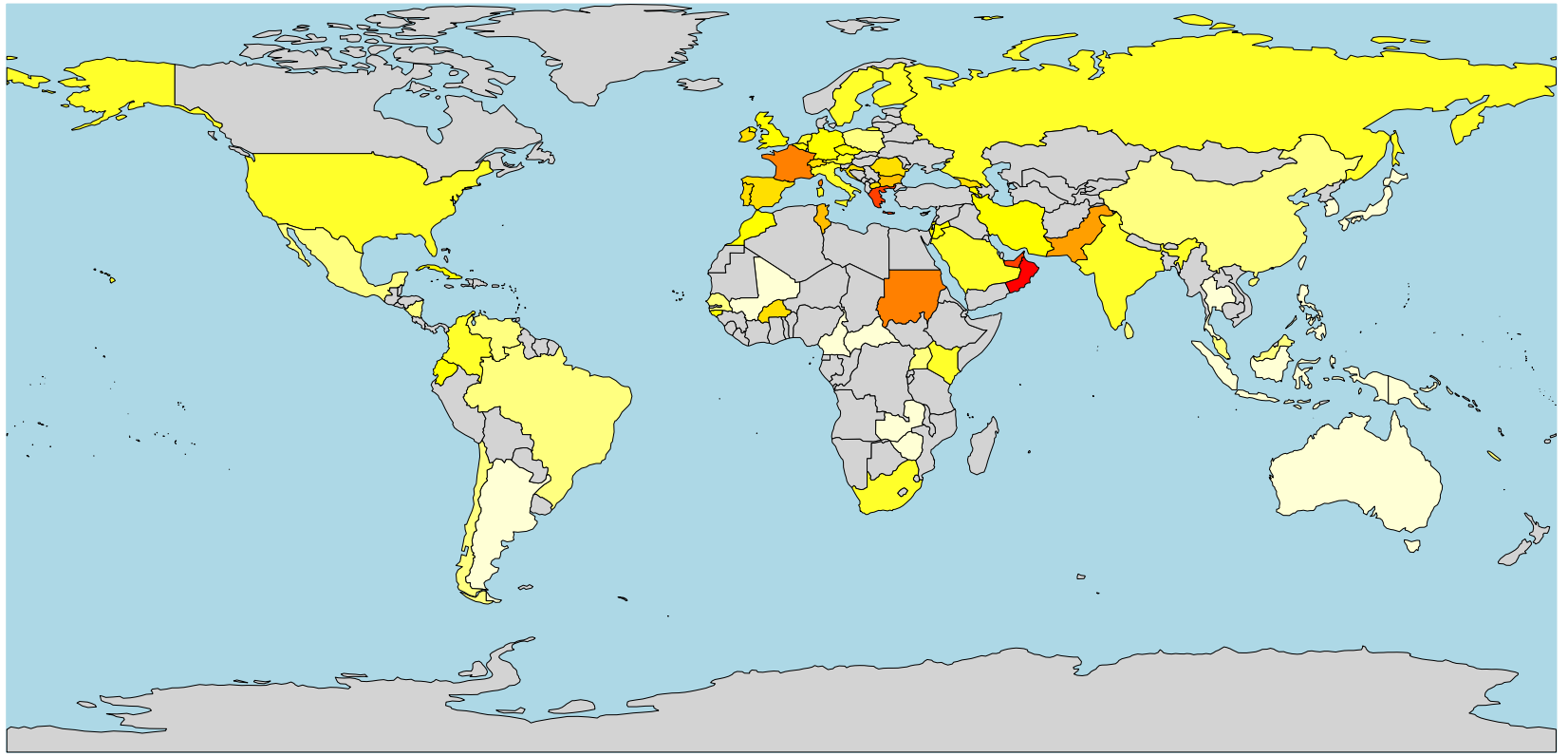
A*30:04
(~0.38% globally)



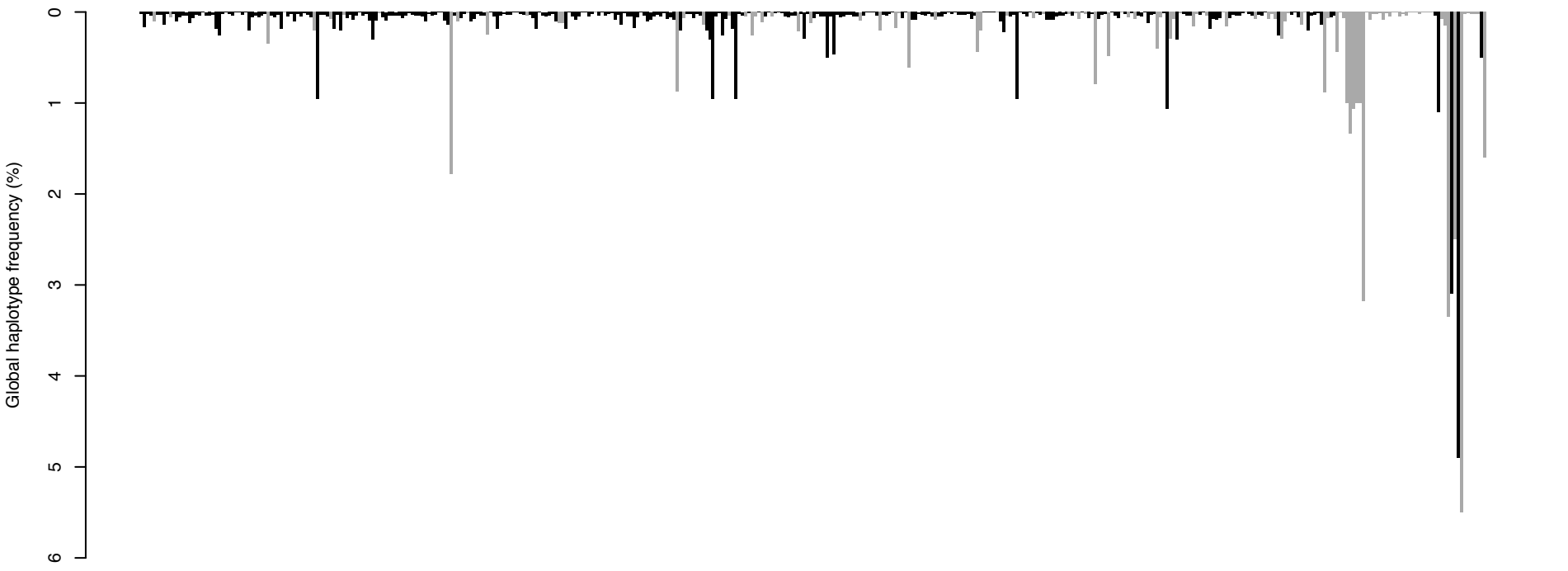
A*31:01
(~4.3% globally)



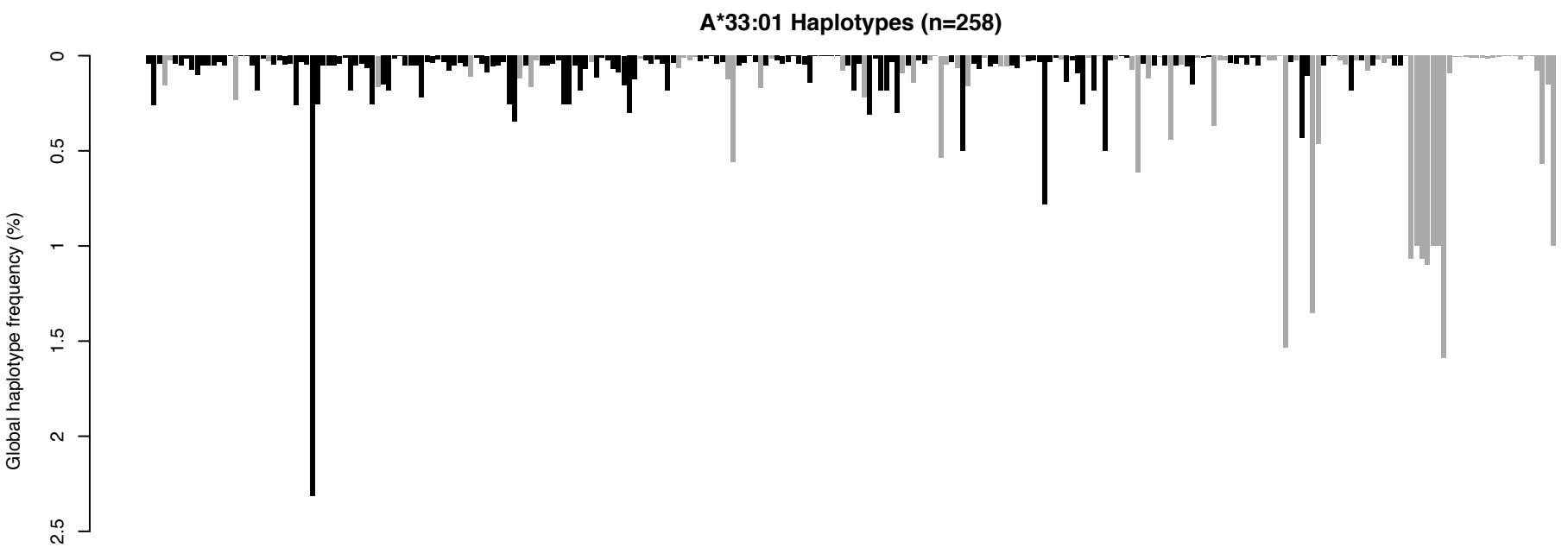
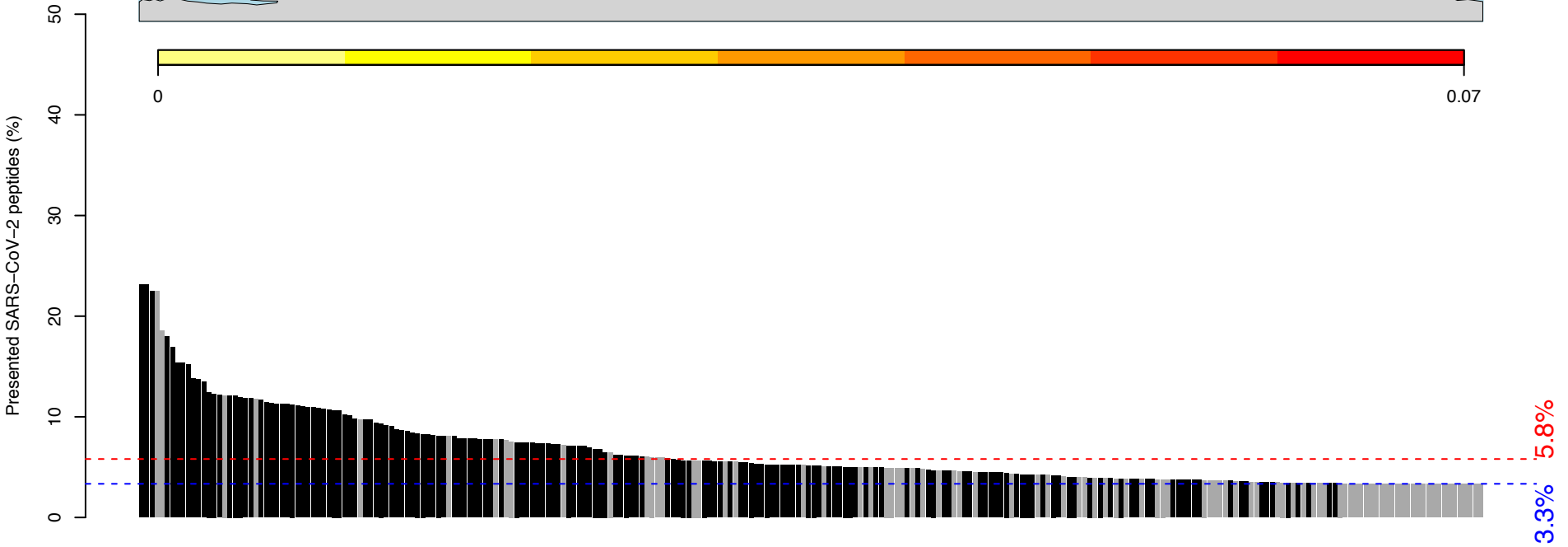
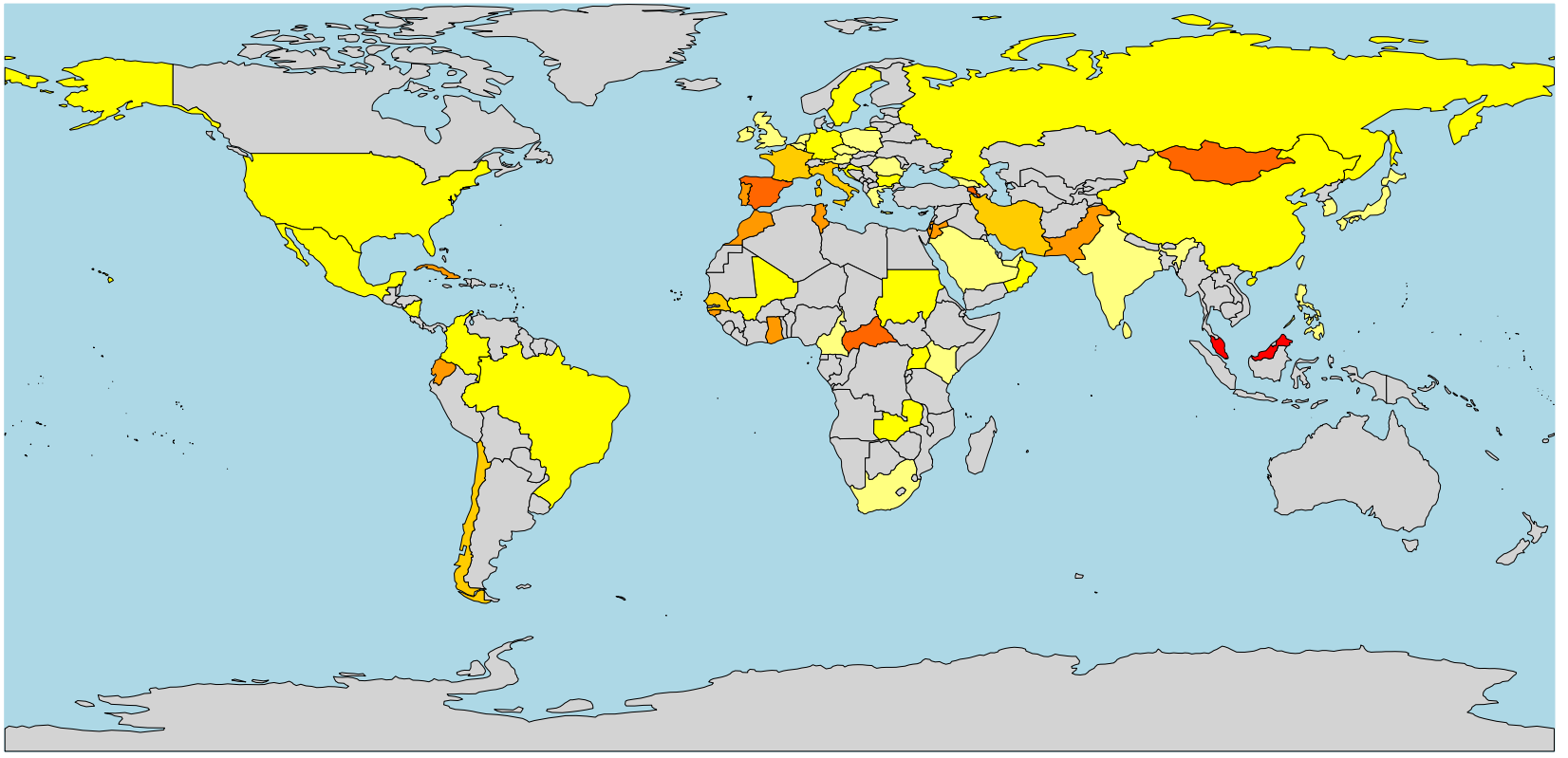
A*32:01
(~2.4% globally)



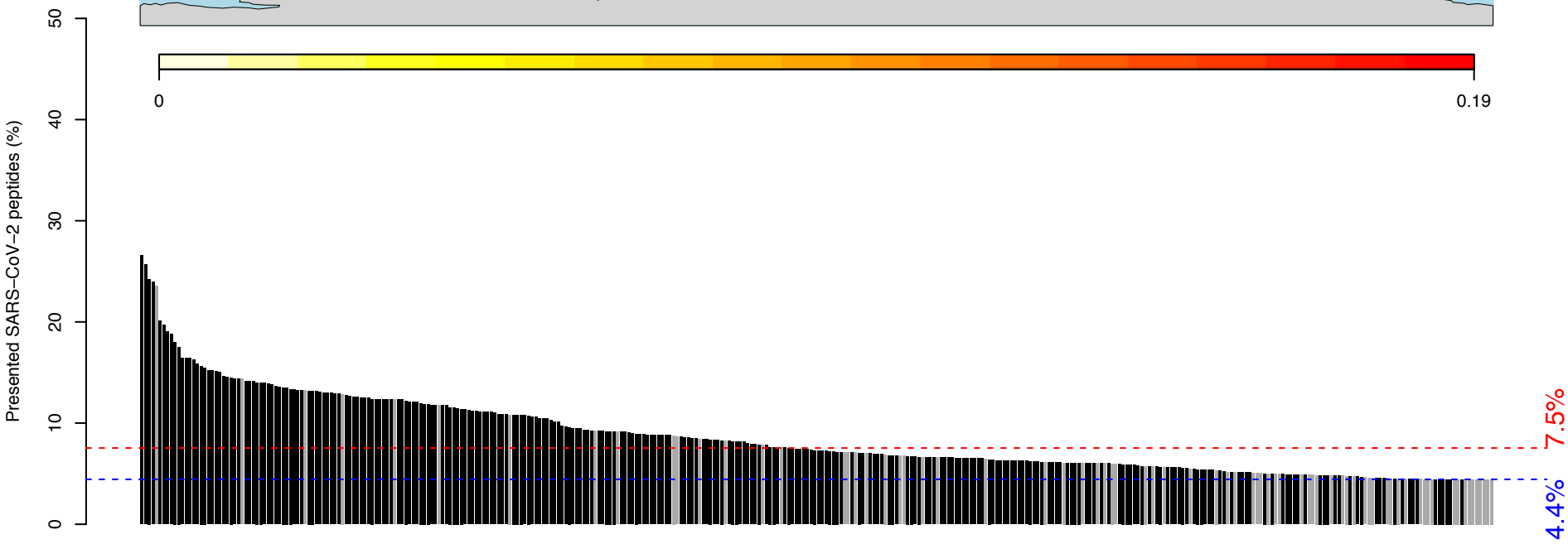
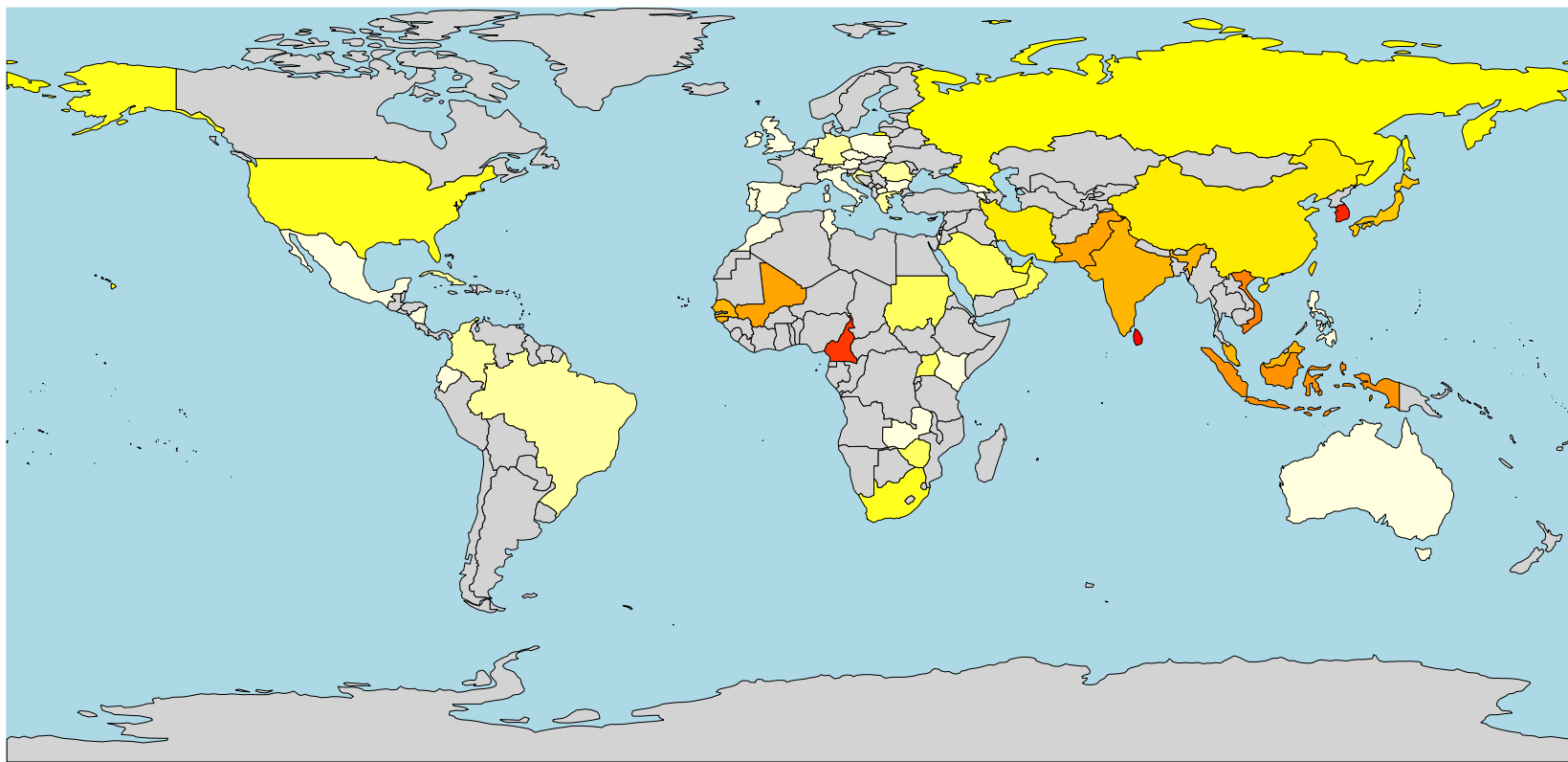
A*32:01 Haplotypes (n=412)



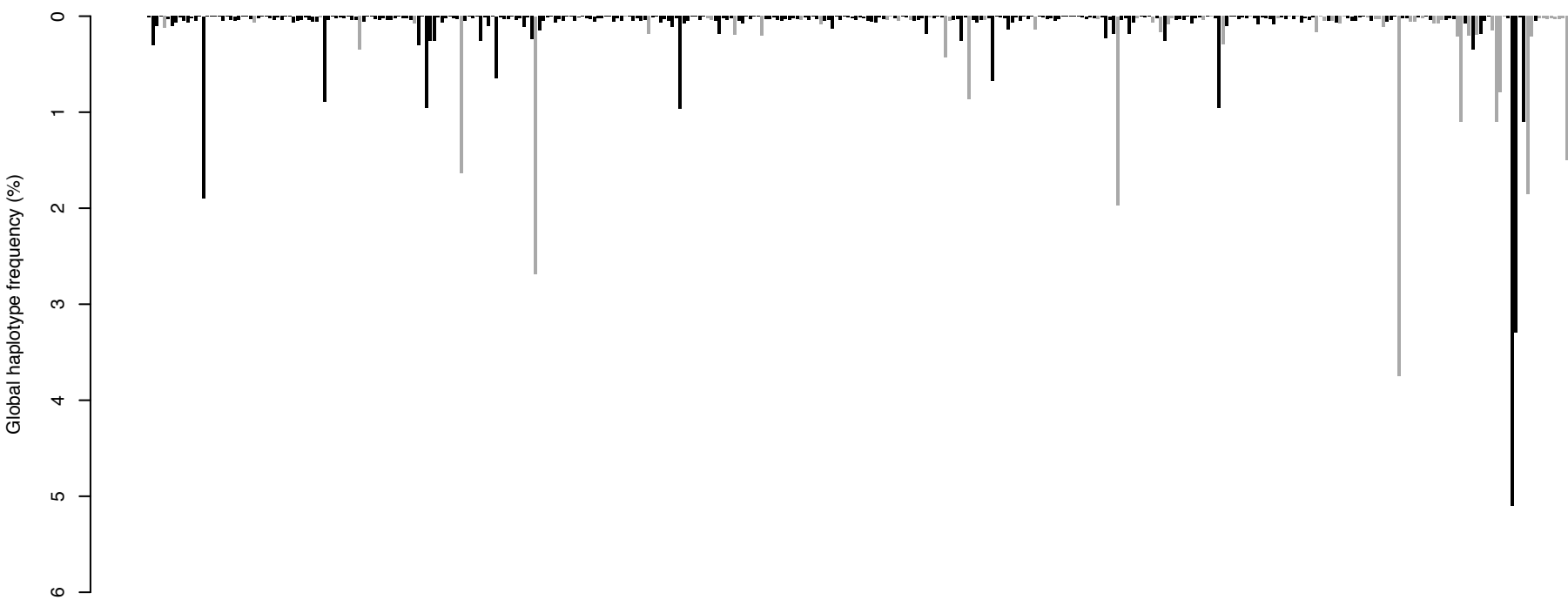
A*33:01
(~0.99% globally)



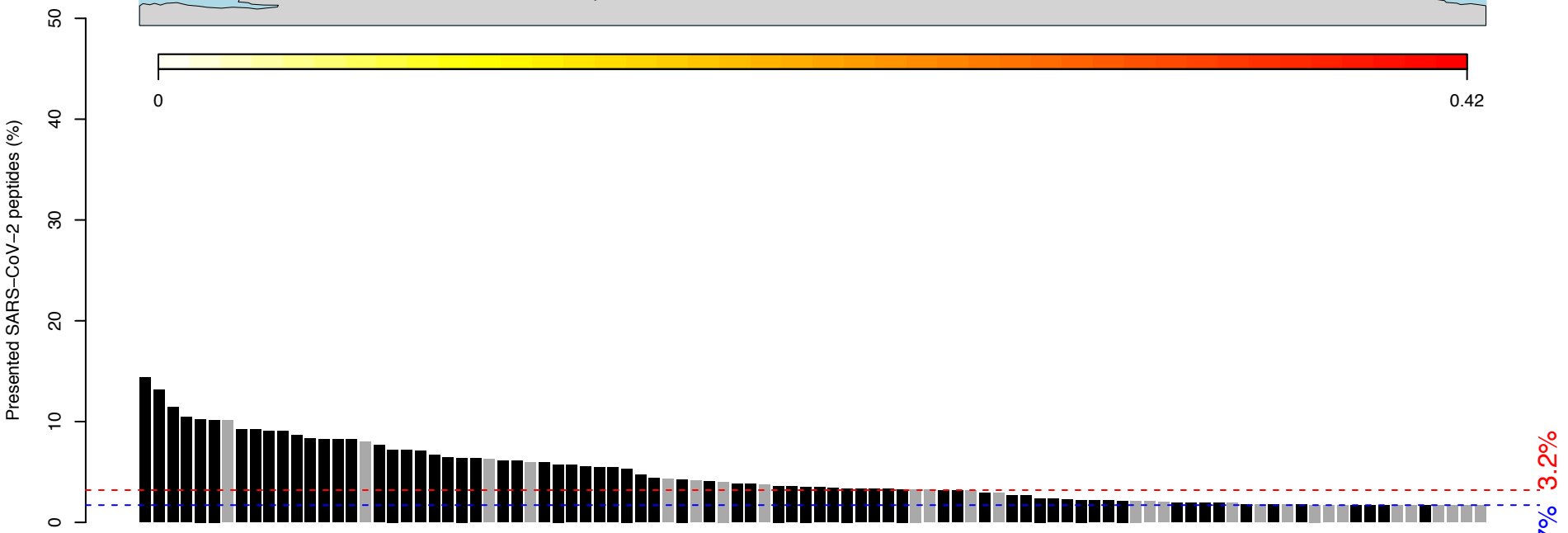
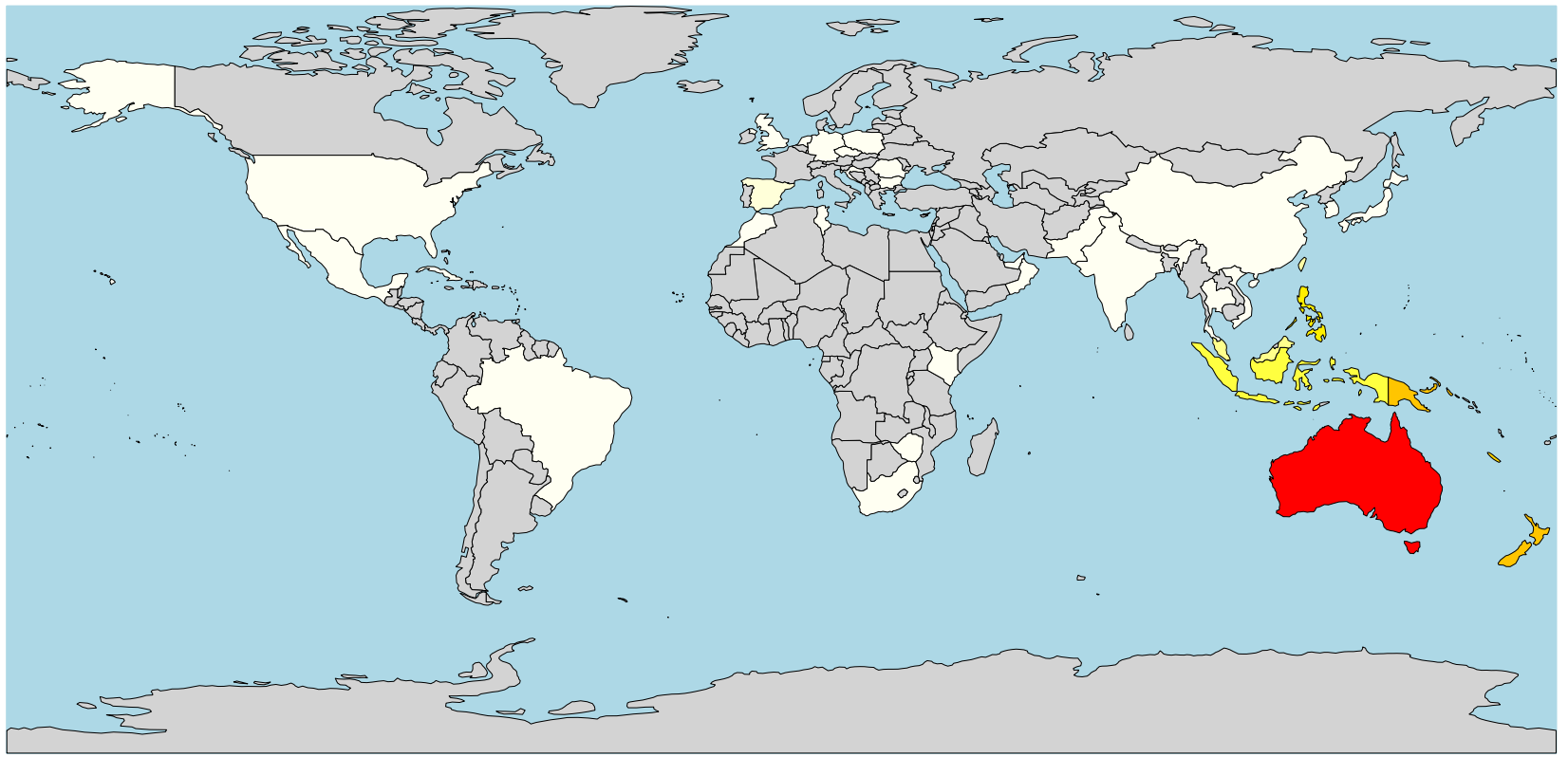
A*33:03
(~4.8% globally)



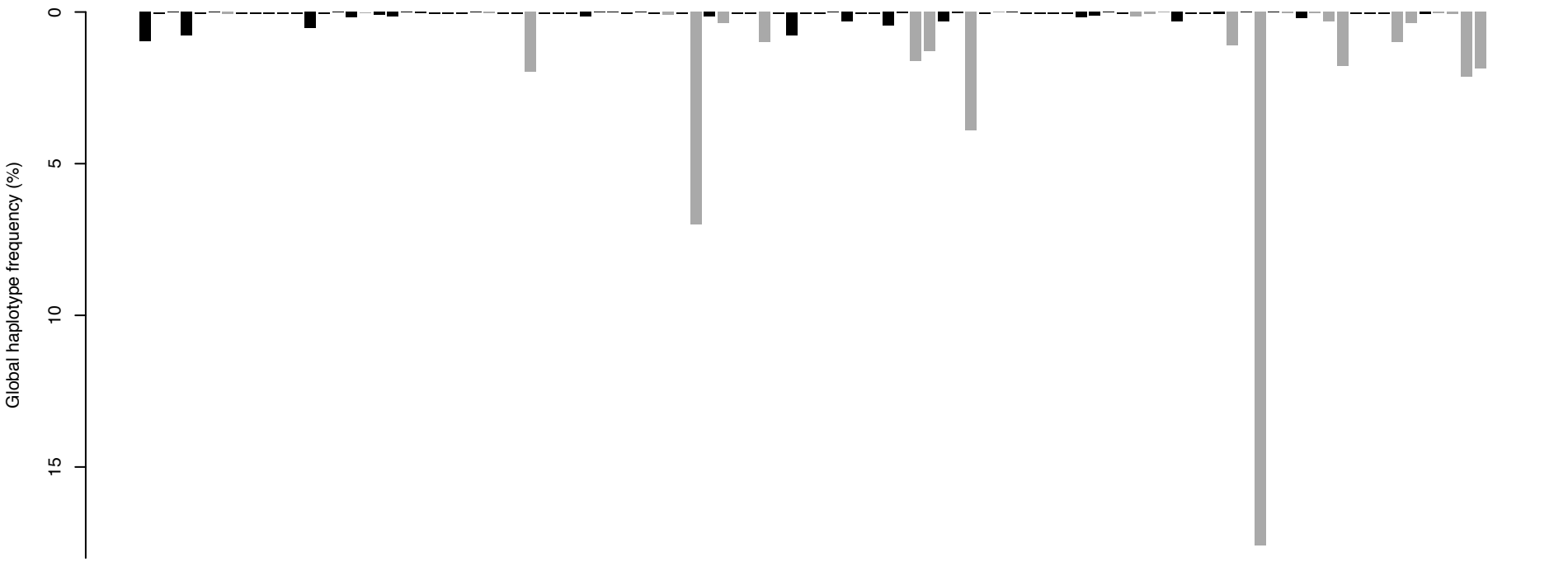
A*33:03 Haplotypes (n=364)



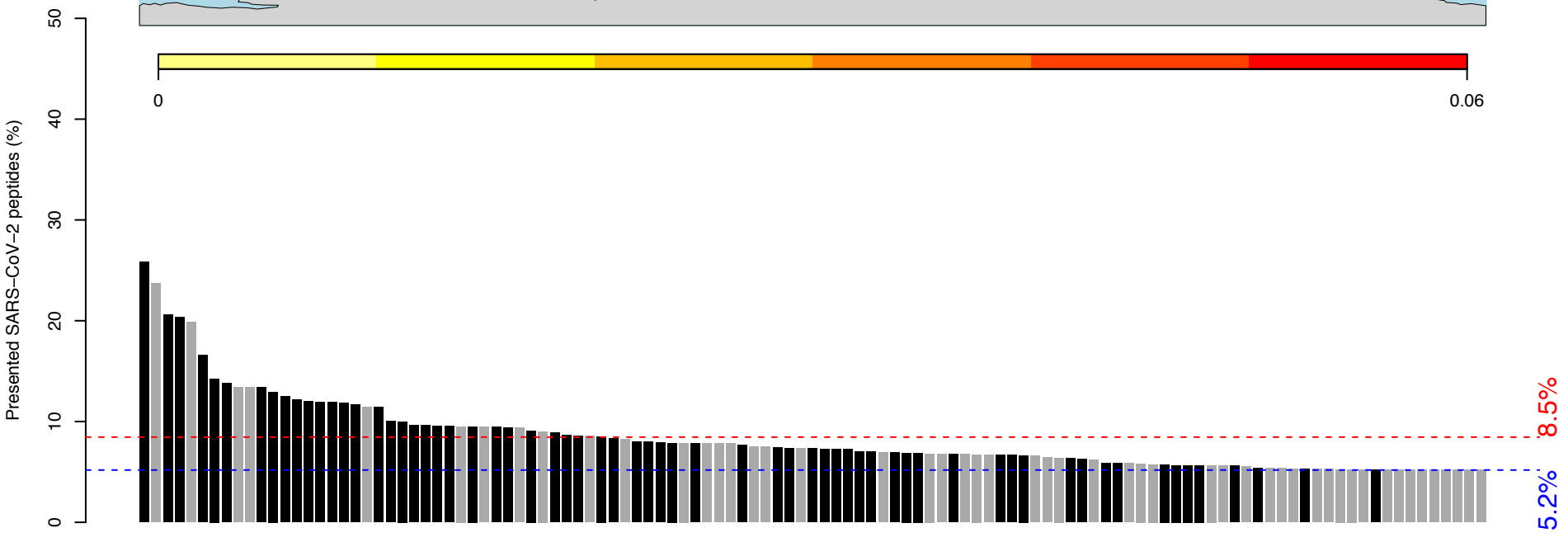
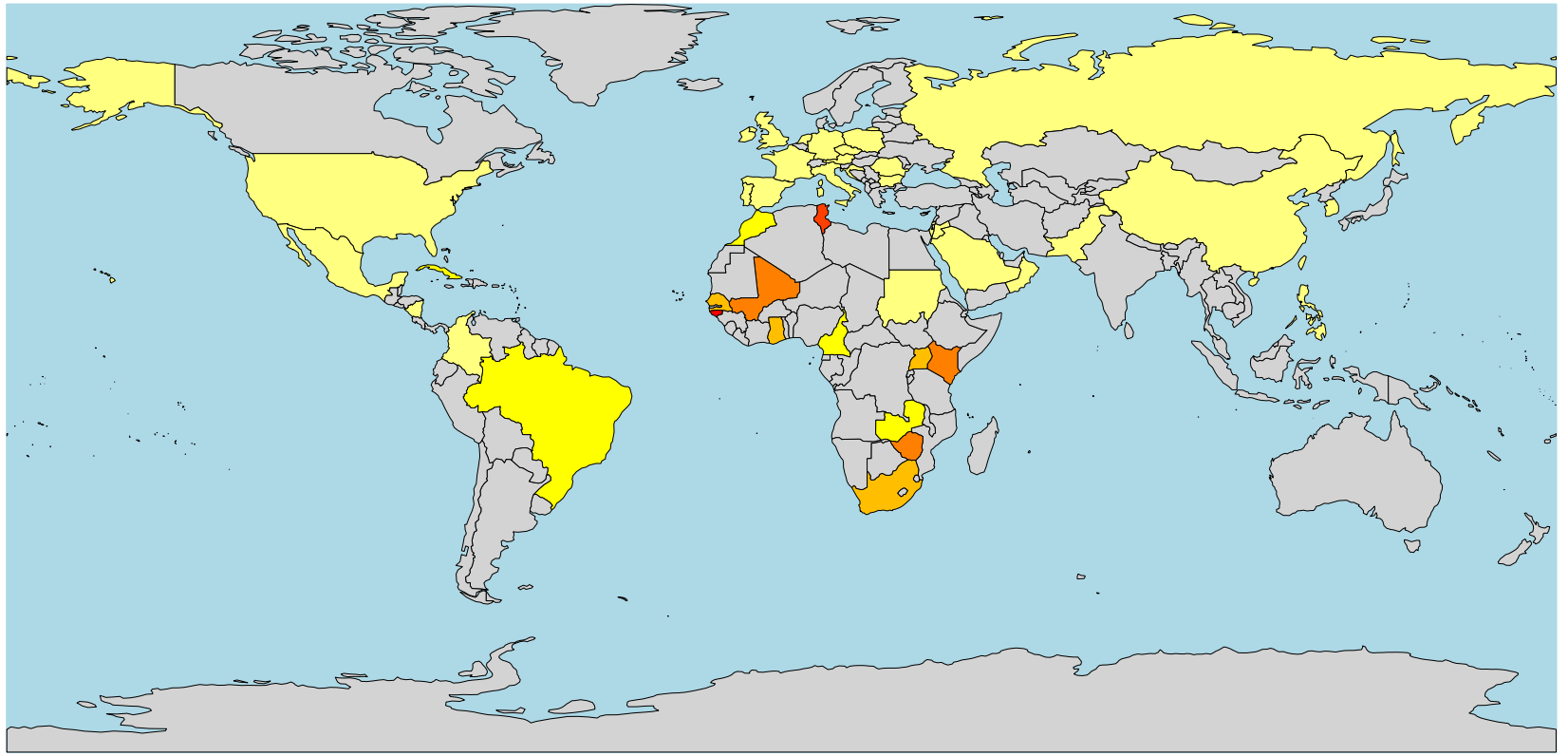
A*34:01
(~1.3% globally)



A*34:01 Haplotypes (n=98)



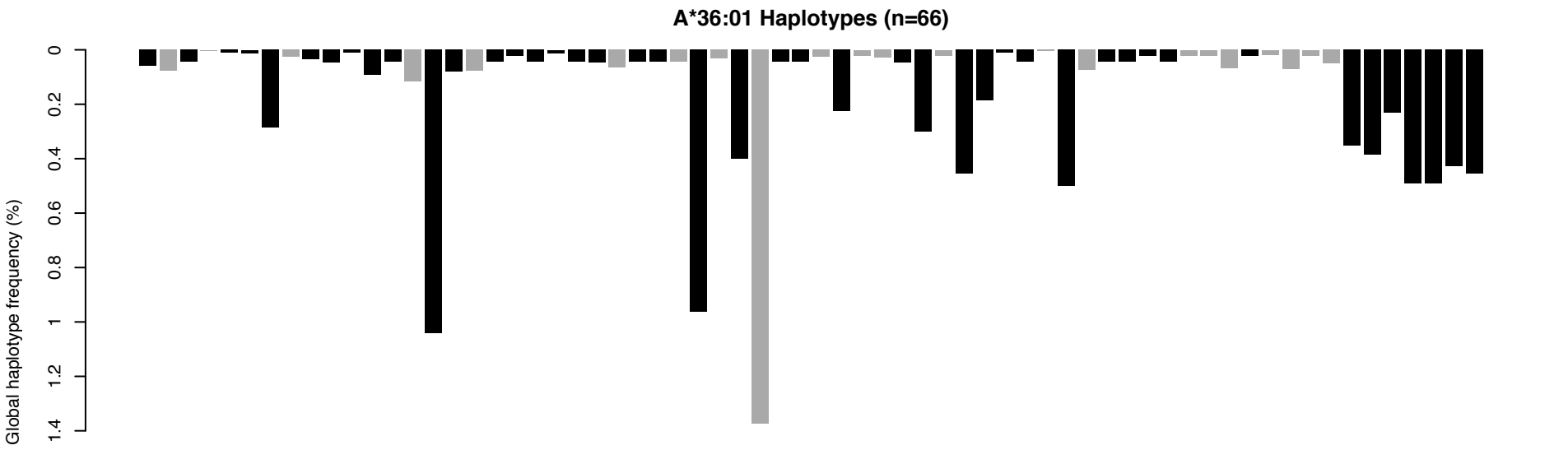
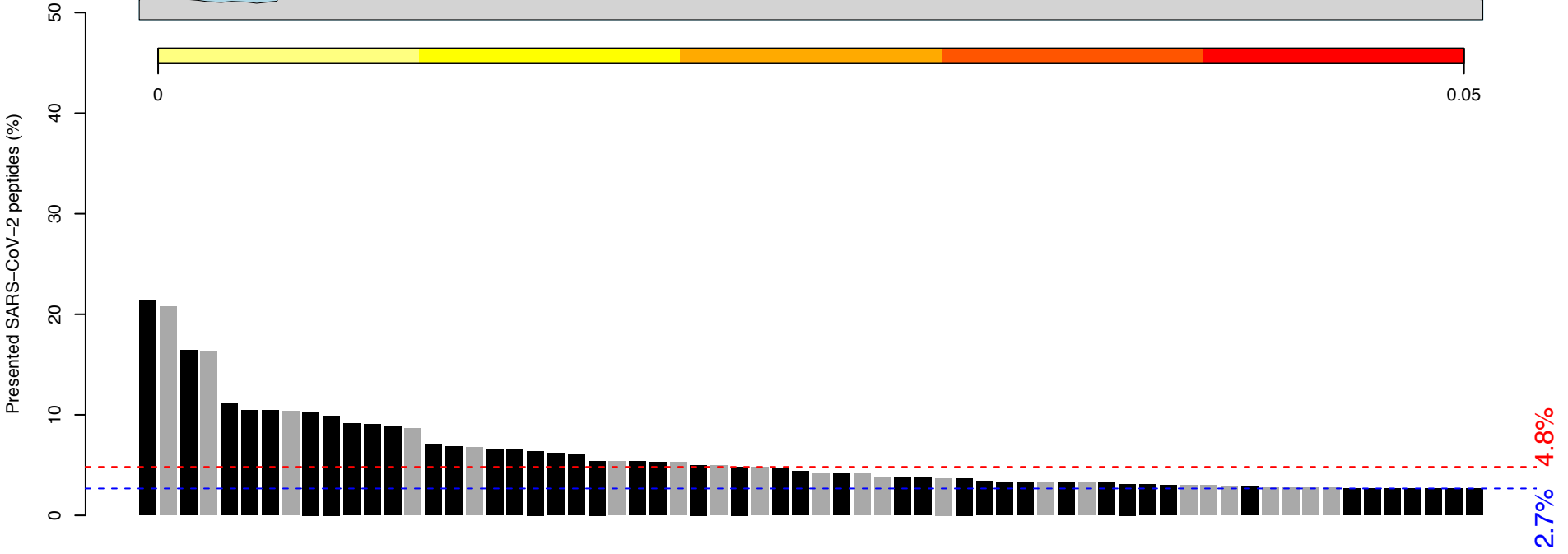
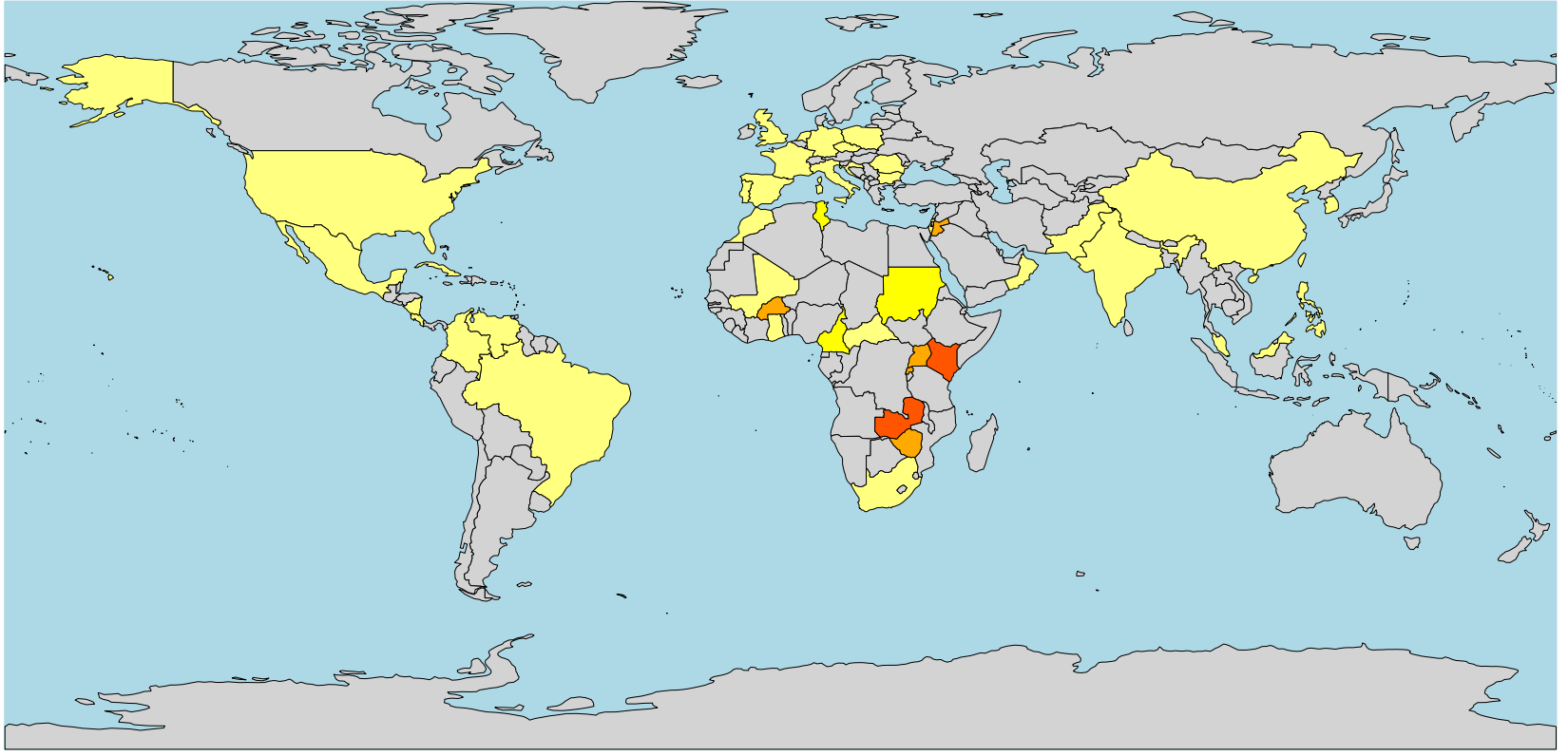
A*34:02
(~0.34% globally)



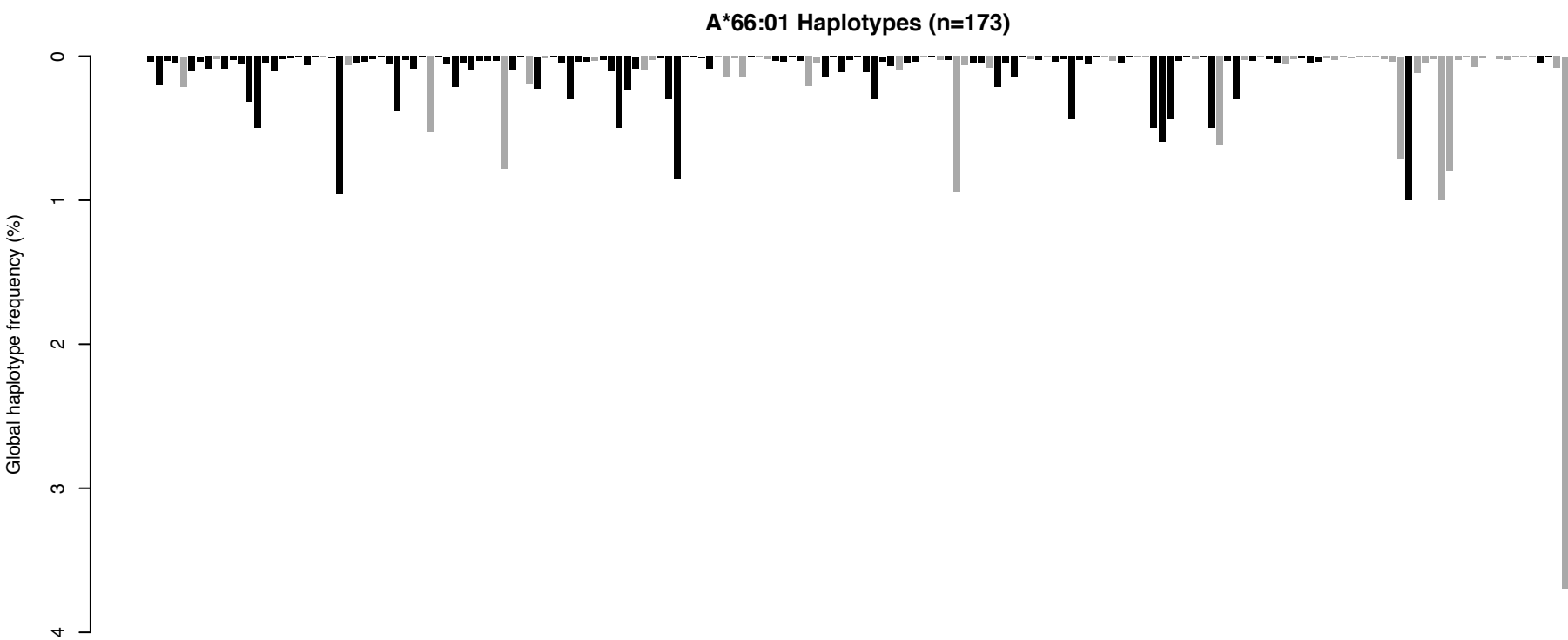
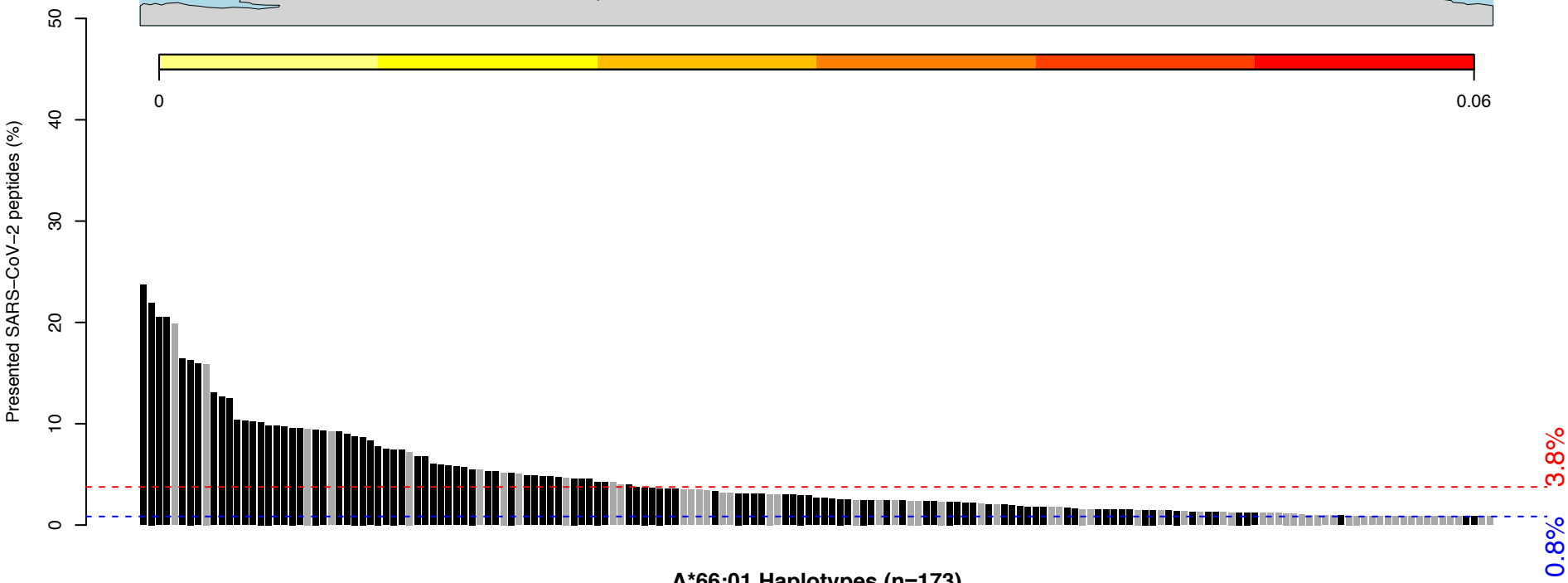
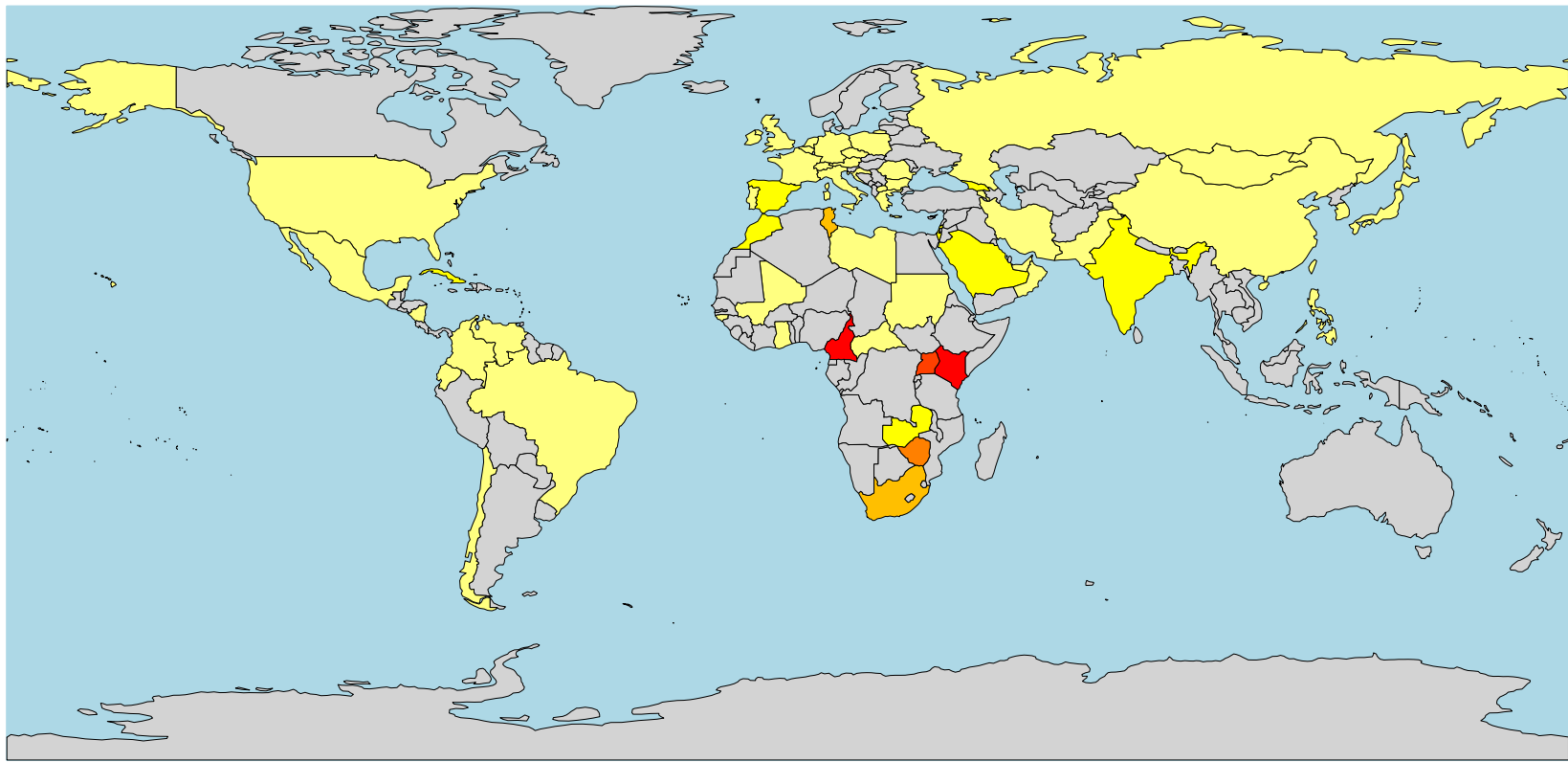
A*34:02 Haplotypes (n=115)



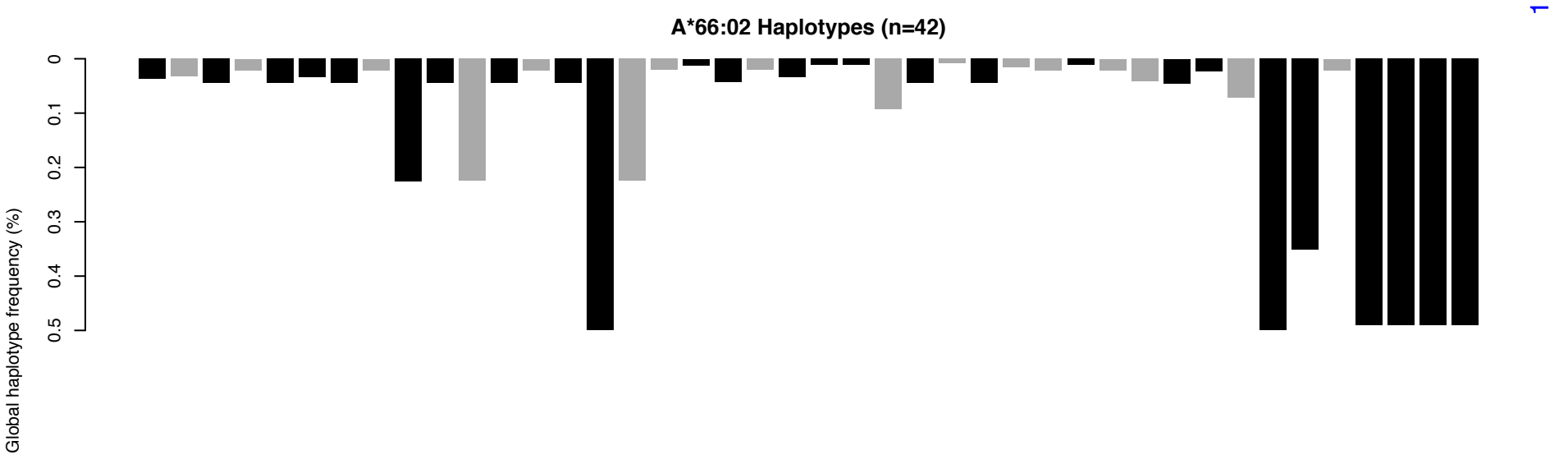
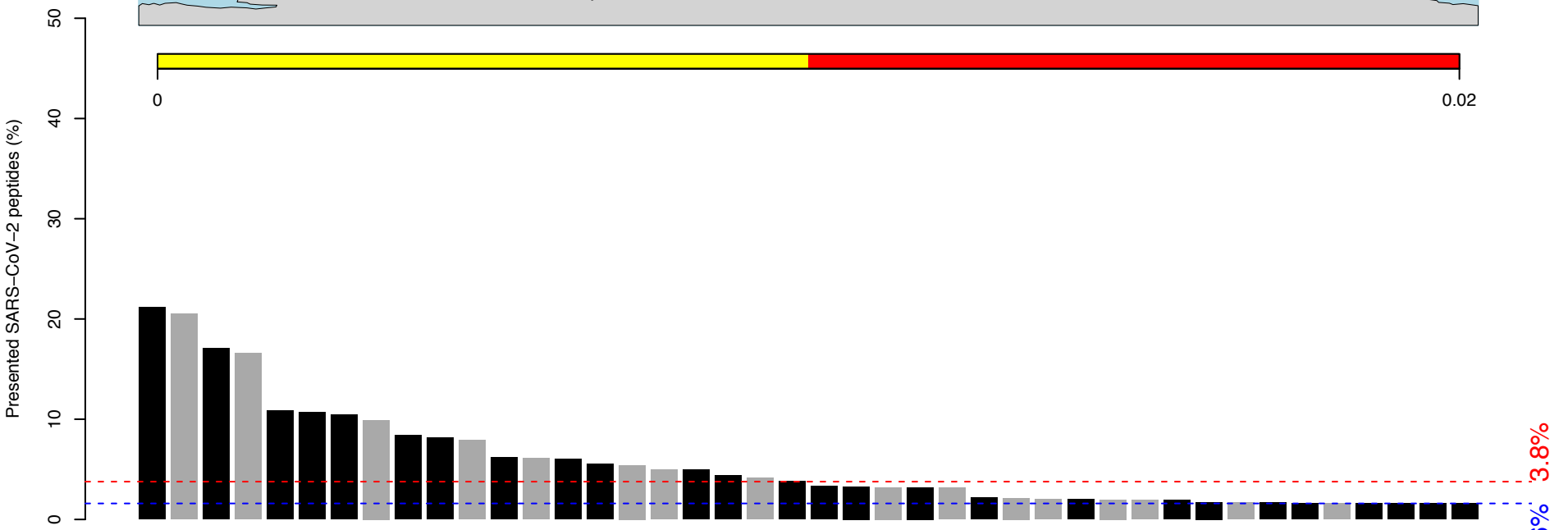
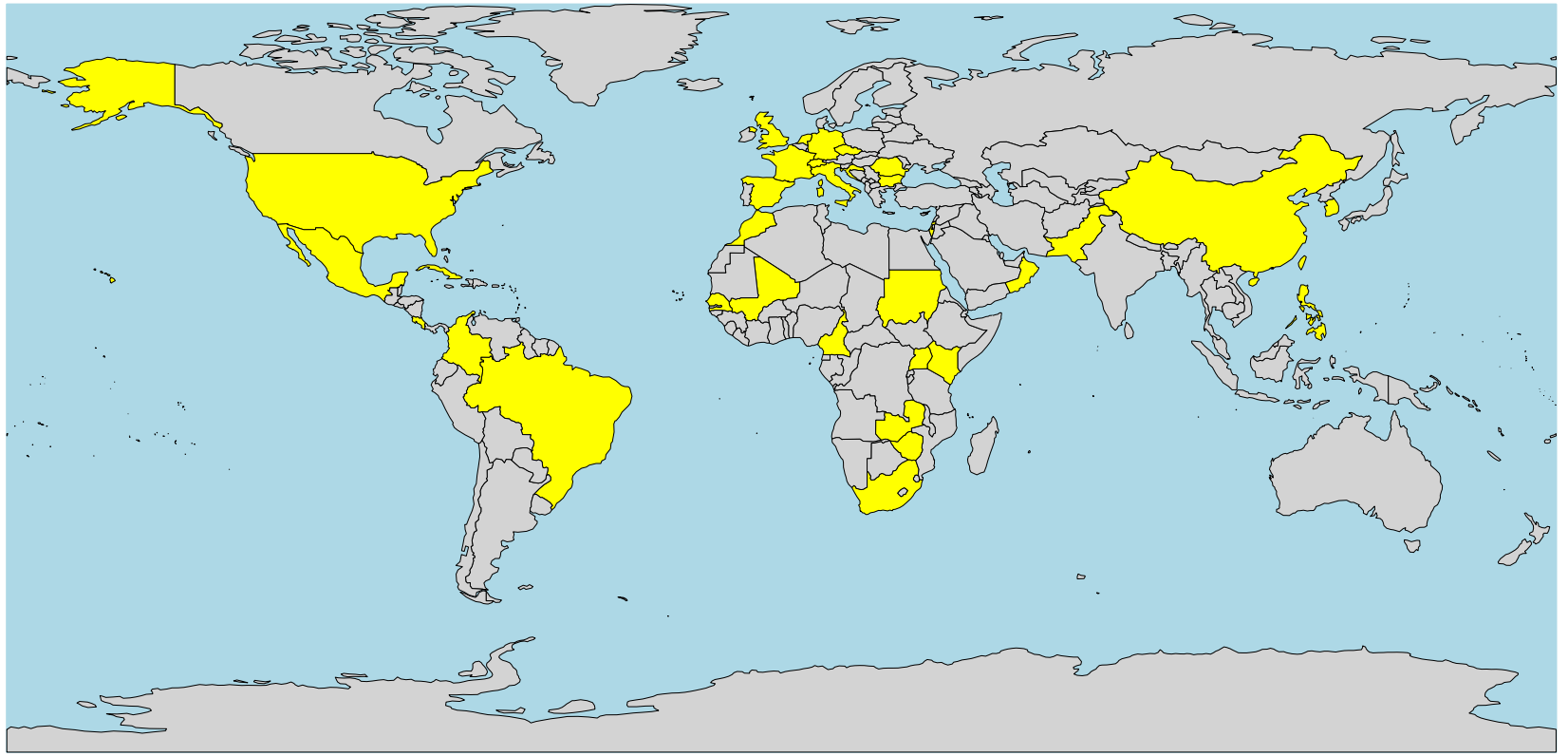
A*36:01
(~0.22% globally)



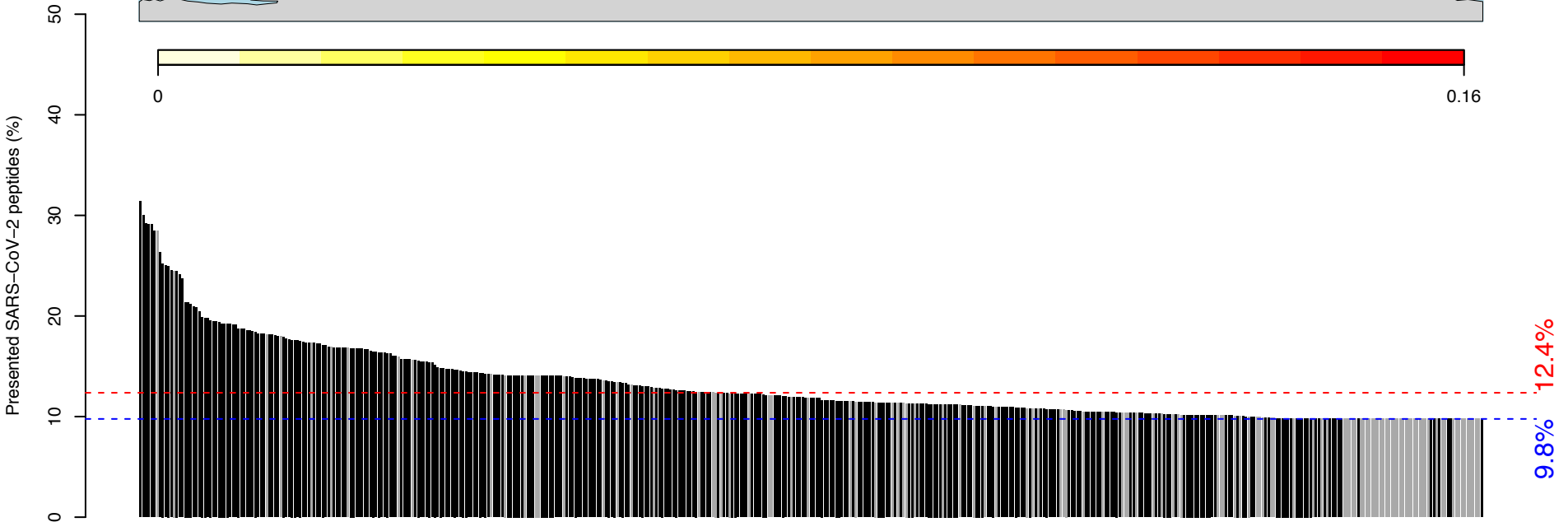
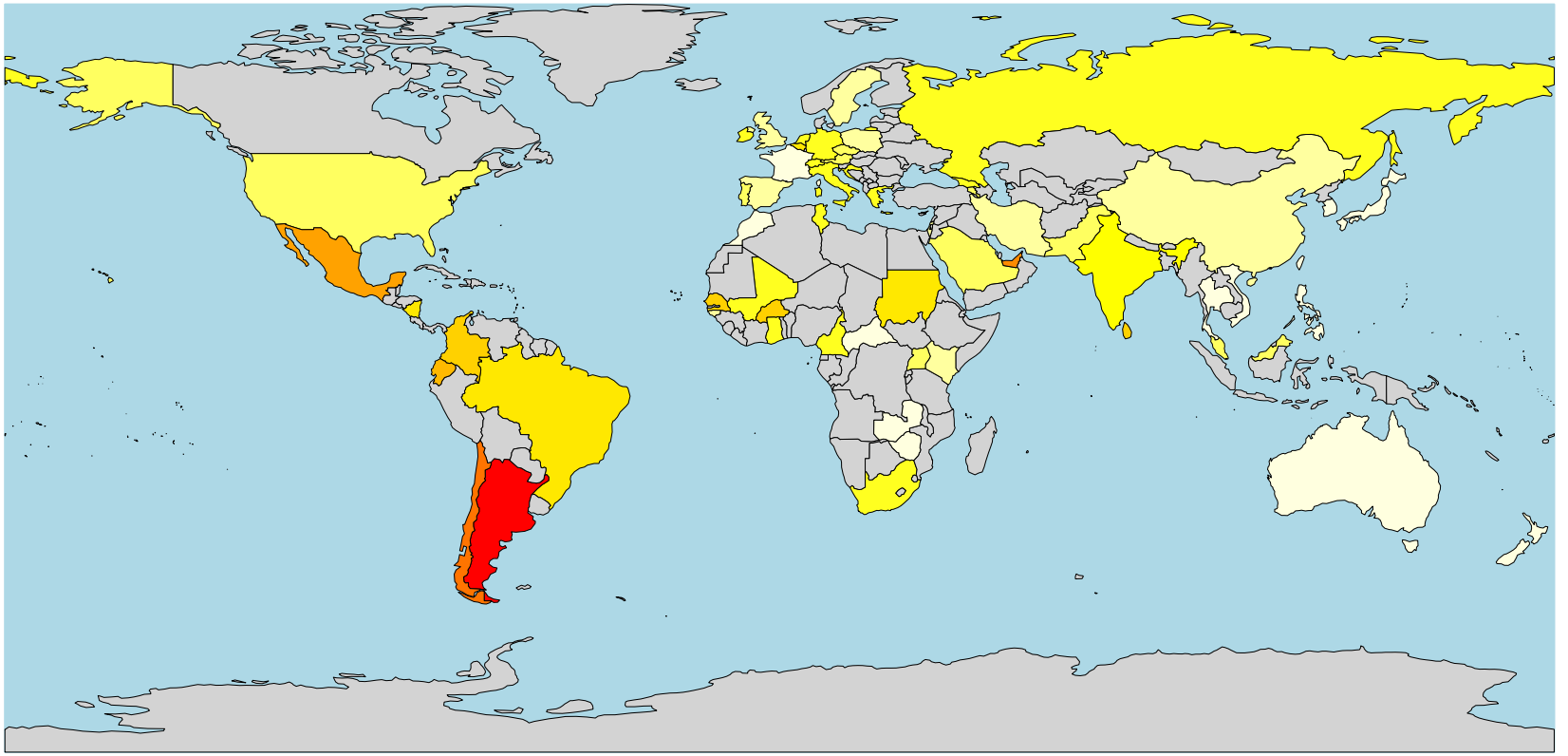
A*66:01
(~0.8% globally)



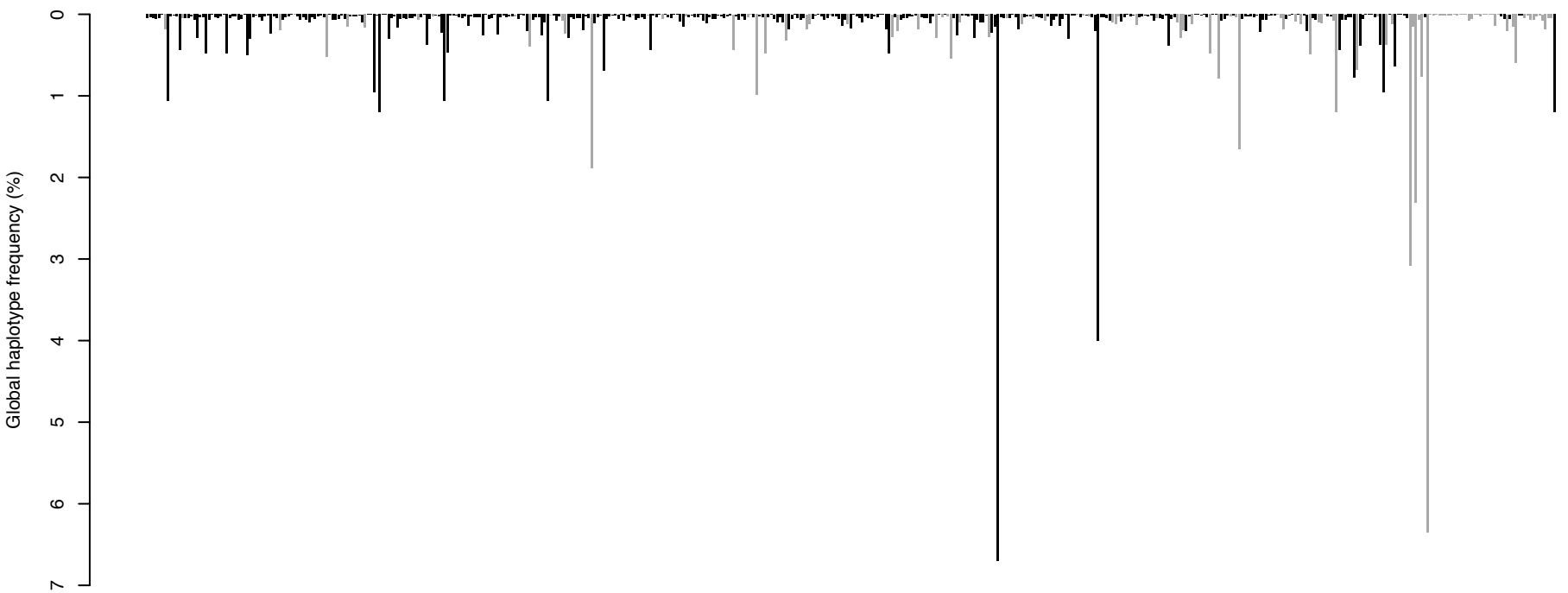
A*66:02
(~0.072% globally)



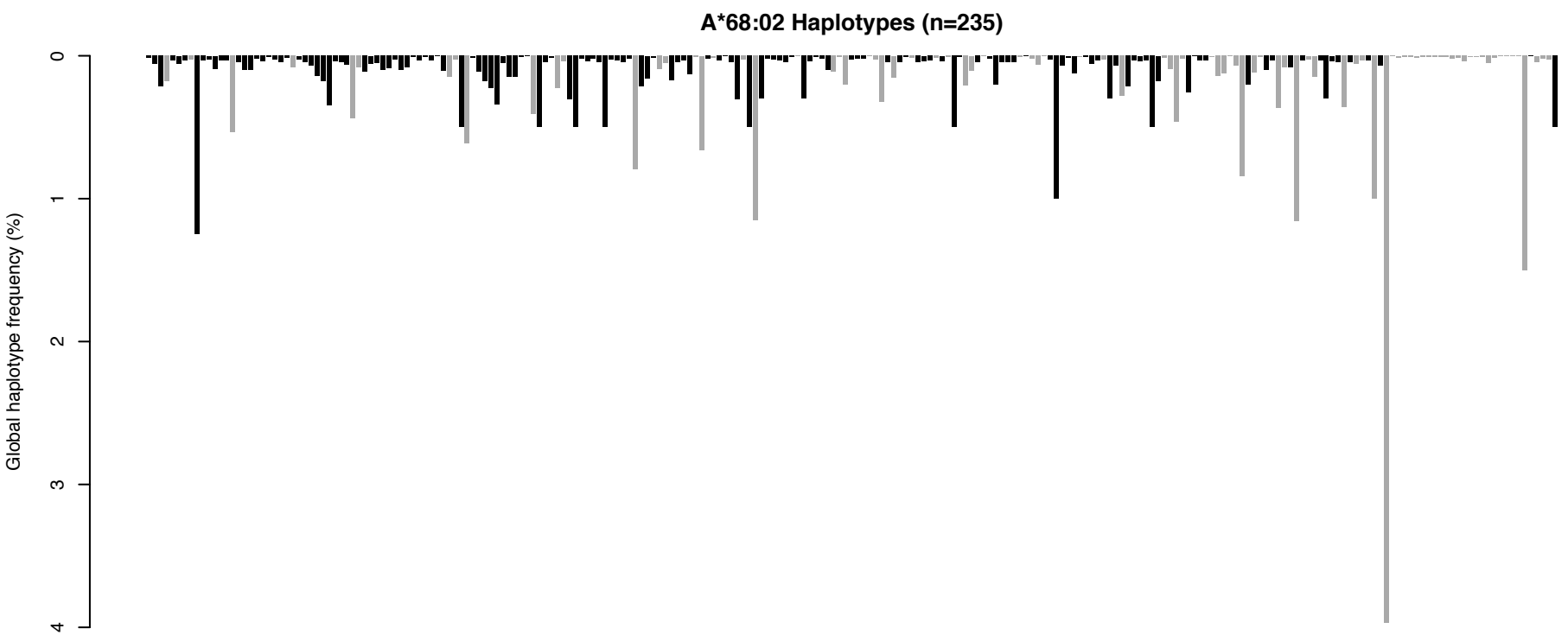
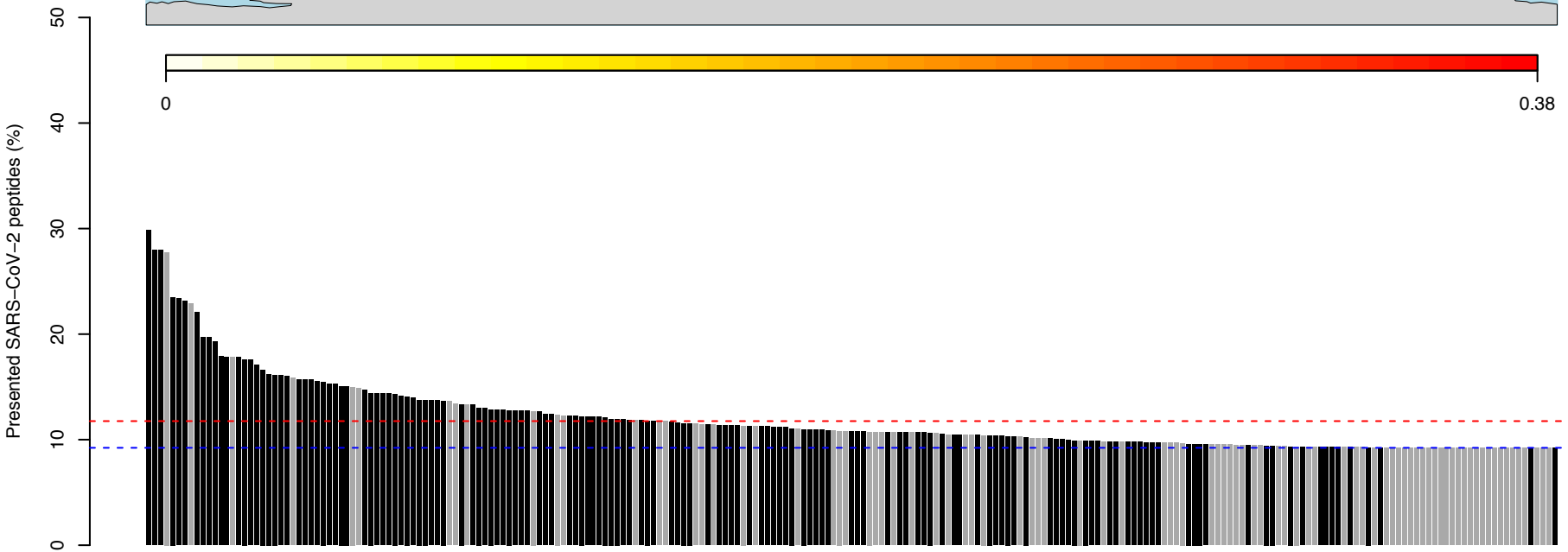
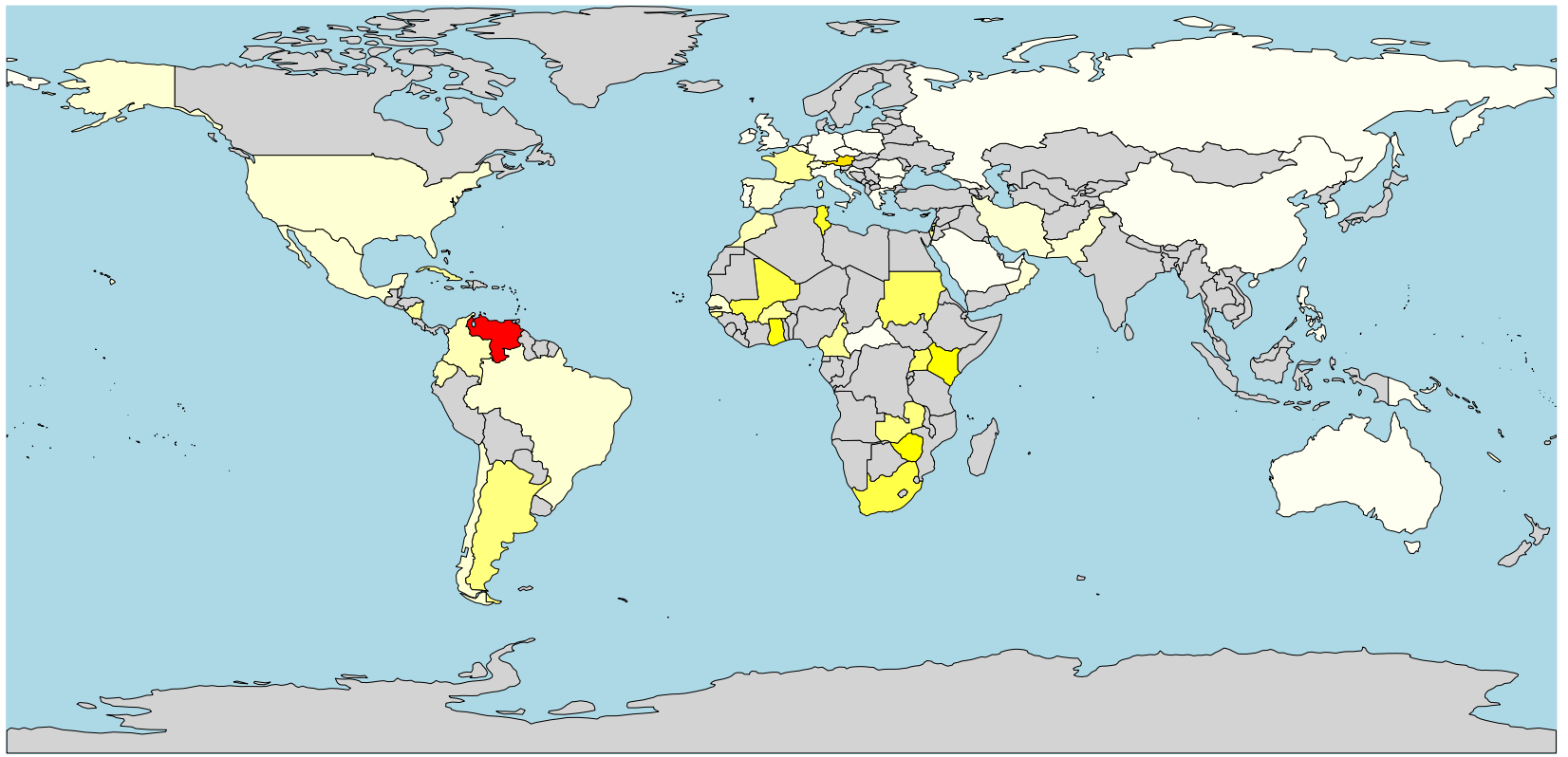
A*68:01
(~2.1% globally)



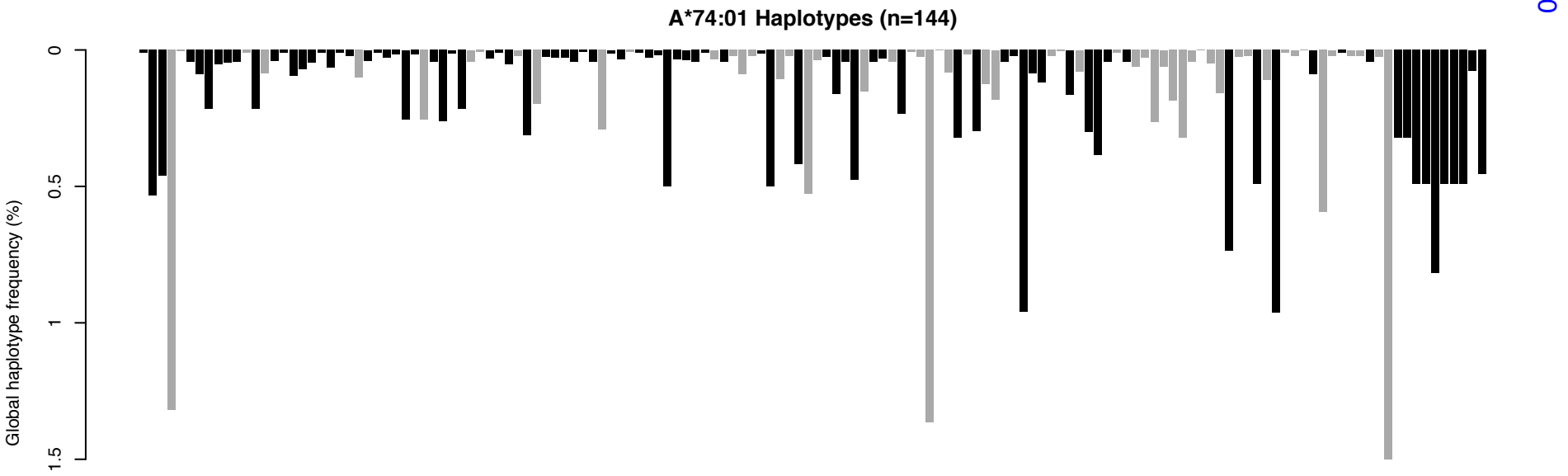
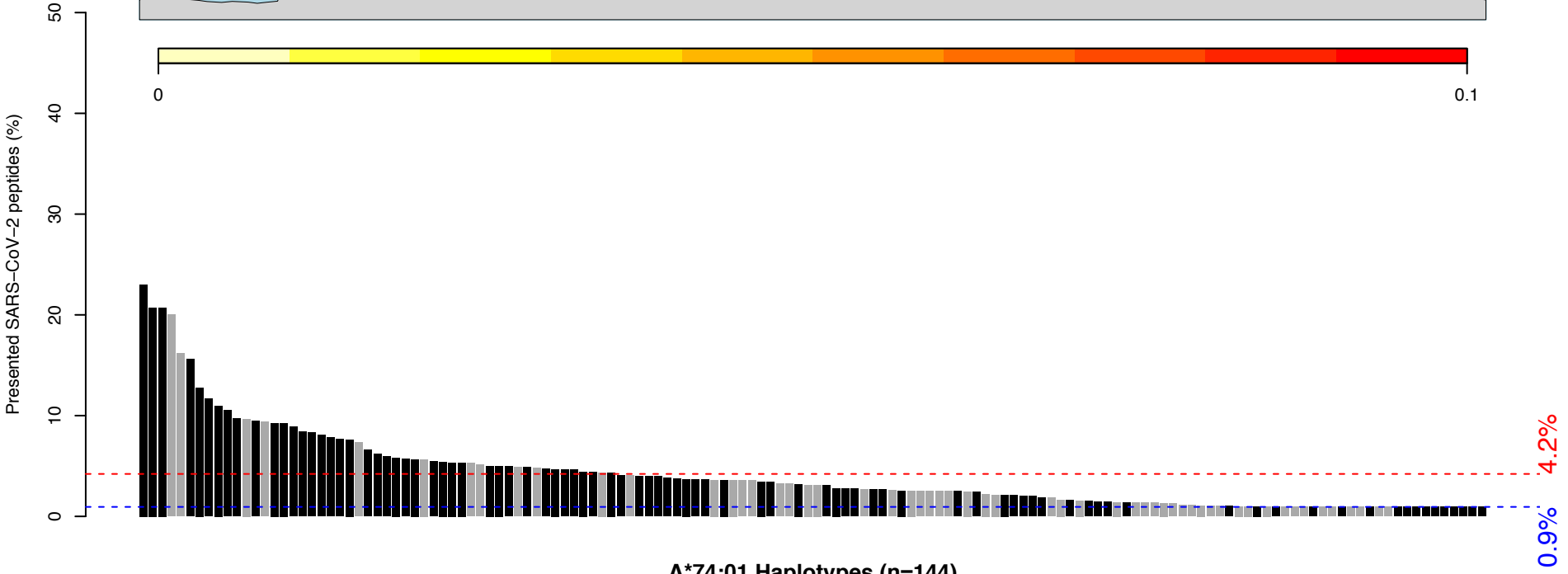
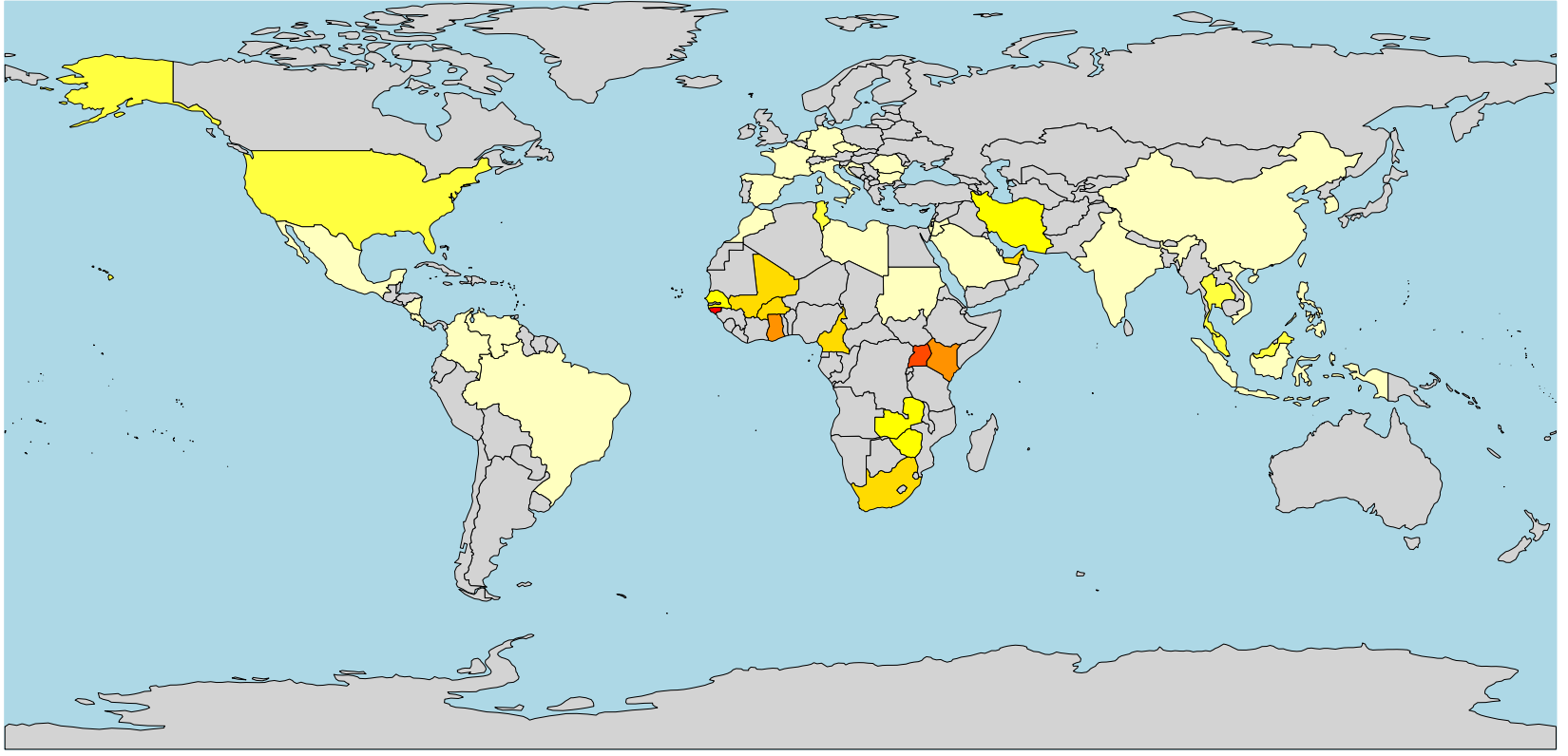
A*68:01 Haplotypes (n=479)



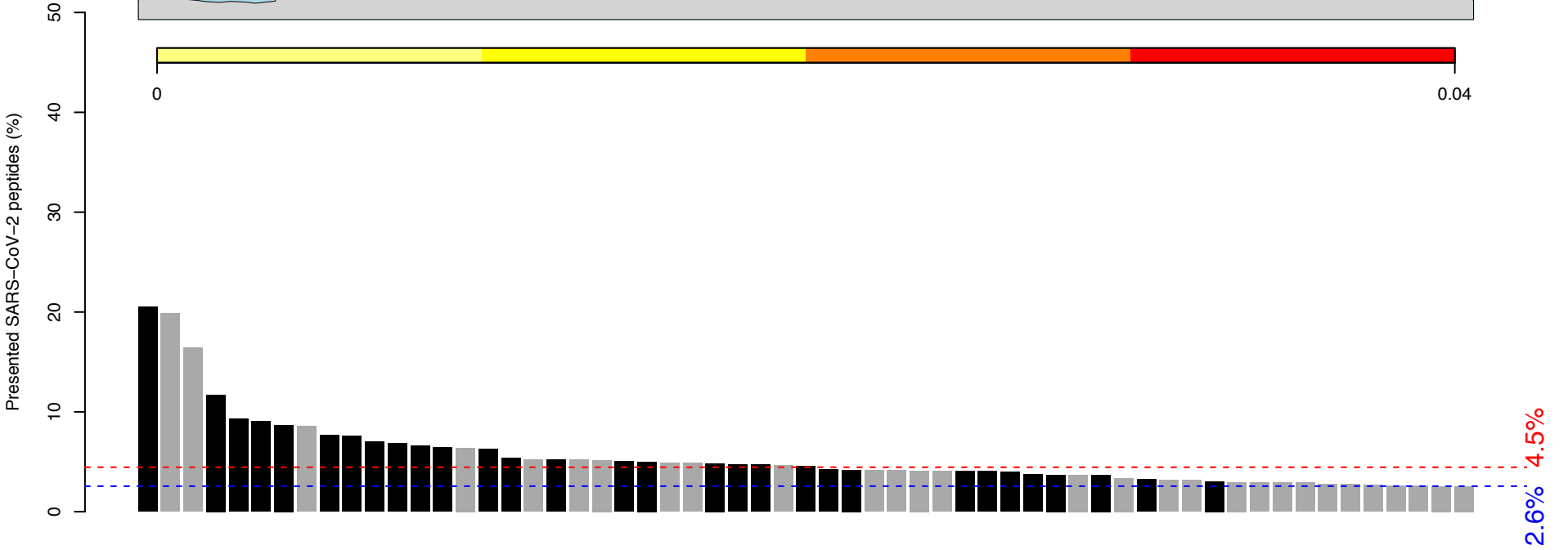
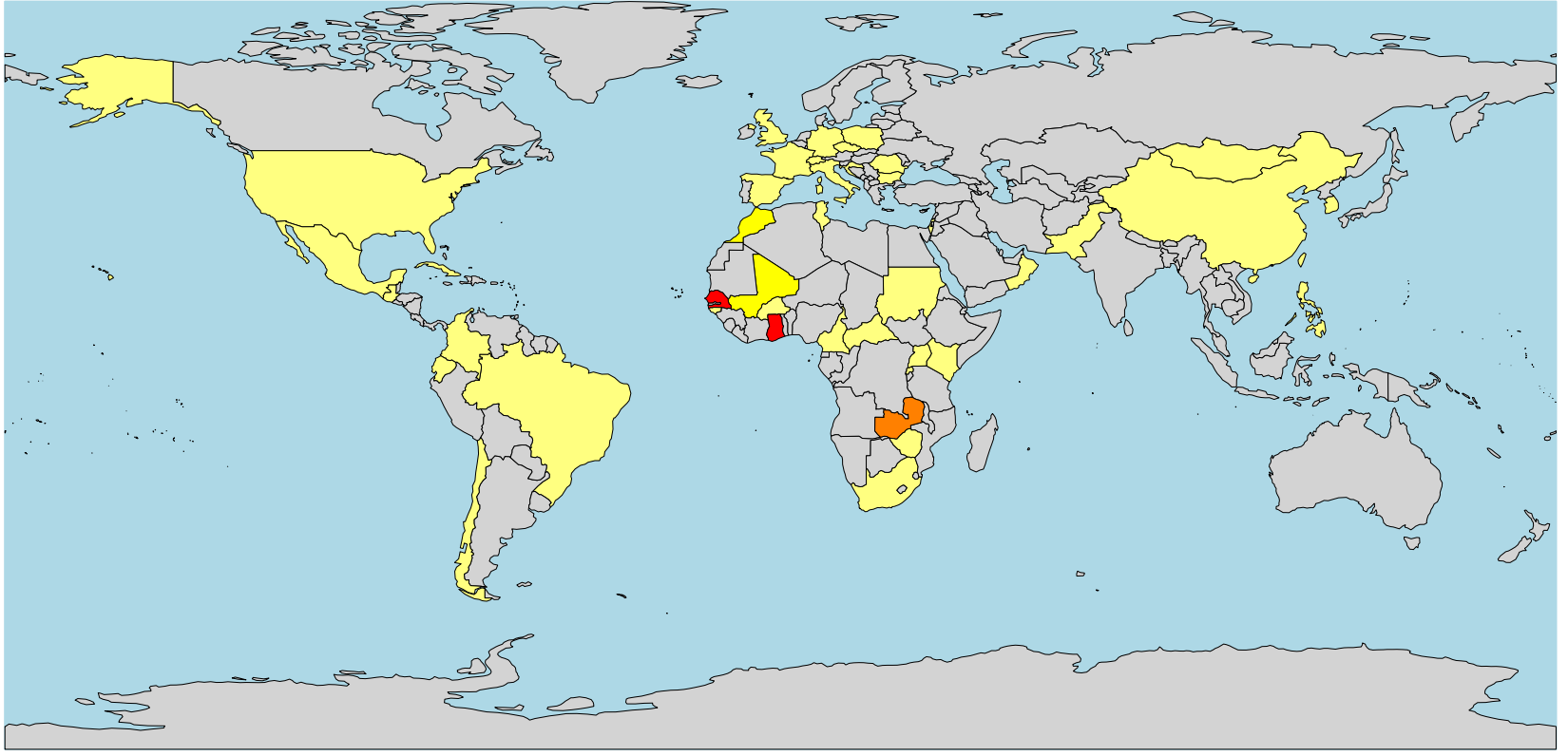
A*68:02
(~1.3% globally)



A*74:01
(~0.59% globally)



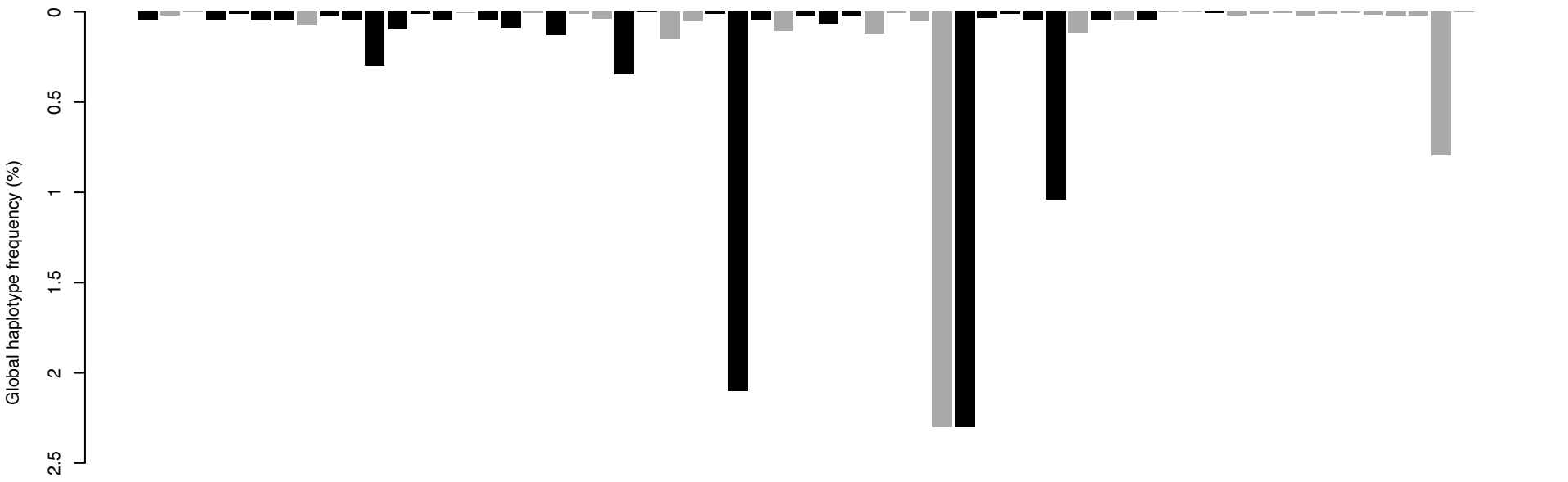
A*80:01
(~0.19% globally)



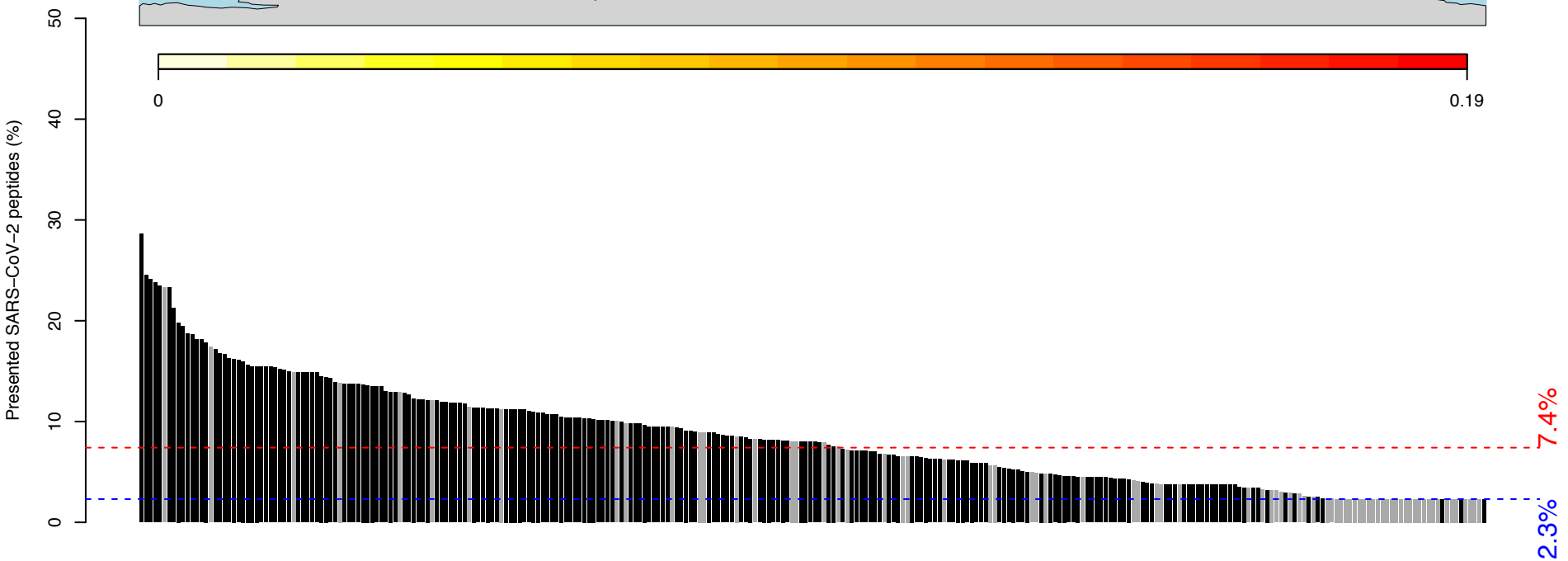
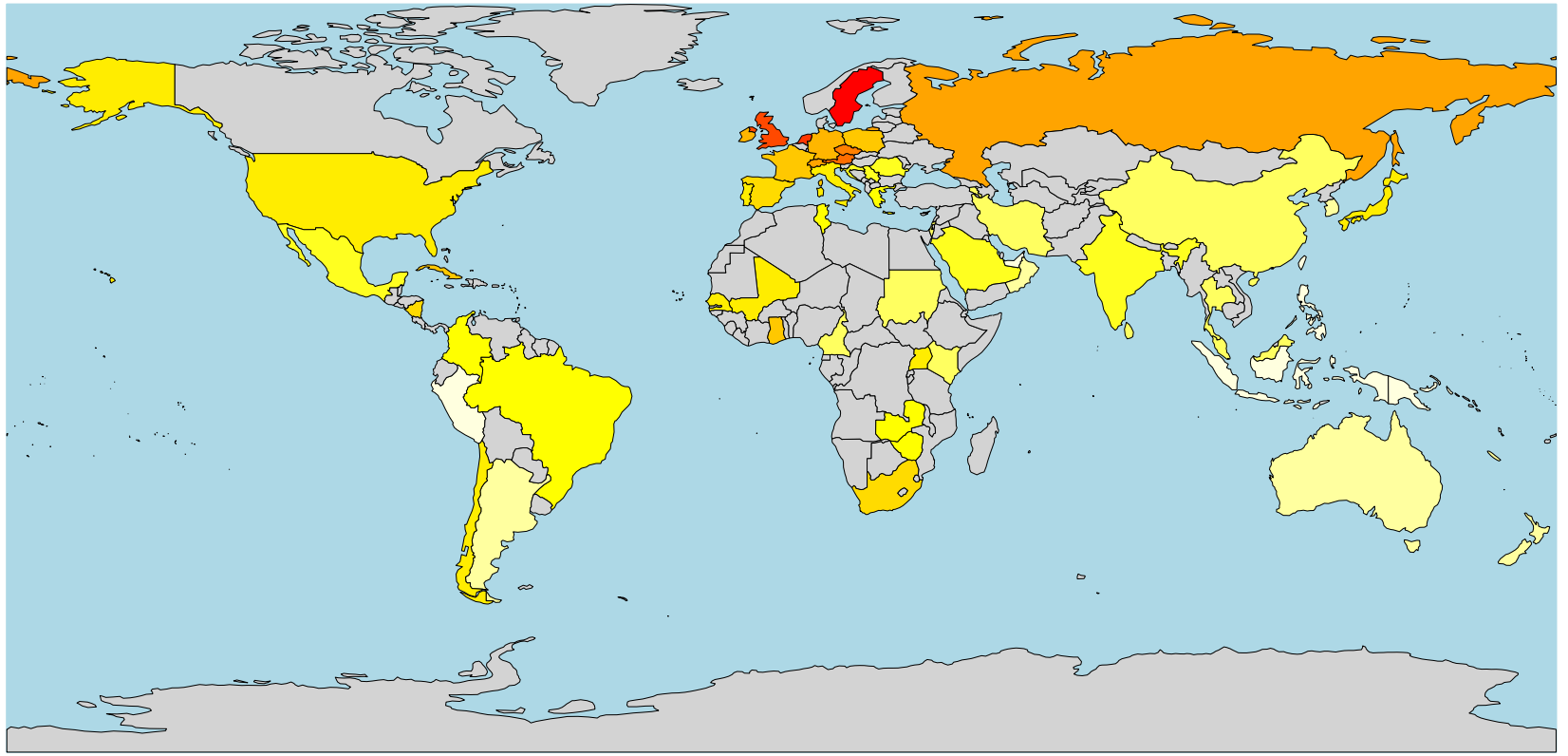
4.5%

2.6%

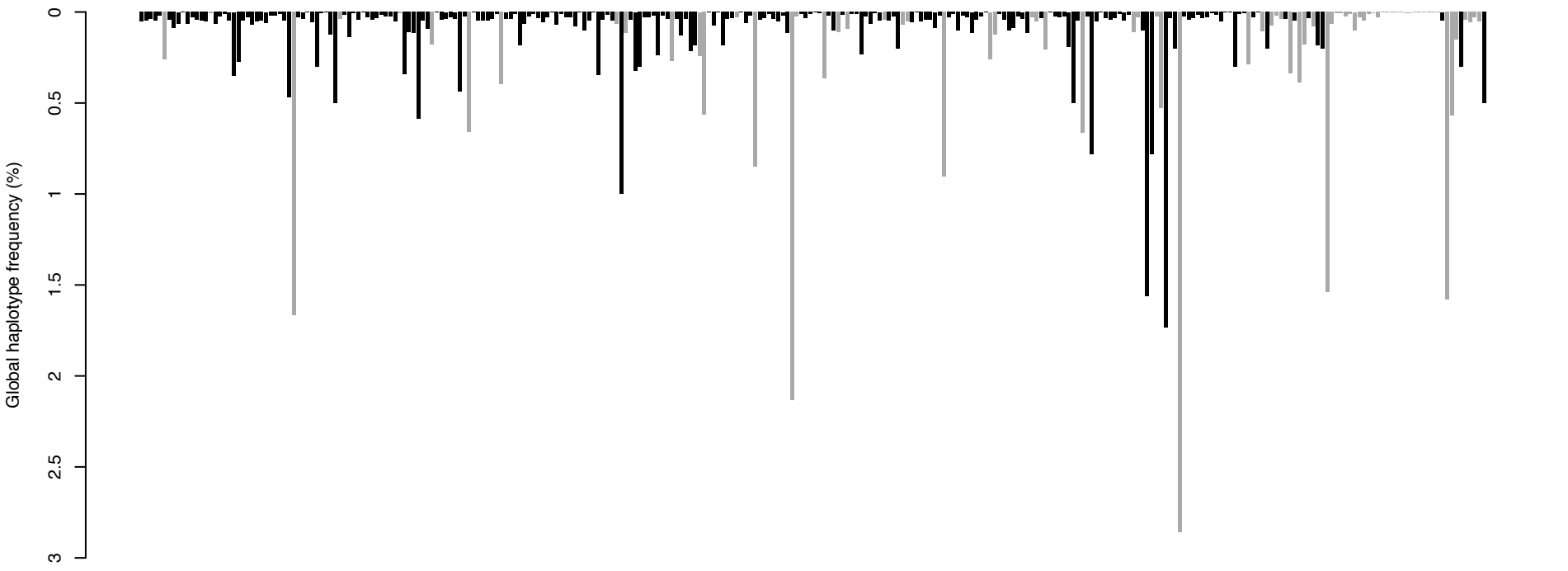
A*80:01 Haplotypes (n=59)



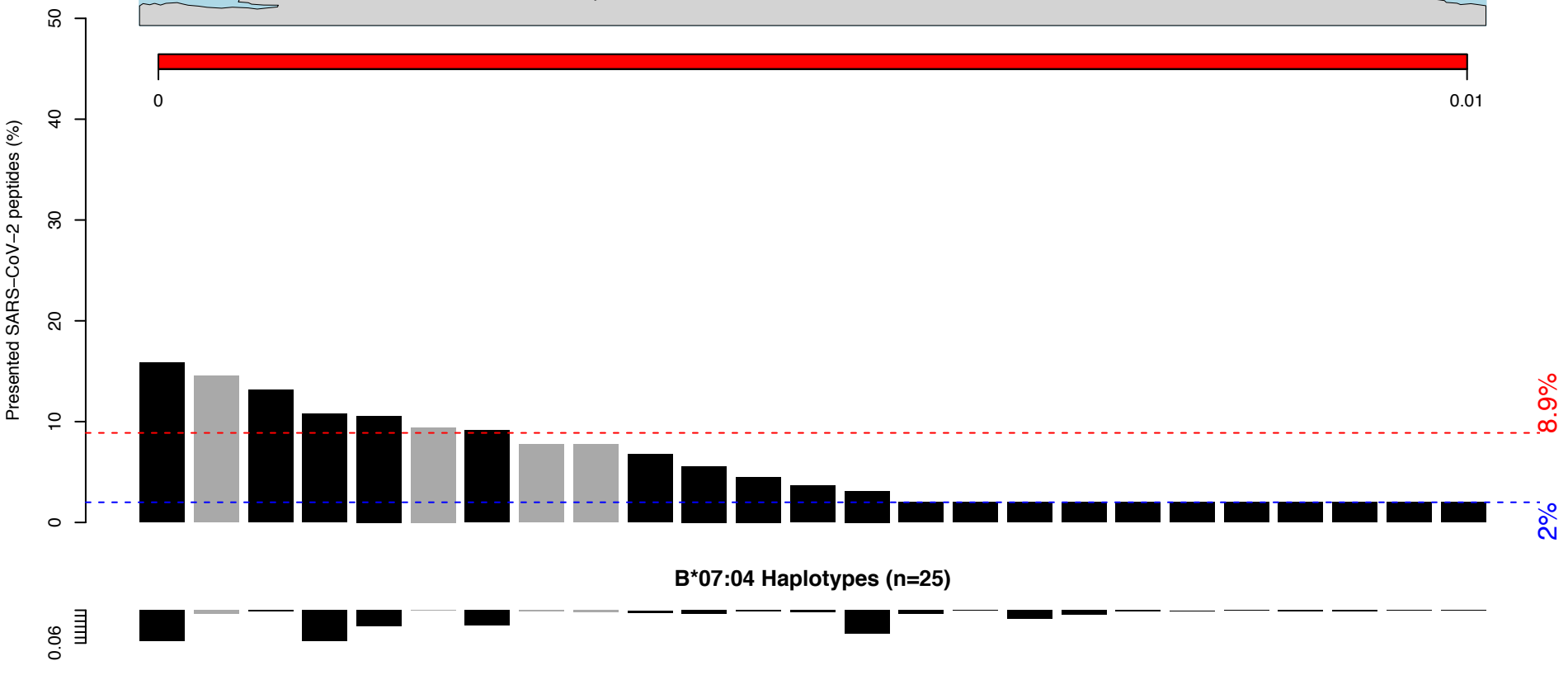
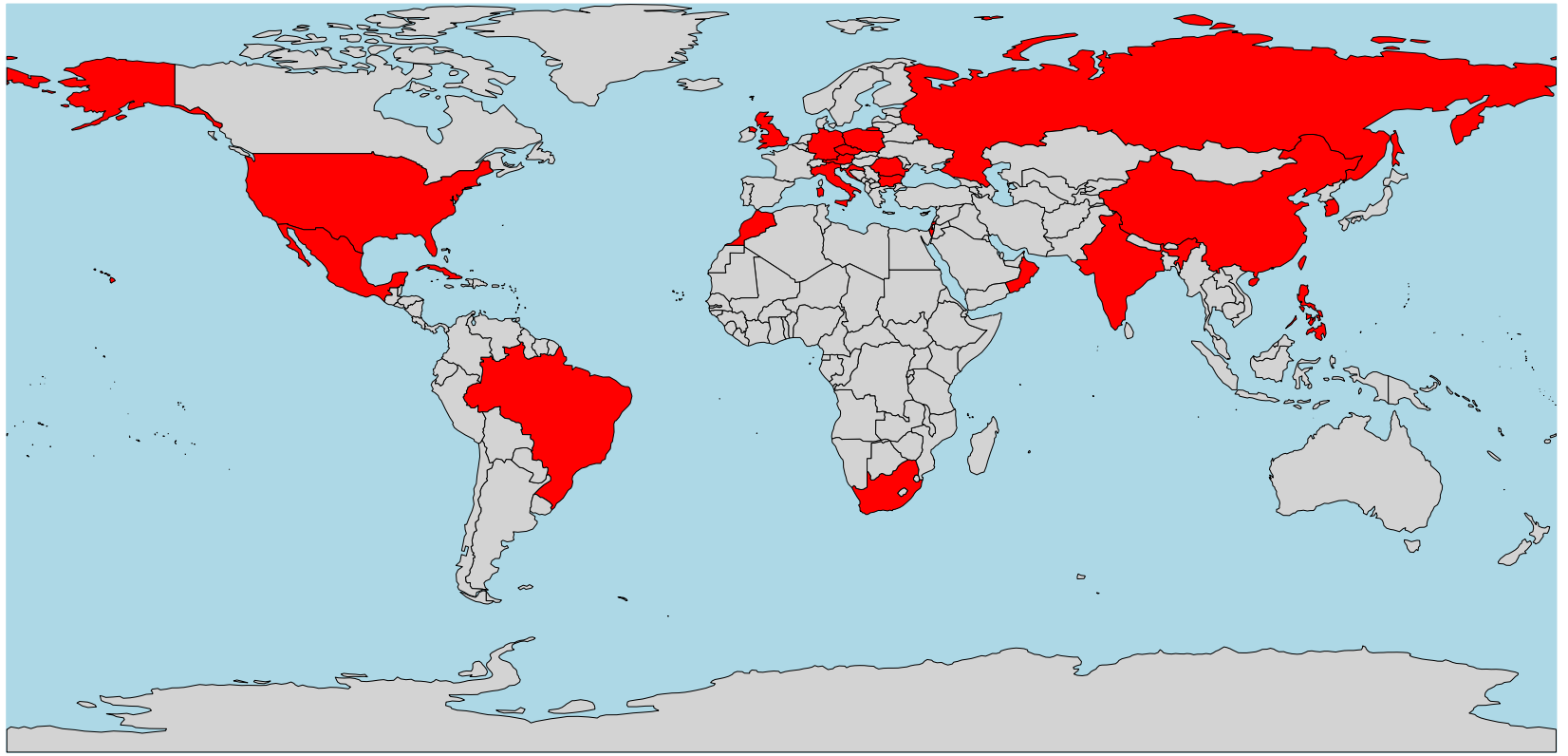
B*07:02
(~2.4% globally)



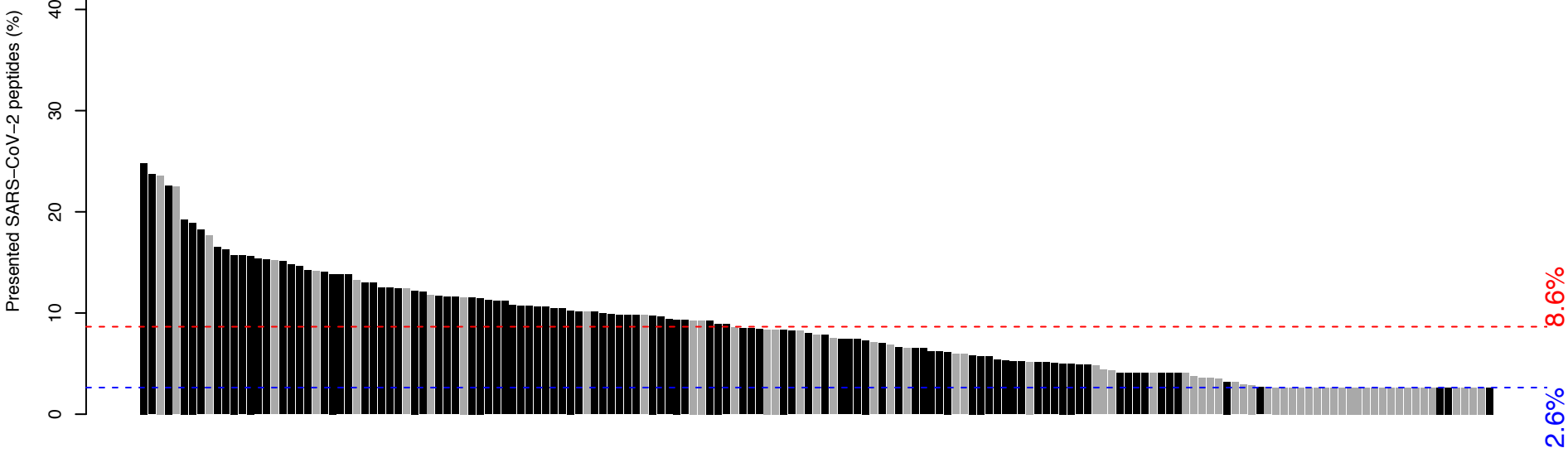
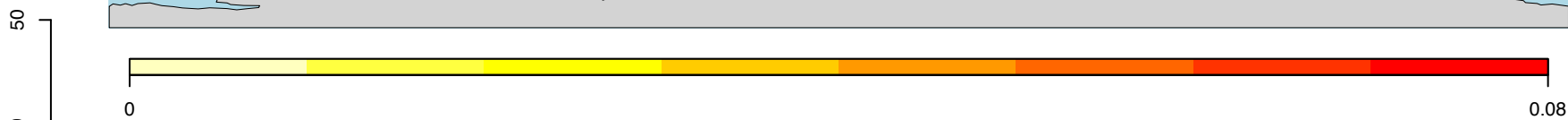
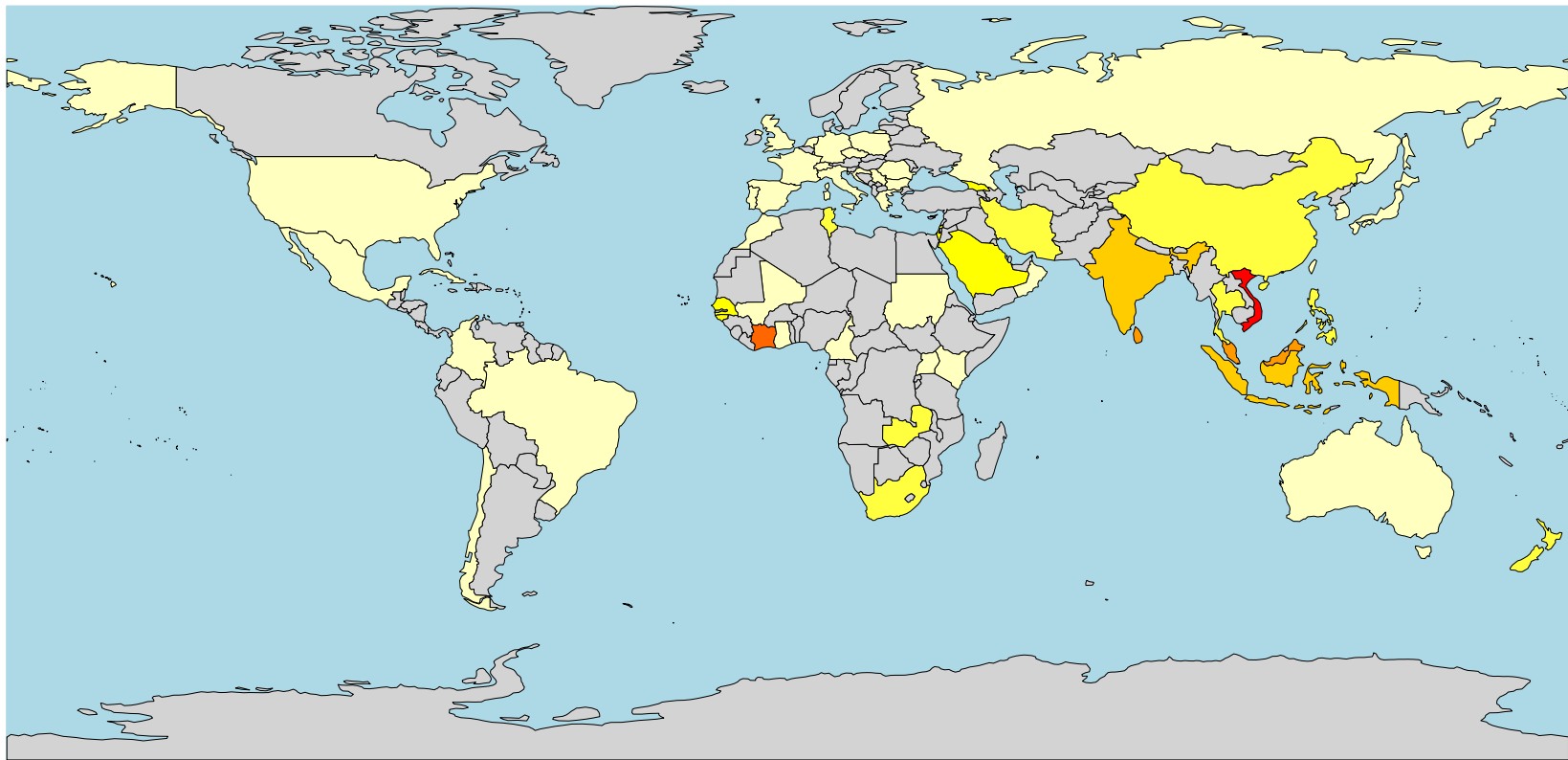
B*07:02 Haplotypes (n=292)



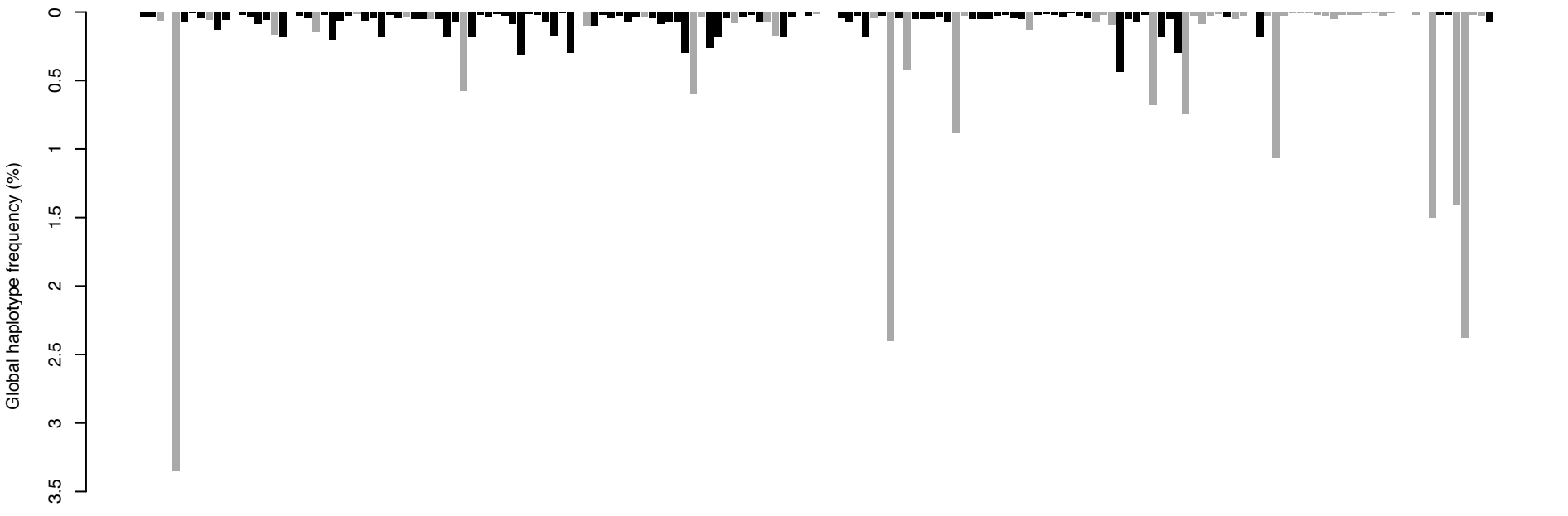
B*07:04
(~0.013% globally)



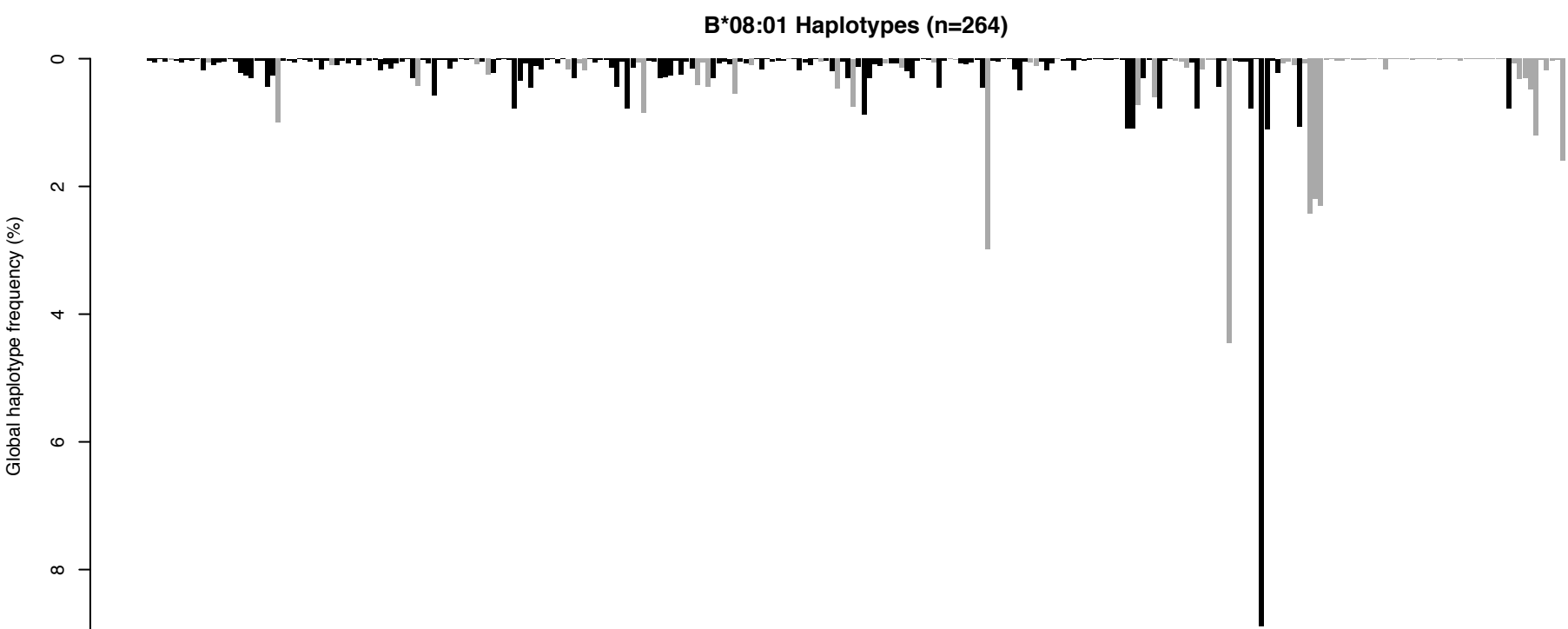
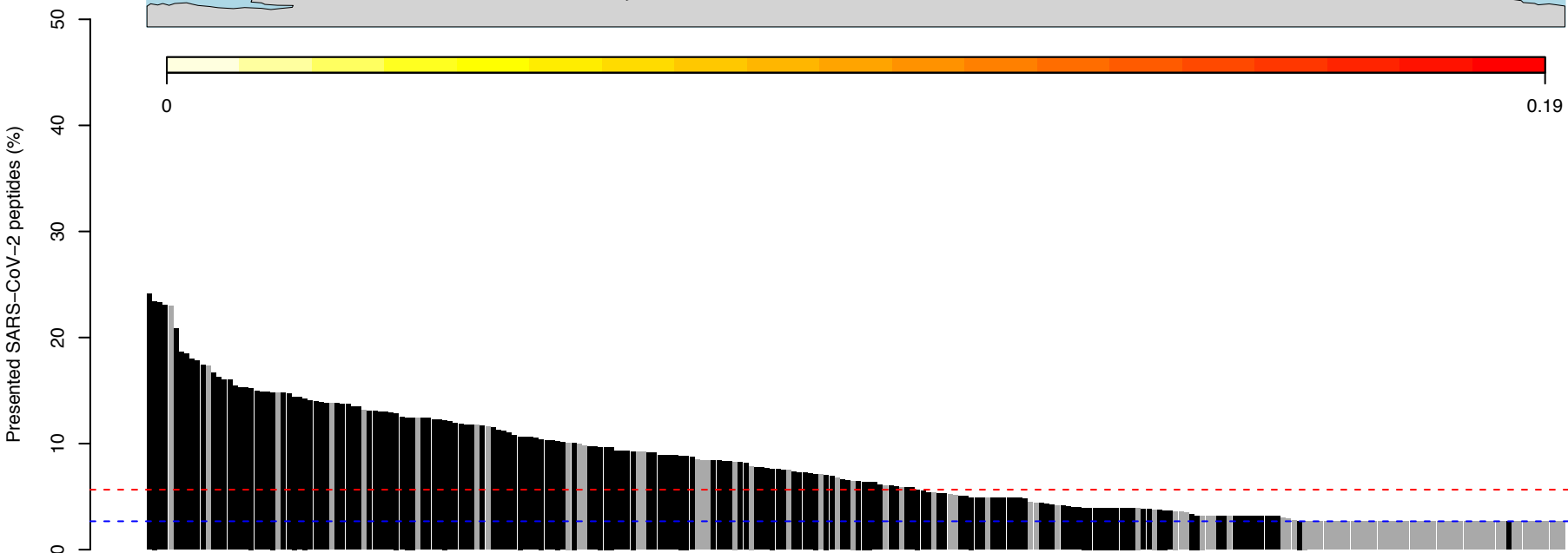
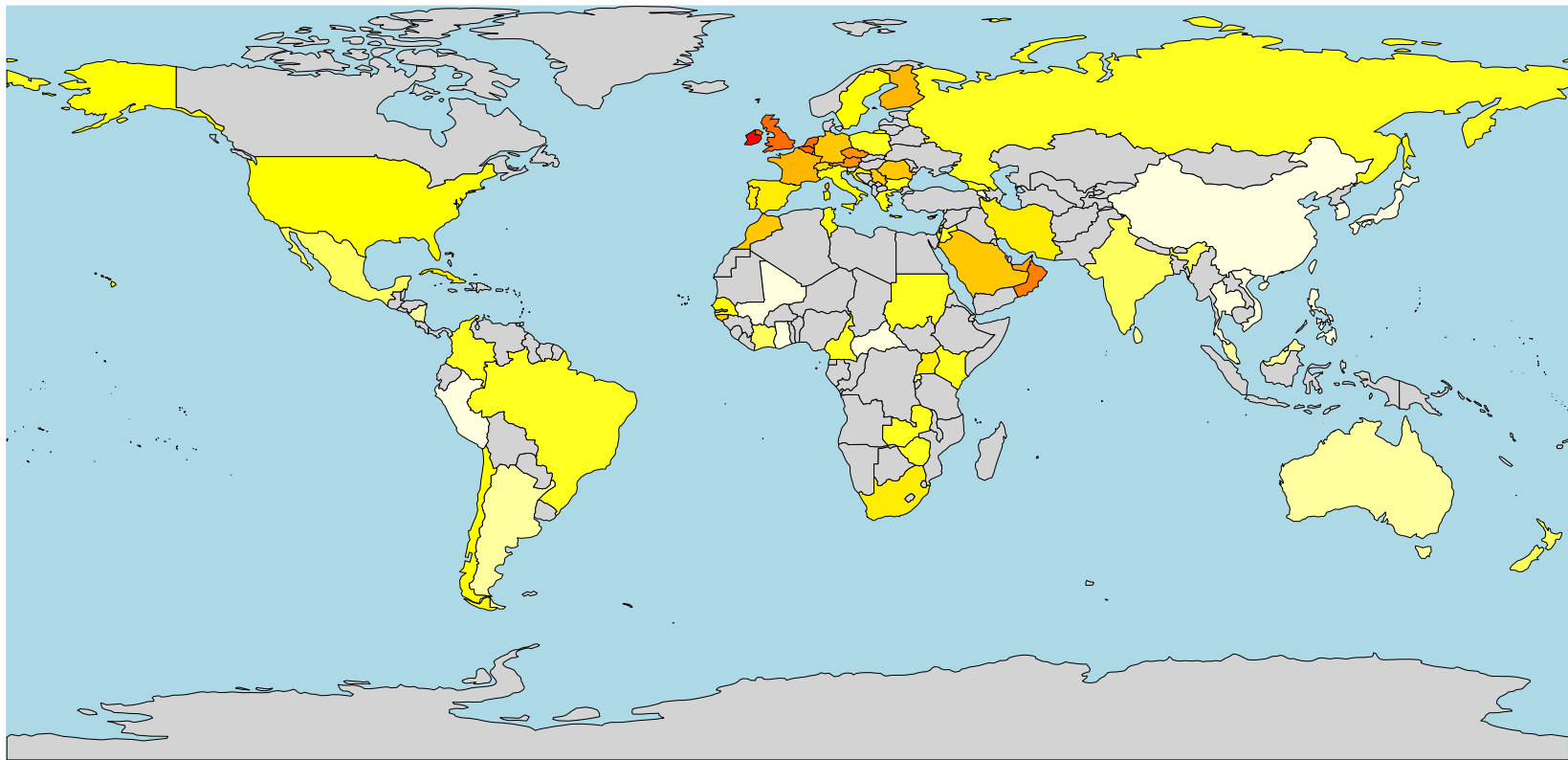
B*07:05
(~2.2% globally)



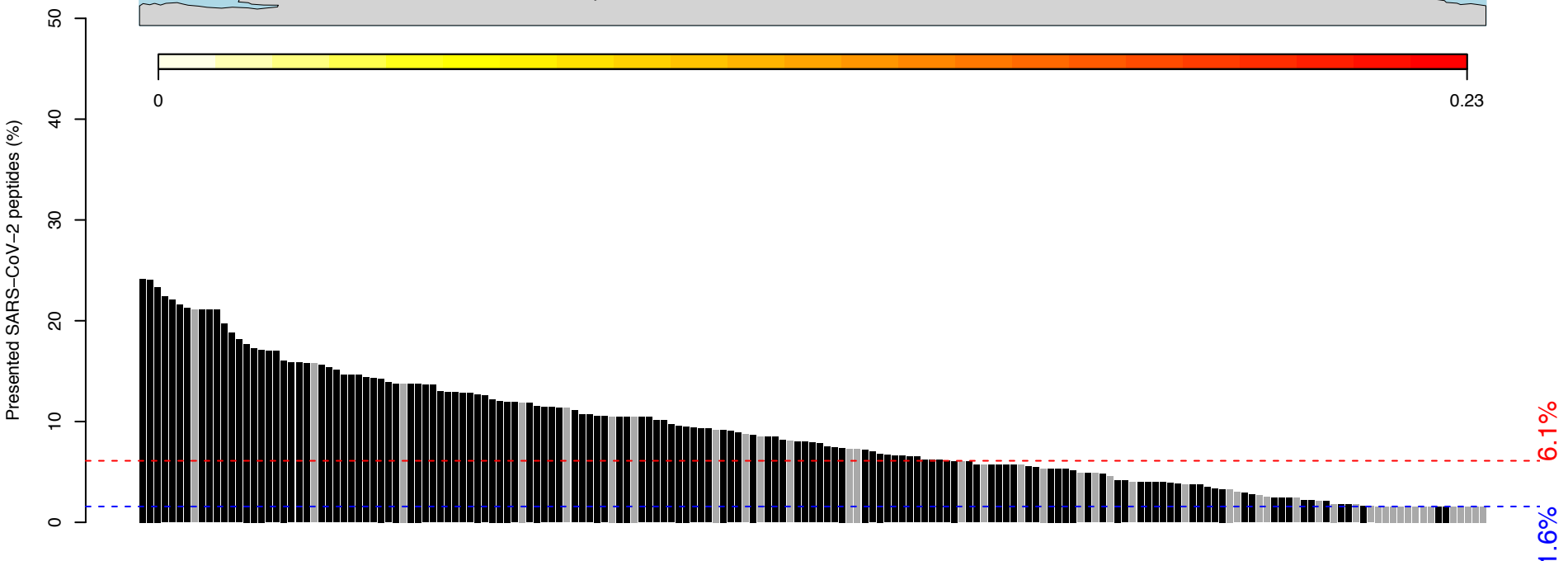
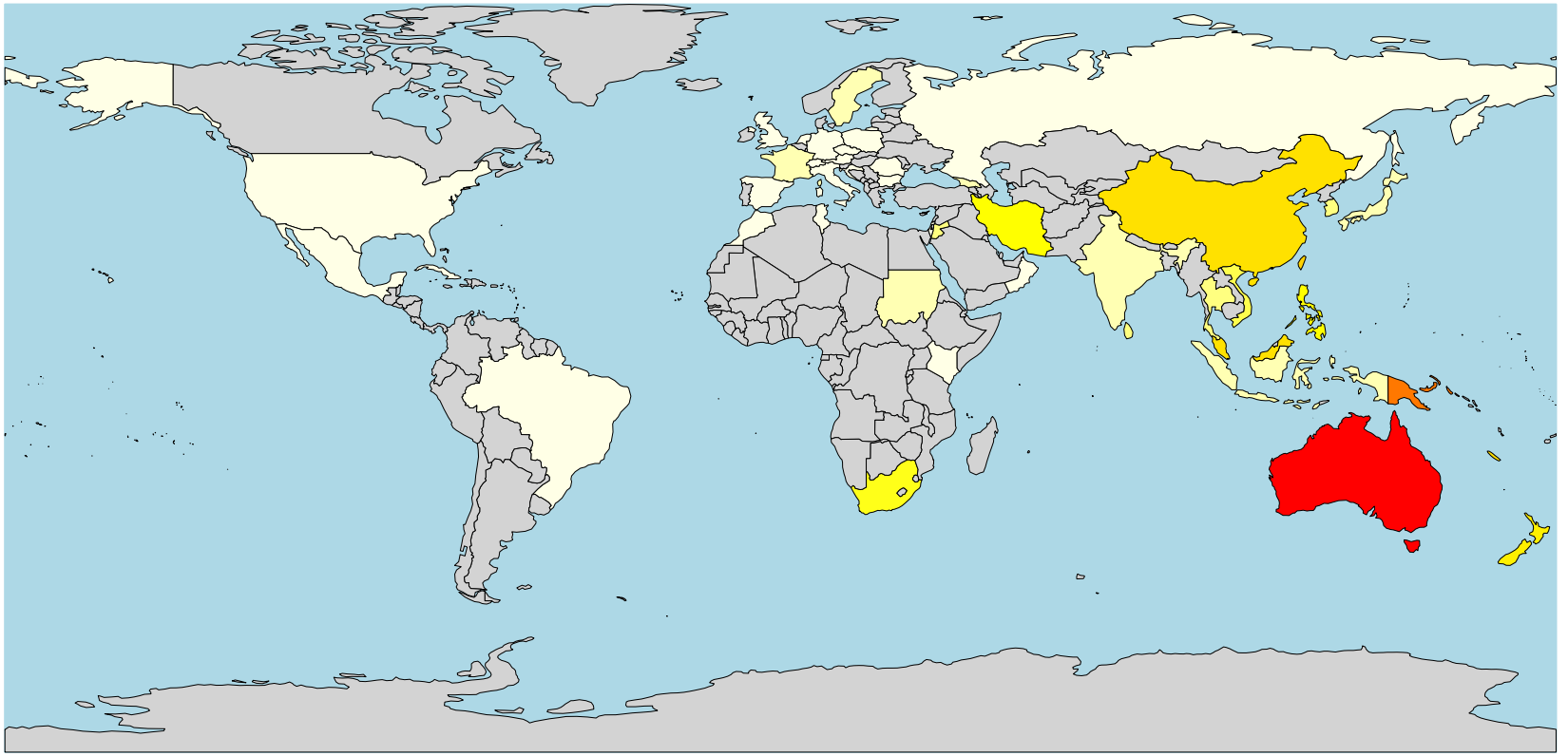
B*07:05 Haplotypes (n=165)



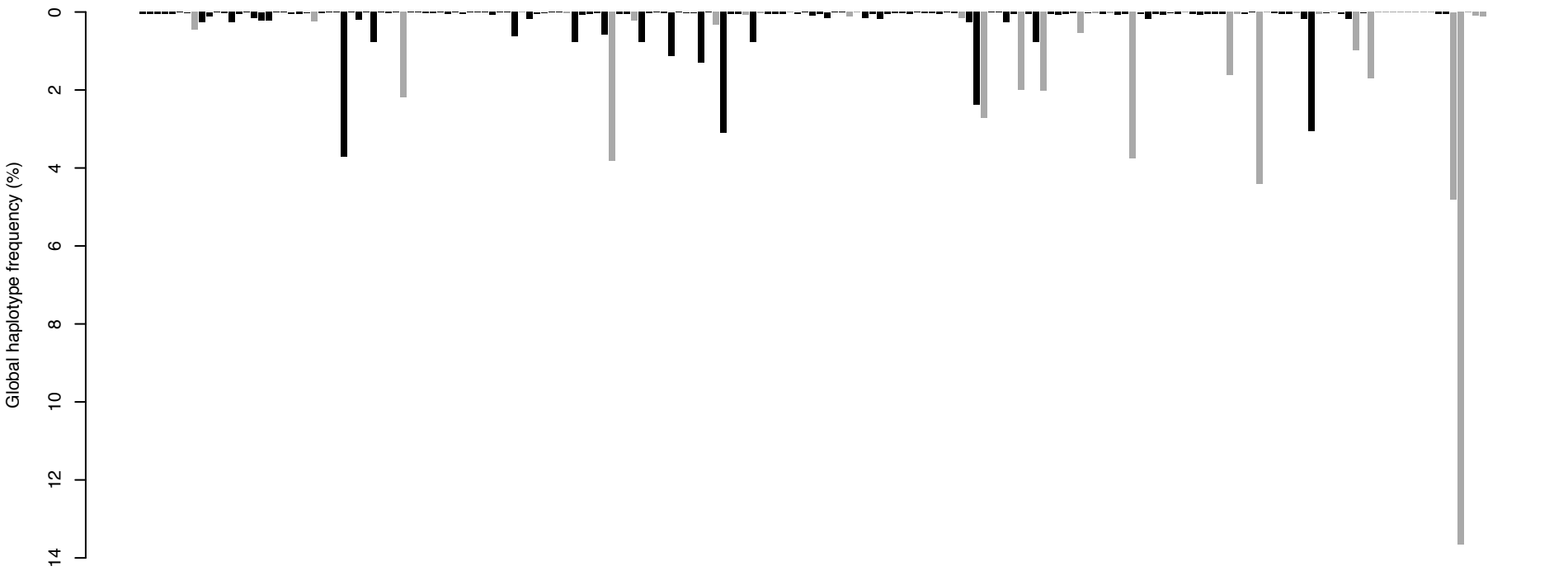
B*08:01
(~2.5% globally)



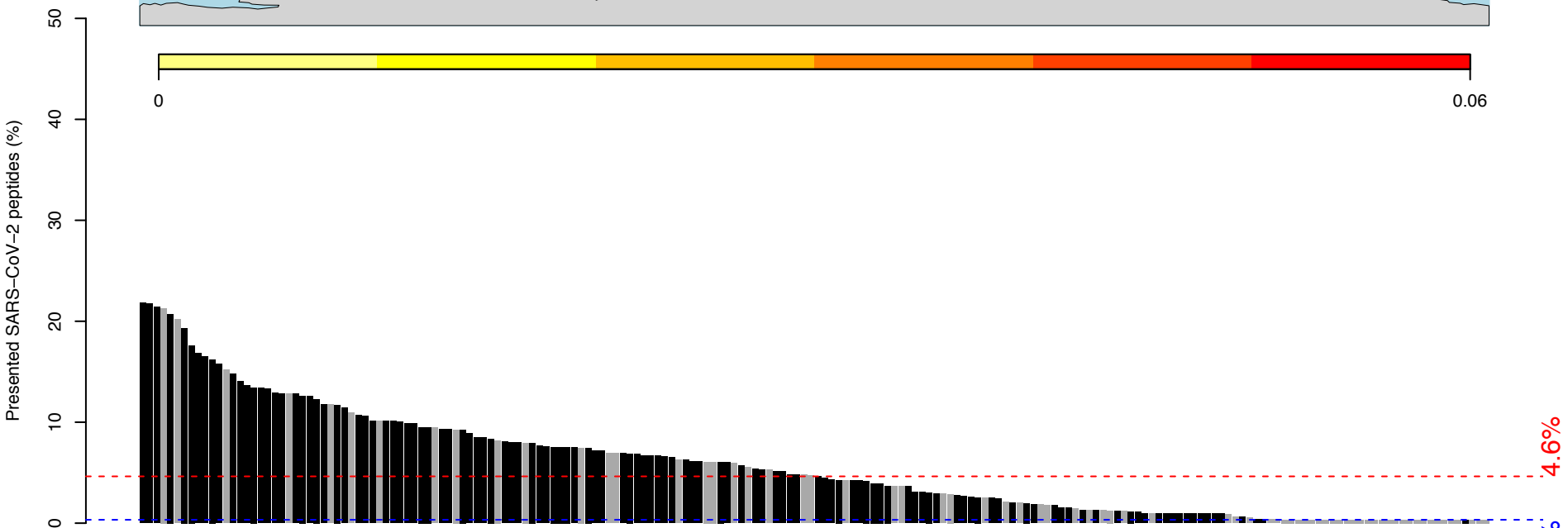
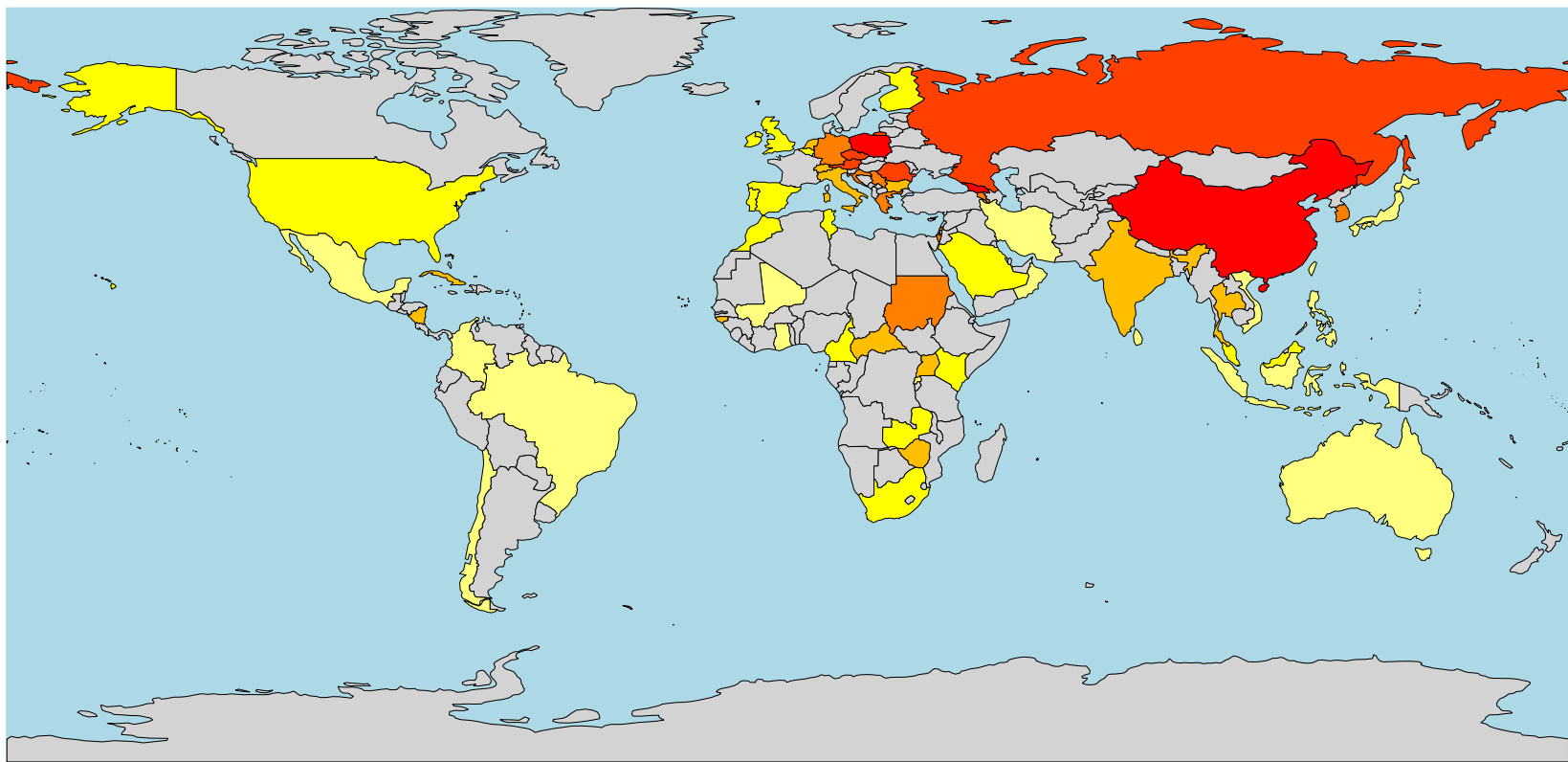
B*13:01
(~3% globally)



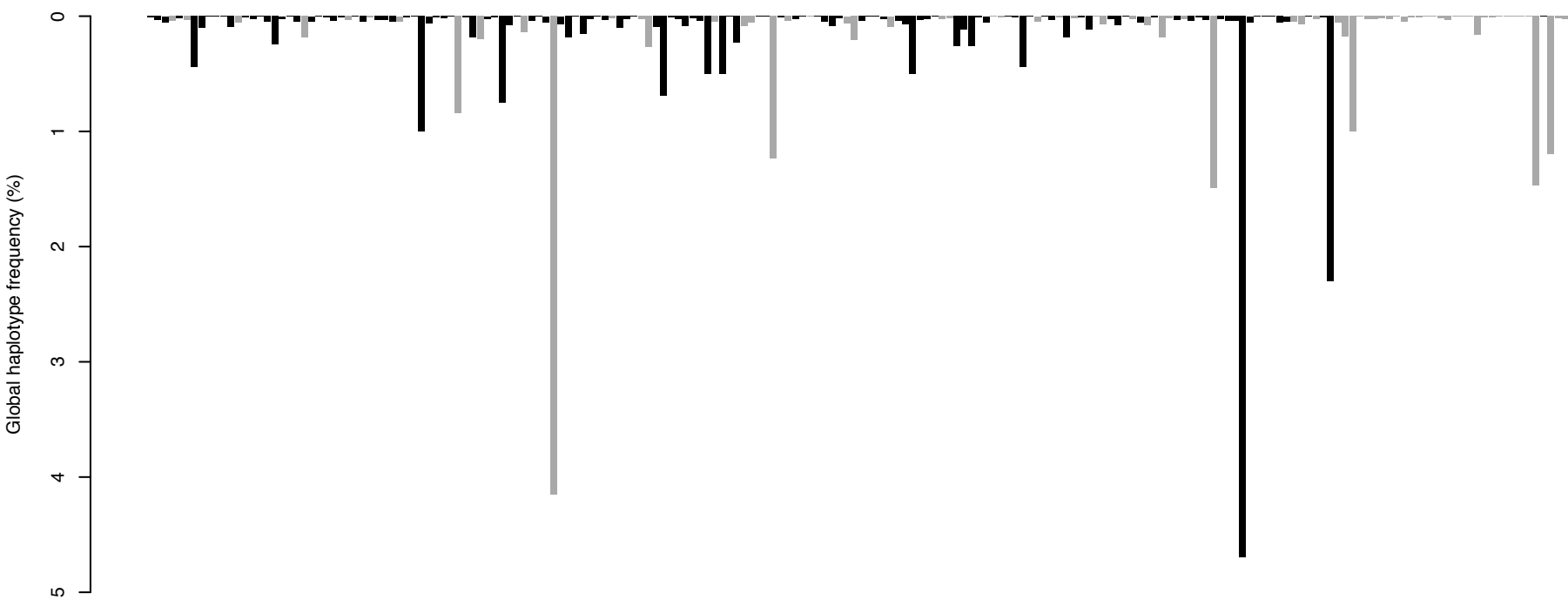
B*13:01 Haplotypes (n=181)



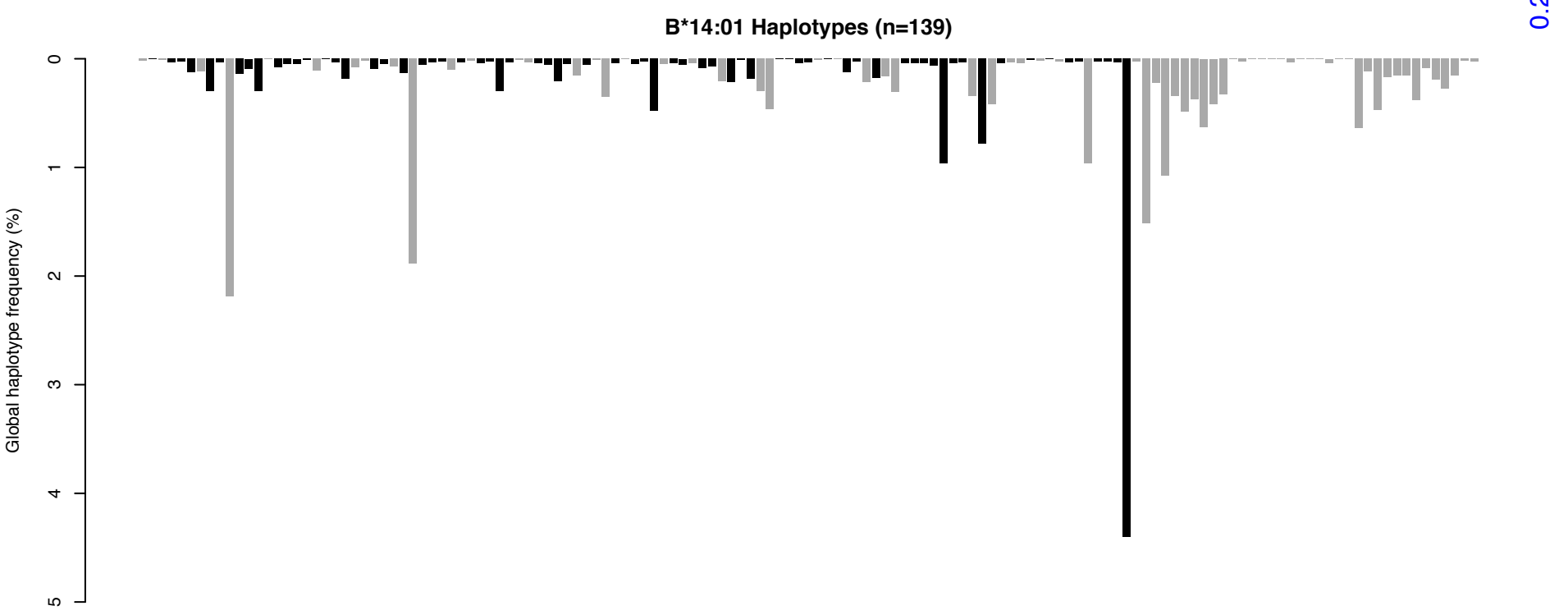
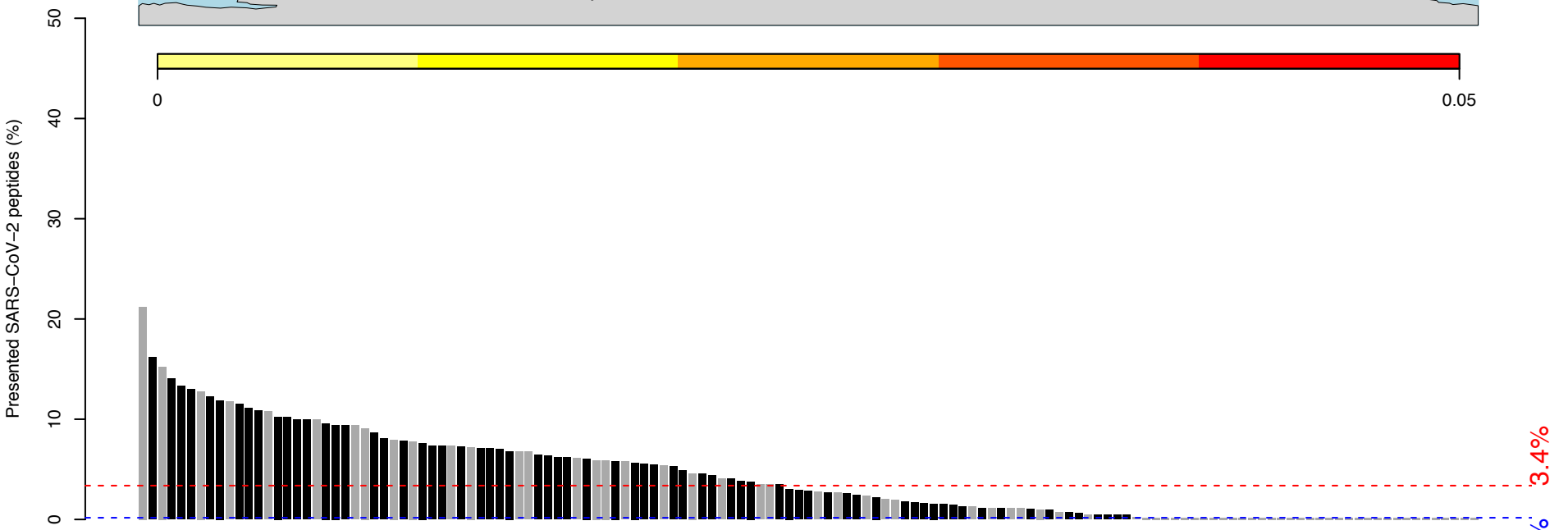
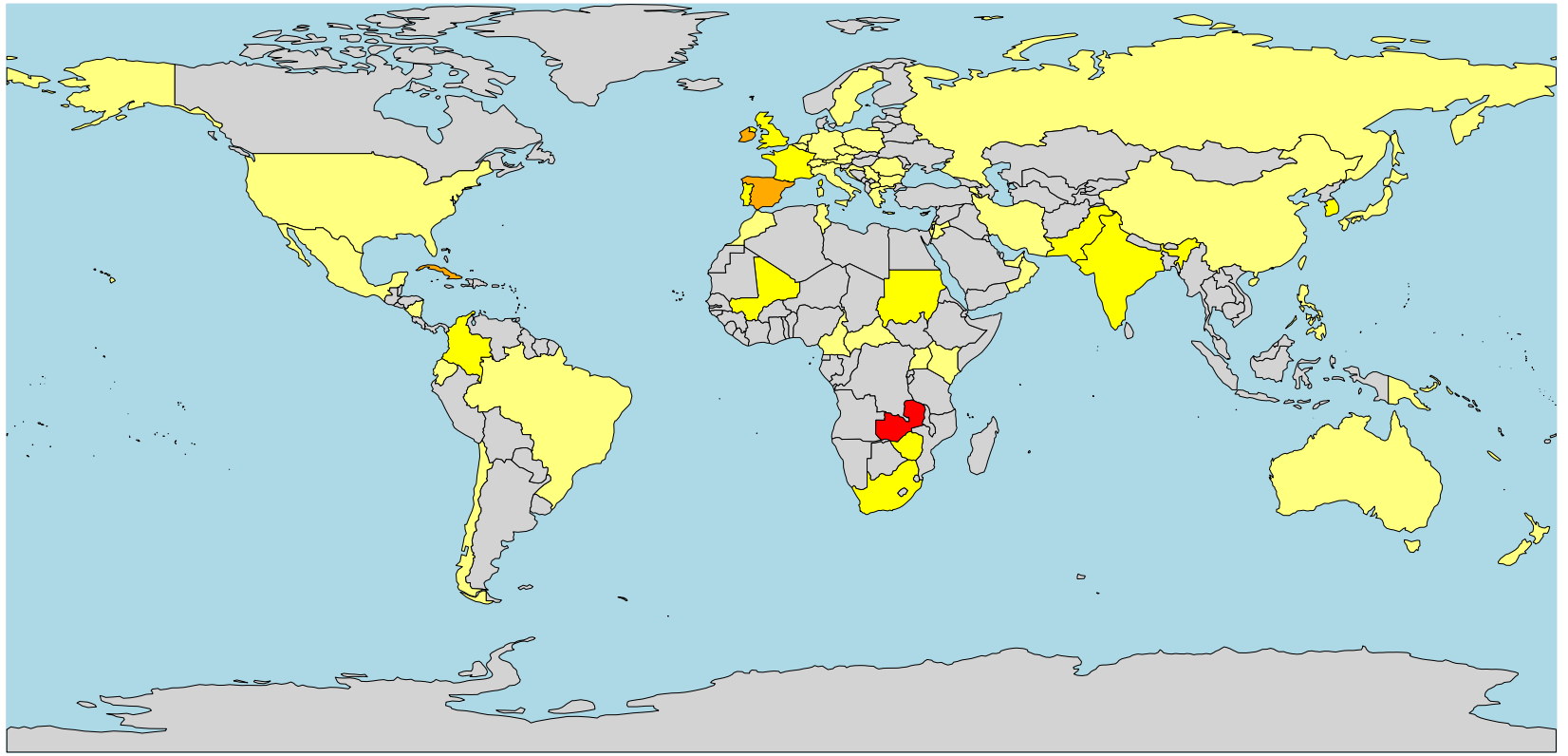
B*13:02
(~2.5% globally)



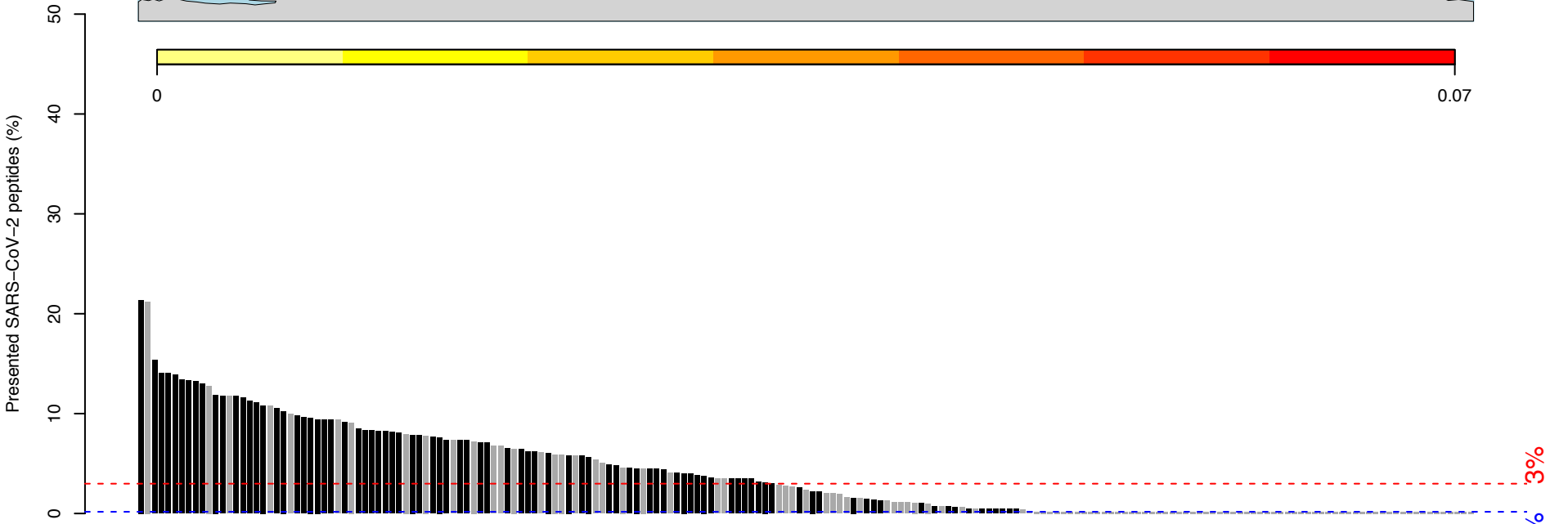
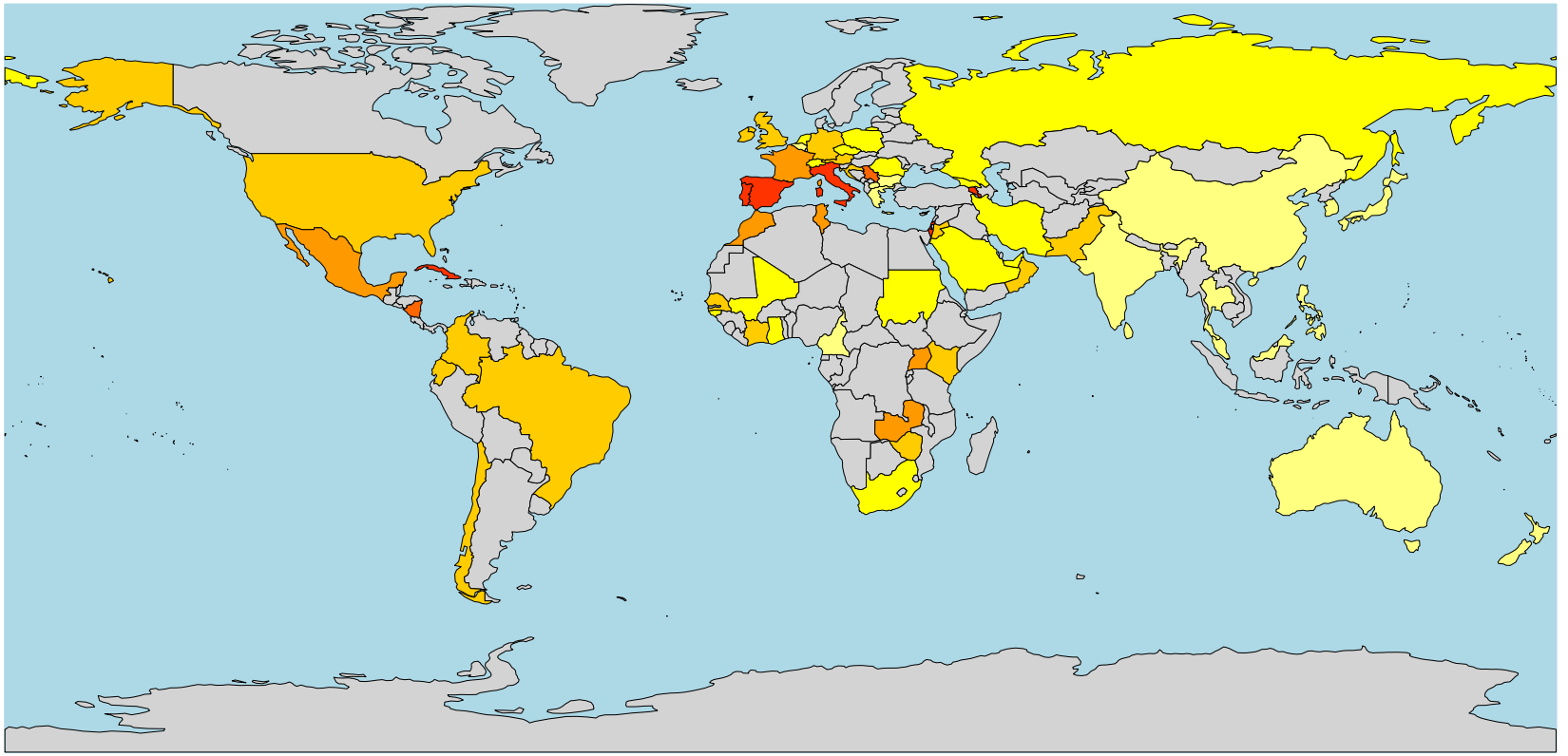
B*13:02 Haplotypes (n=194)



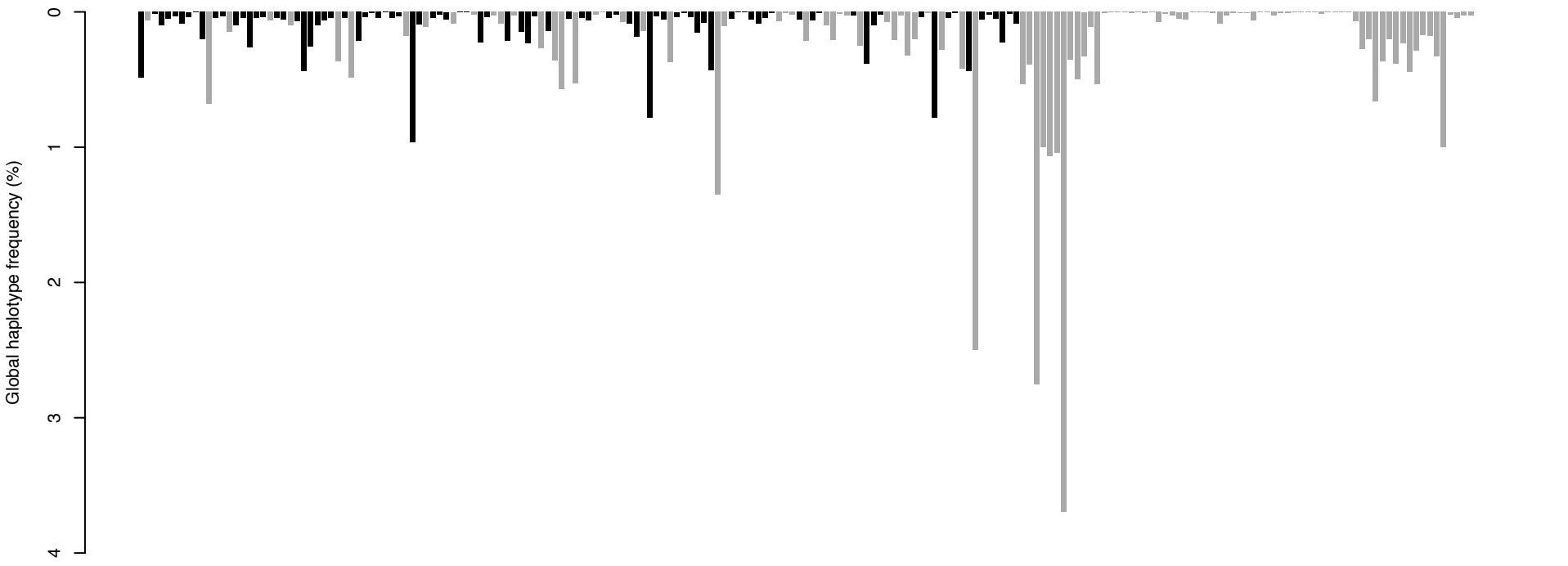
B*14:01
(~0.67% globally)



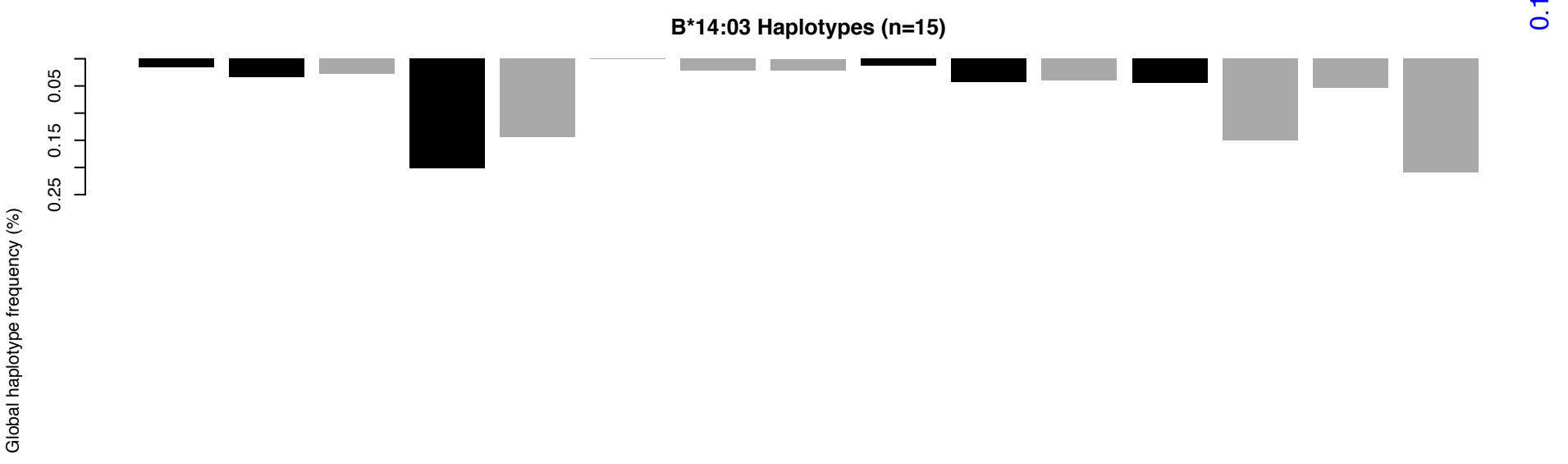
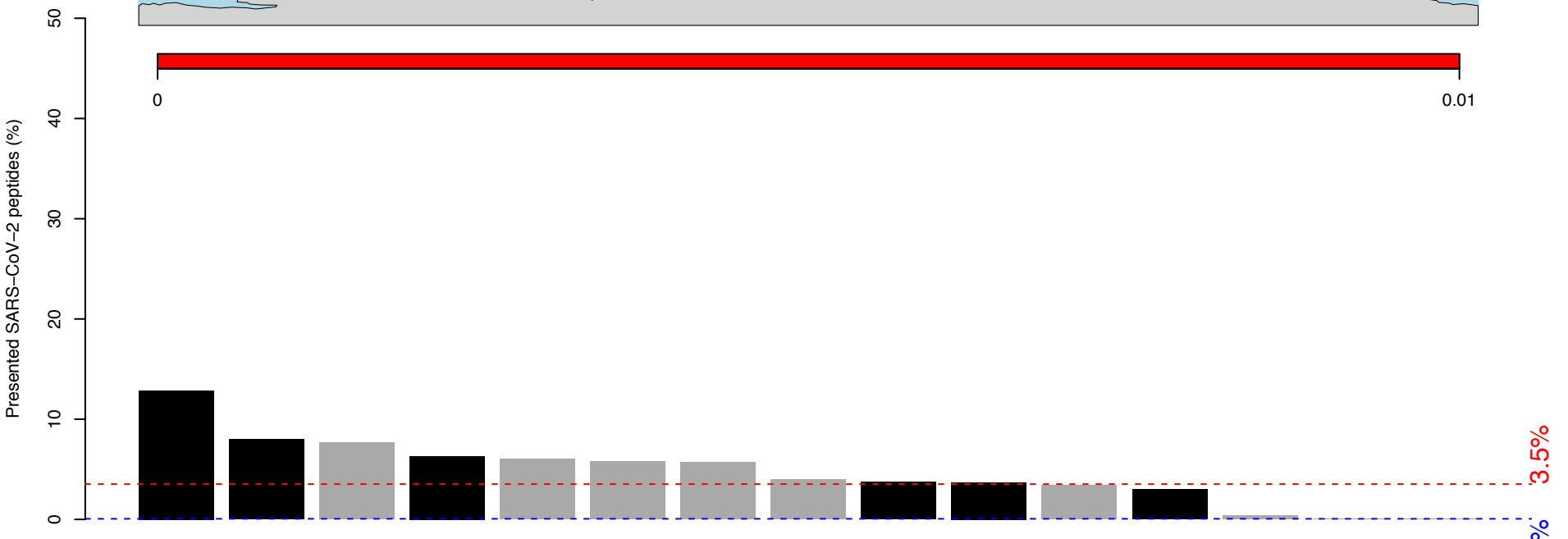
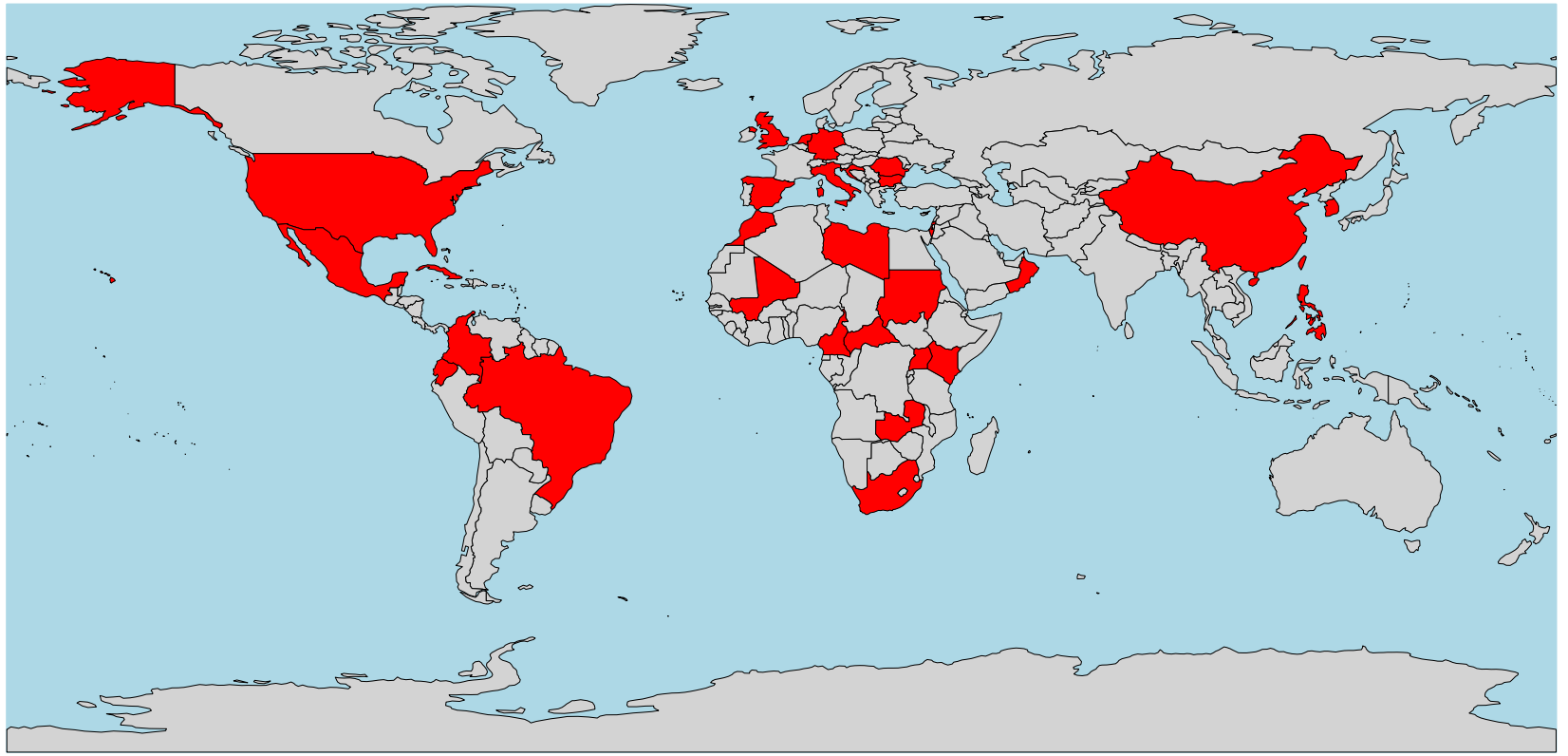
B*14:02
(~0.87% globally)



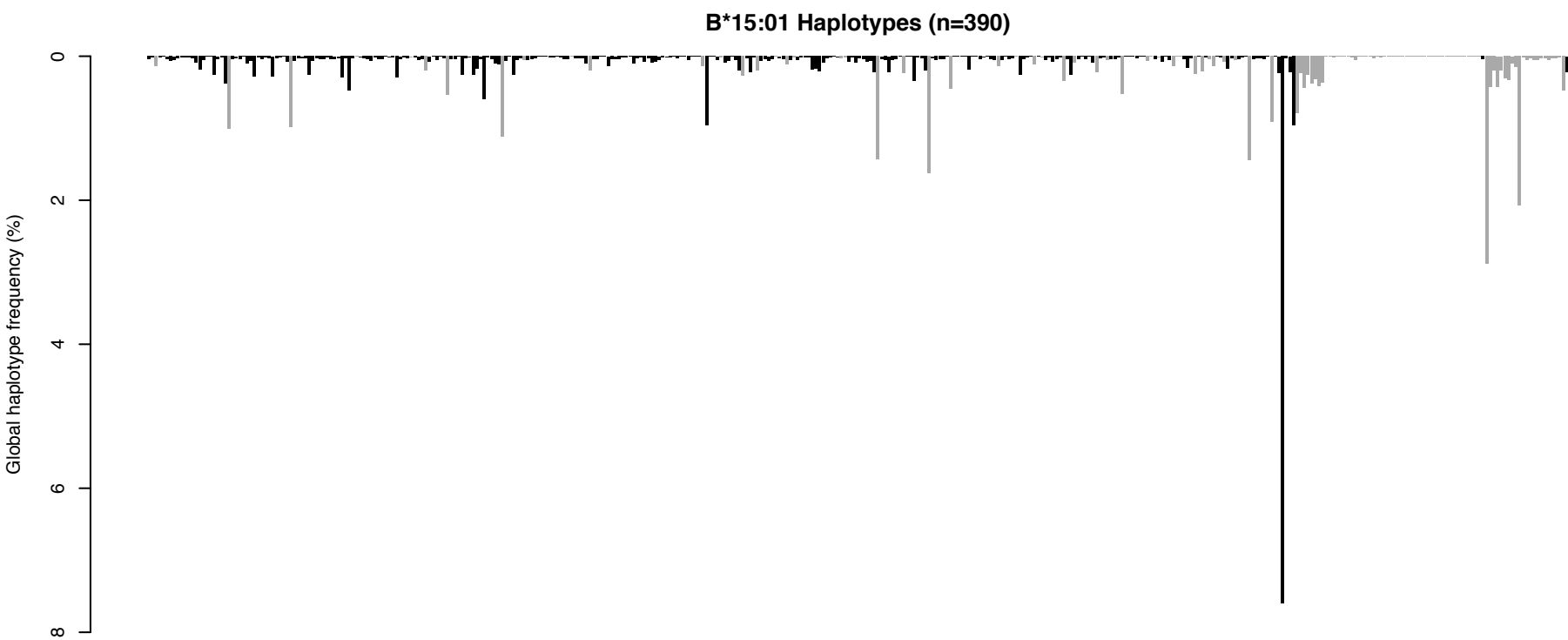
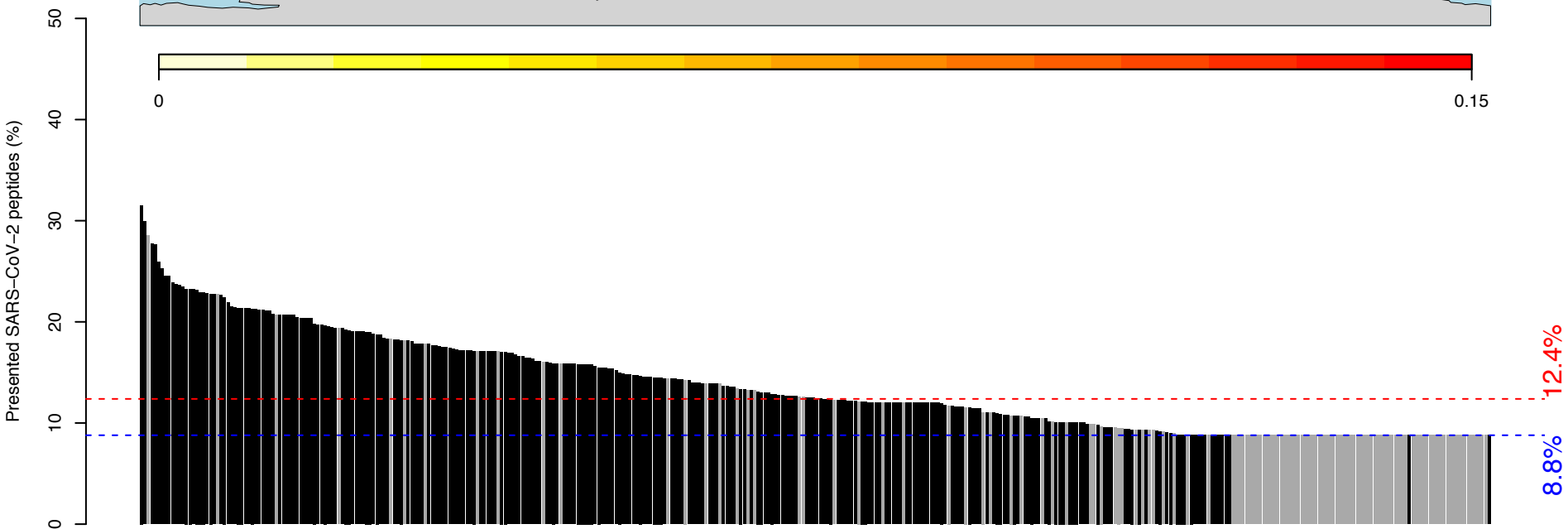
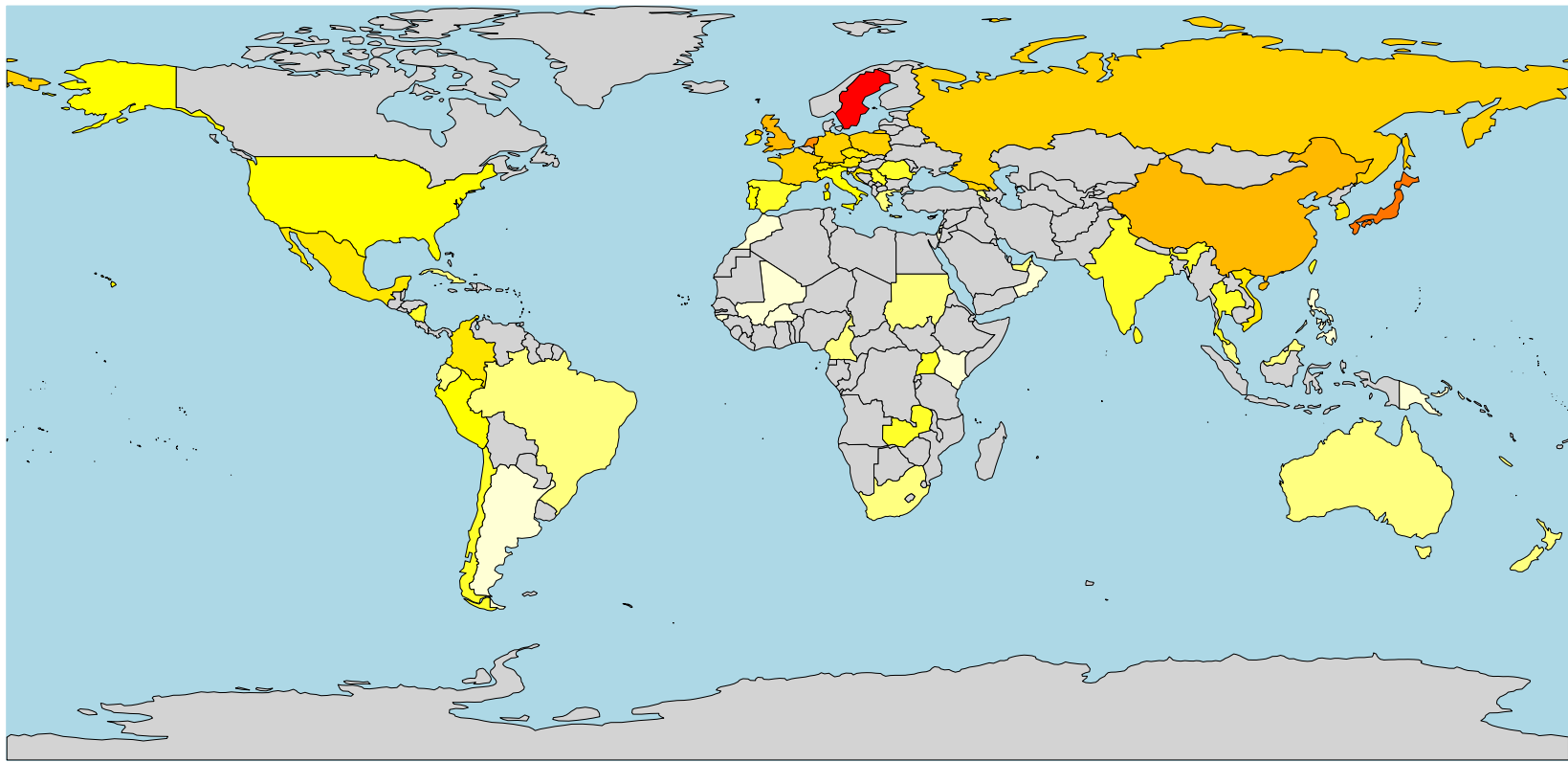
B*14:02 Haplotypes (n=197)



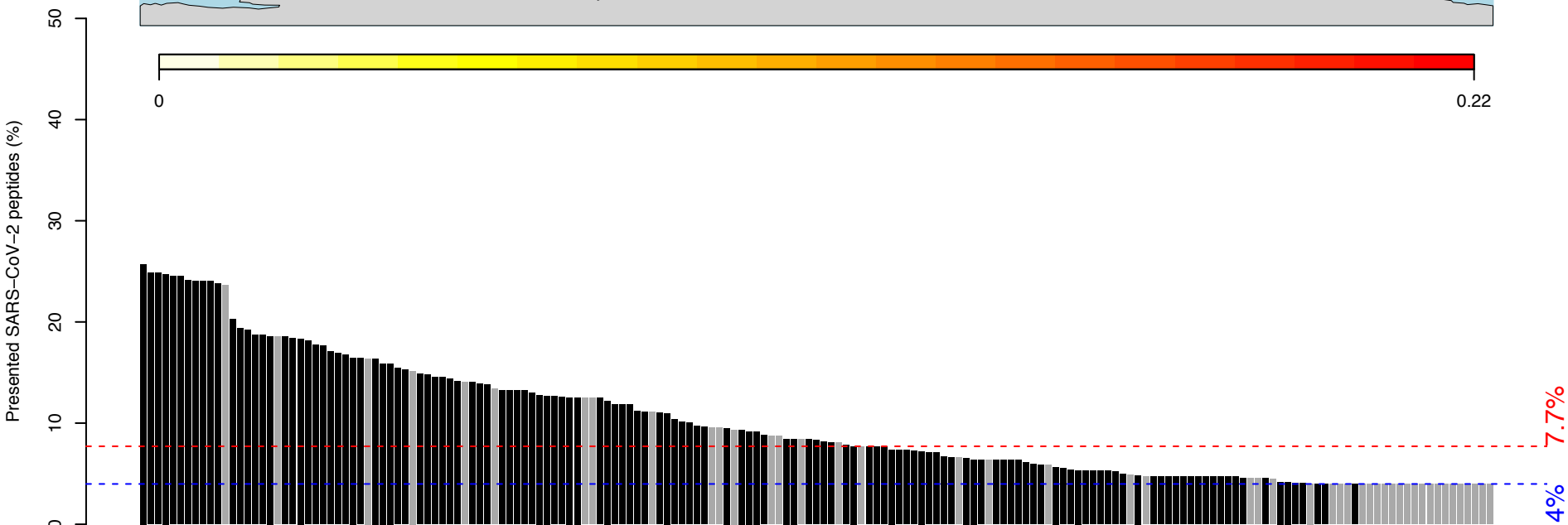
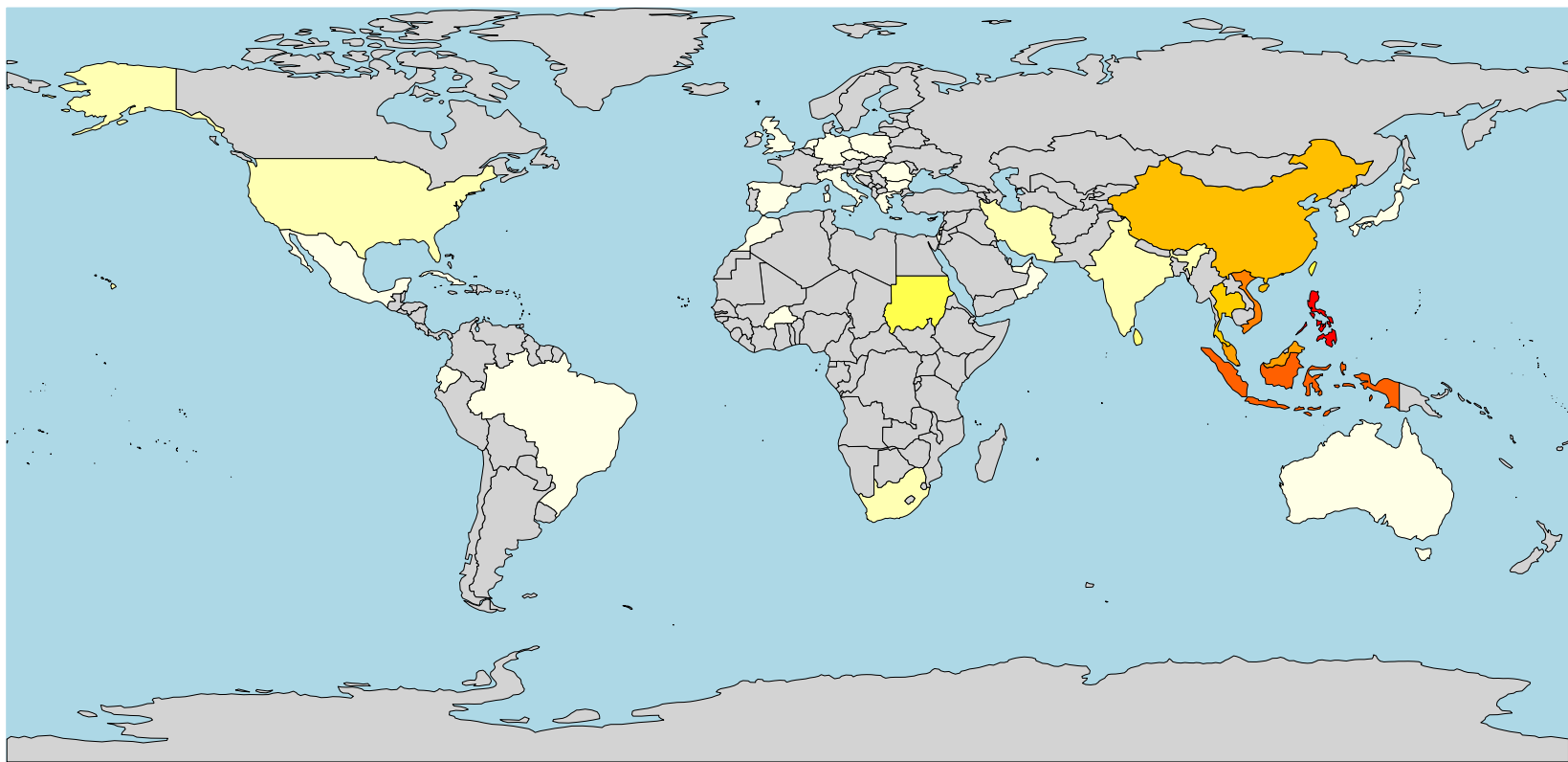
B*14:03
(~0.025% globally)



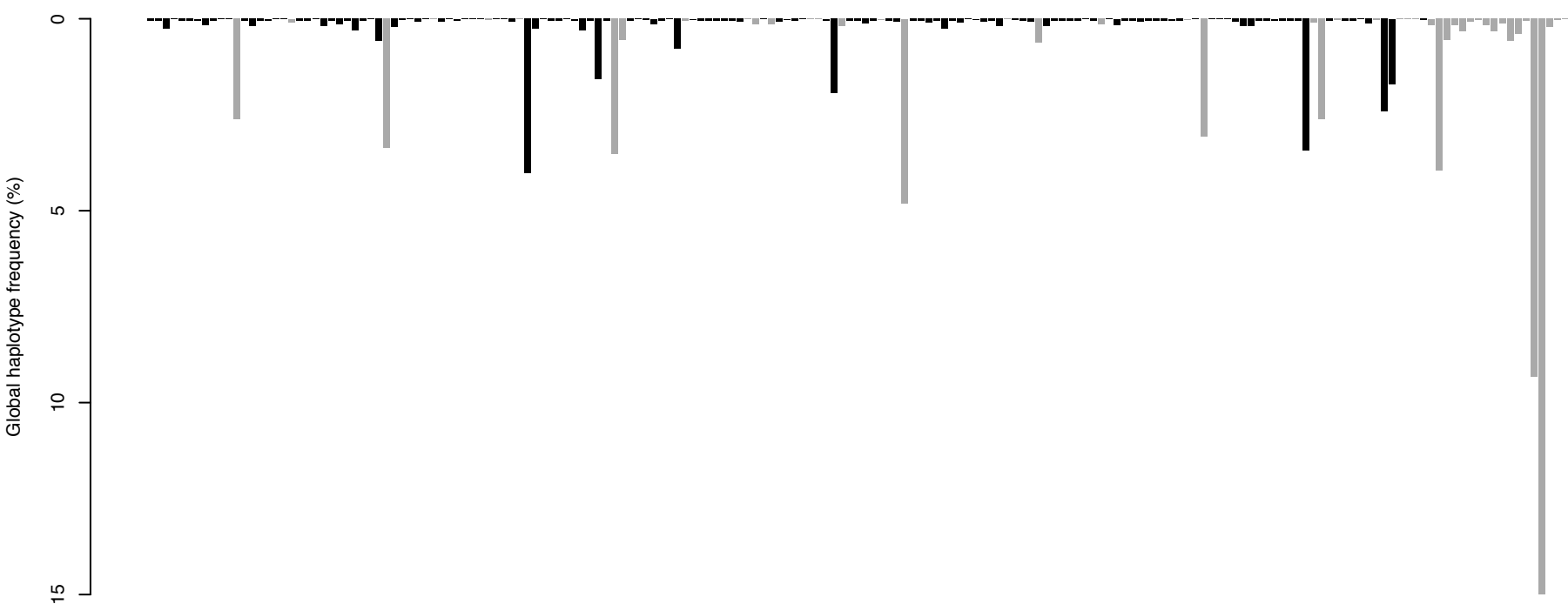
B*15:01
(~3% globally)



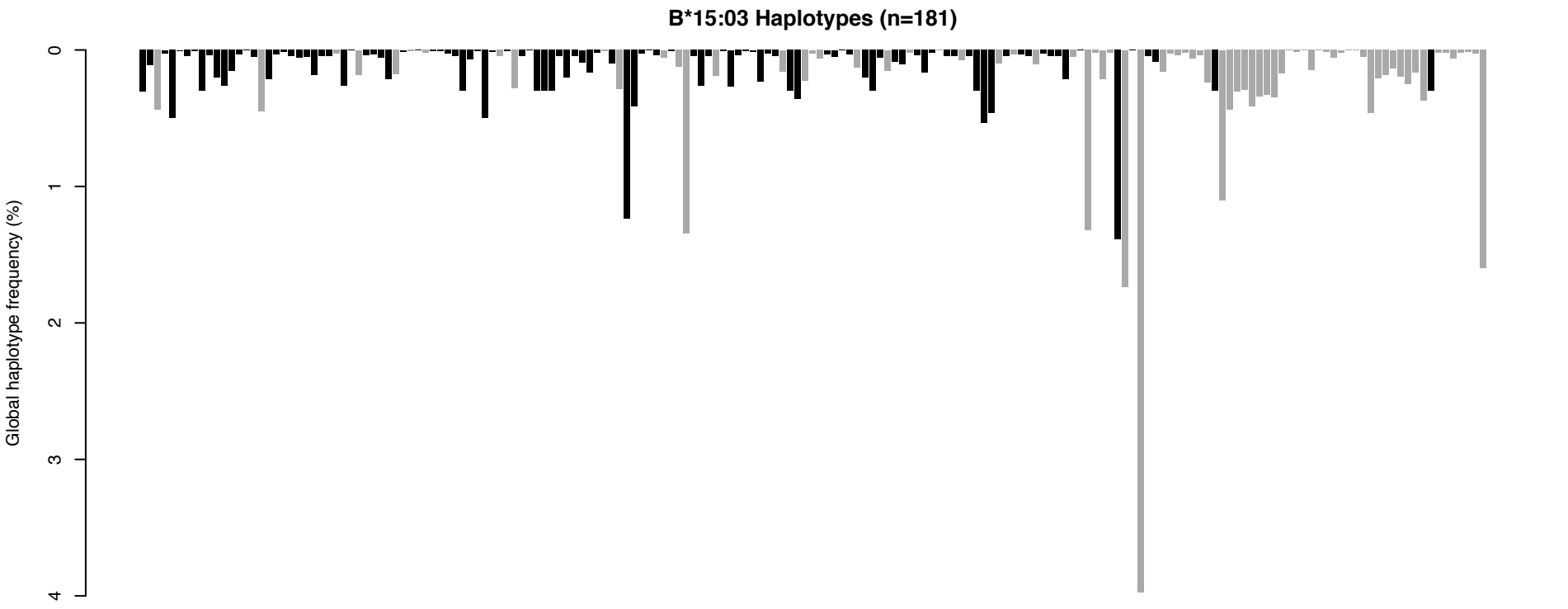
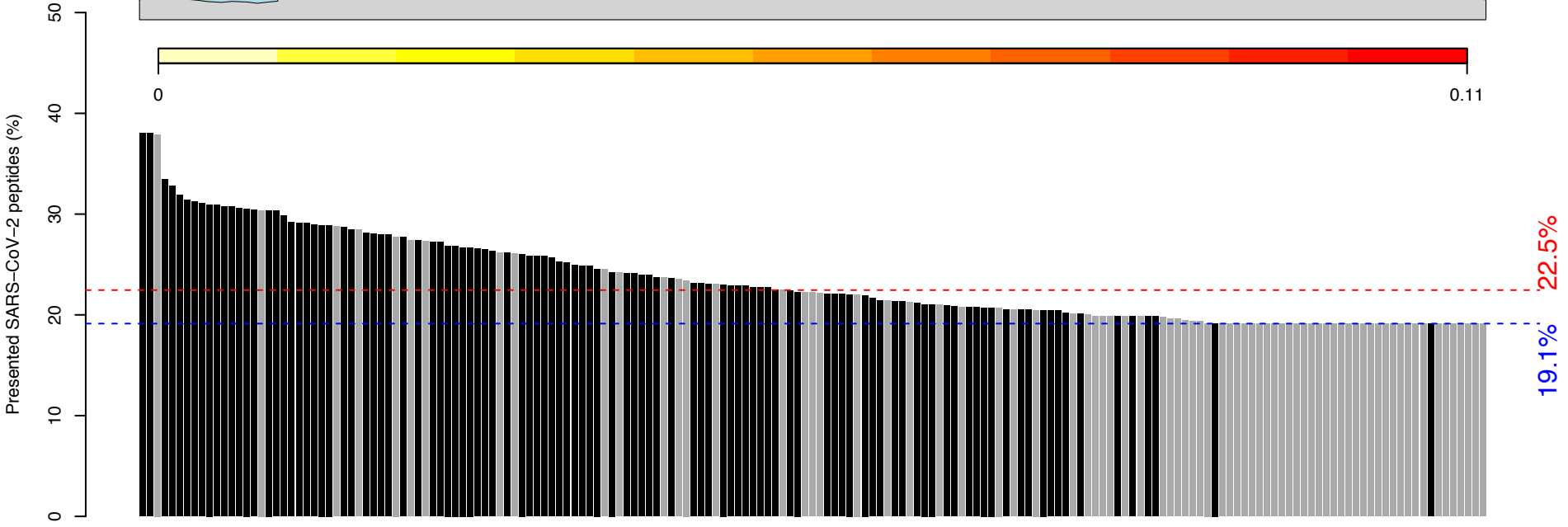
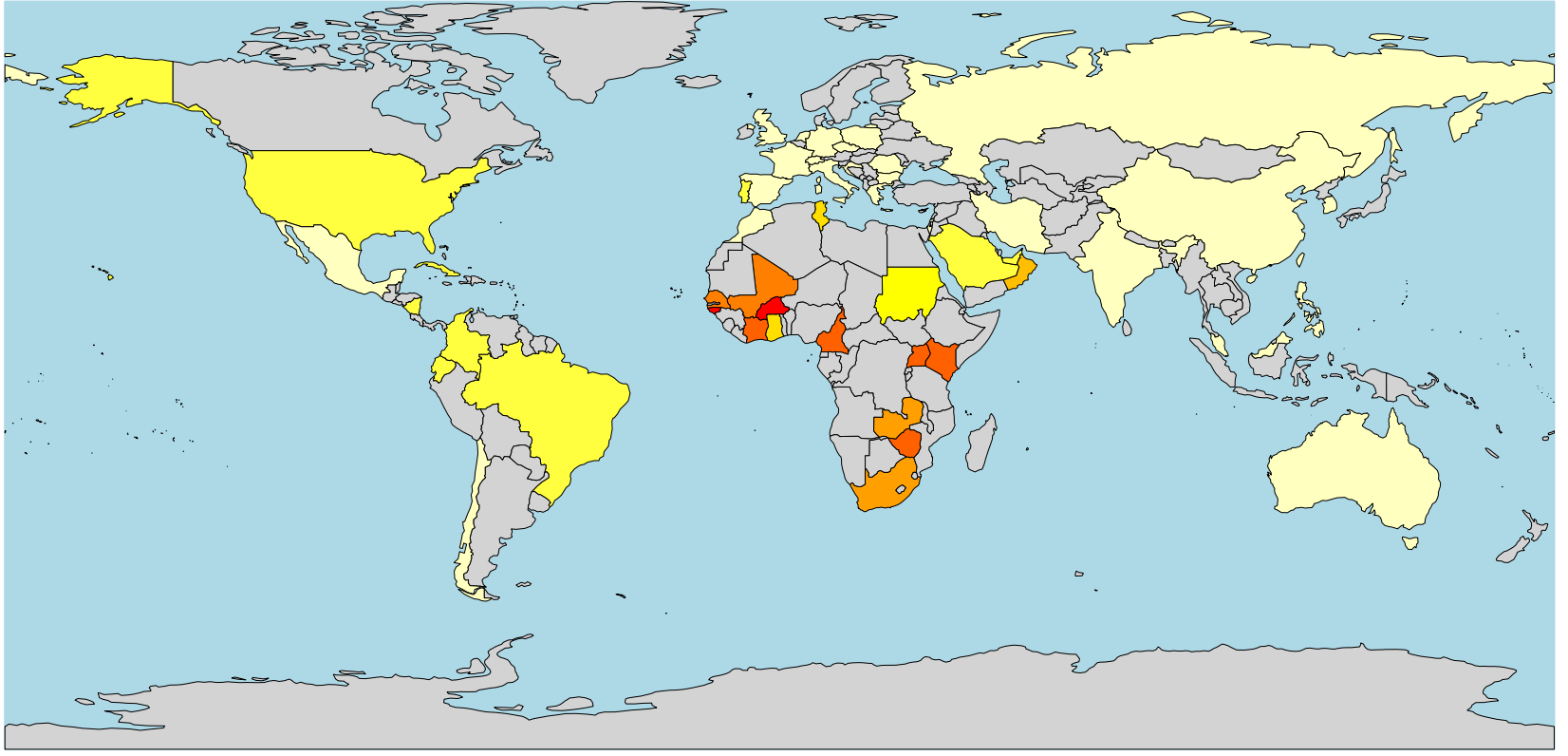
B*15:02
(~4.2% globally)



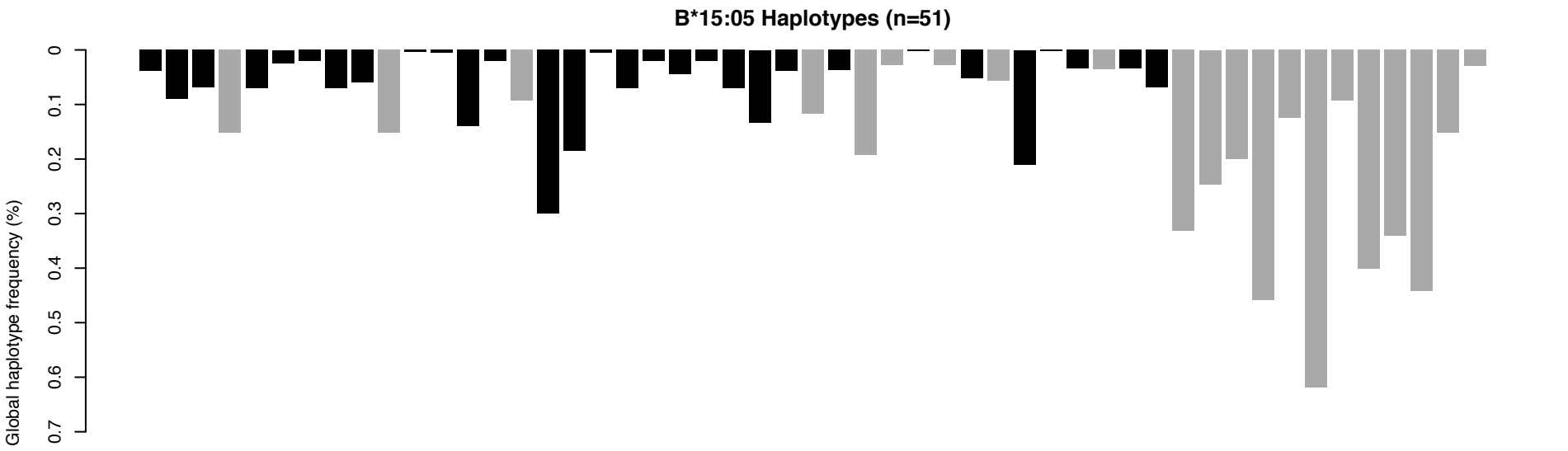
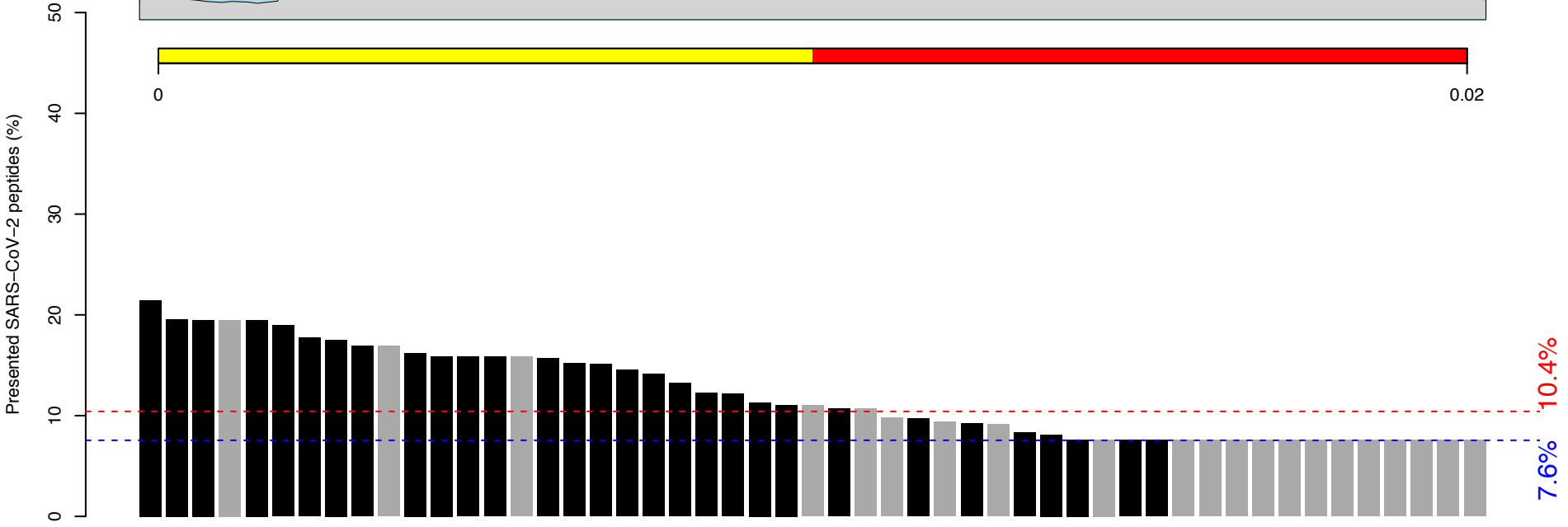
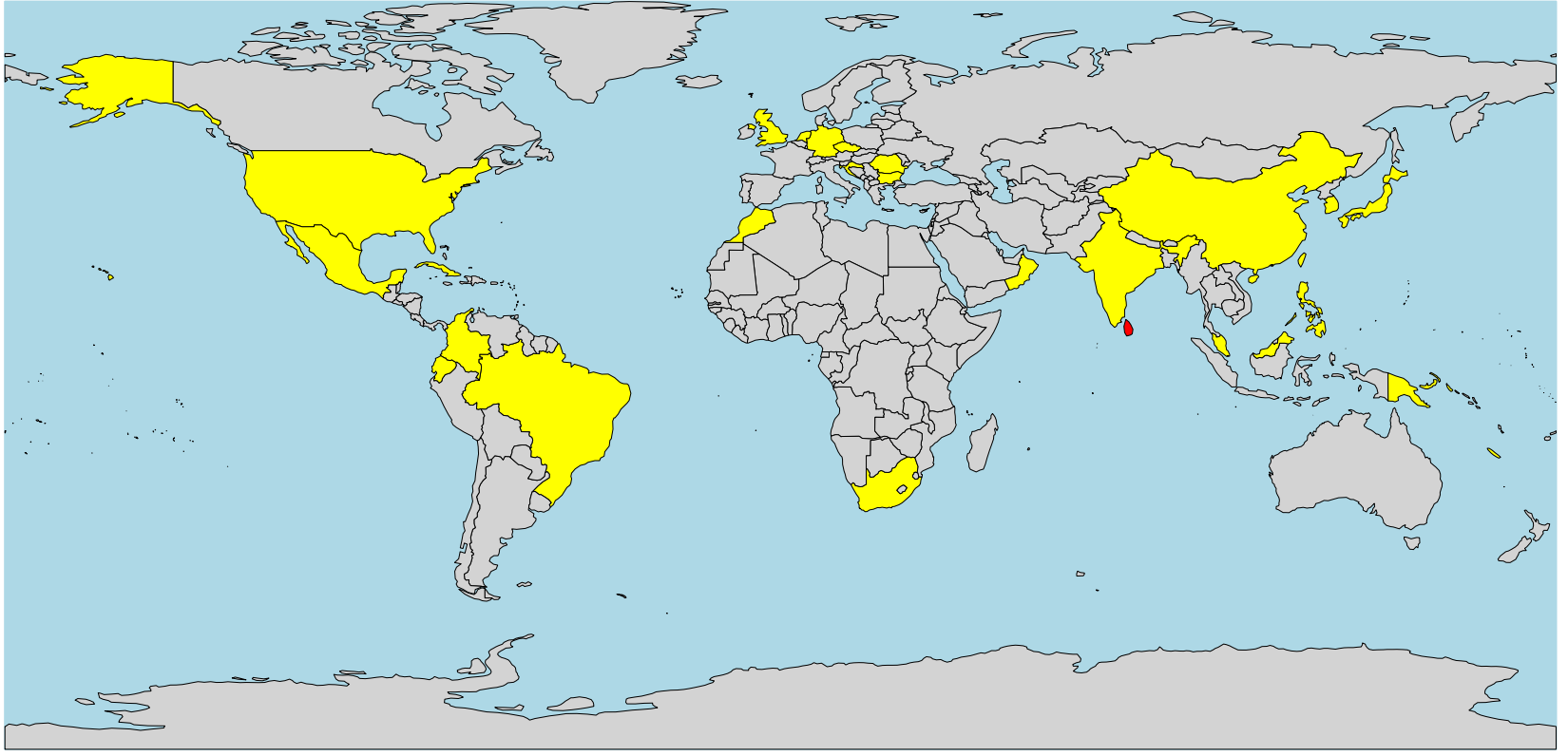
B*15:02 Haplotypes (n=181)



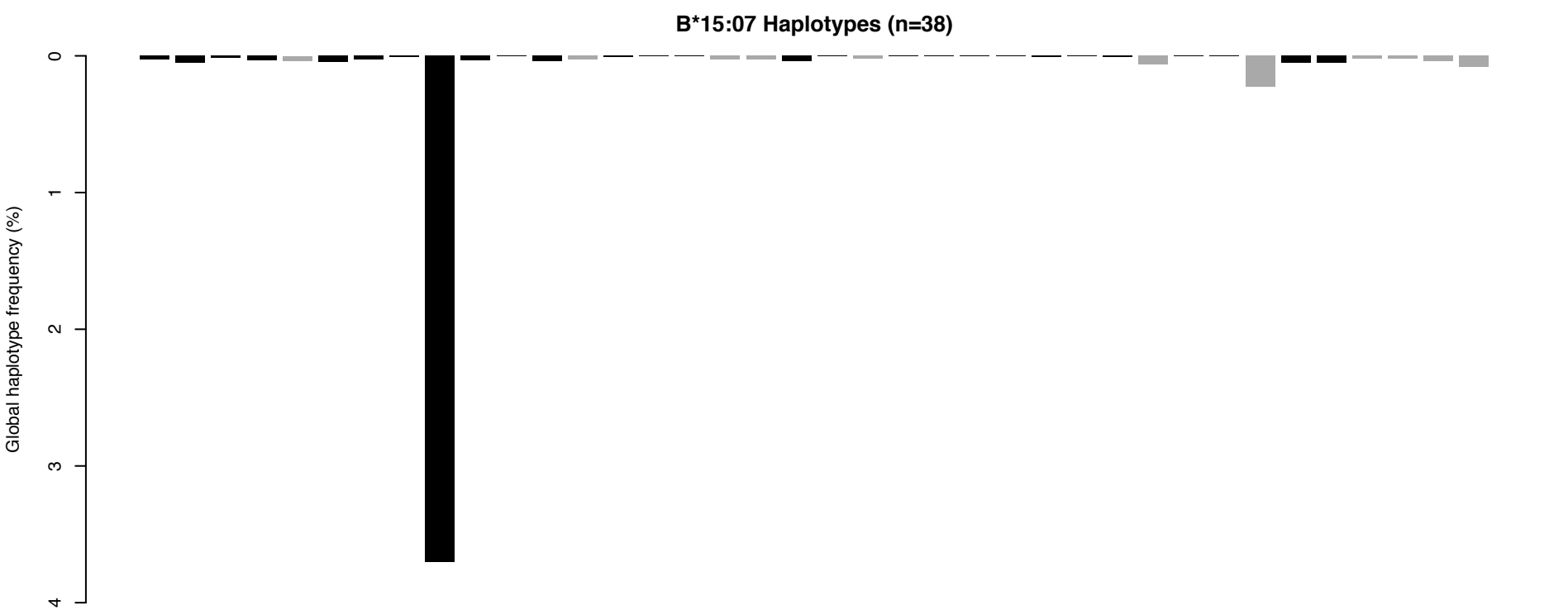
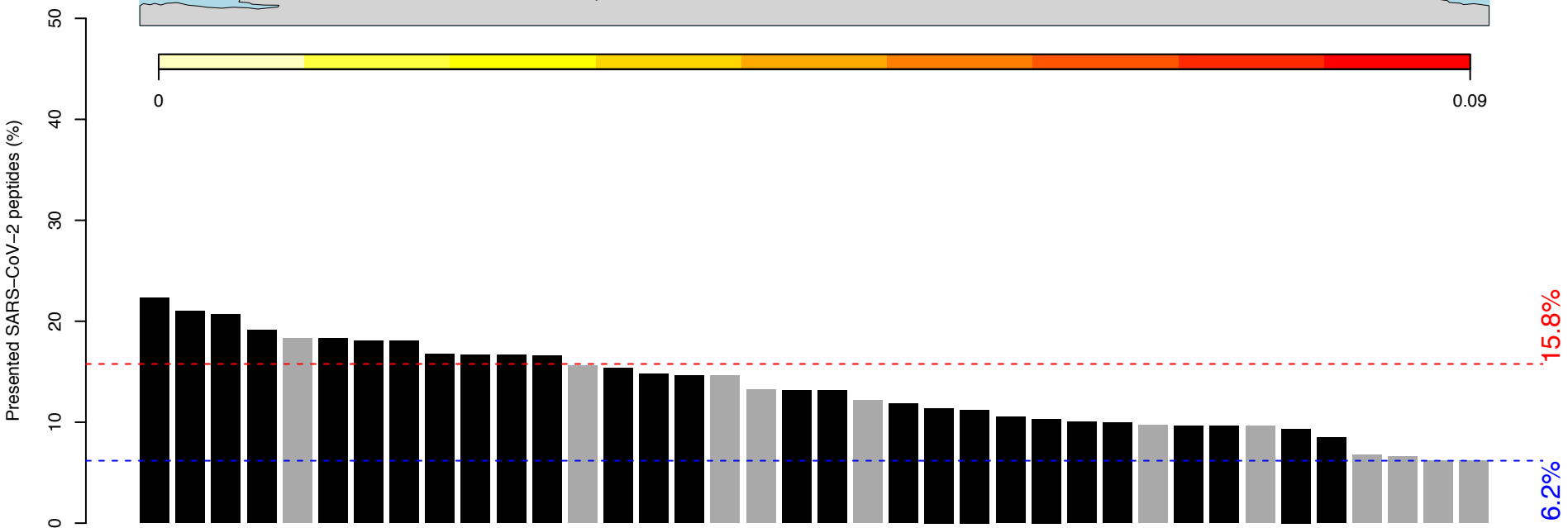
B*15:03
(~0.63% globally)



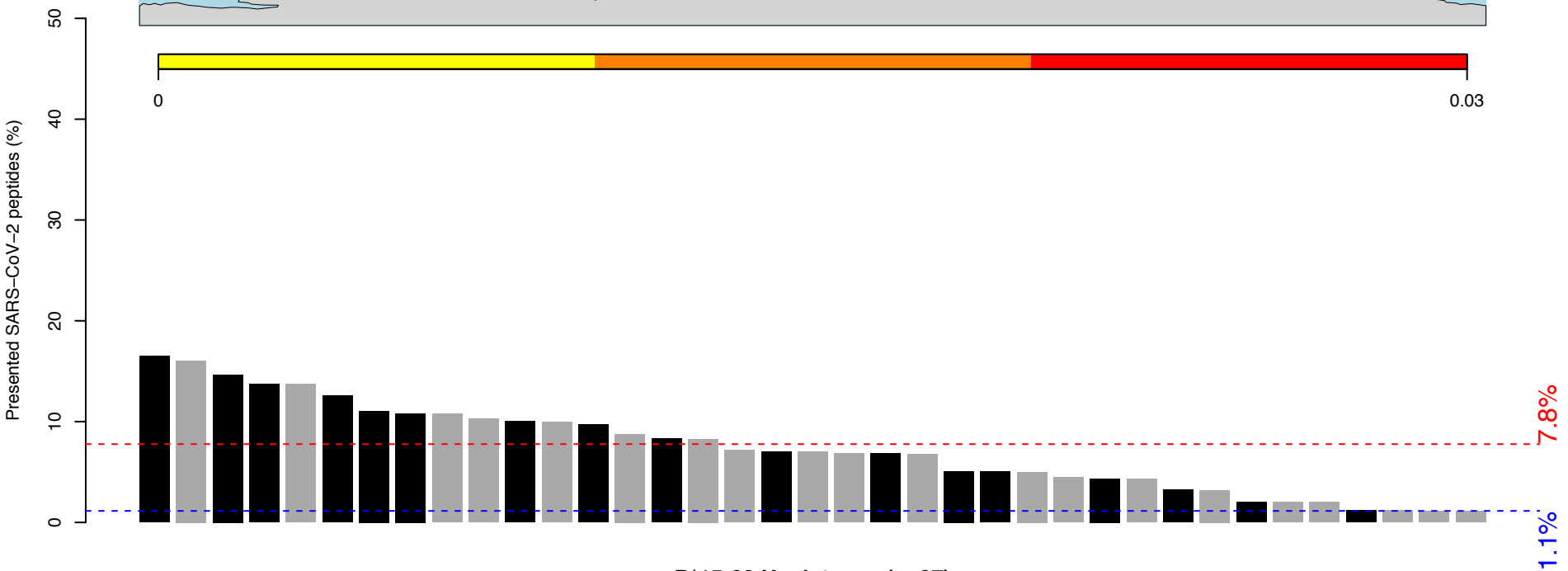
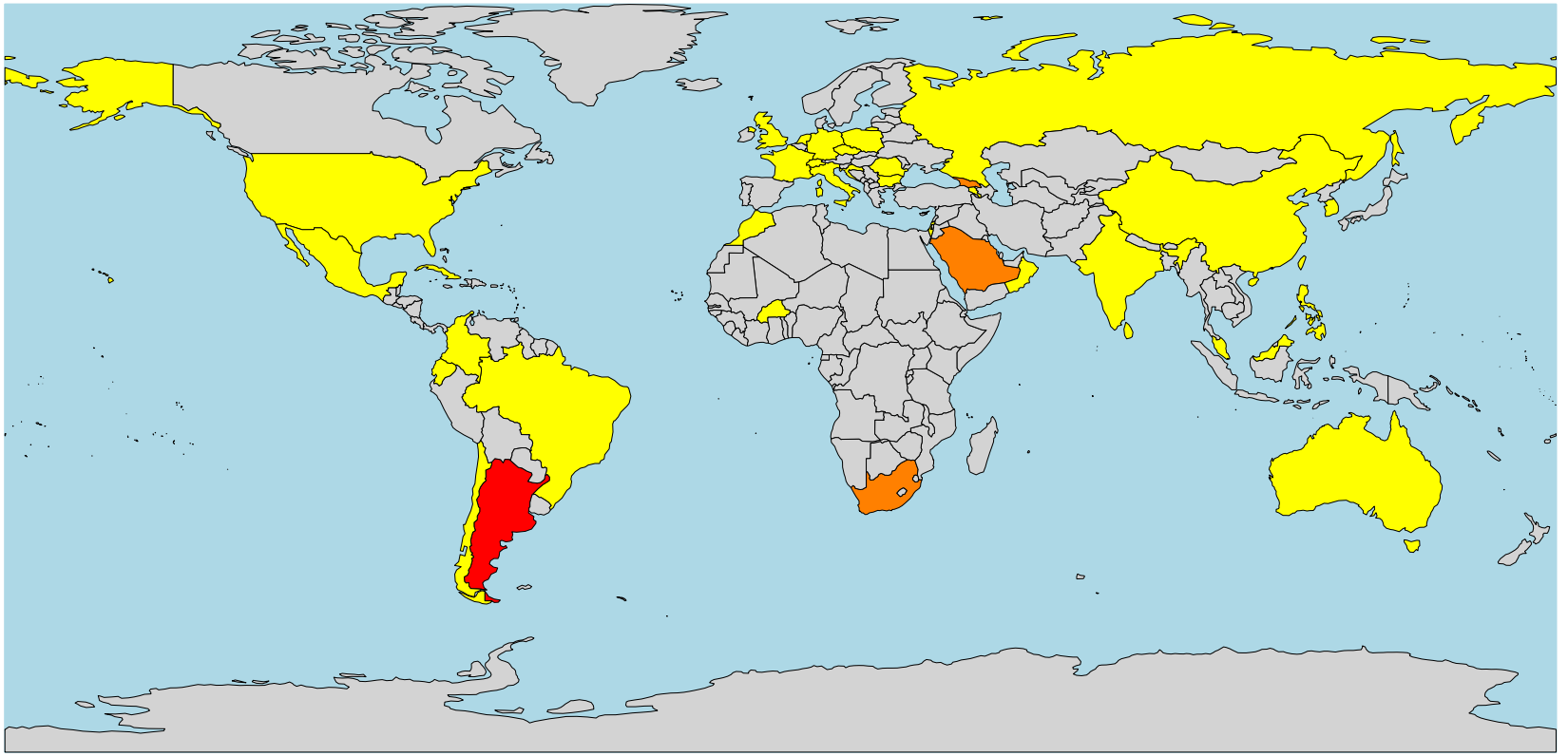
B*15:05
(~0.49% globally)



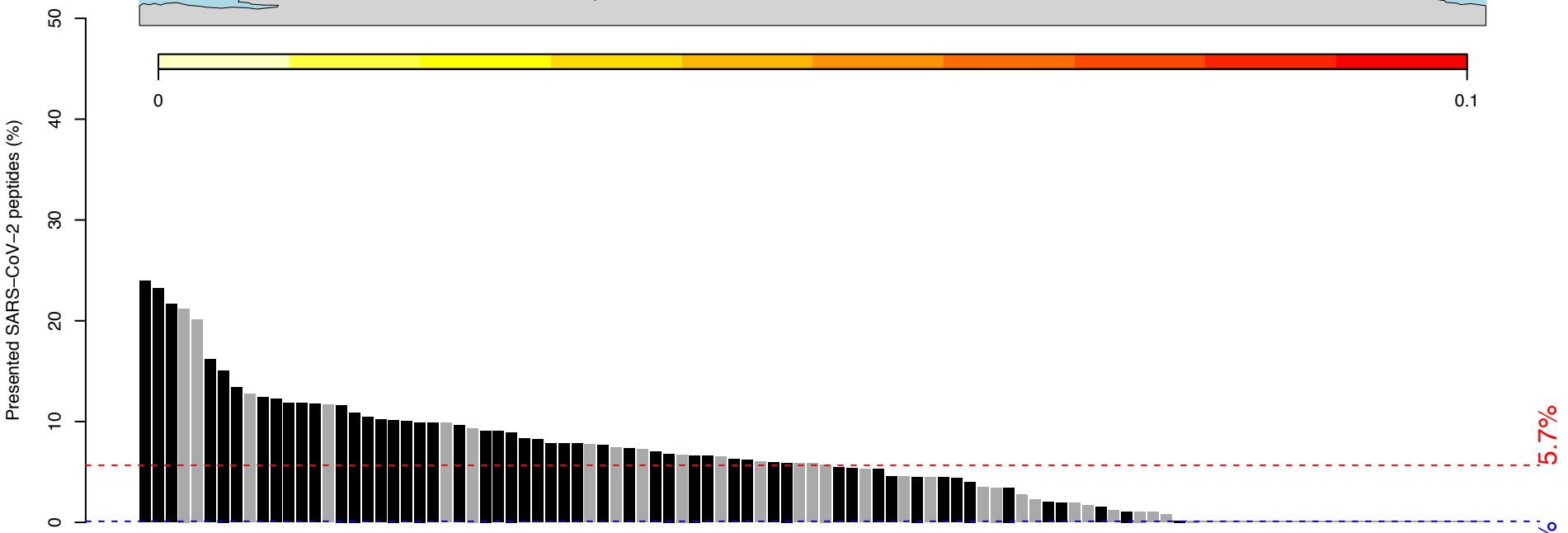
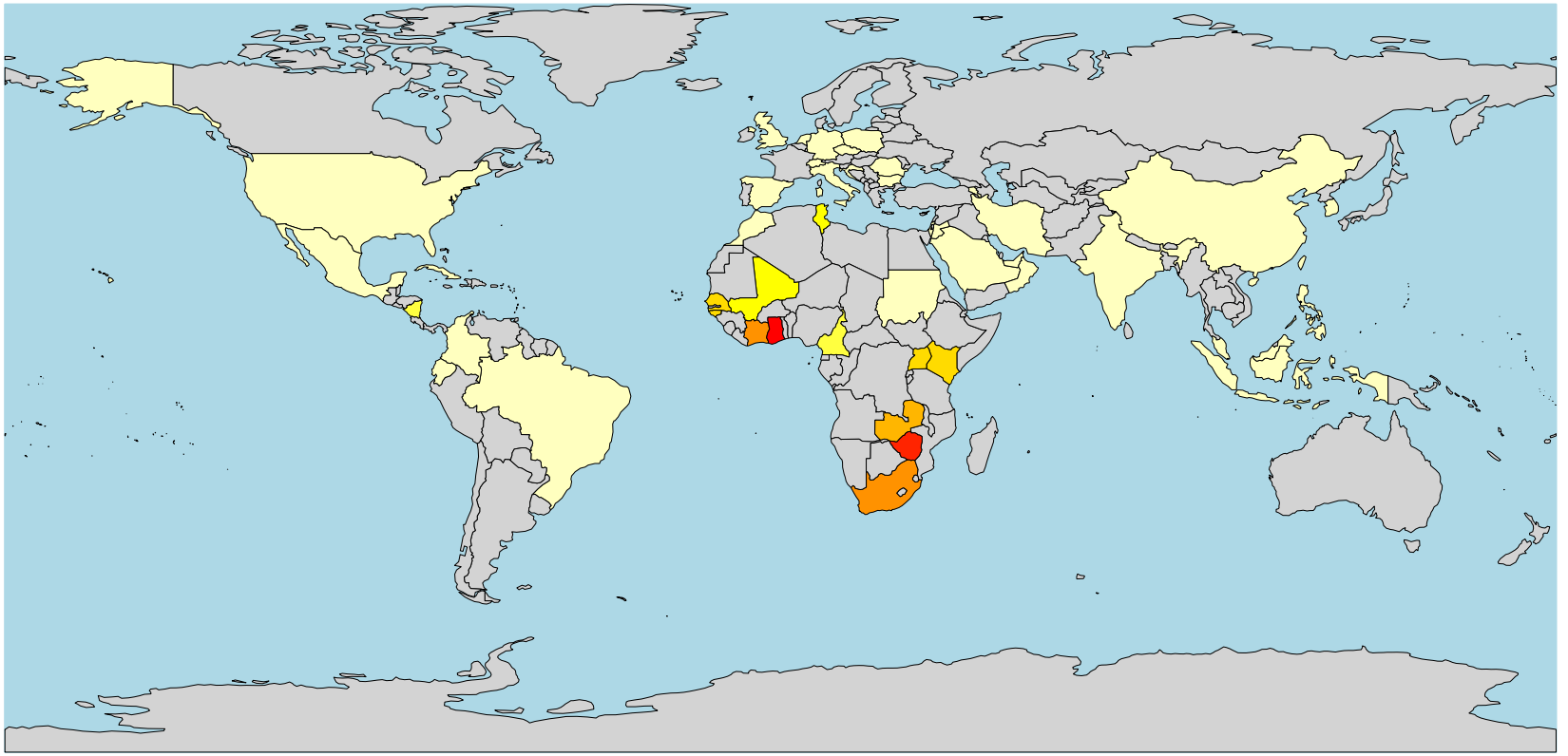
B*15:07
(~0.91% globally)



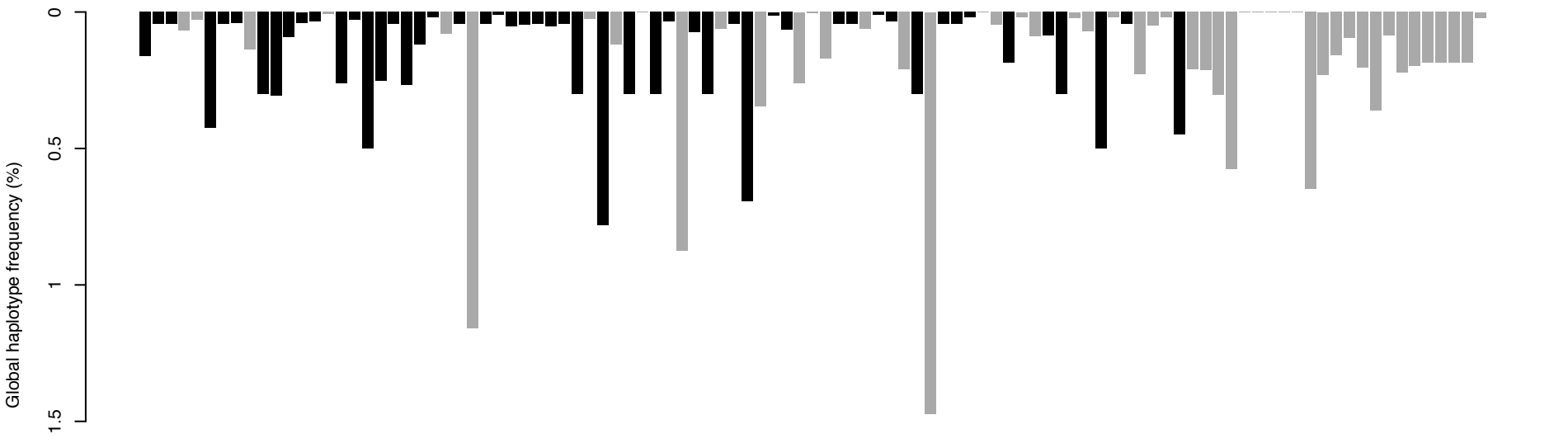
B*15:08
(~0.55% globally)



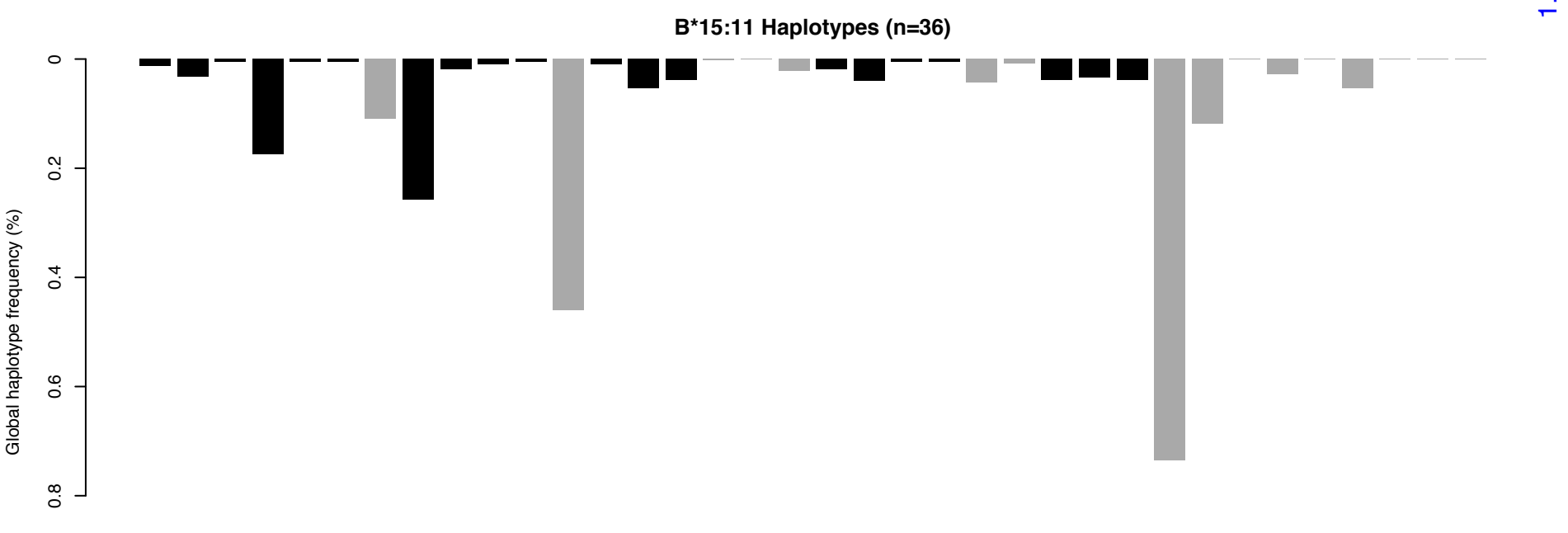
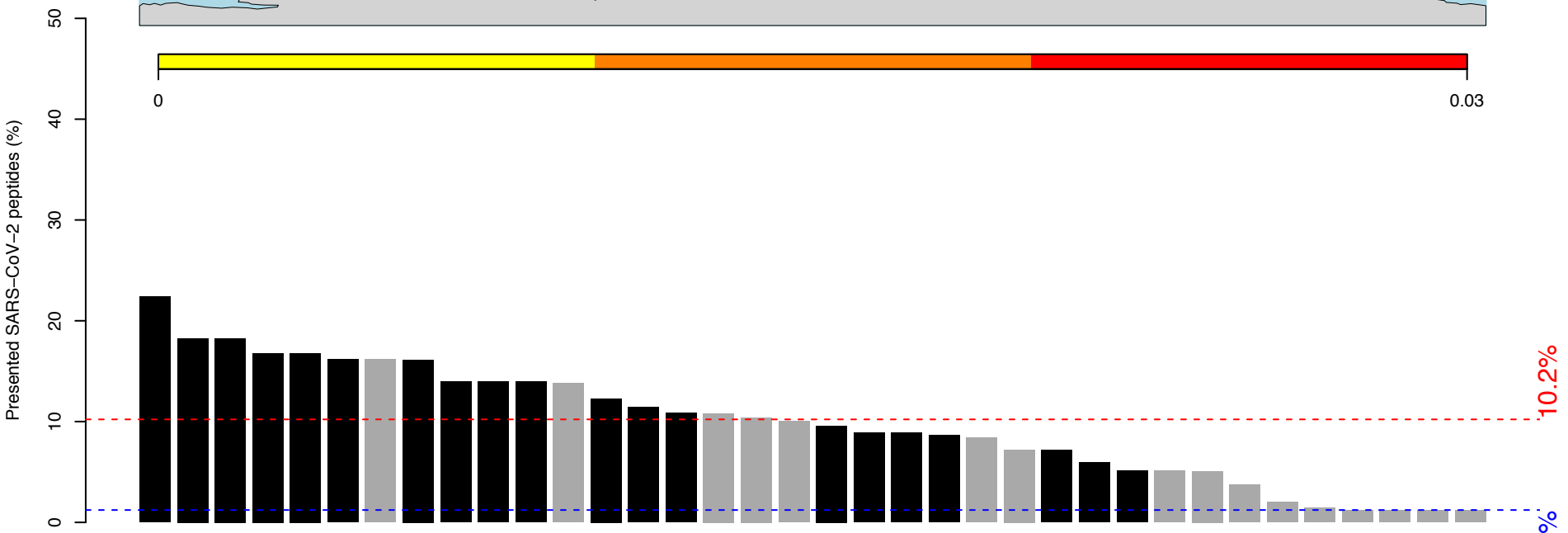
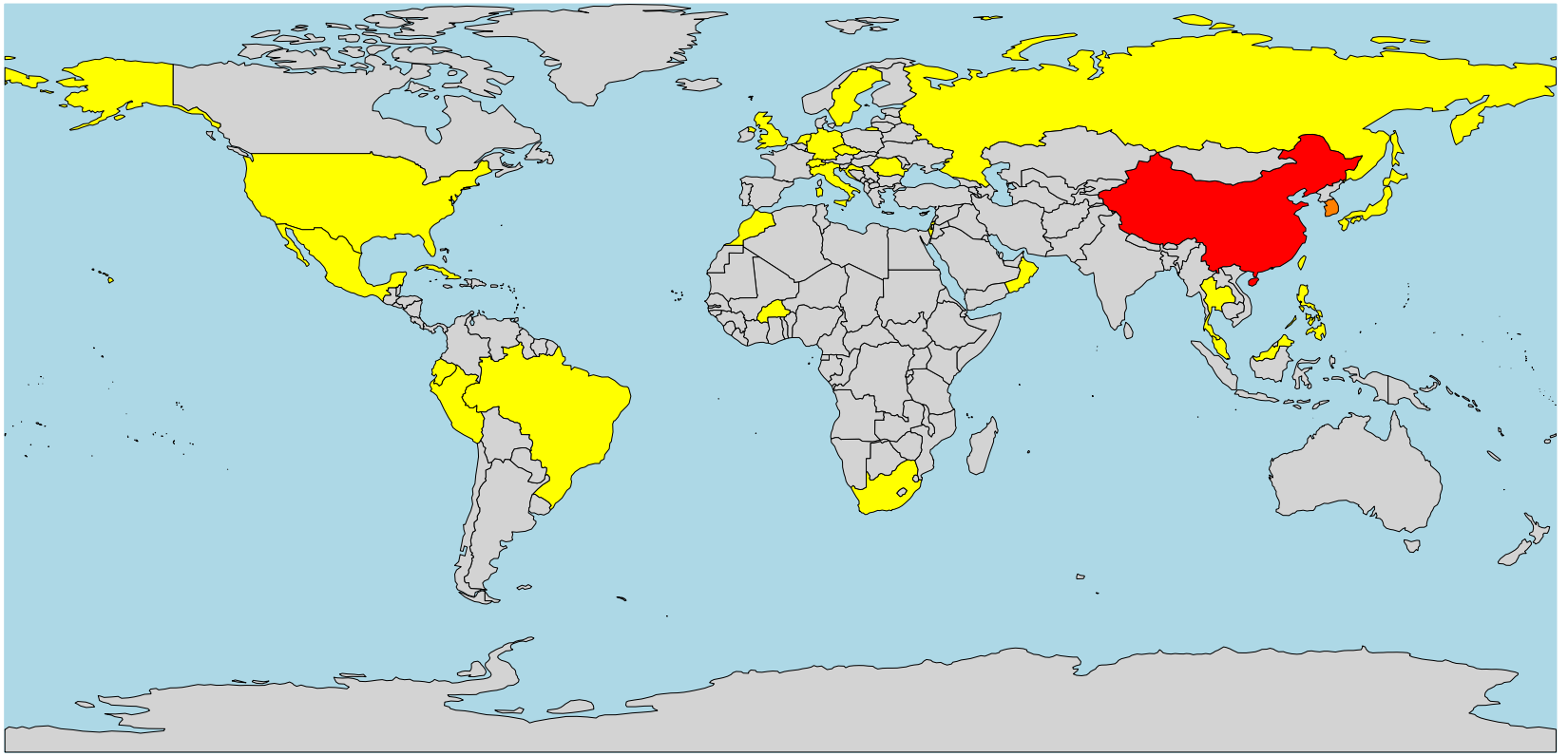
B*15:10
(~0.26% globally)



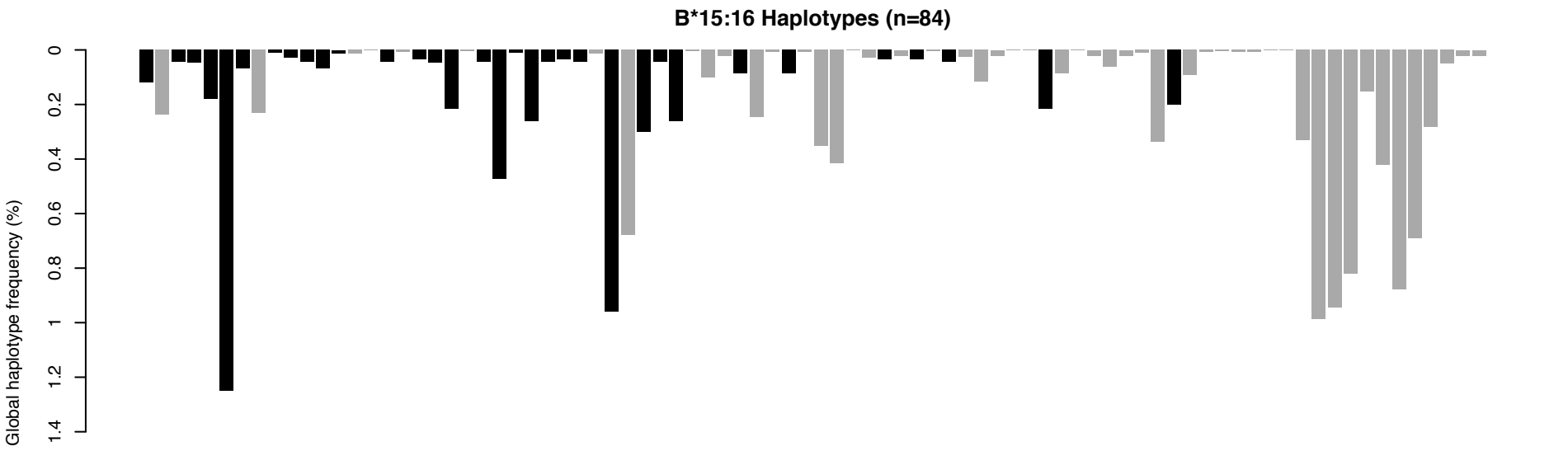
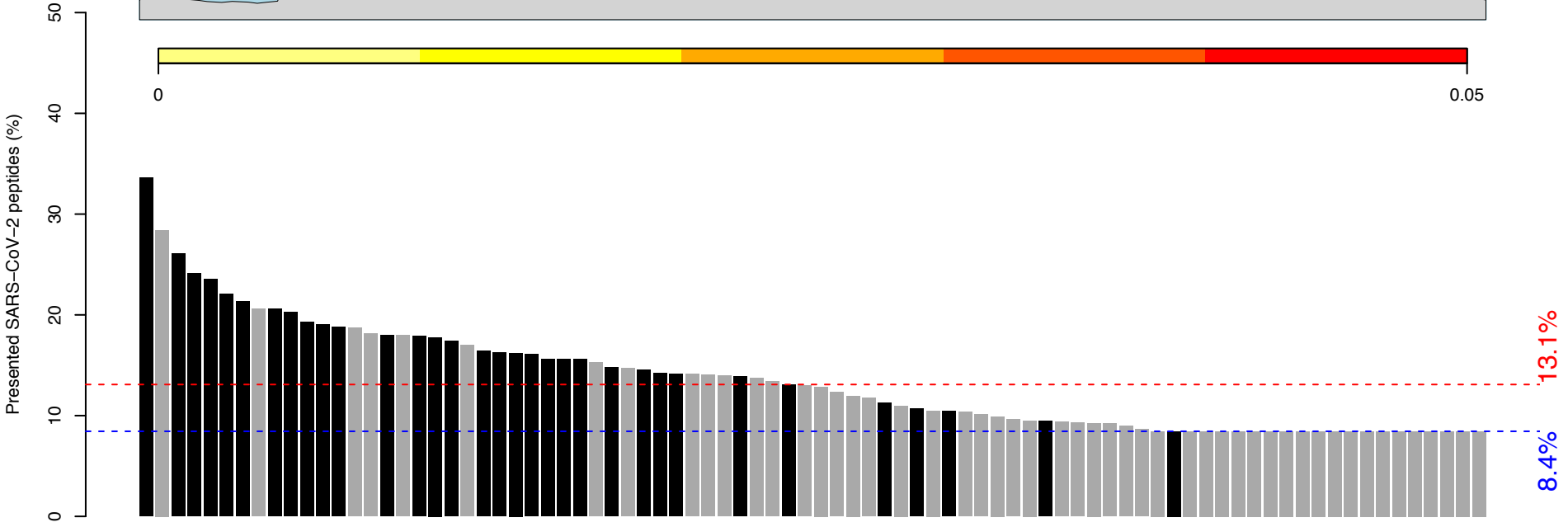
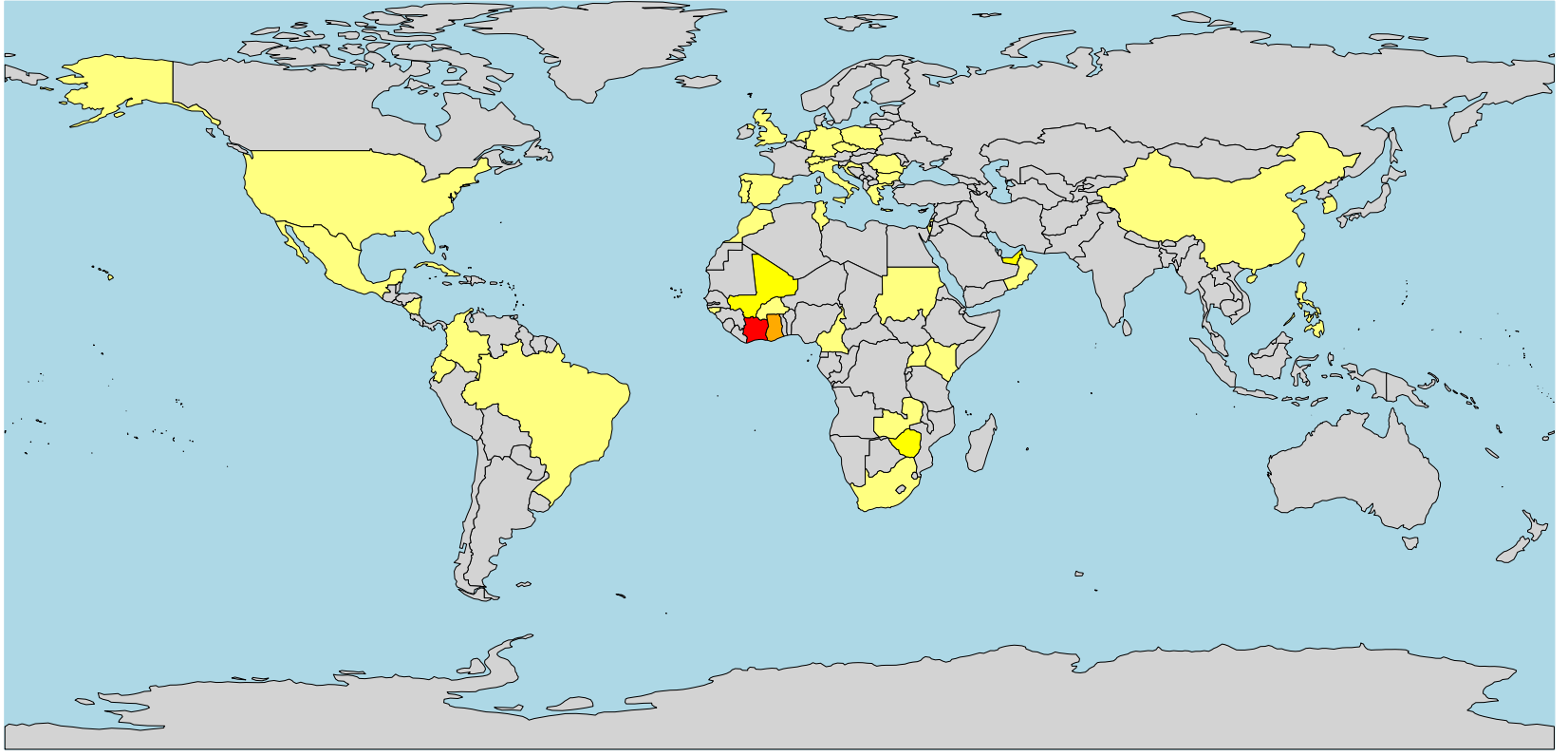
B*15:10 Haplotypes (n=103)



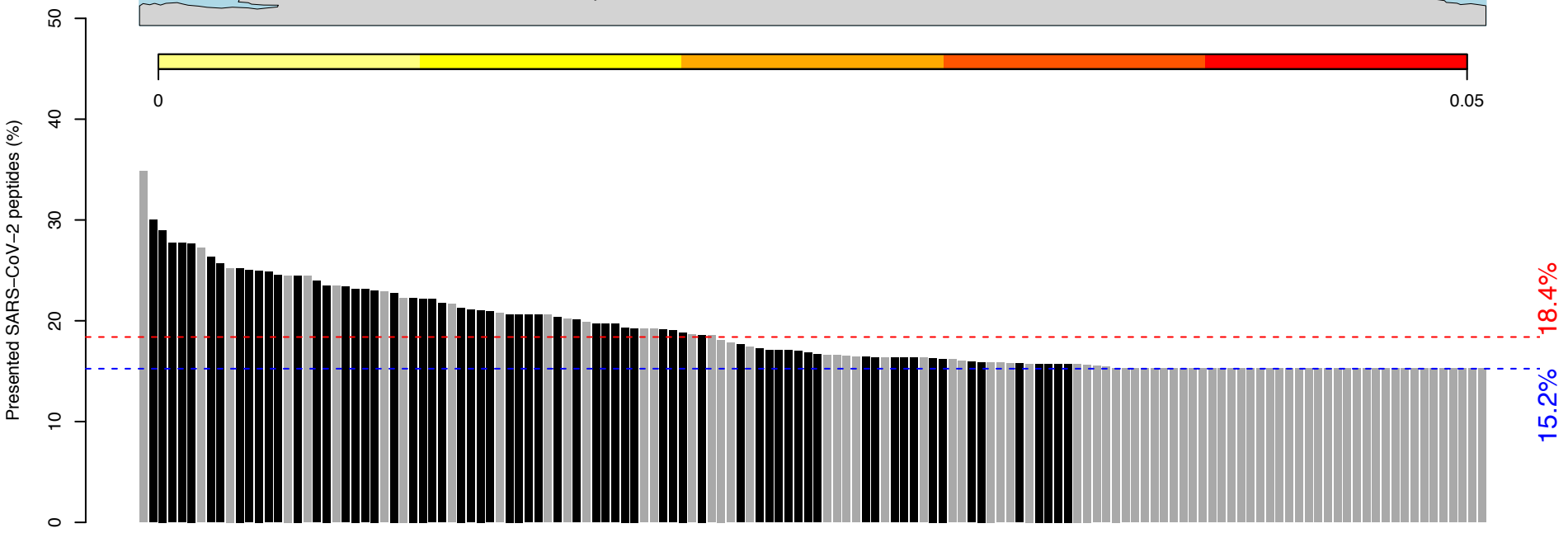
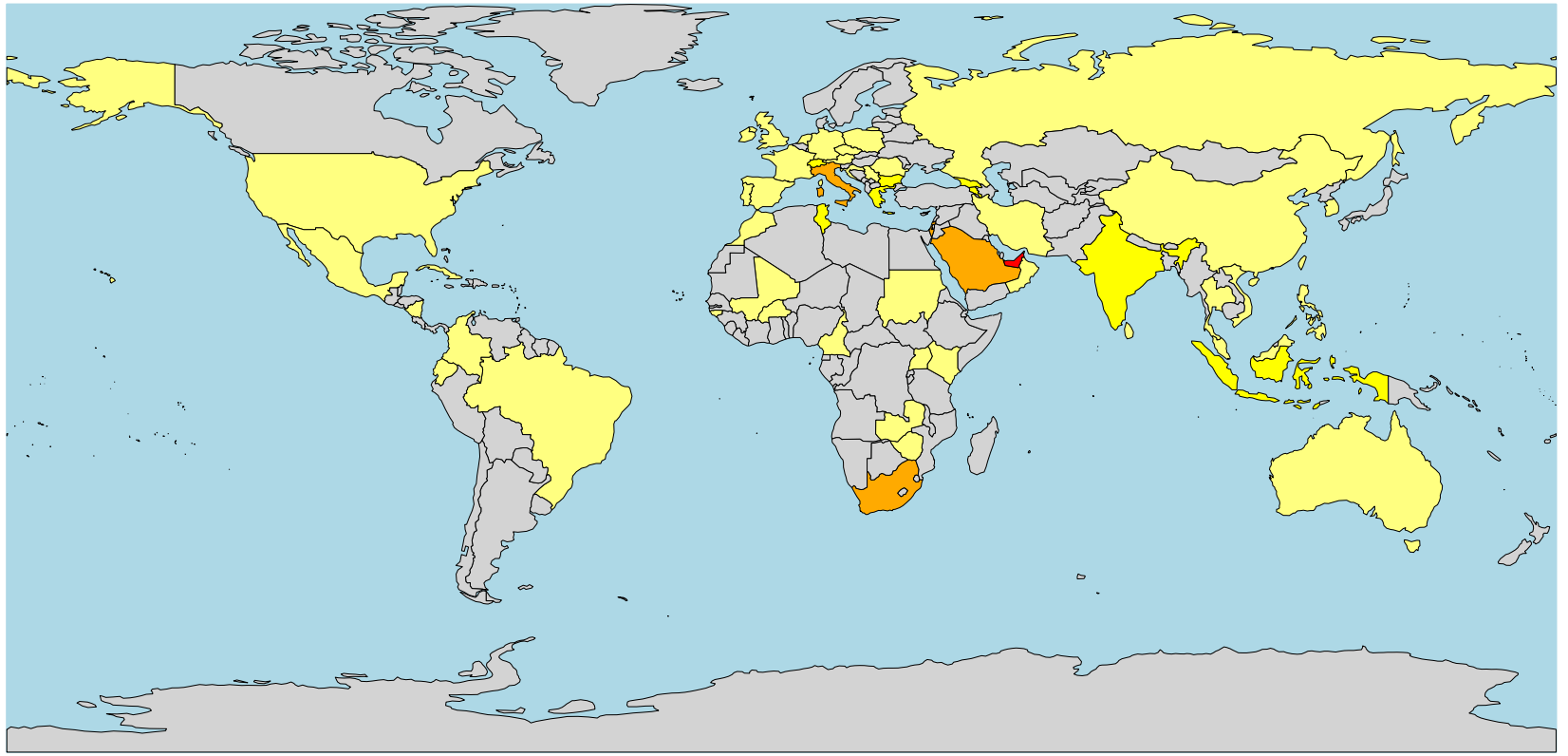
B*15:11
(~0.59% globally)



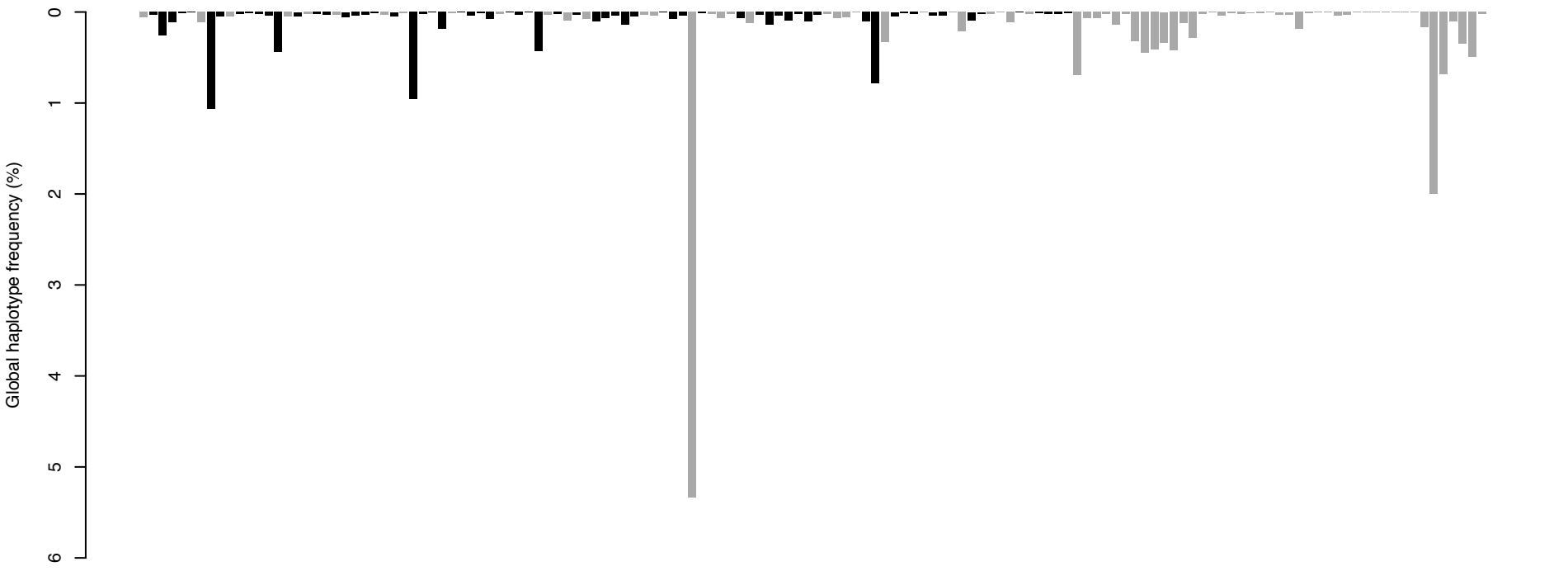
B*15:16
(~0.19% globally)



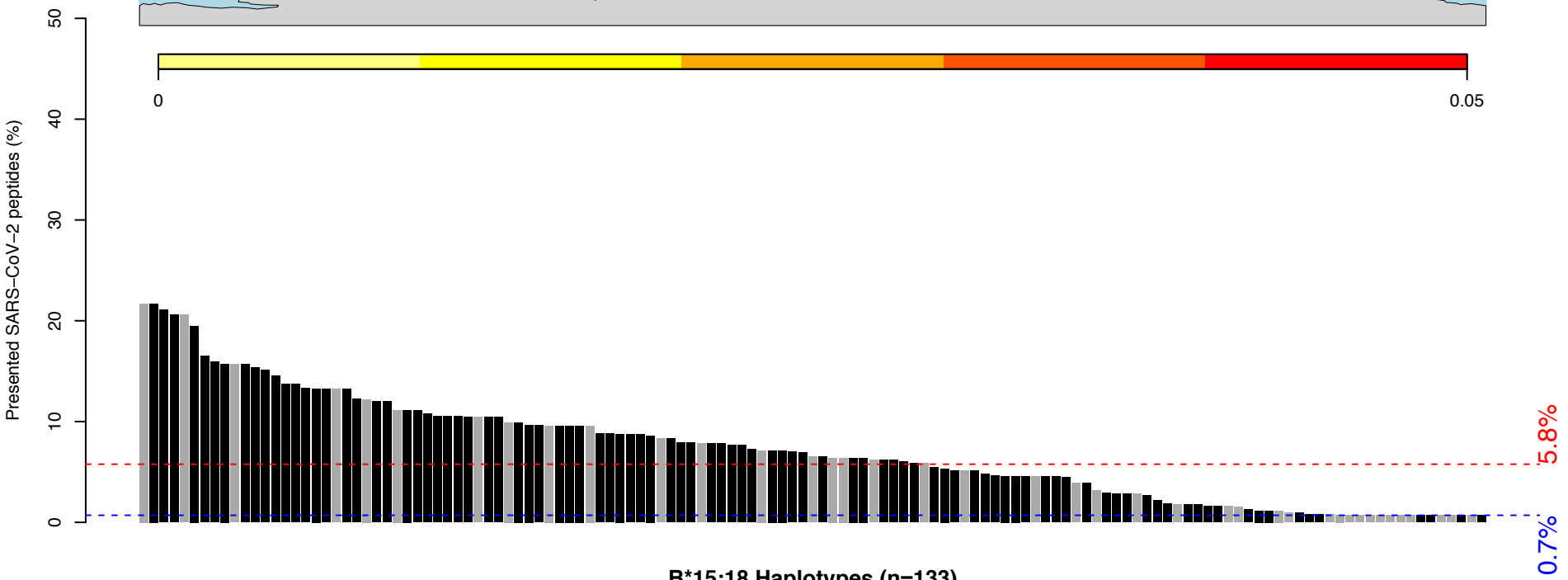
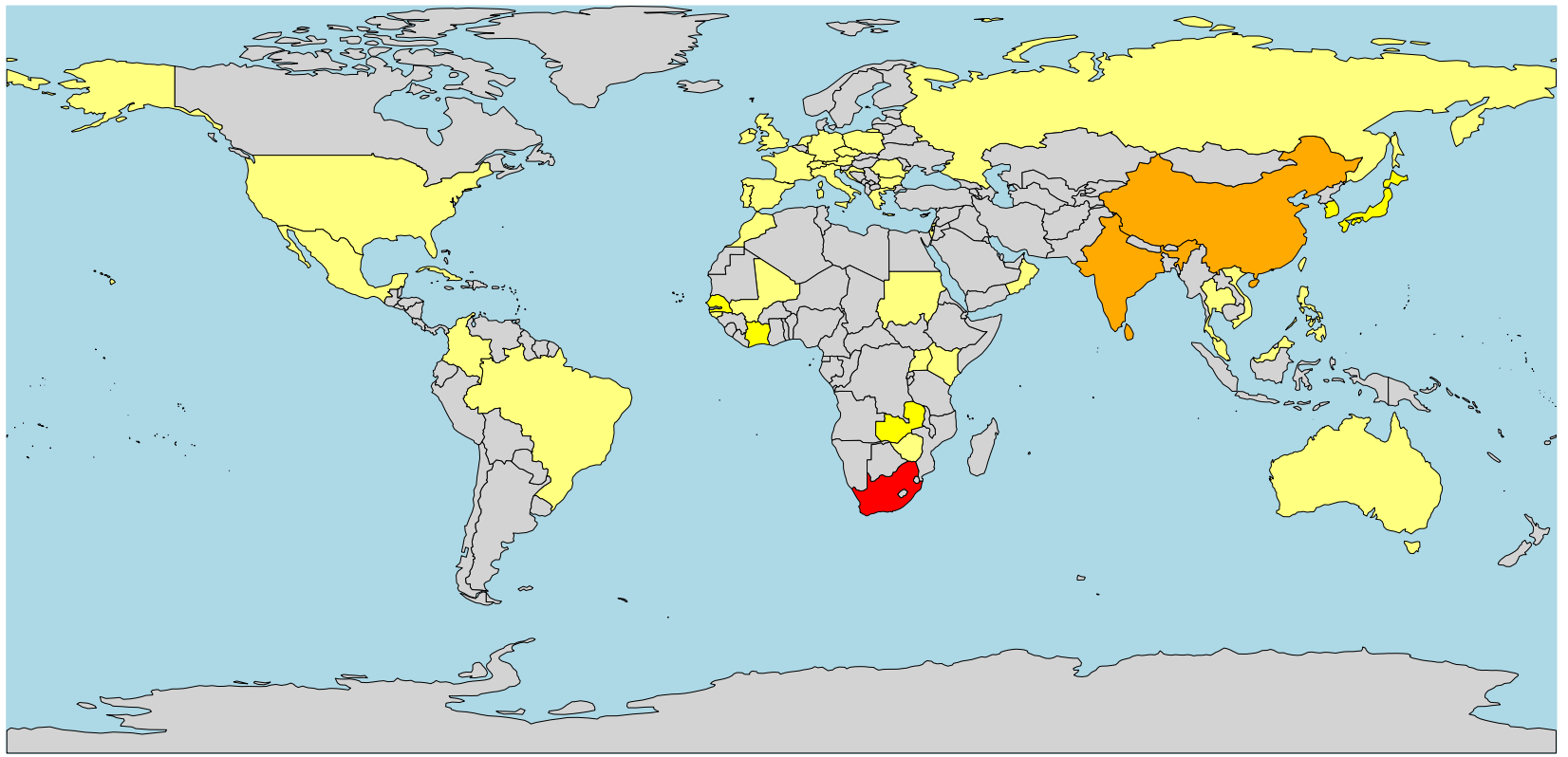
B*15:17
(~0.49% globally)



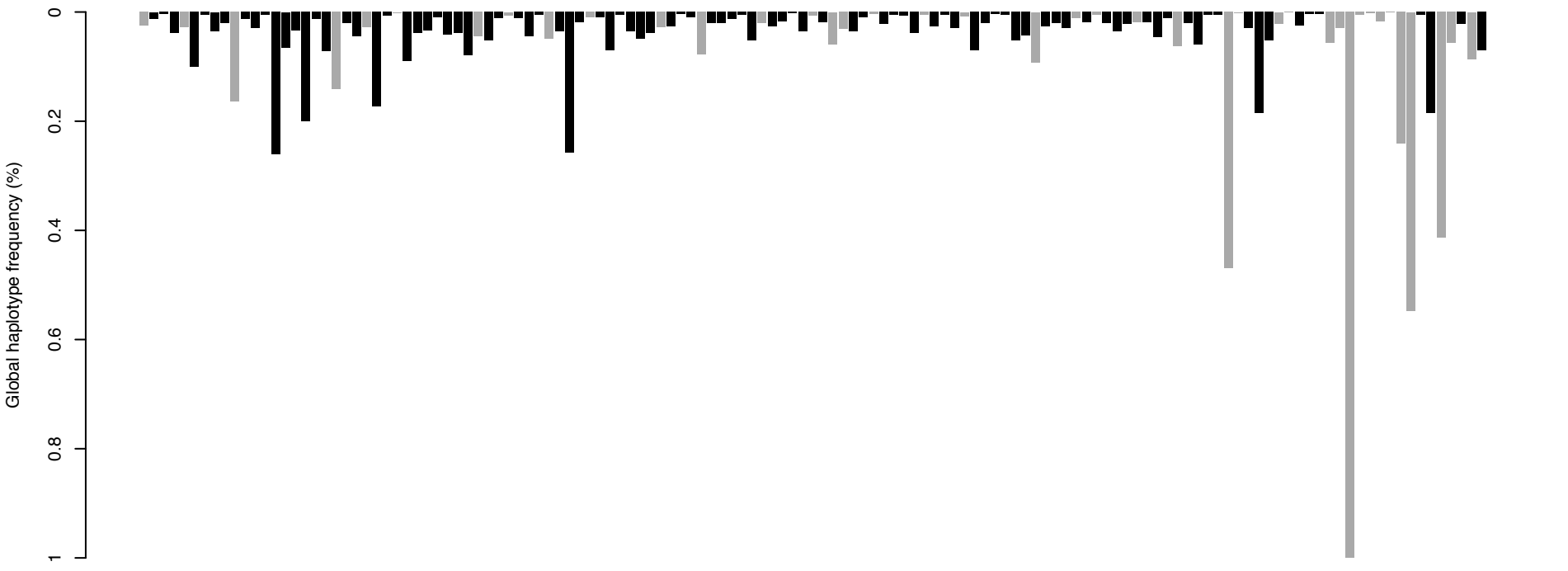
B*15:17 Haplotypes (n=140)



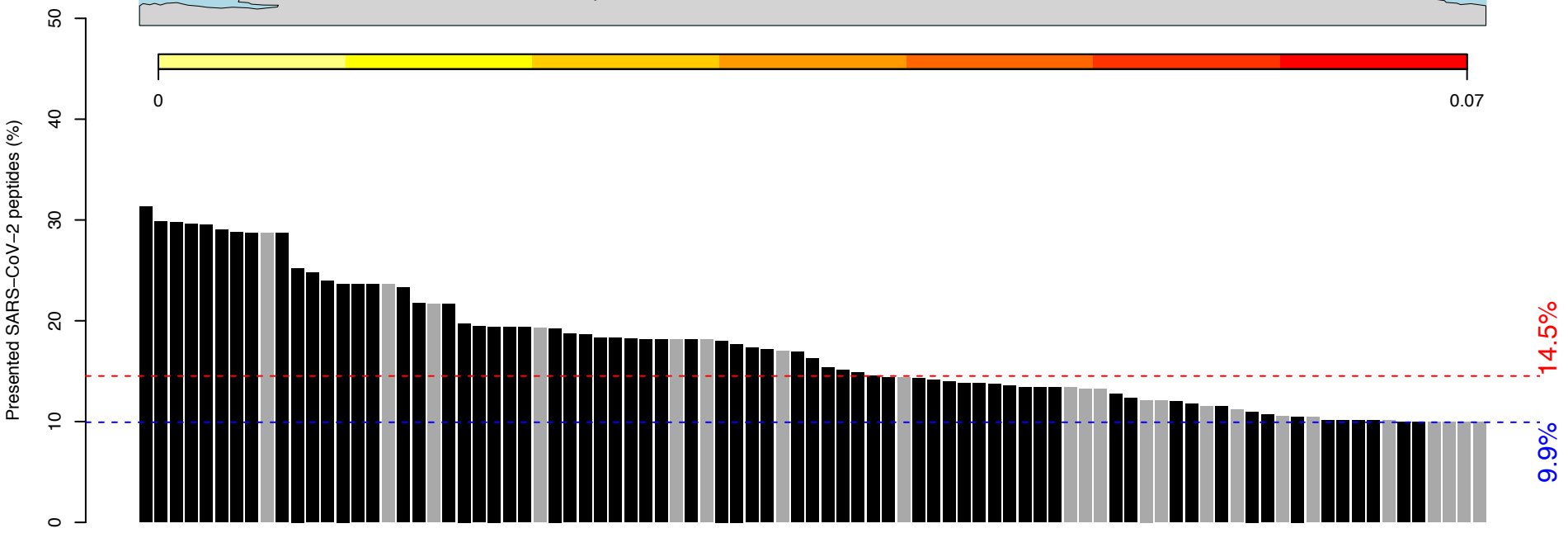
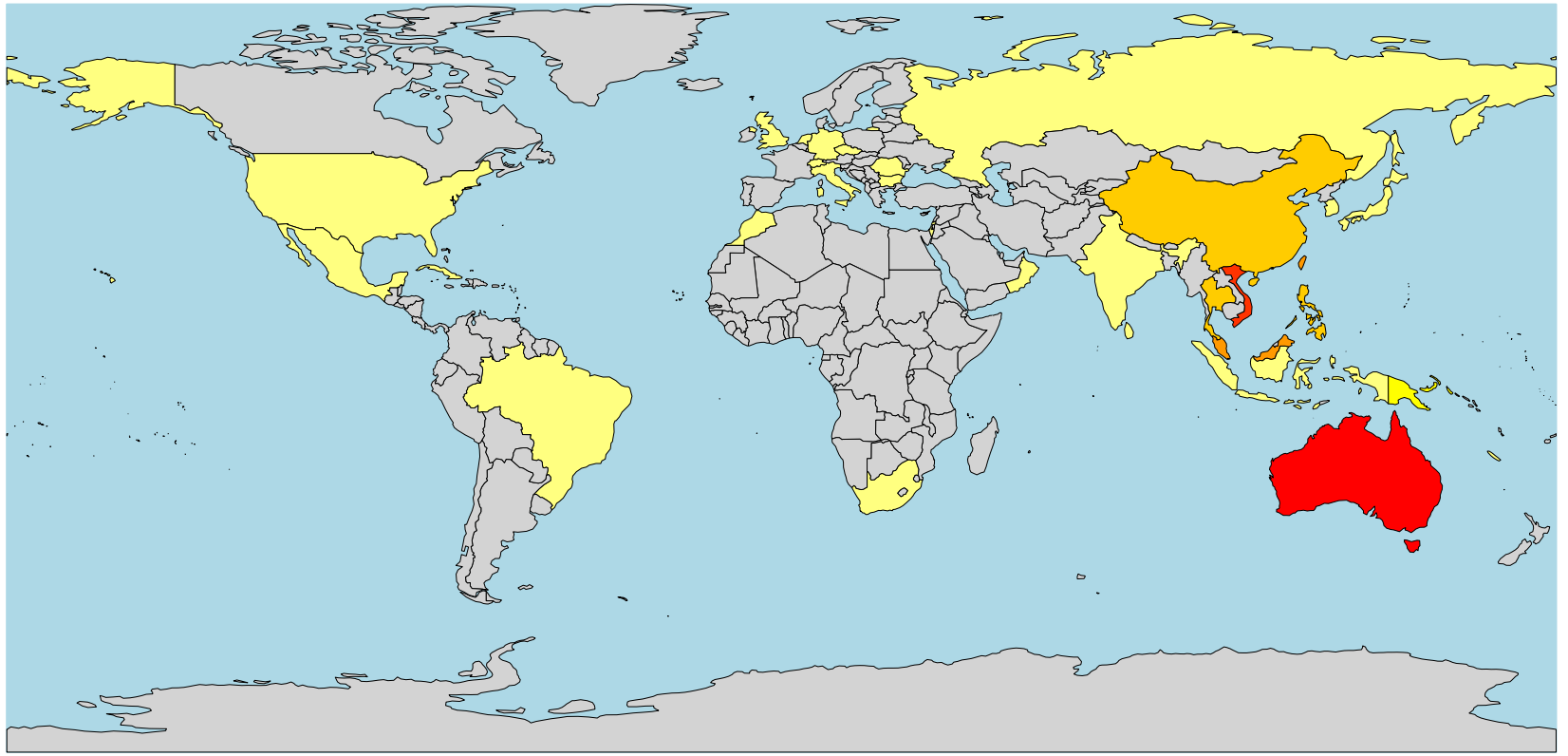
B*15:18
(~1.3% globally)



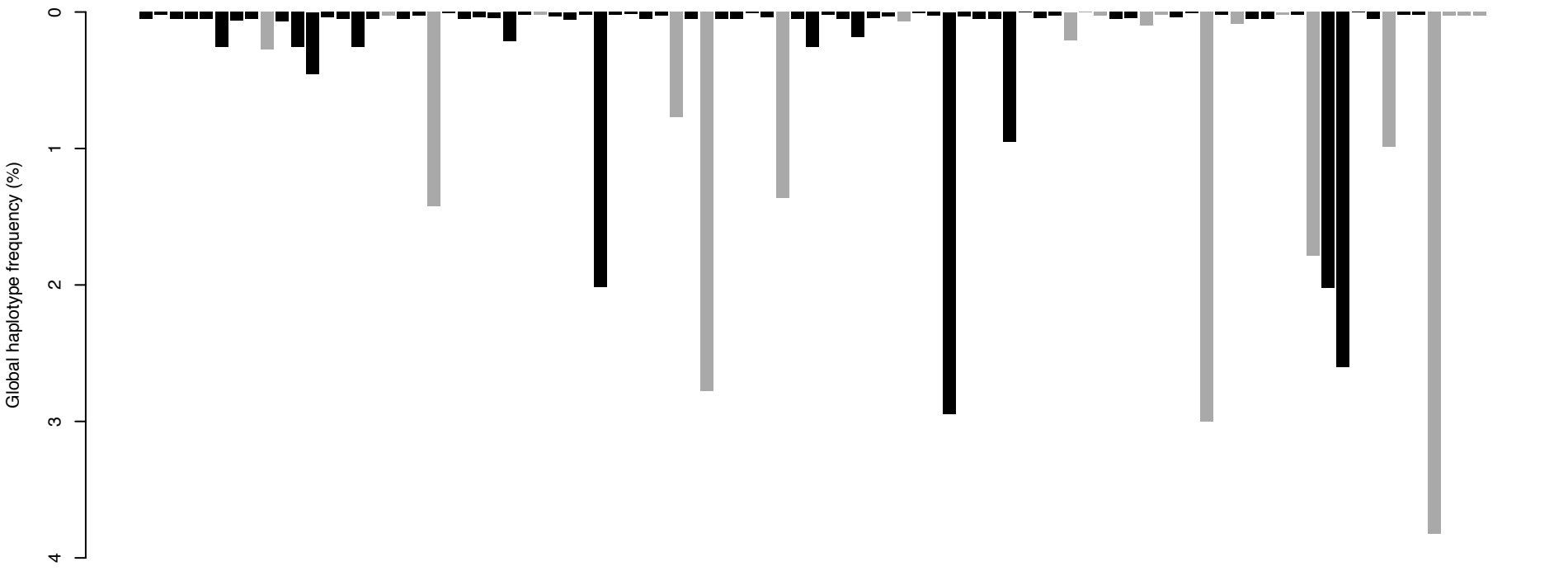
B*15:18 Haplotypes (n=133)



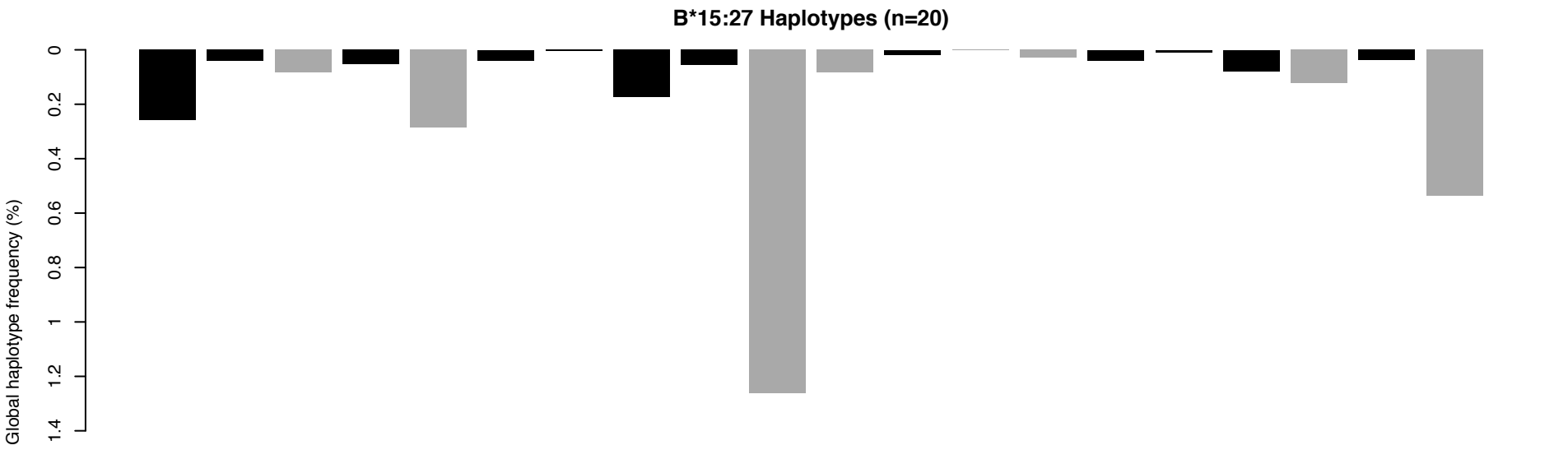
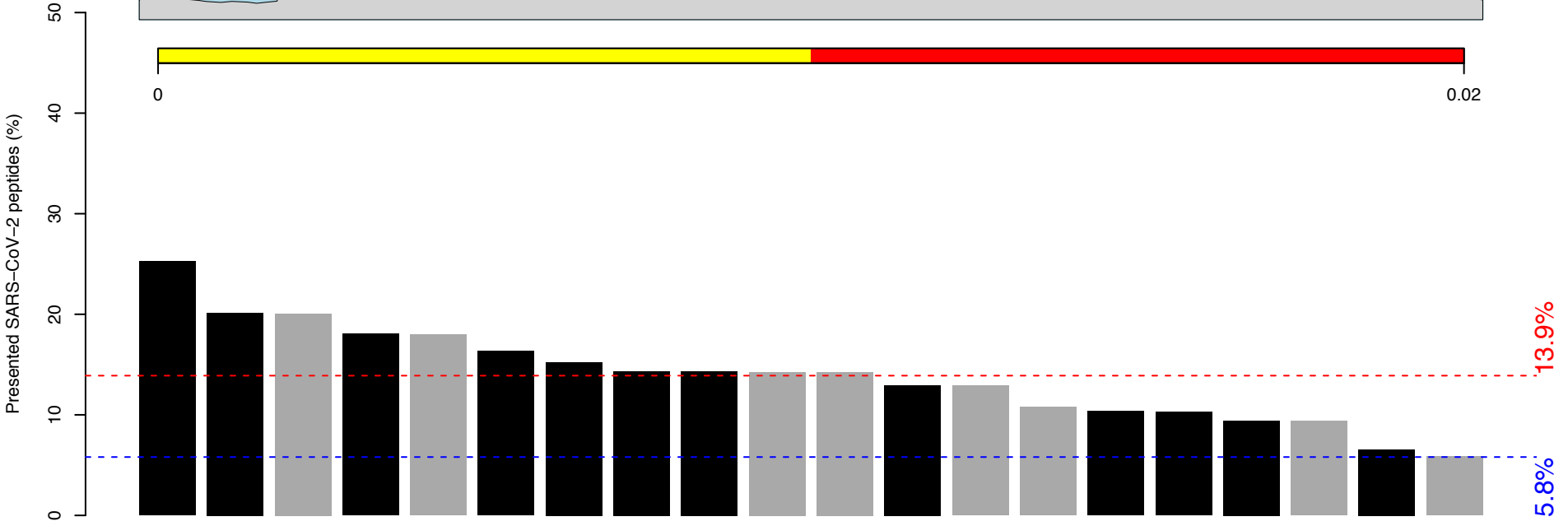
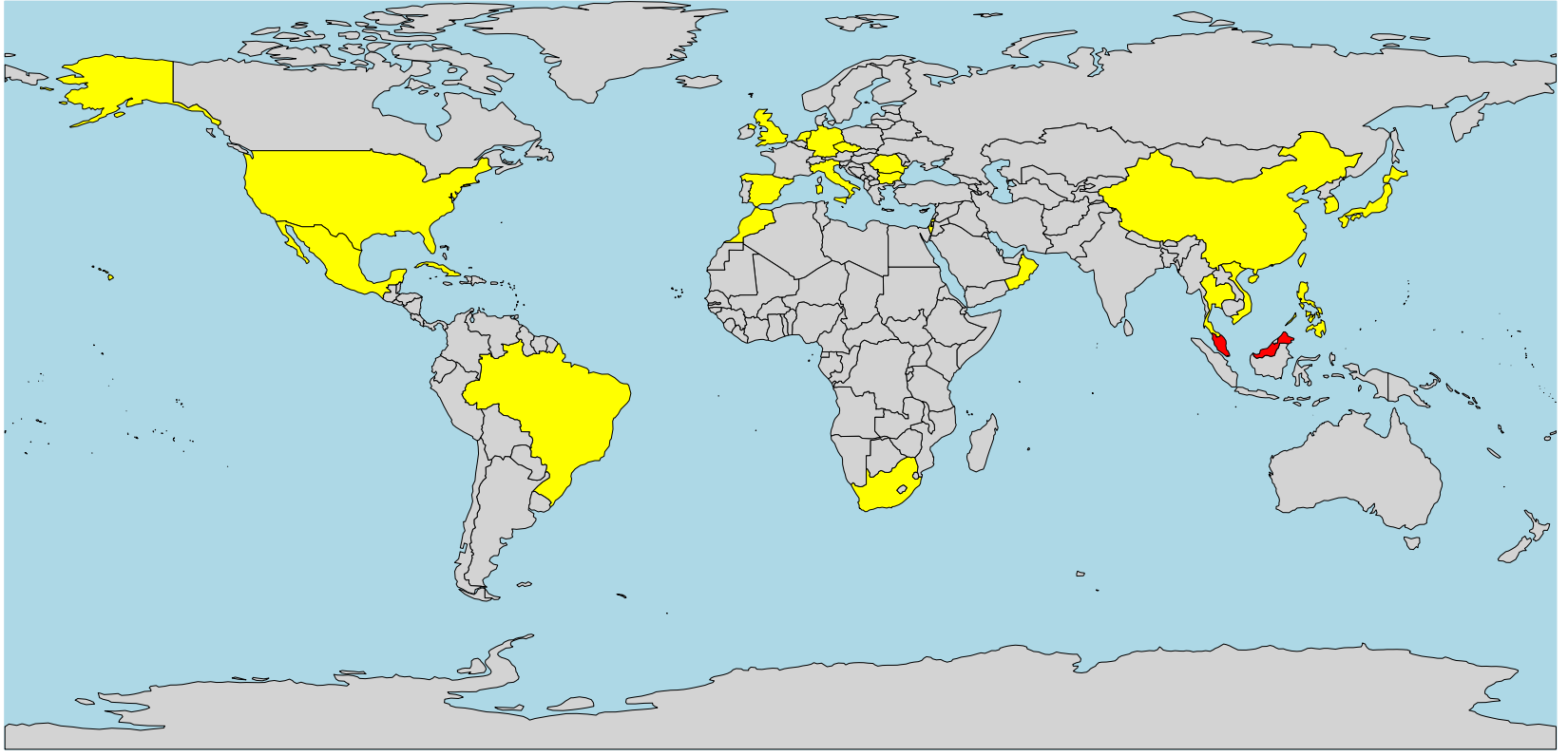
B*15:25
(~1.2% globally)



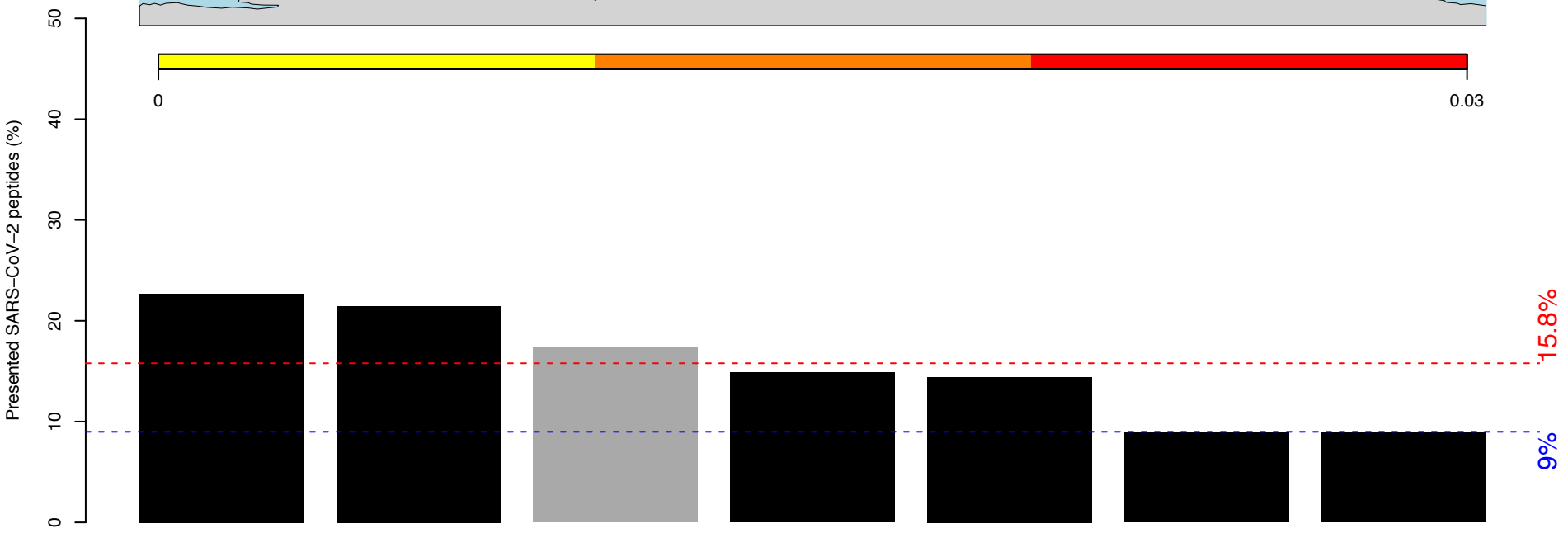
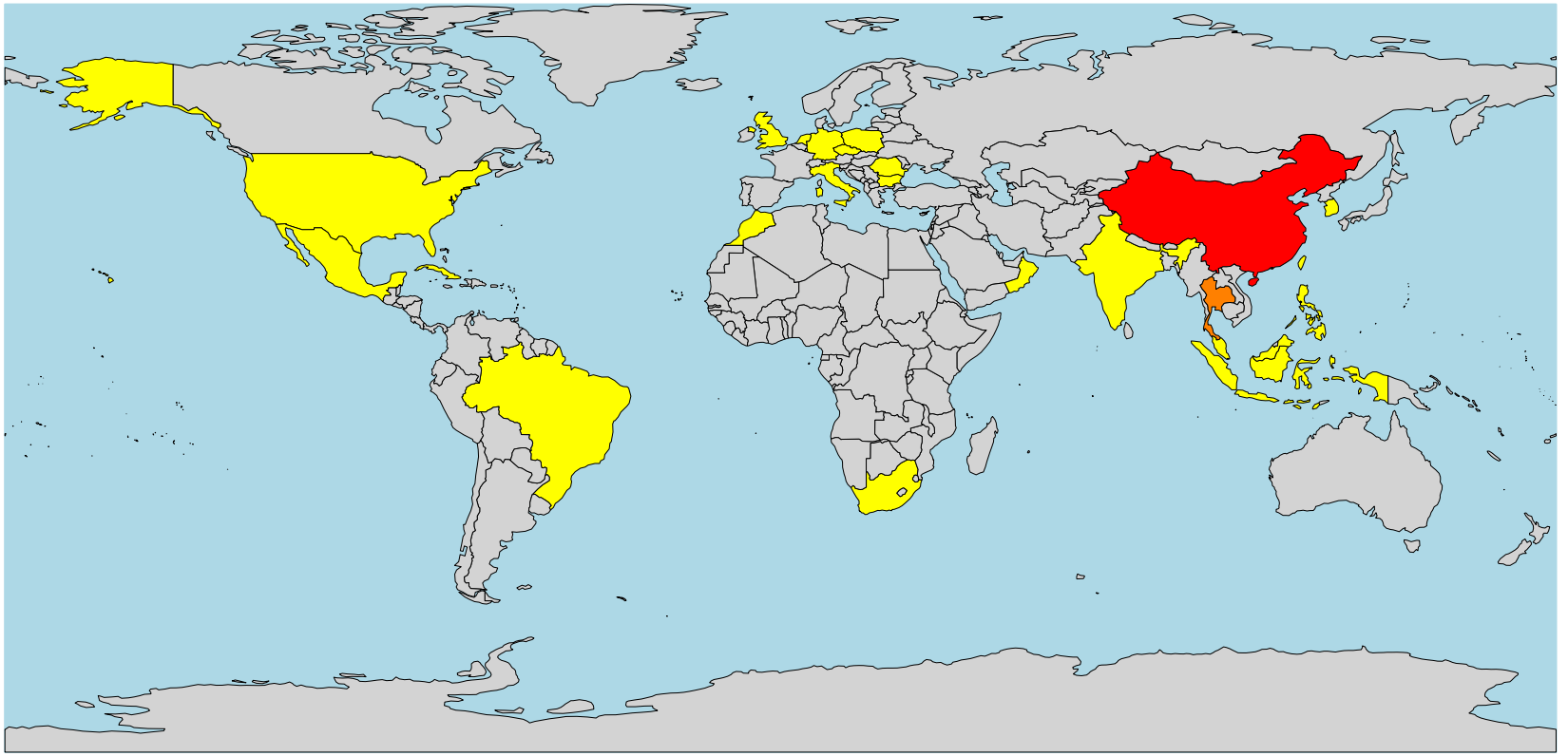
B*15:25 Haplotypes (n=89)



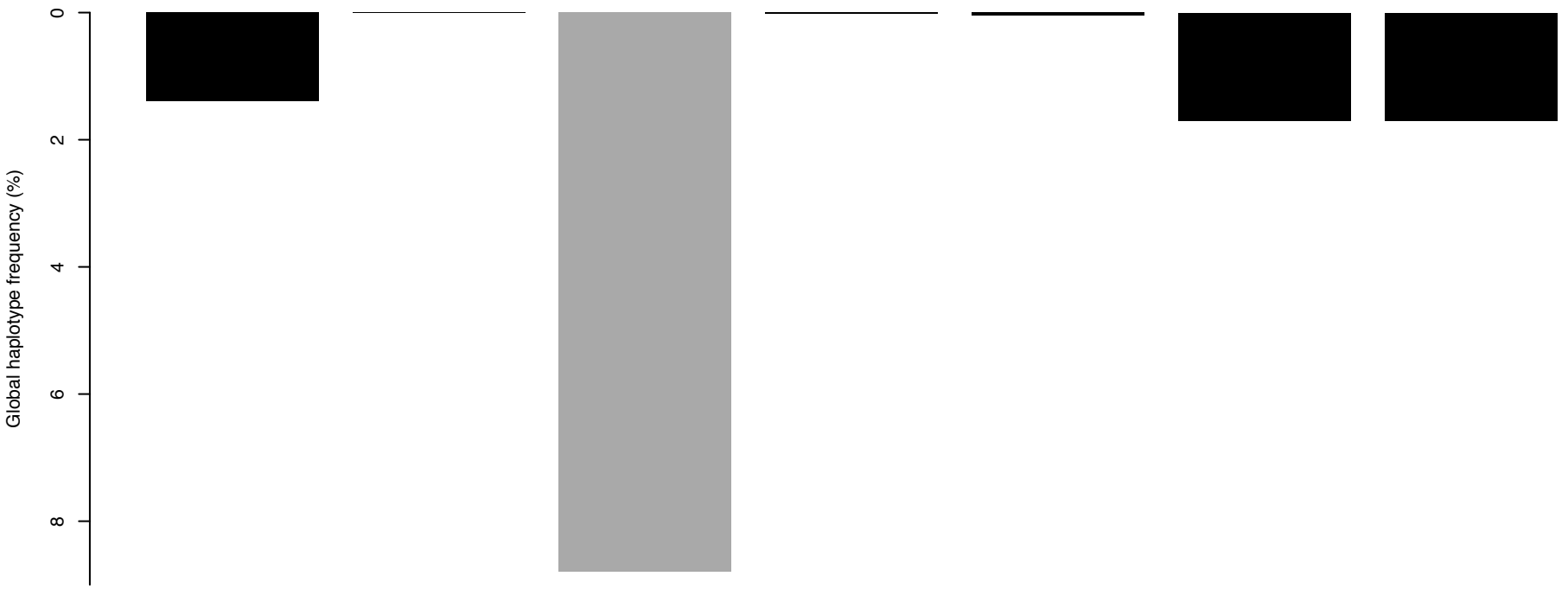
B*15:27
(~0.41% globally)



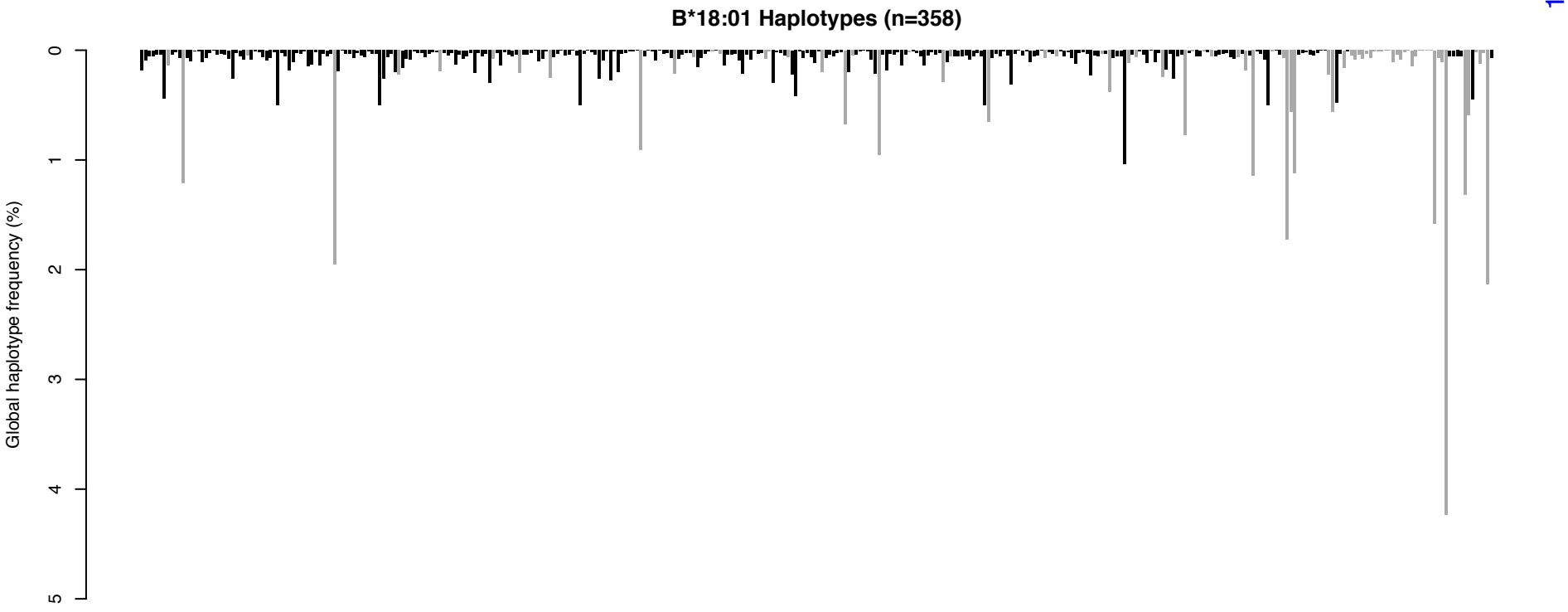
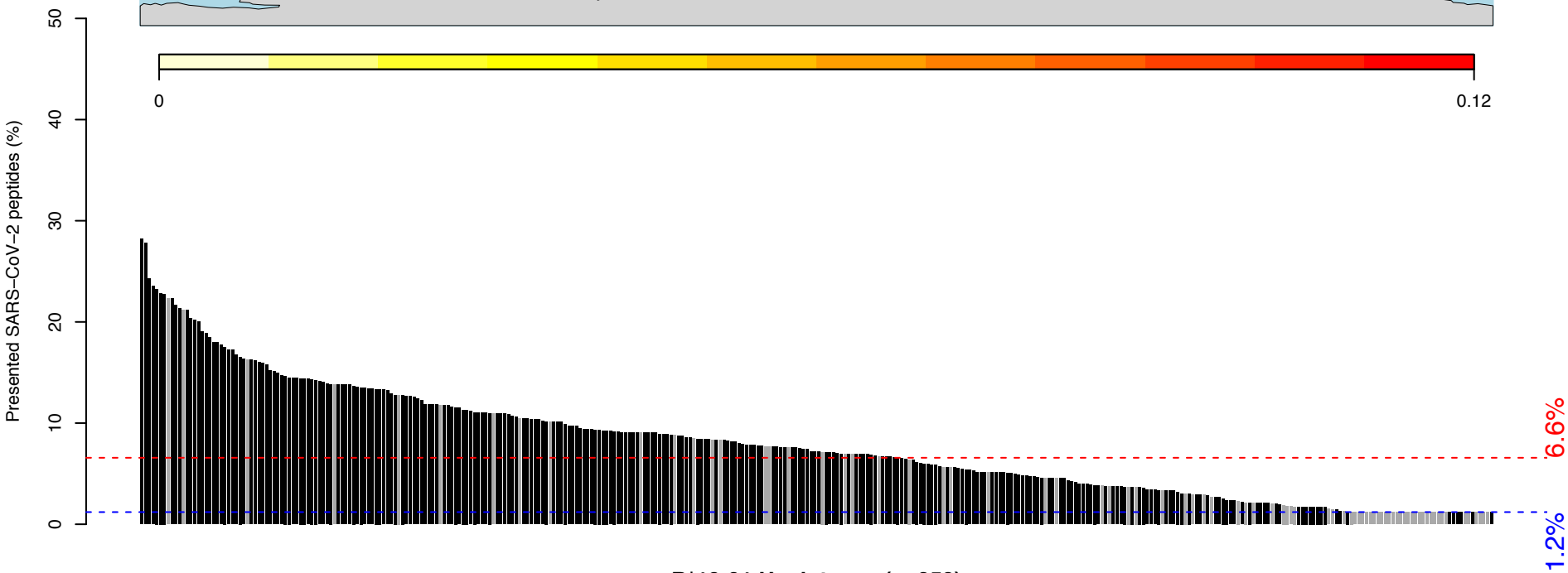
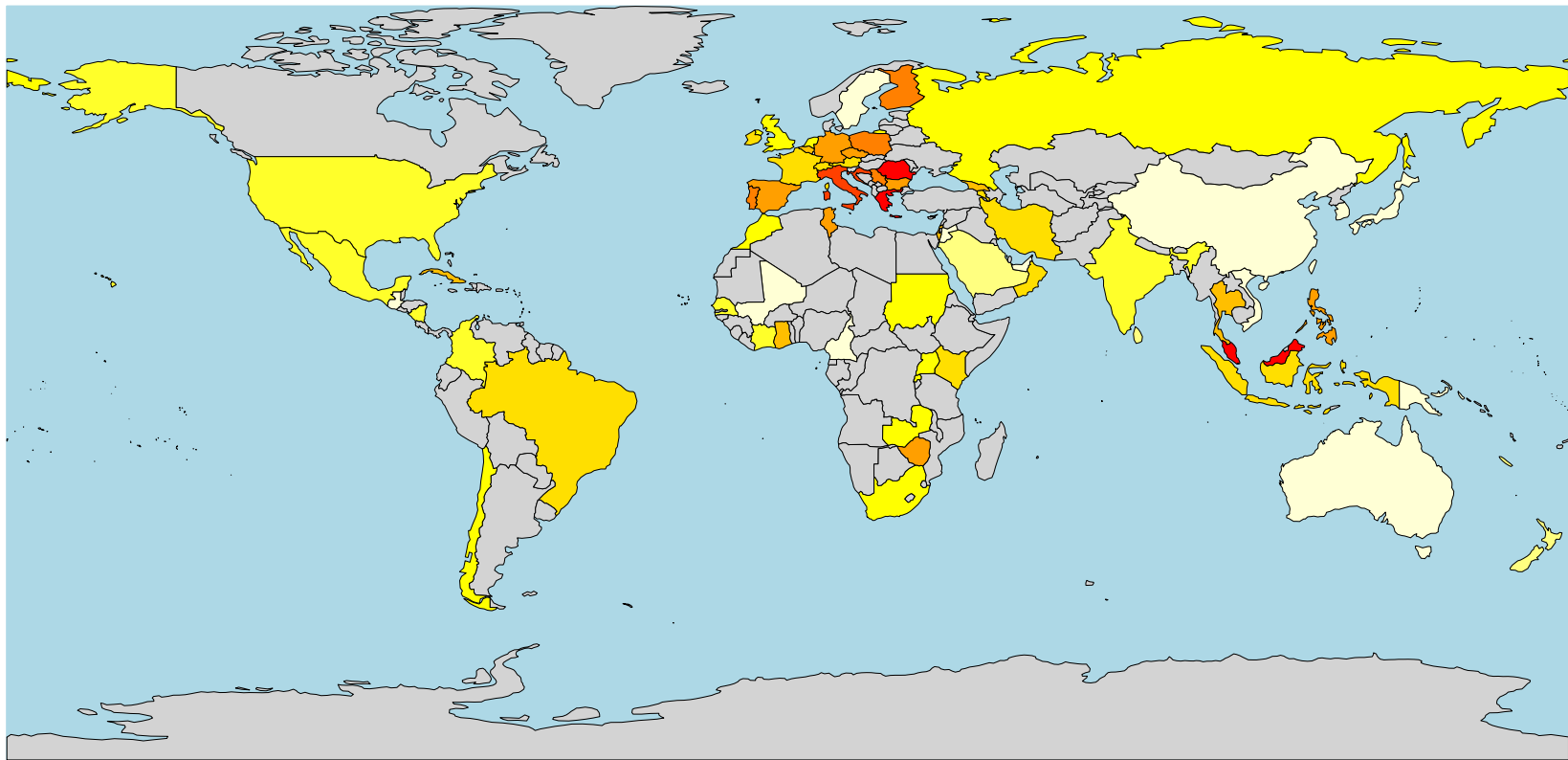
B*15:32
(~0.76% globally)



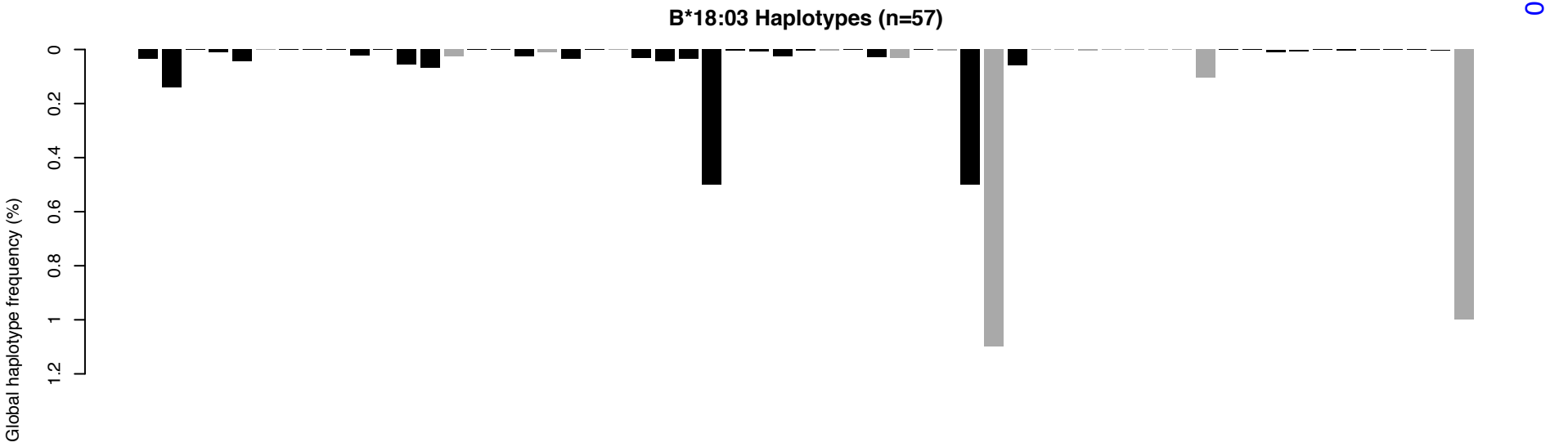
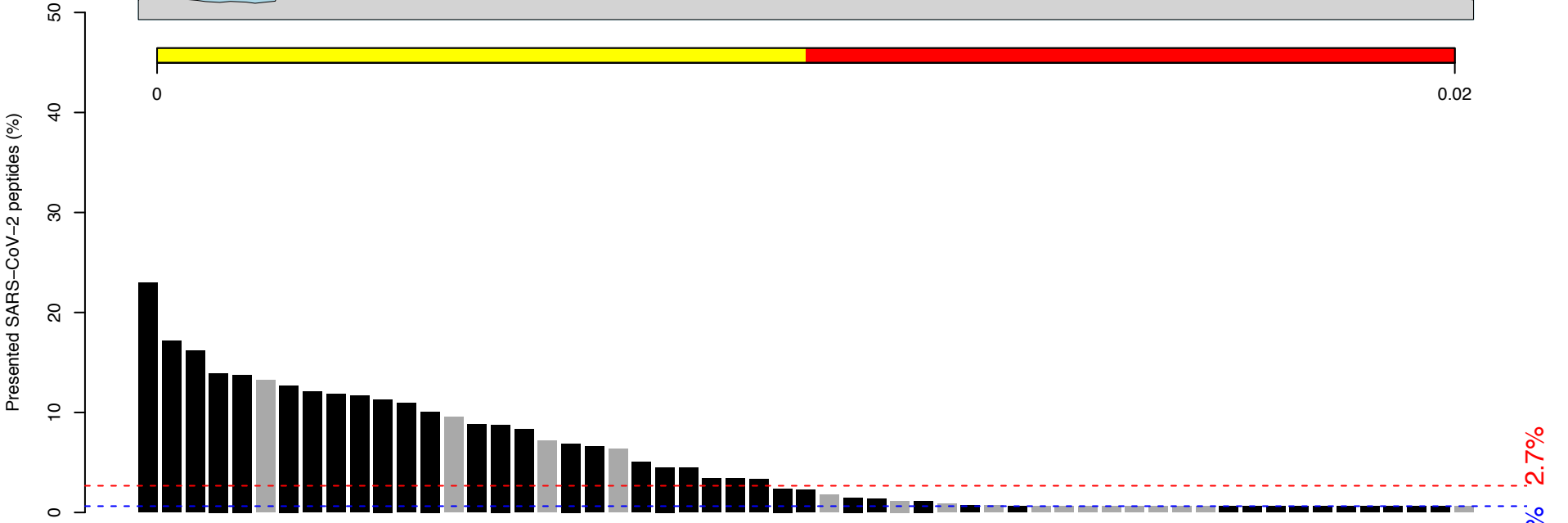
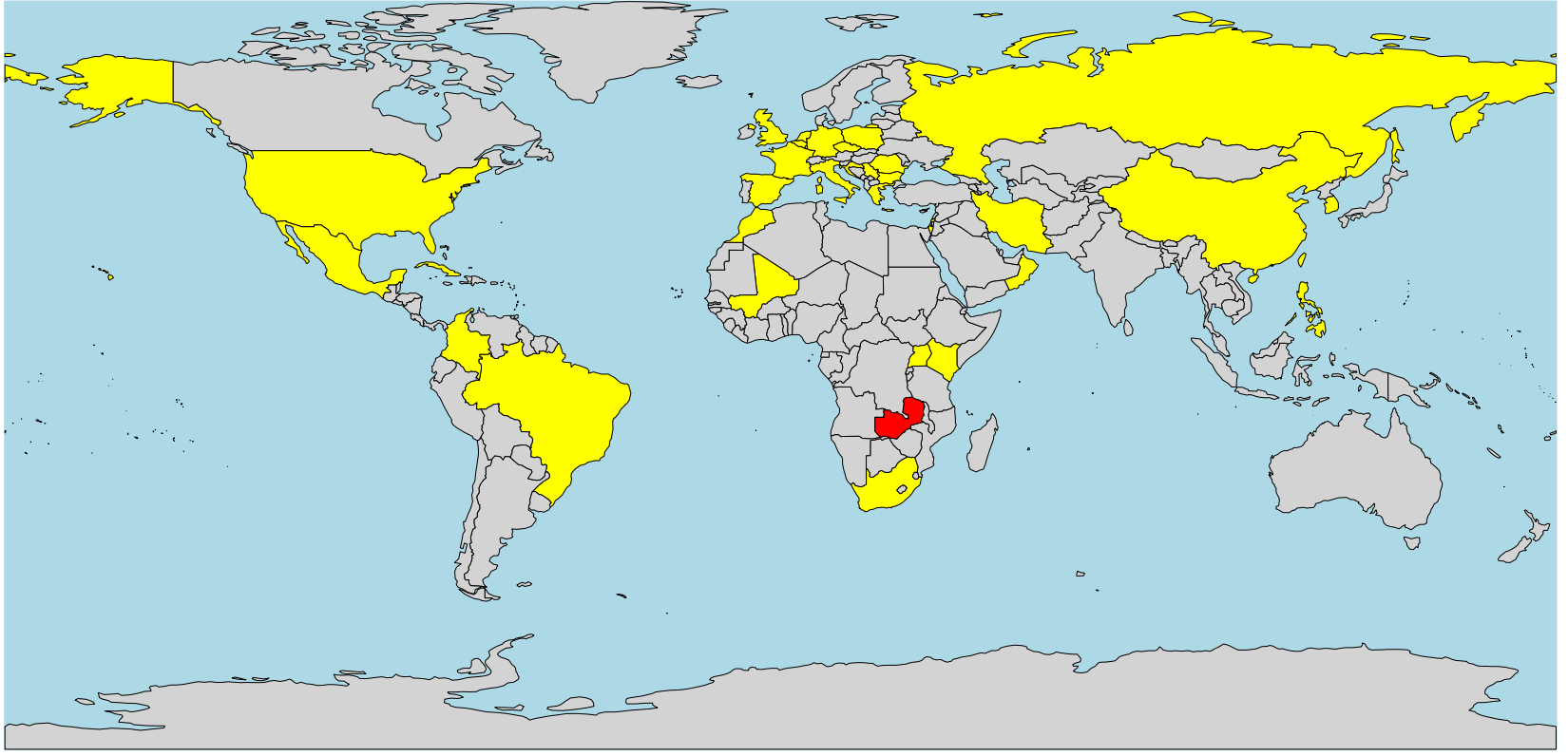
B*15:32 Haplotypes (n=7)



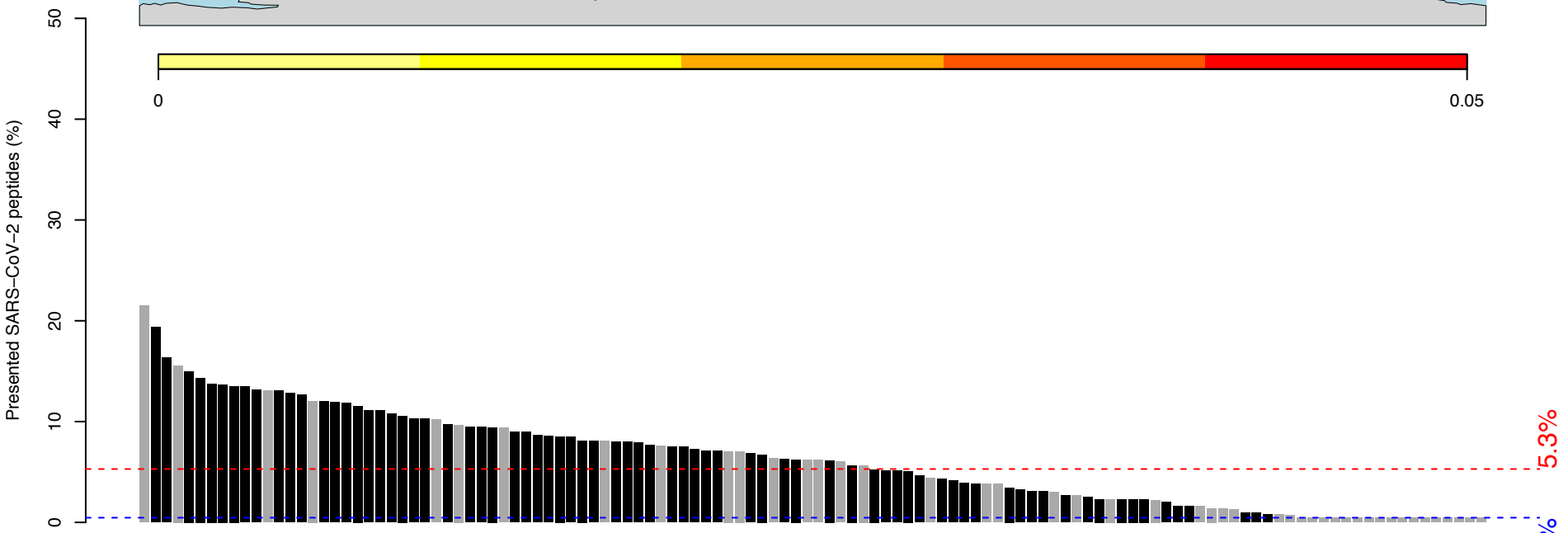
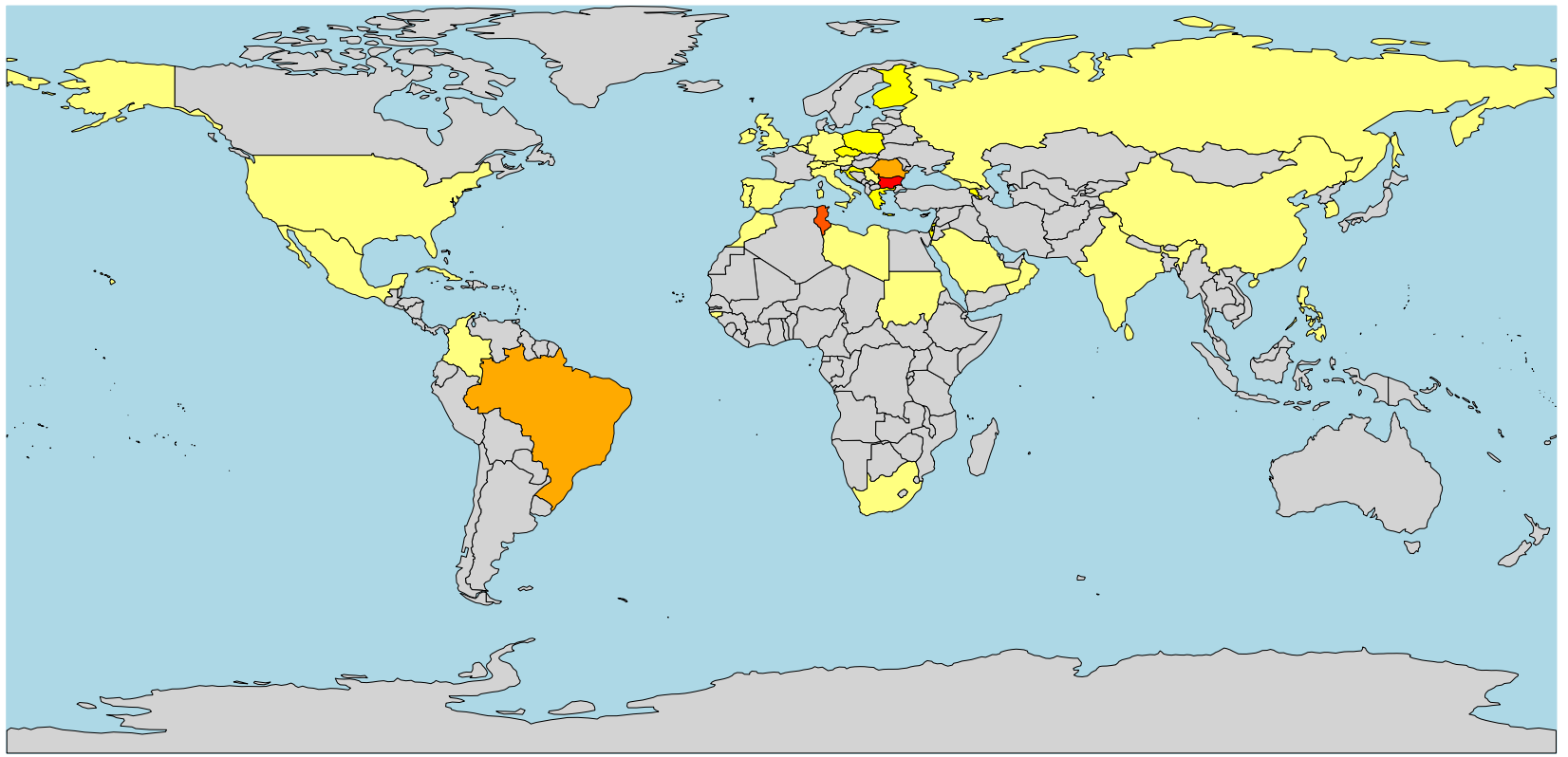
B*18:01
(~1.8% globally)



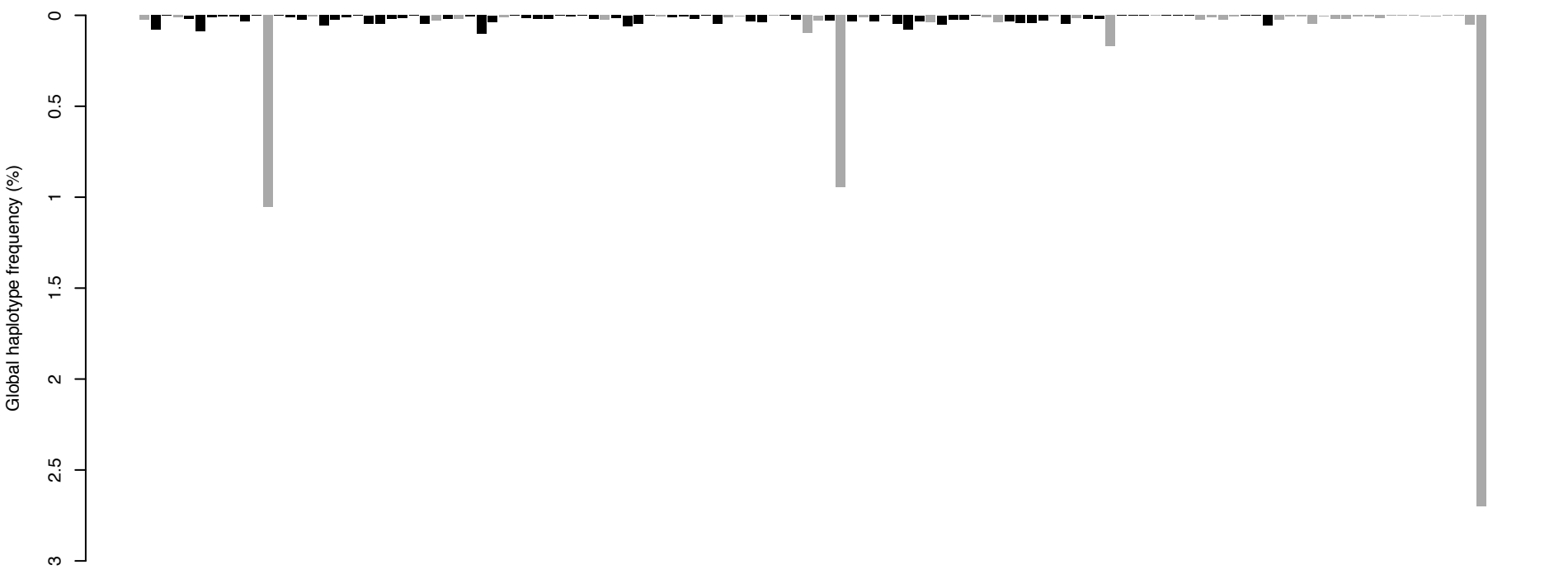
B*18:03
(~0.12% globally)



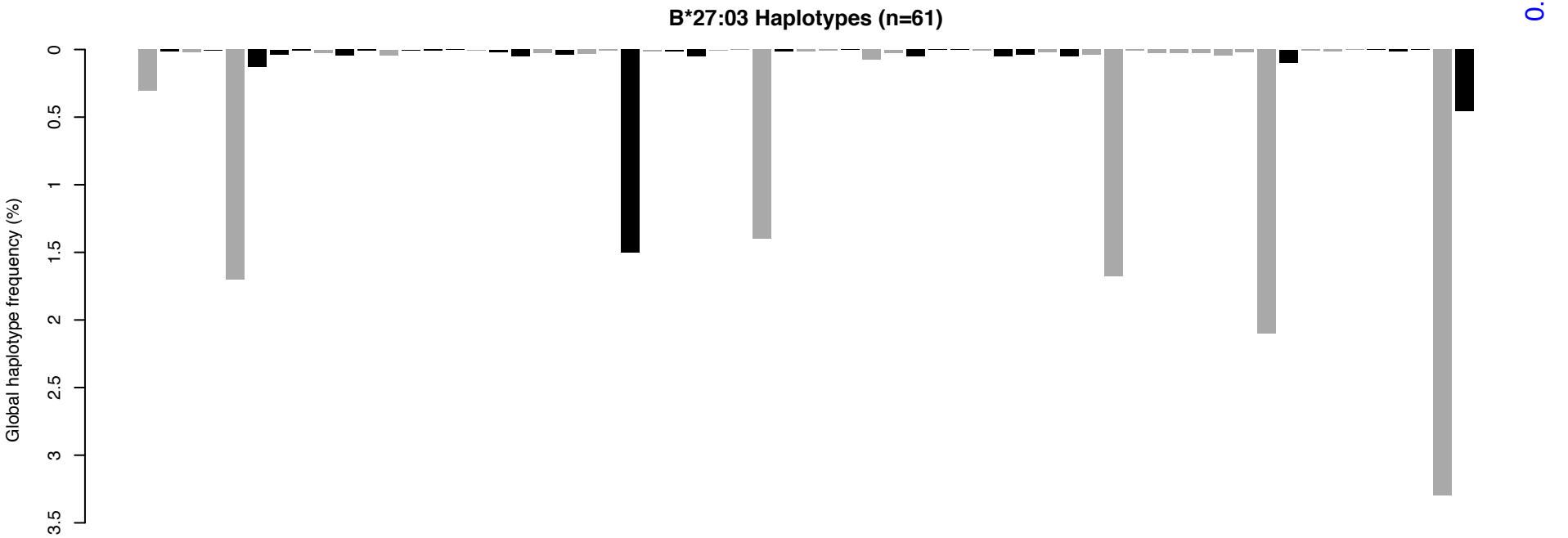
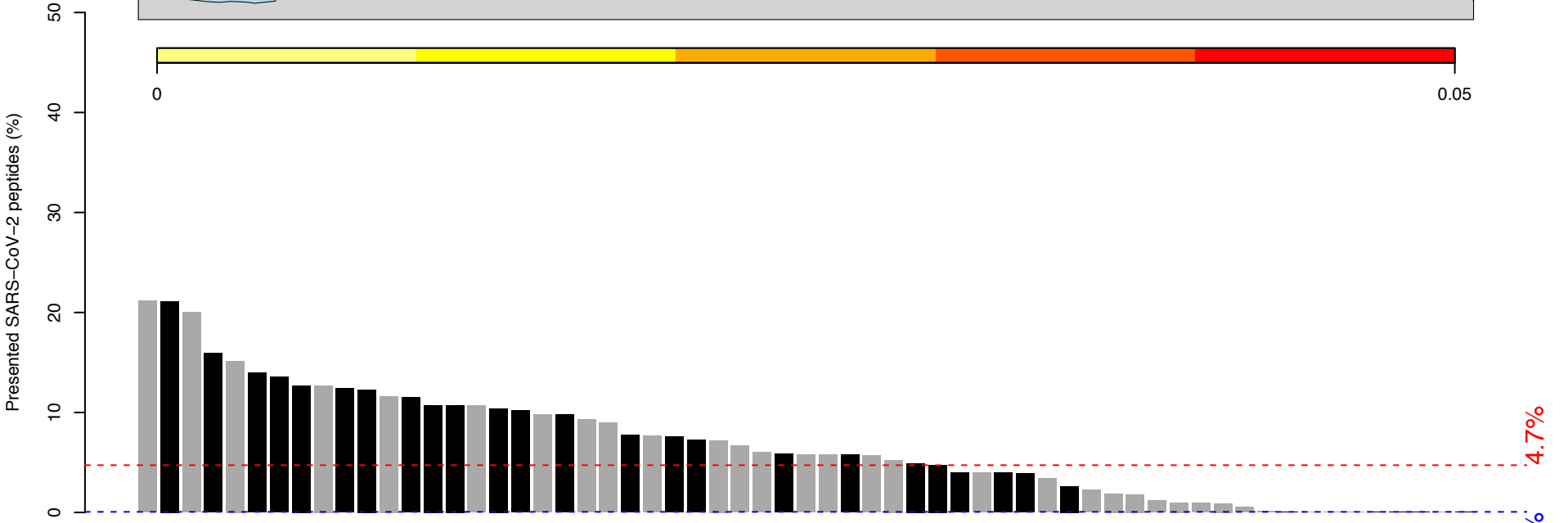
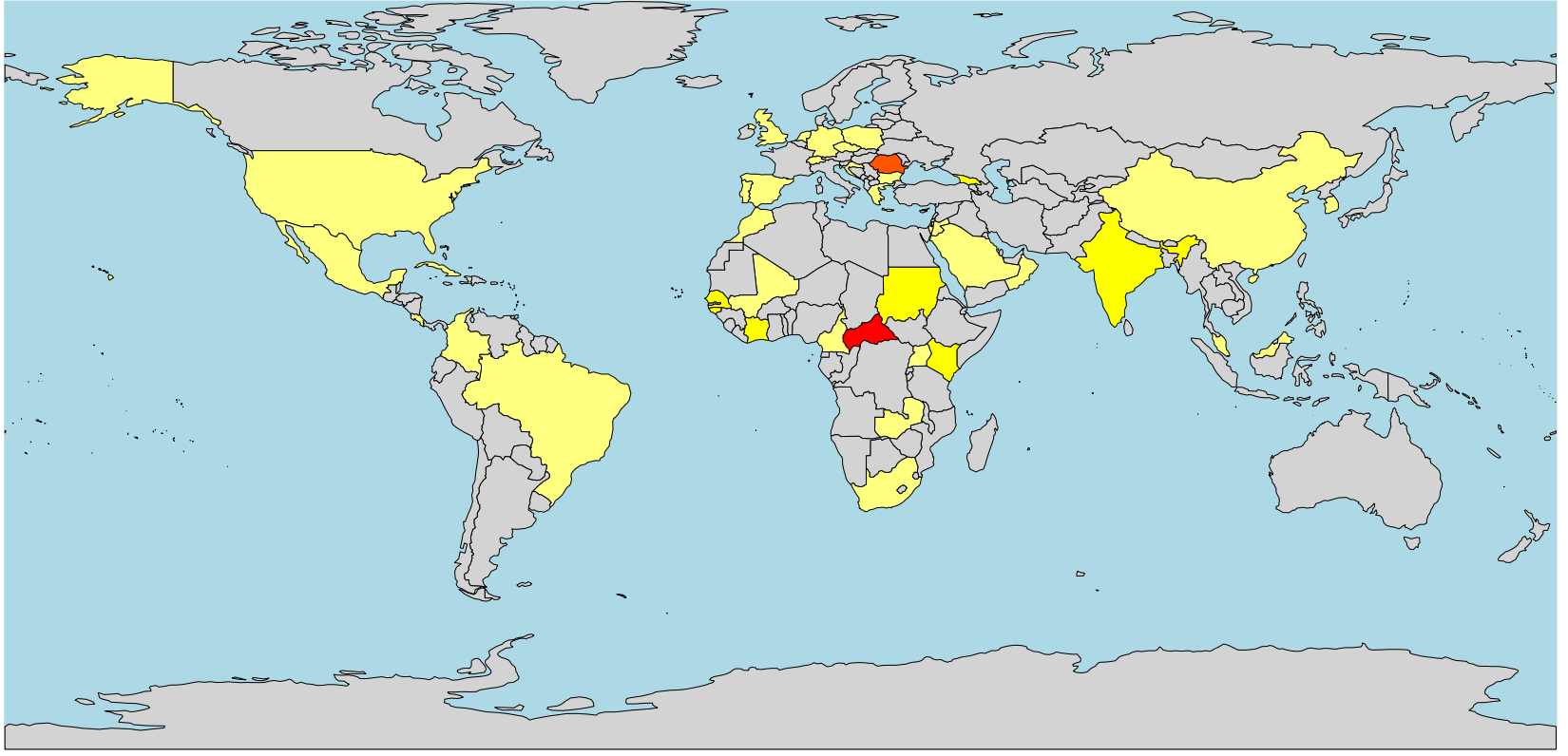
B*27:02
(~0.42% globally)



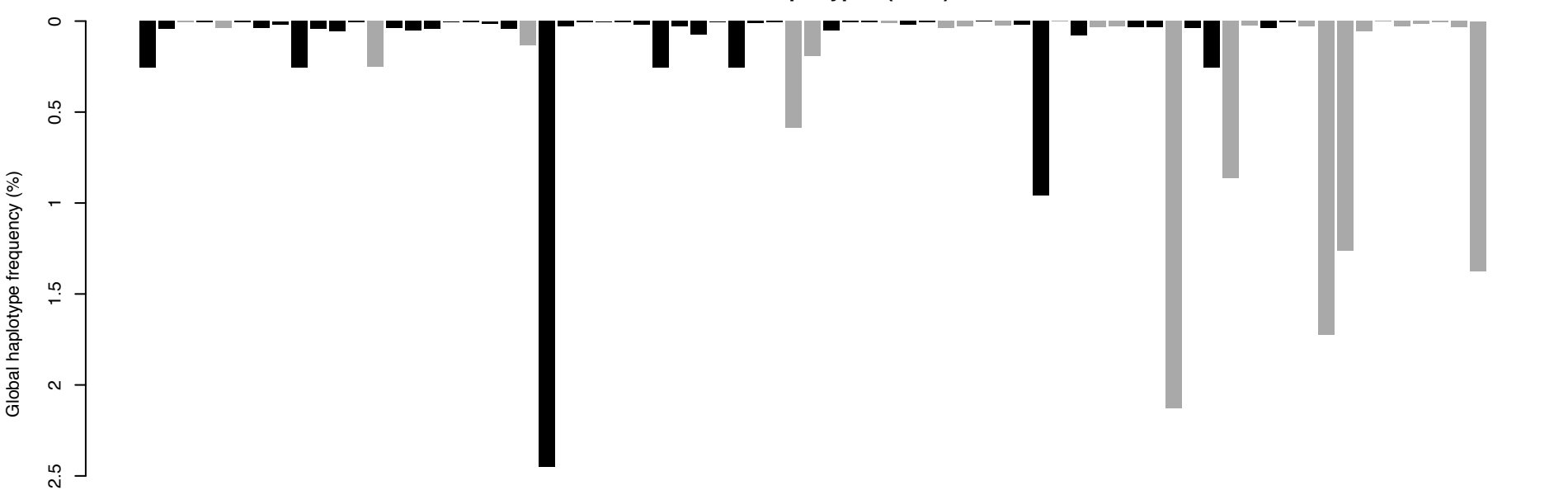
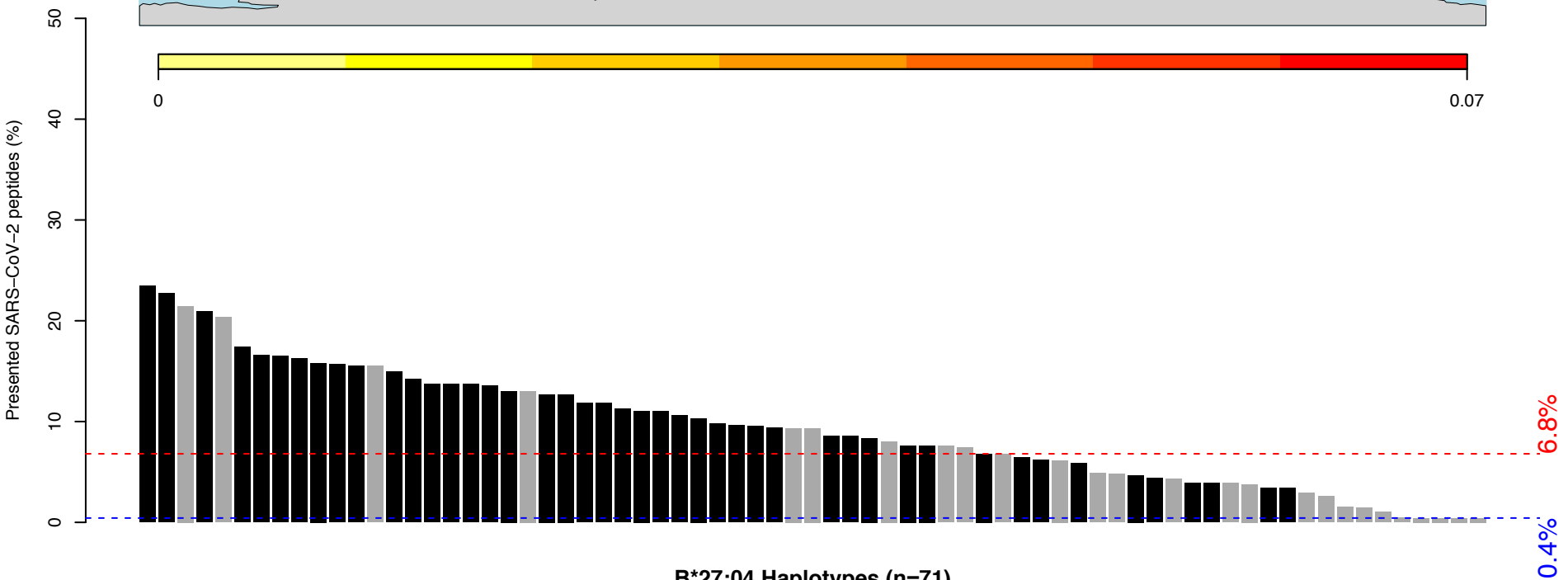
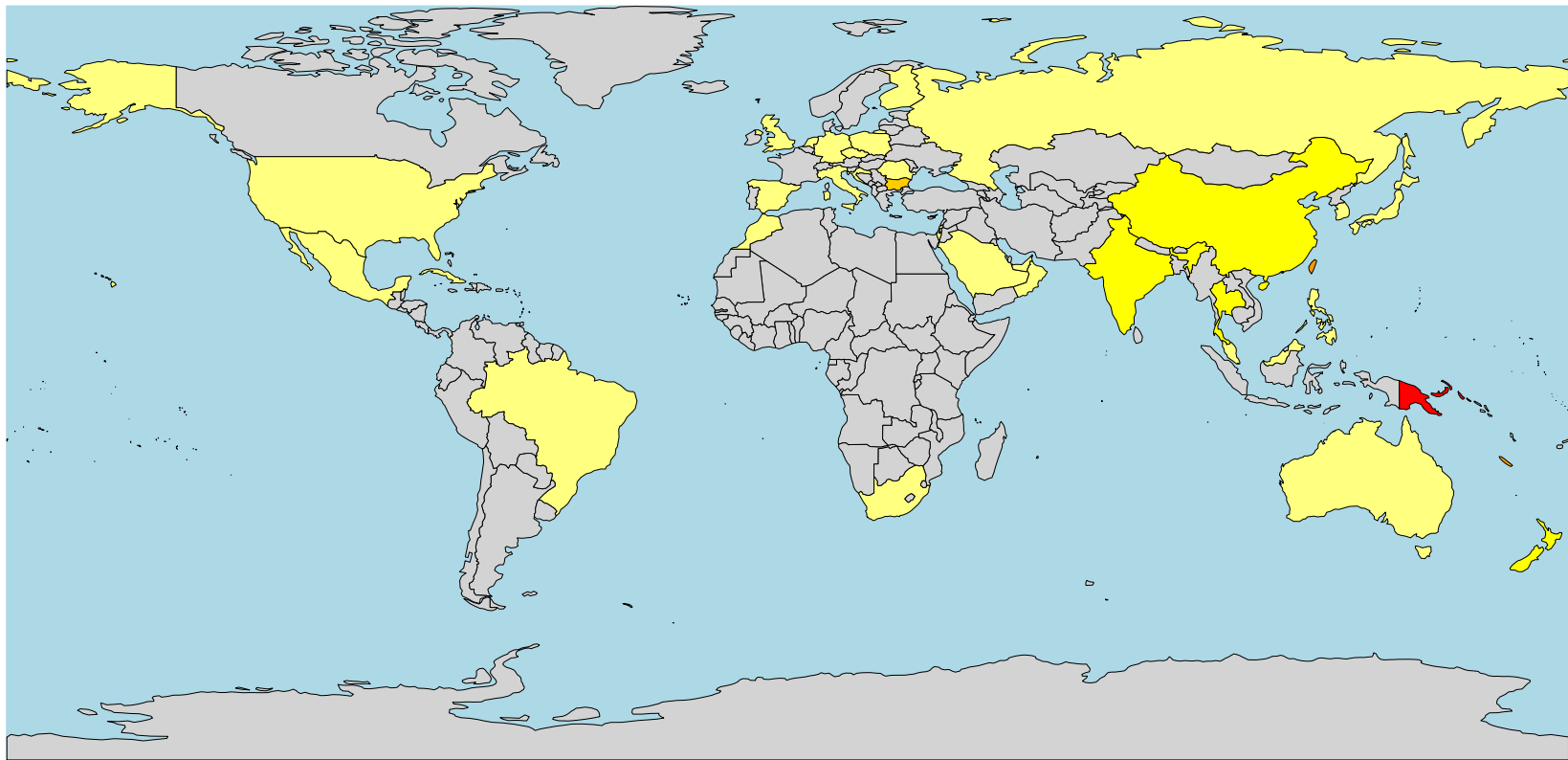
B*27:02 Haplotypes (n=120)



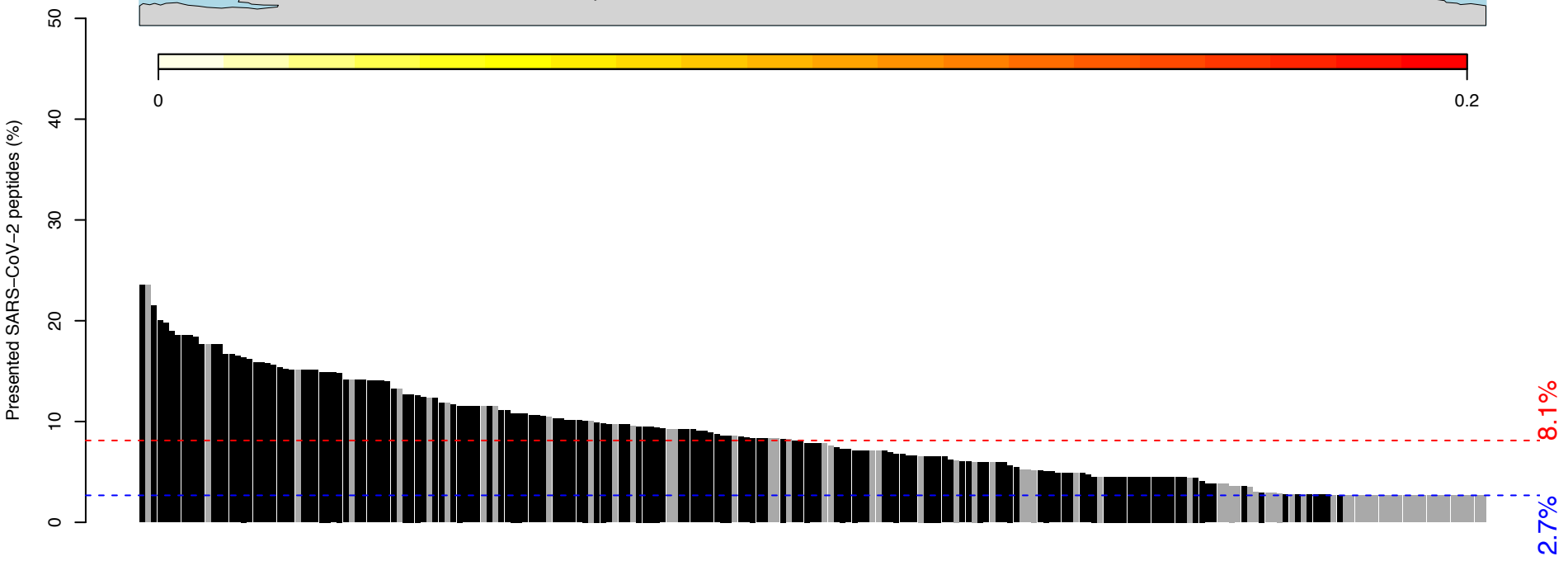
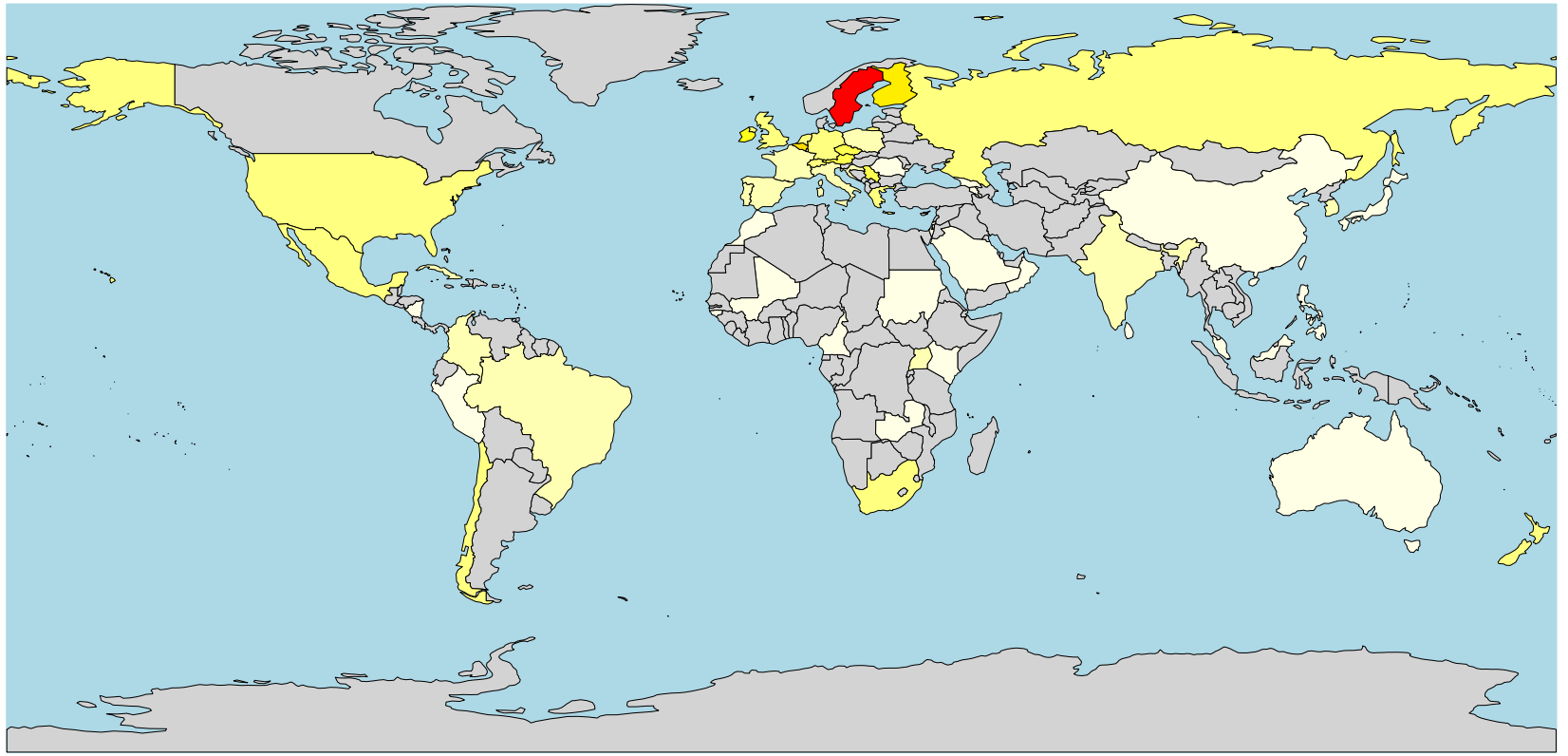
B*27:03
(~0.49% globally)



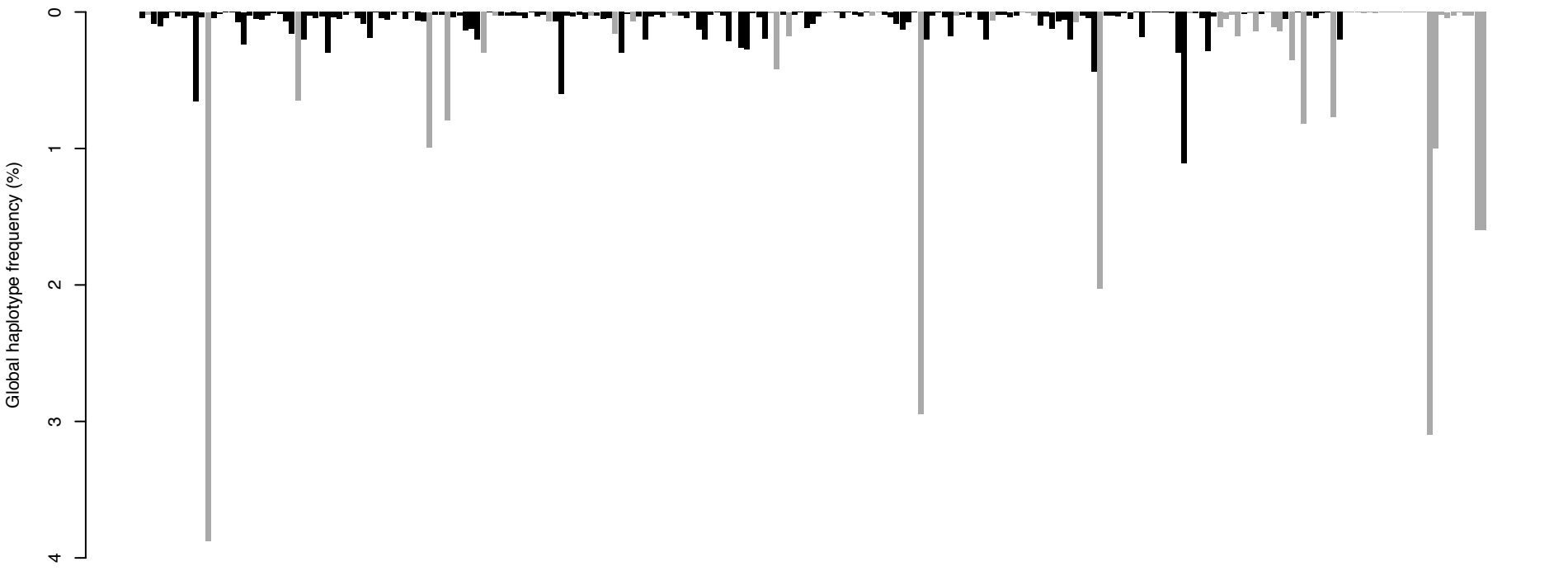
B*27:04
(~1.2% globally)



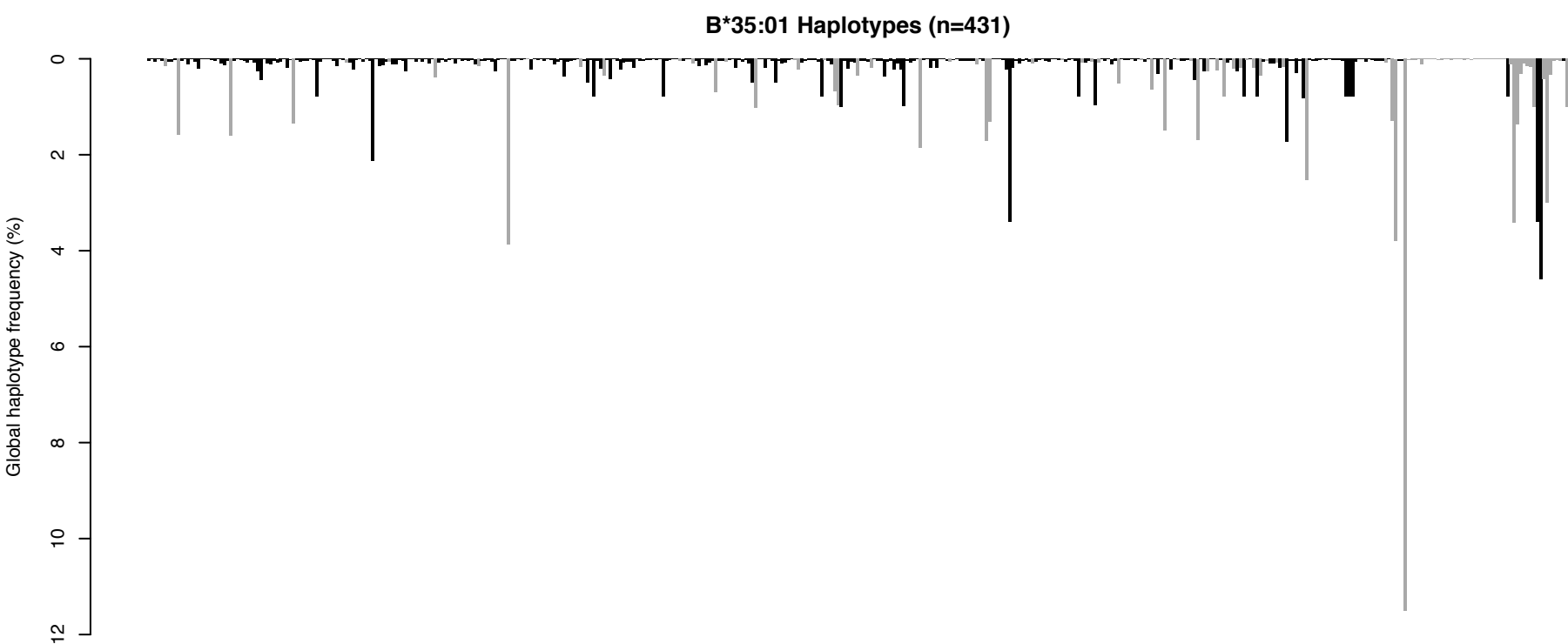
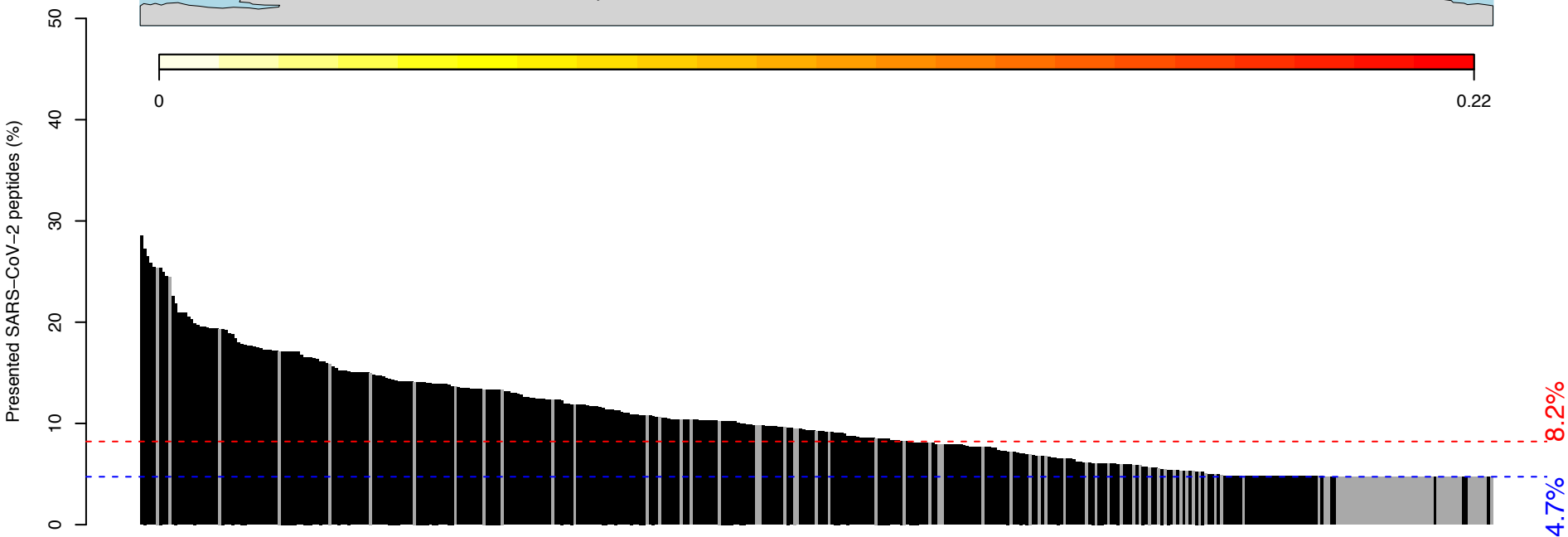
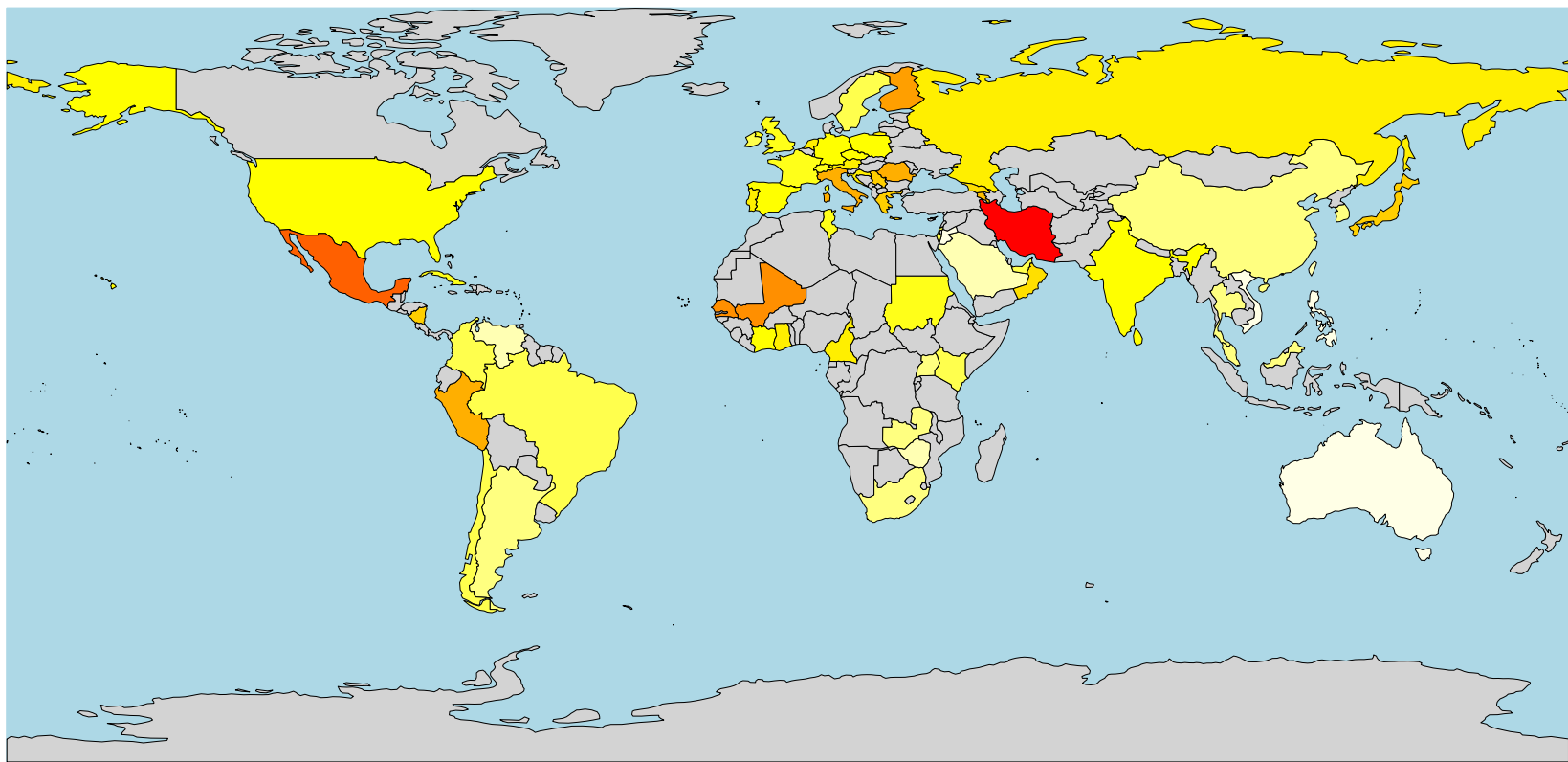
B*27:05
(~0.61% globally)



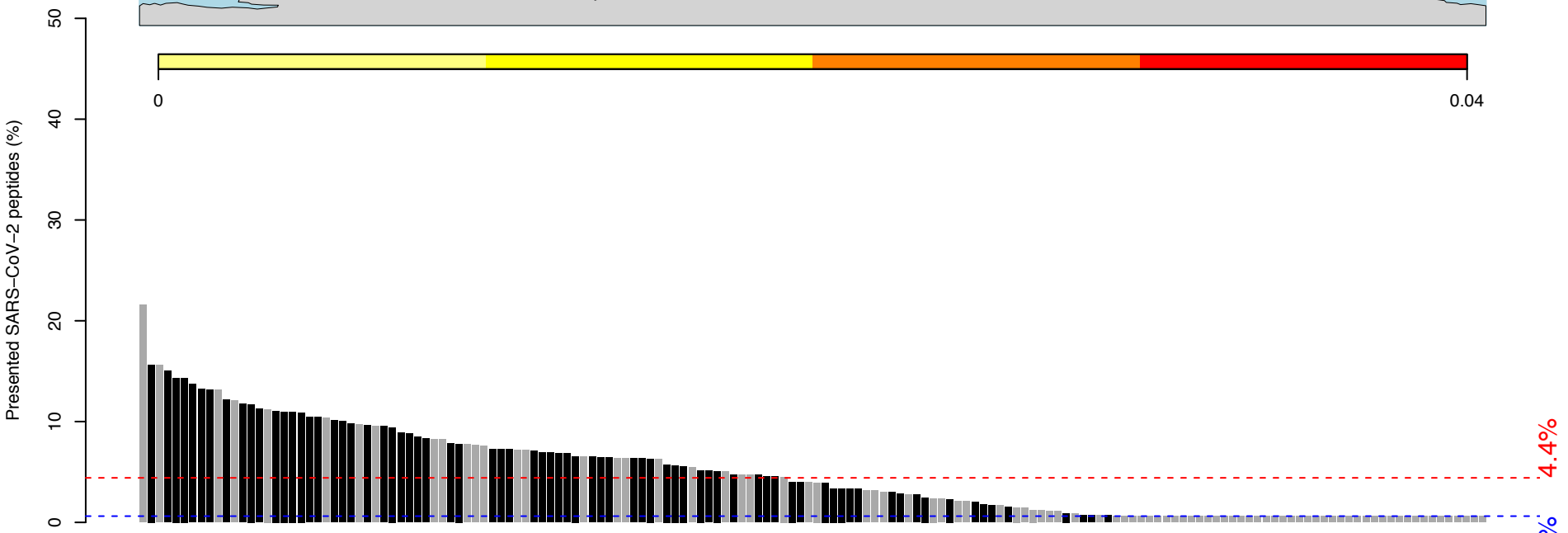
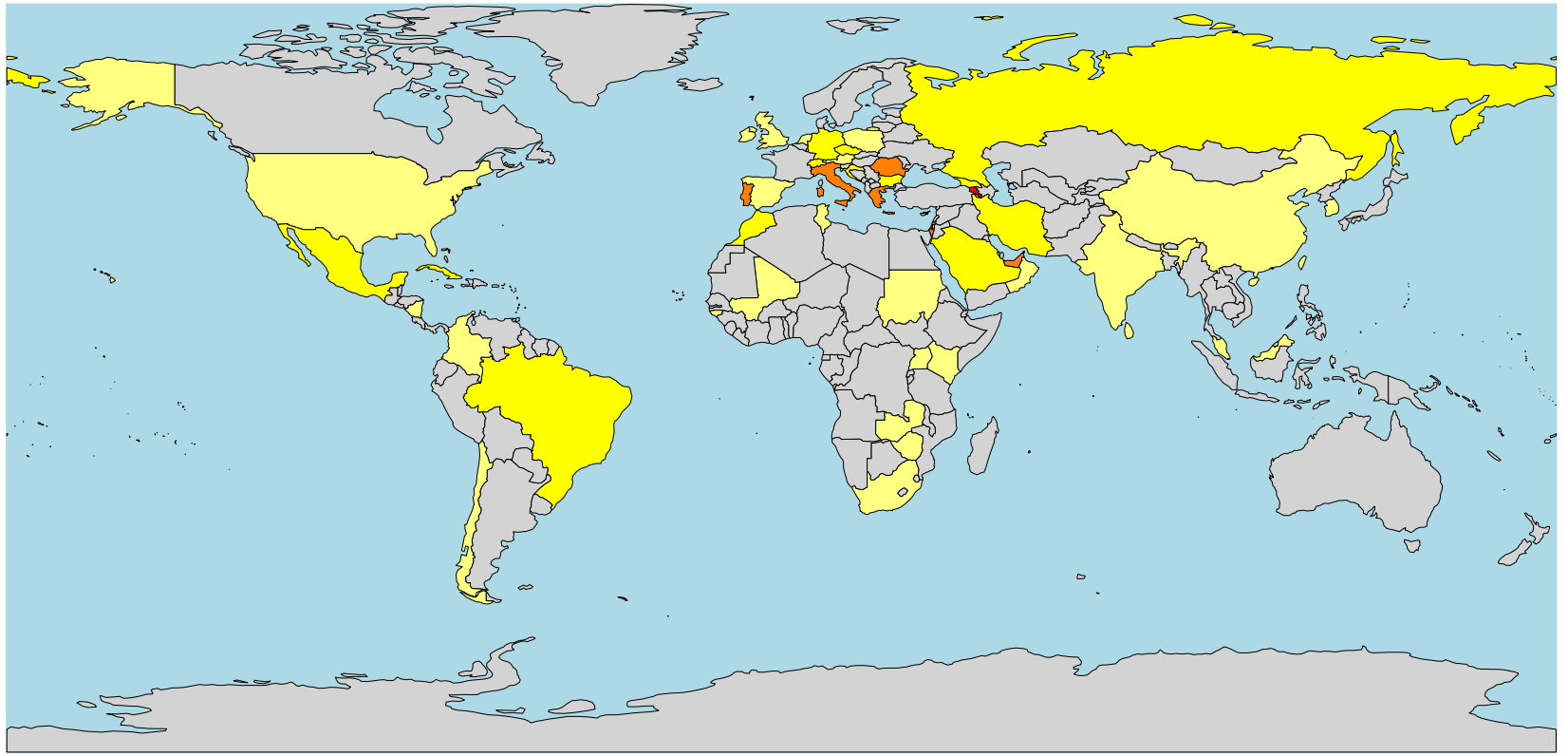
B*27:05 Haplotypes (n=225)



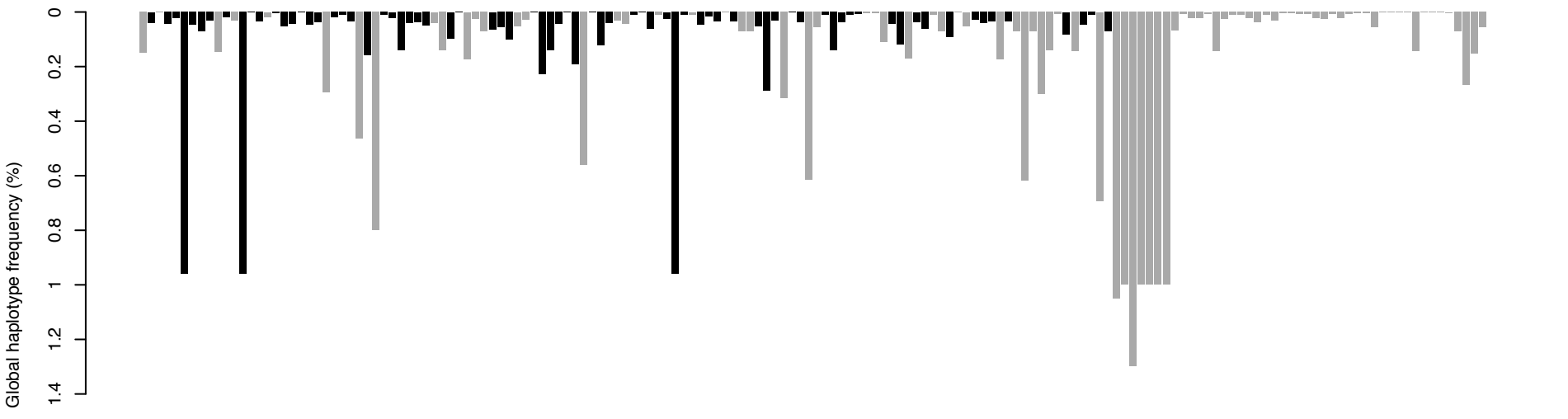
B*35:01
(~2.7% globally)



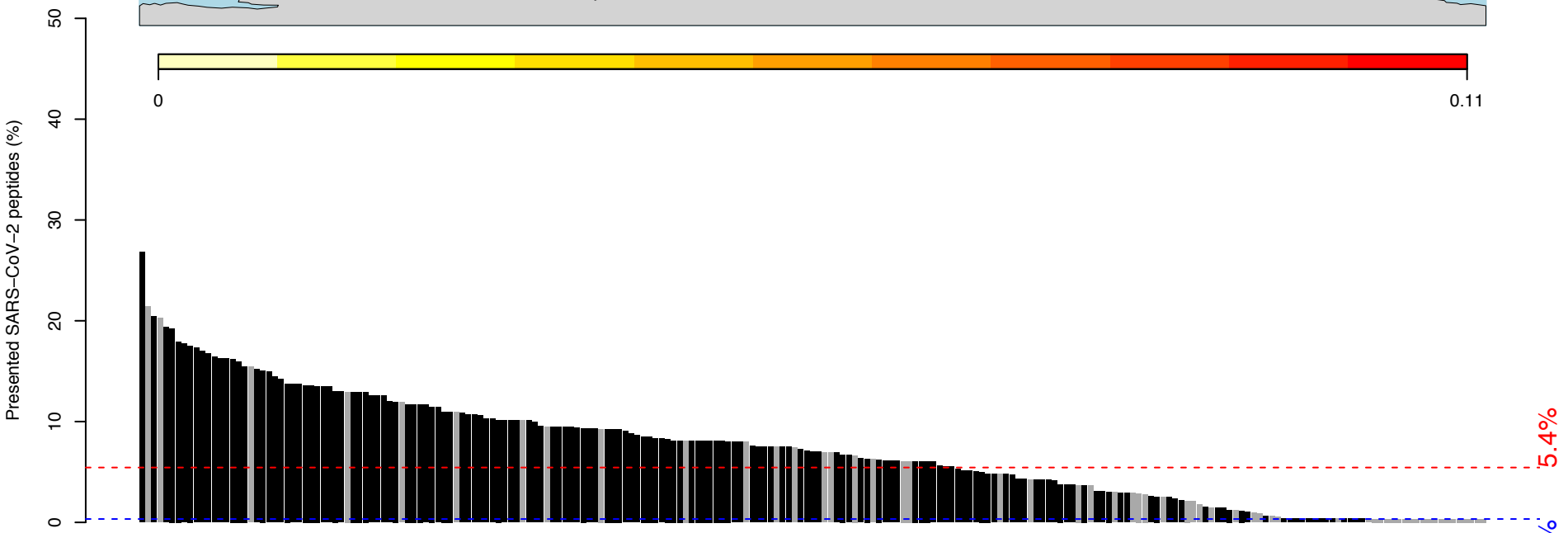
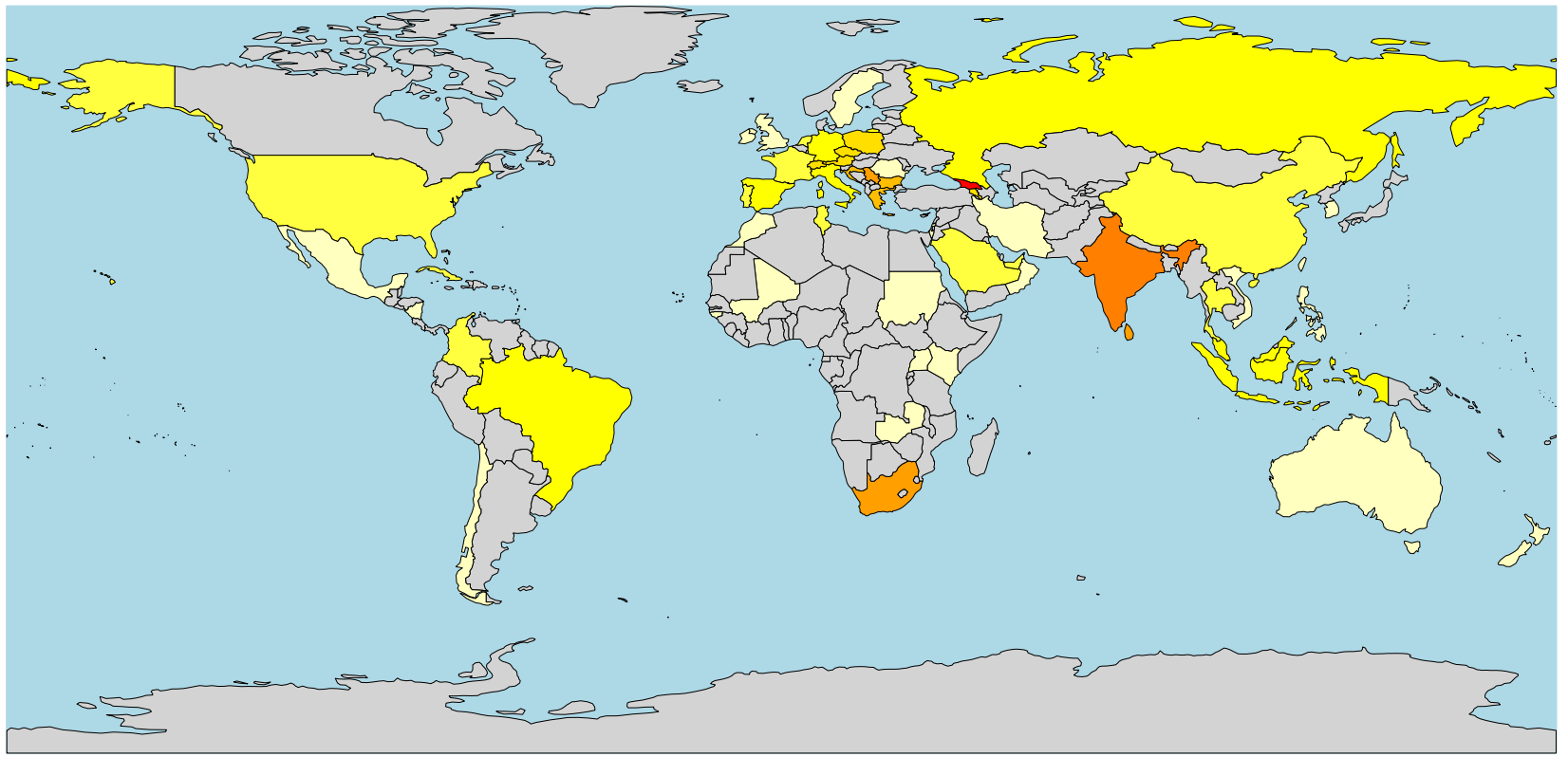
B*35:02
(~0.62% globally)



B*35:02 Haplotypes (n=162)



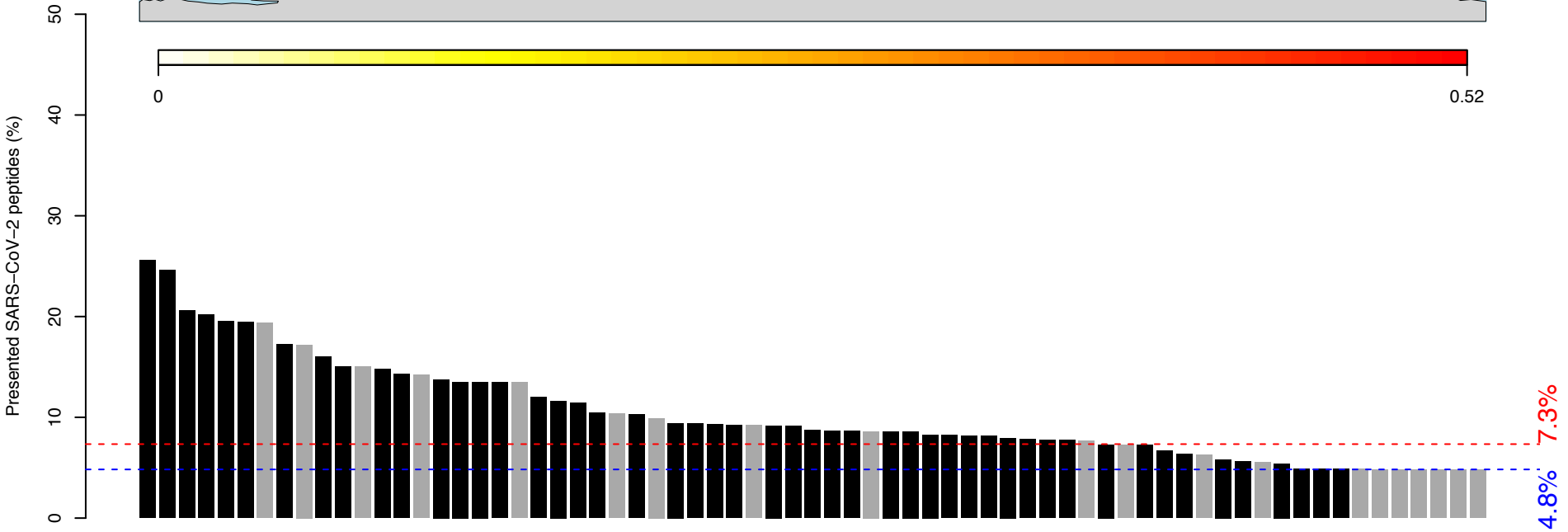
B*35:03
(~3.1% globally)



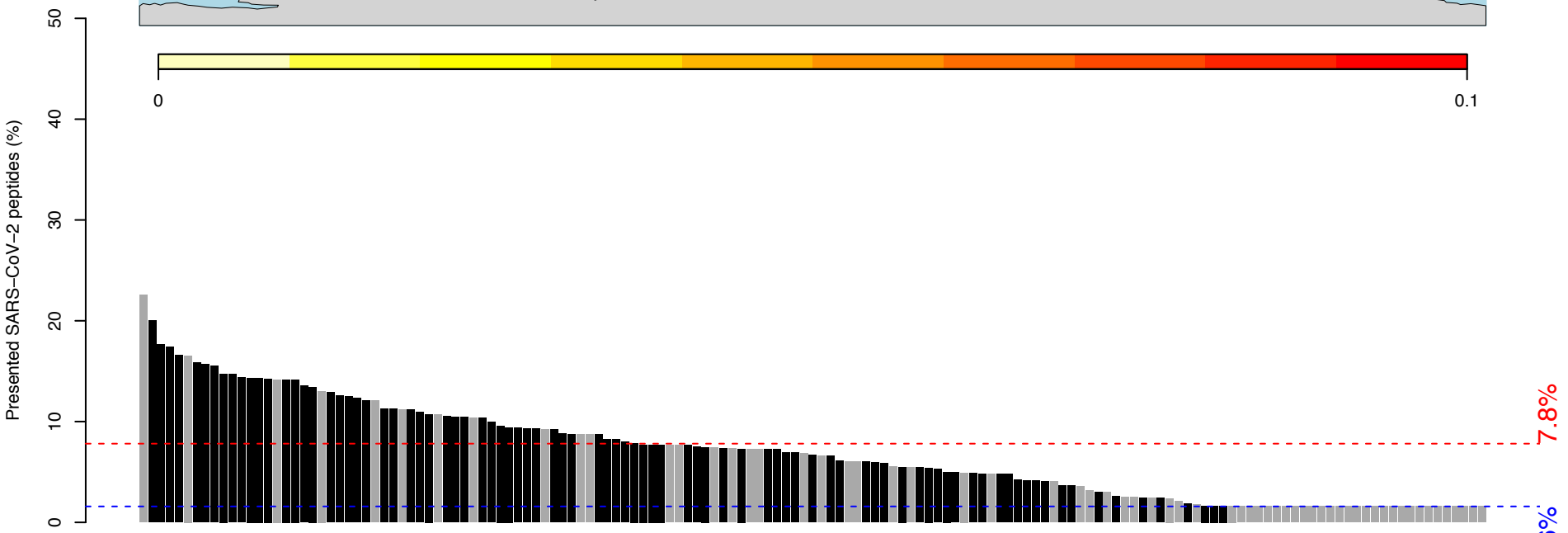
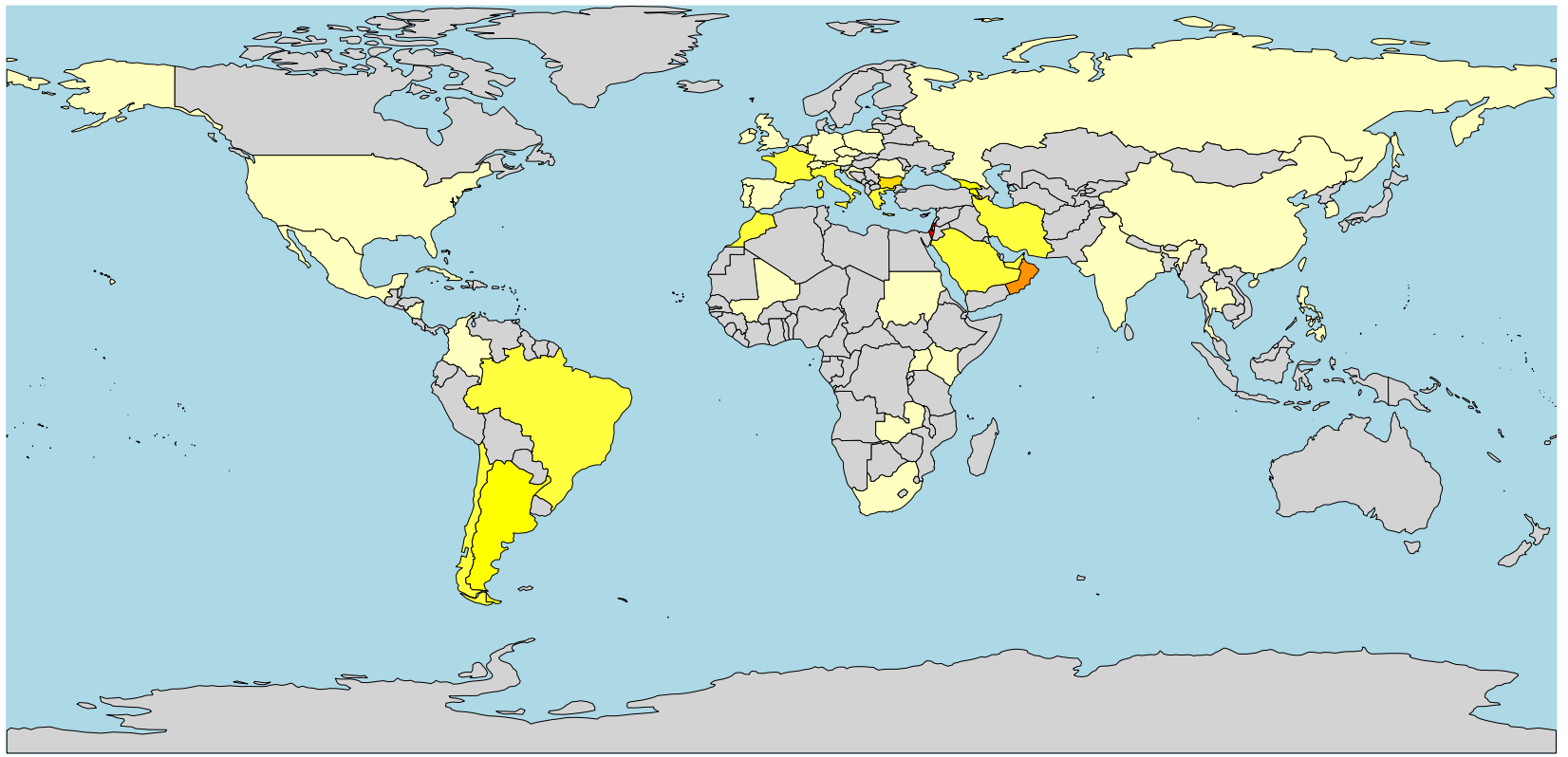
B*35:03 Haplotypes (n=223)



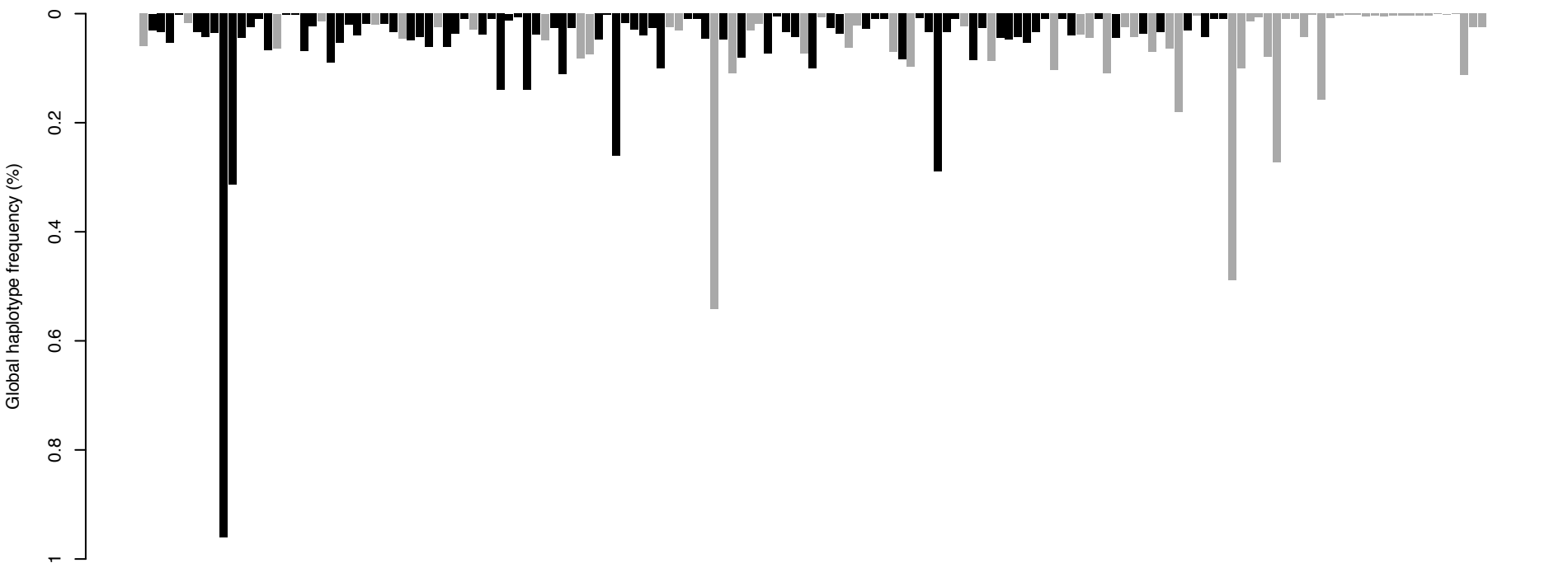
B*35:05
(~1.9% globally)



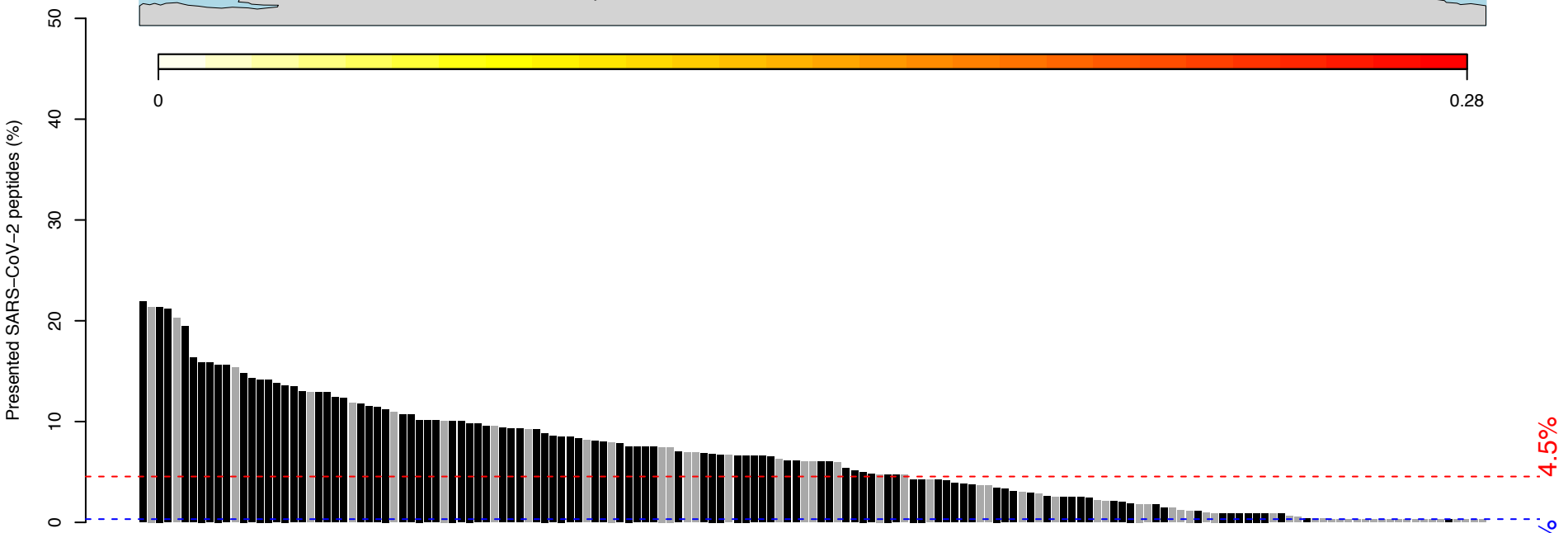
B*35:08
(~0.39% globally)



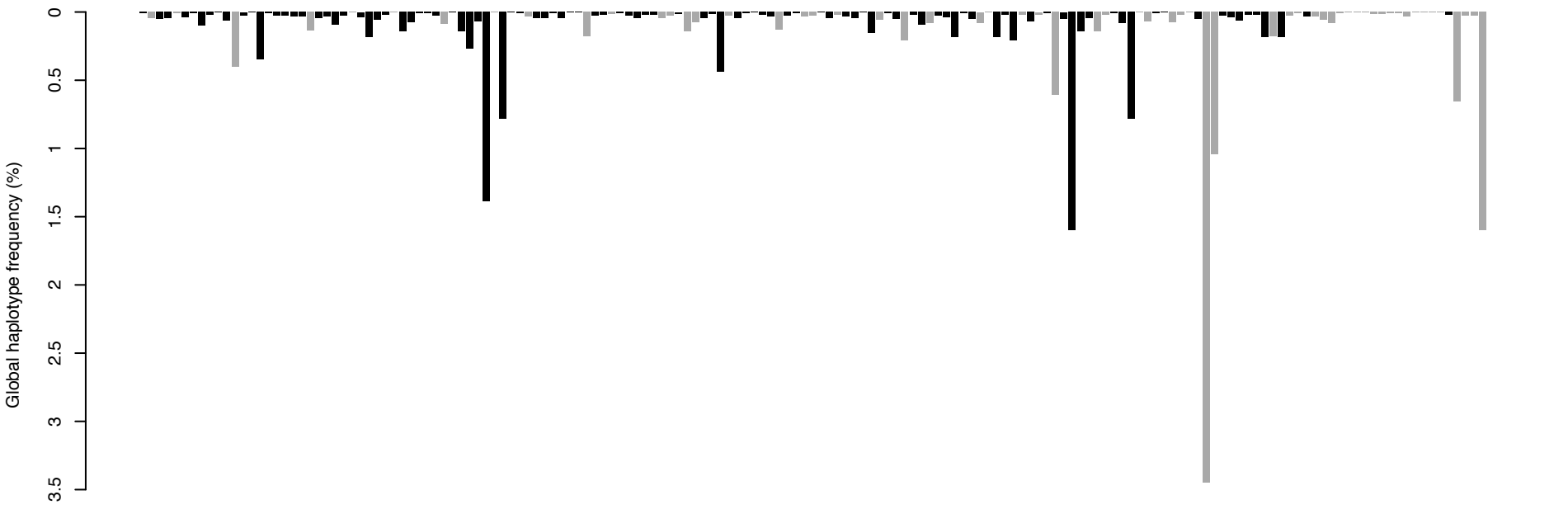
B*35:08 Haplotypes (n=151)



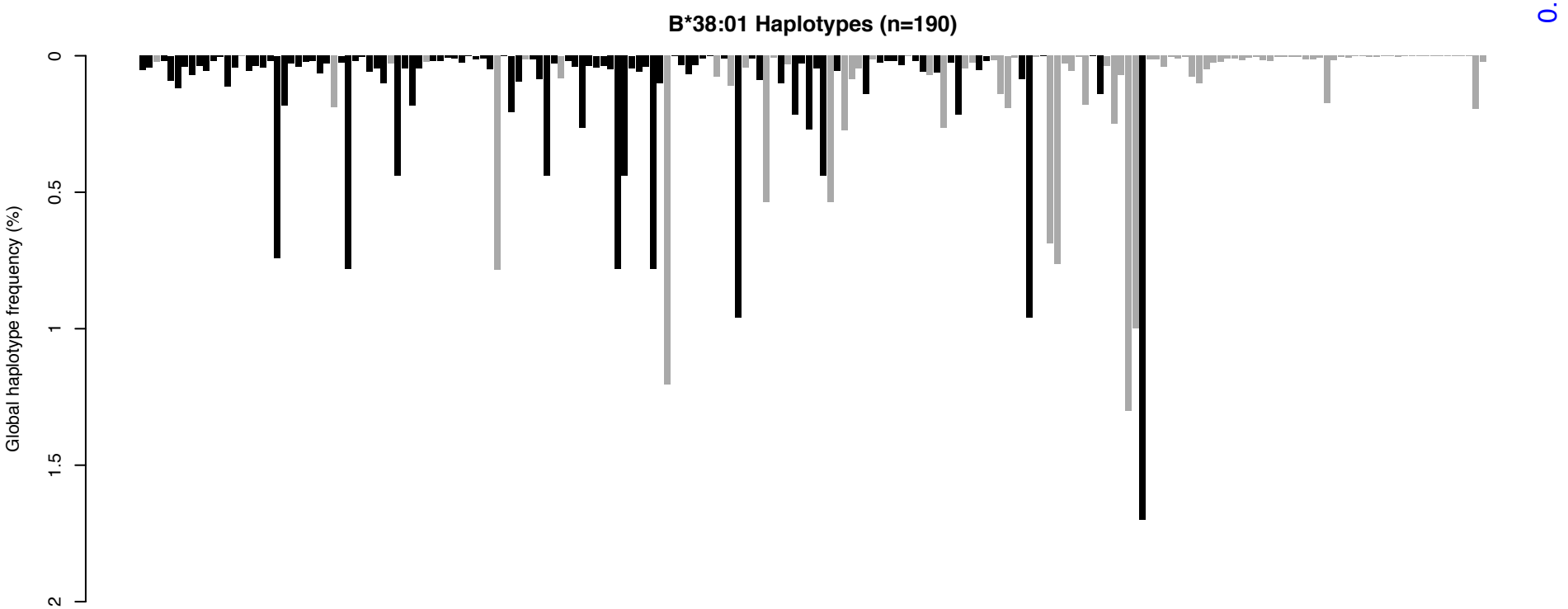
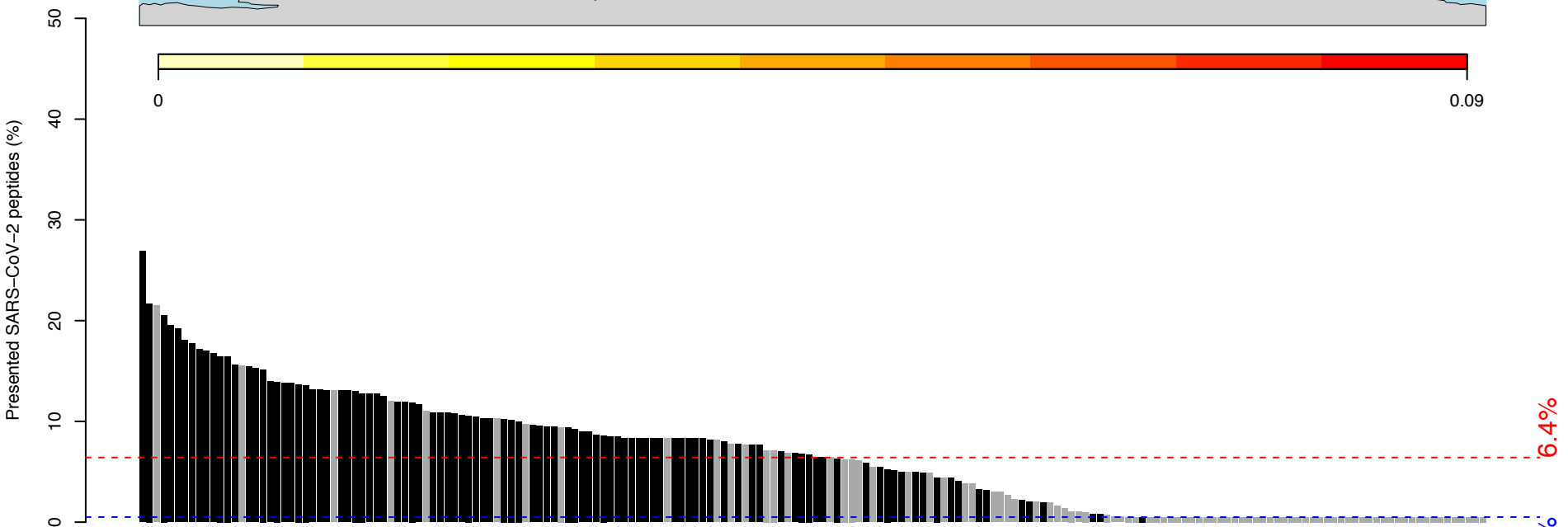
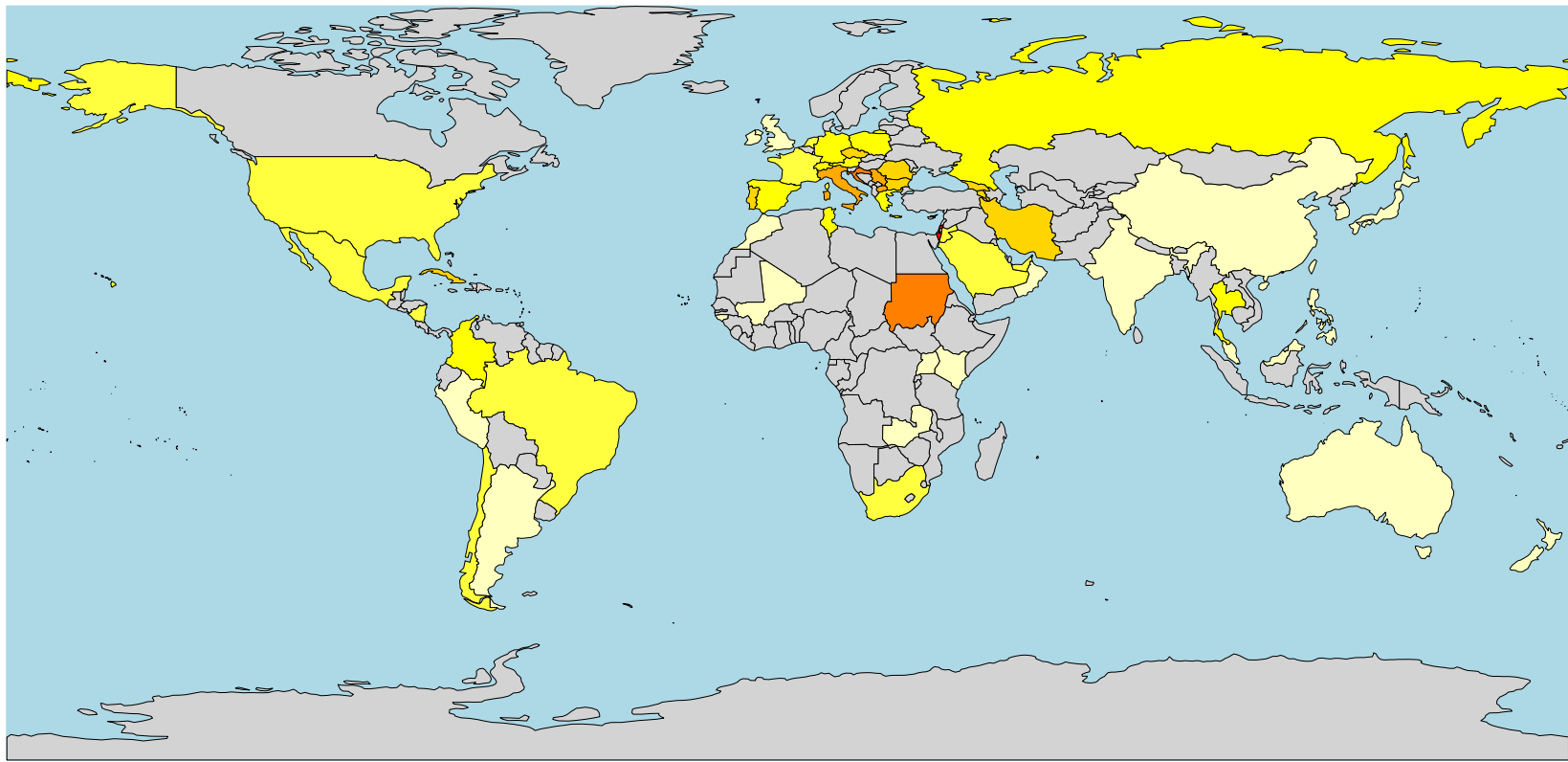
B*37:01
(~2% globally)



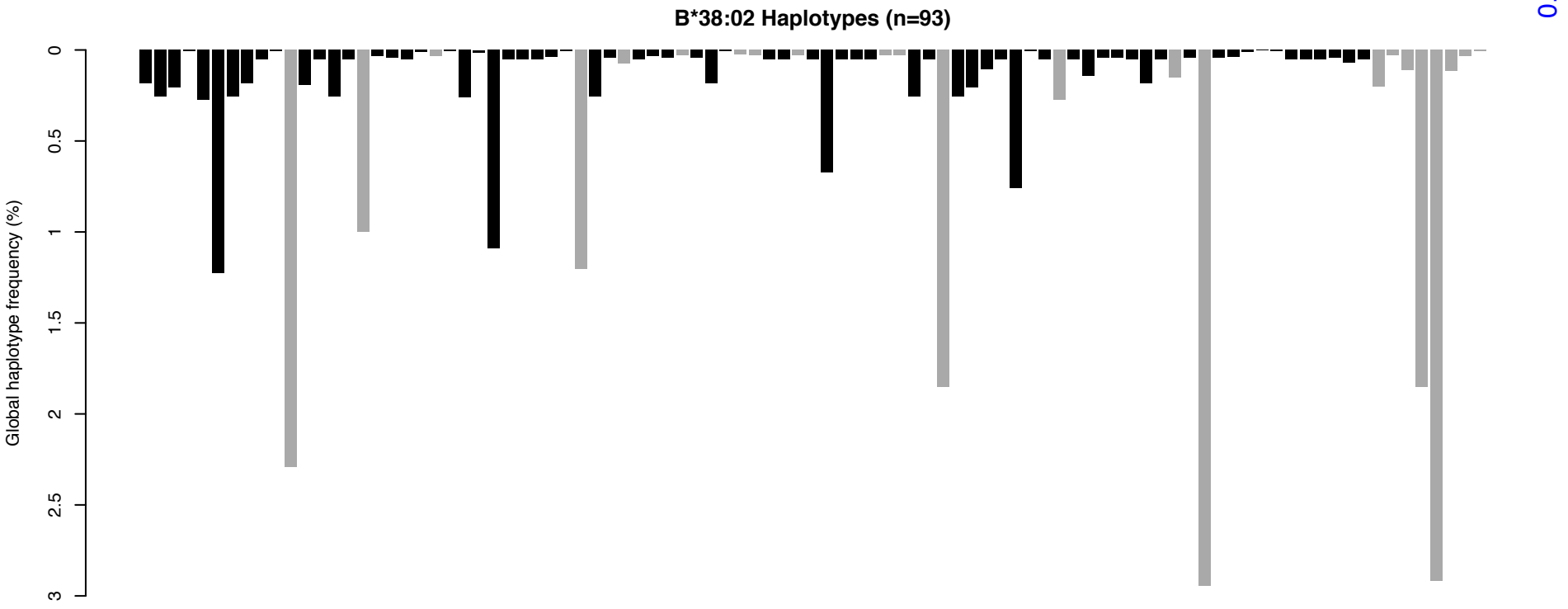
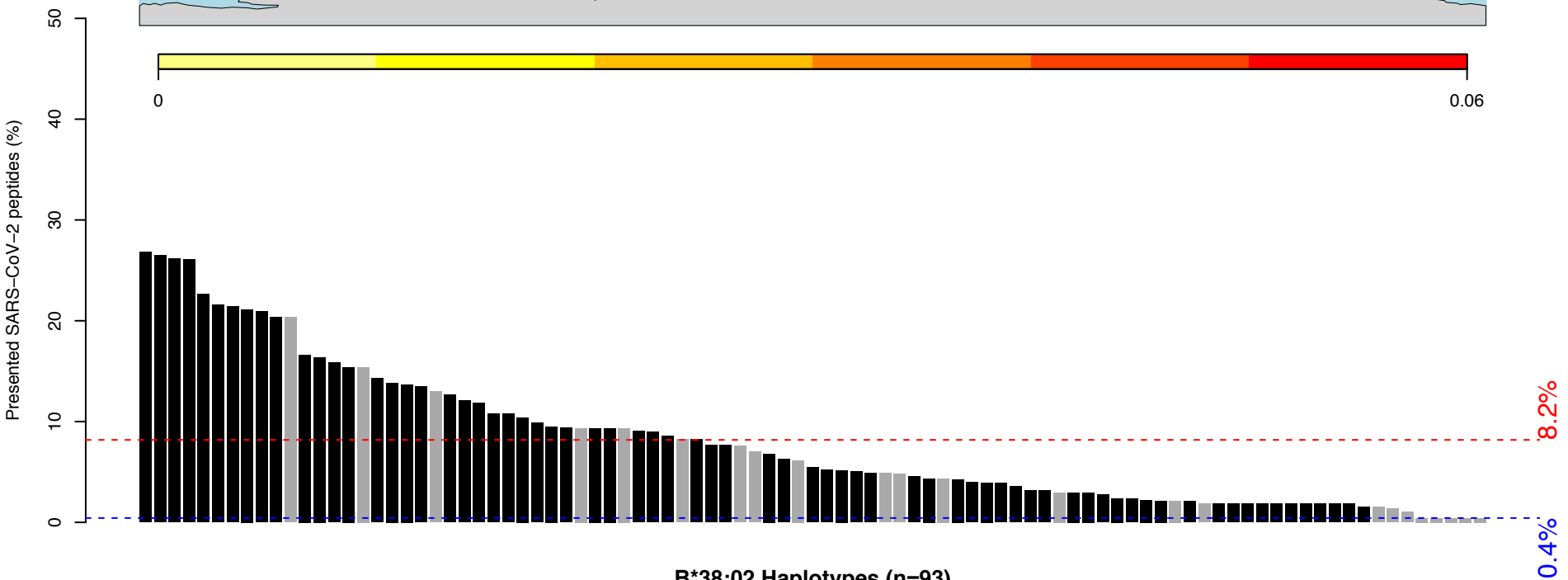
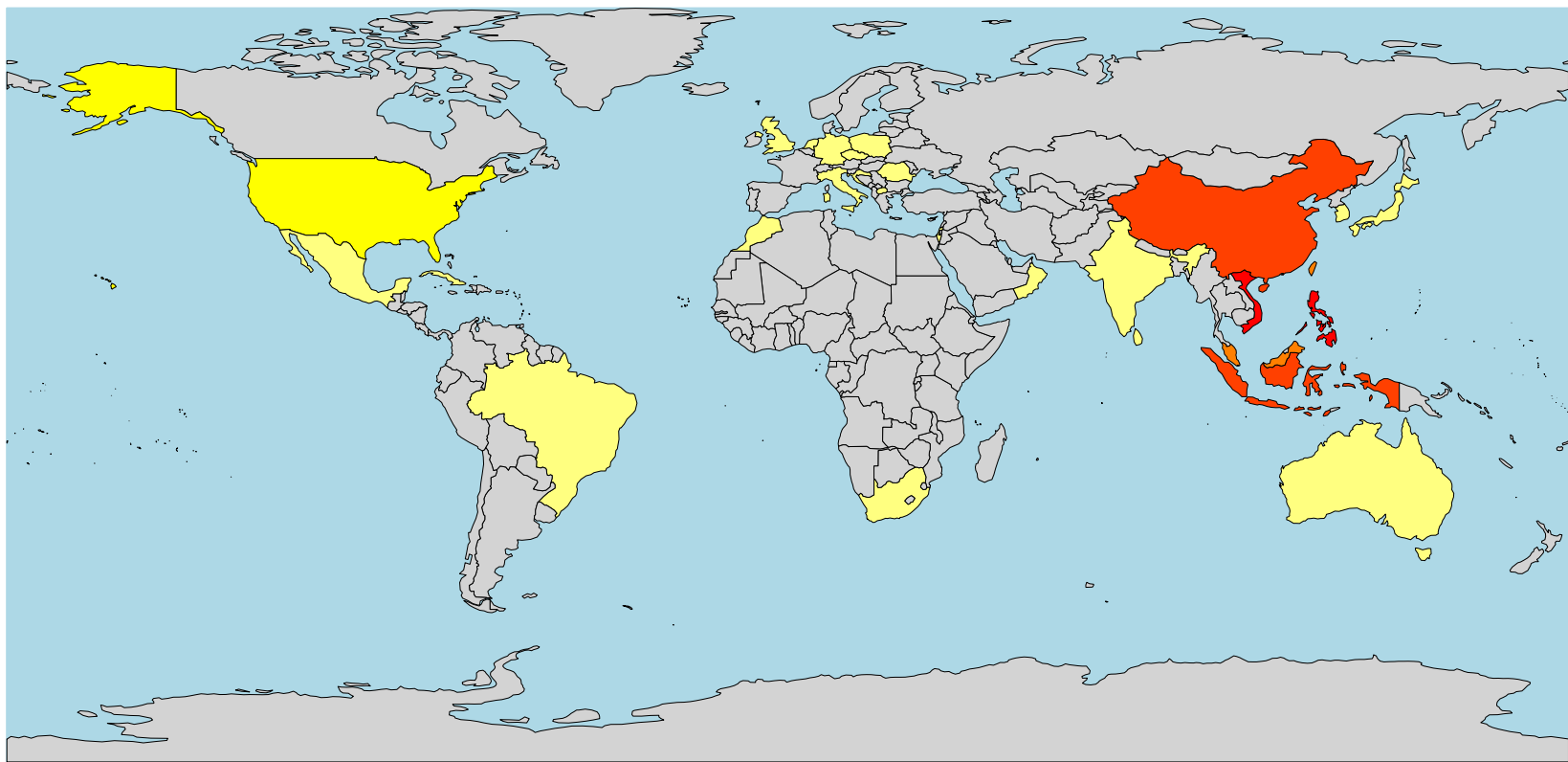
B*37:01 Haplotypes (n=161)



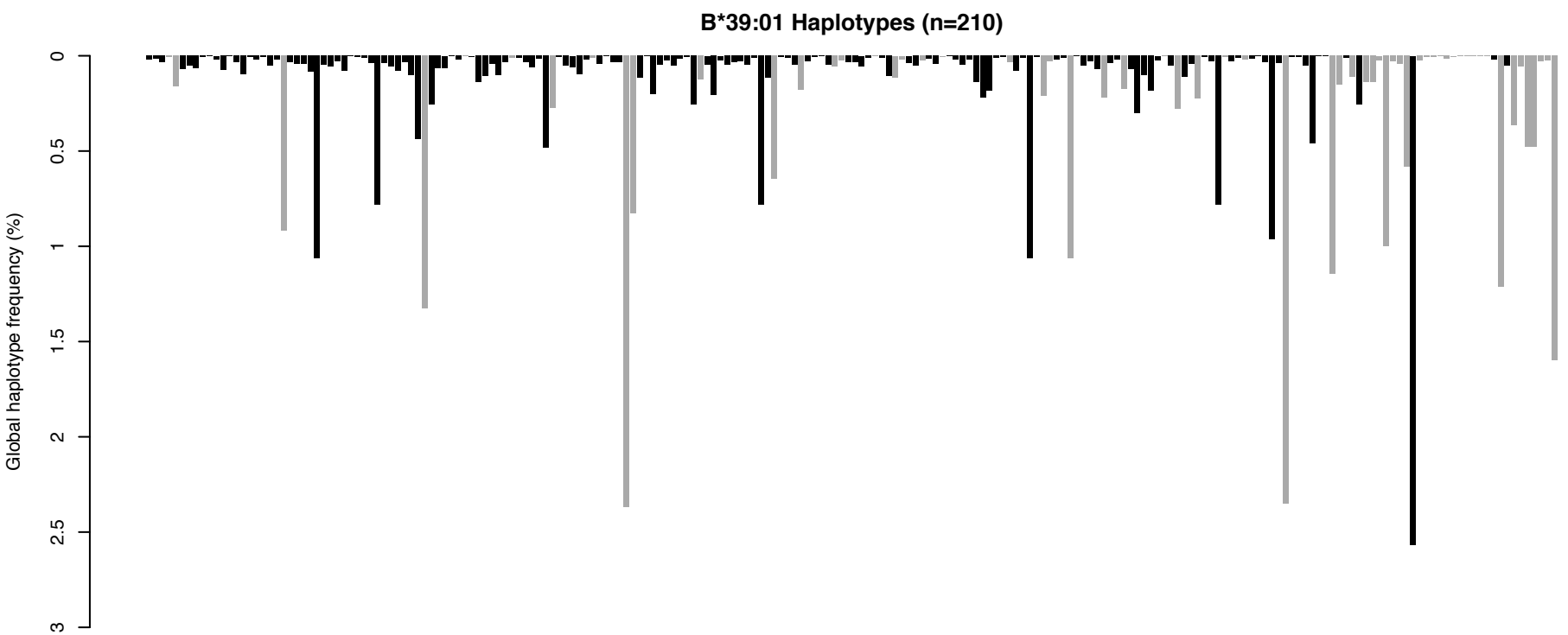
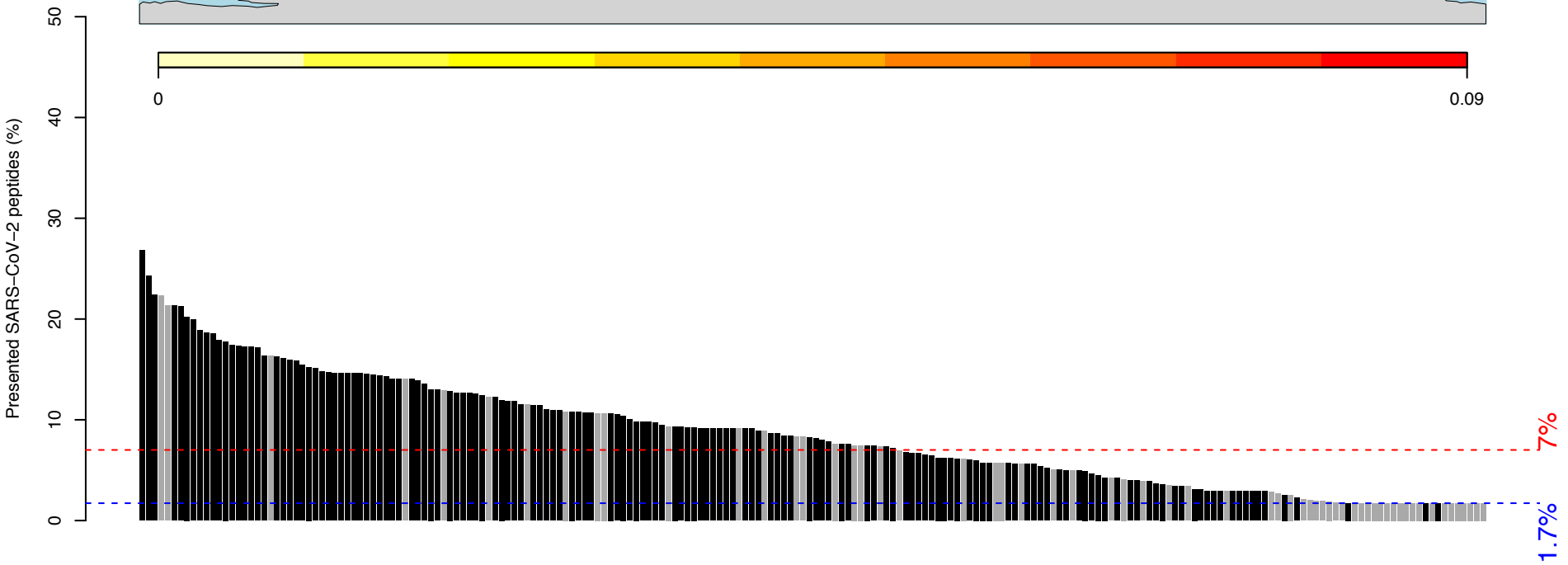
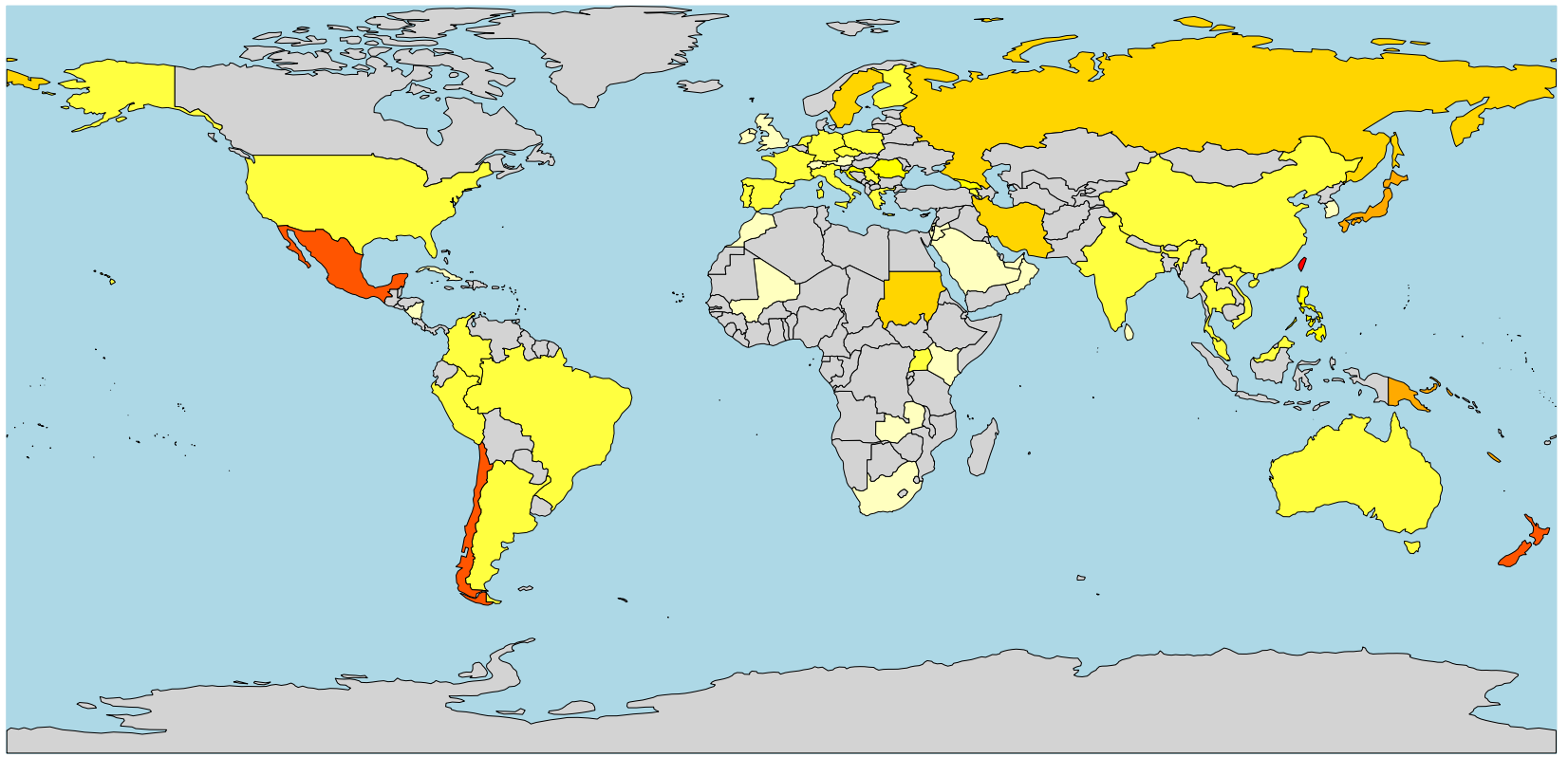
B*38:01
(~1.1% globally)



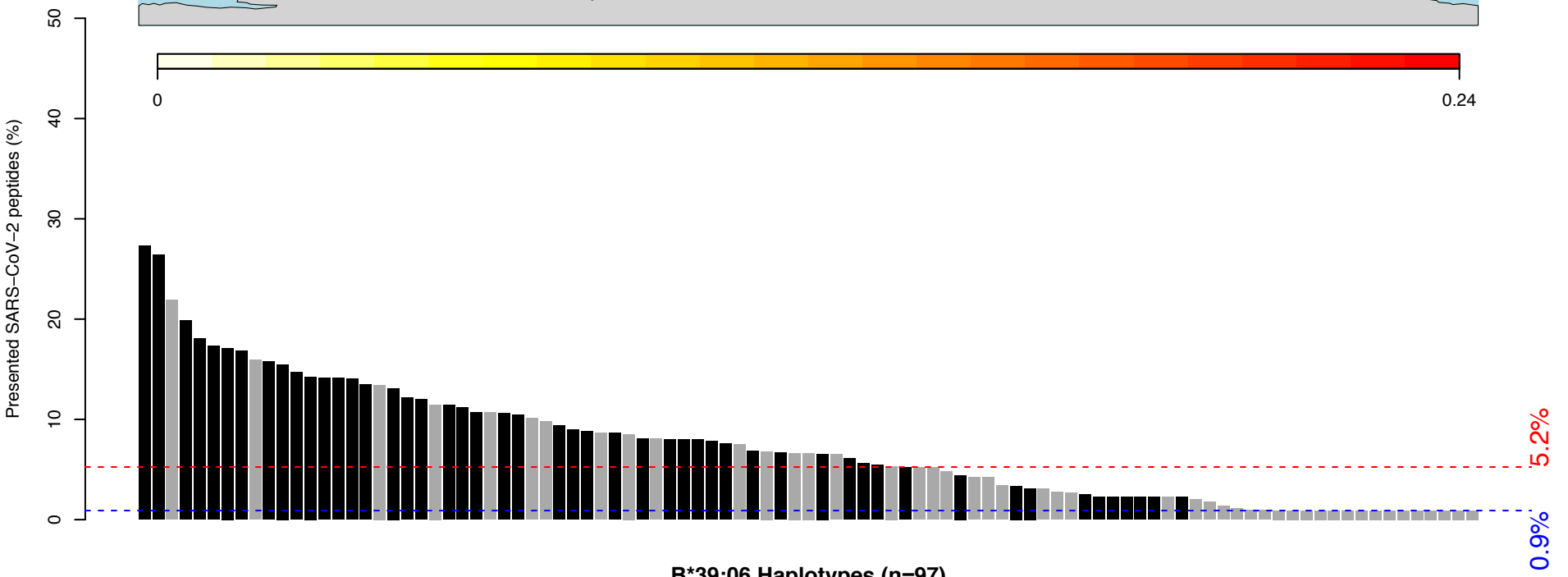
B*38:02
(~2.1% globally)



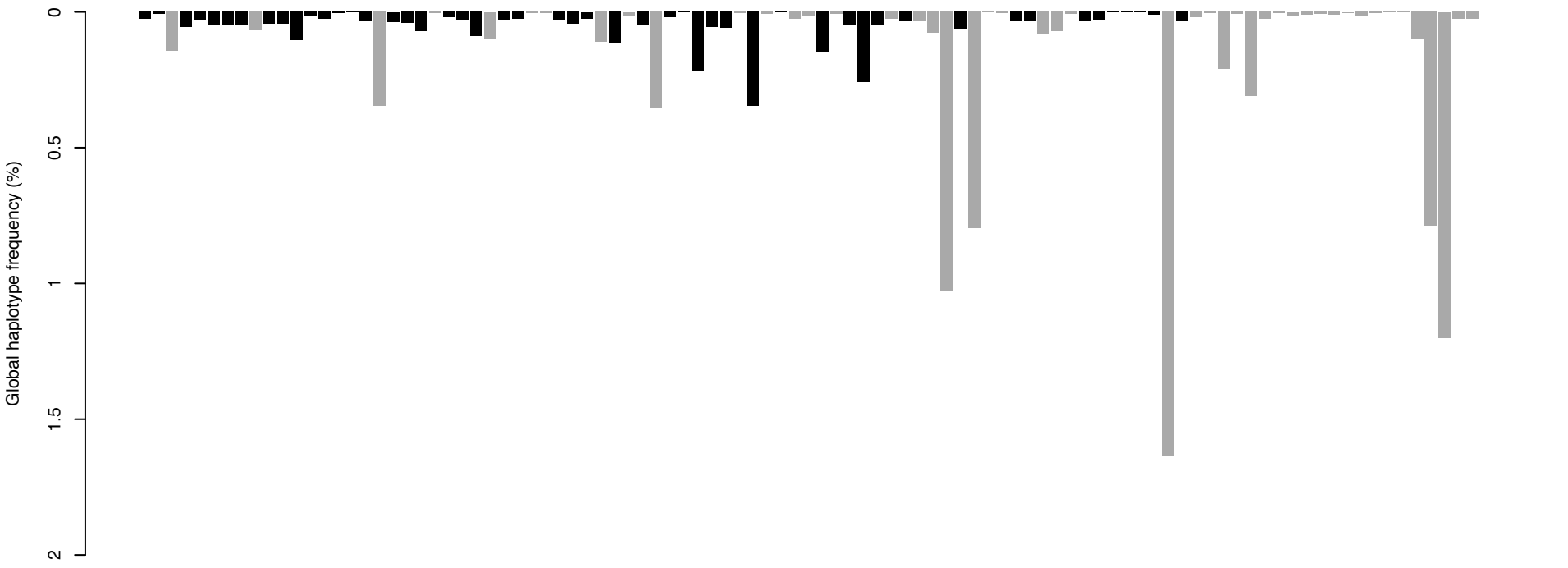
B*39:01
(~1.2% globally)



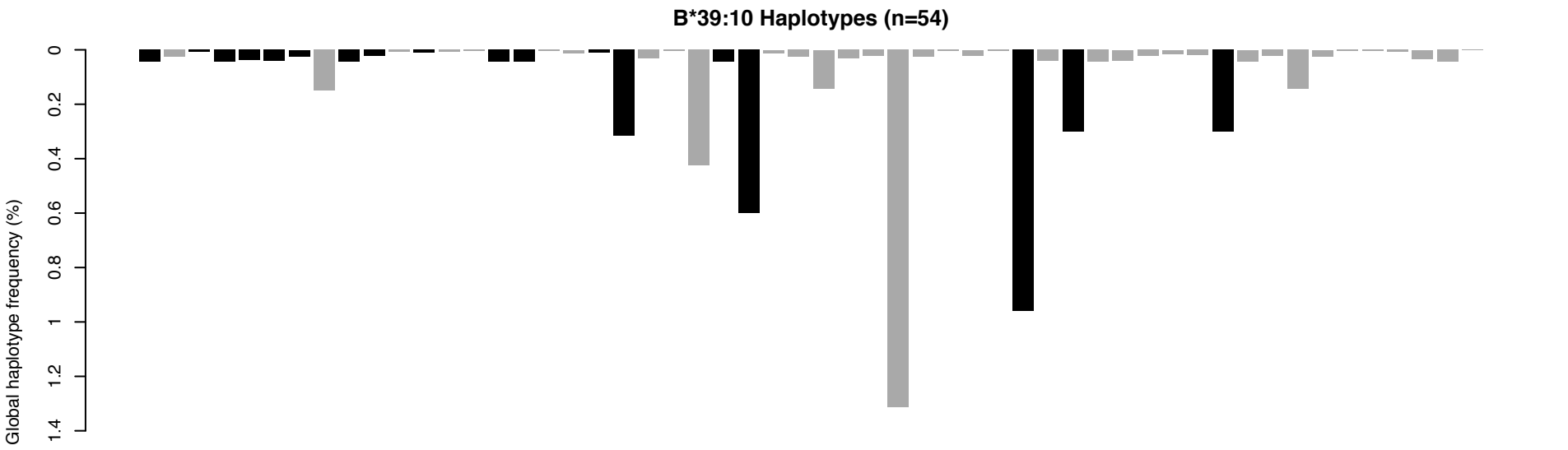
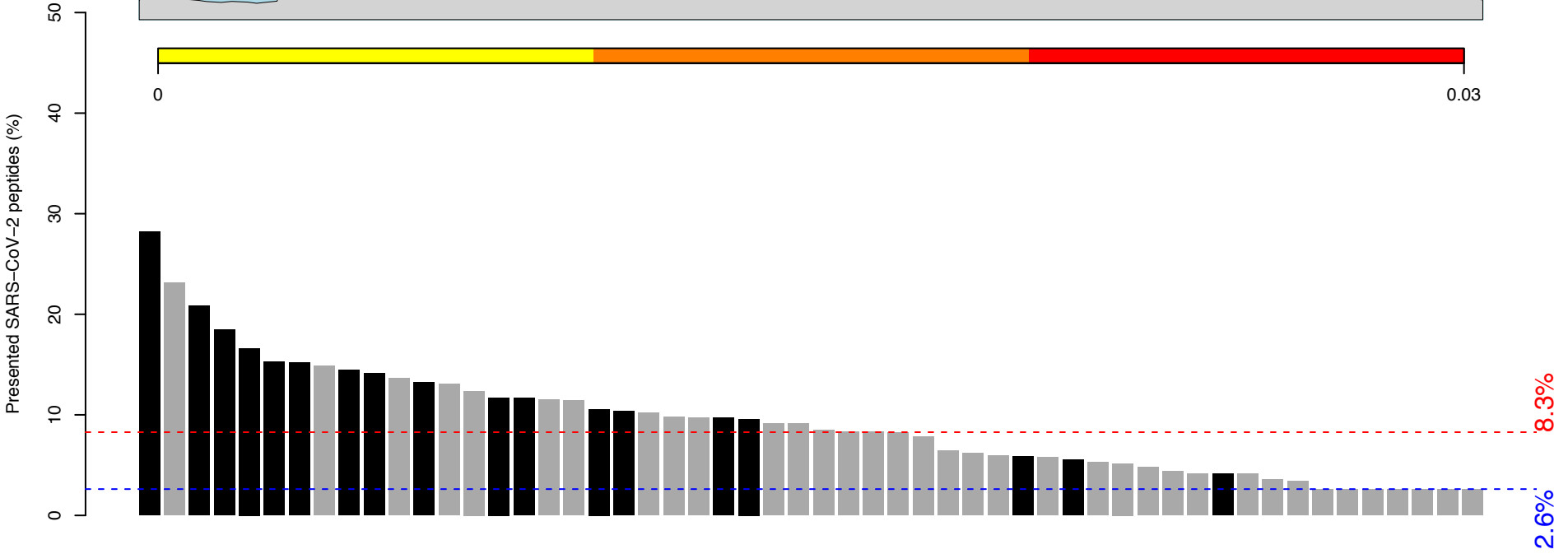
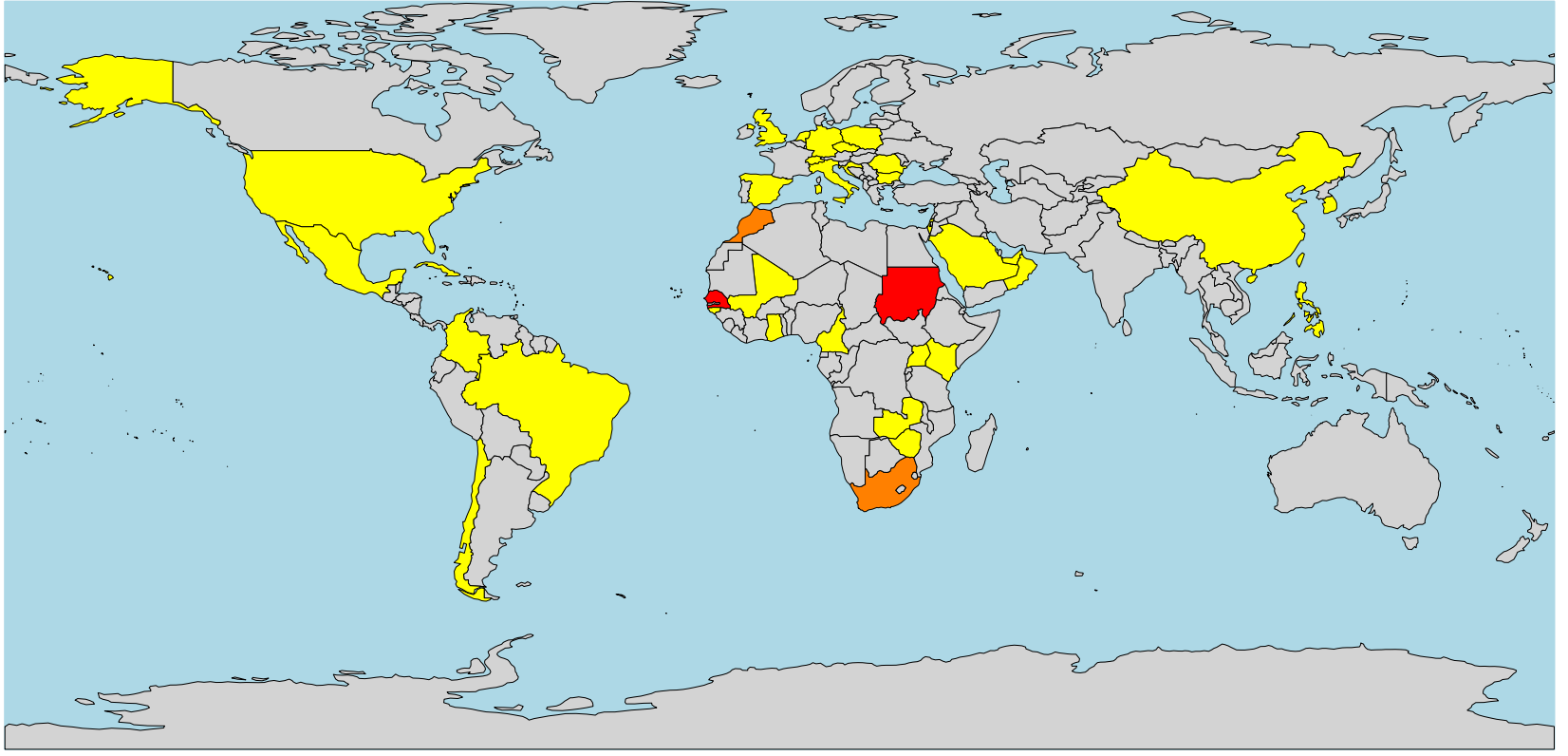
B*39:06
(~0.41% globally)



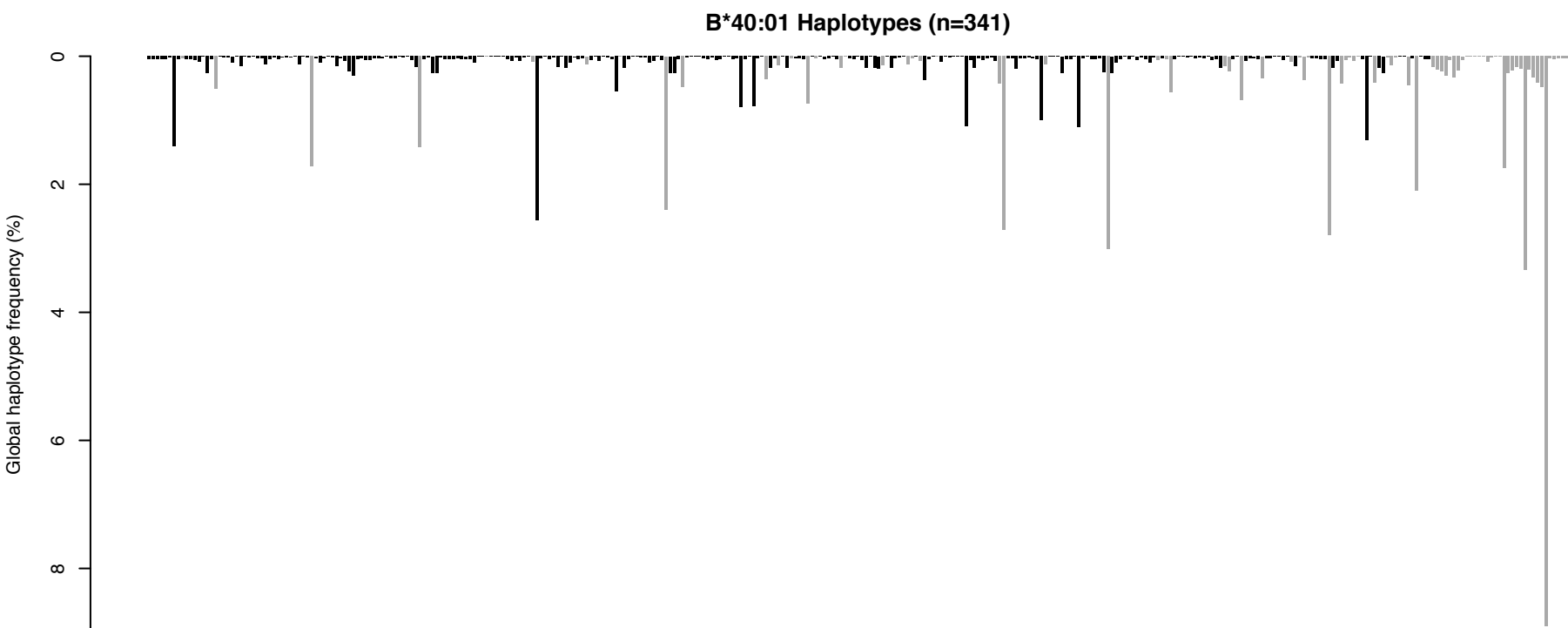
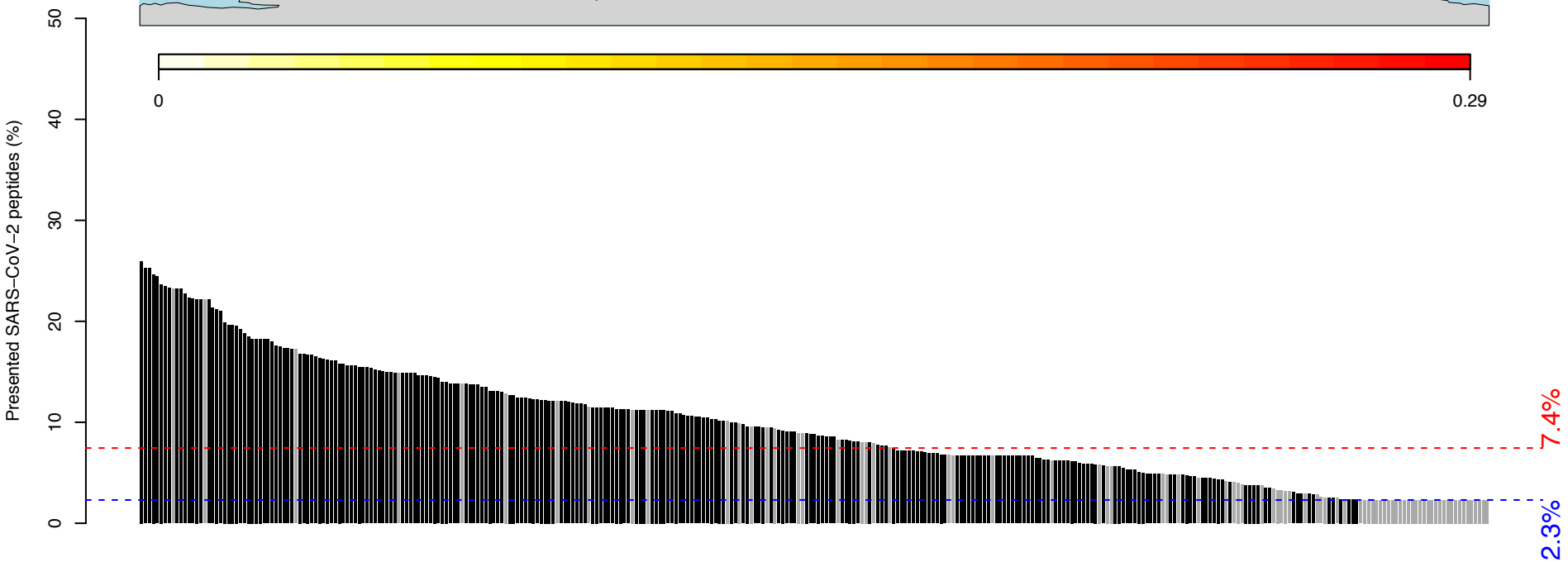
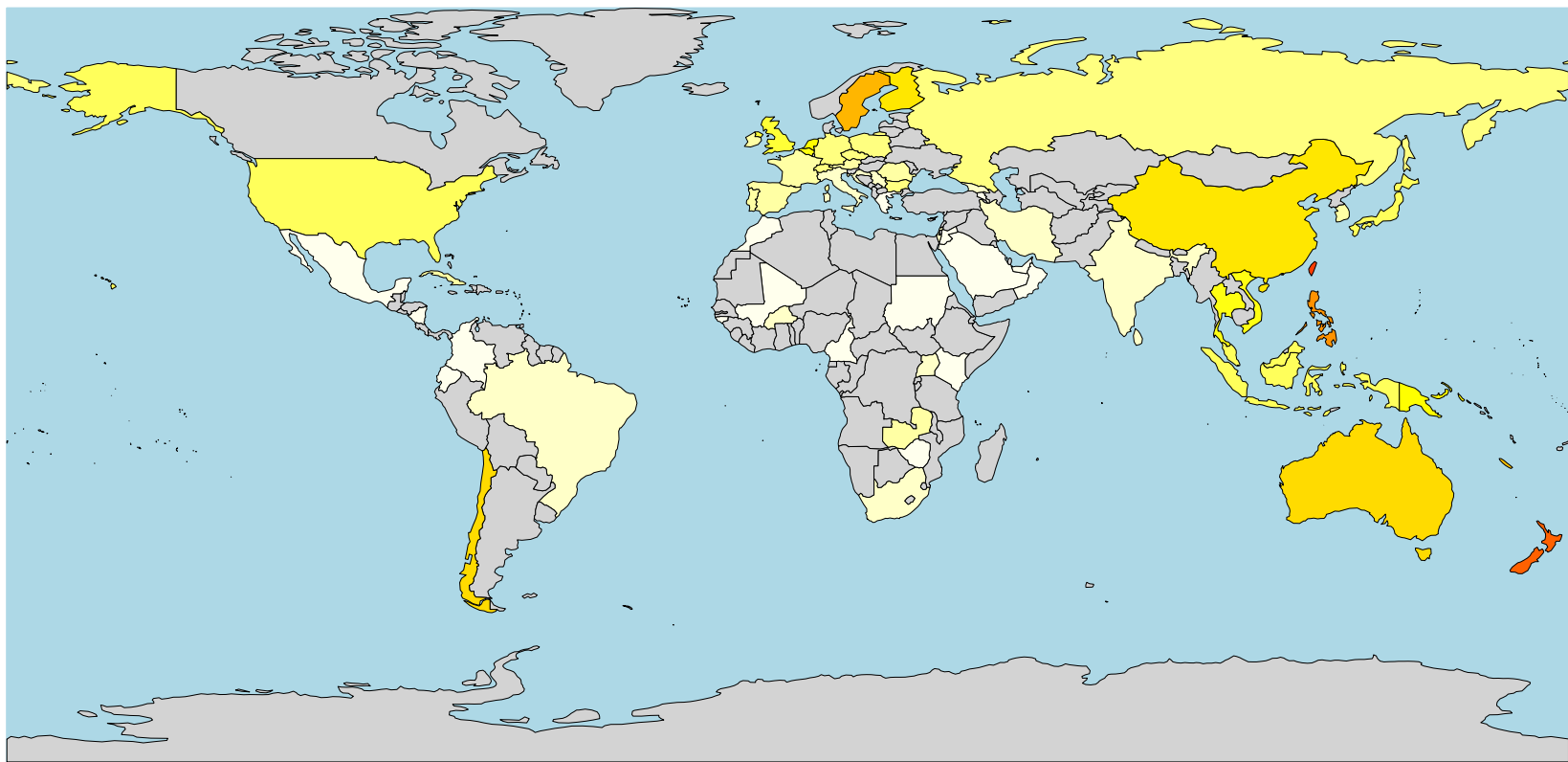
B*39:06 Haplotypes (n=97)



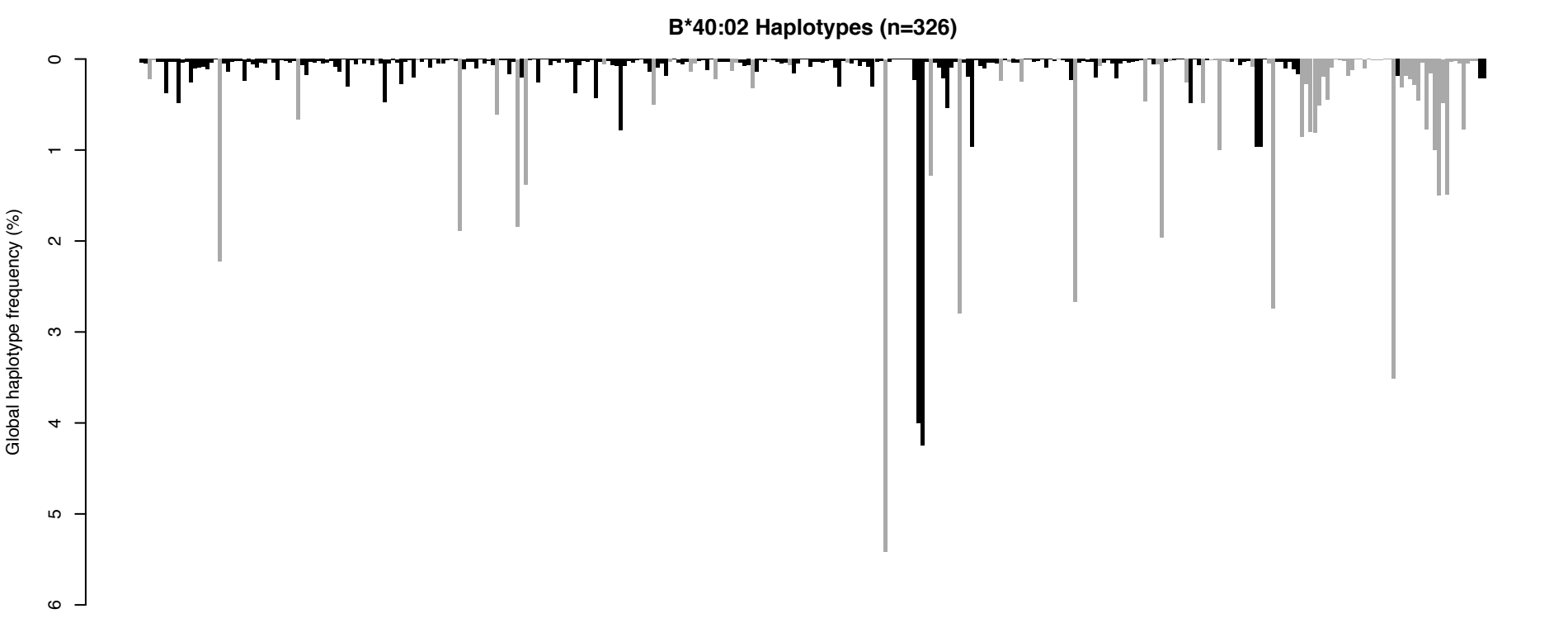
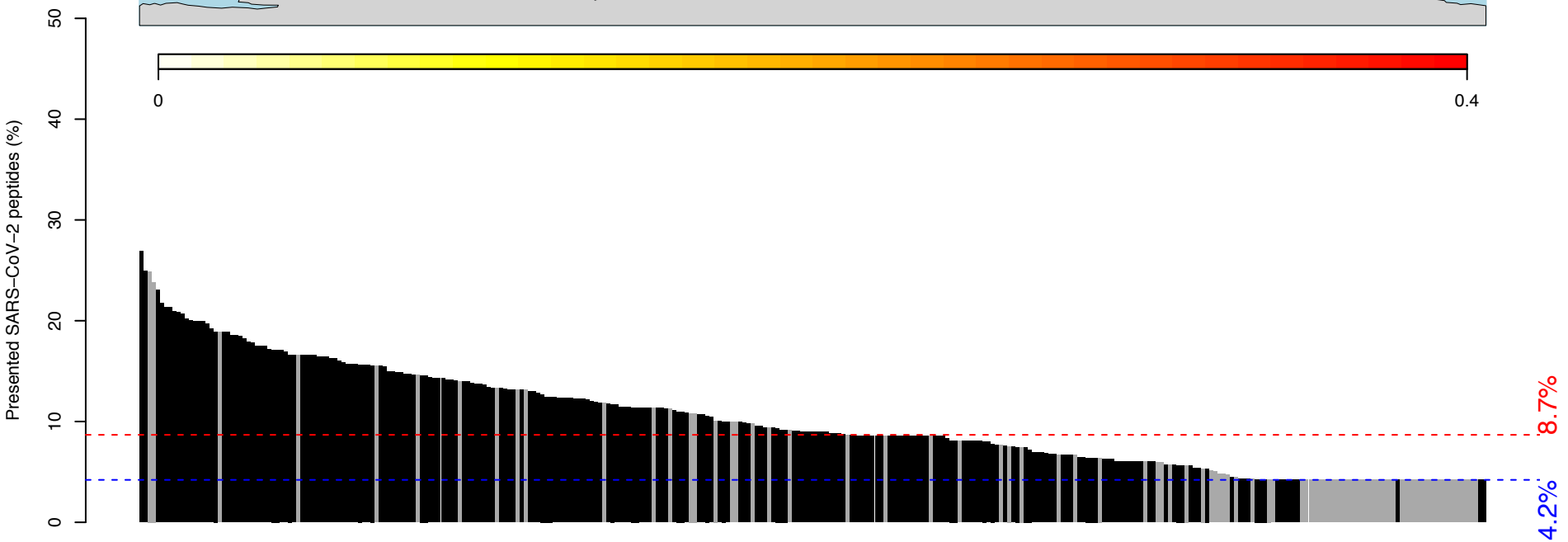
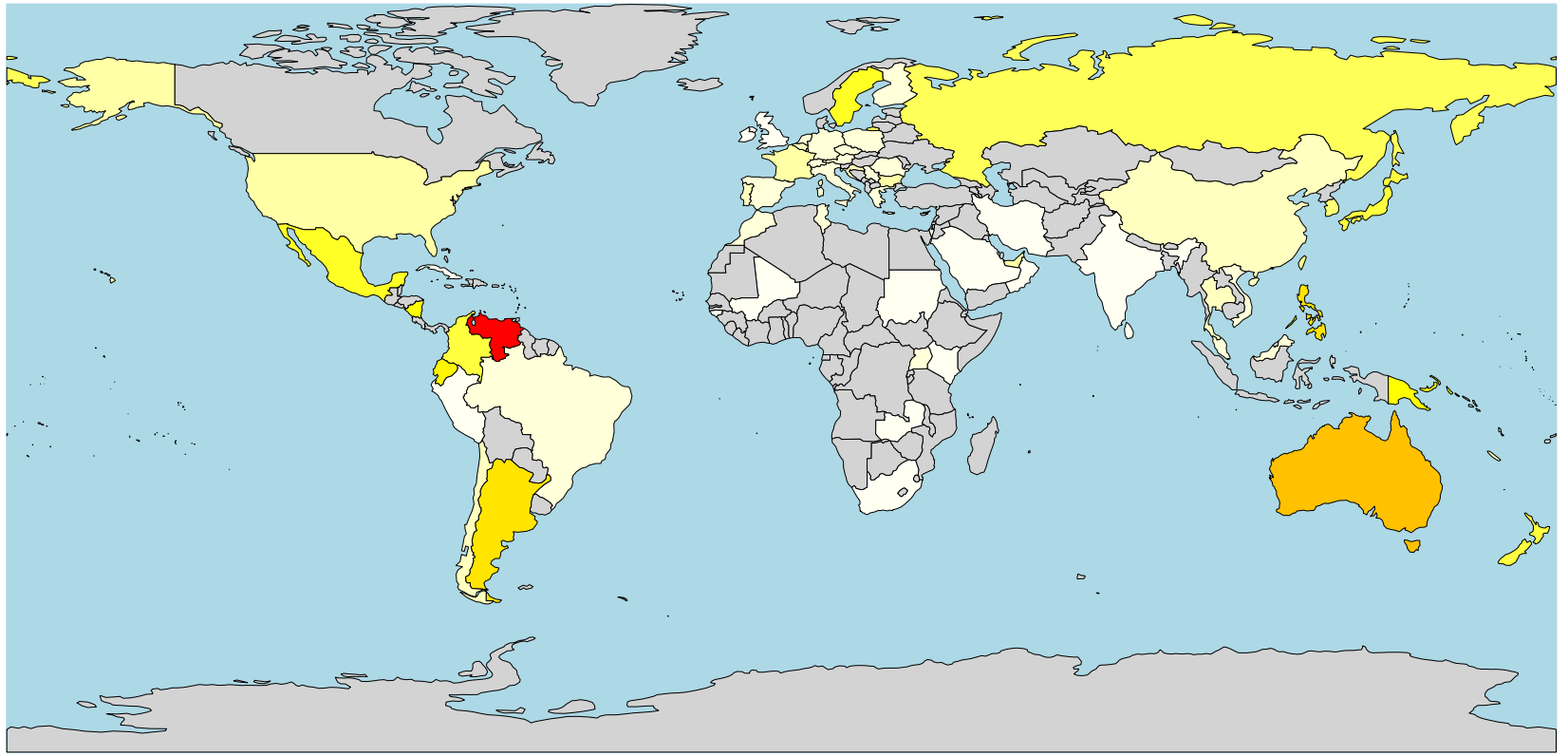
B*39:10
(~0.19% globally)



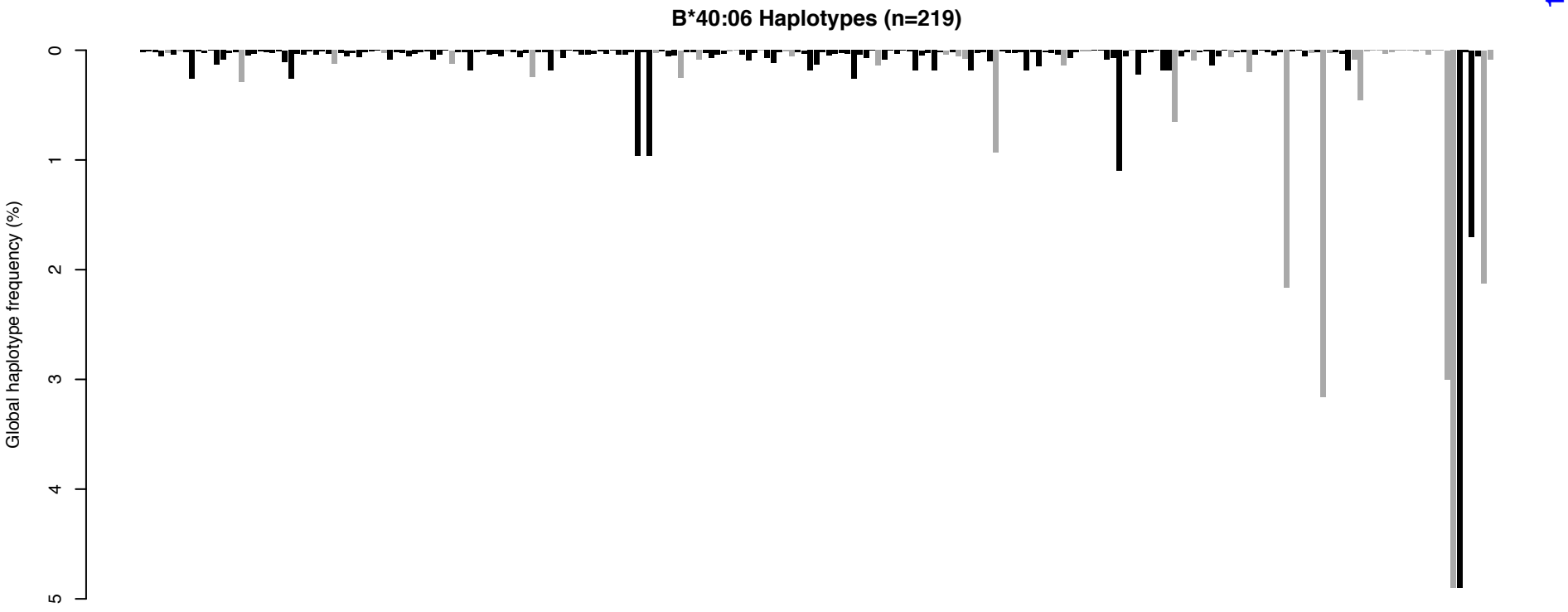
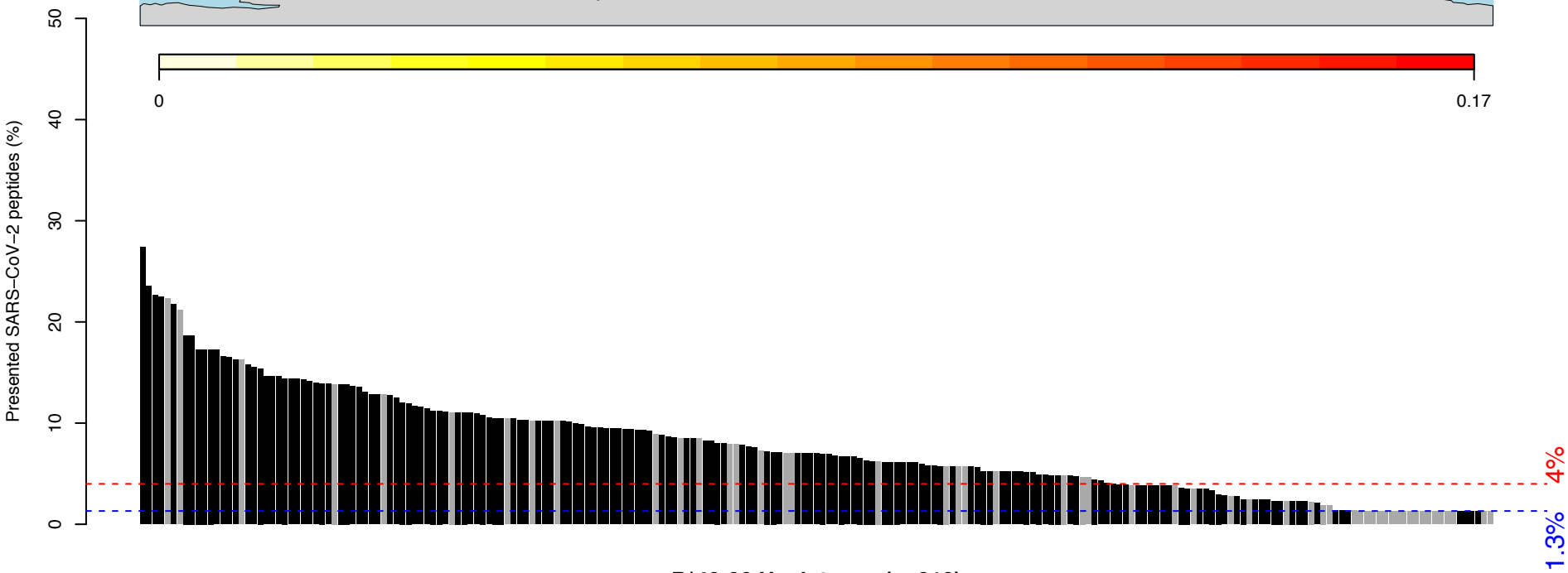
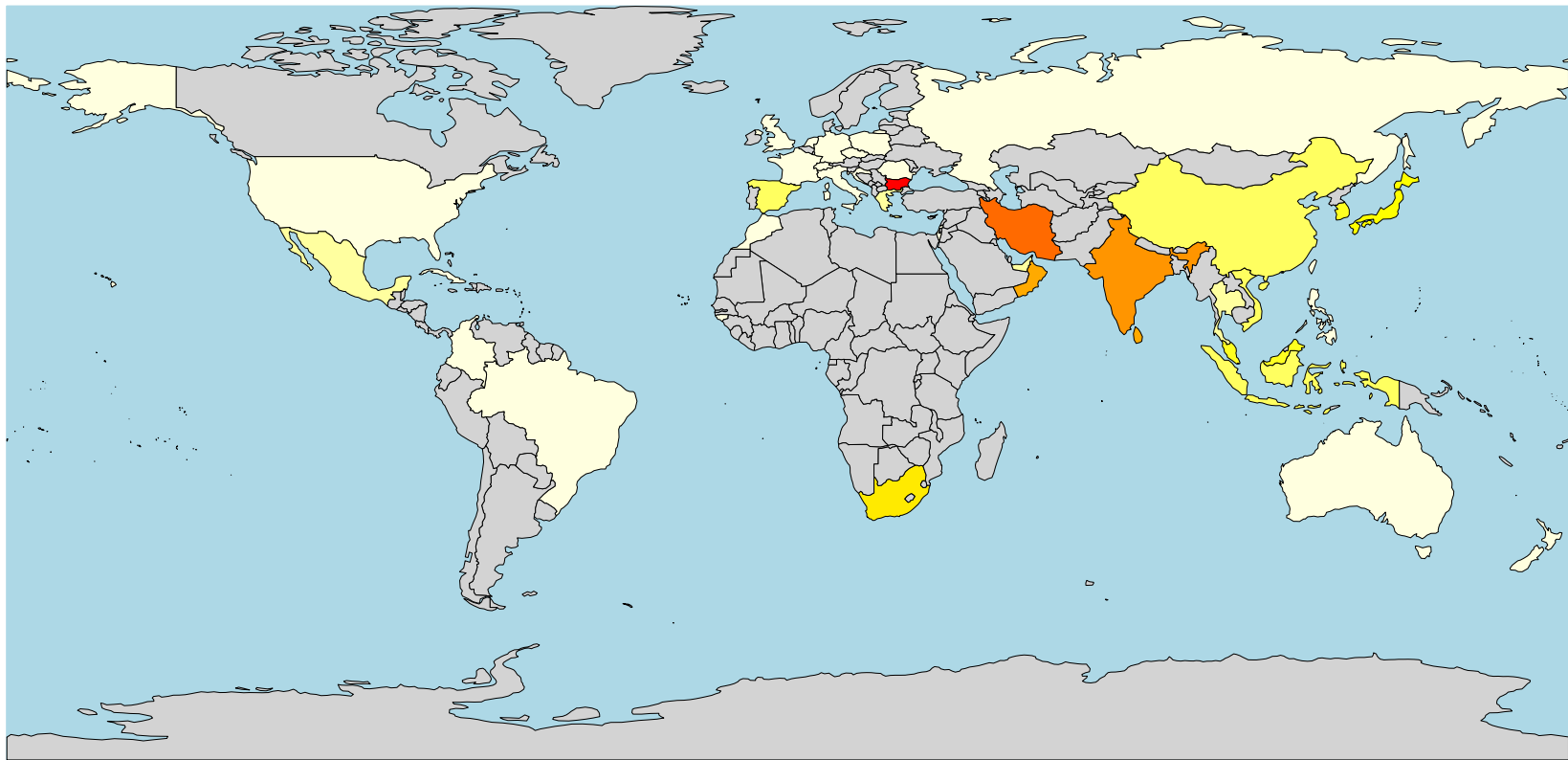
B*40:01
(~2.6% globally)



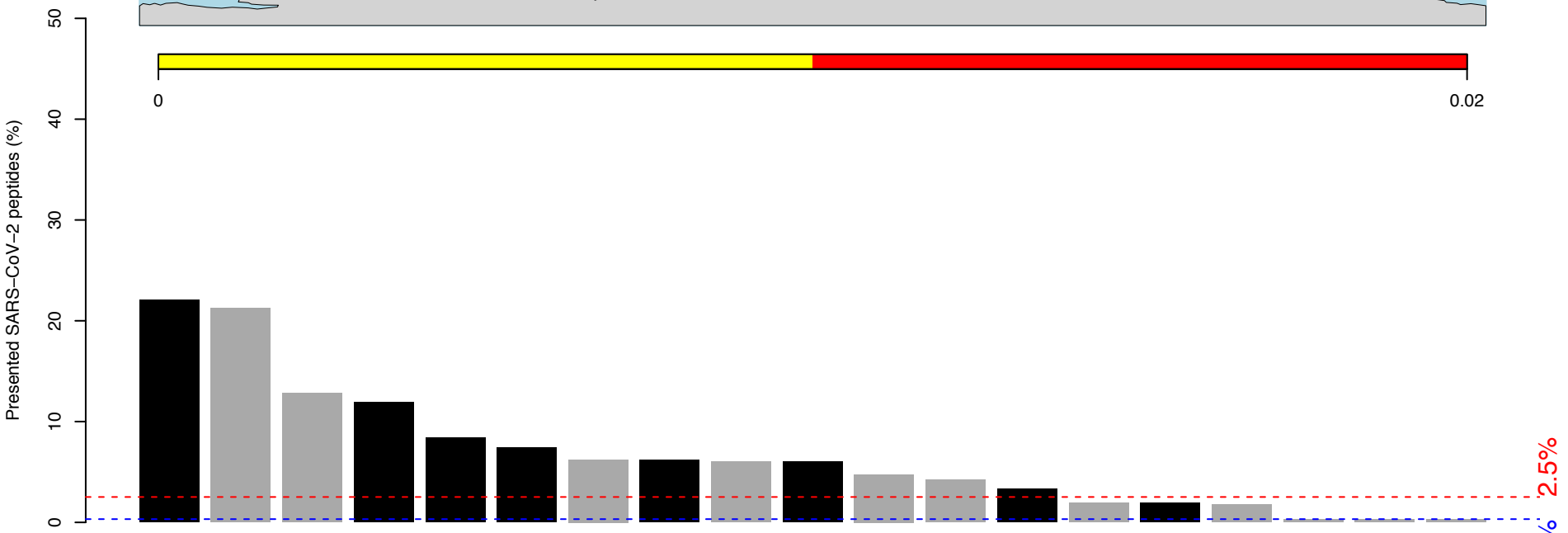
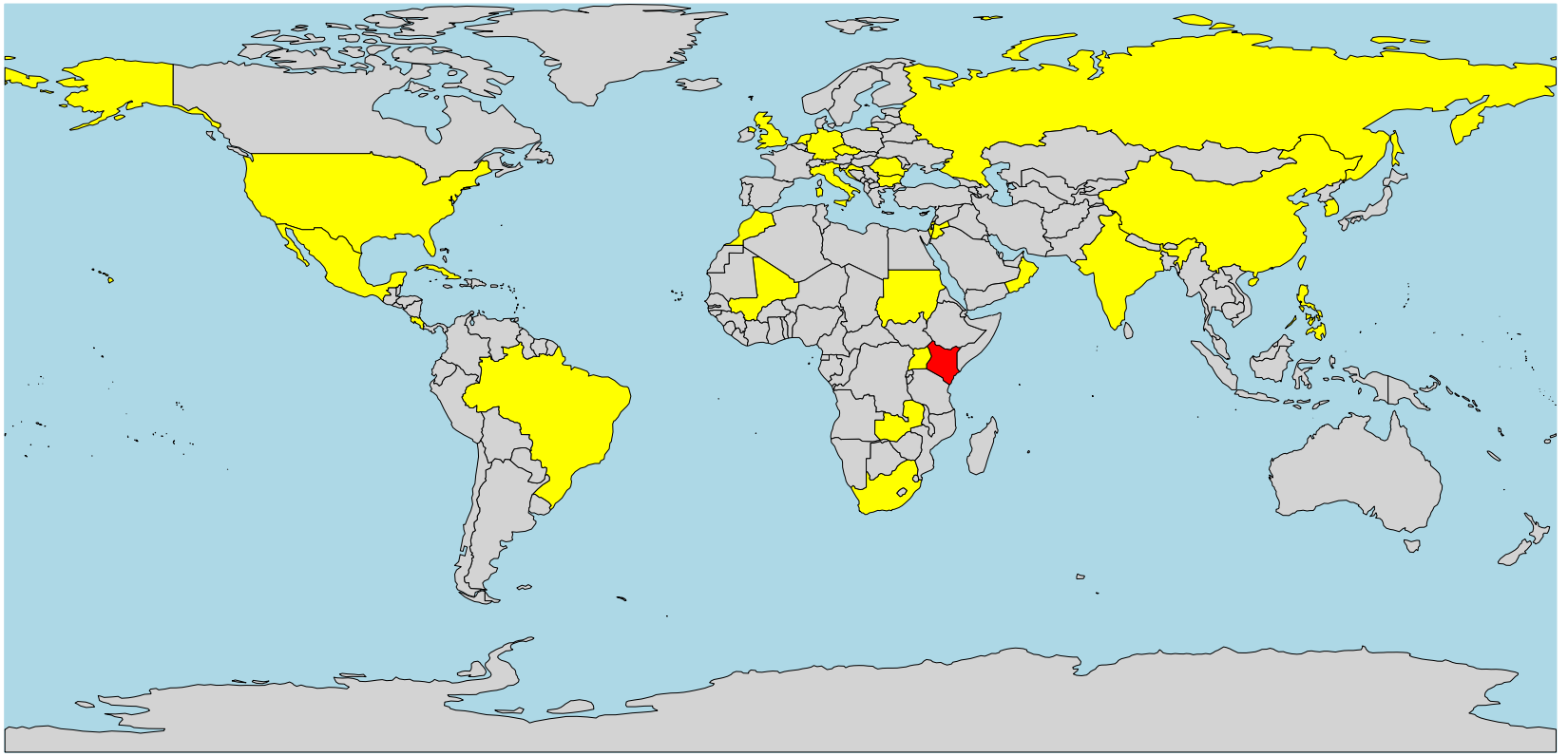
B*40:02
(~3% globally)



B*40:06
(~2.8% globally)



B*40:12
(~0.21% globally)

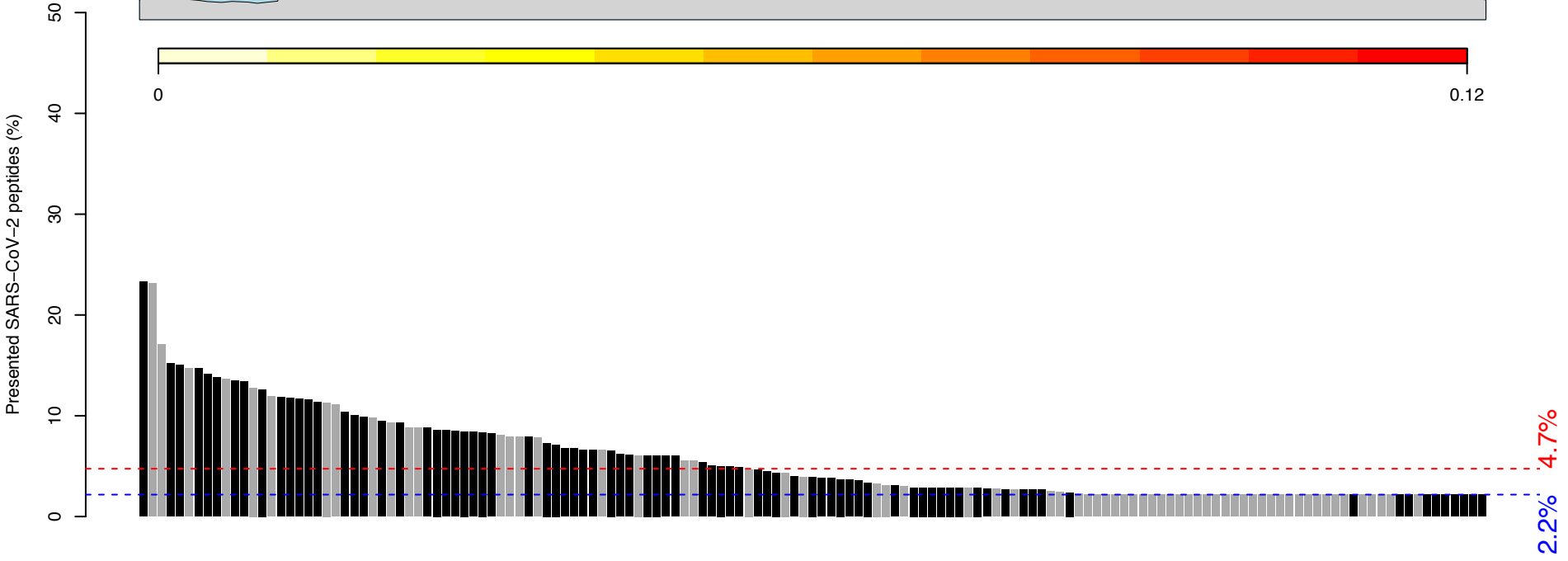
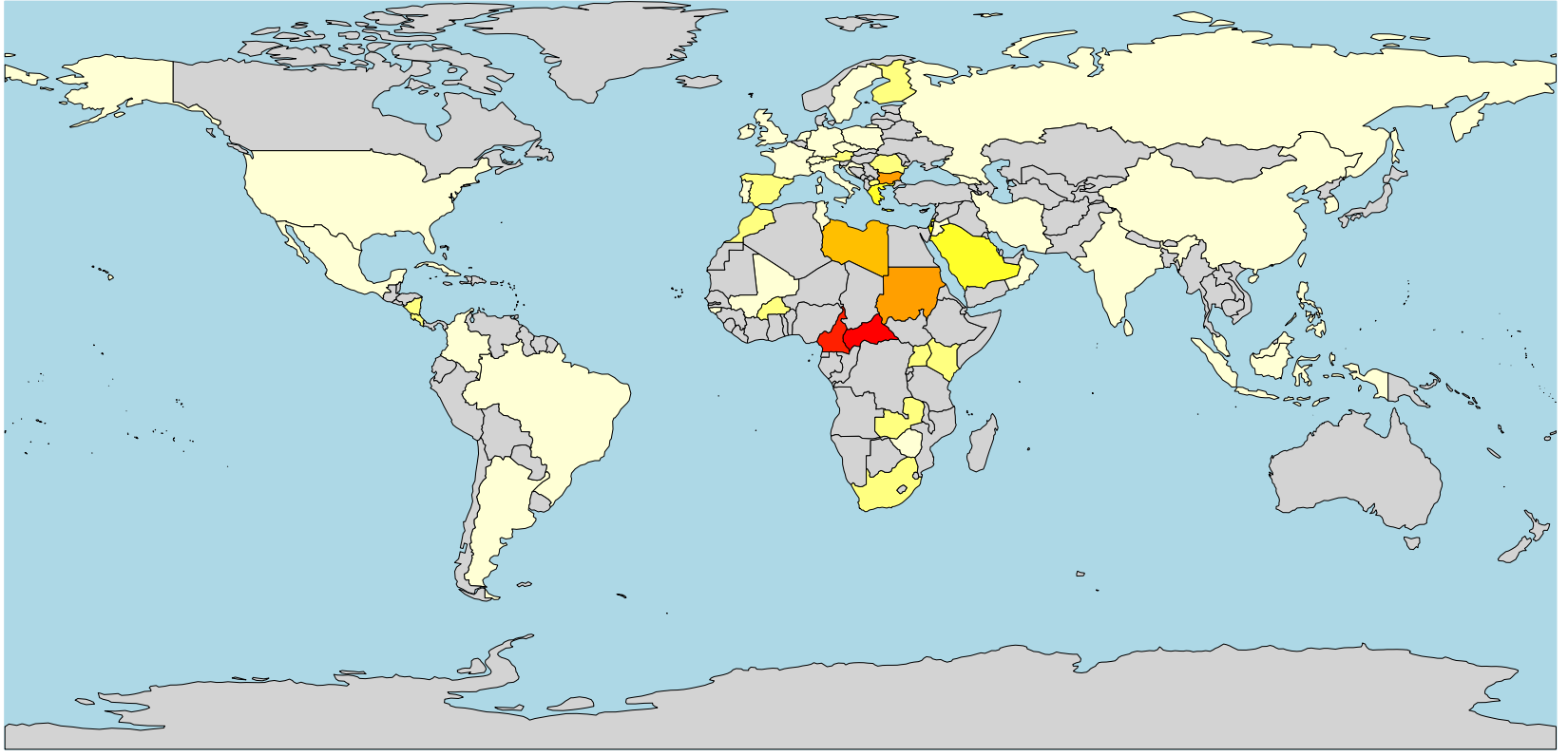


2.5%
0.3%

B*40:12 Haplotypes (n=19)



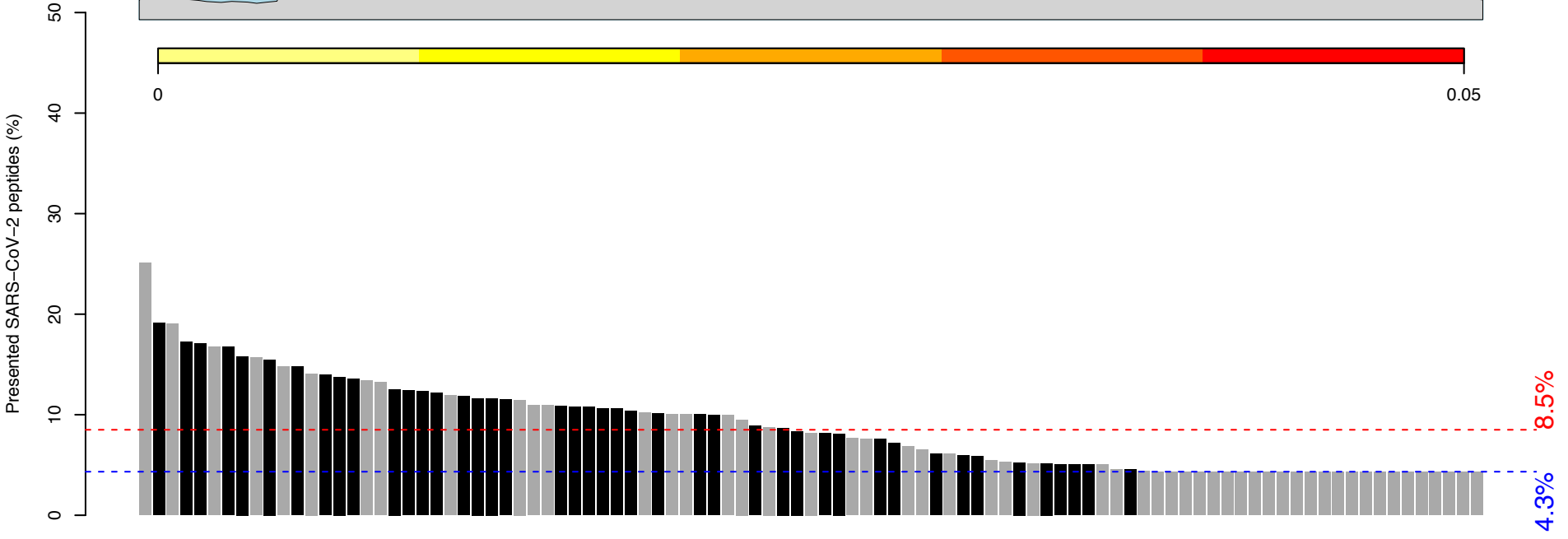
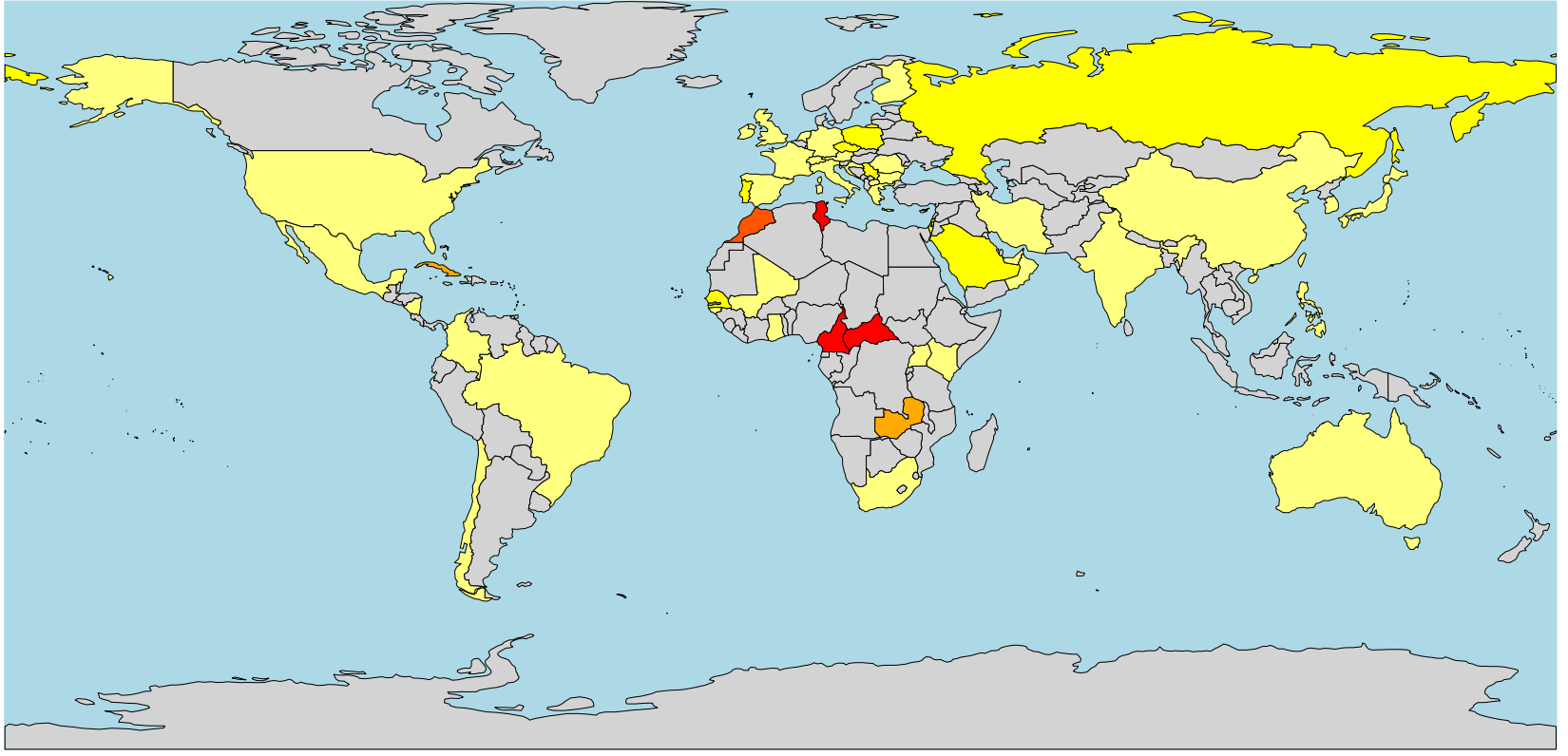
B*41:01
(~0.48% globally)



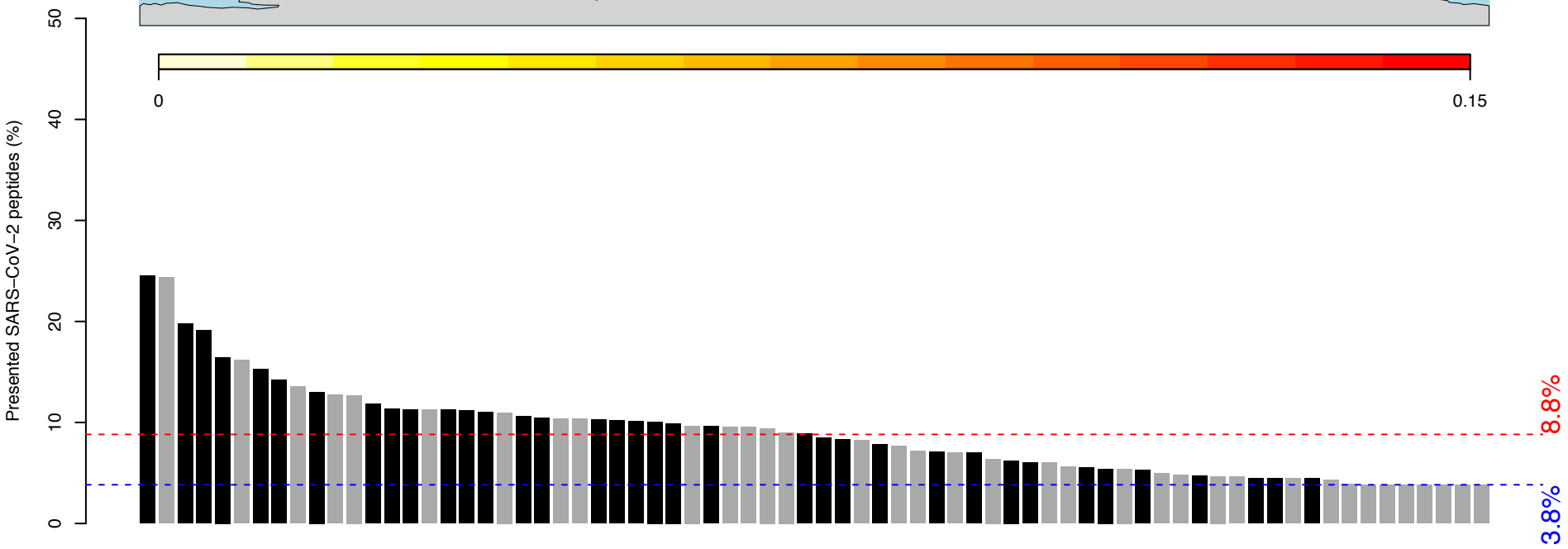
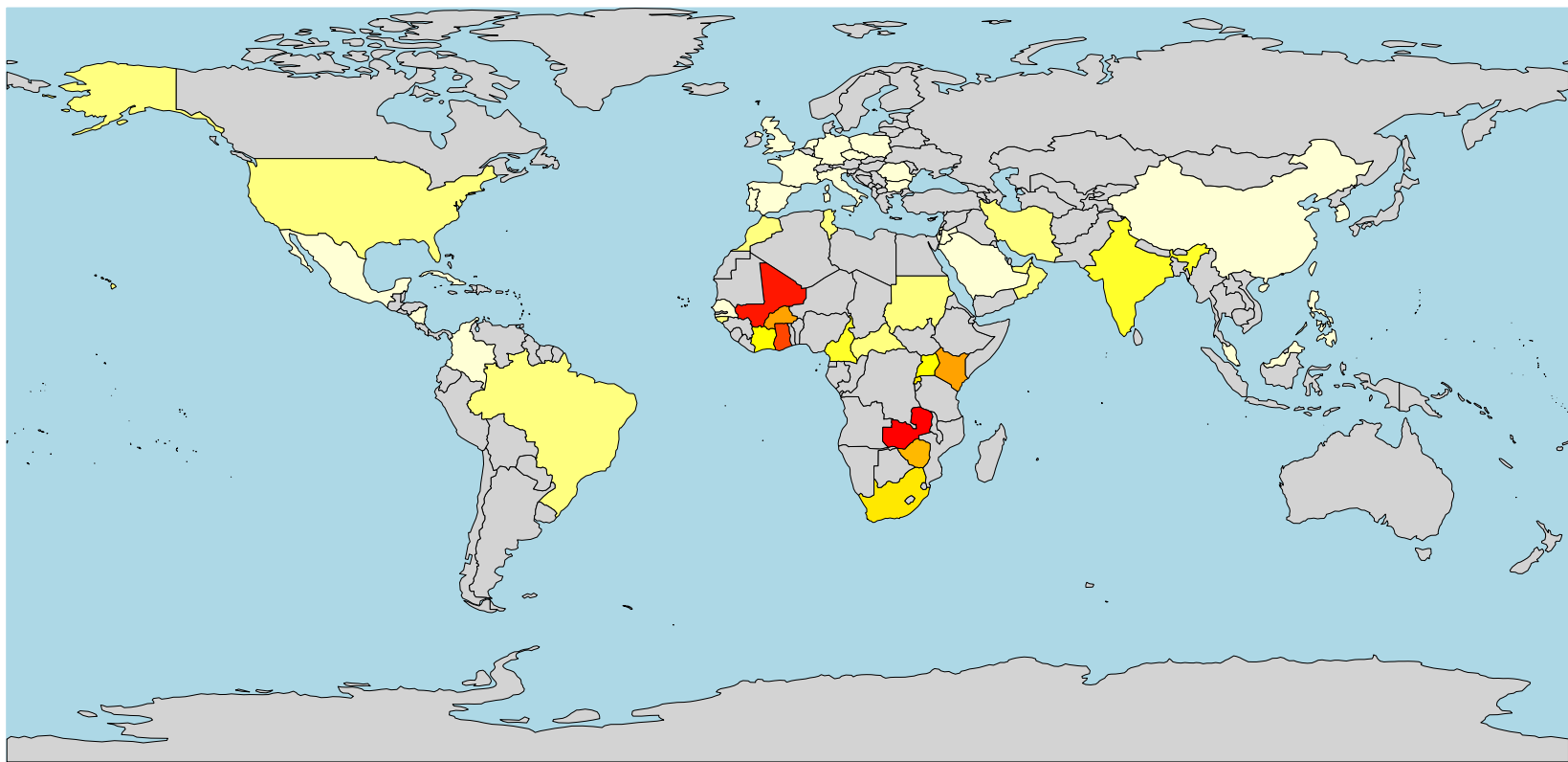
B*41:01 Haplotypes (n=147)



B*41:02
(~0.33% globally)



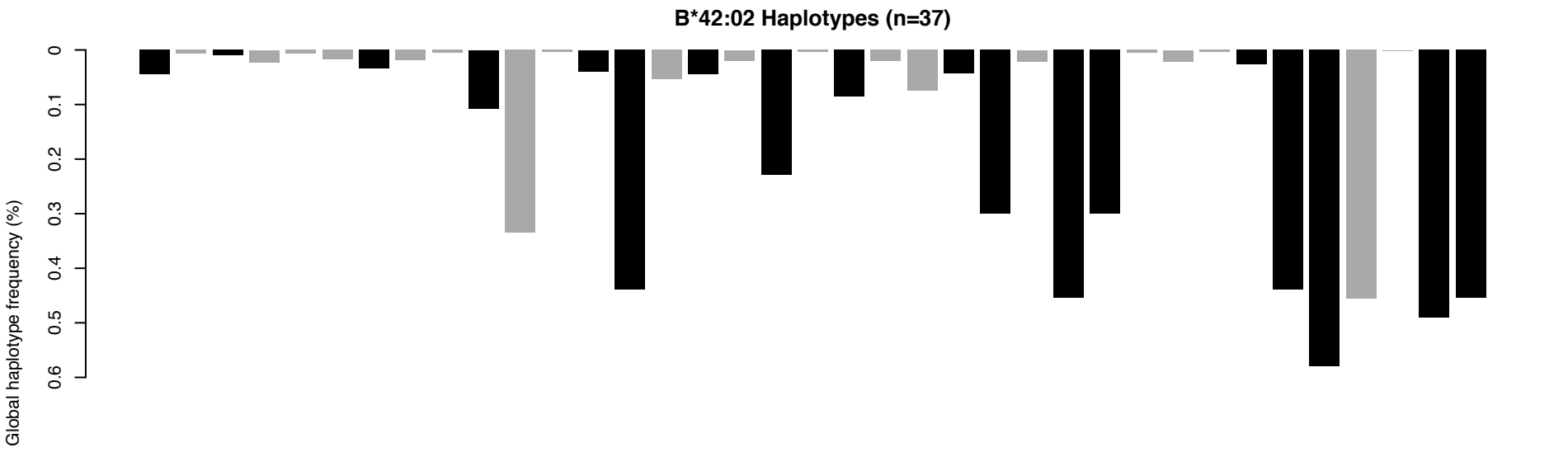
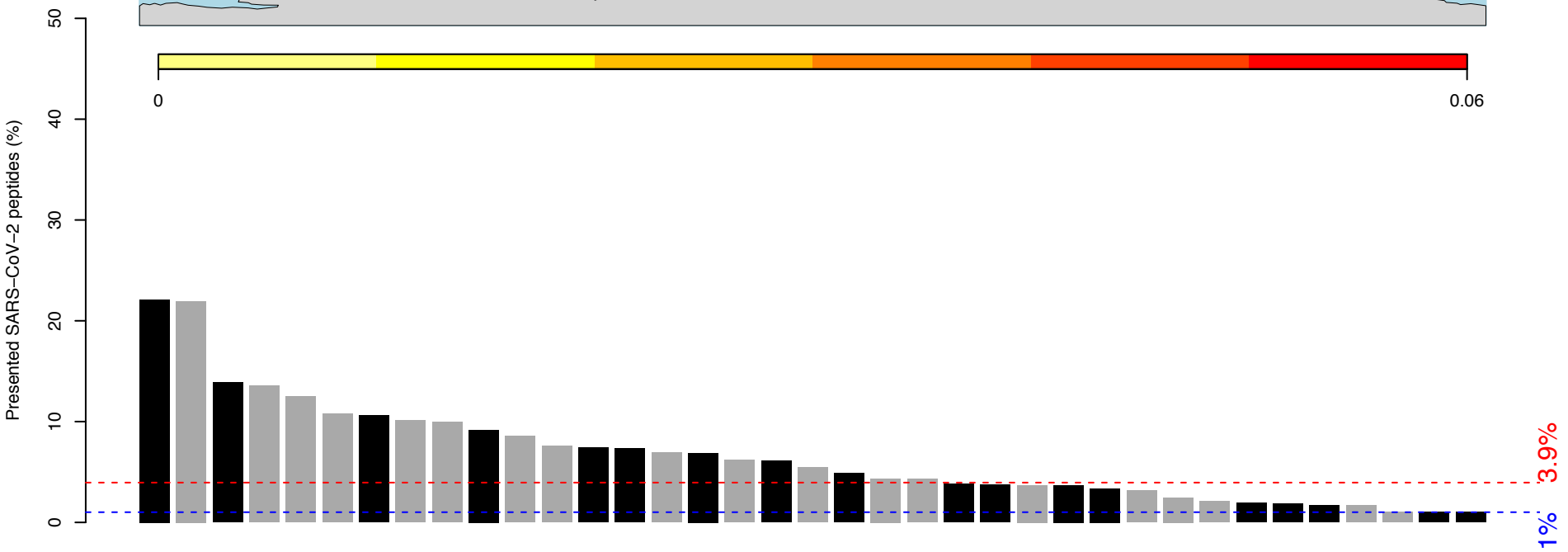
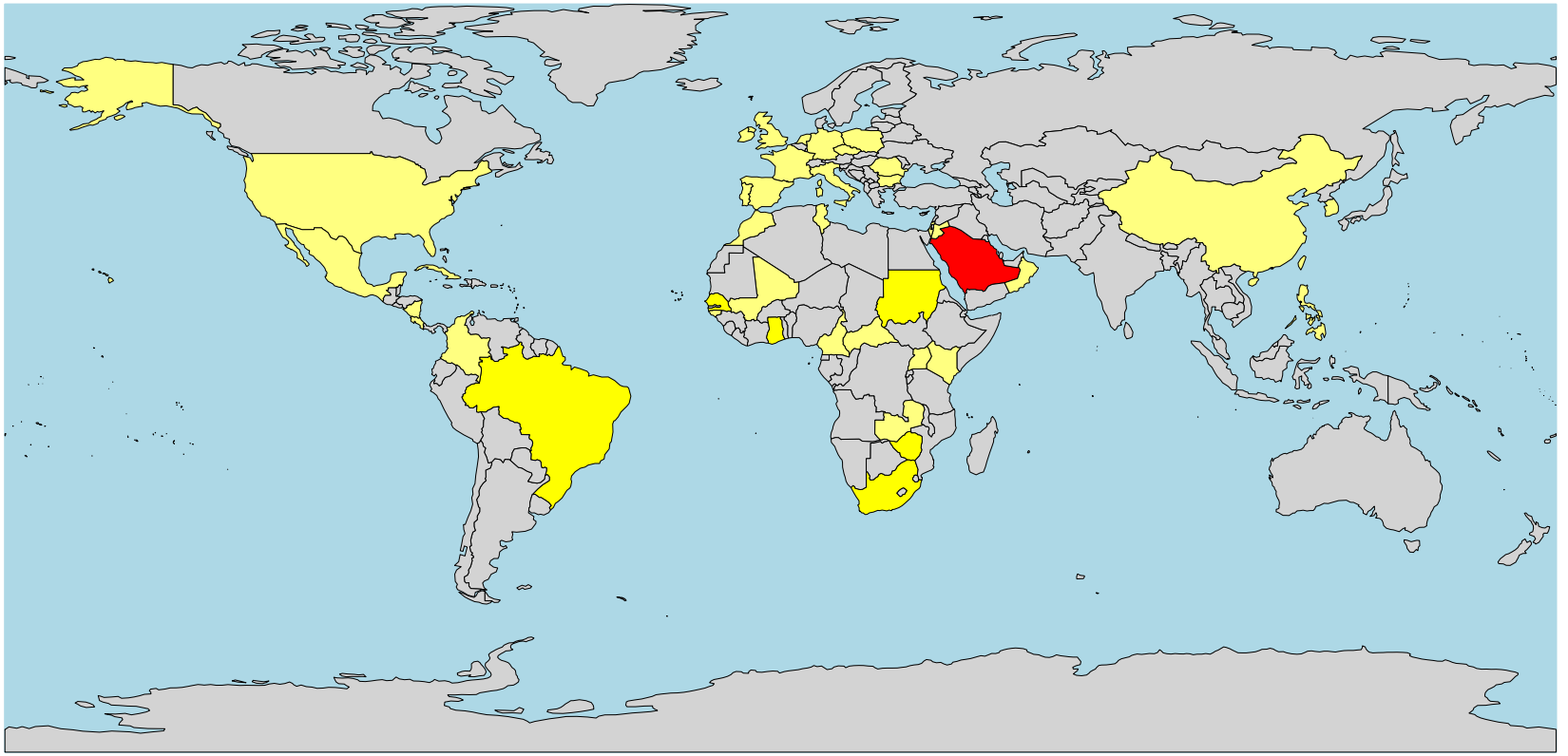
B*42:01
(~1.2% globally)



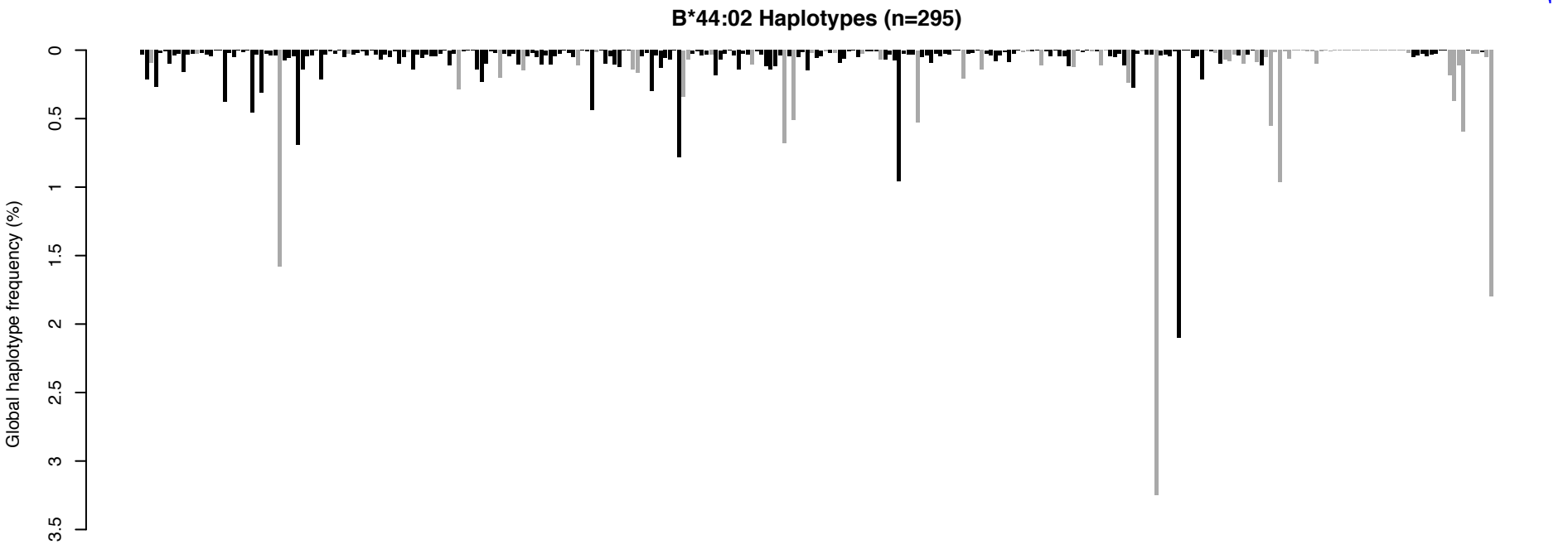
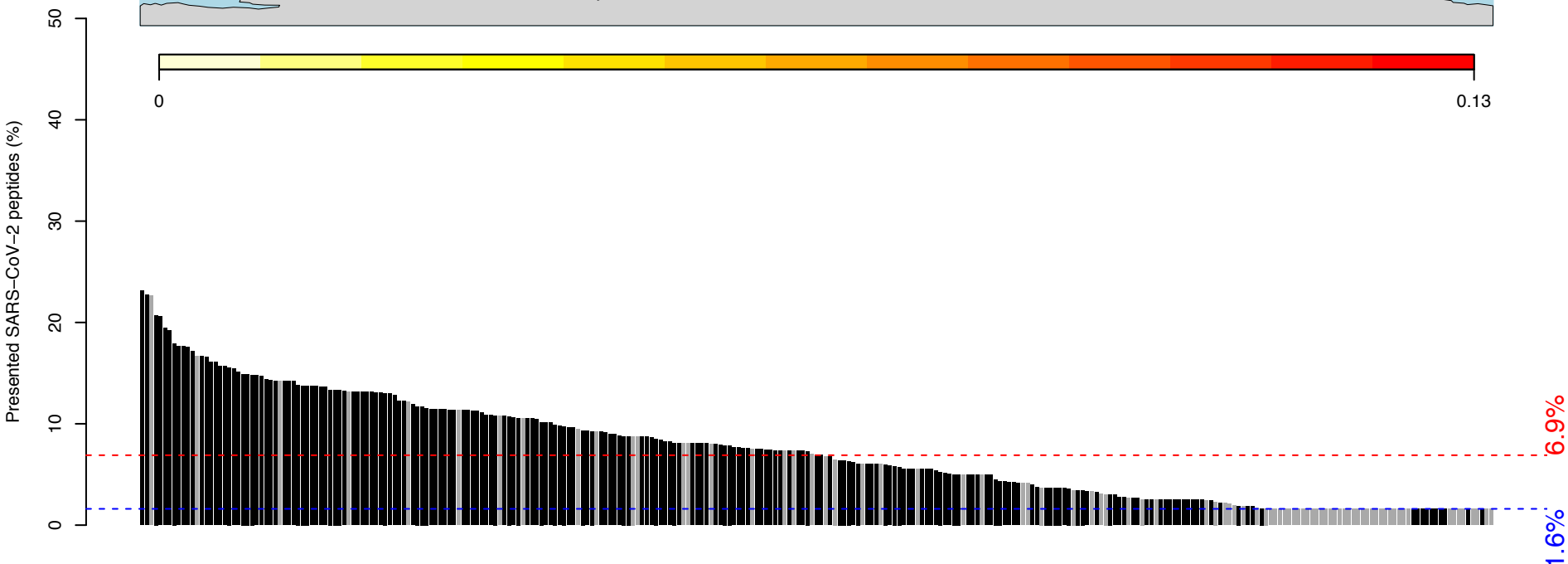
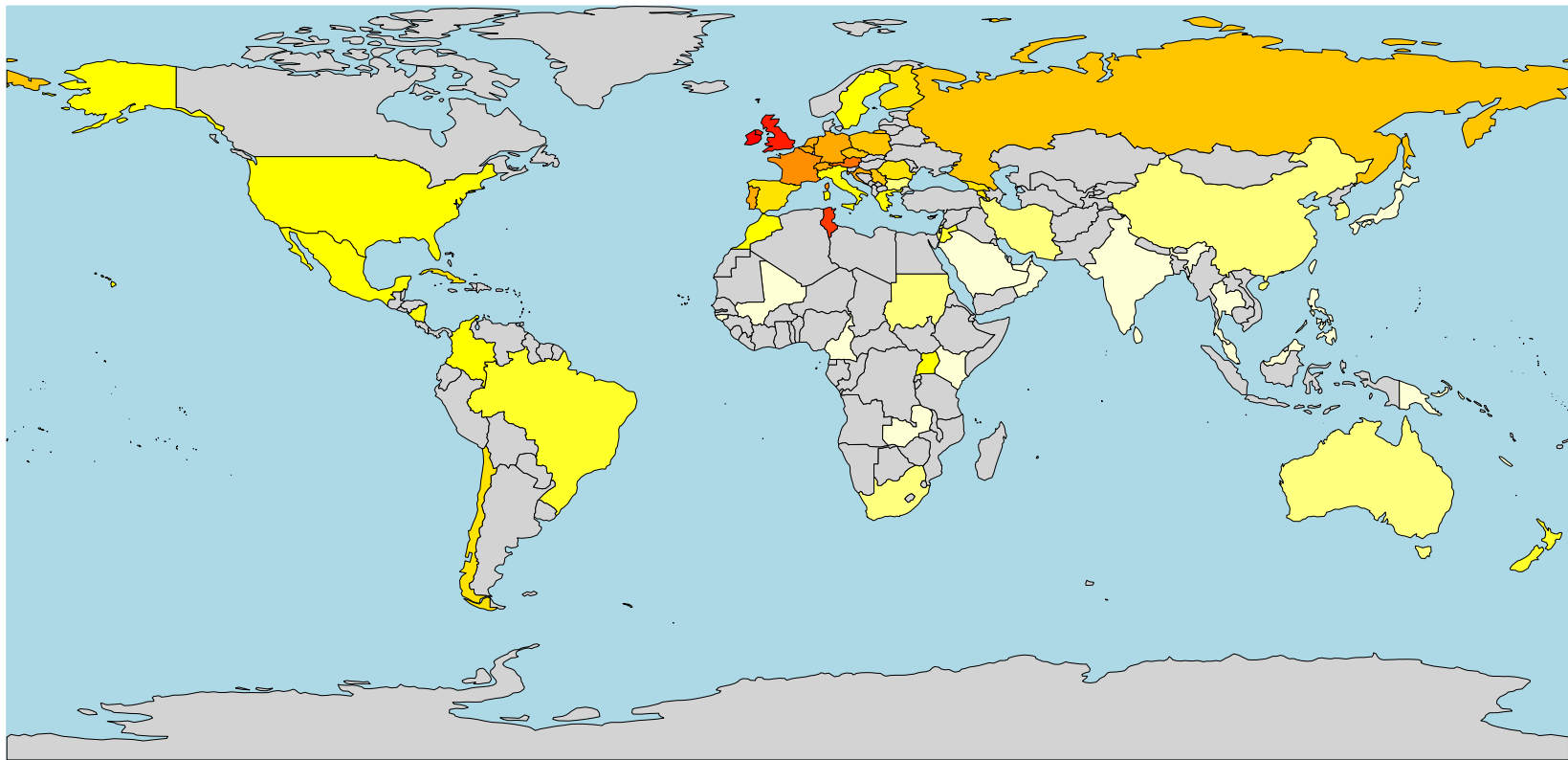
B*42:01 Haplotypes (n=72)



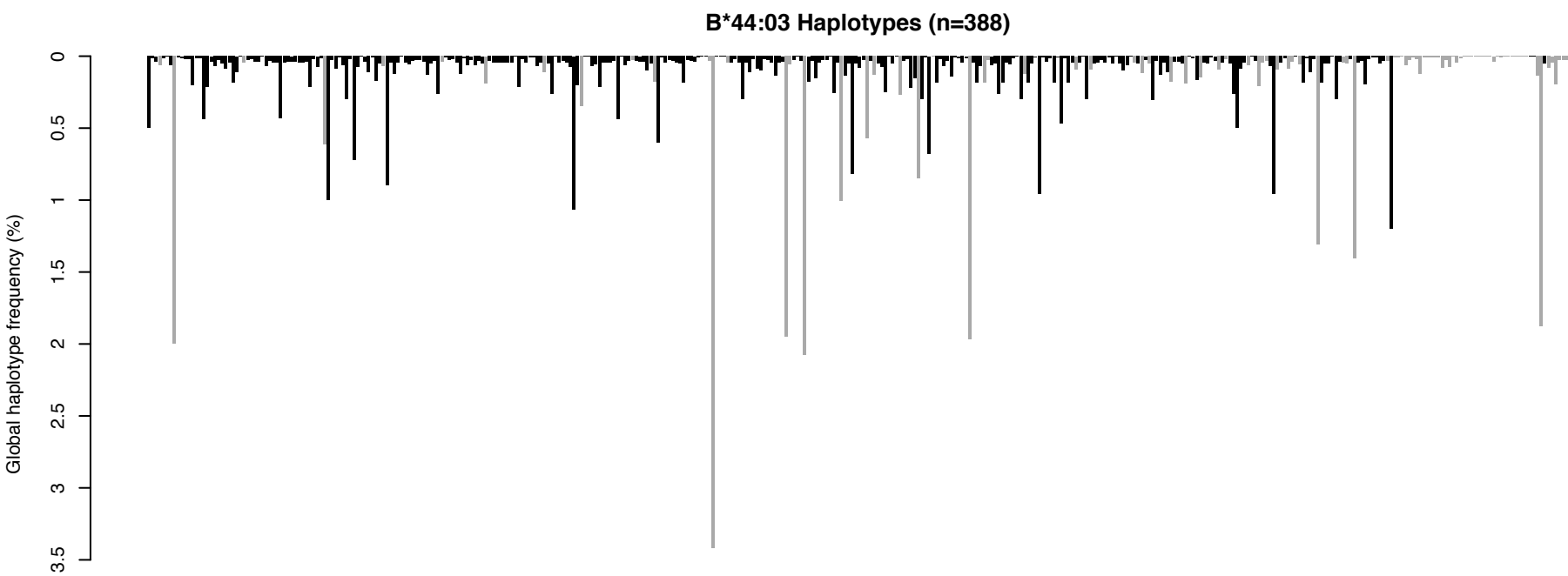
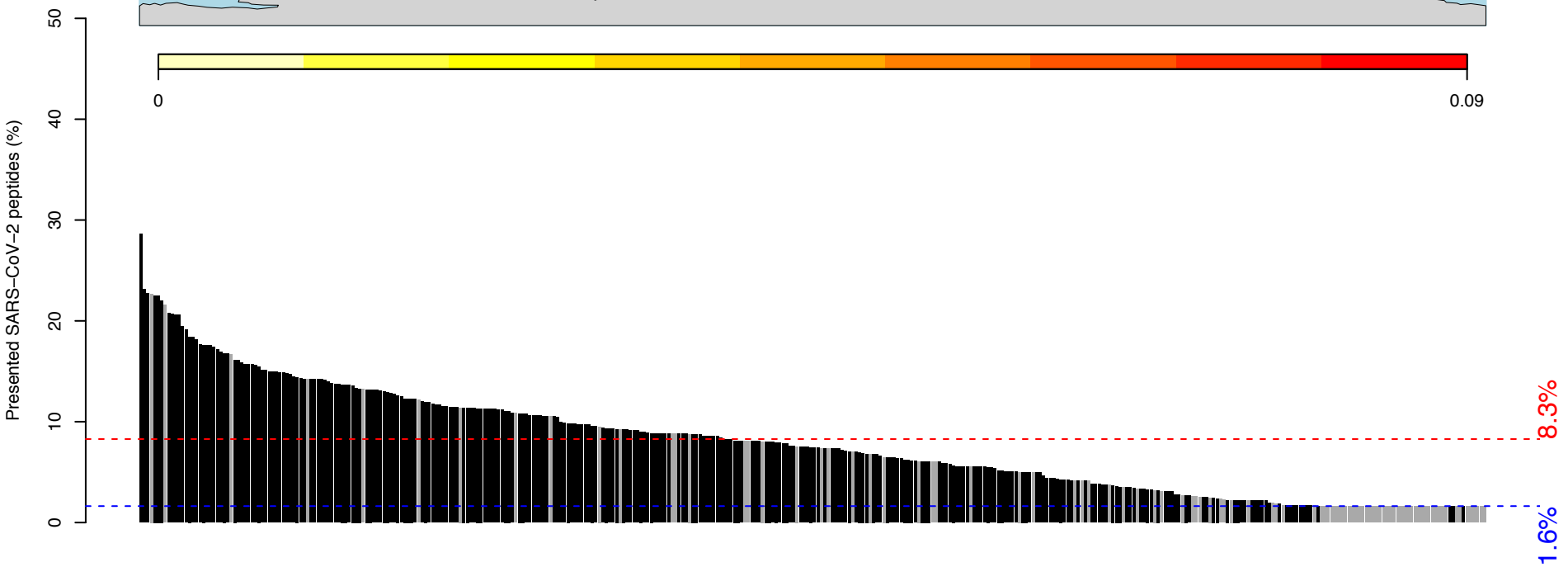
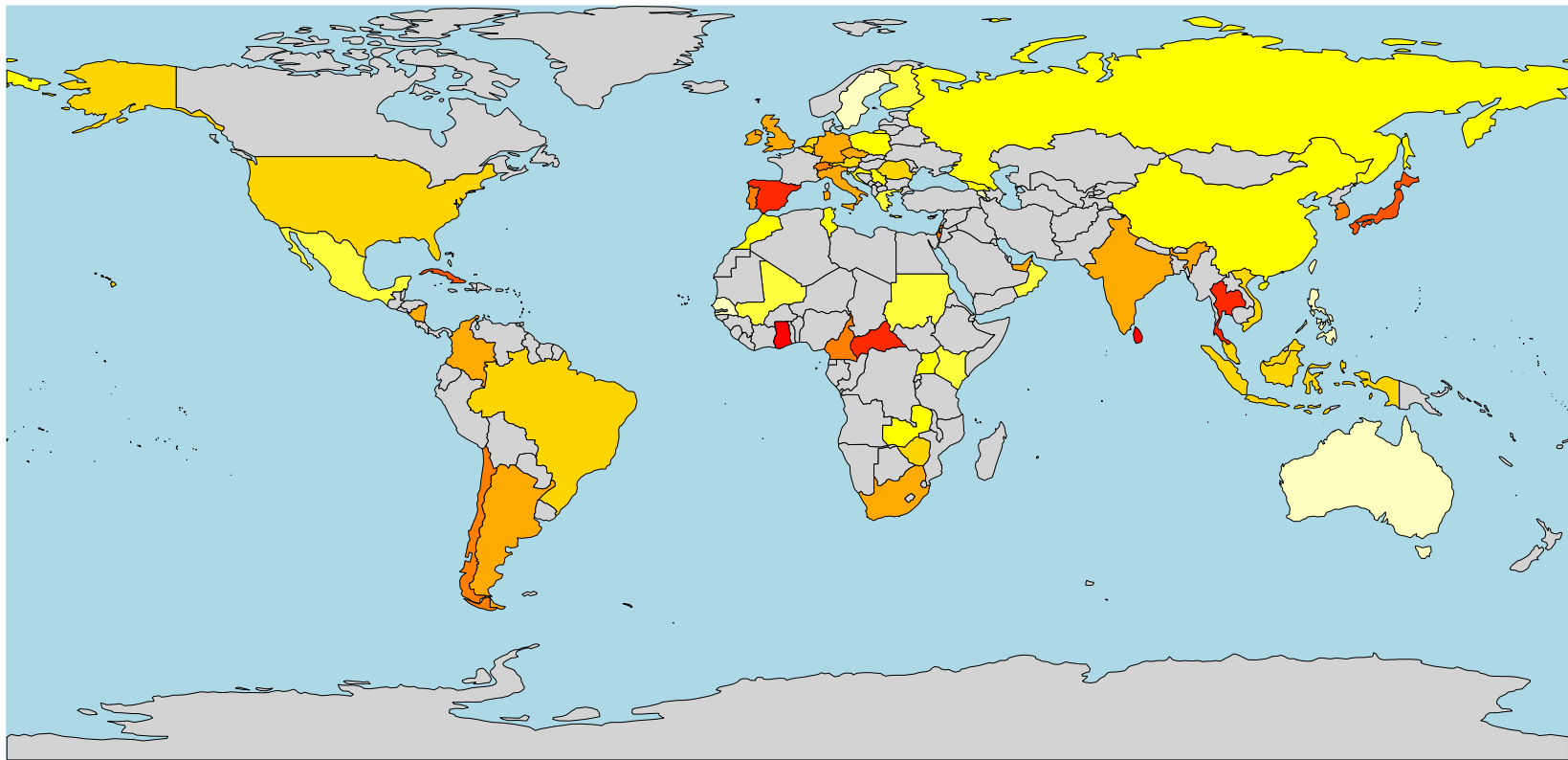
B*42:02
(~0.27% globally)



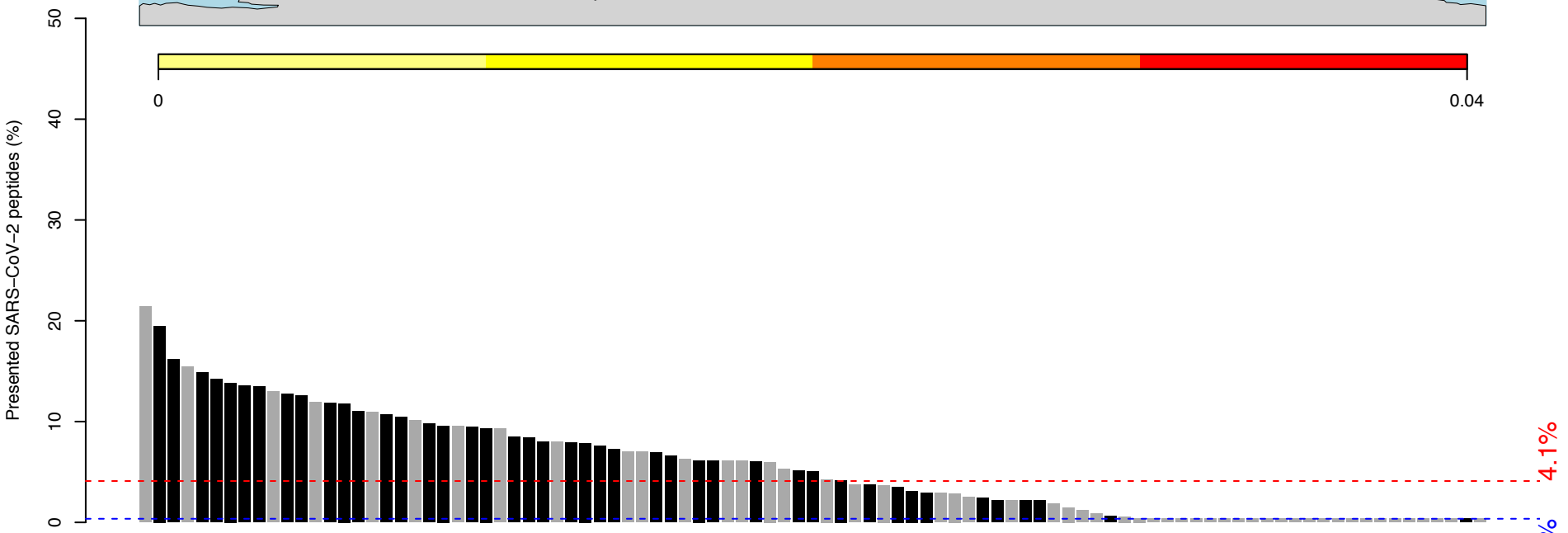
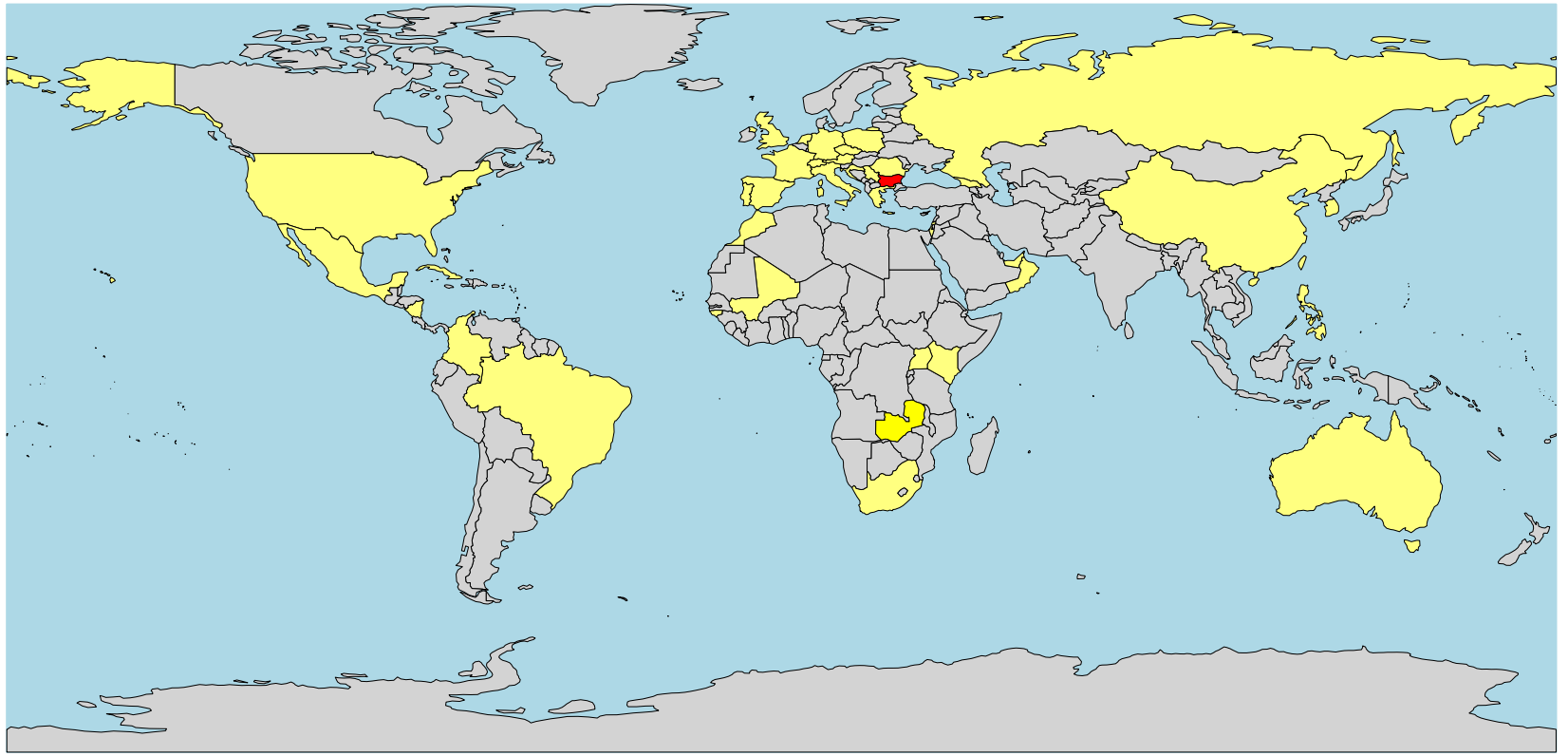
B*44:02
(~1.3% globally)



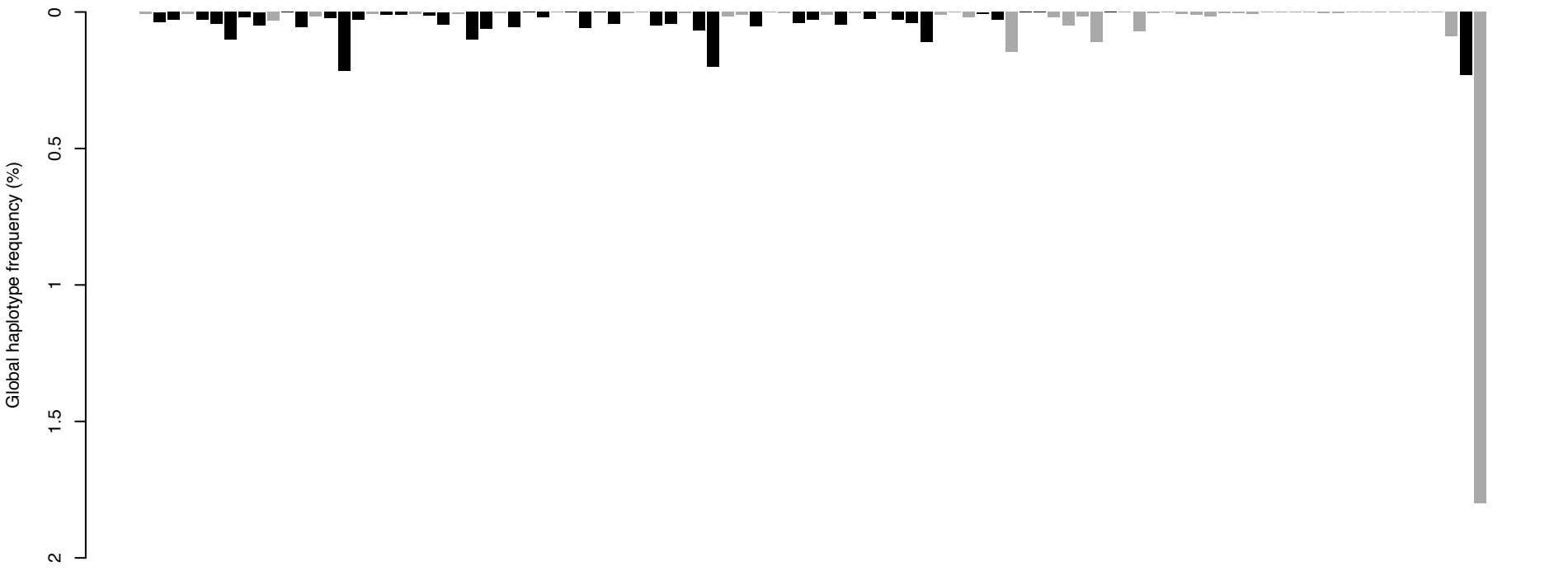
B*44:03
(~2.6% globally)



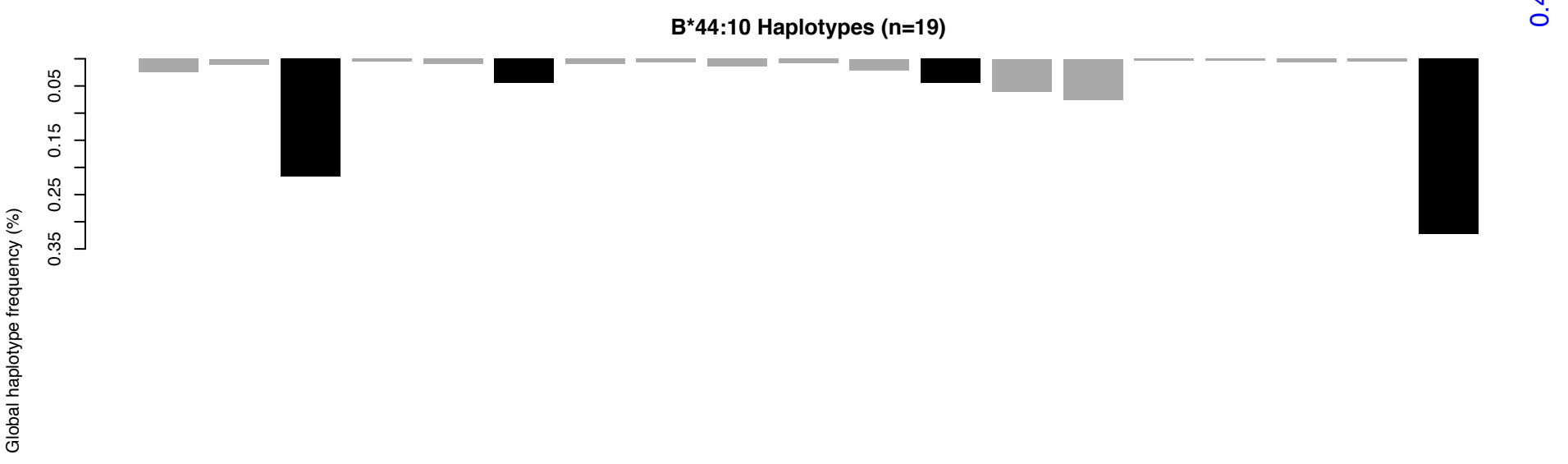
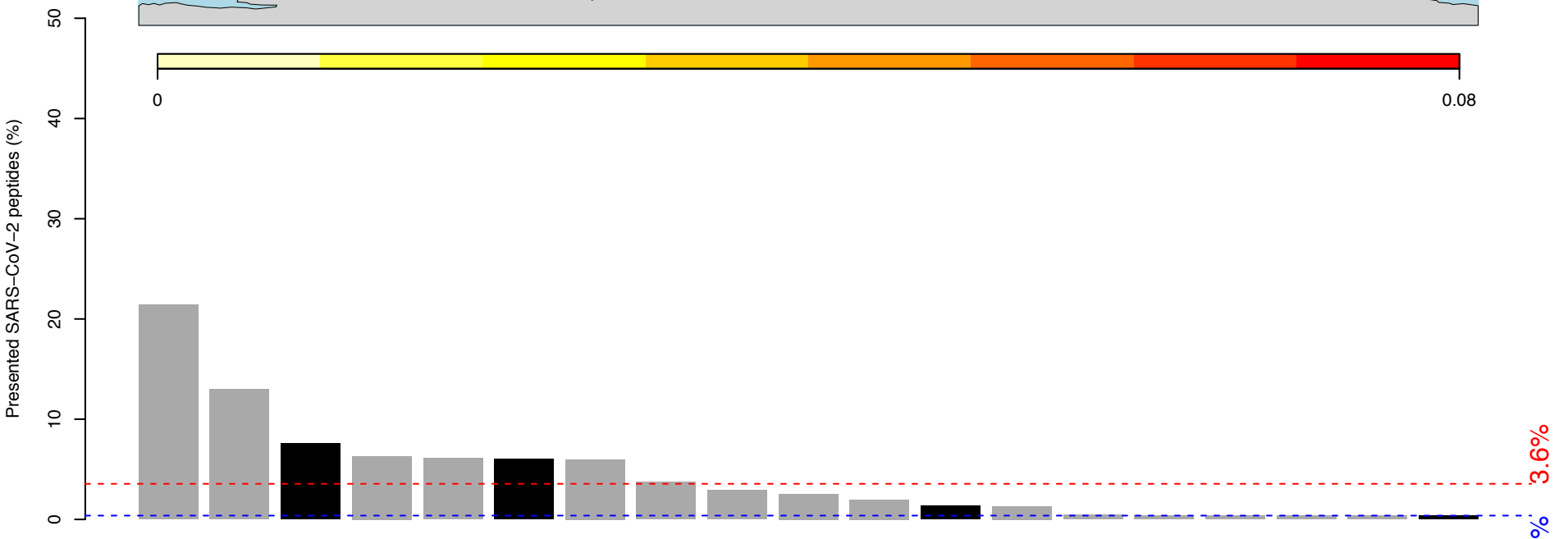
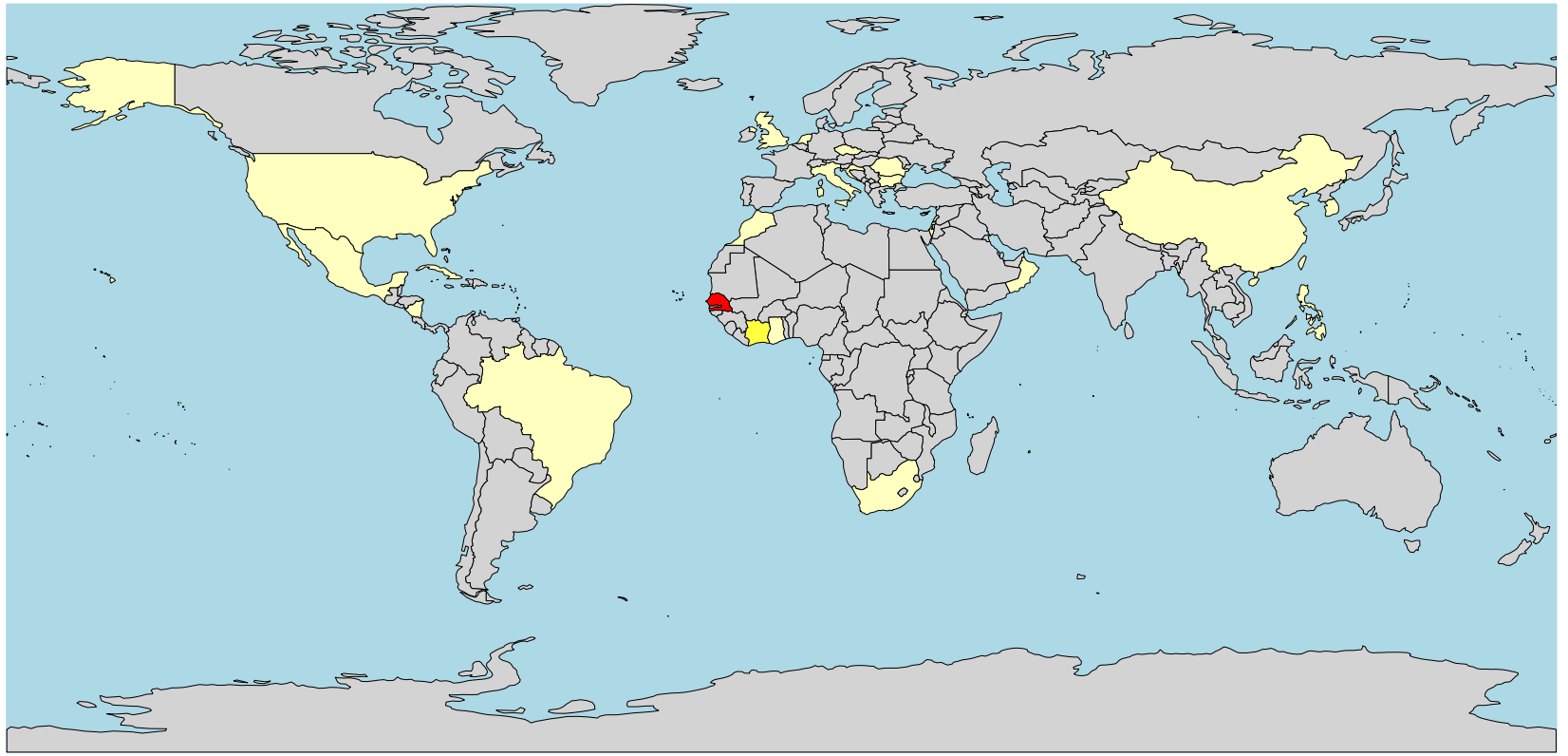
B*44:05
(~0.17% globally)



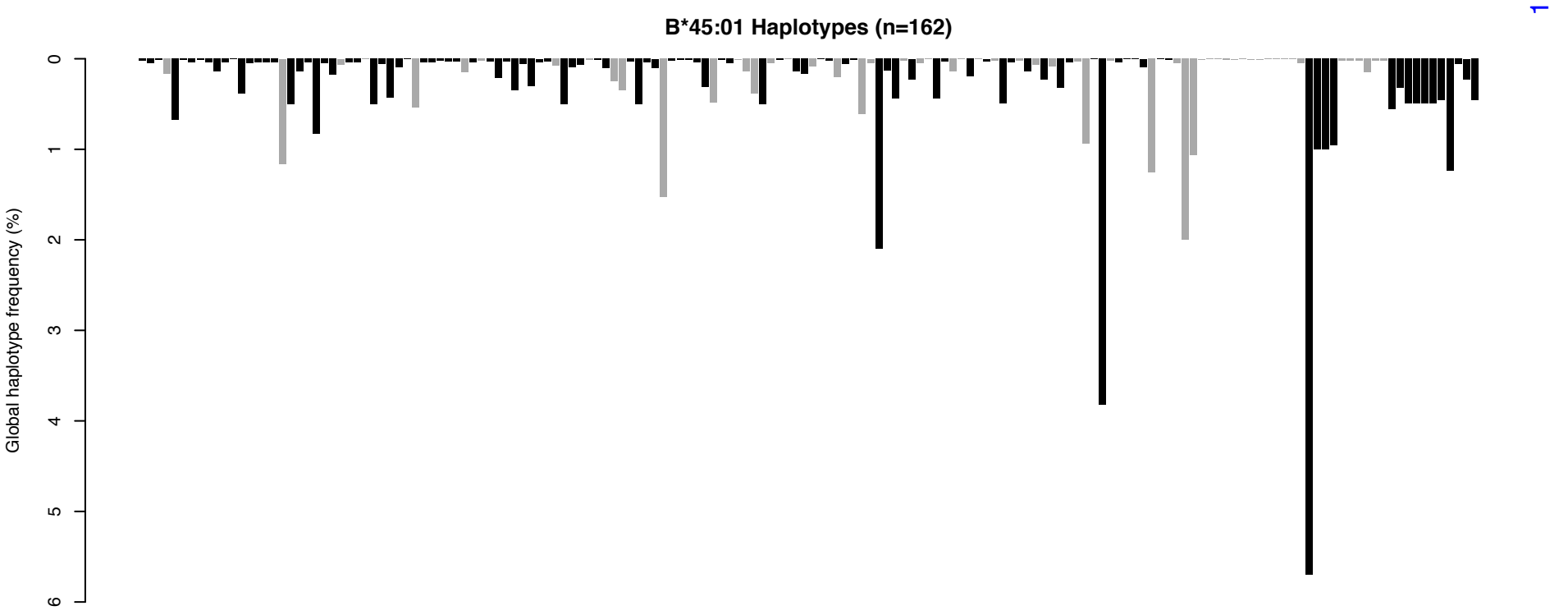
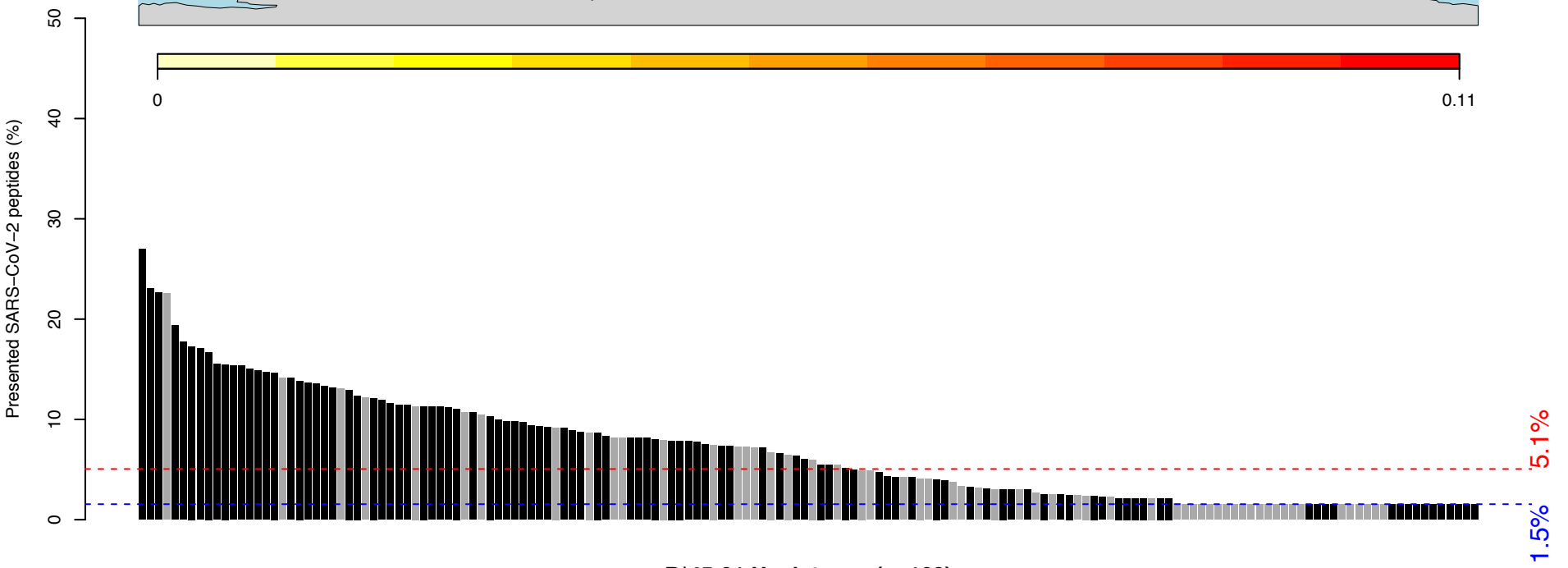
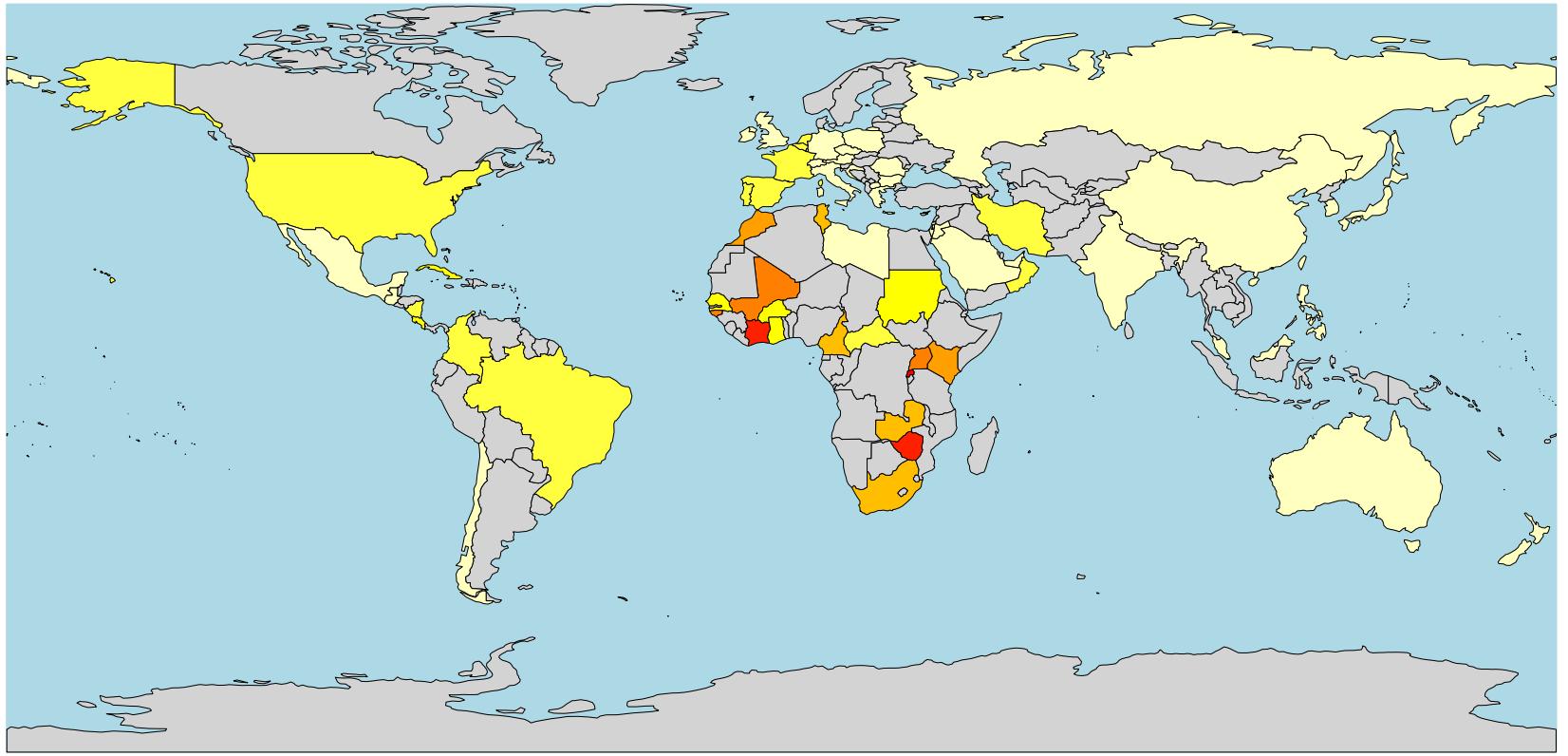
B*44:05 Haplotypes (n=95)



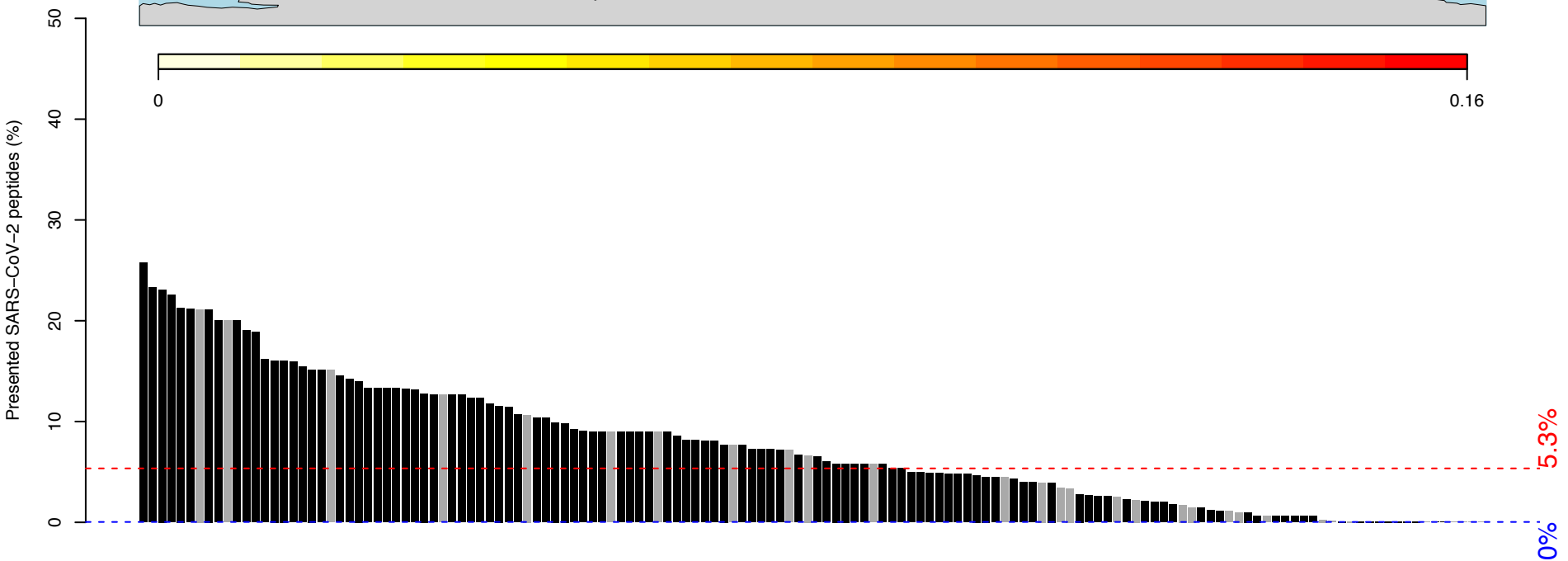
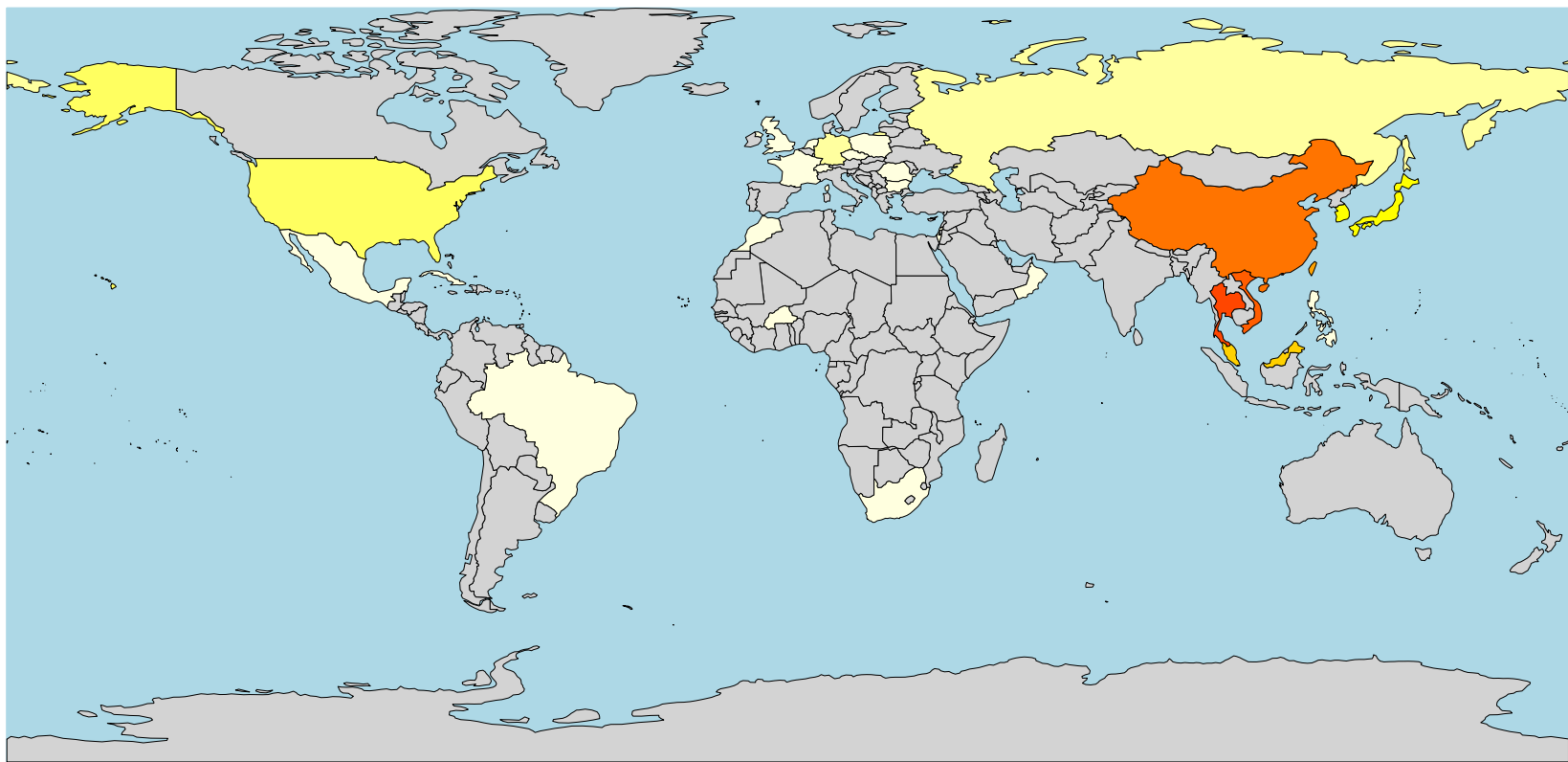
B*44:10
(~0.042% globally)



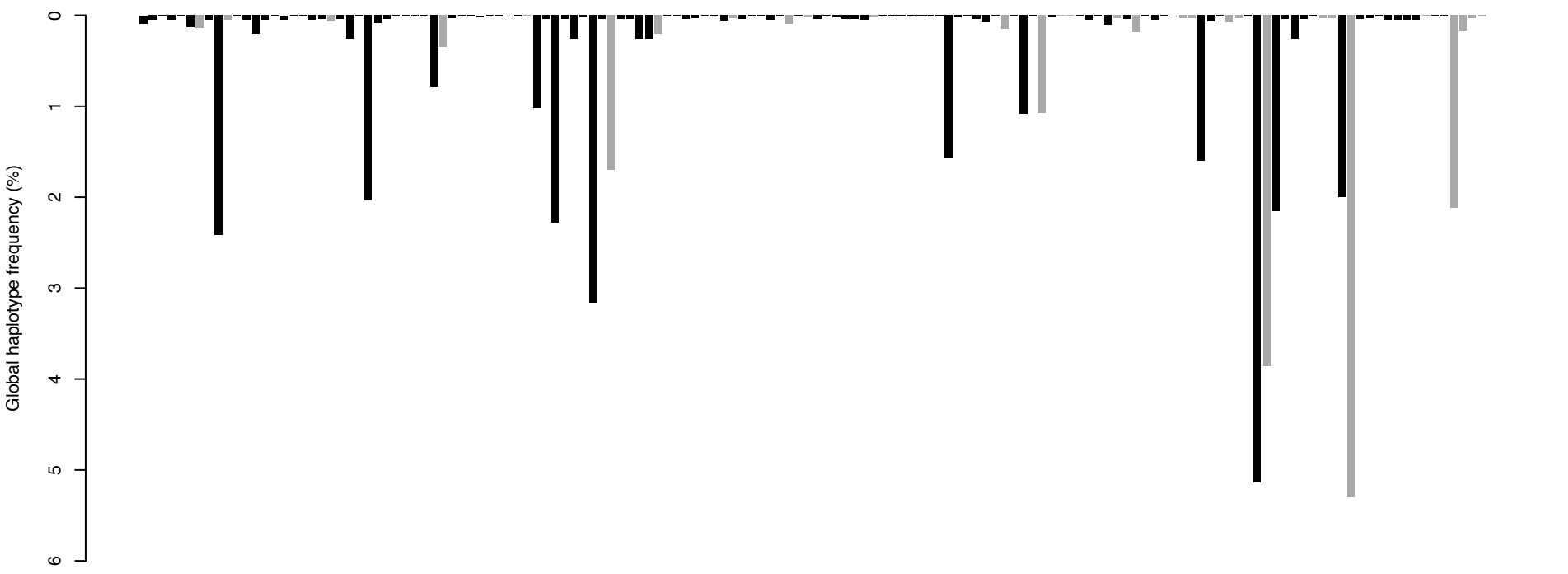
B*45:01
(~0.75% globally)



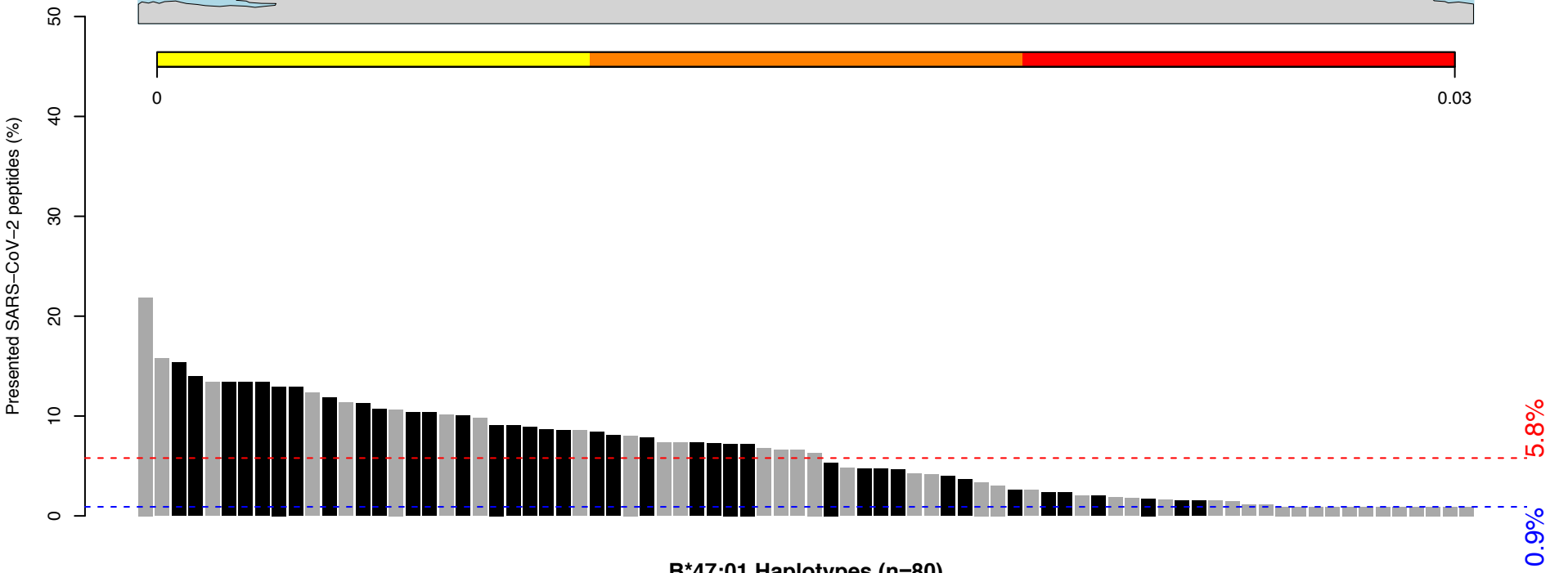
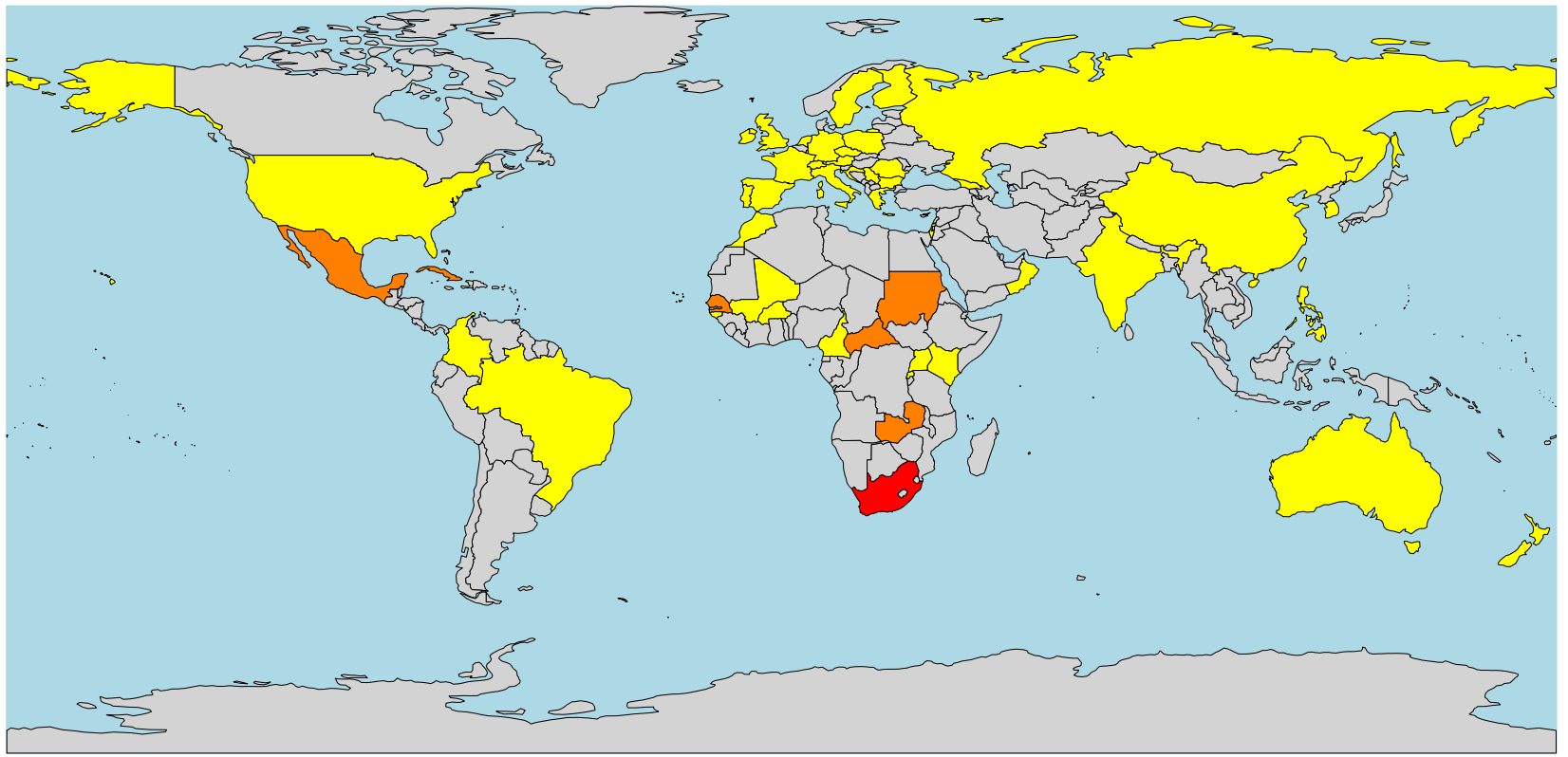
B*46:01
(~6.1% globally)



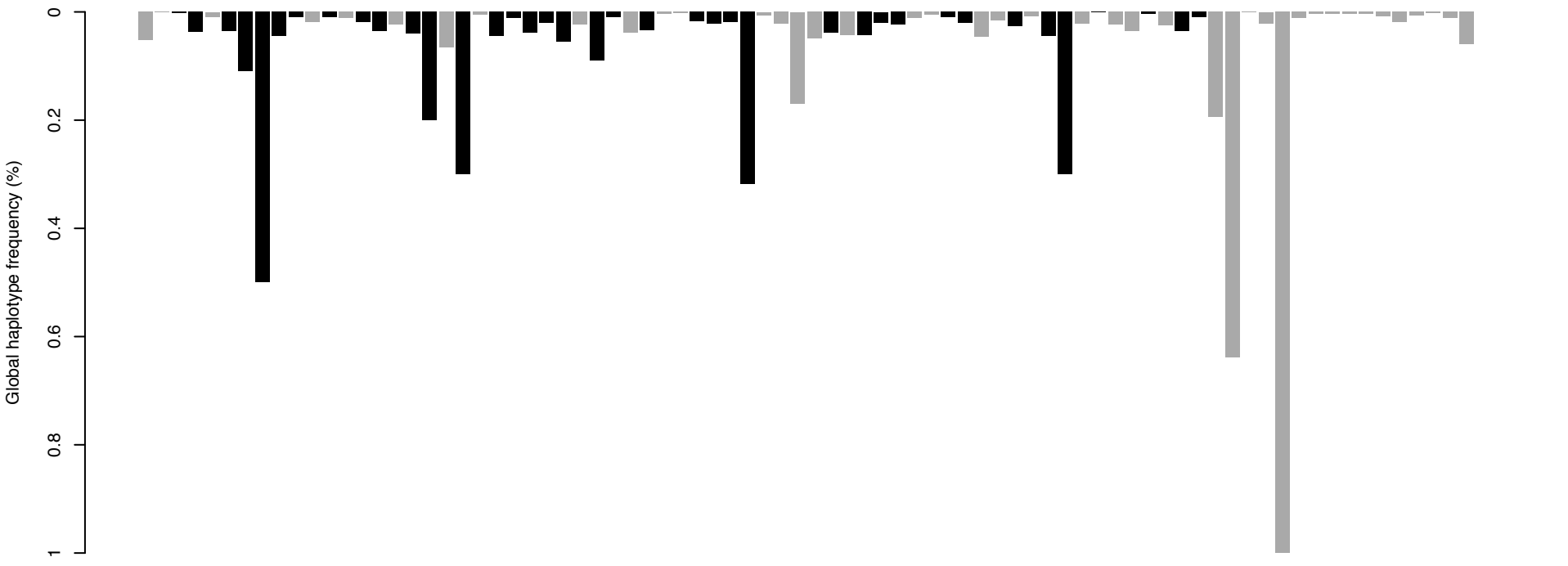
B*46:01 Haplotypes (n=144)



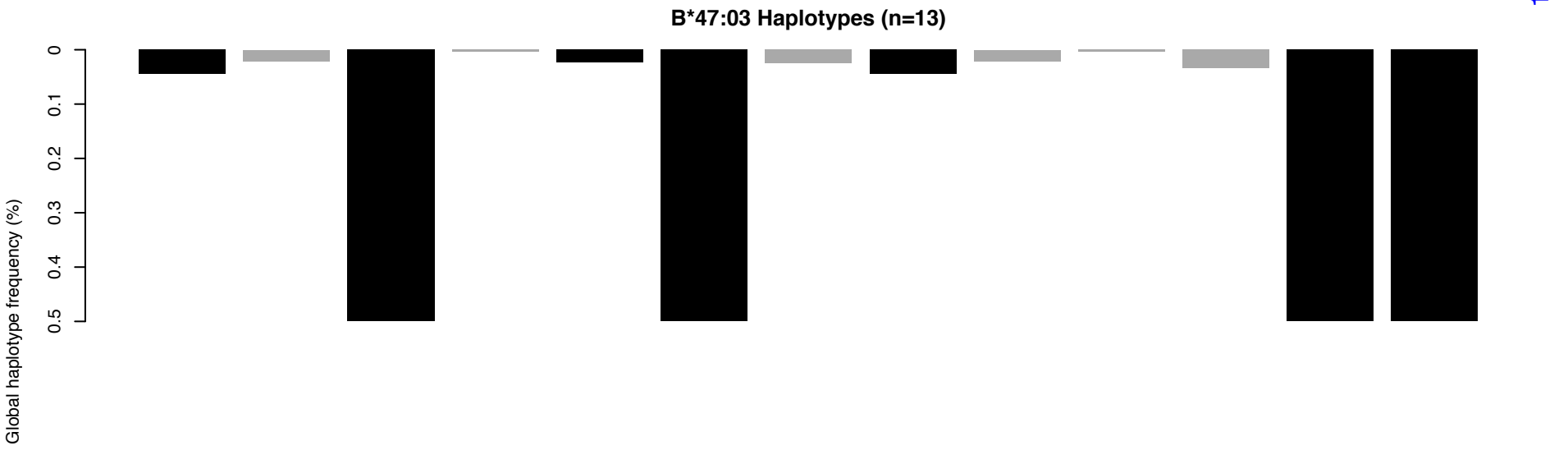
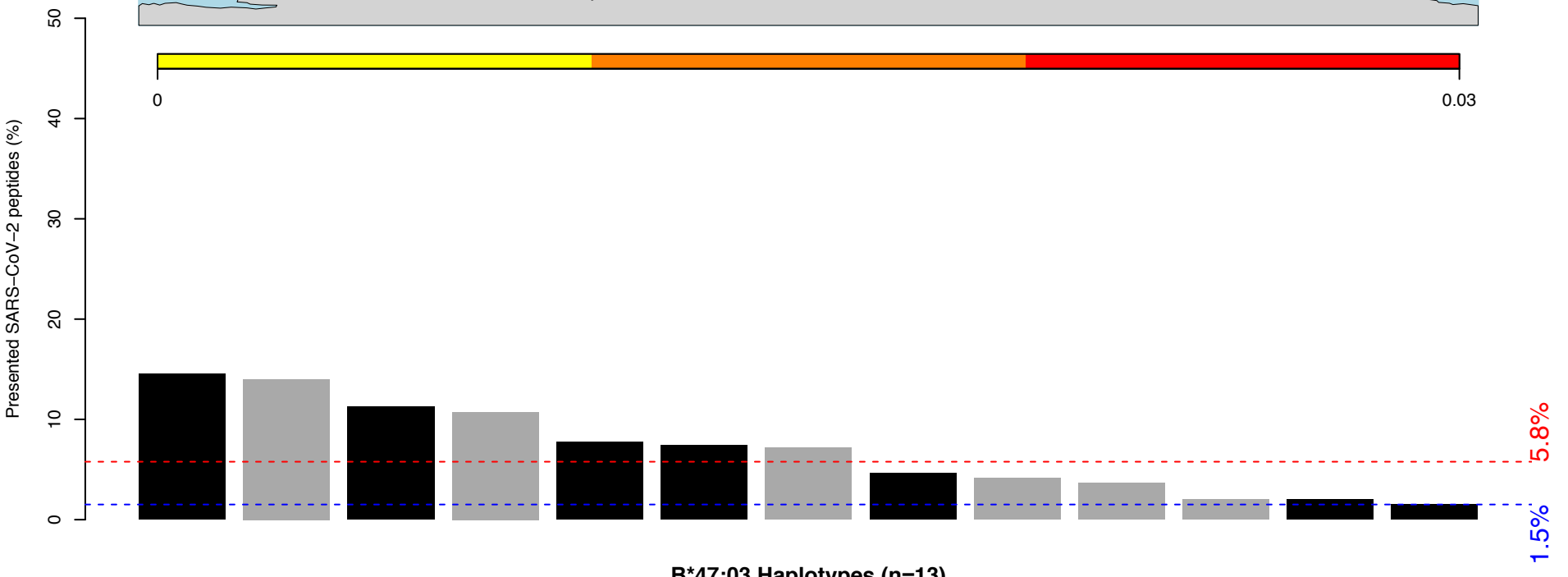
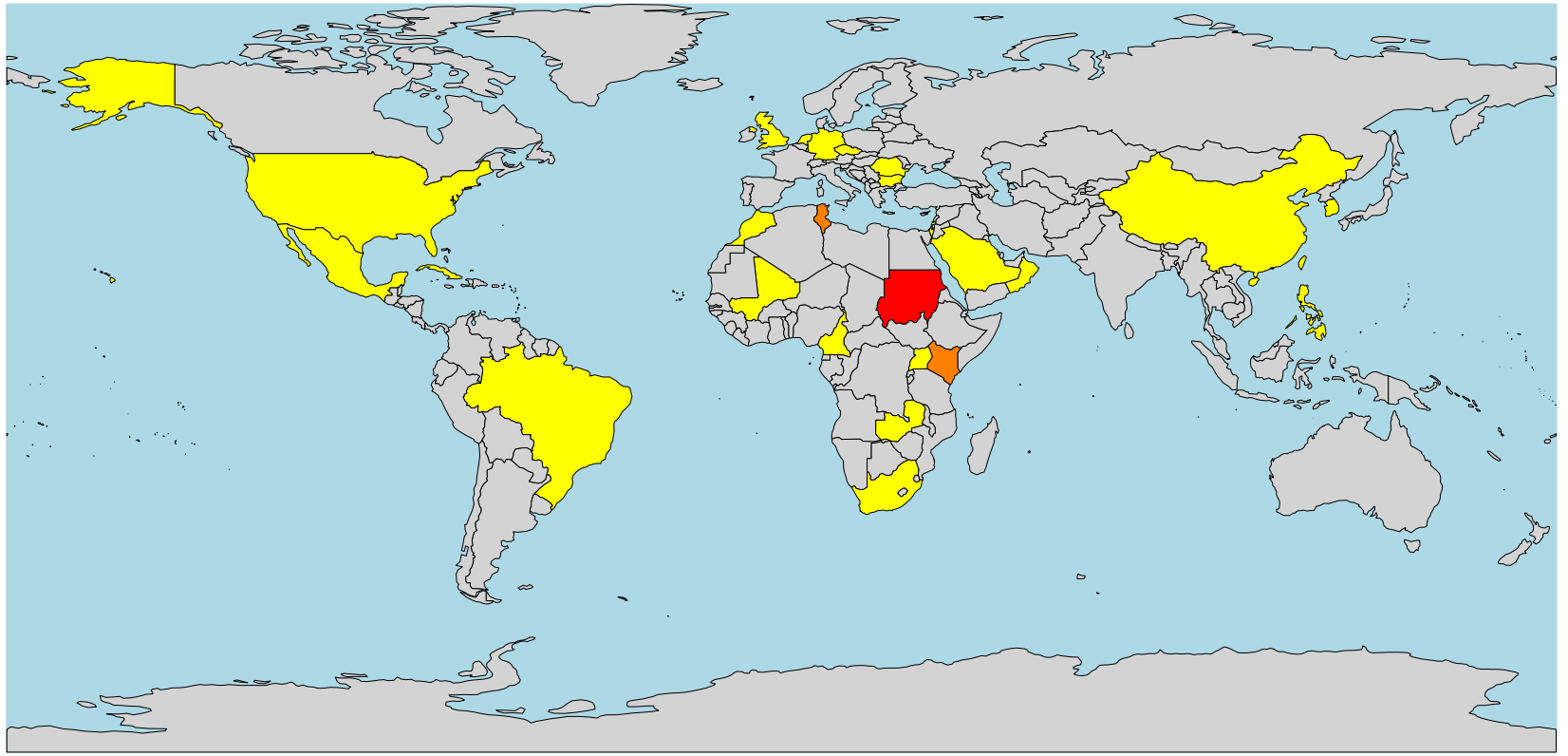
B*47:01
(~0.24% globally)



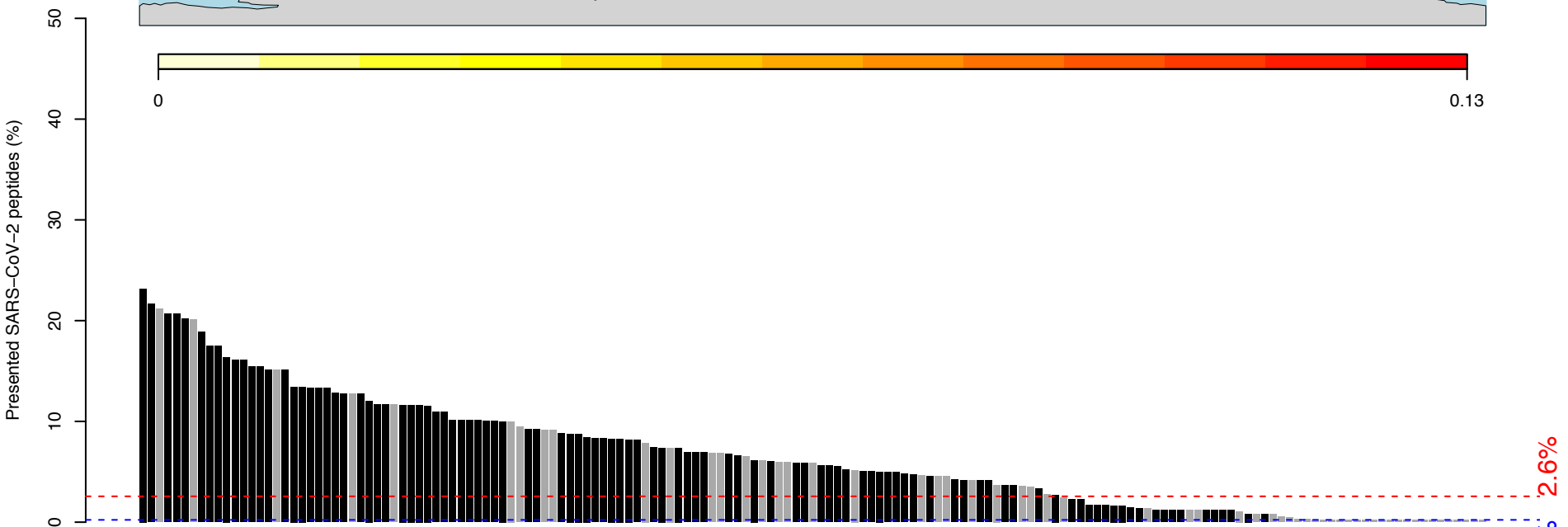
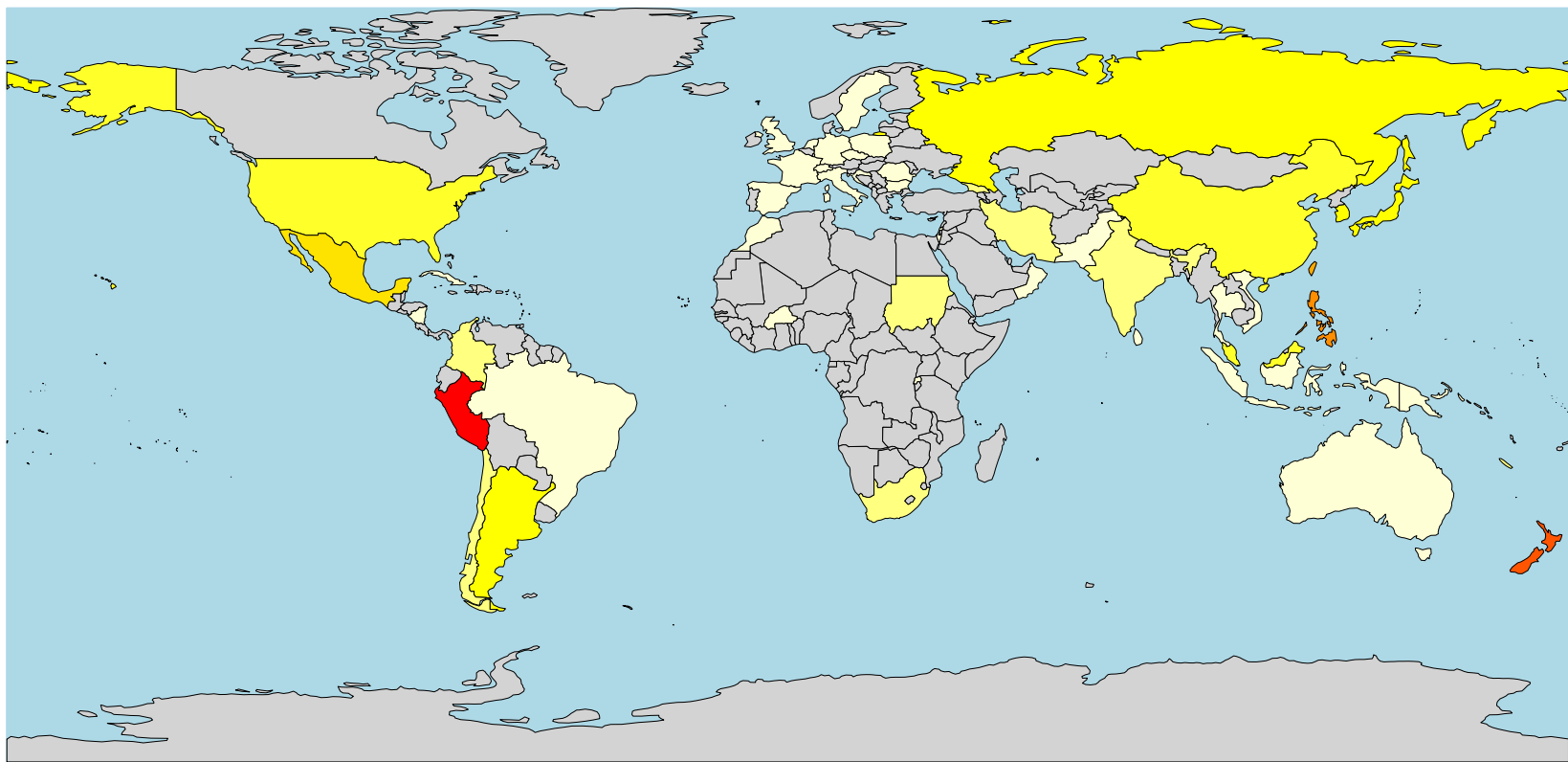
B*47:01 Haplotypes (n=80)



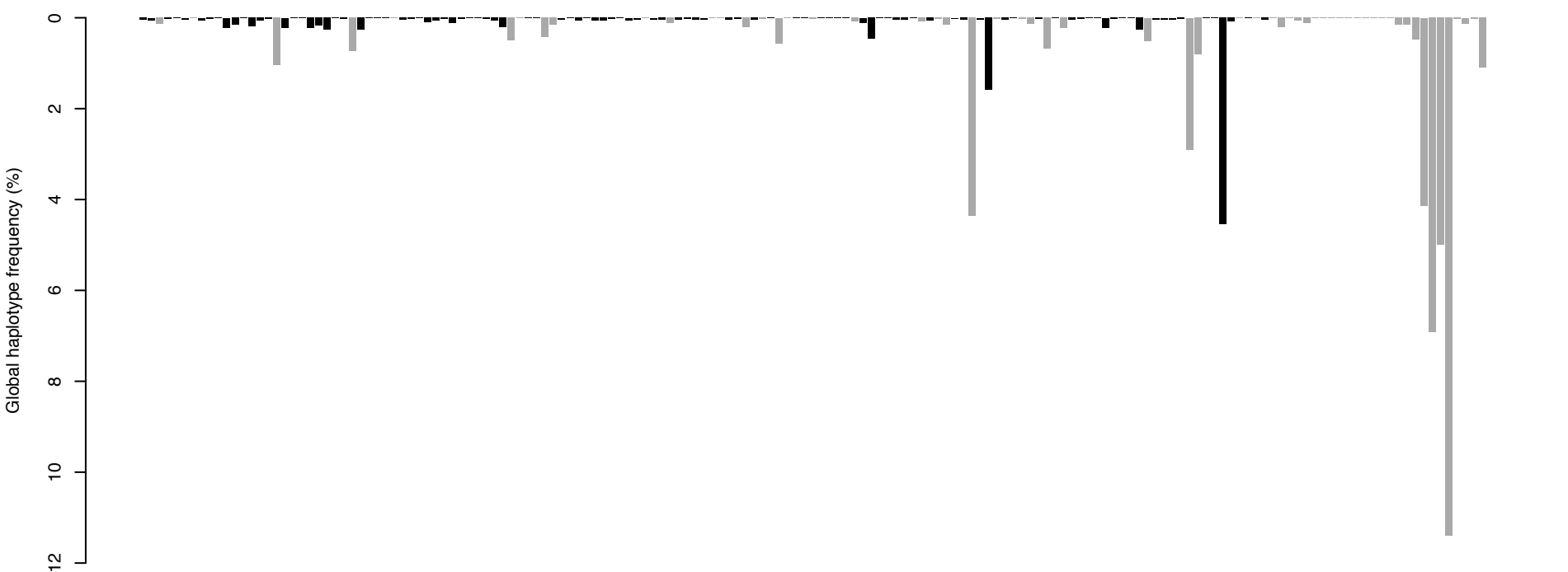
B*47:03
(~0.069% globally)



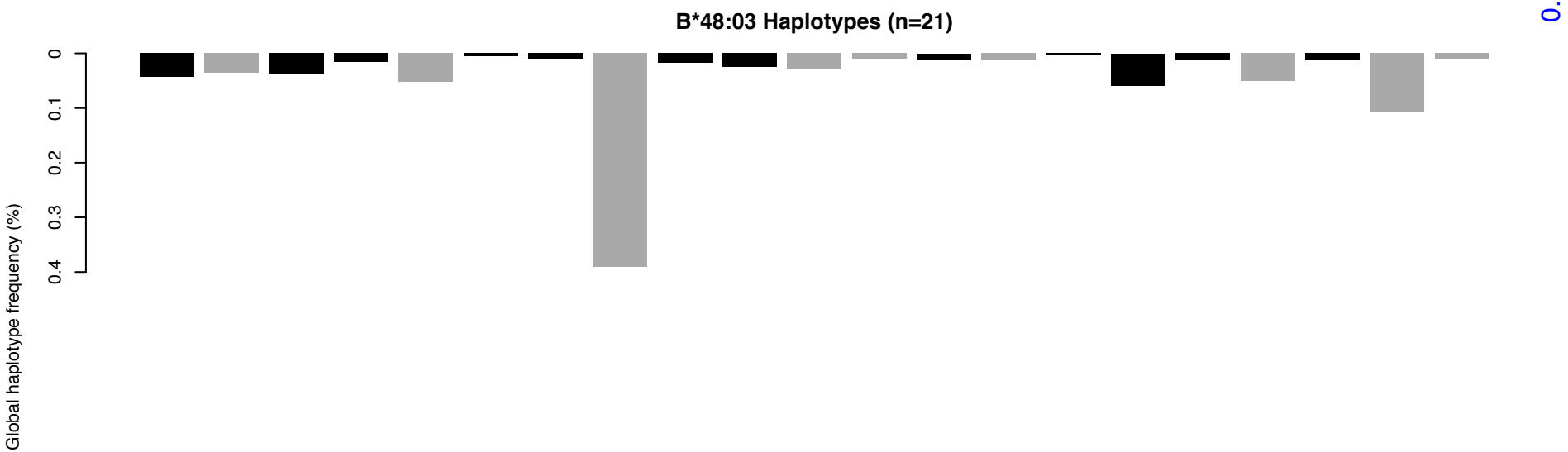
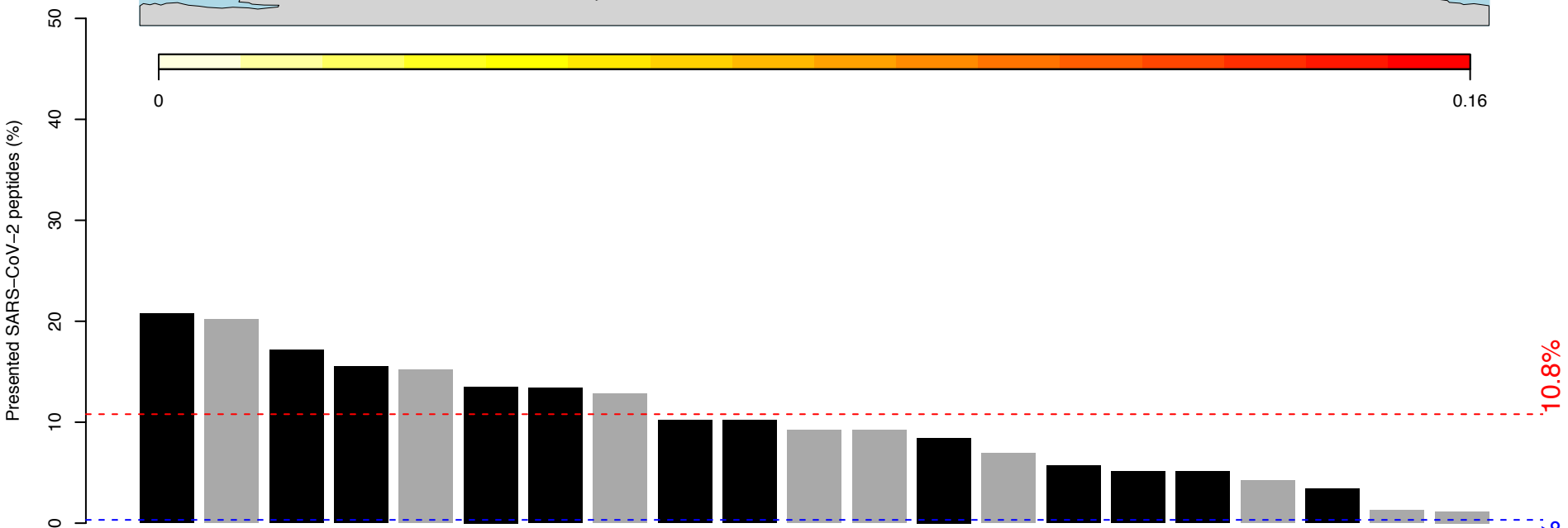
B*48:01
(~2.1% globally)



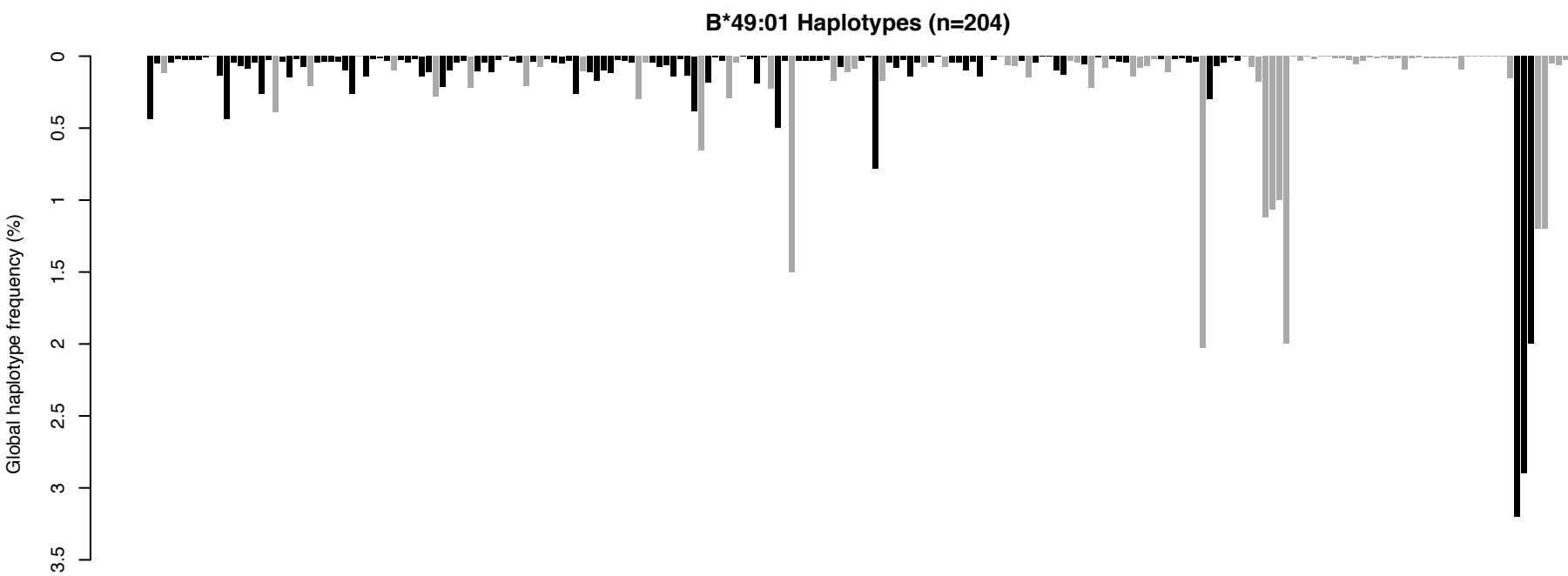
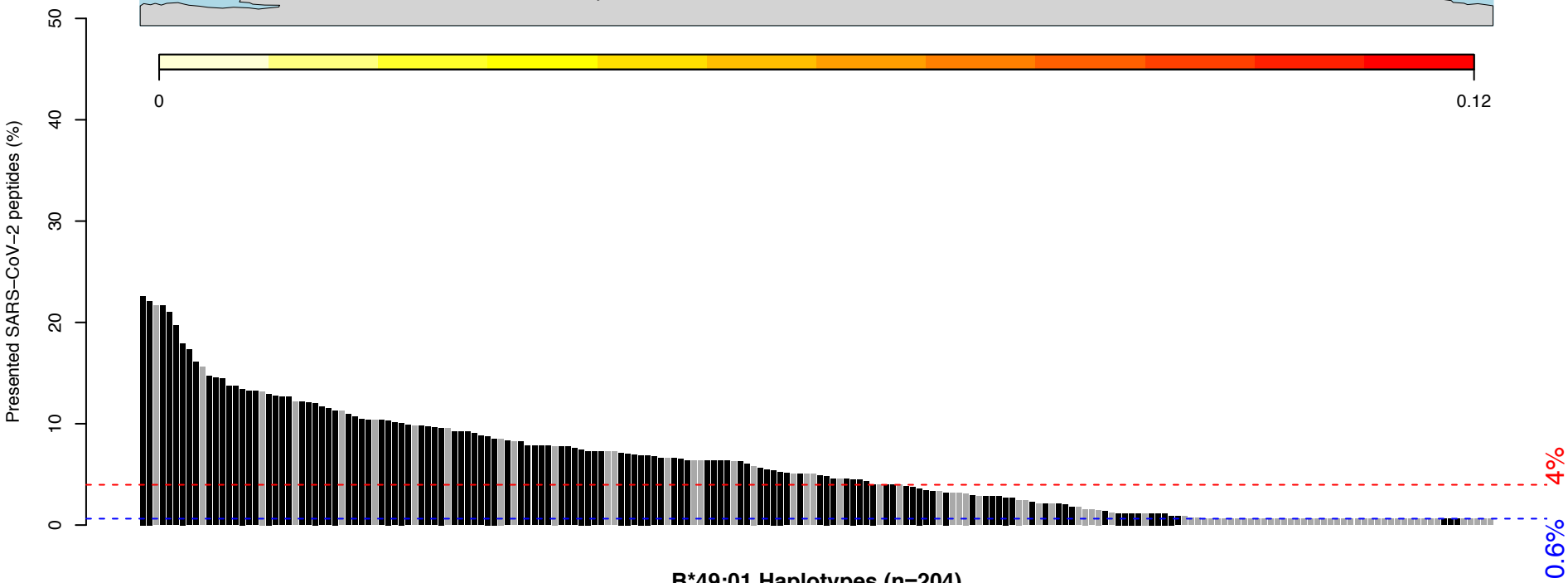
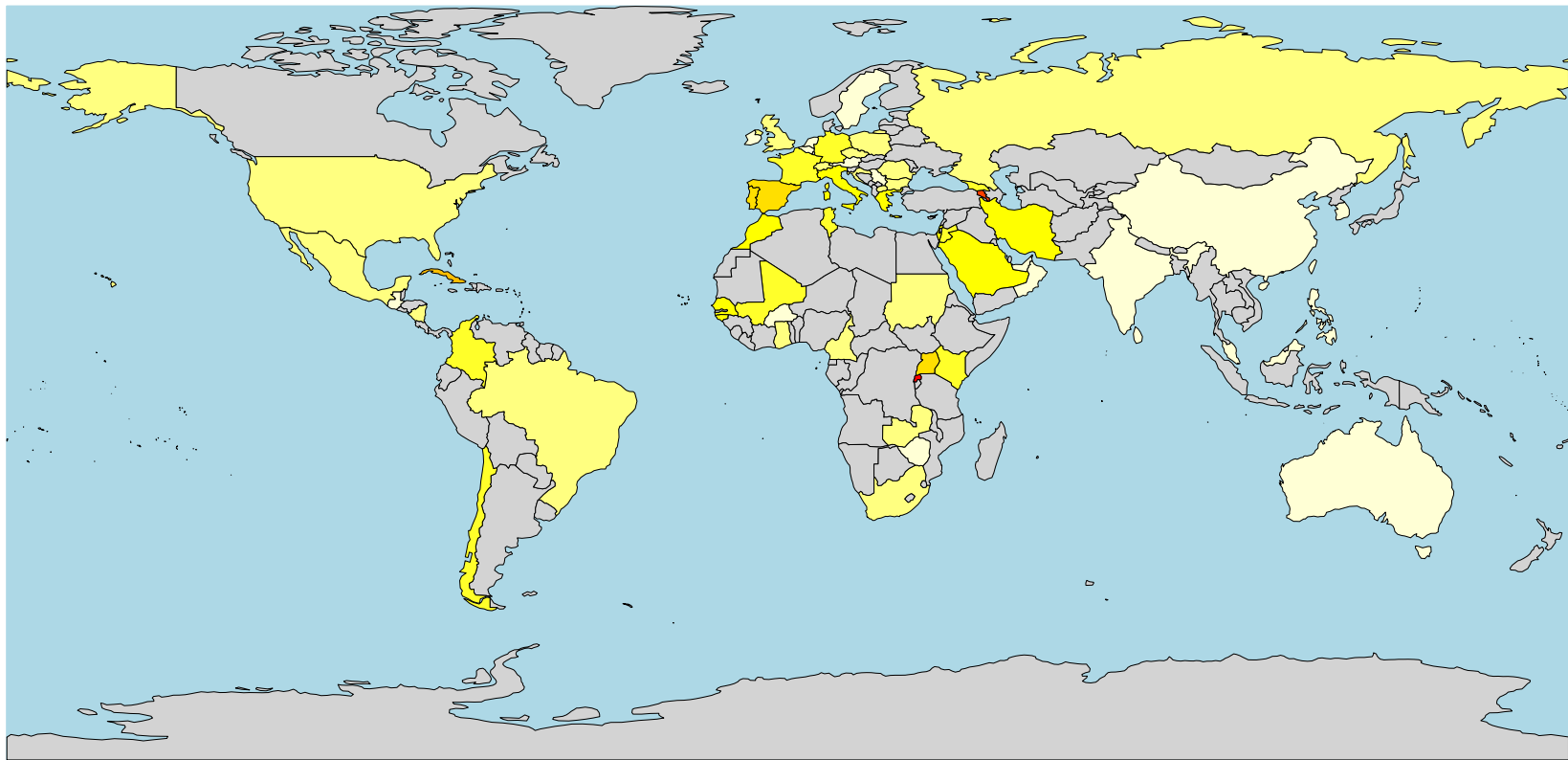
B*48:01 Haplotypes (n=161)



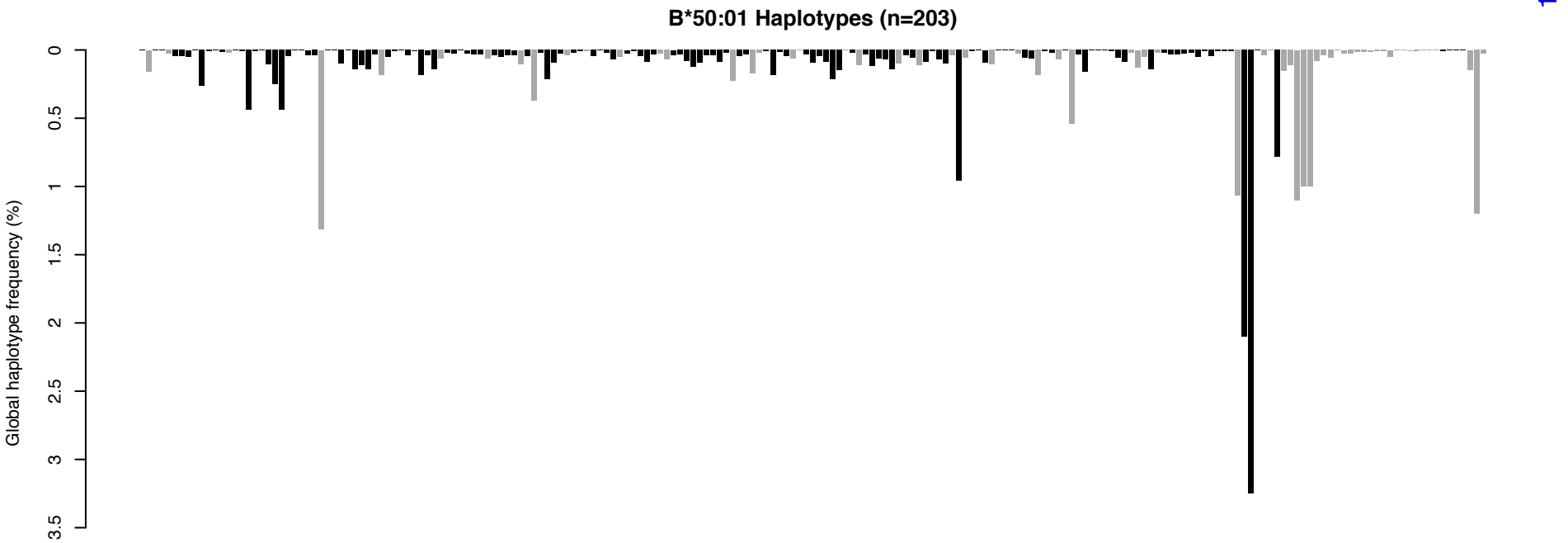
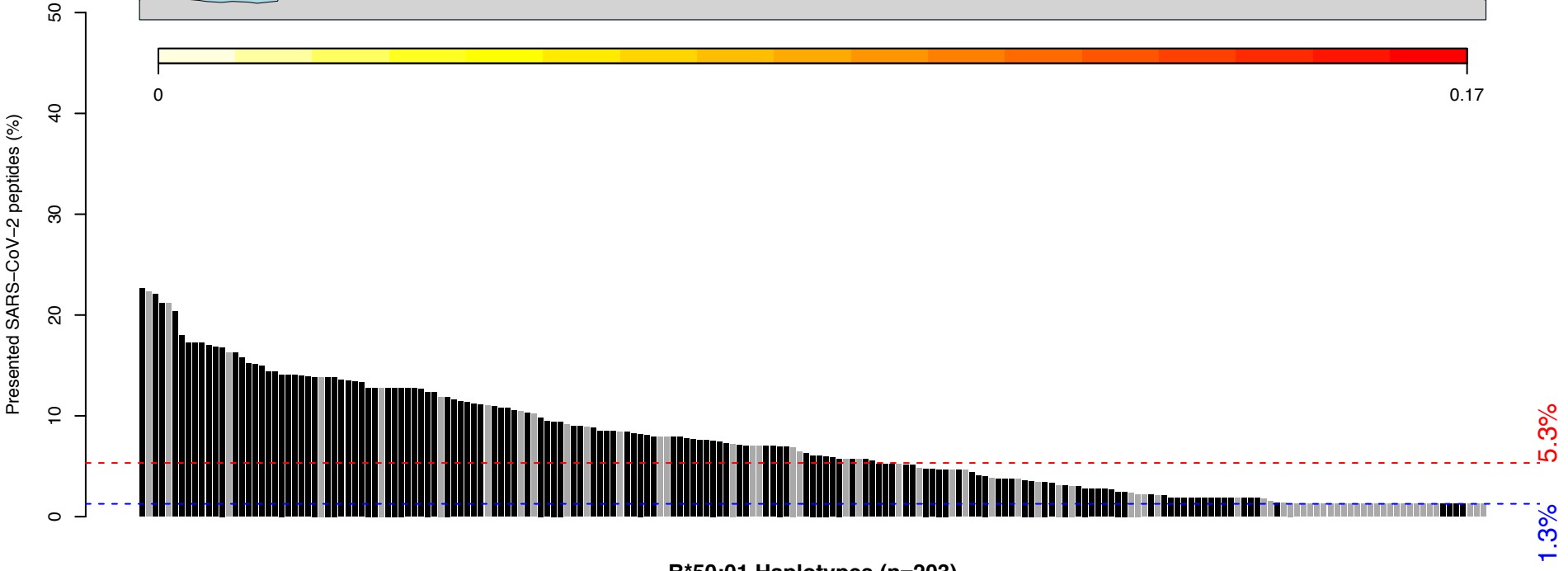
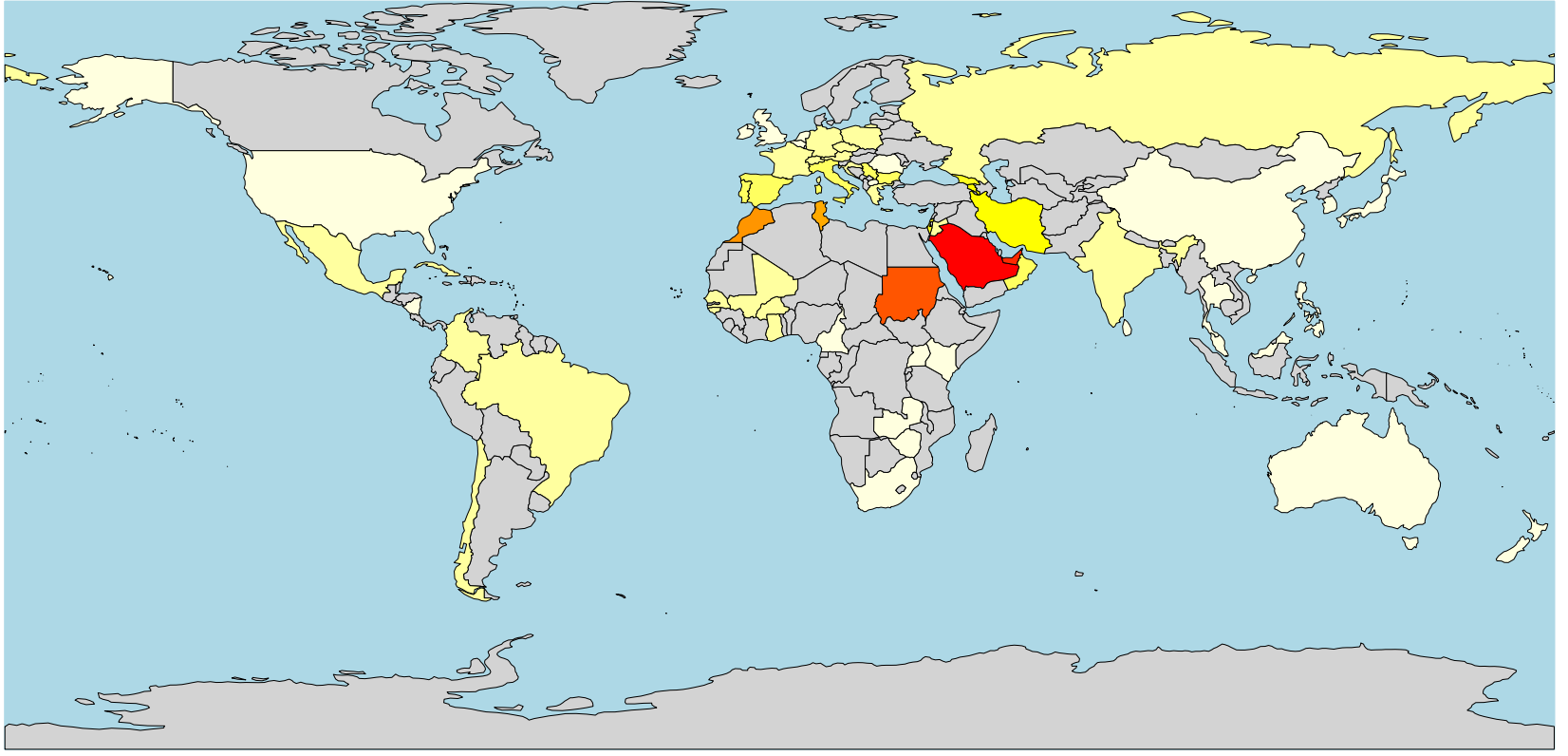
B*48:03
(~1.1% globally)



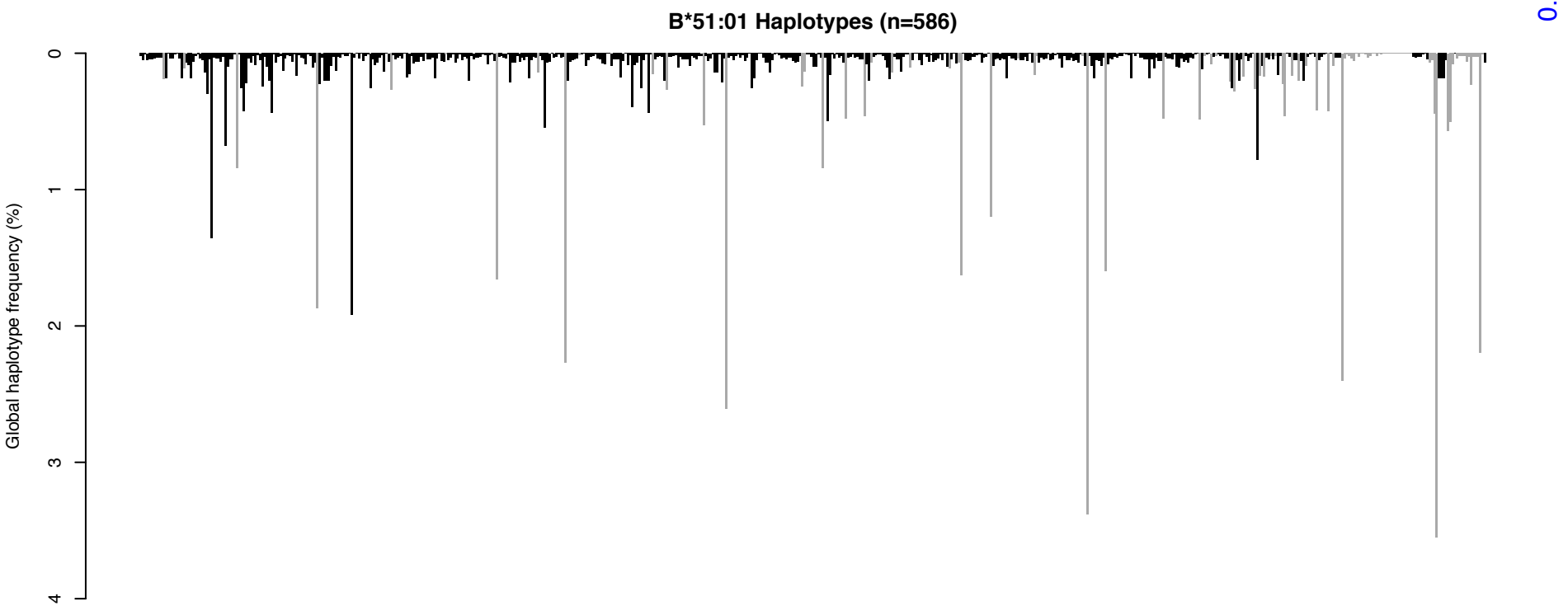
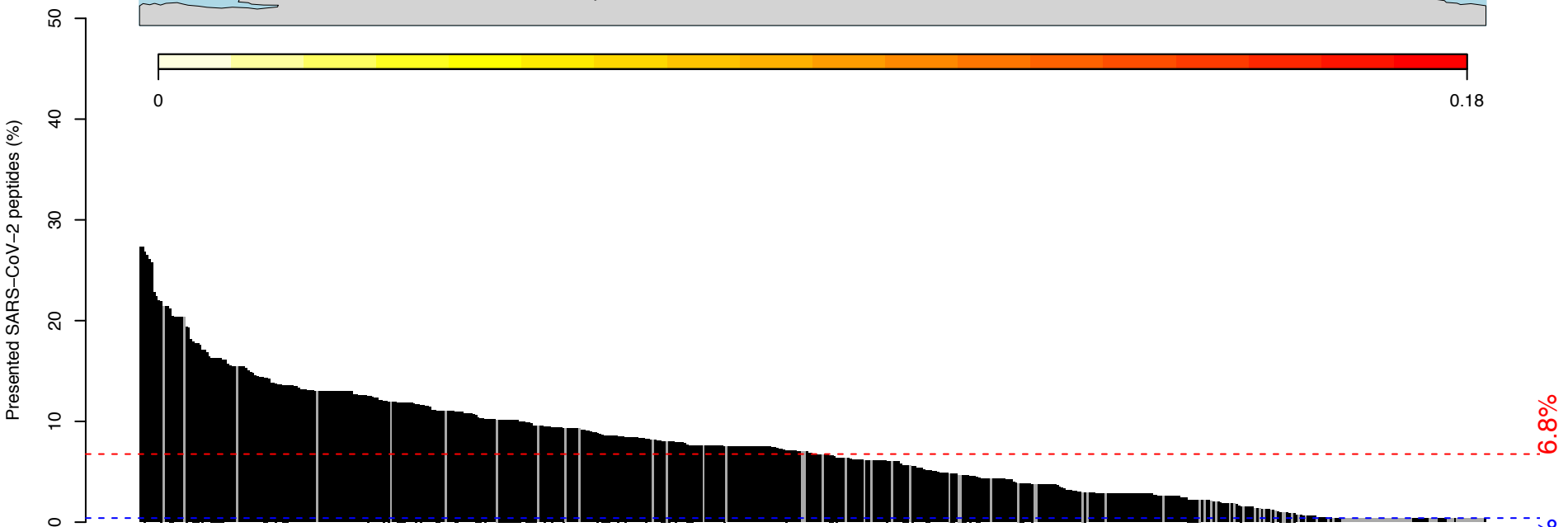
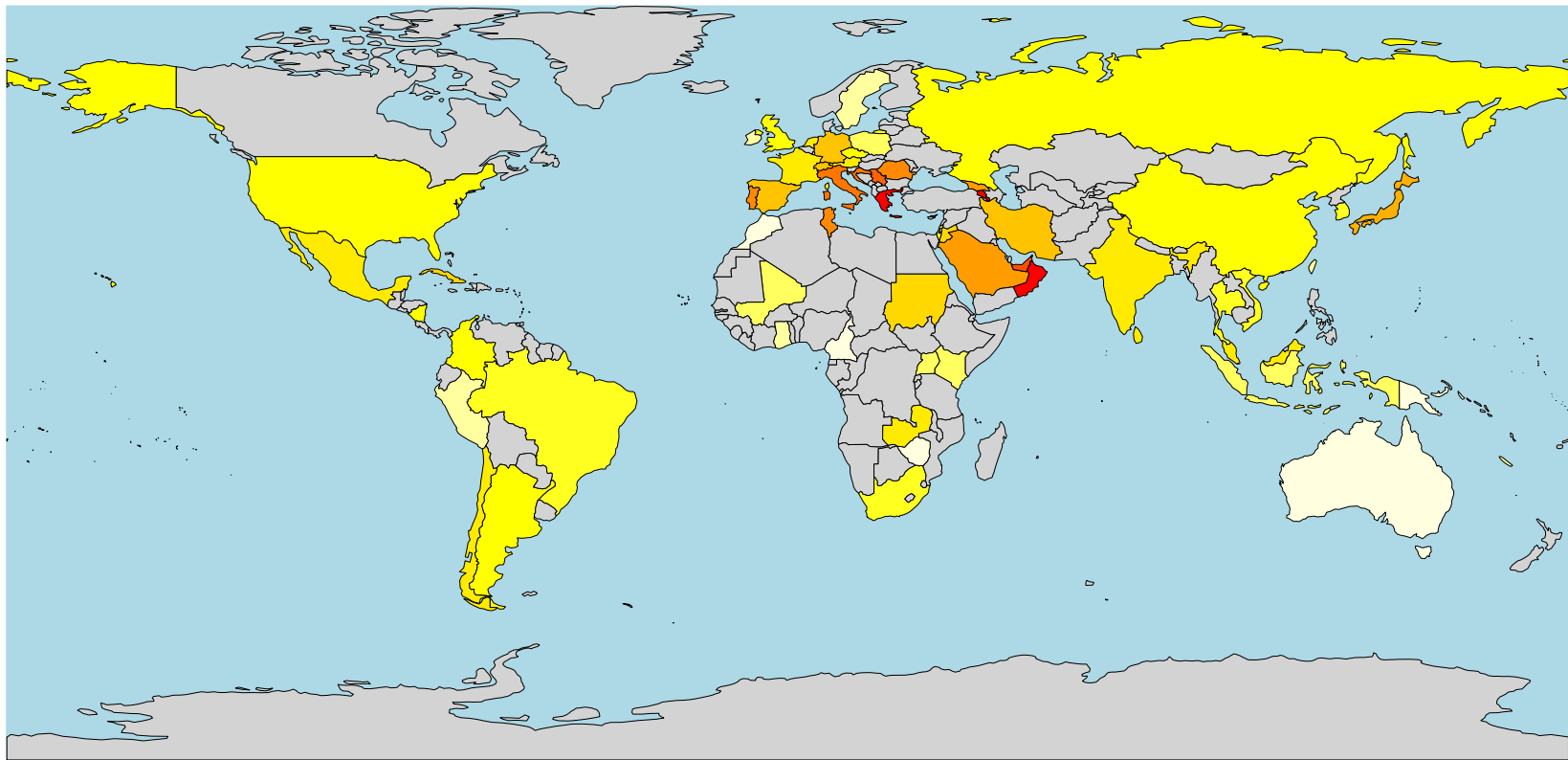
B*49:01
(~1.1% globally)



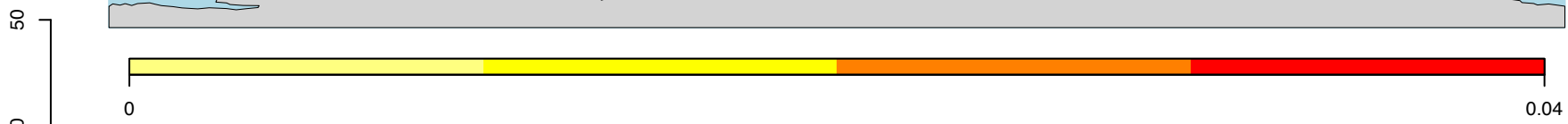
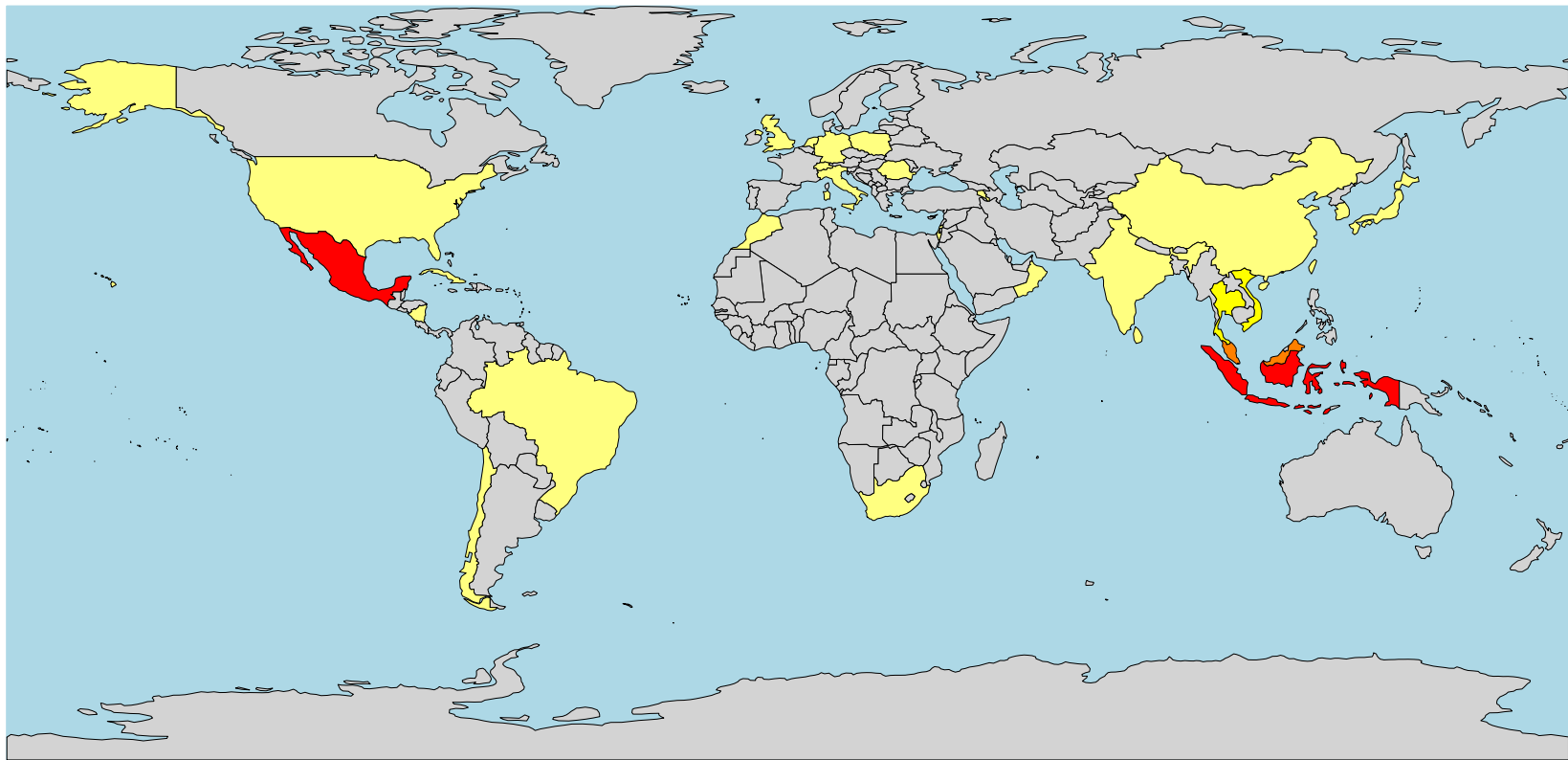
B*50:01
(~1.3% globally)



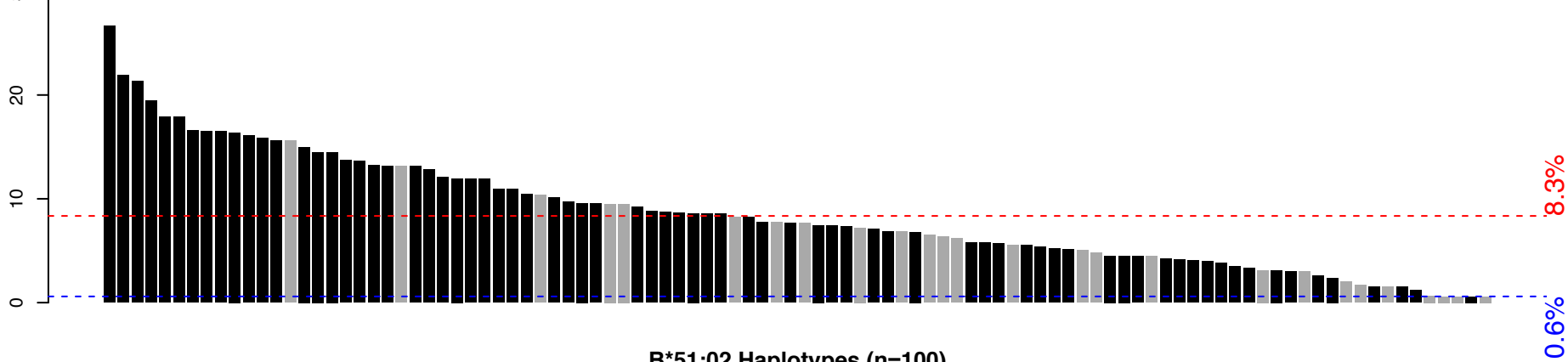
B*51:01
(~2.3% globally)



B*51:02
(~0.99% globally)



Presented SARS-CoV-2 peptides (%)

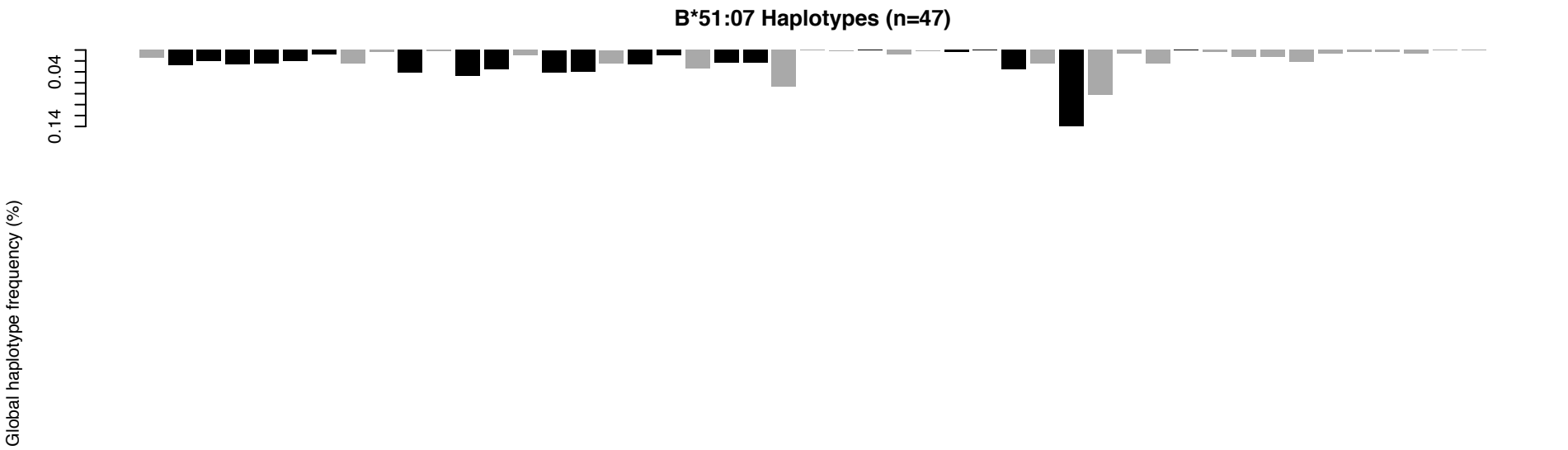
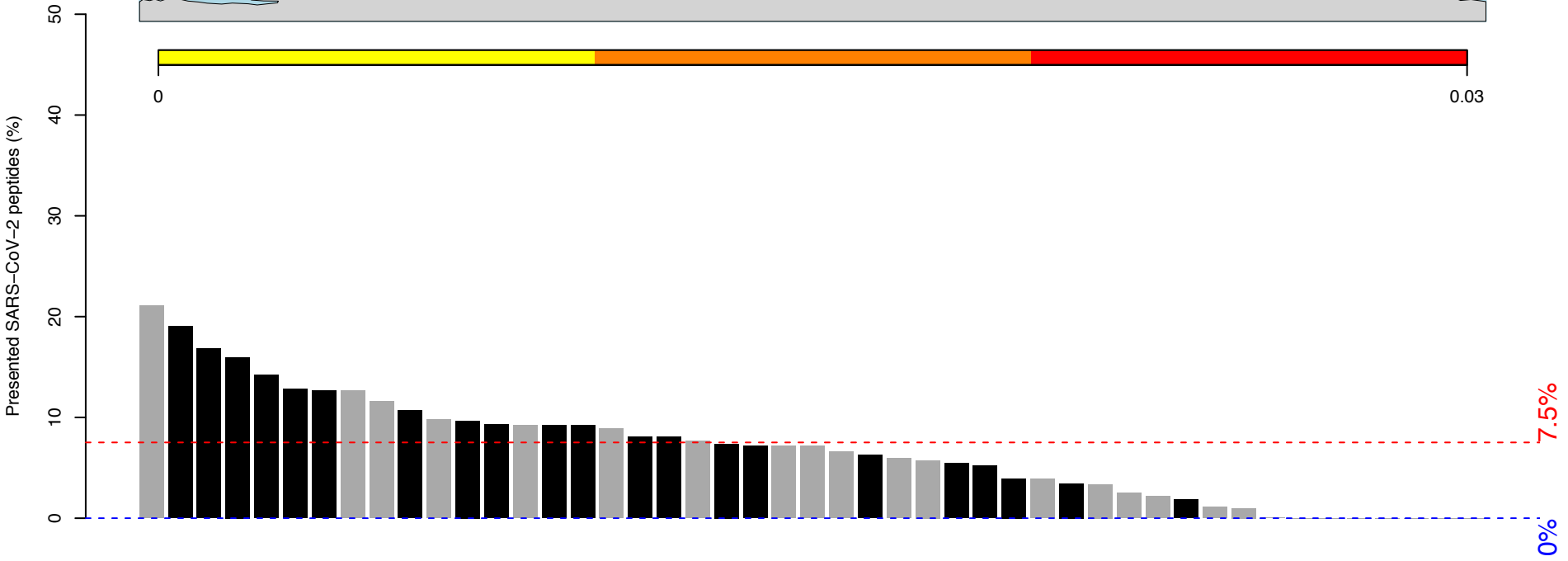
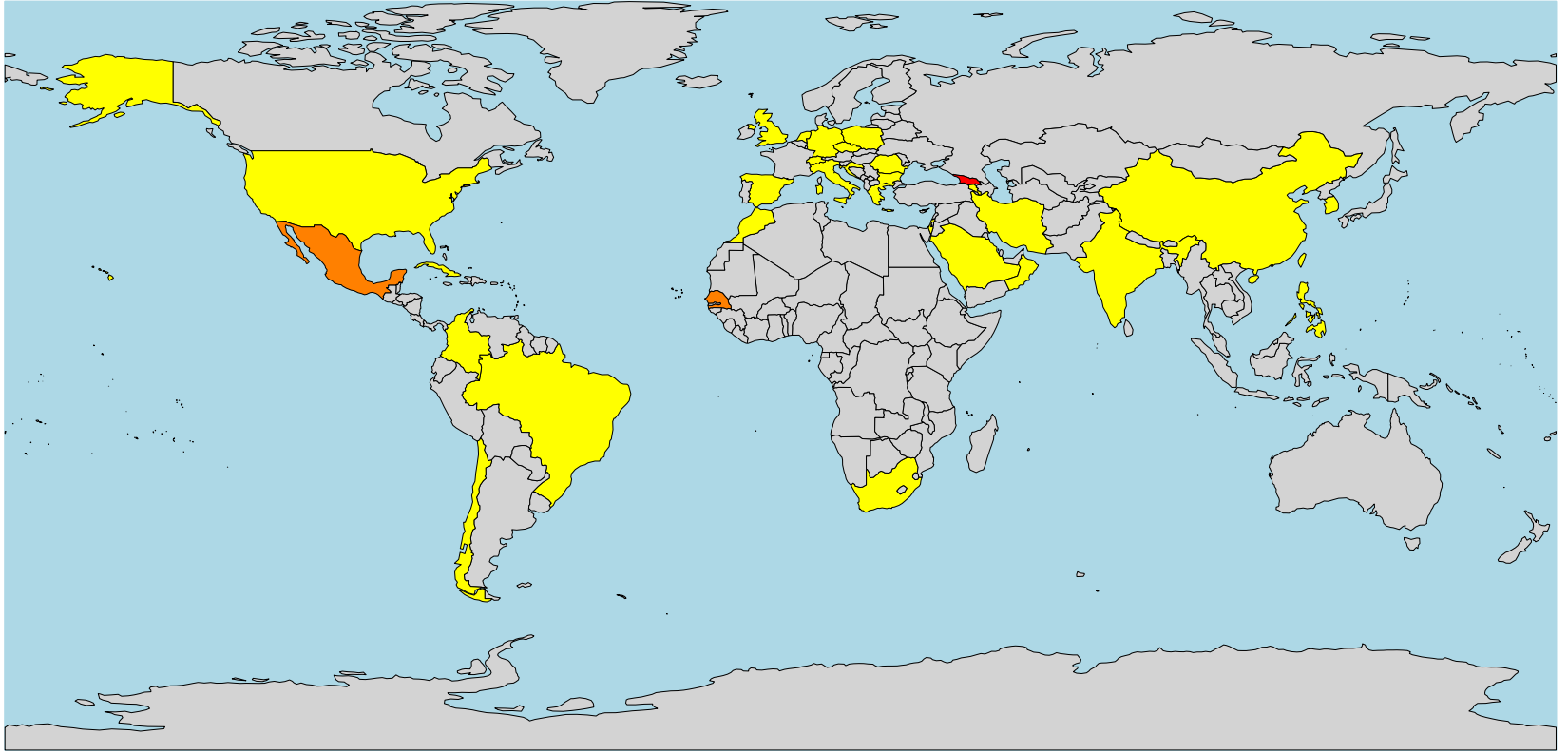


B*51:02 Haplotypes (n=100)

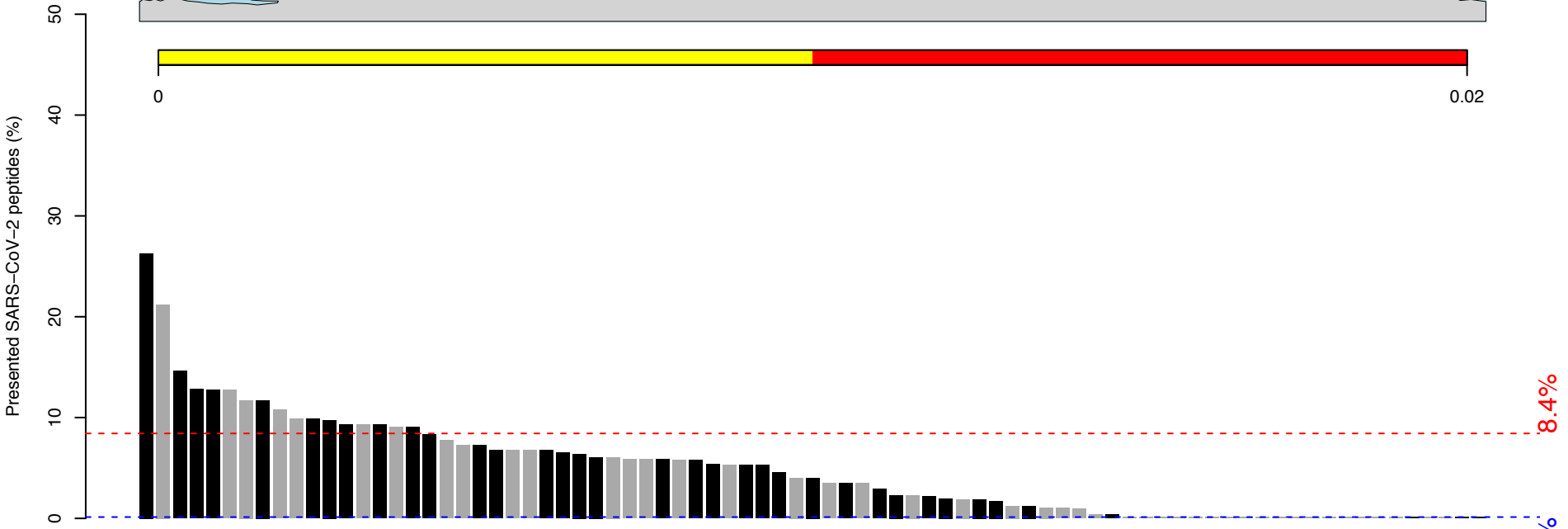
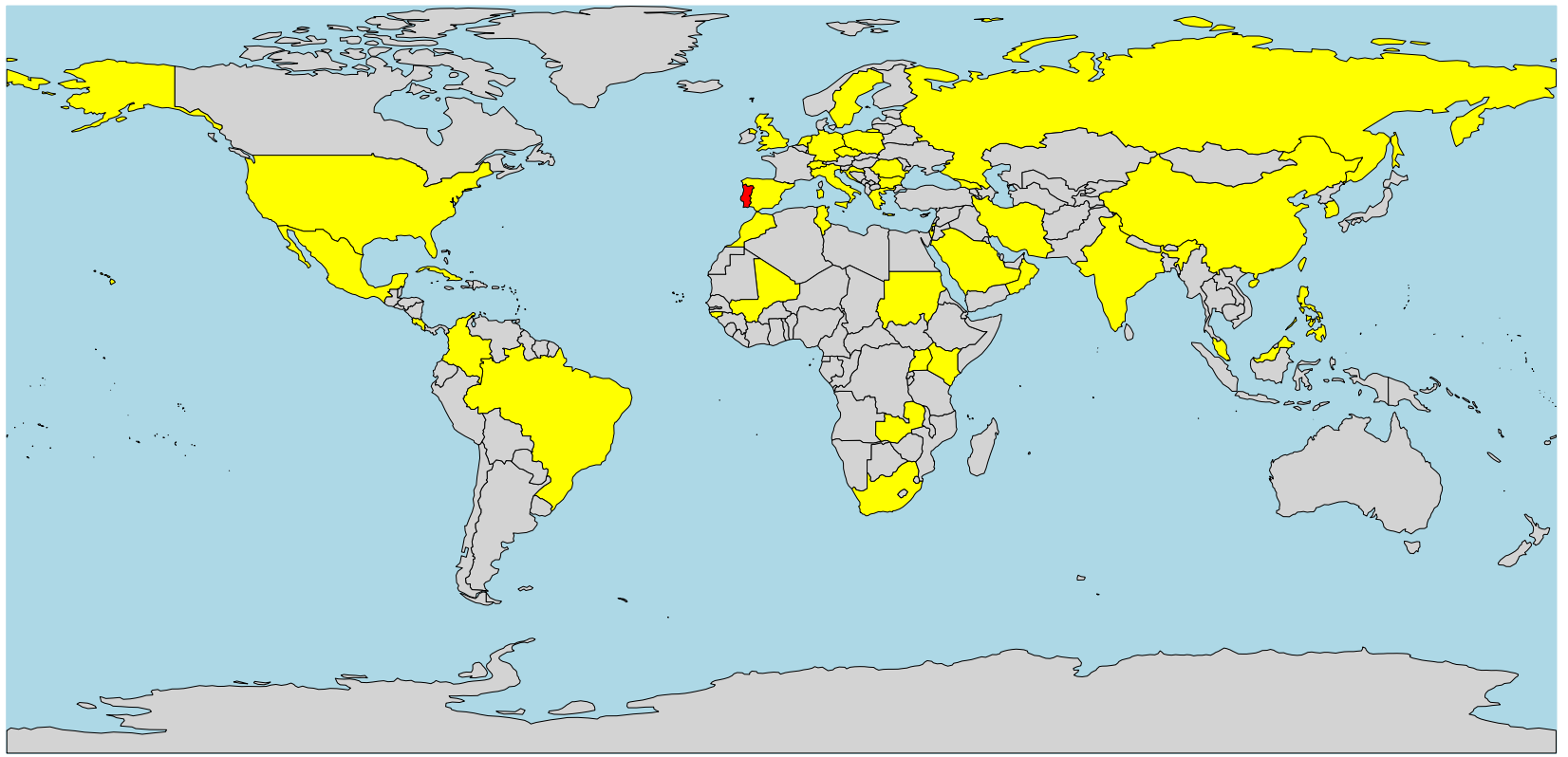
Global haplotype frequency (%)



B*51:07
(~0.29% globally)



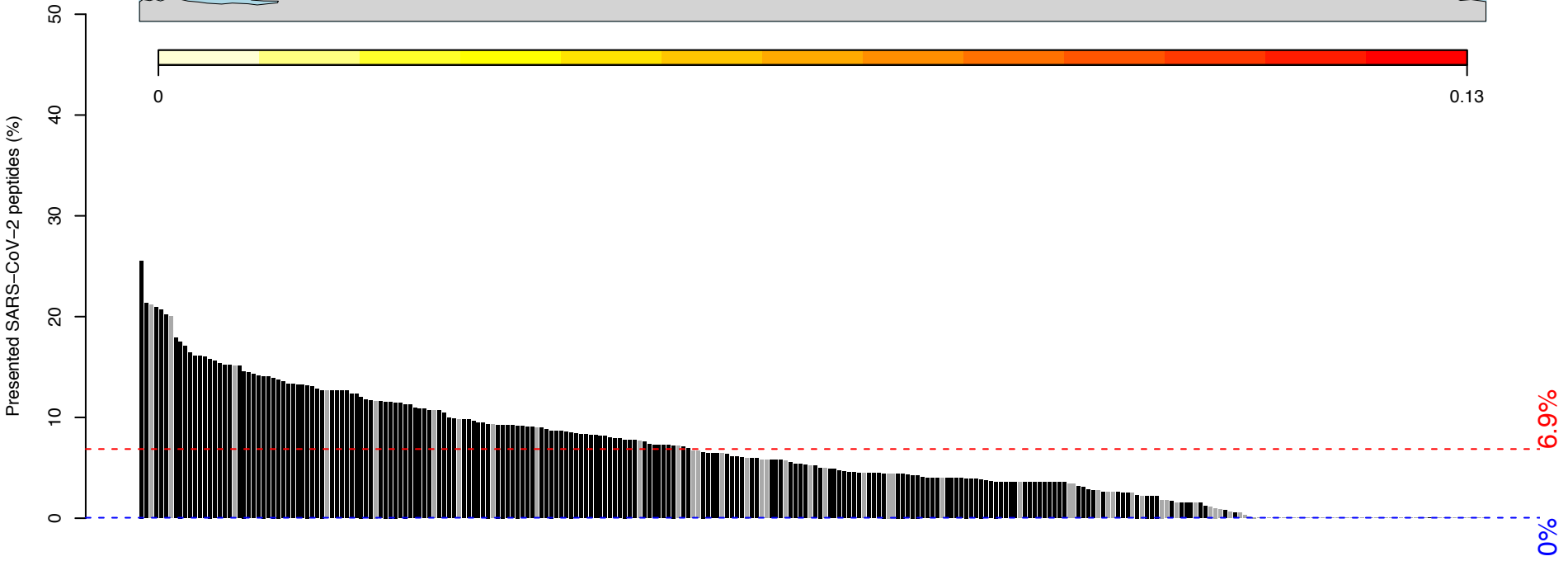
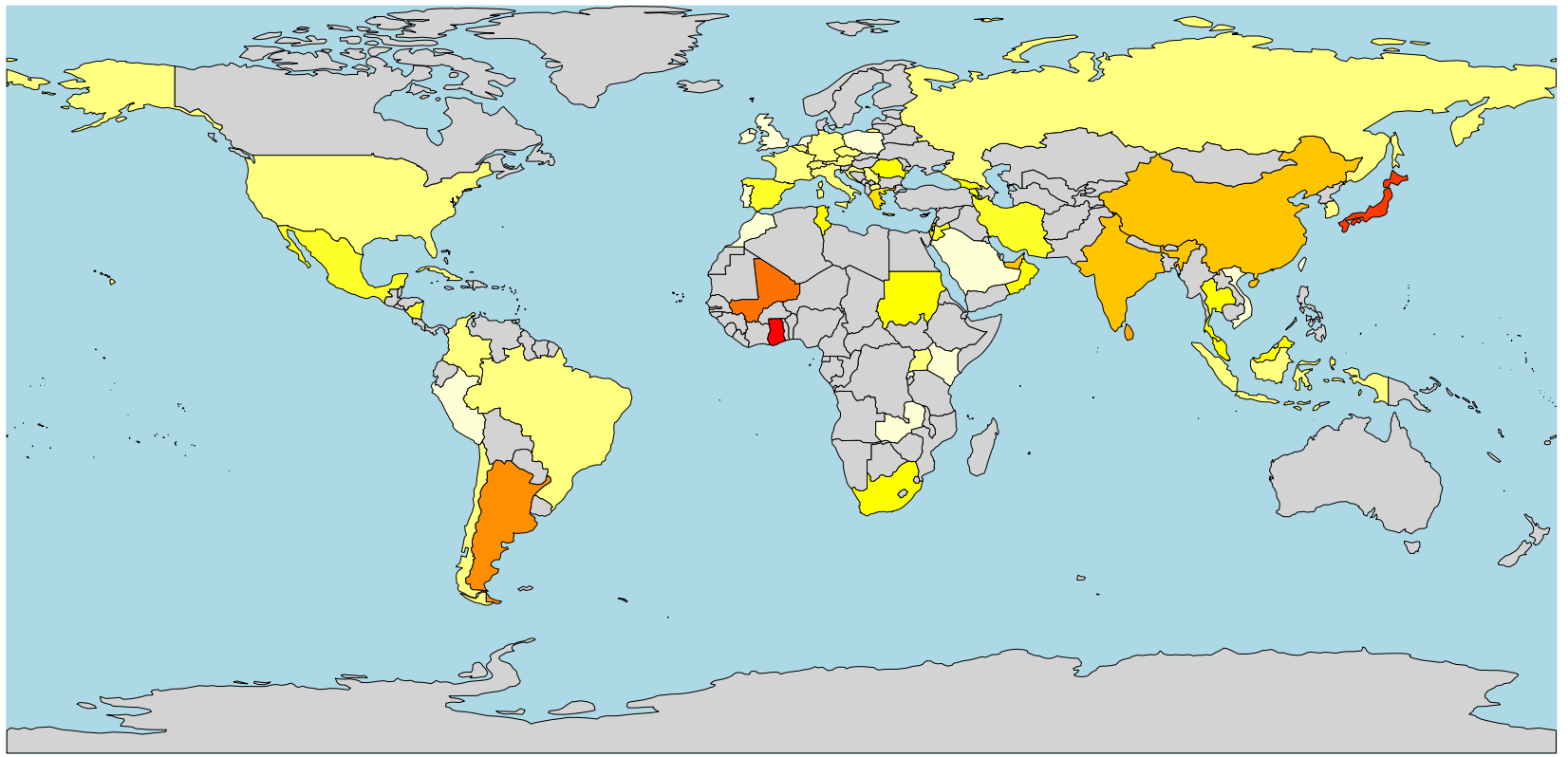
B*51:08
(~0.13% globally)



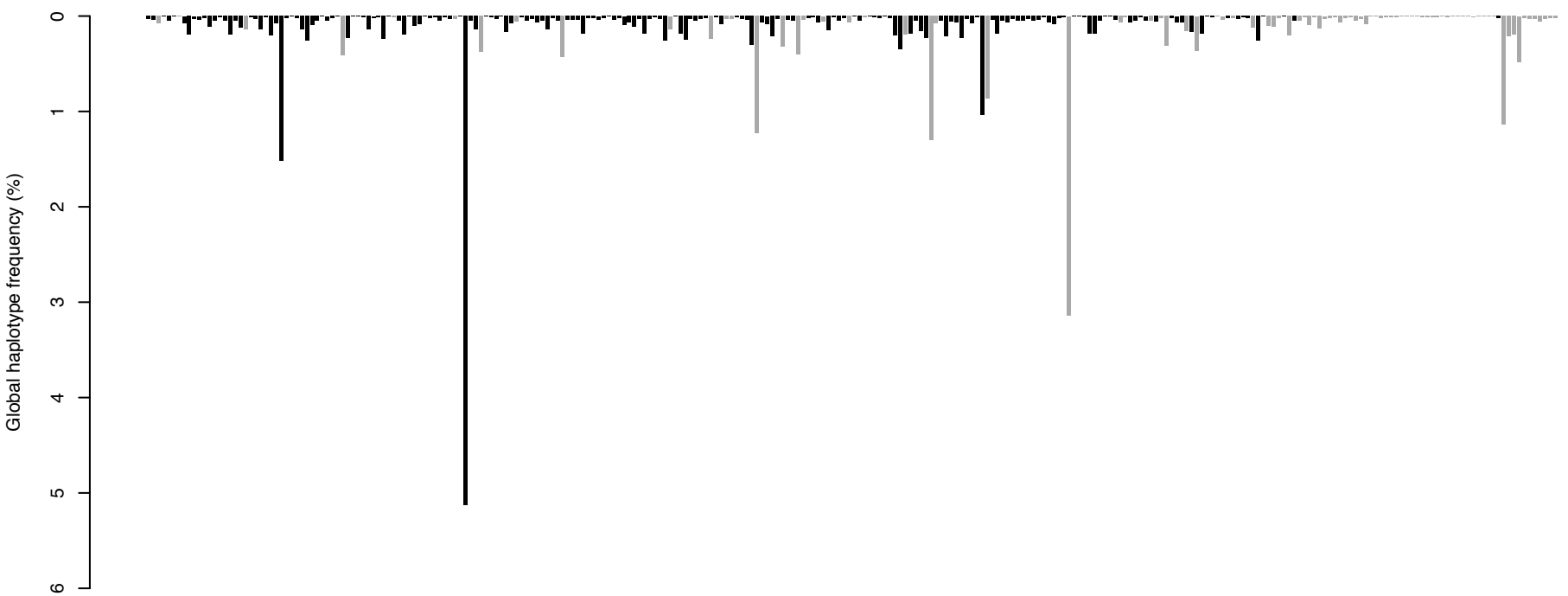
B*51:08 Haplotypes (n=81)



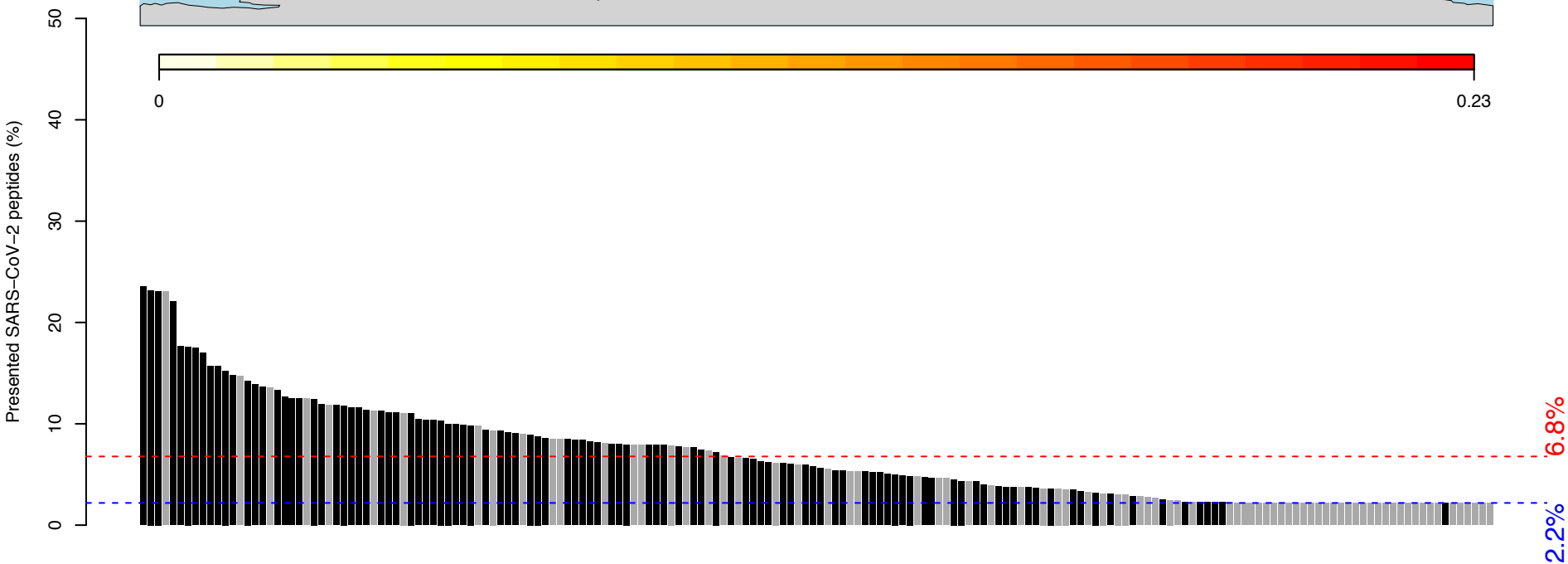
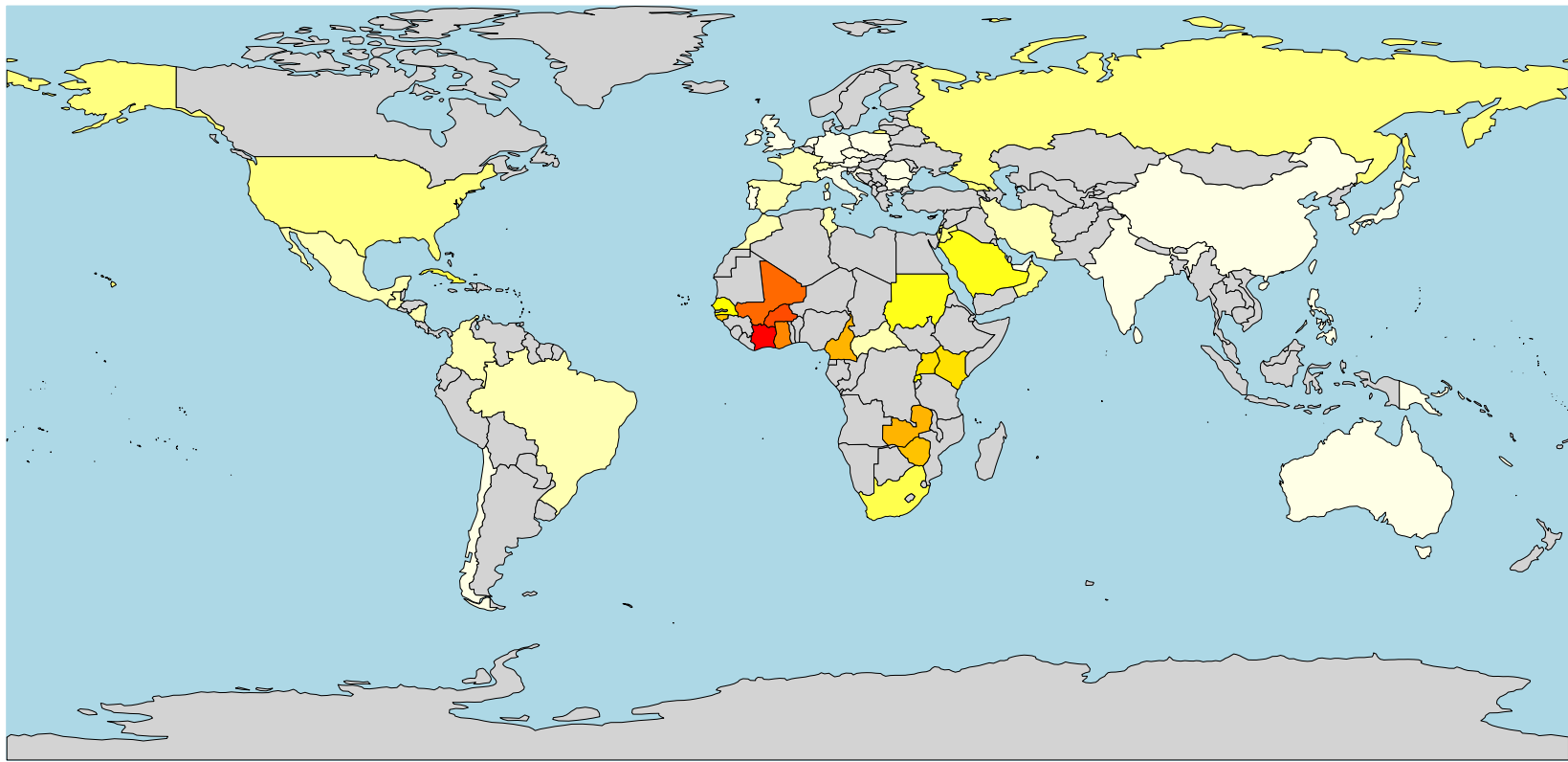
B*52:01
(~2.5% globally)



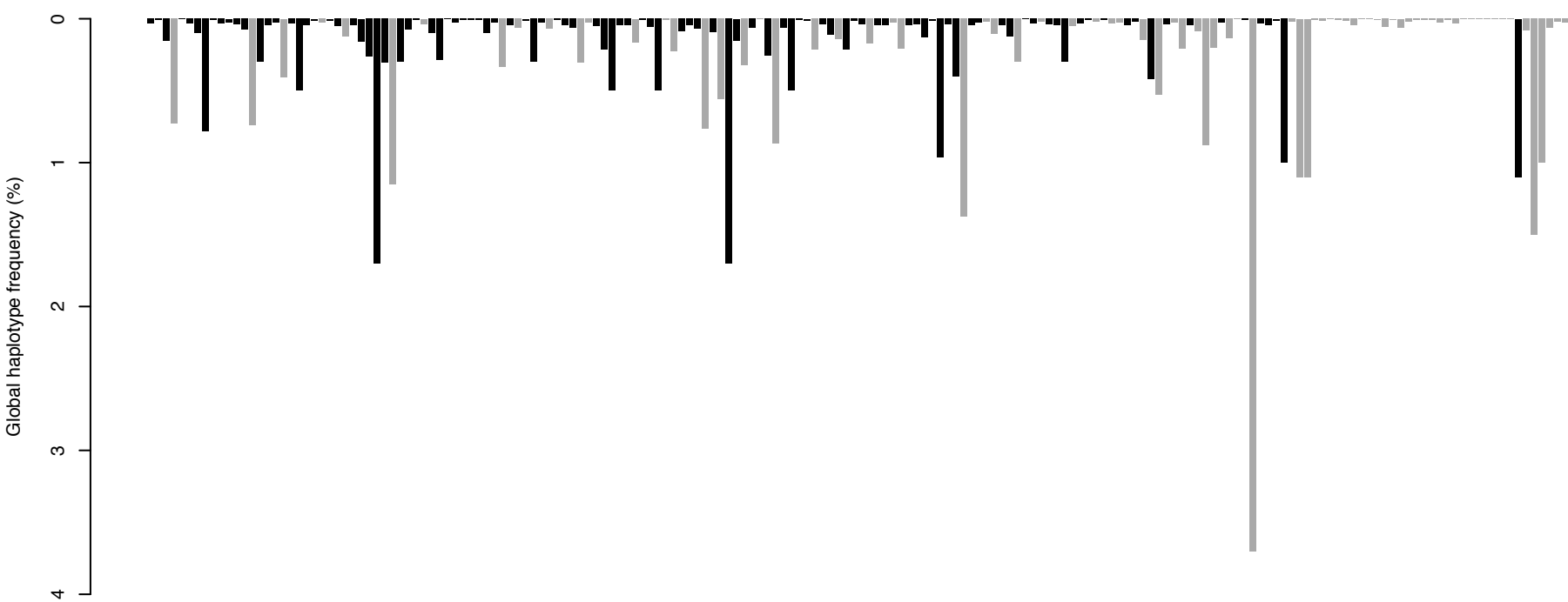
B*52:01 Haplotypes (n=276)



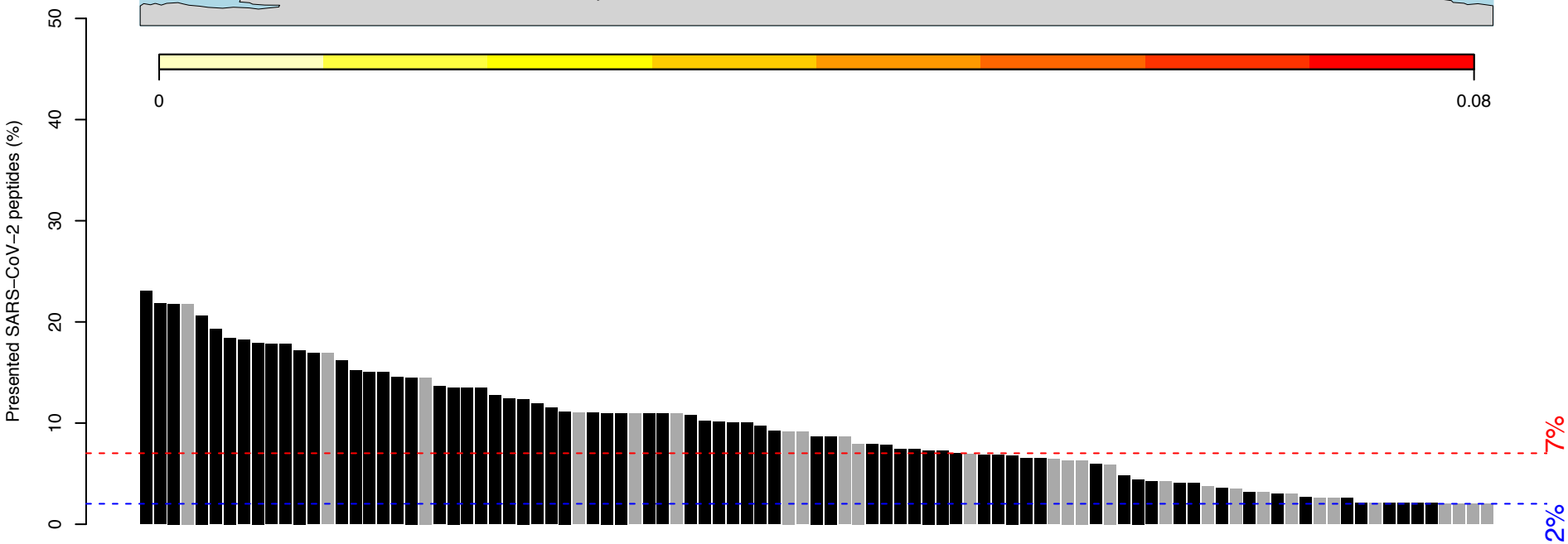
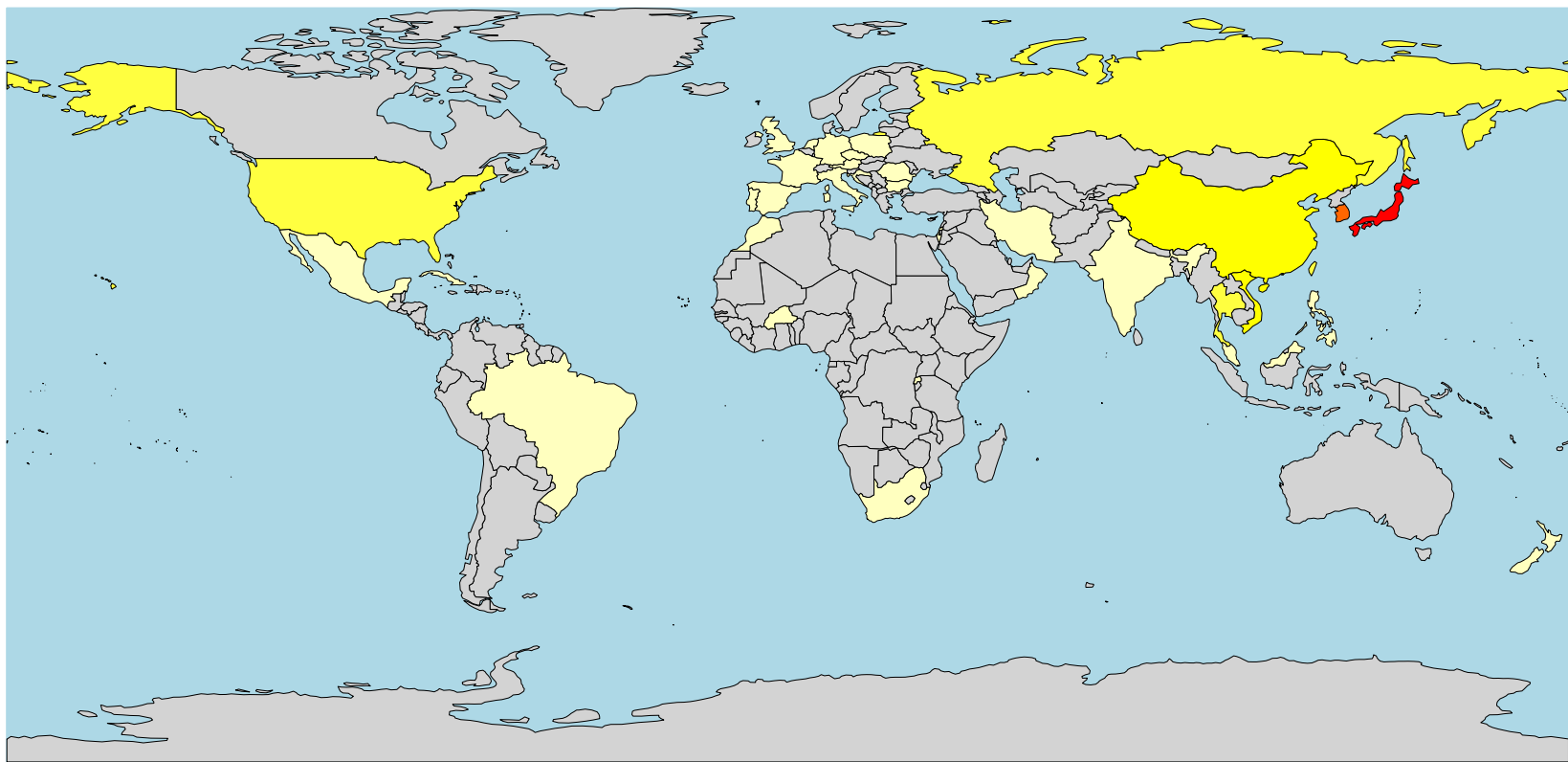
B*53:01
(~0.86% globally)



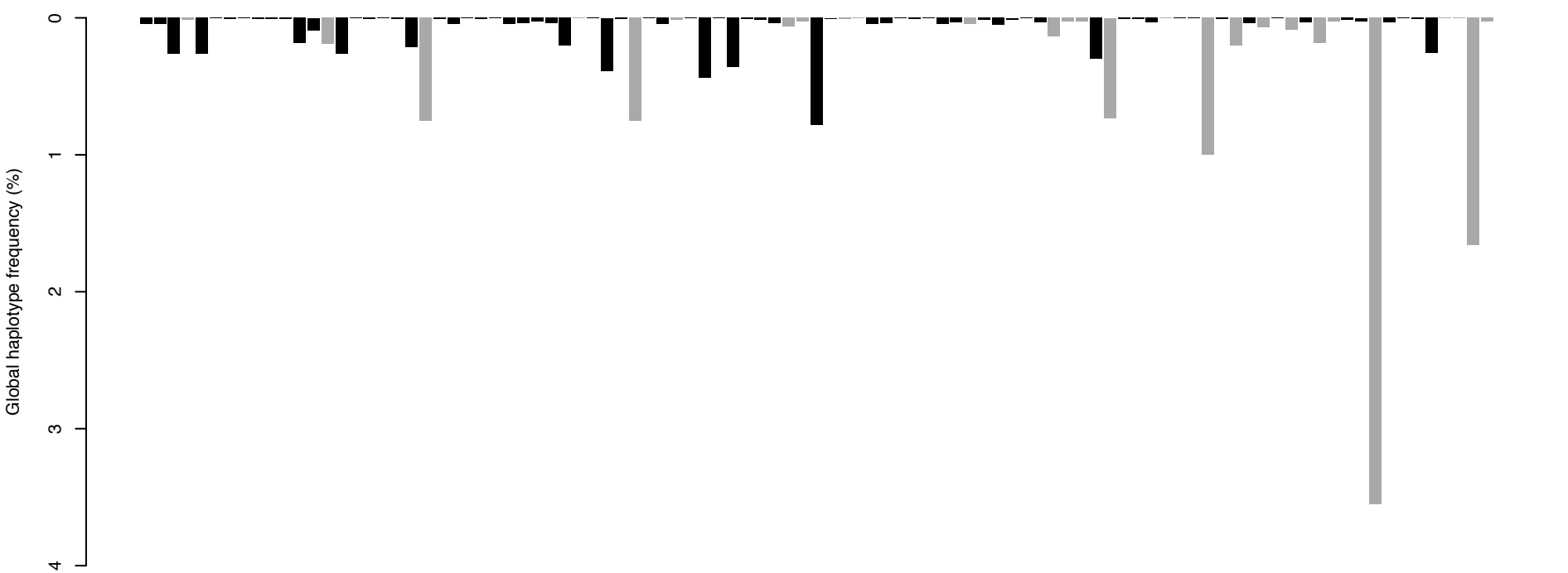
B*53:01 Haplotypes (n=182)



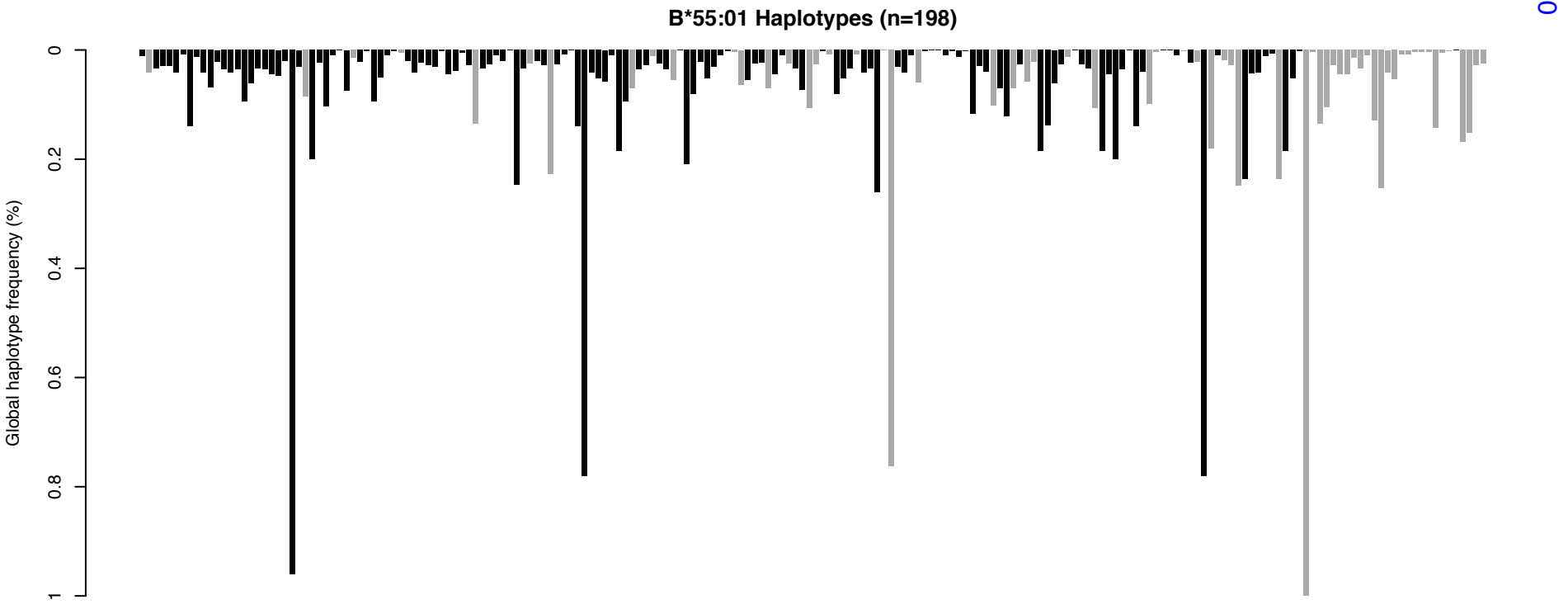
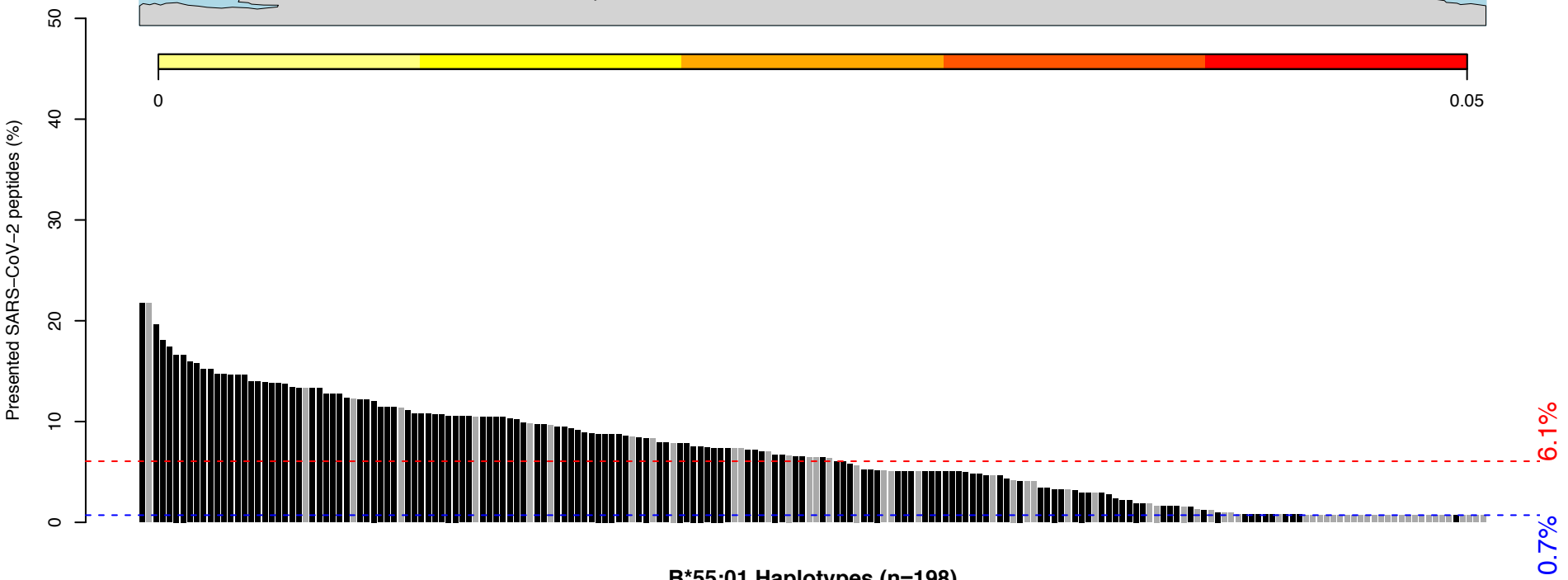
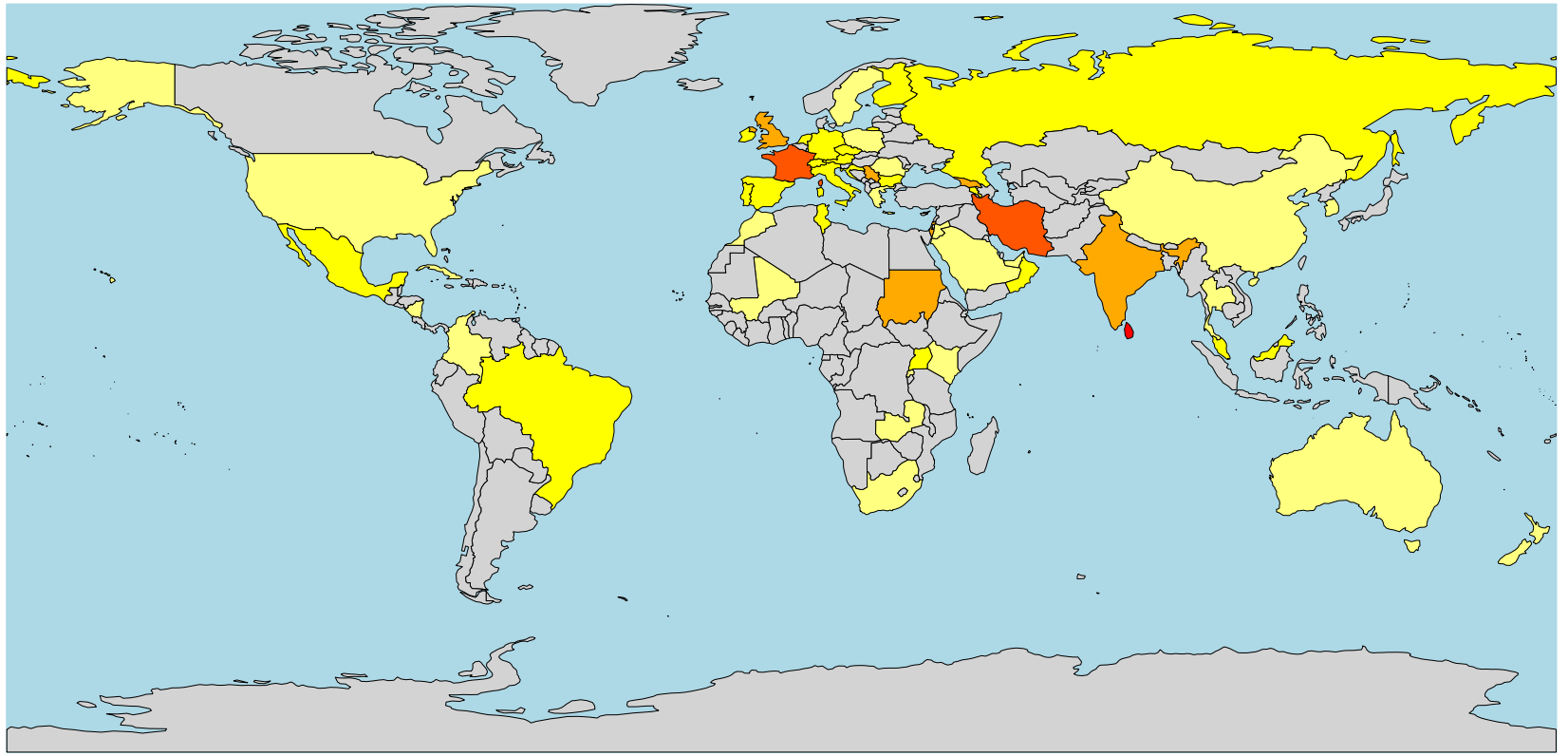
B*54:01
(~1.4% globally)



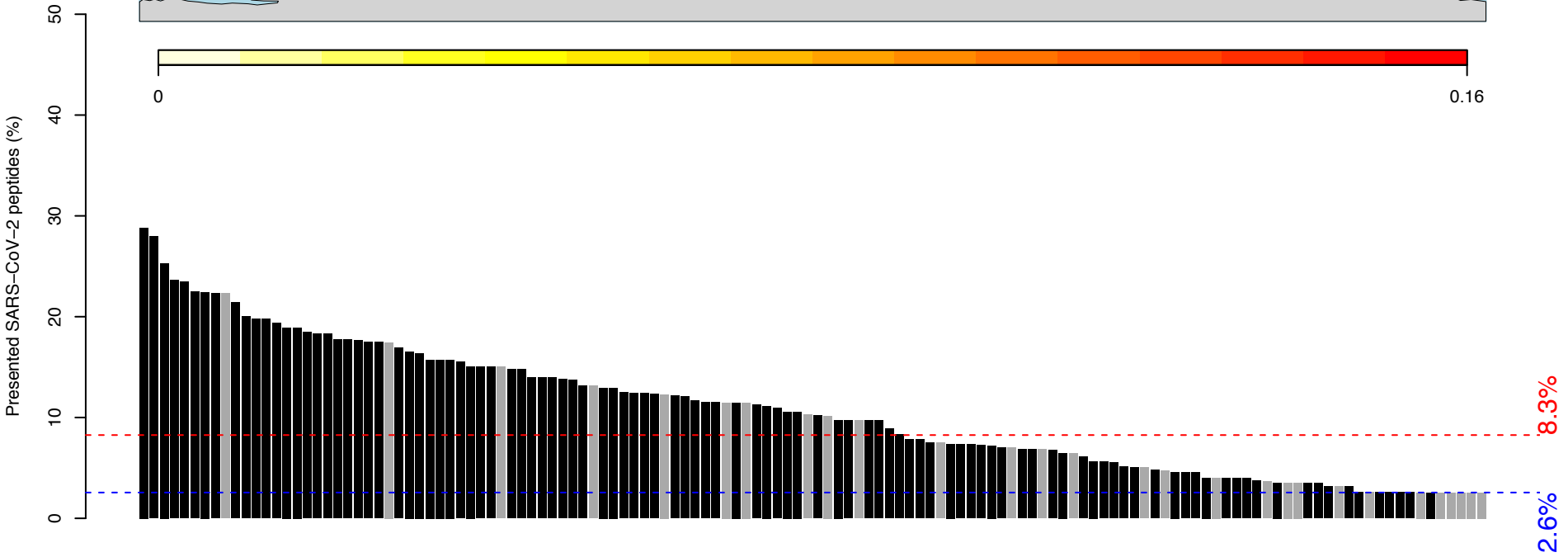
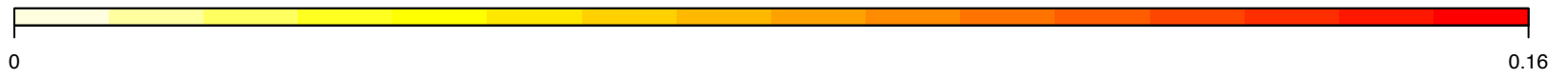
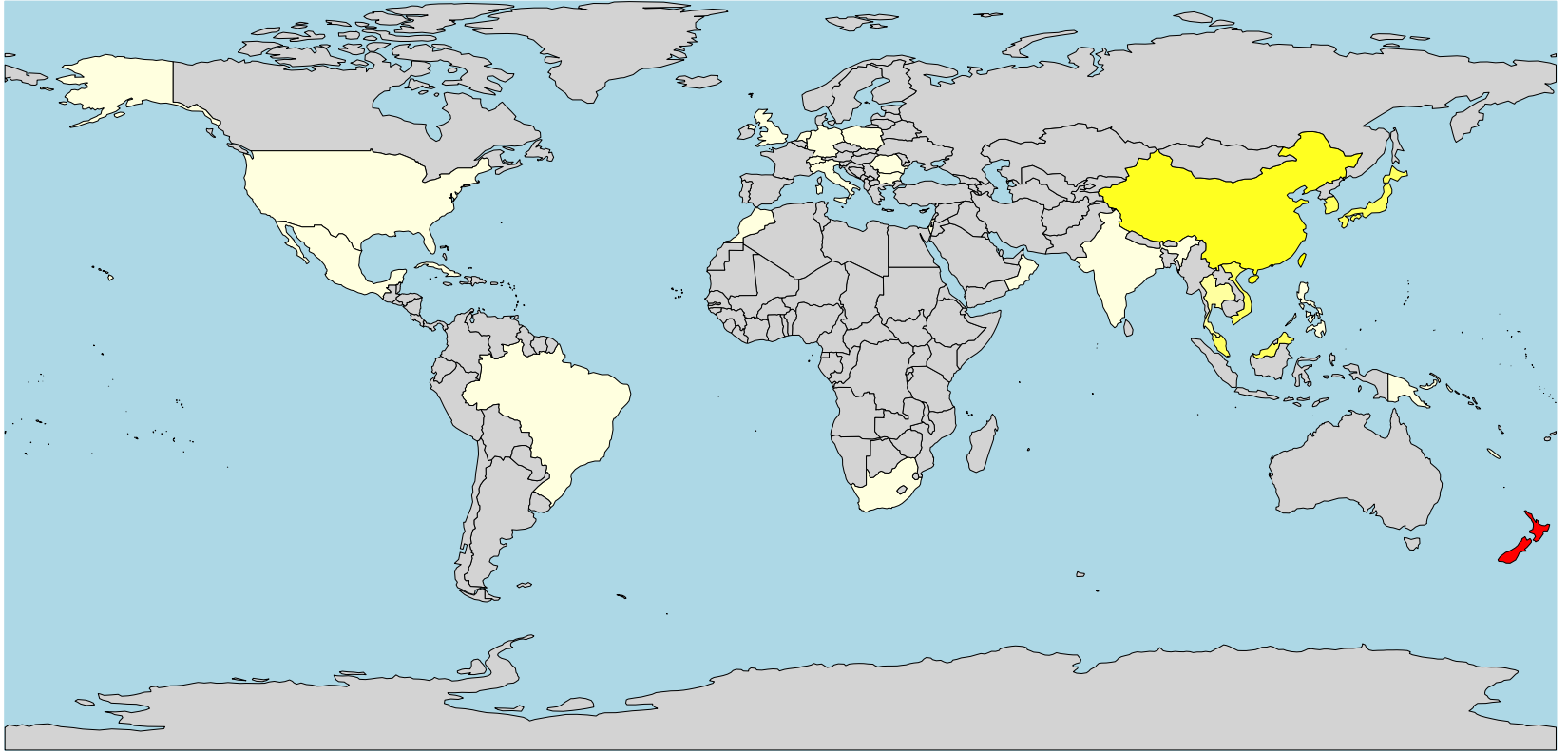
B*54:01 Haplotypes (n=97)



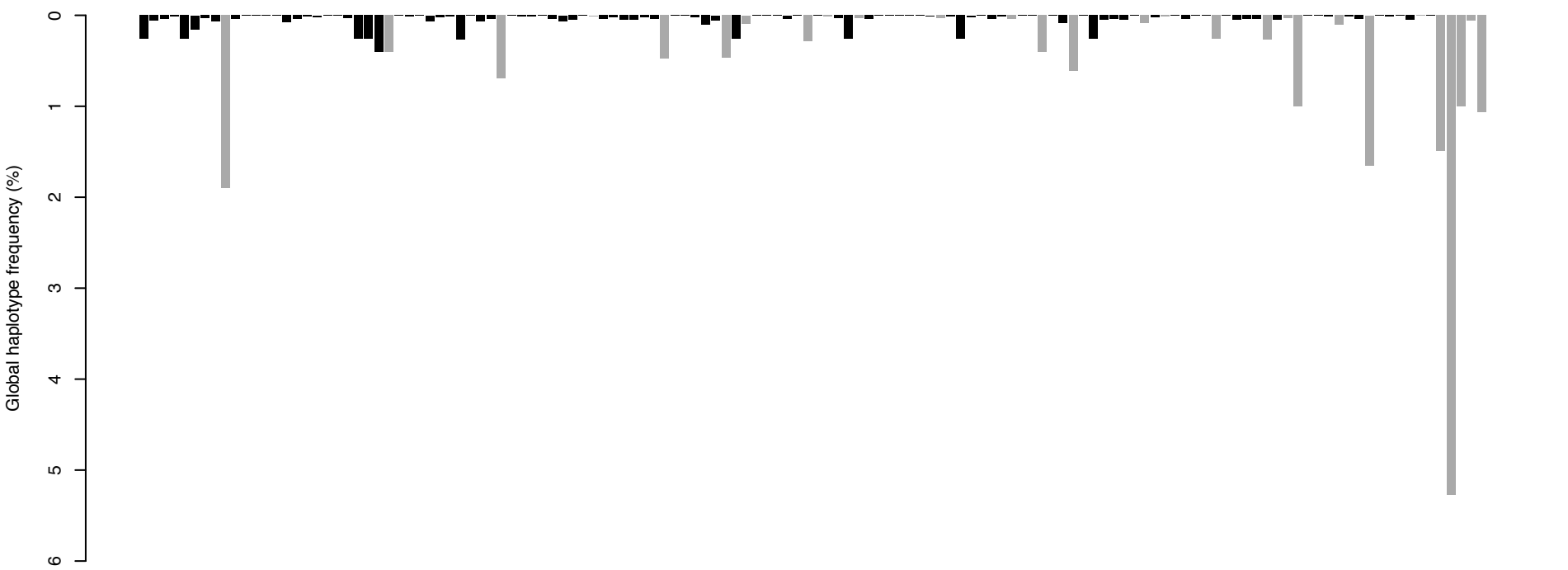
B*55:01
(~1.5% globally)



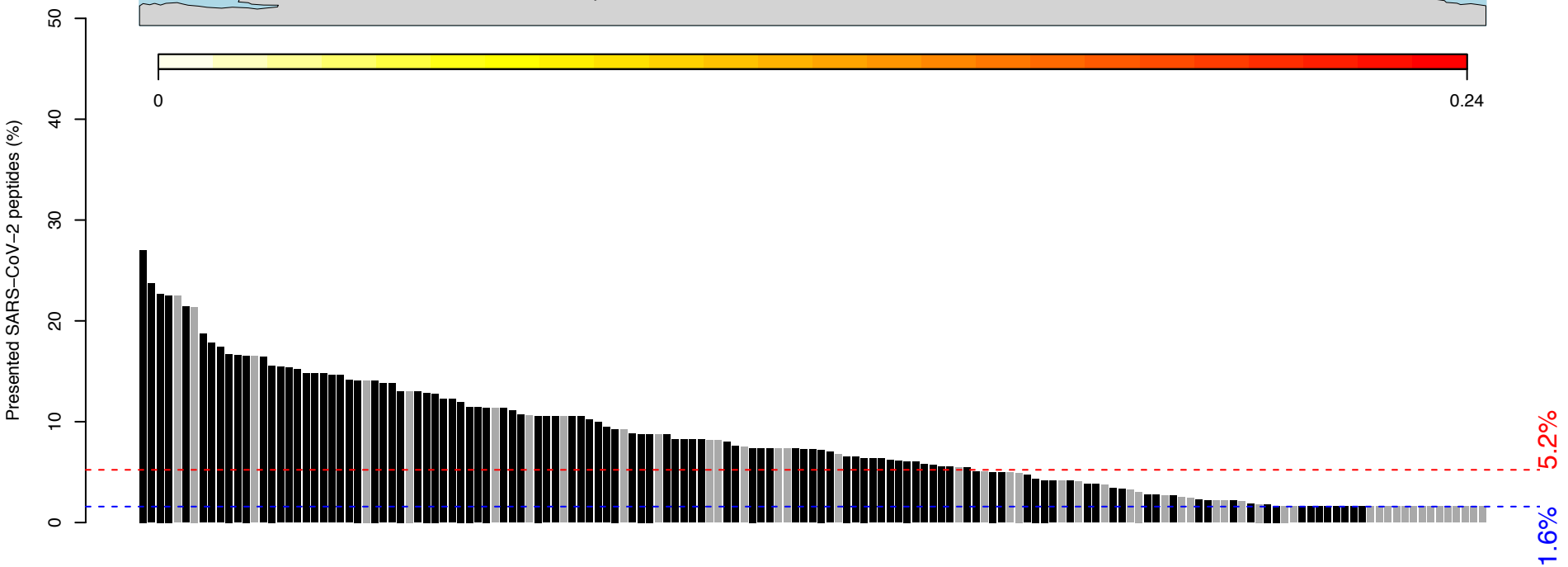
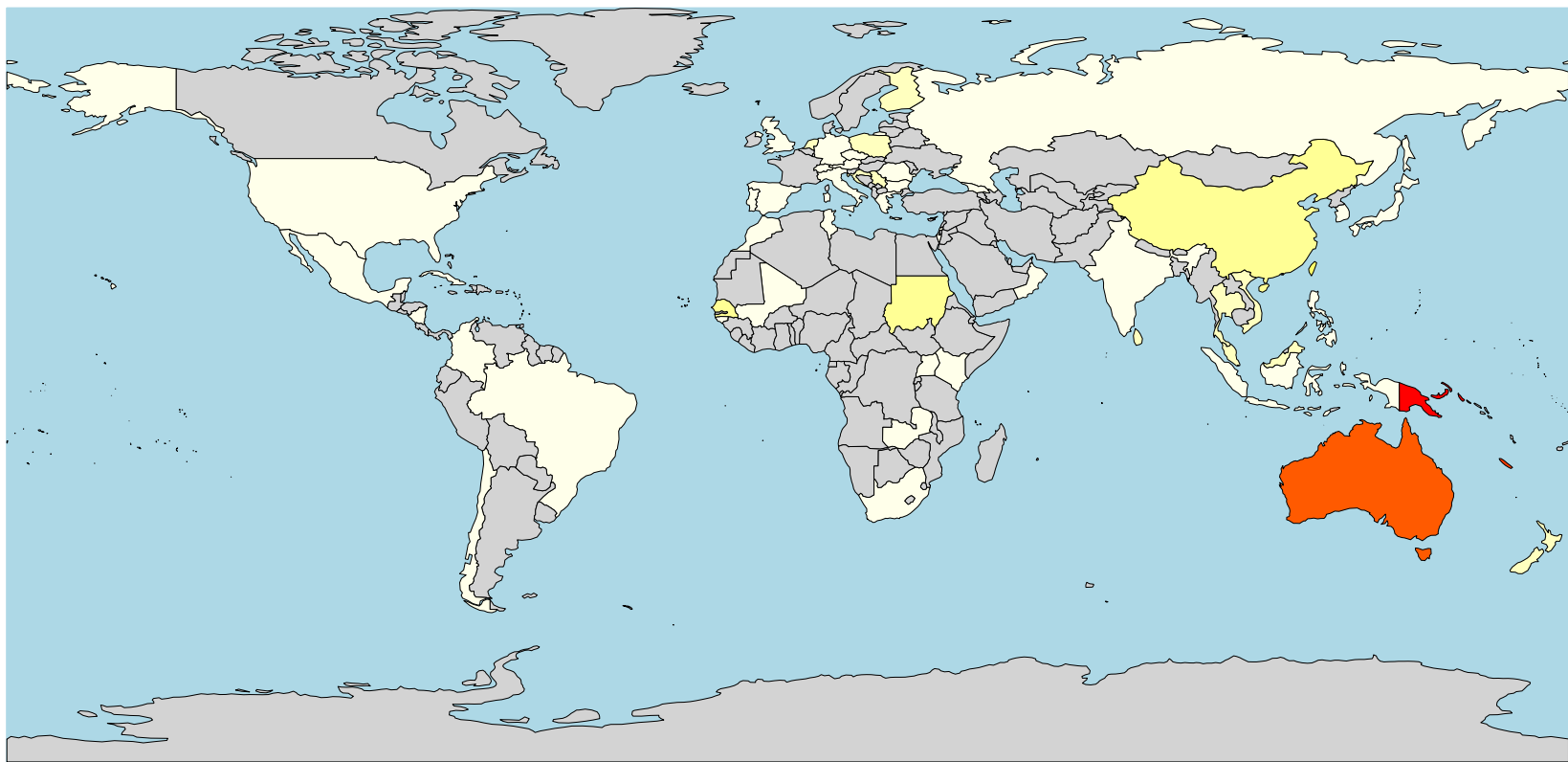
B*55:02
(~1.2% globally)



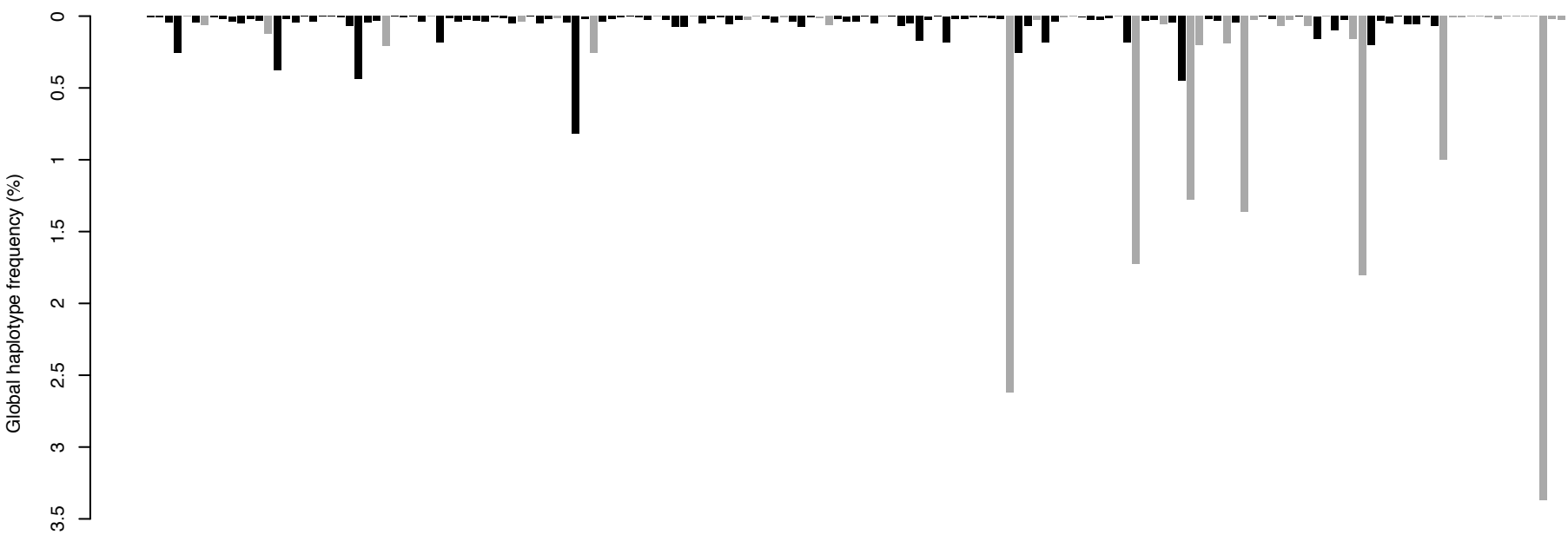
B*55:02 Haplotypes (n=132)



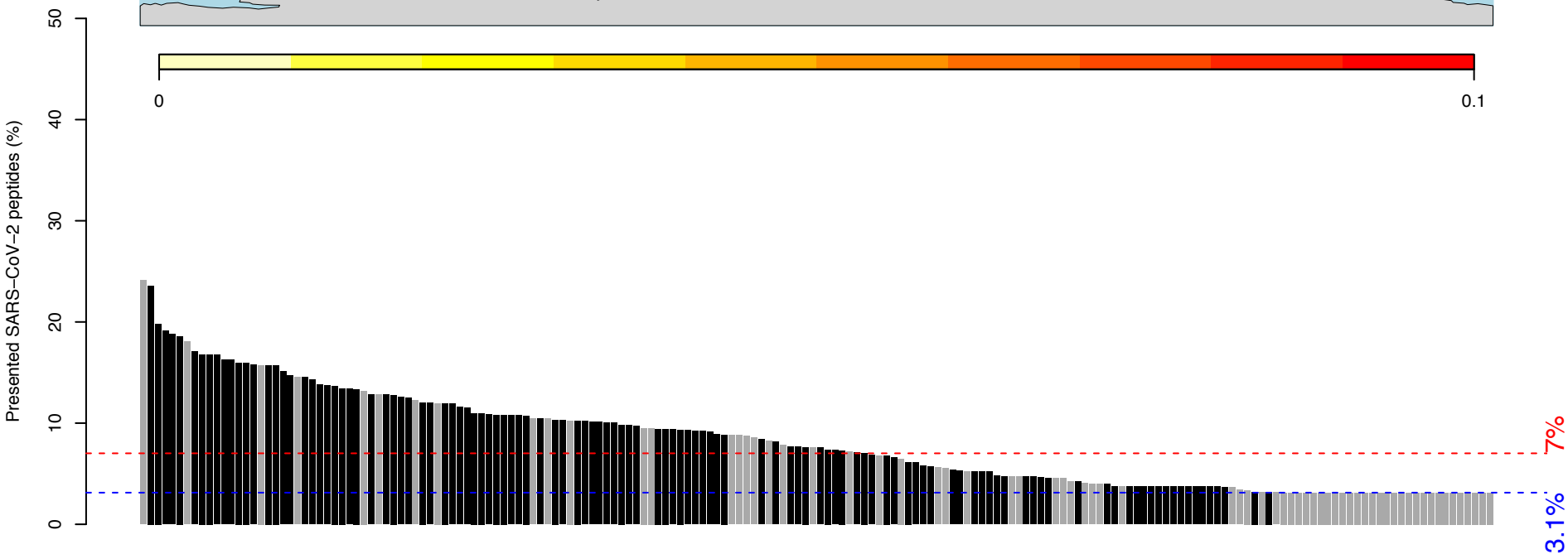
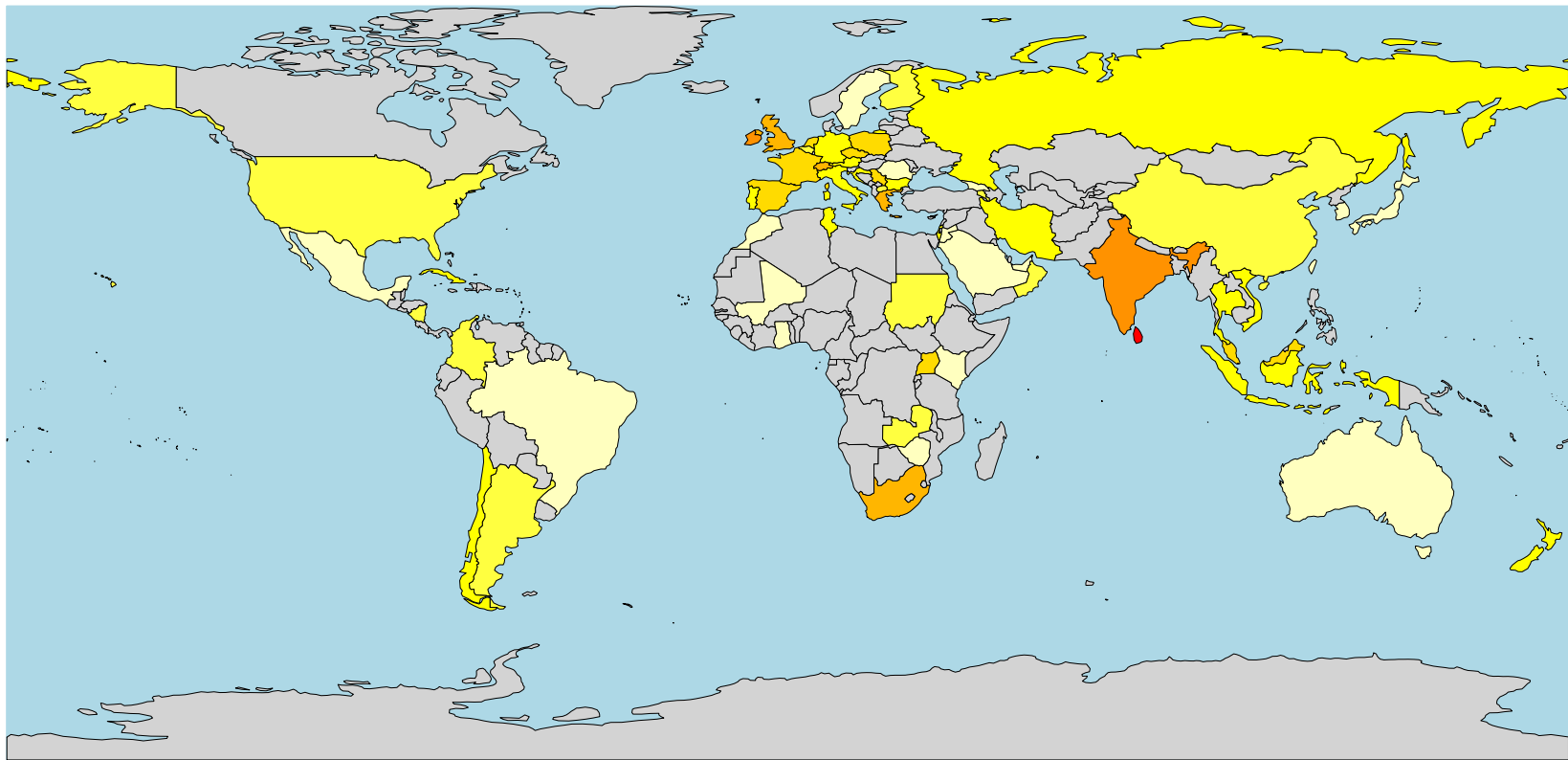
B*56:01
(~1.2% globally)



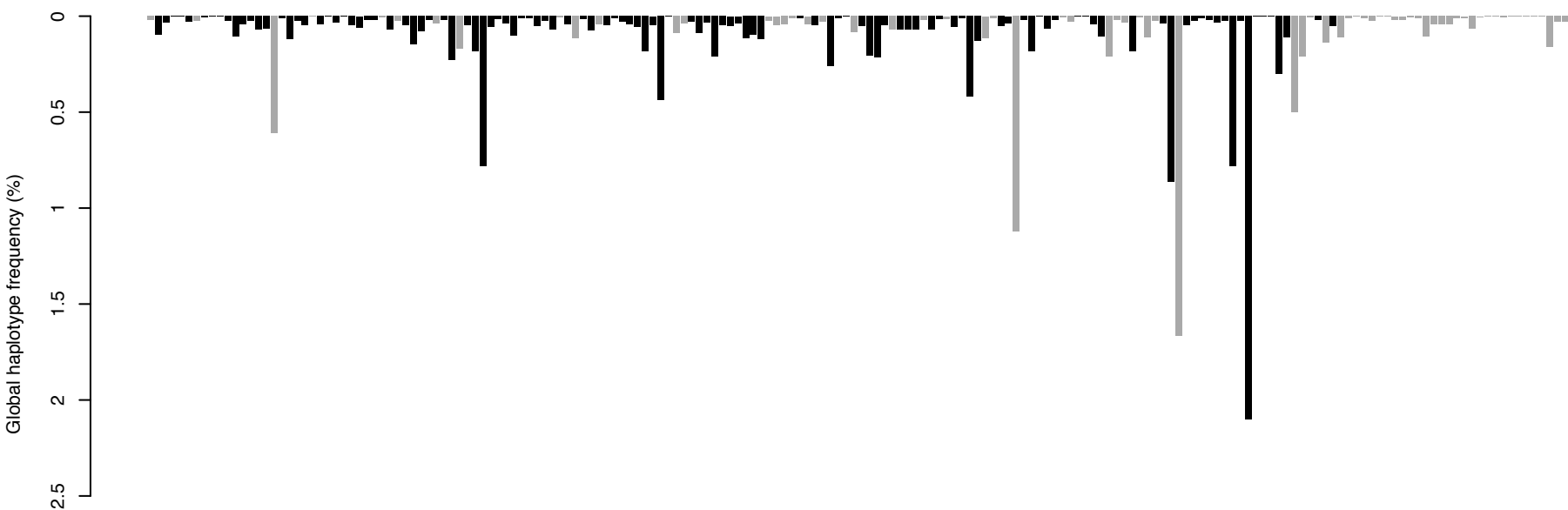
B*56:01 Haplotypes (n=157)



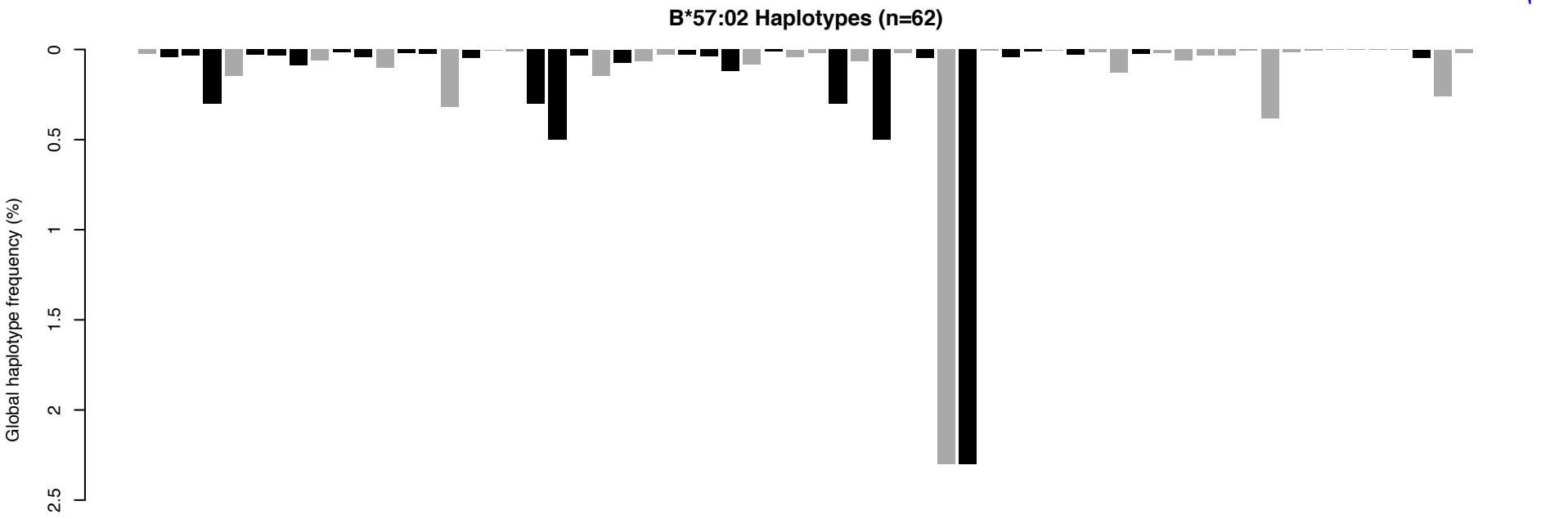
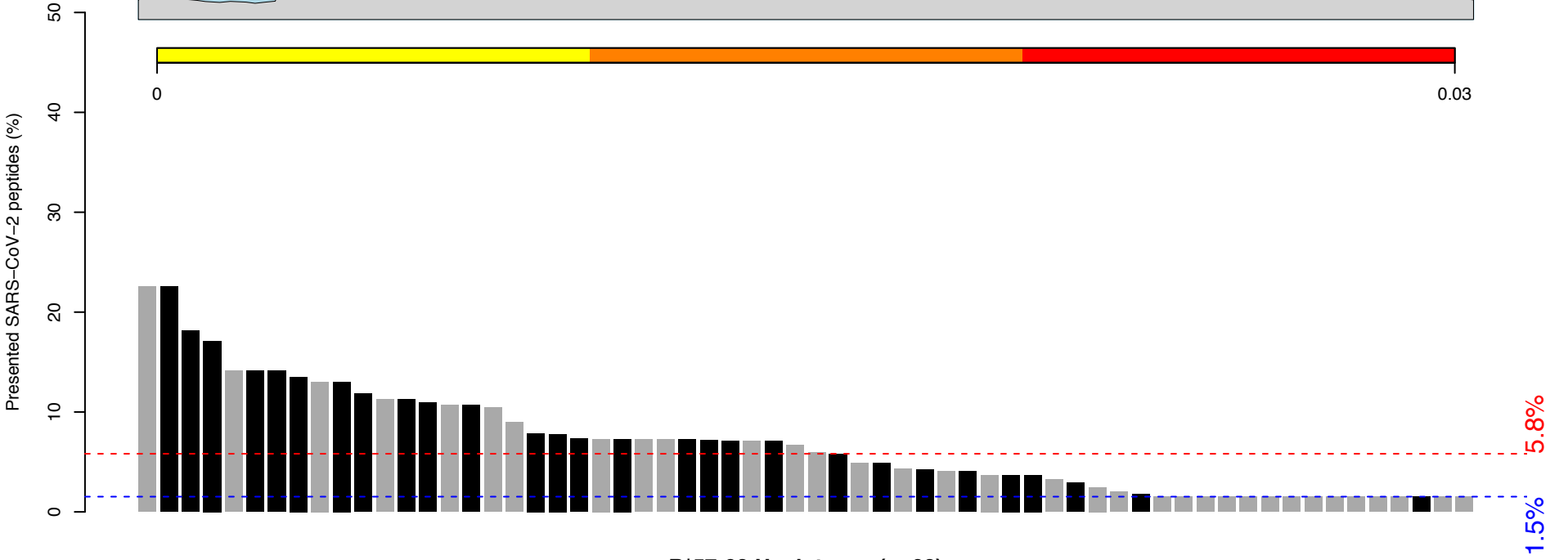
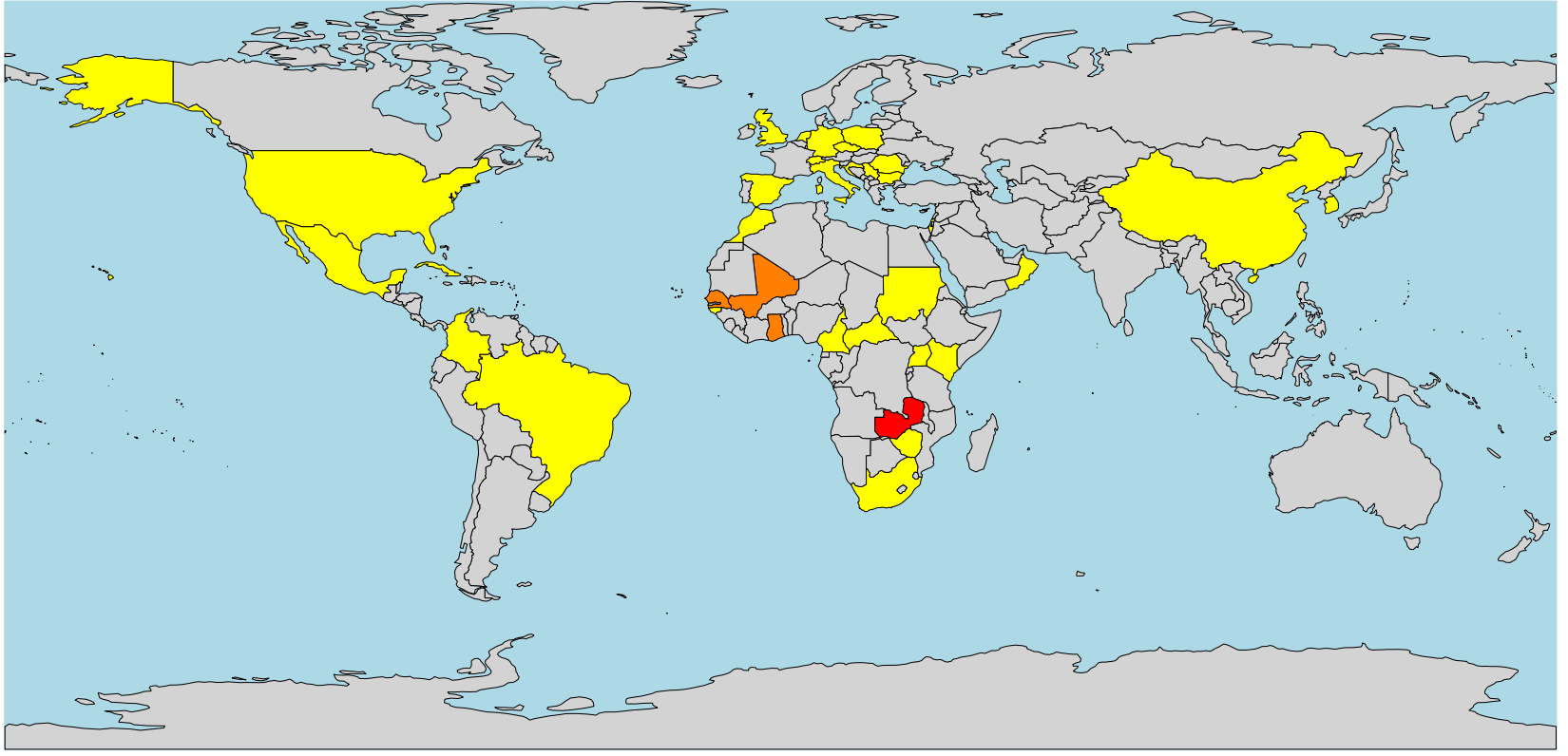
B*57:01
(~2.3% globally)



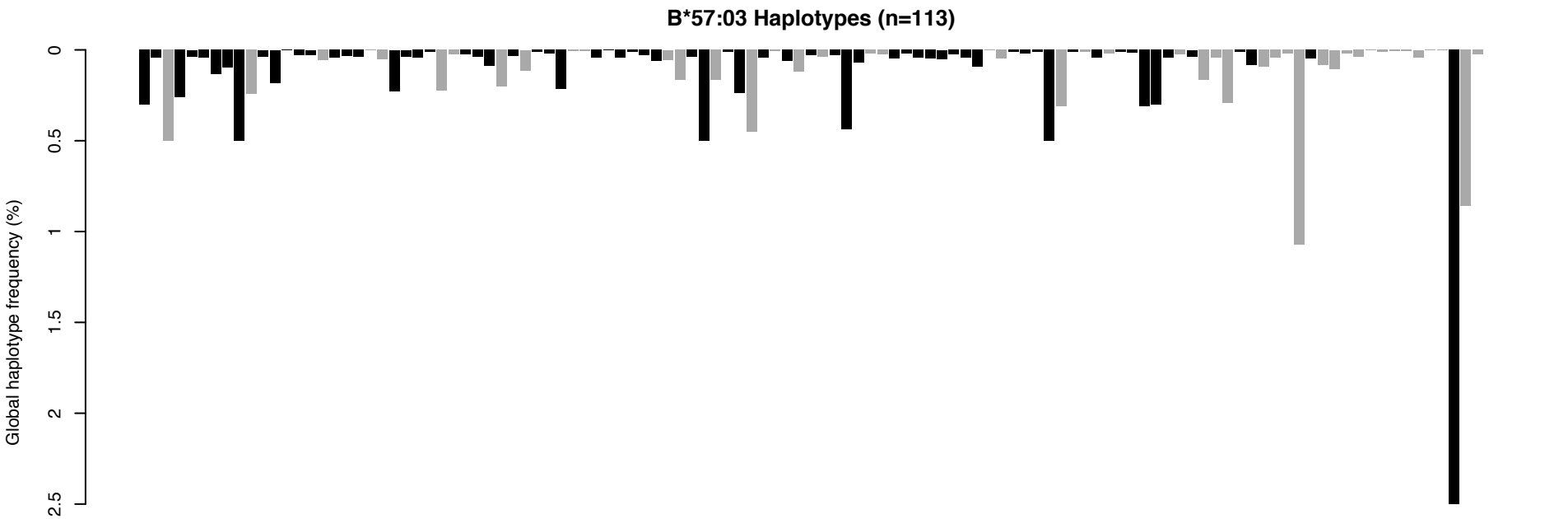
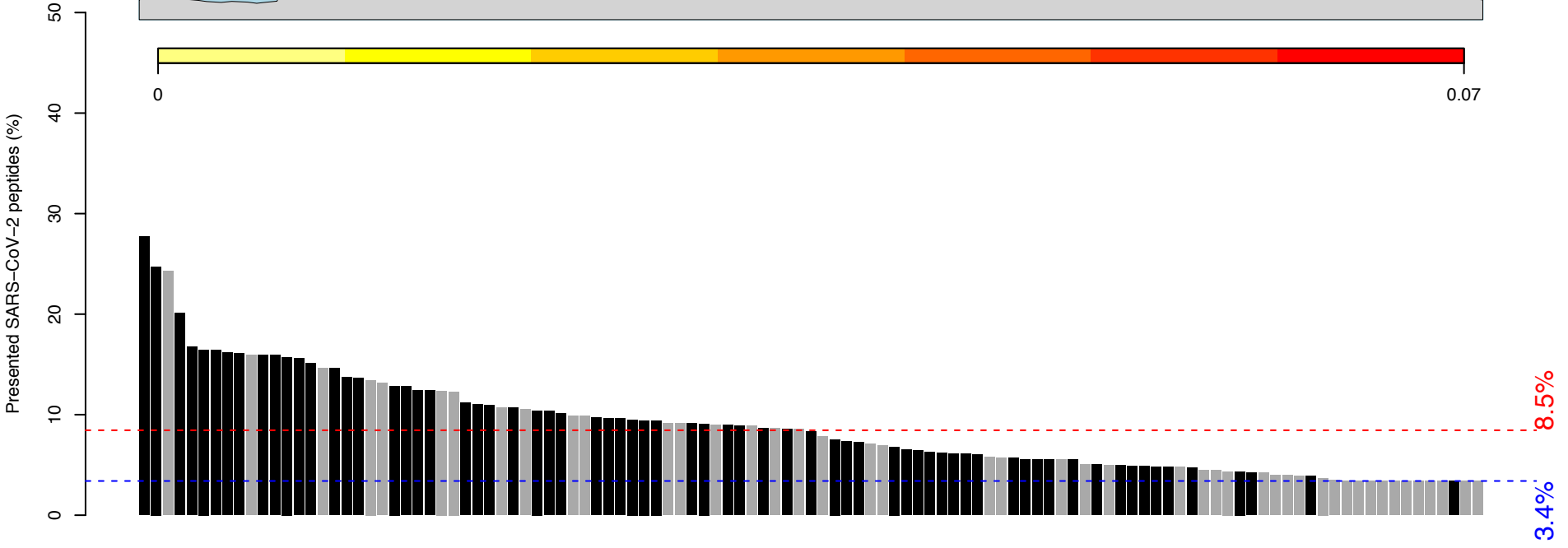
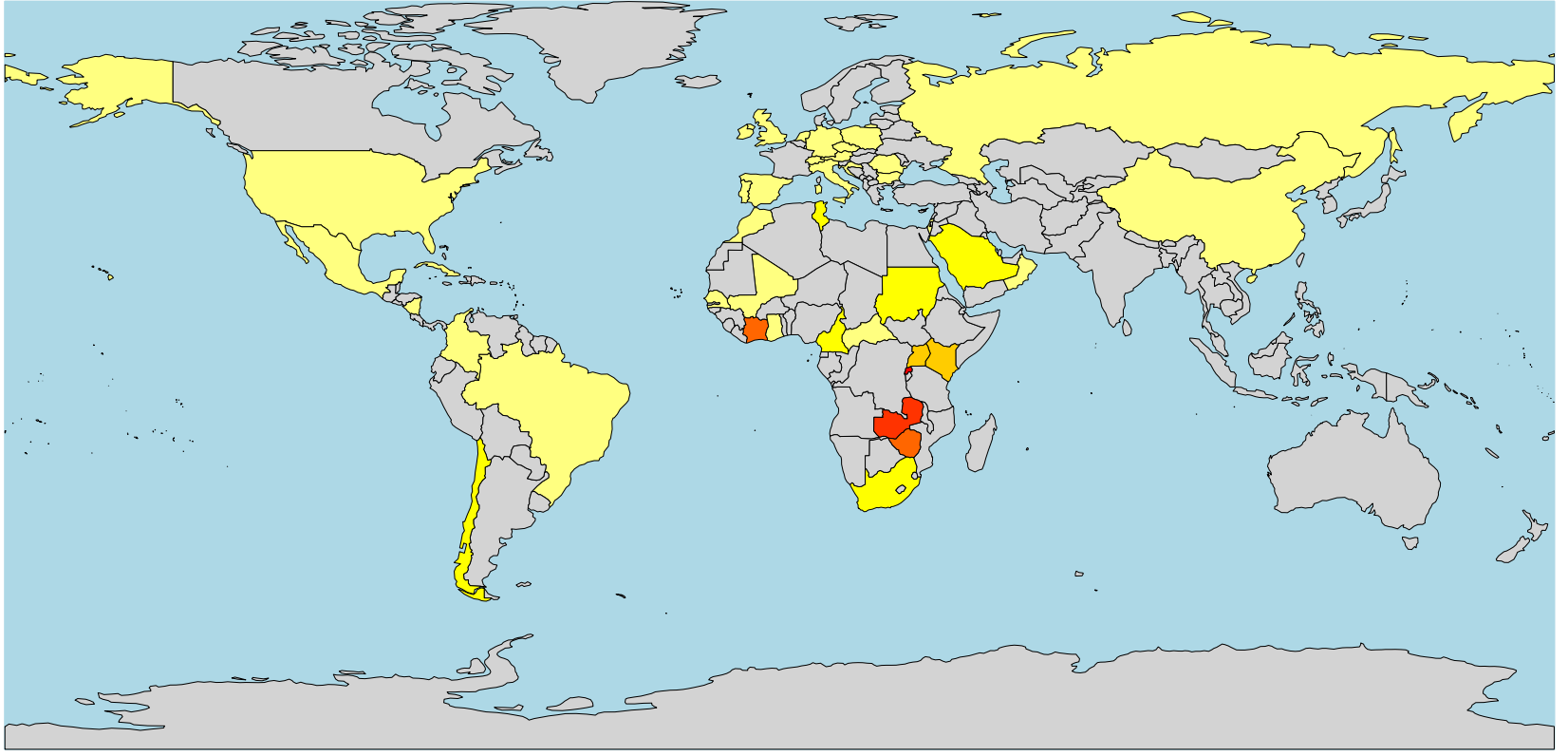
B*57:01 Haplotypes (n=184)



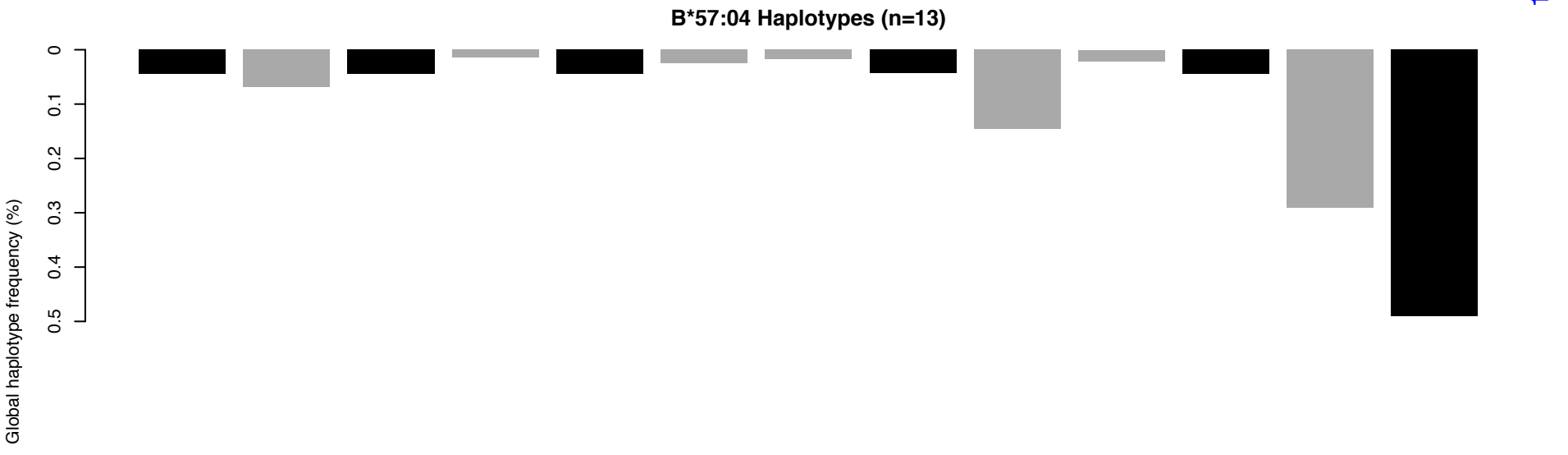
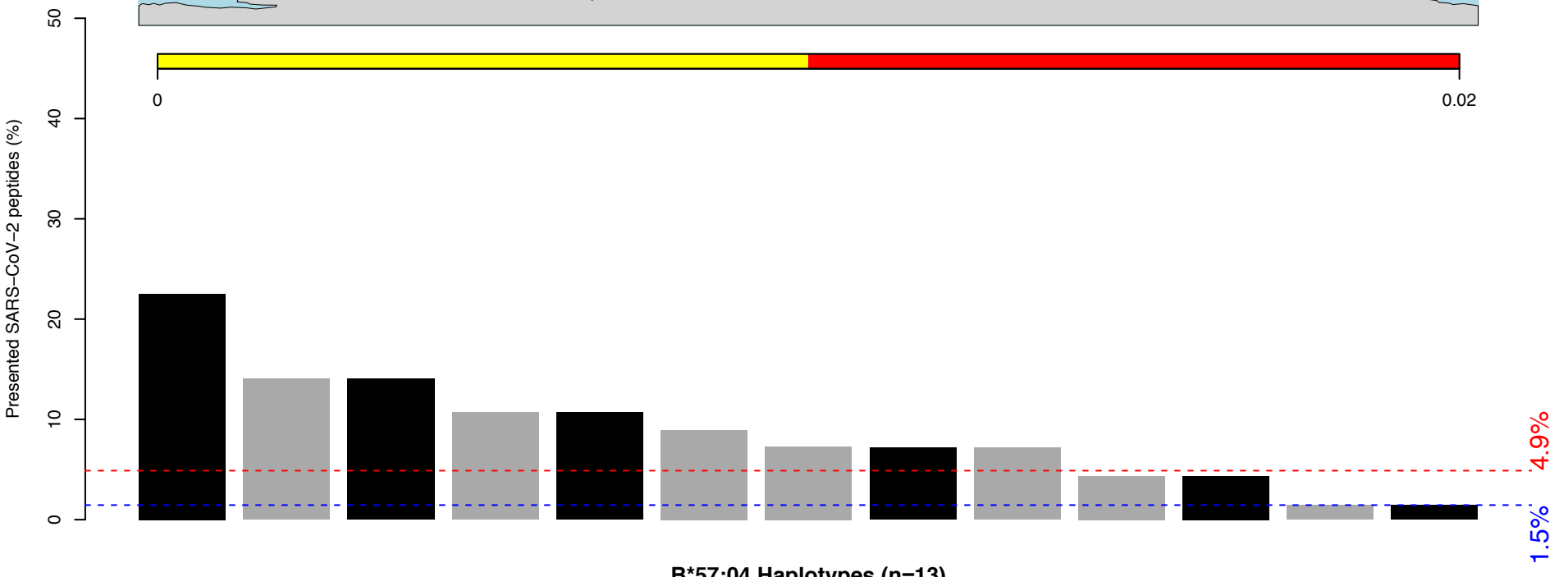
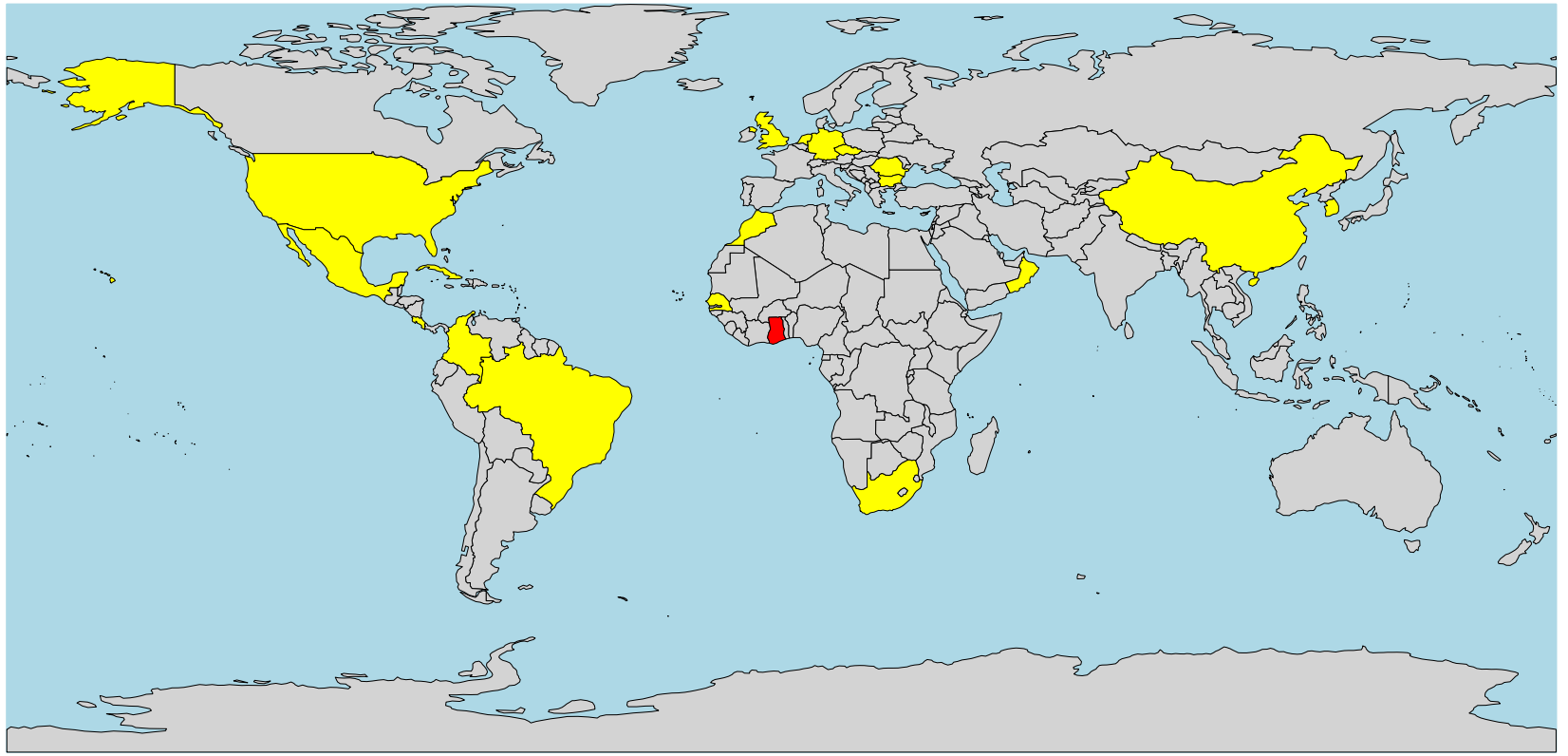
B*57:02
(~0.18% globally)



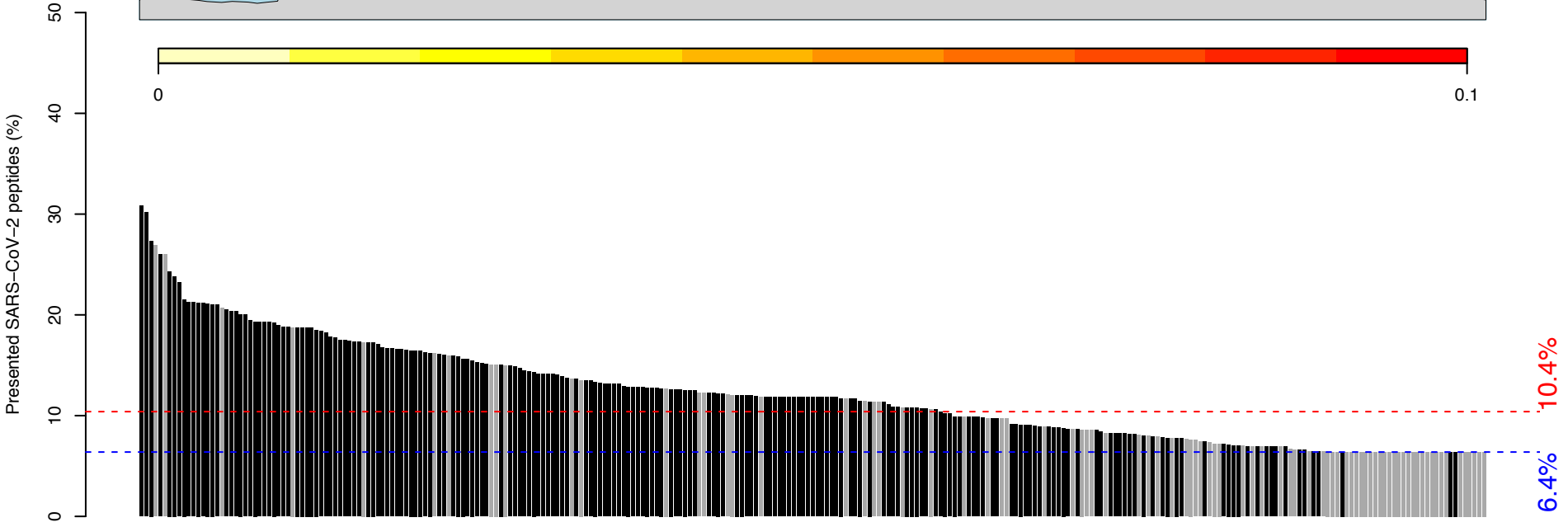
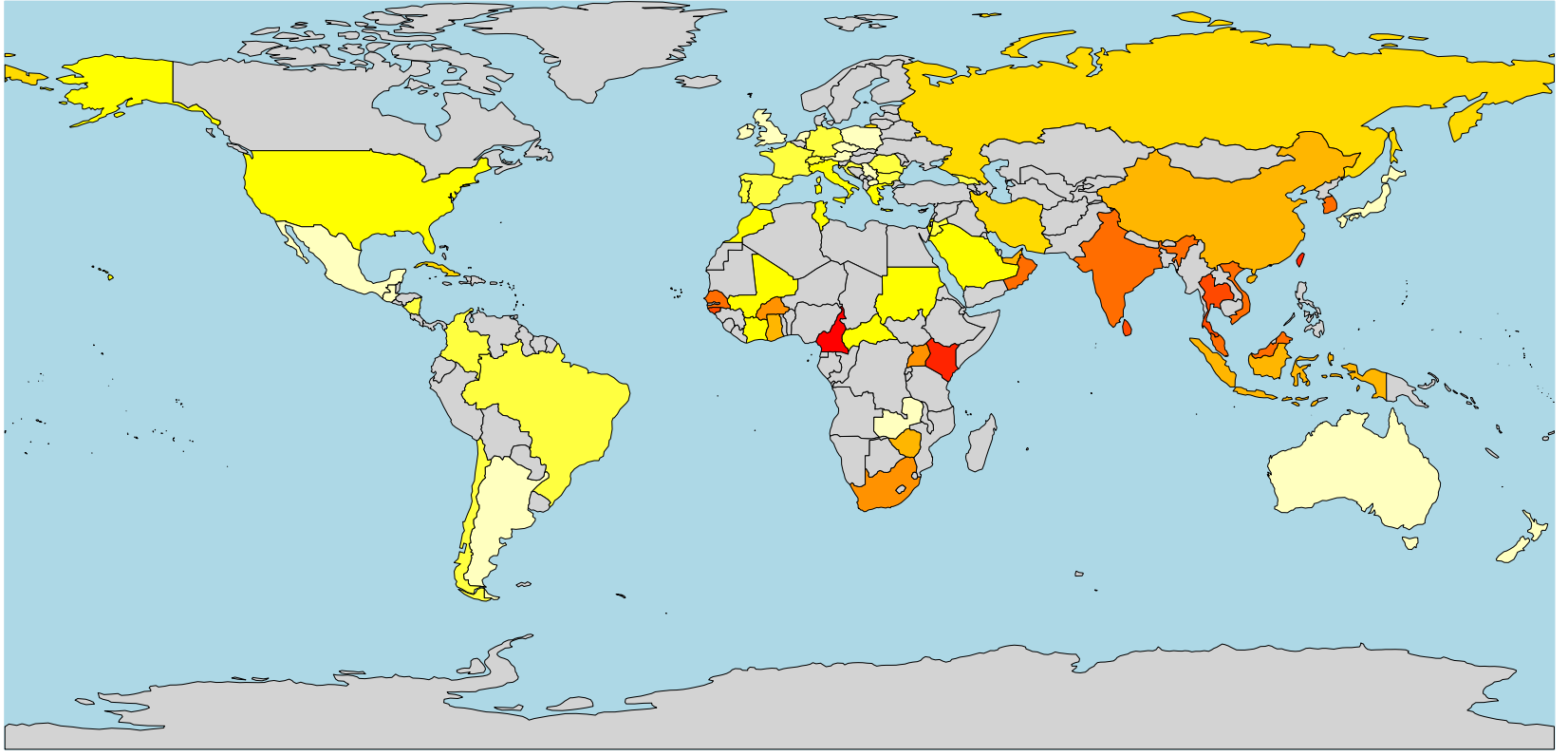
B*57:03
(~0.33% globally)



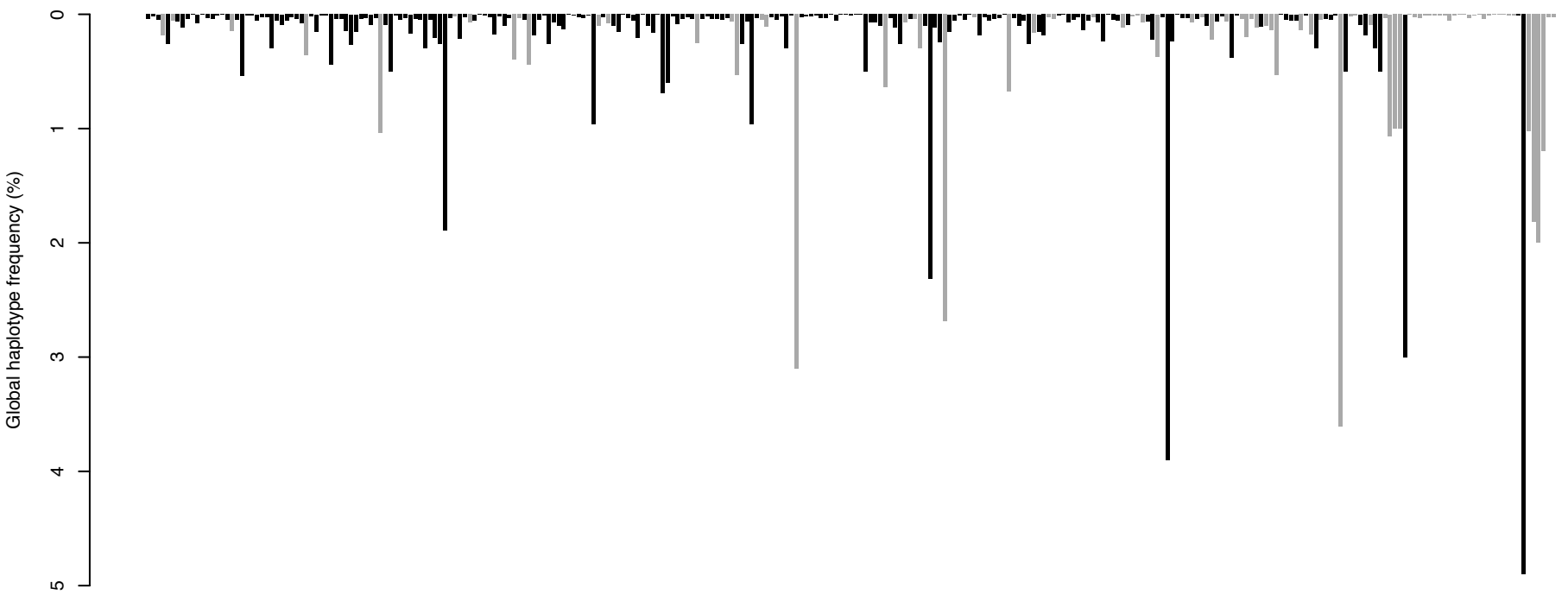
B*57:04
(~0.031% globally)



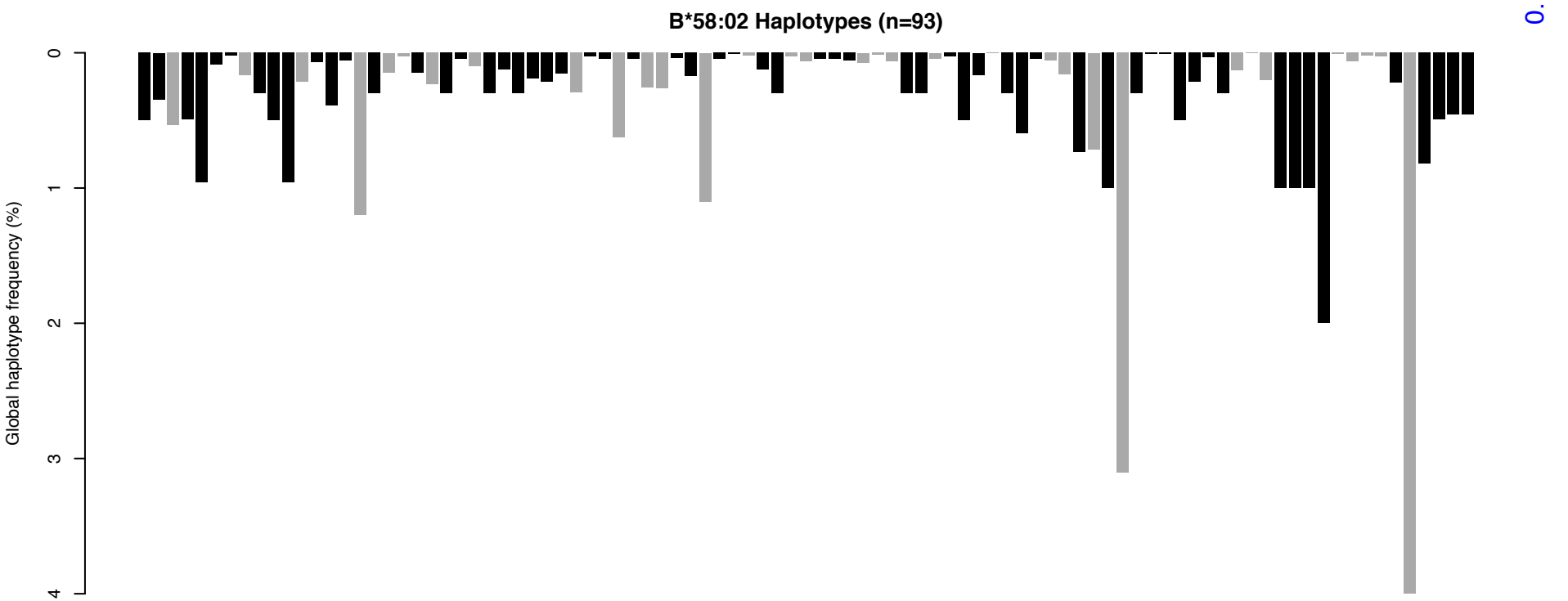
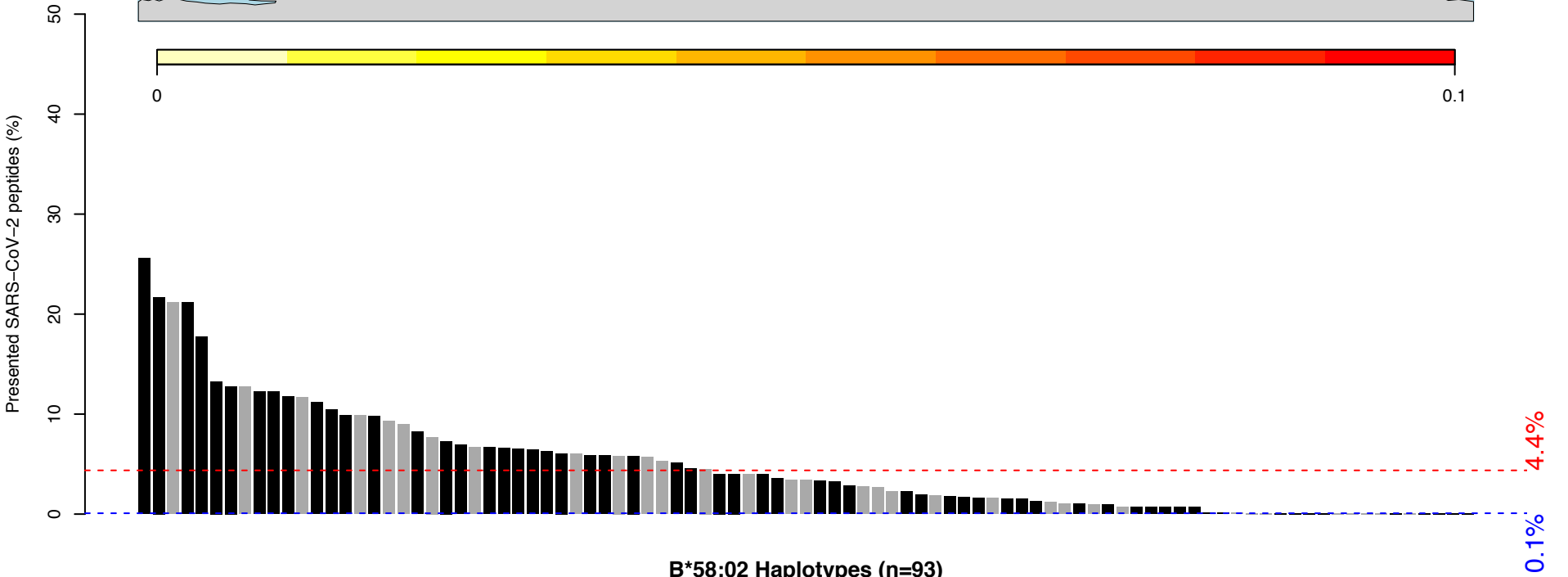
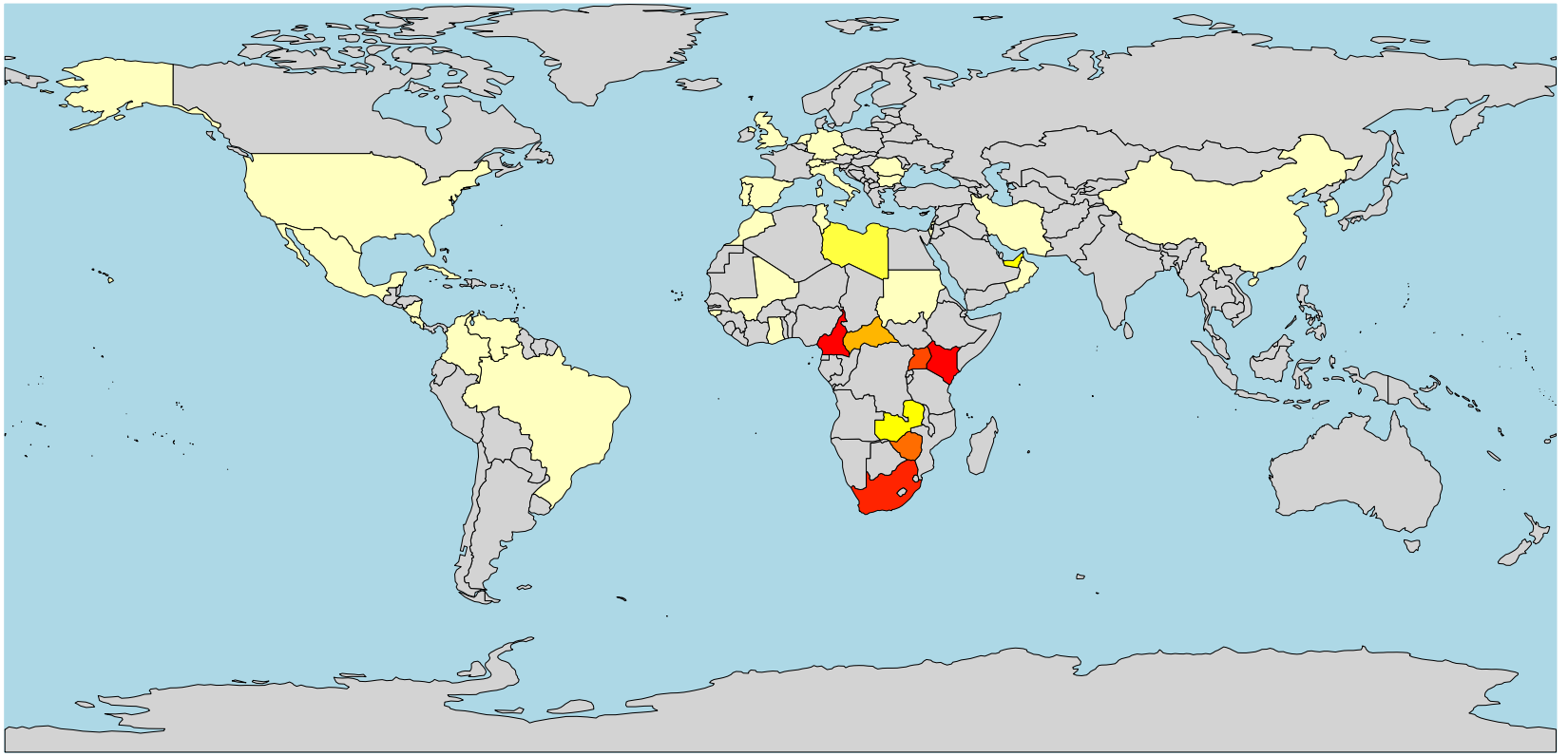
B*58:01
(~4.1% globally)



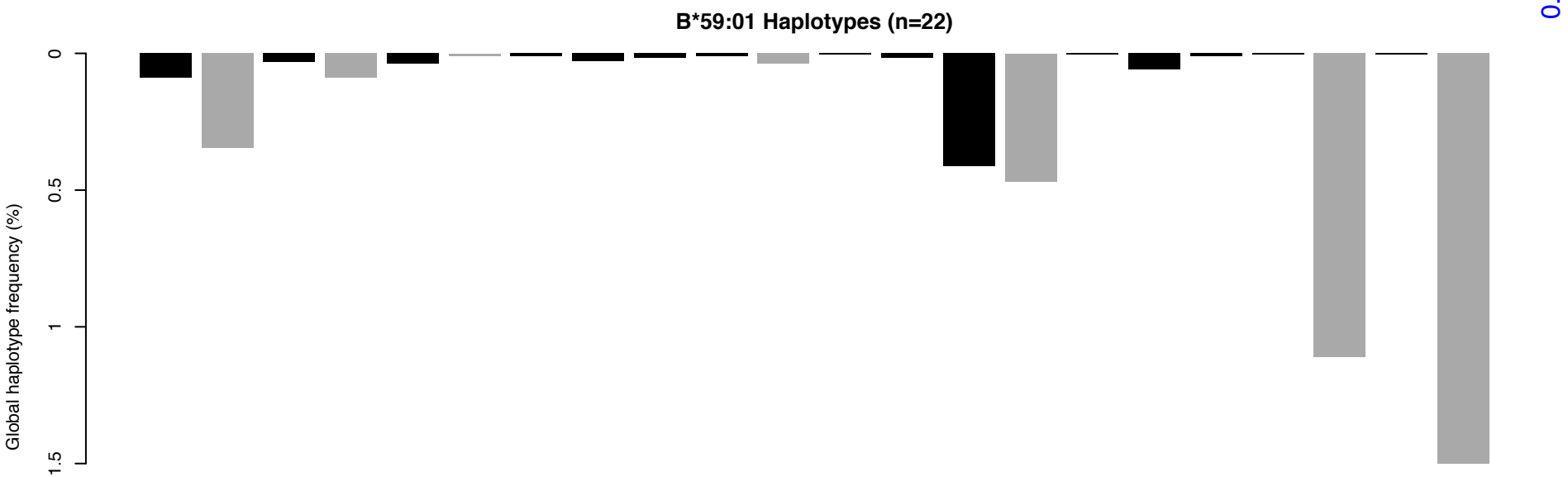
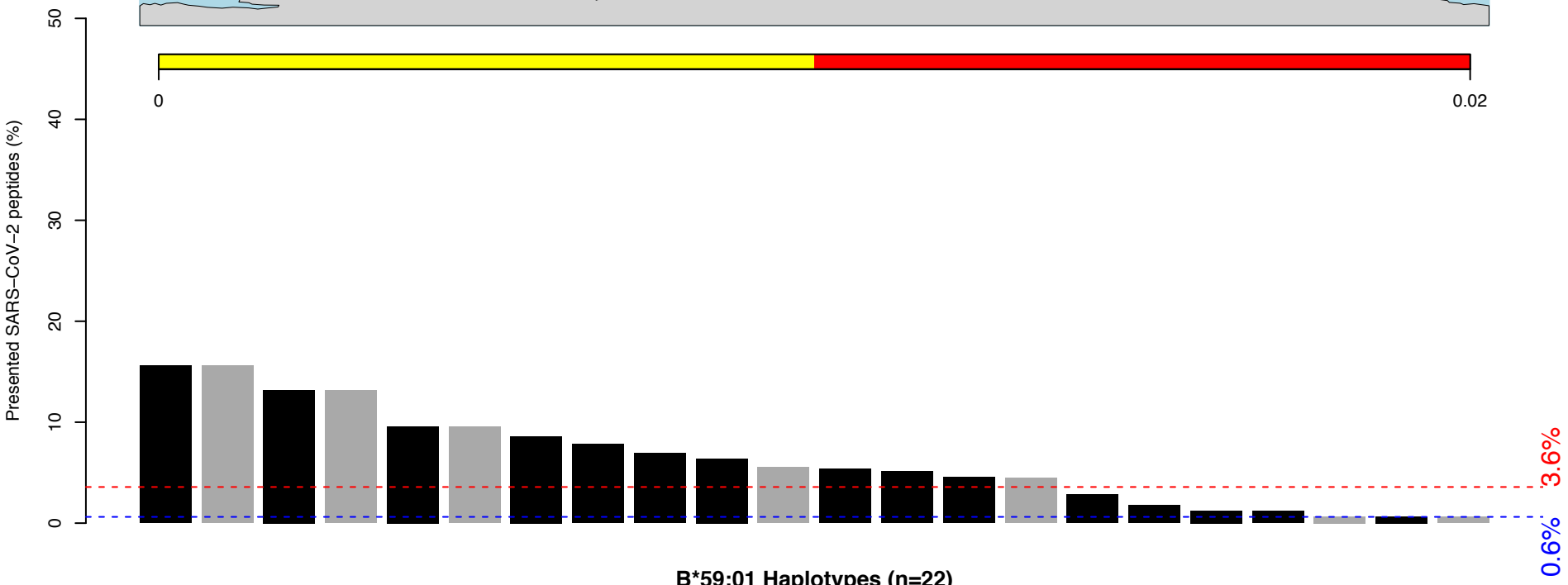
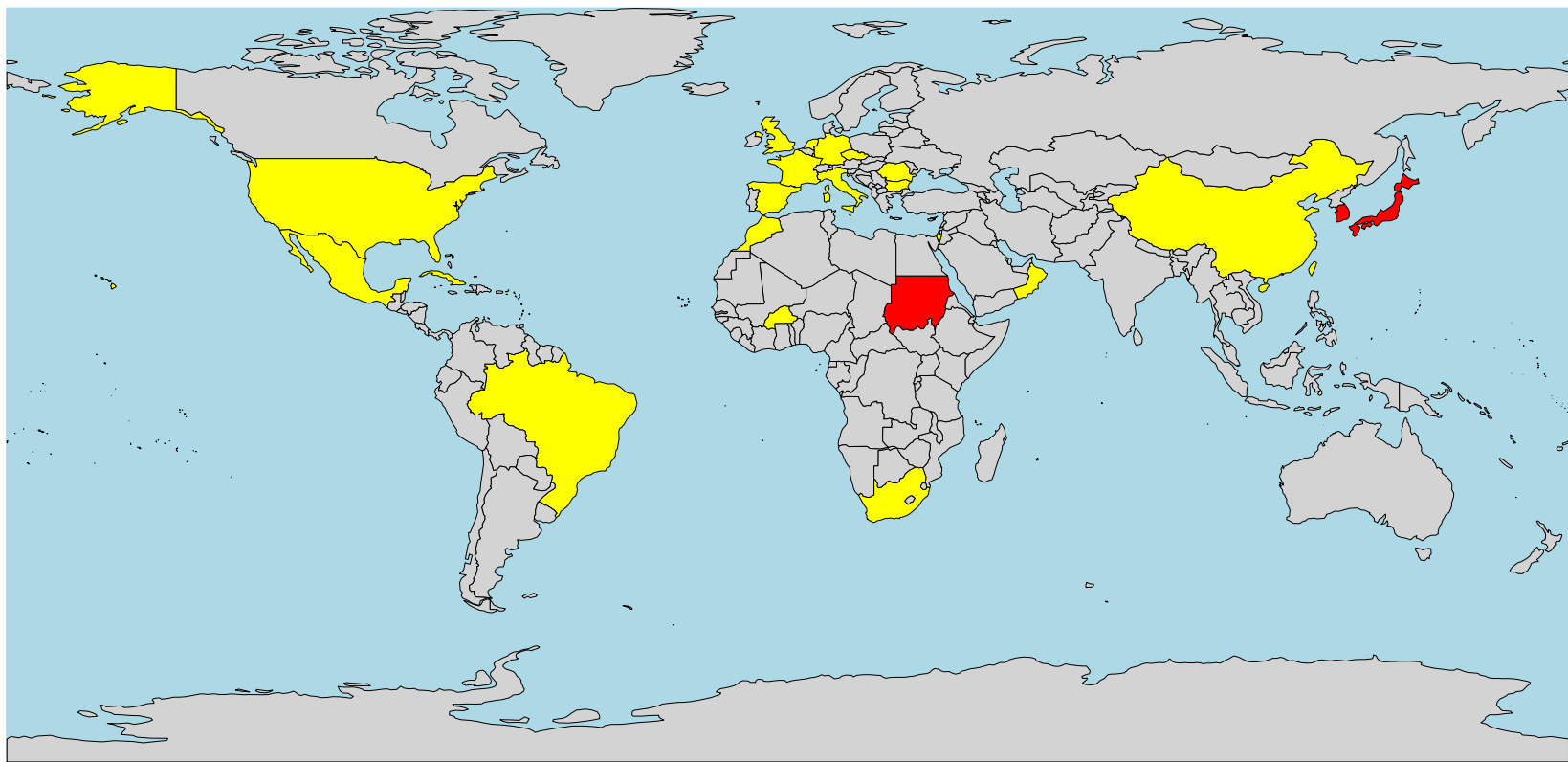
B*58:01 Haplotypes (n=285)



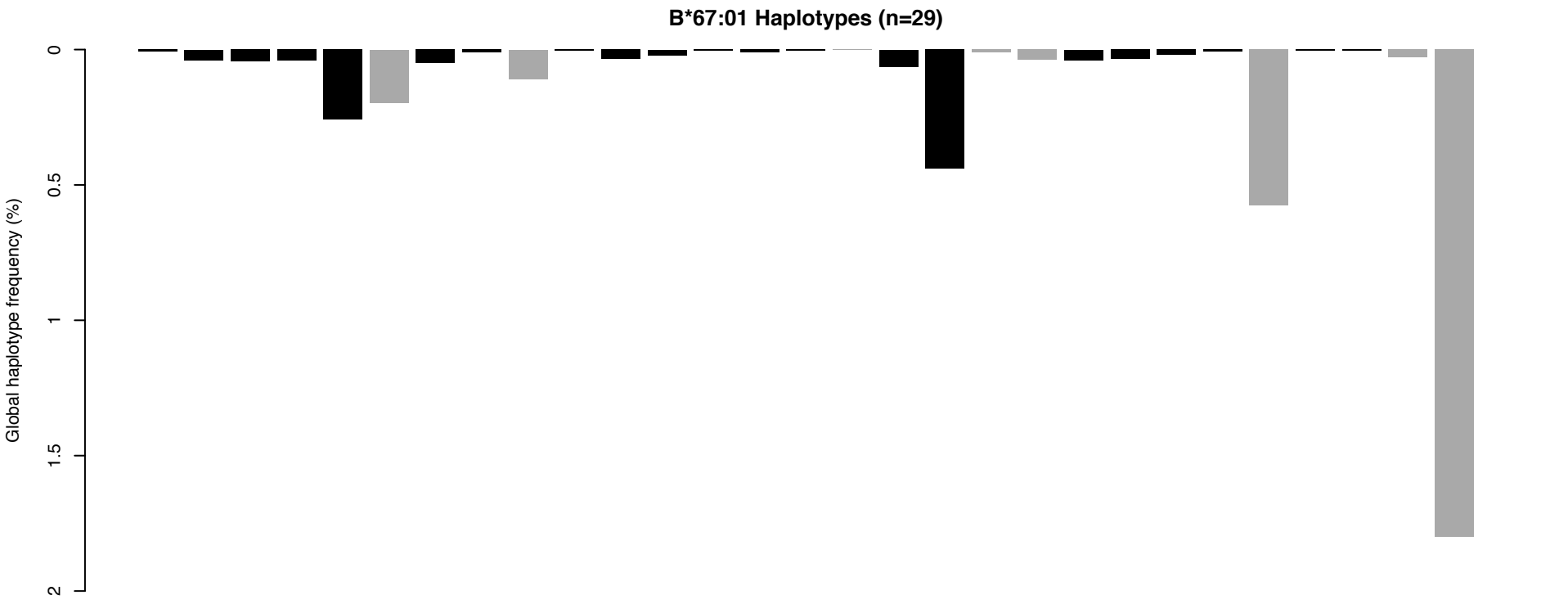
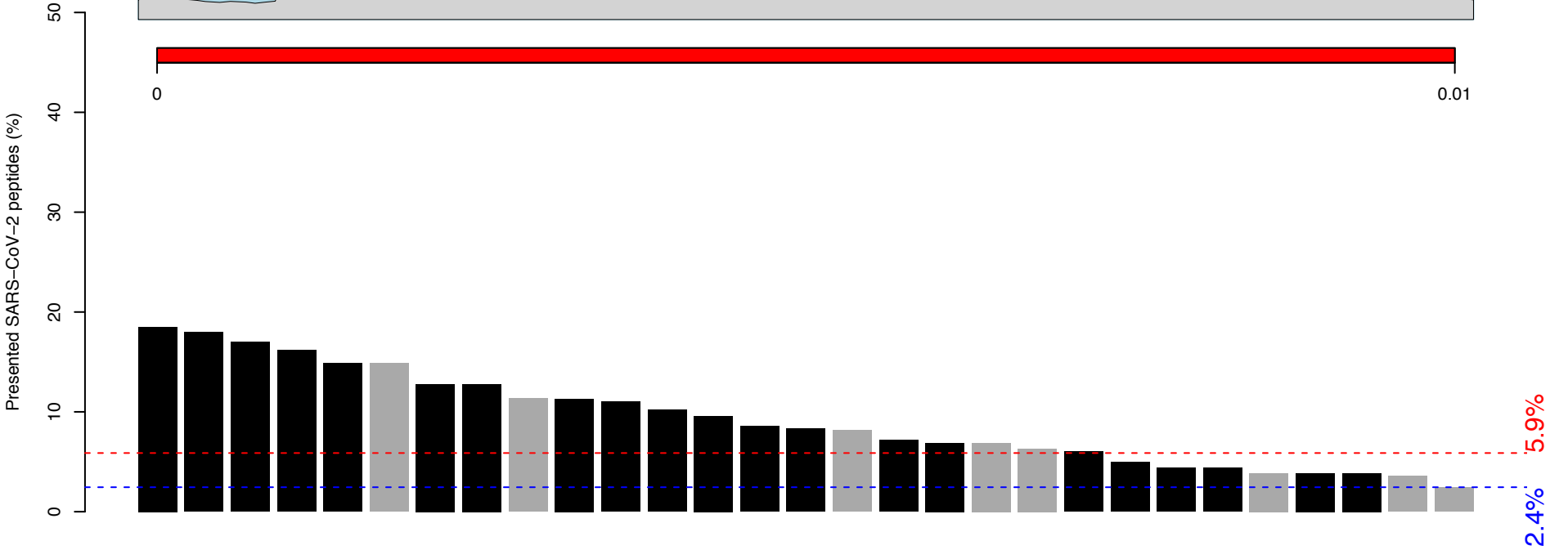
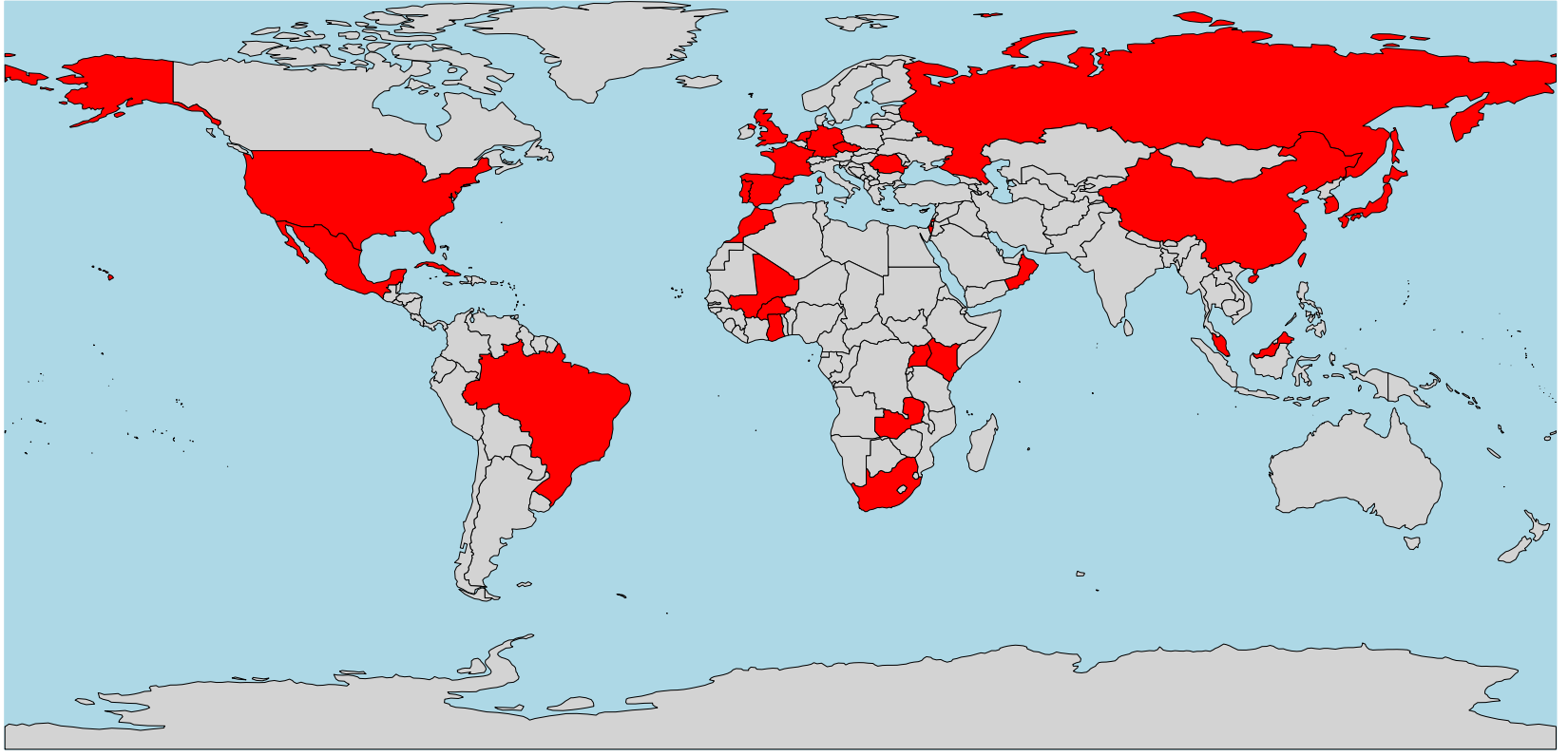
B*58:02
(~0.91% globally)



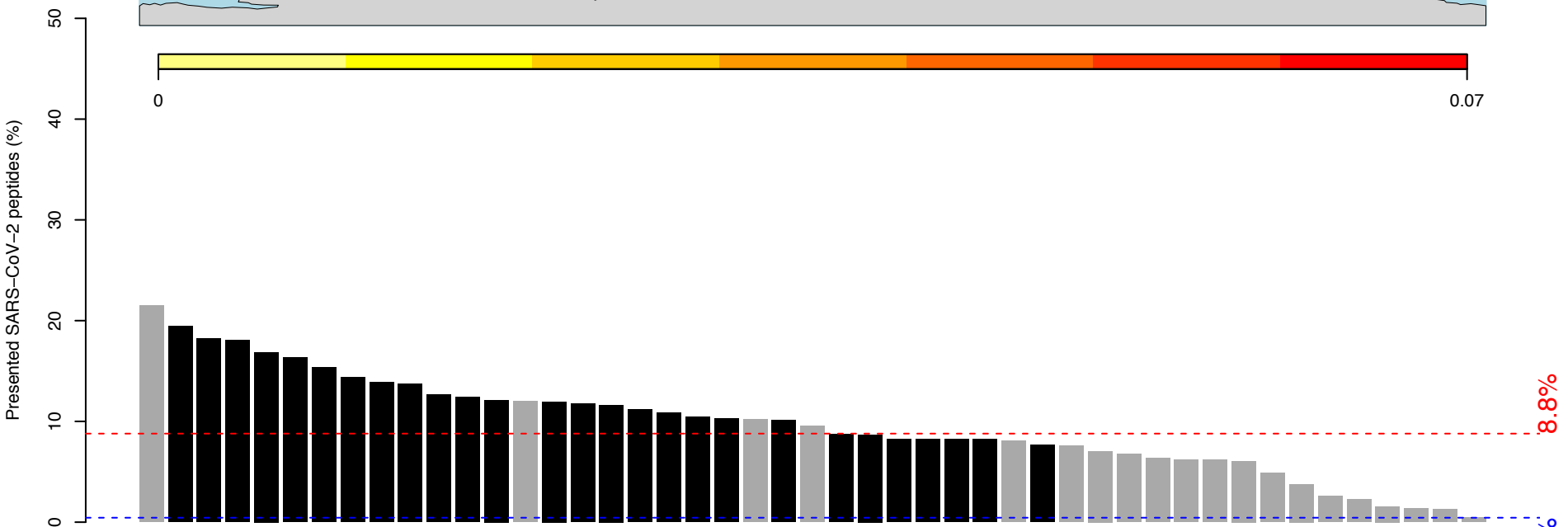
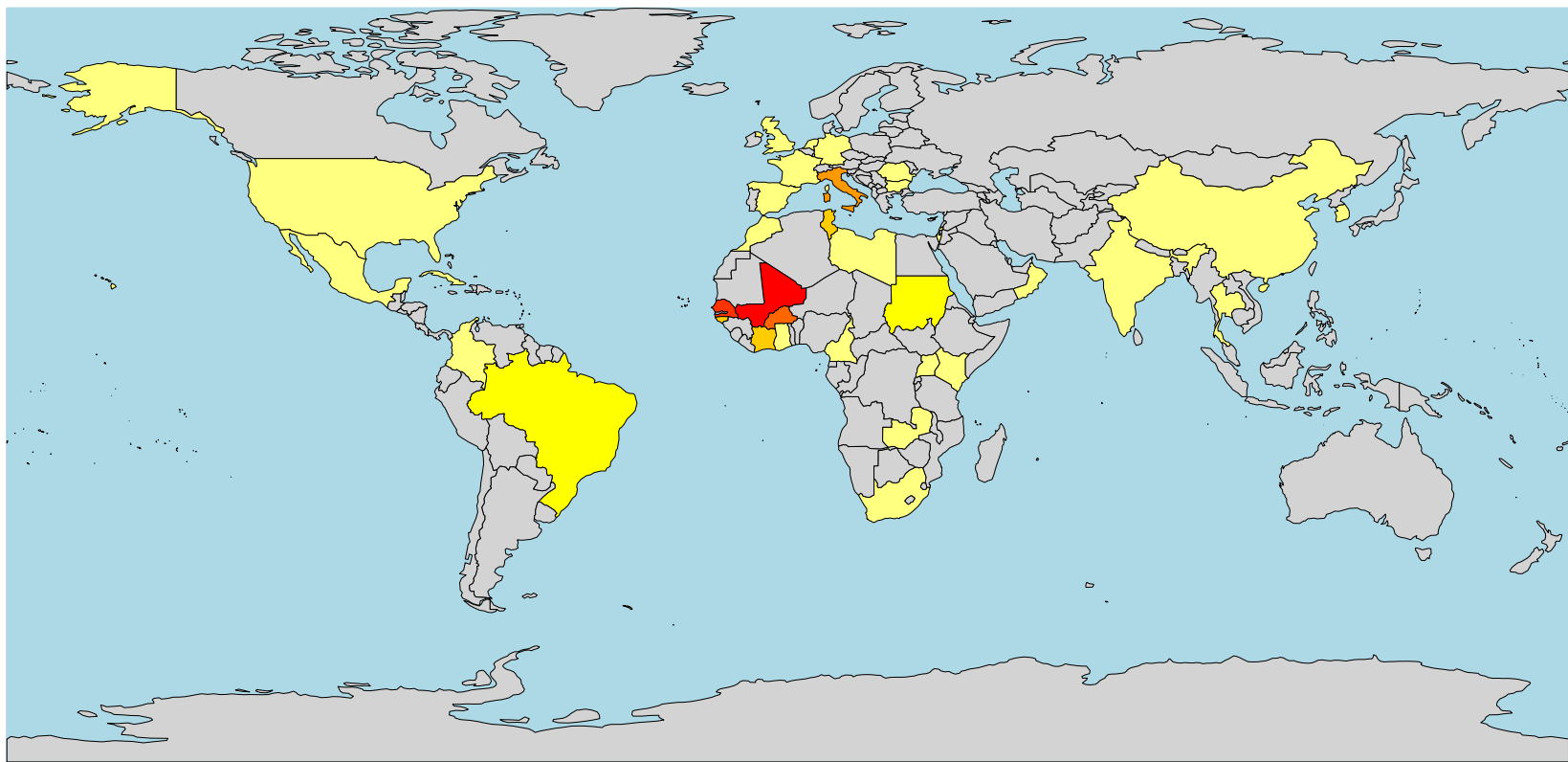
B*59:01
(~0.25% globally)



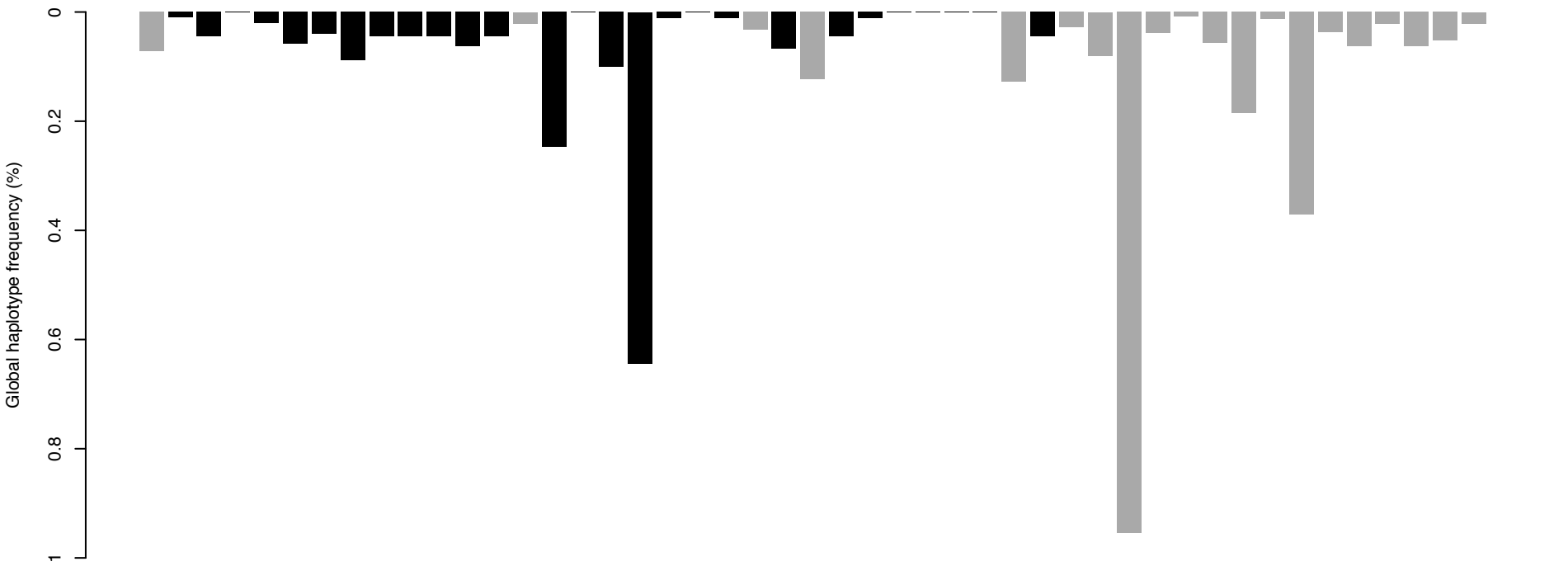
B*67:01
(~0.23% globally)



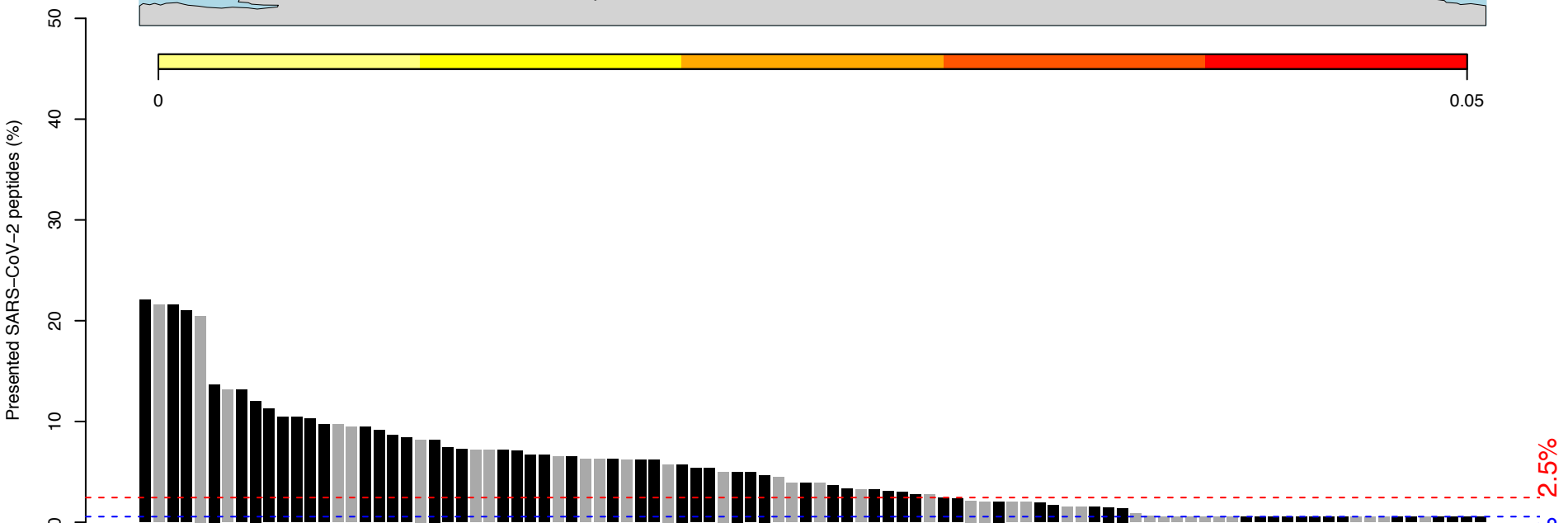
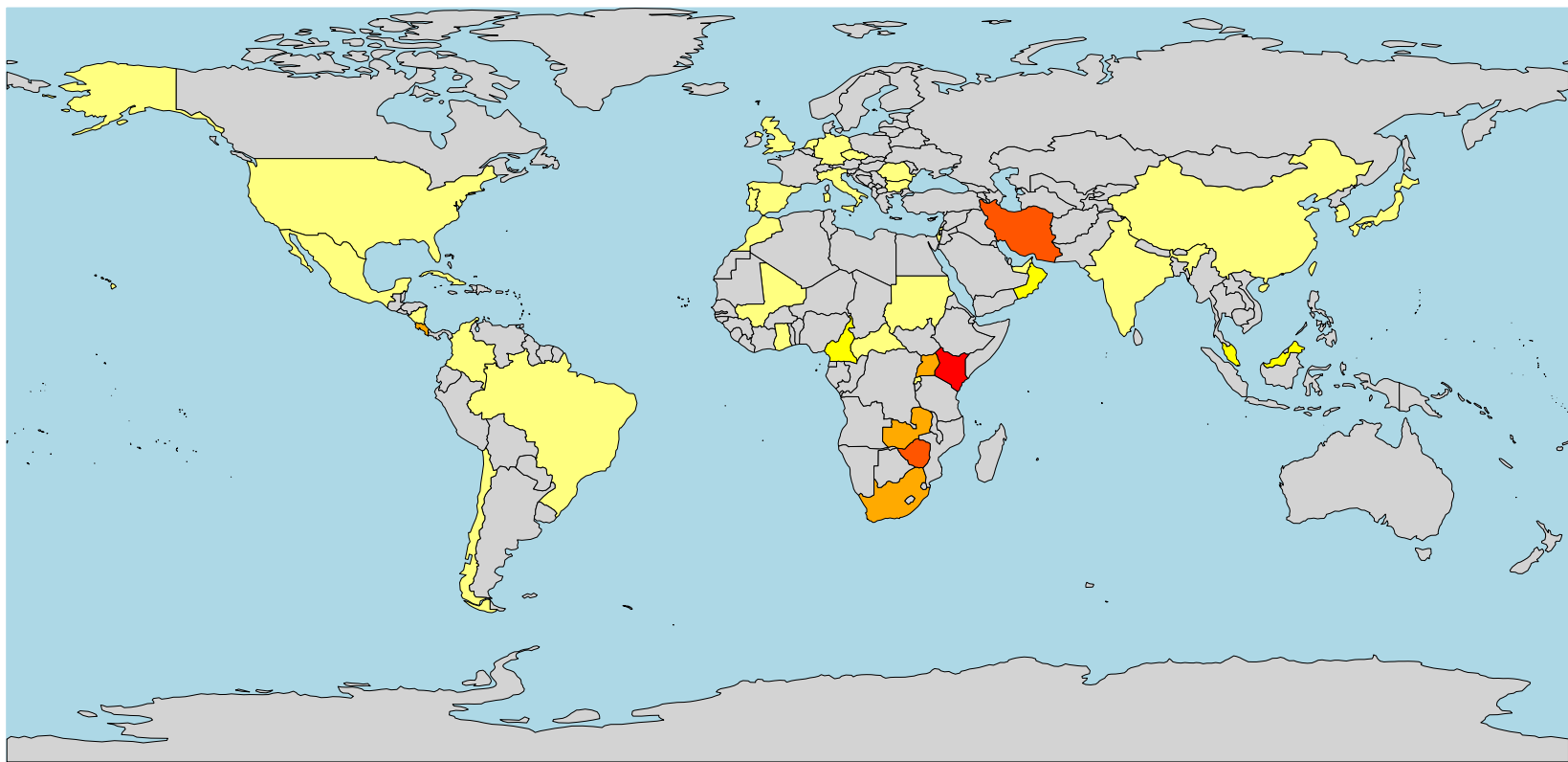
B*78:01
(~0.45% globally)



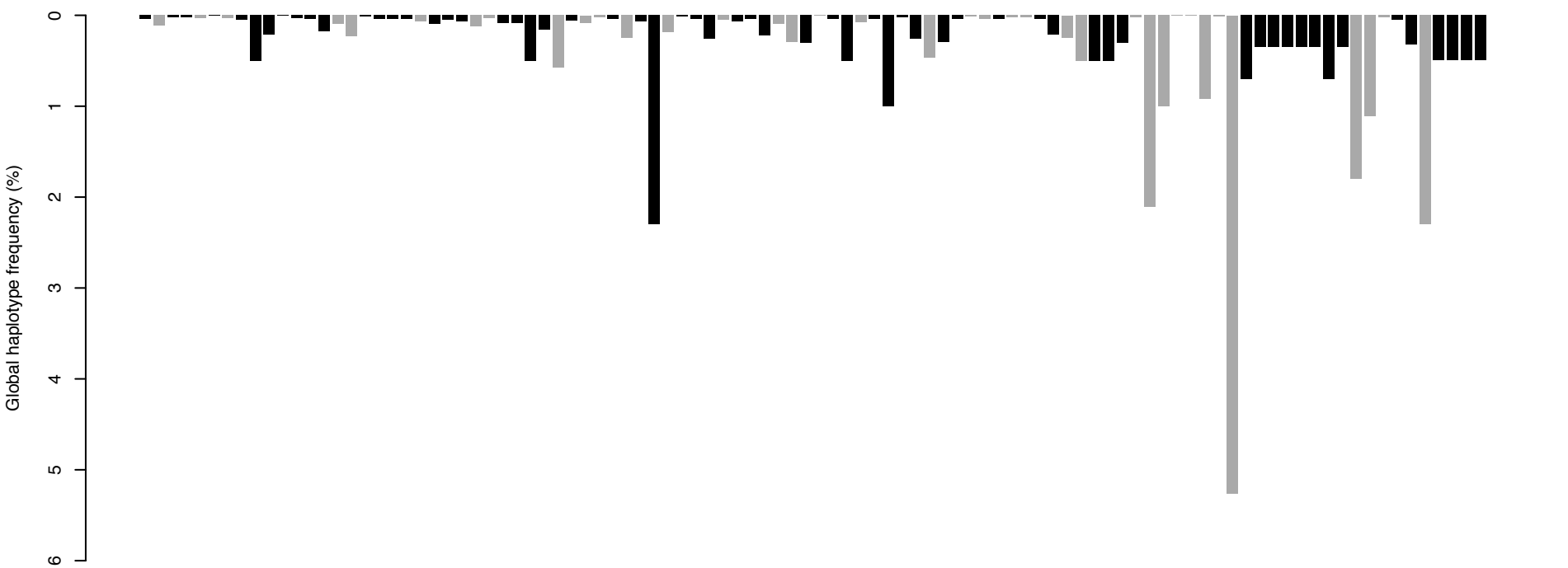
B*78:01 Haplotypes (n=47)



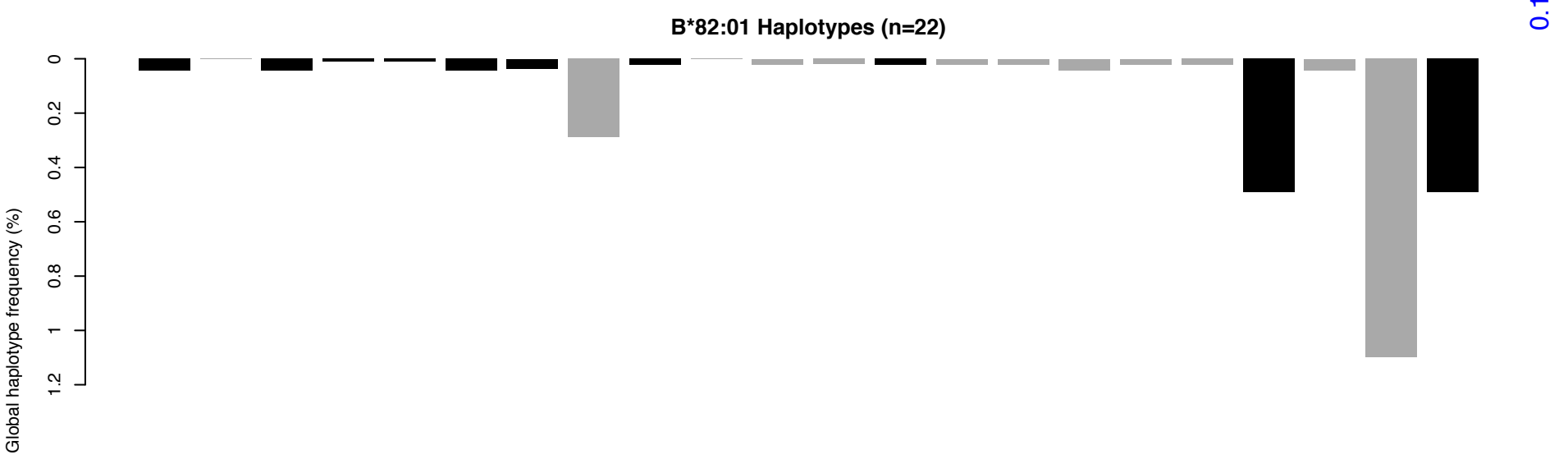
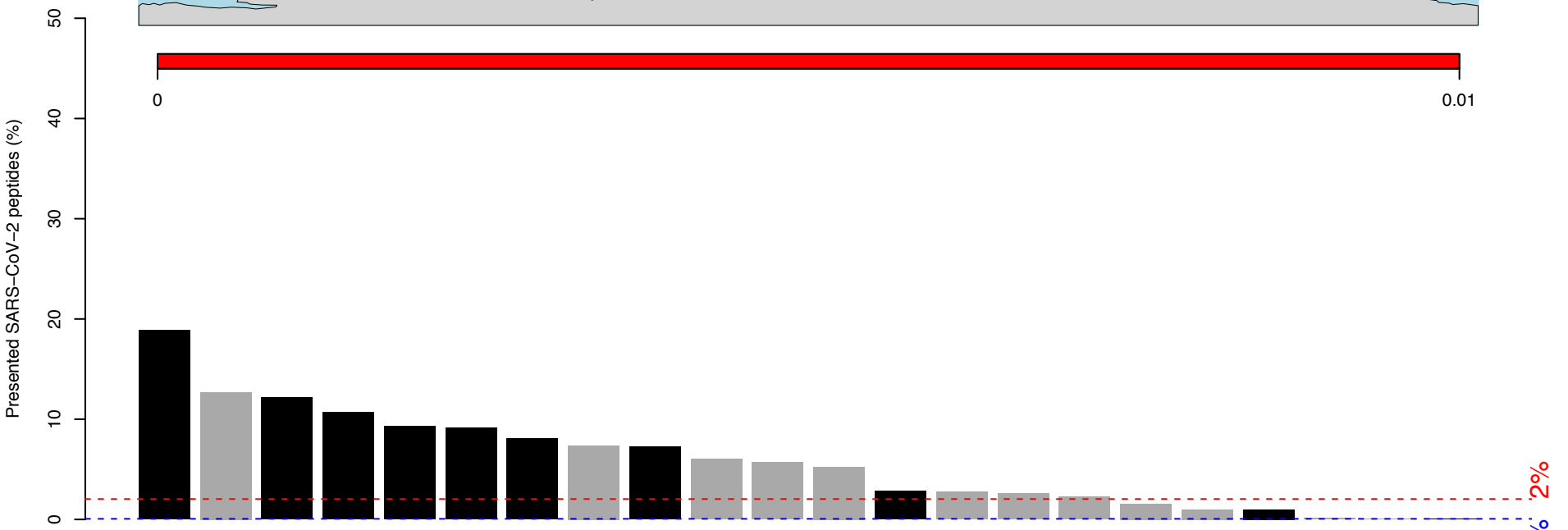
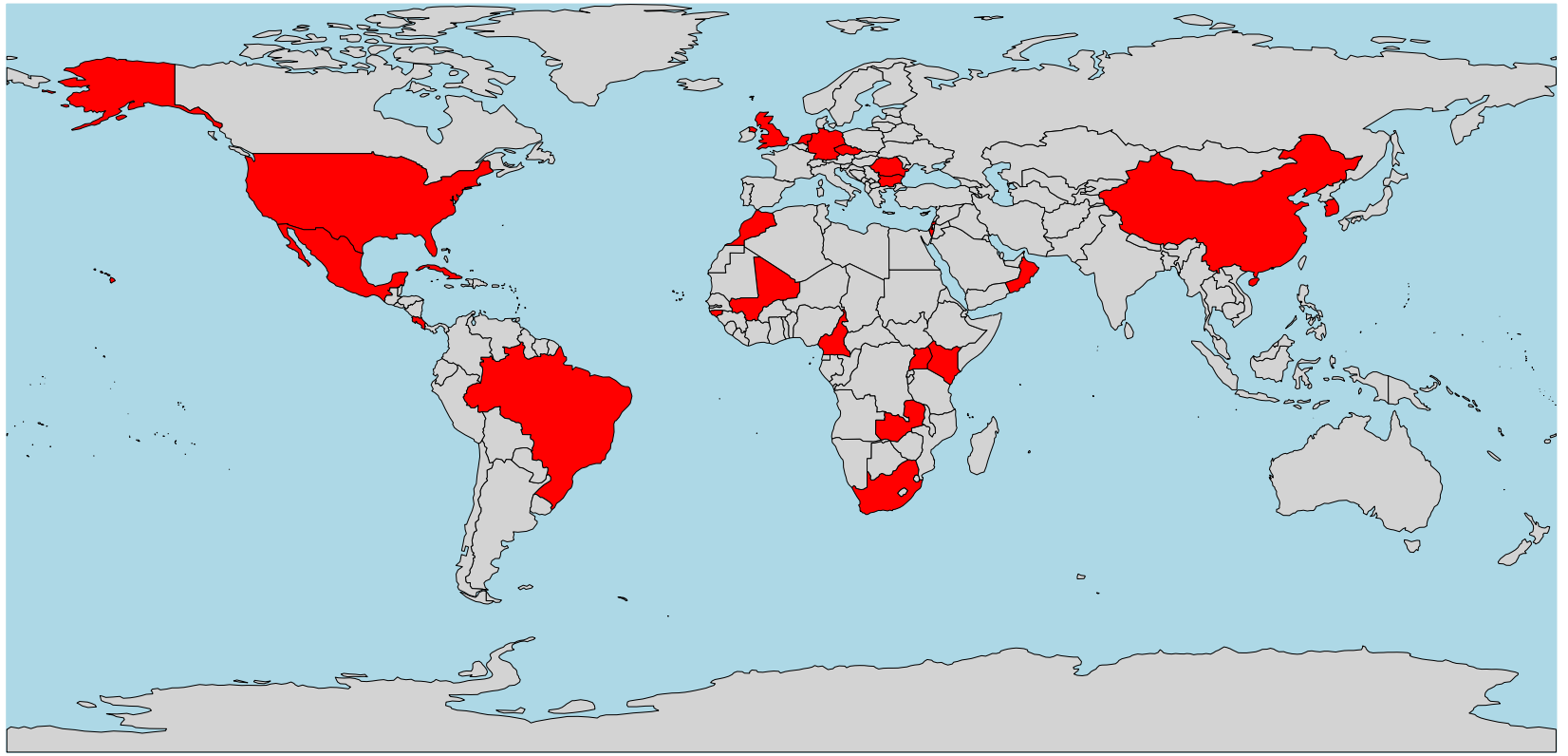
B*81:01
(~0.44% globally)



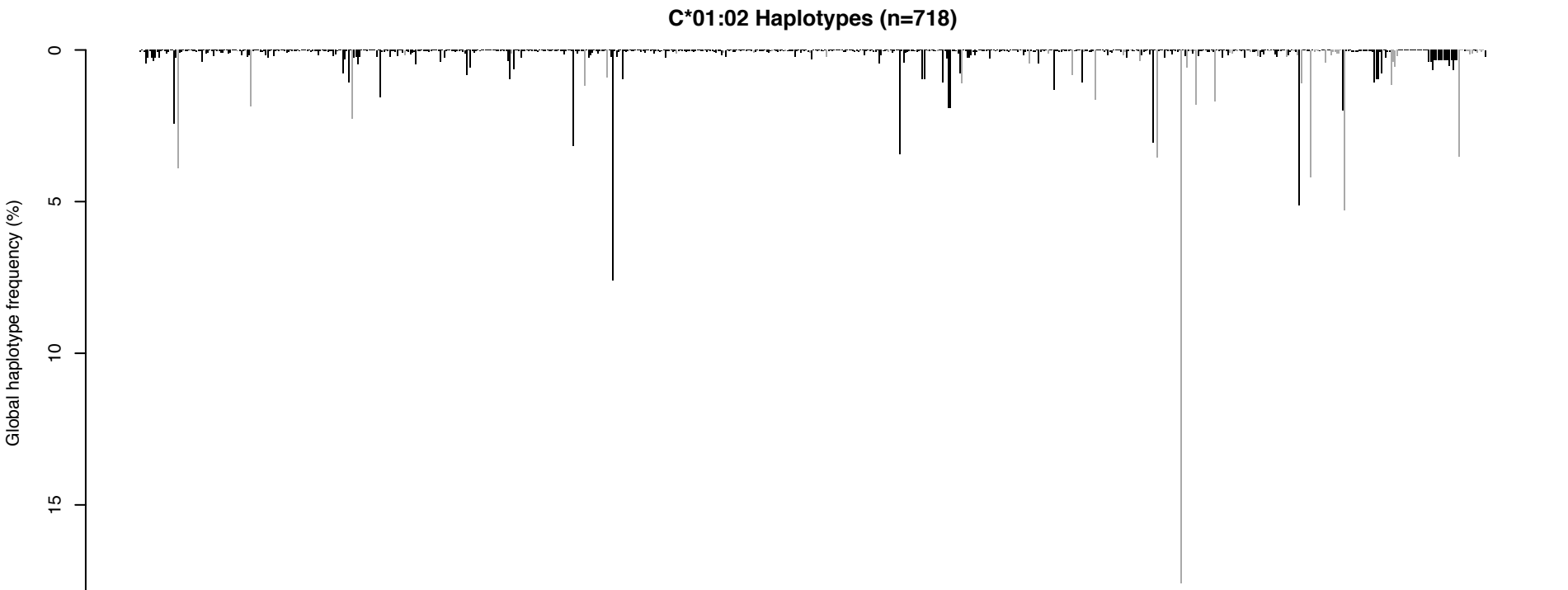
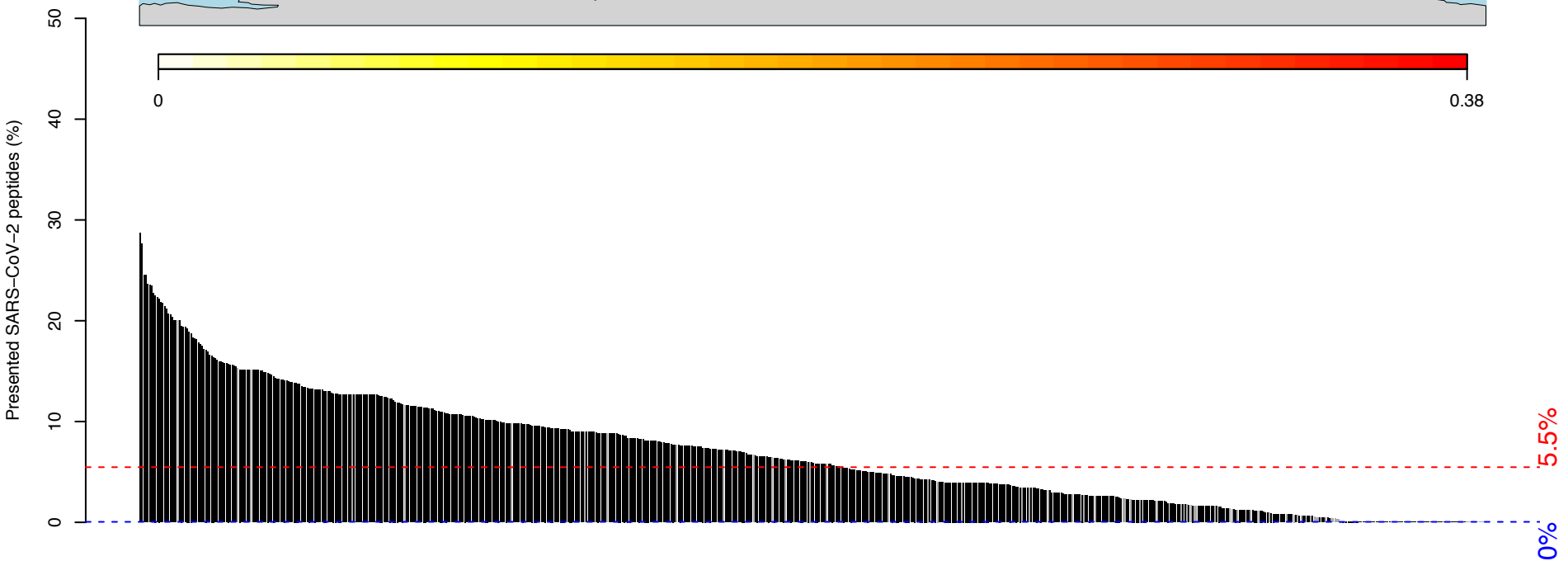
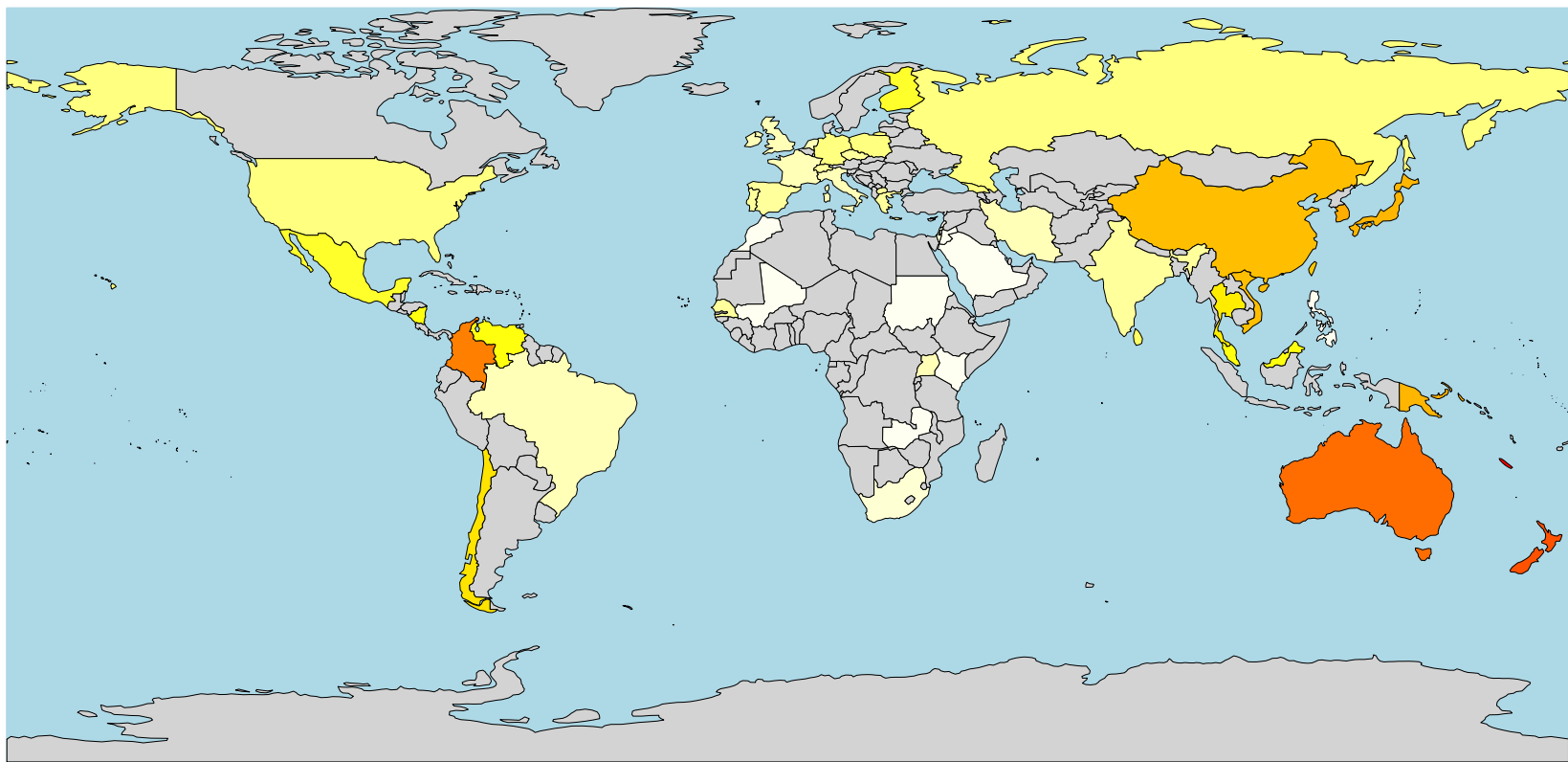
B*81:01 Haplotypes (n=98)



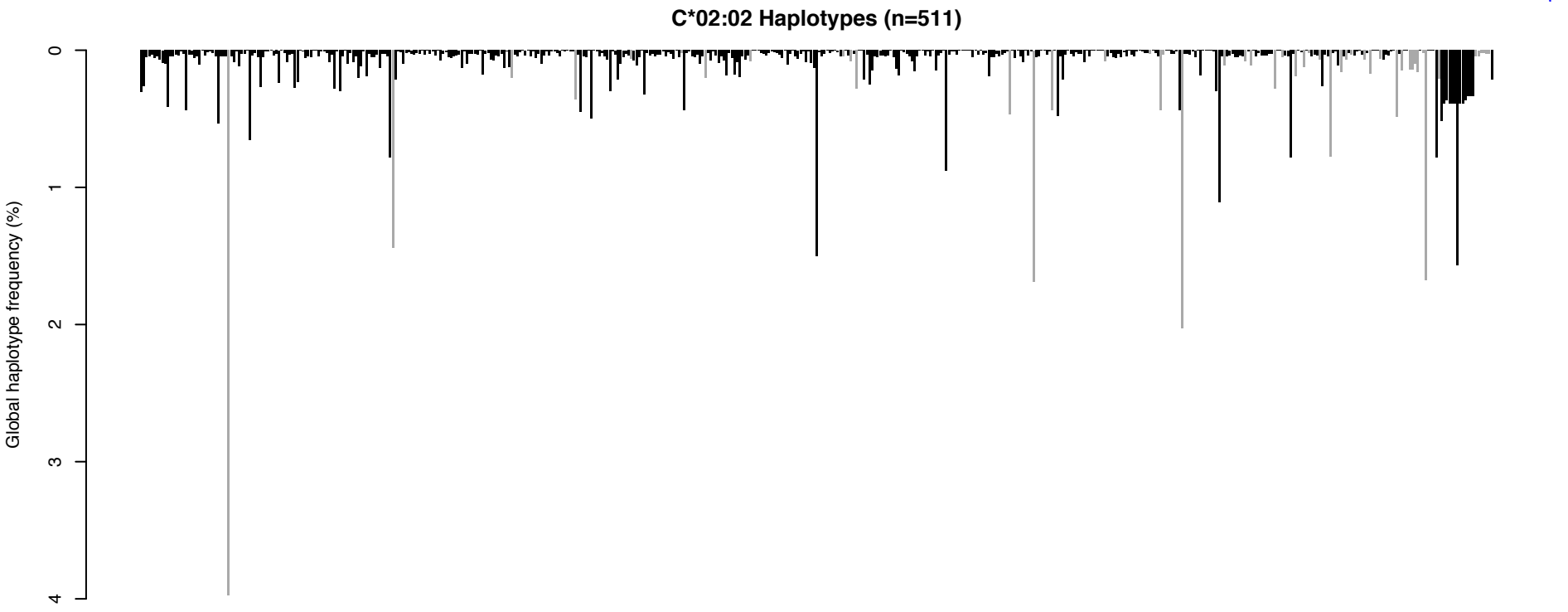
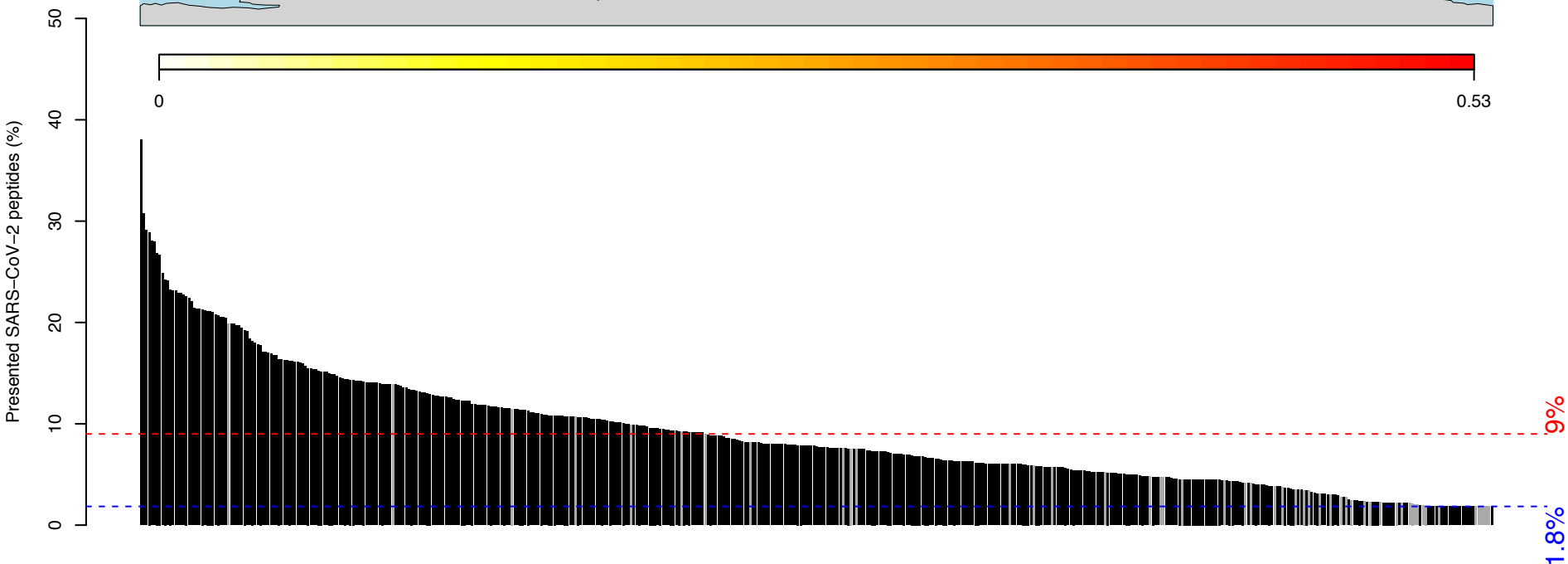
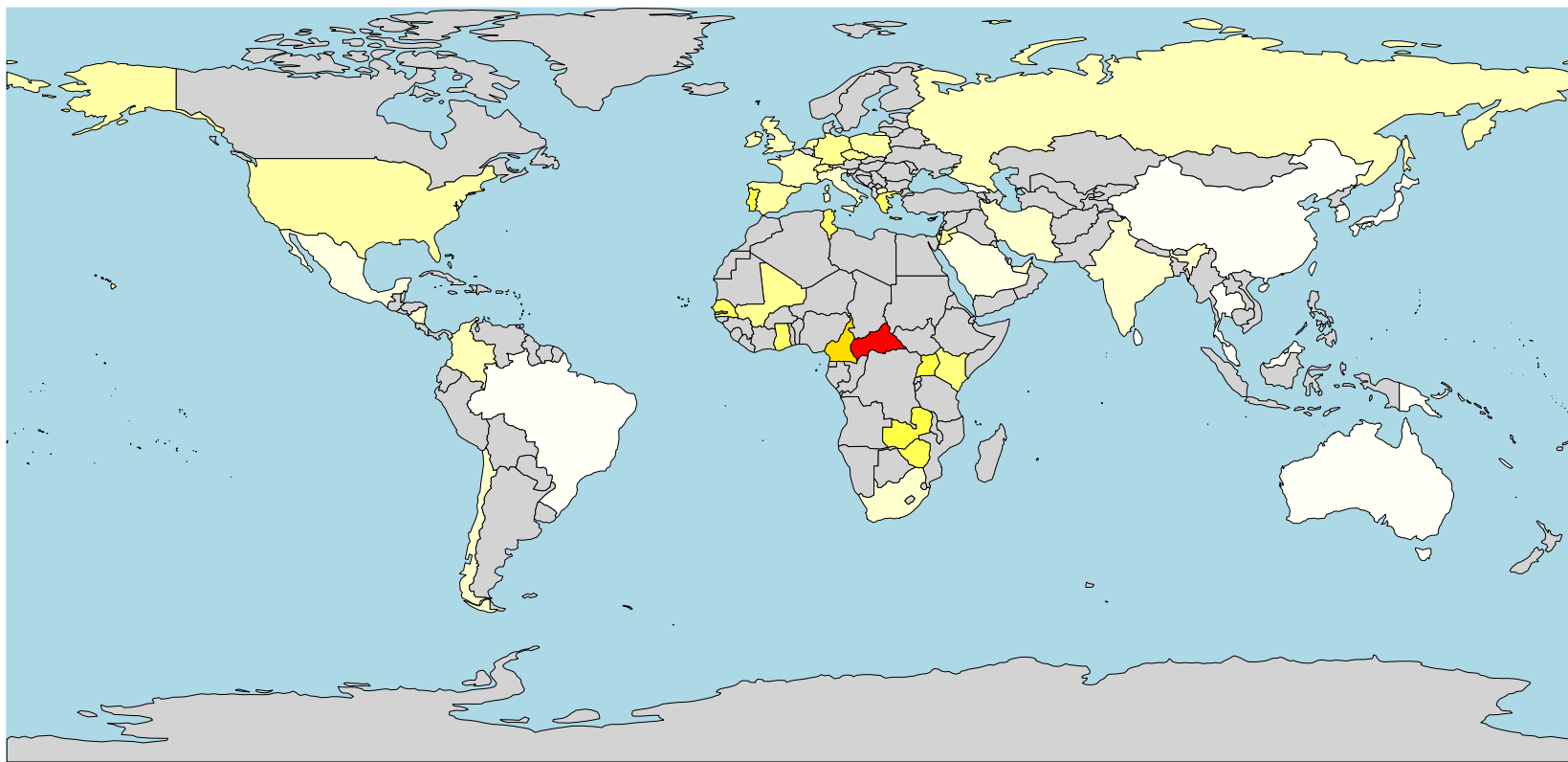
B*82:01
(~0.078% globally)



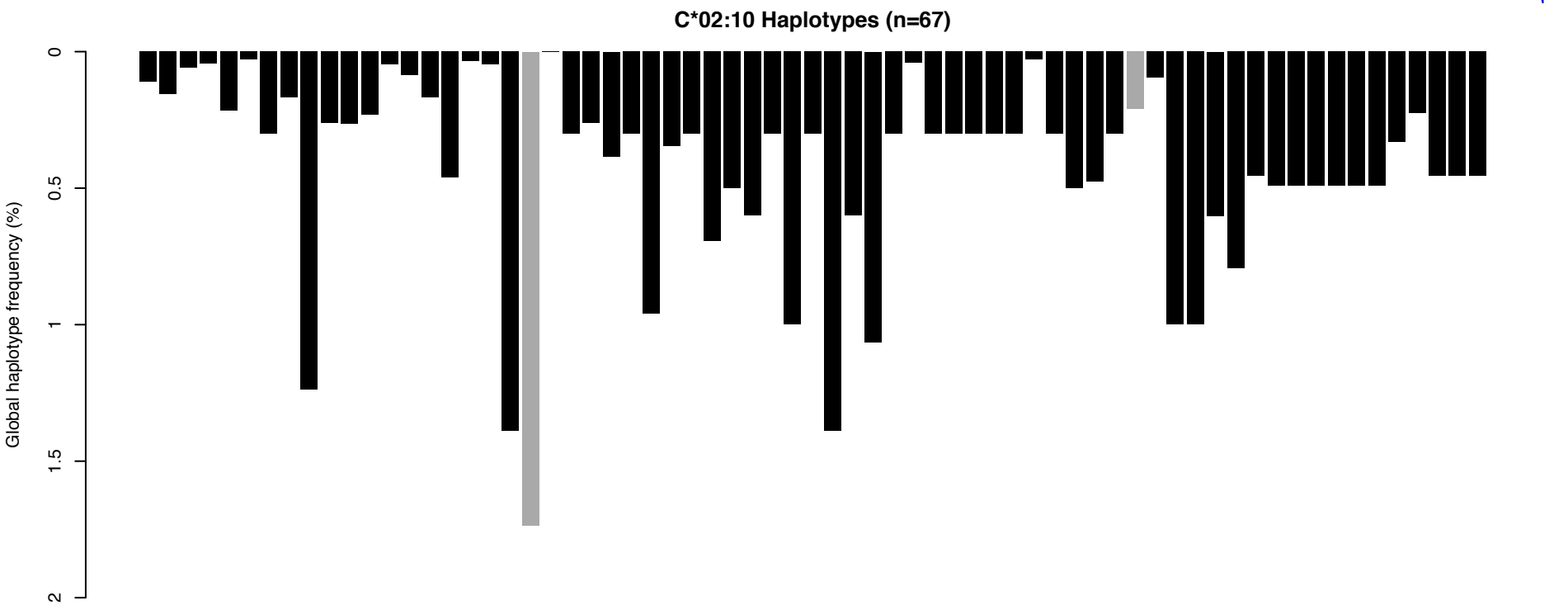
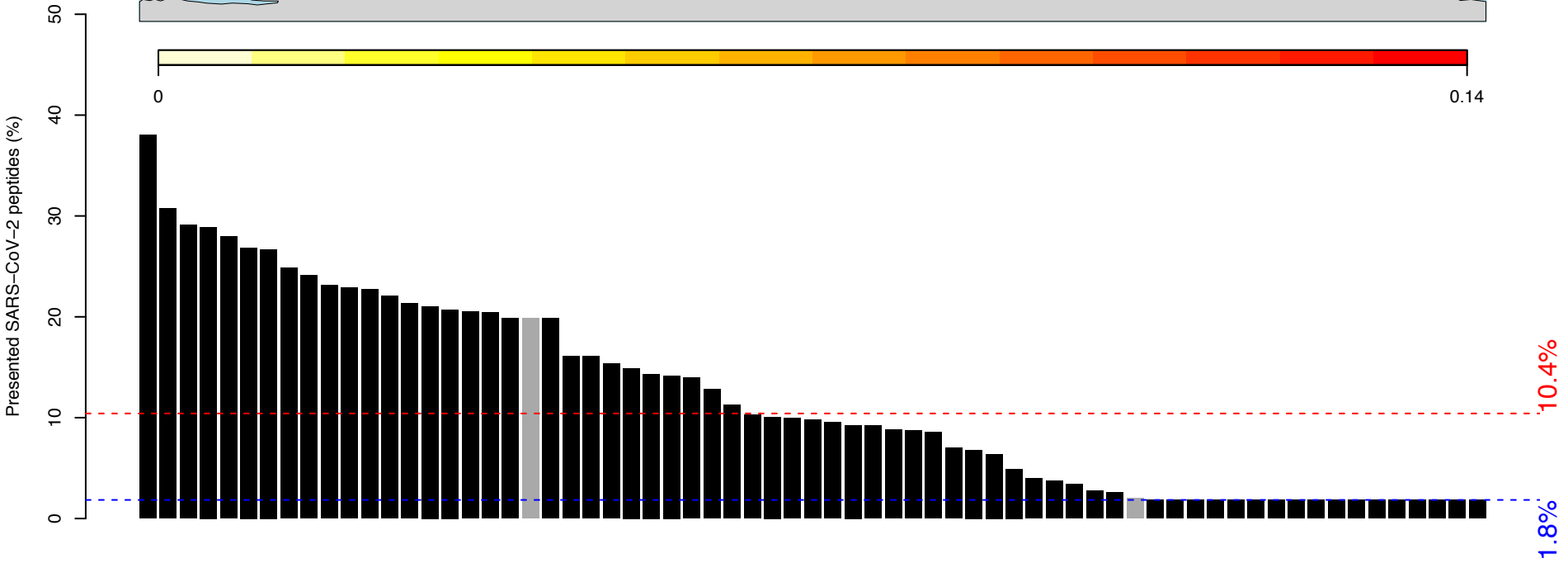
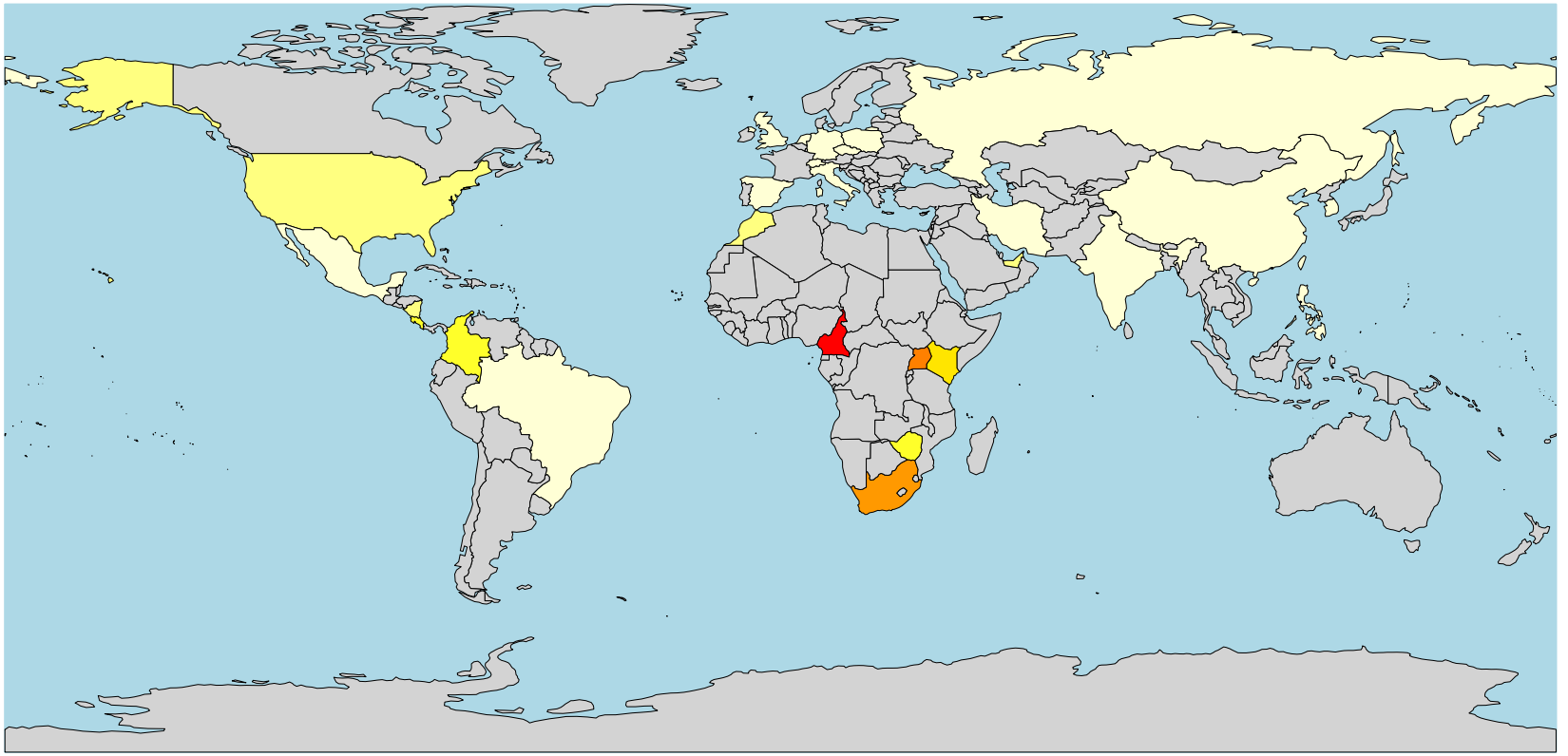
C*01:02
(~7.8% globally)



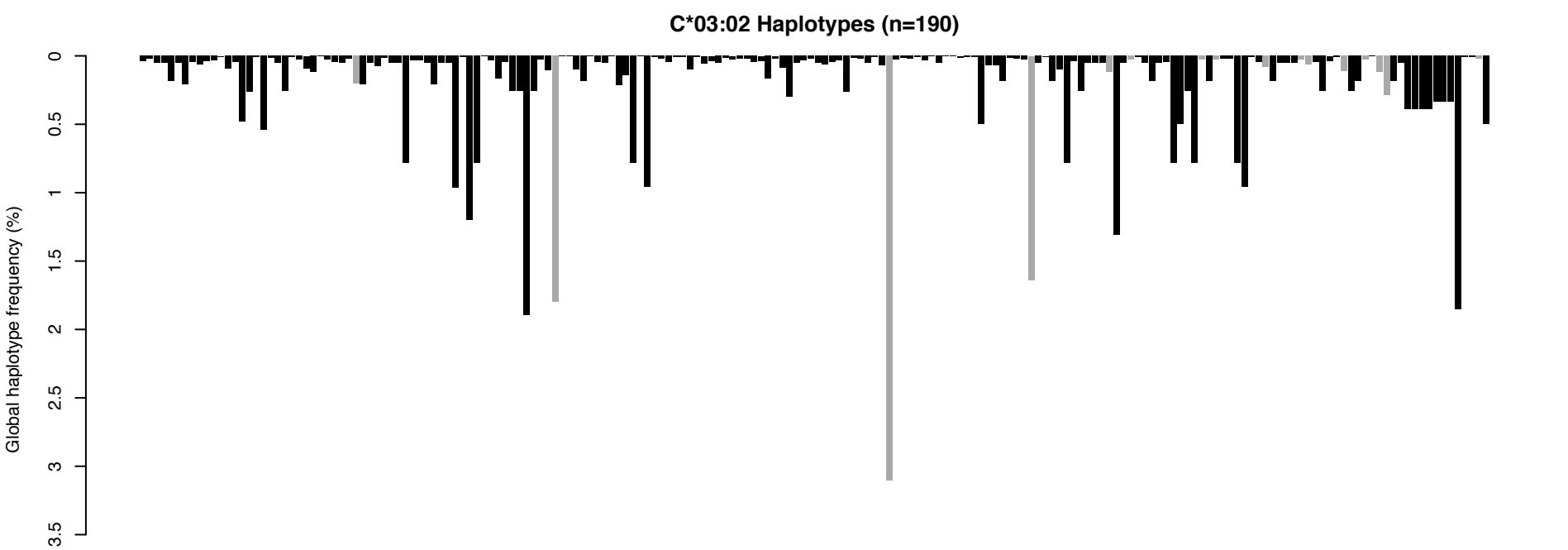
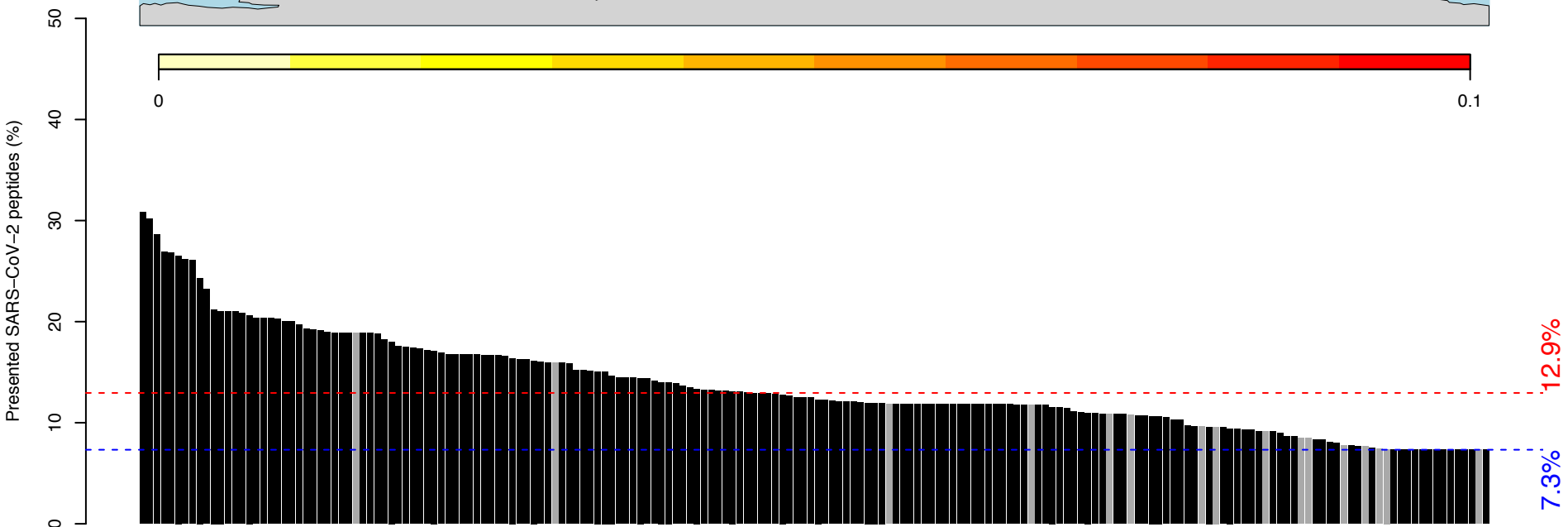
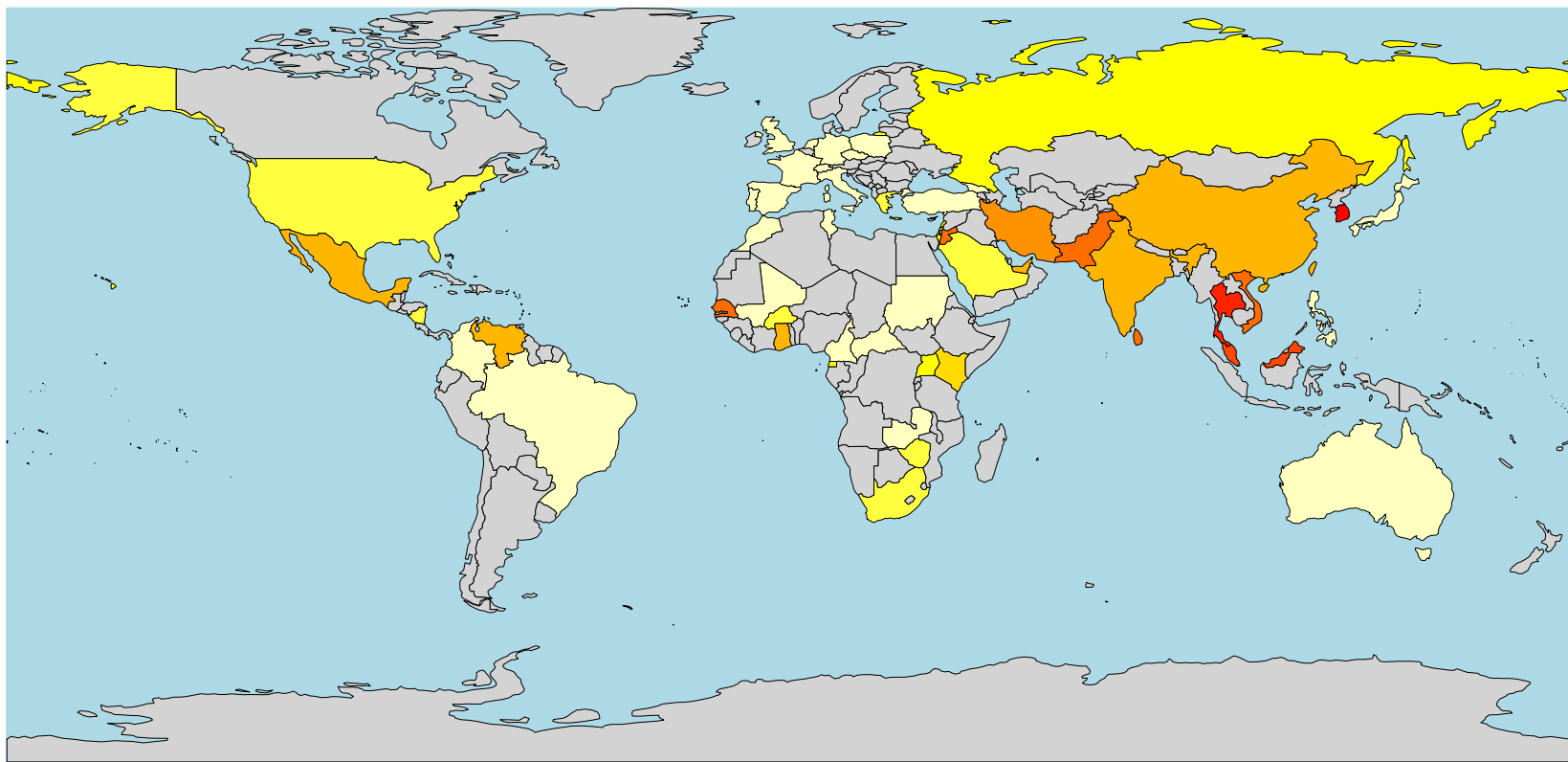
C*02:02
(~1.5% globally)



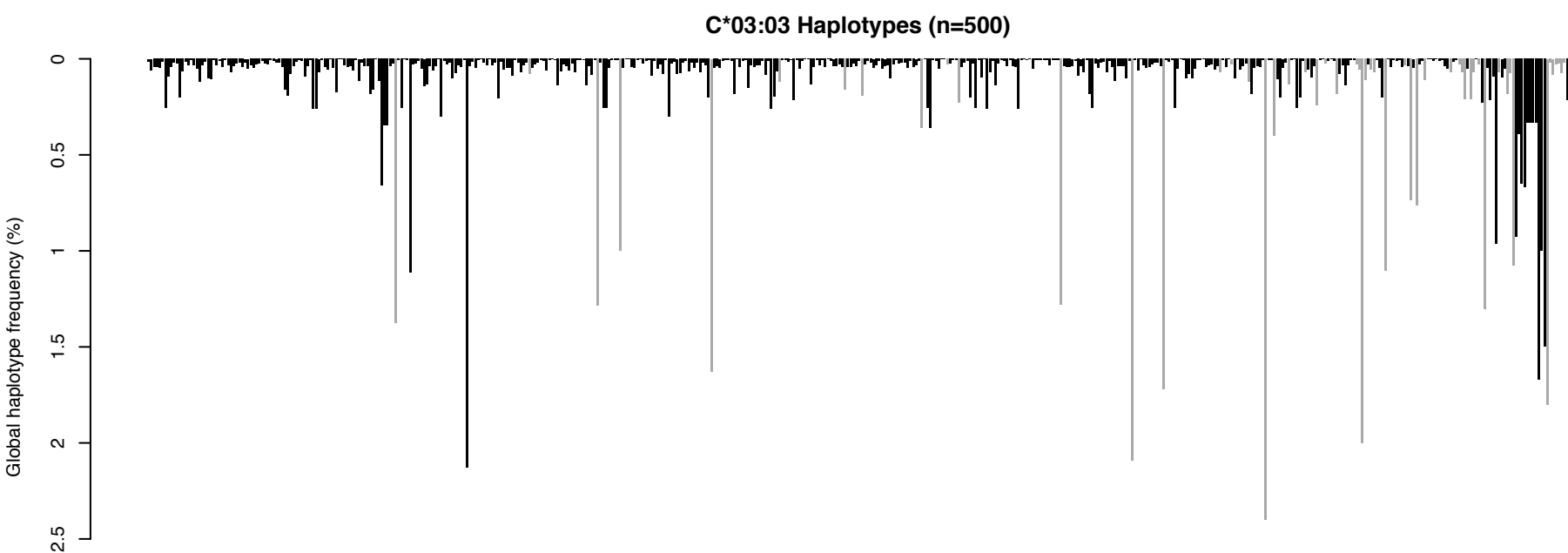
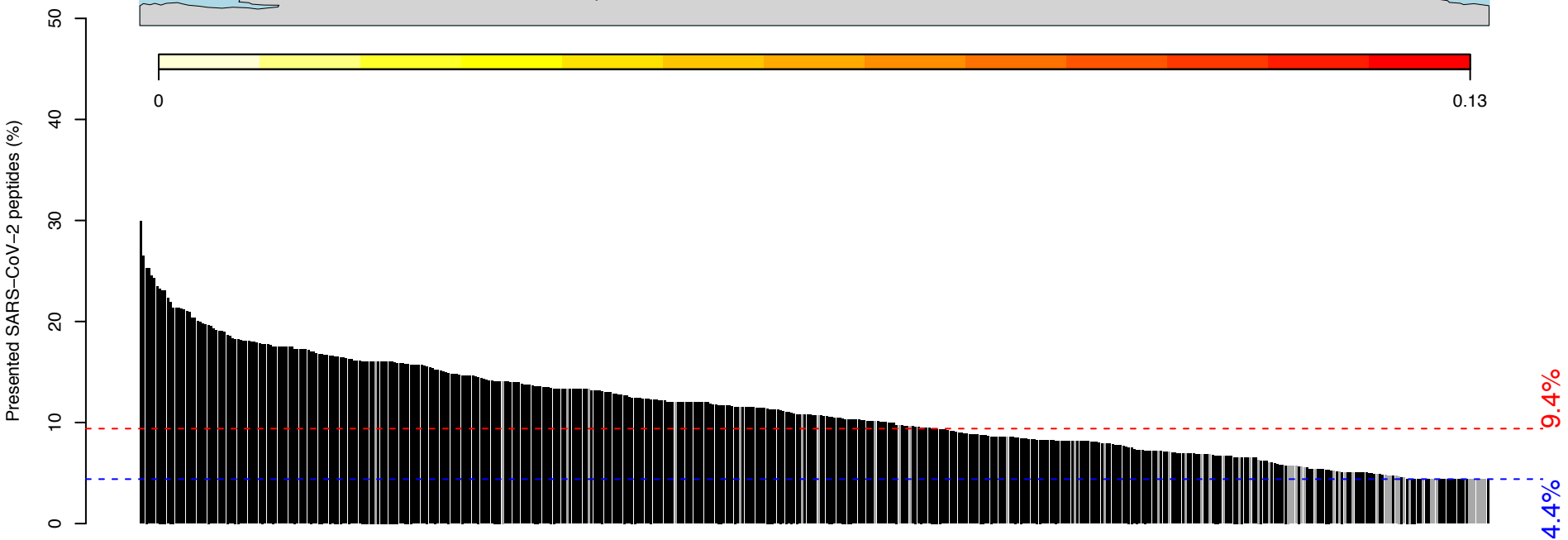
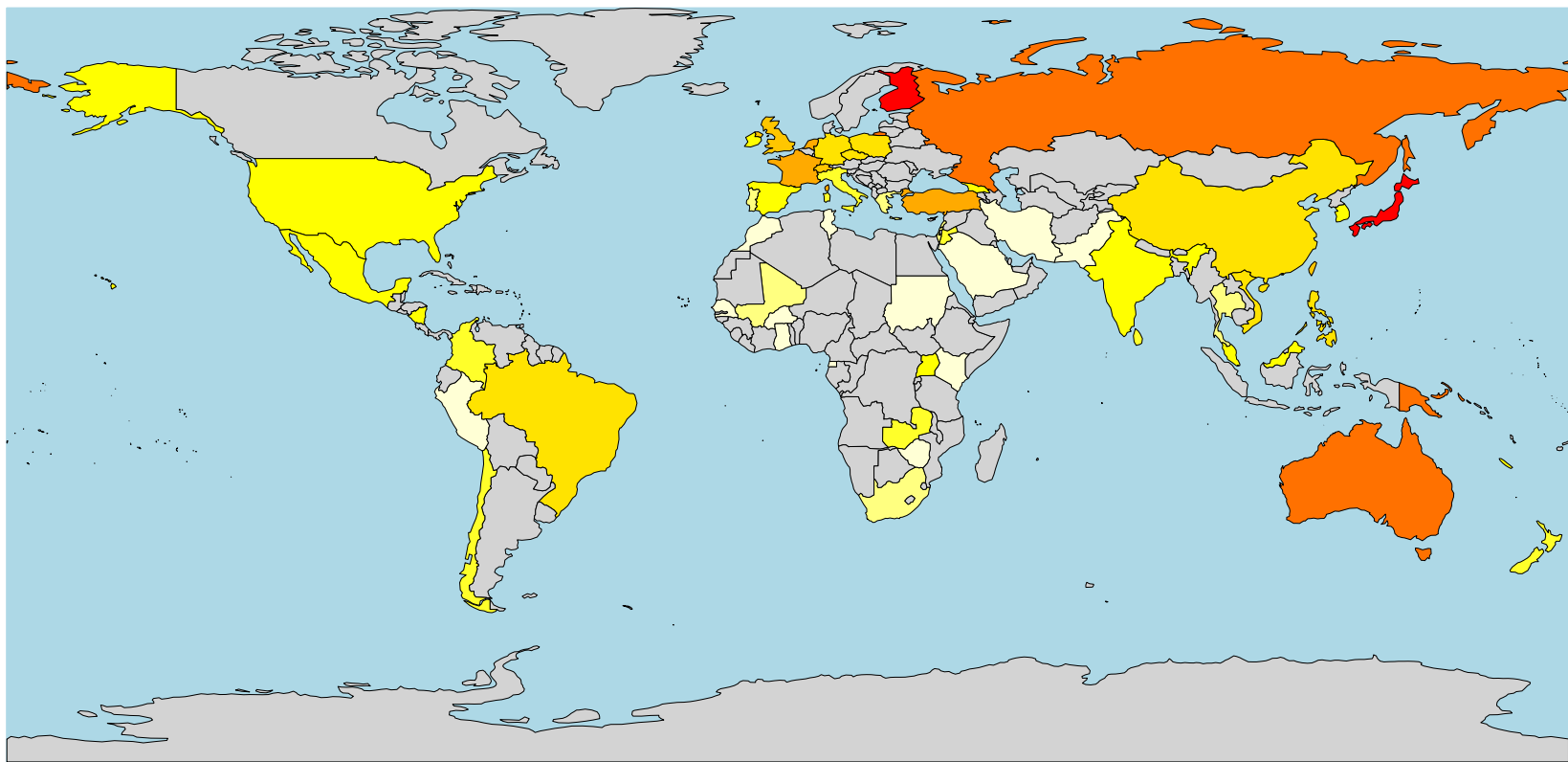
C*02:10
(~0.53% globally)



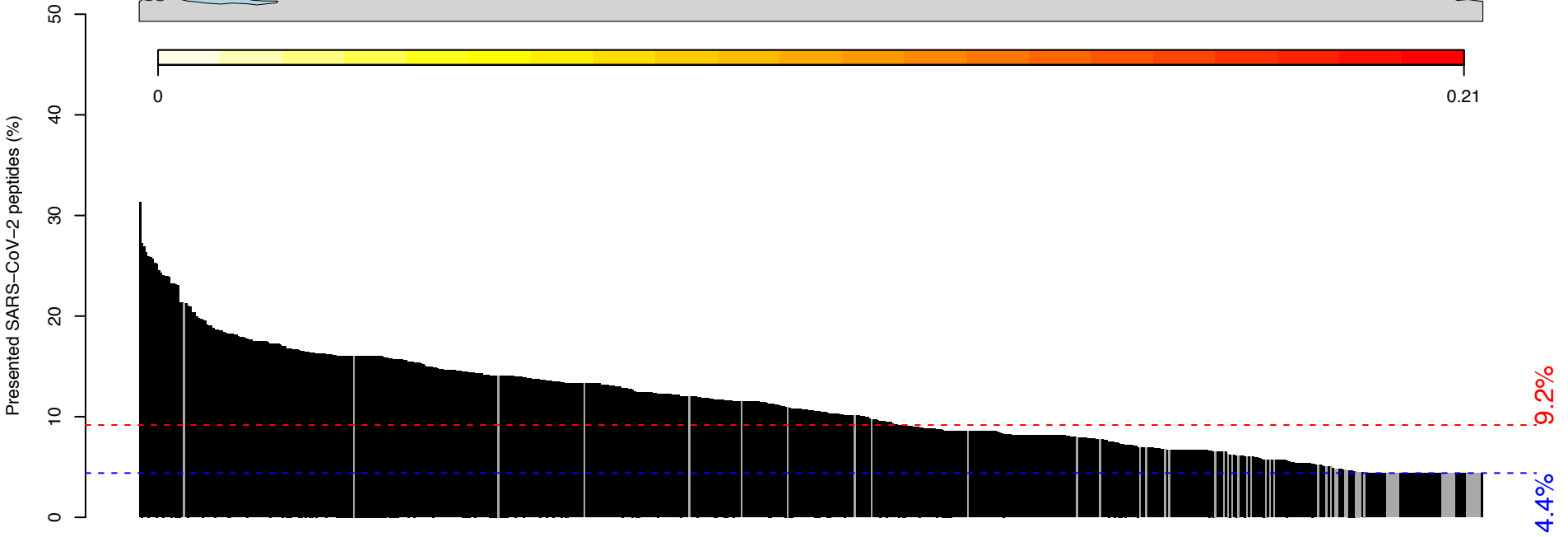
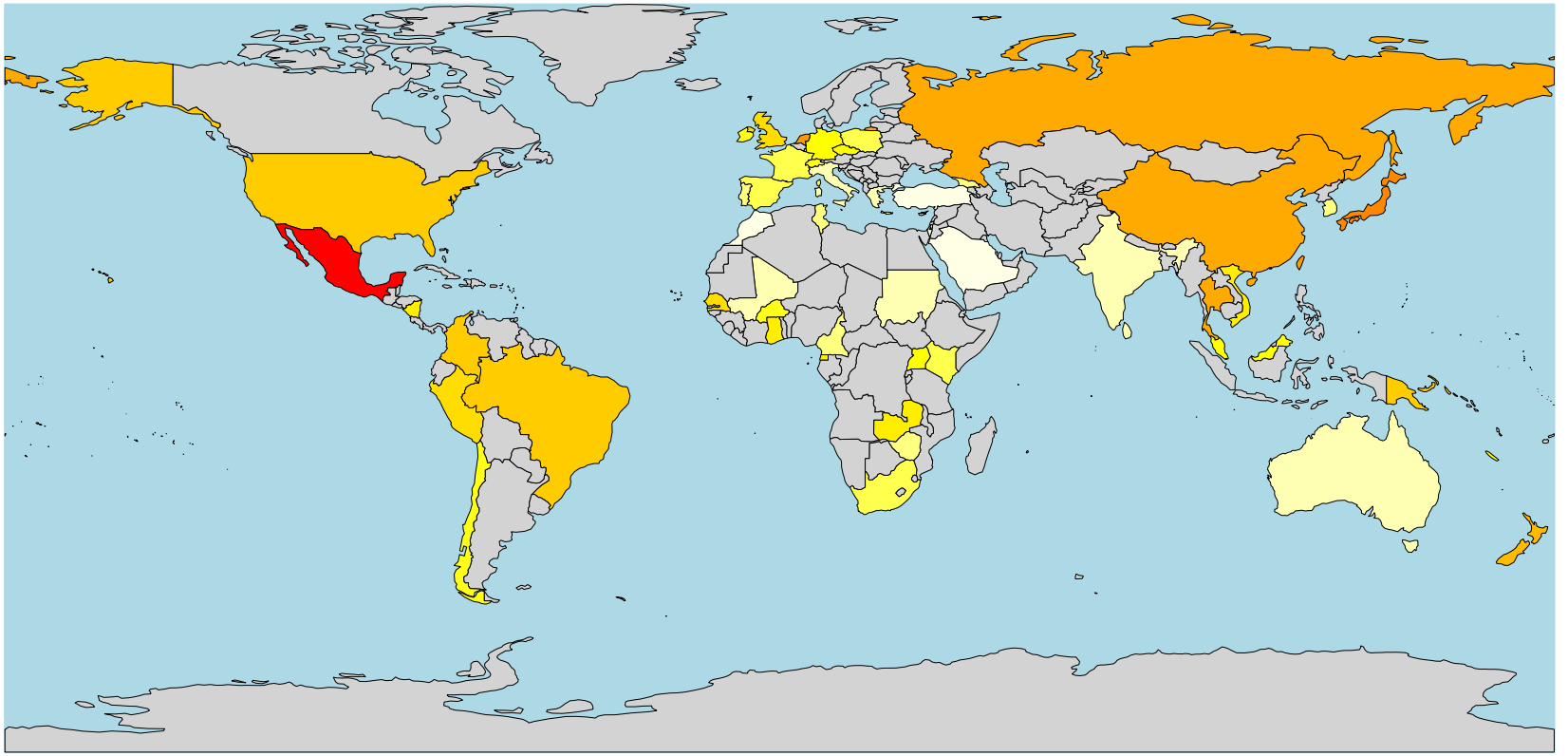
C*03:02
(~2.6% globally)



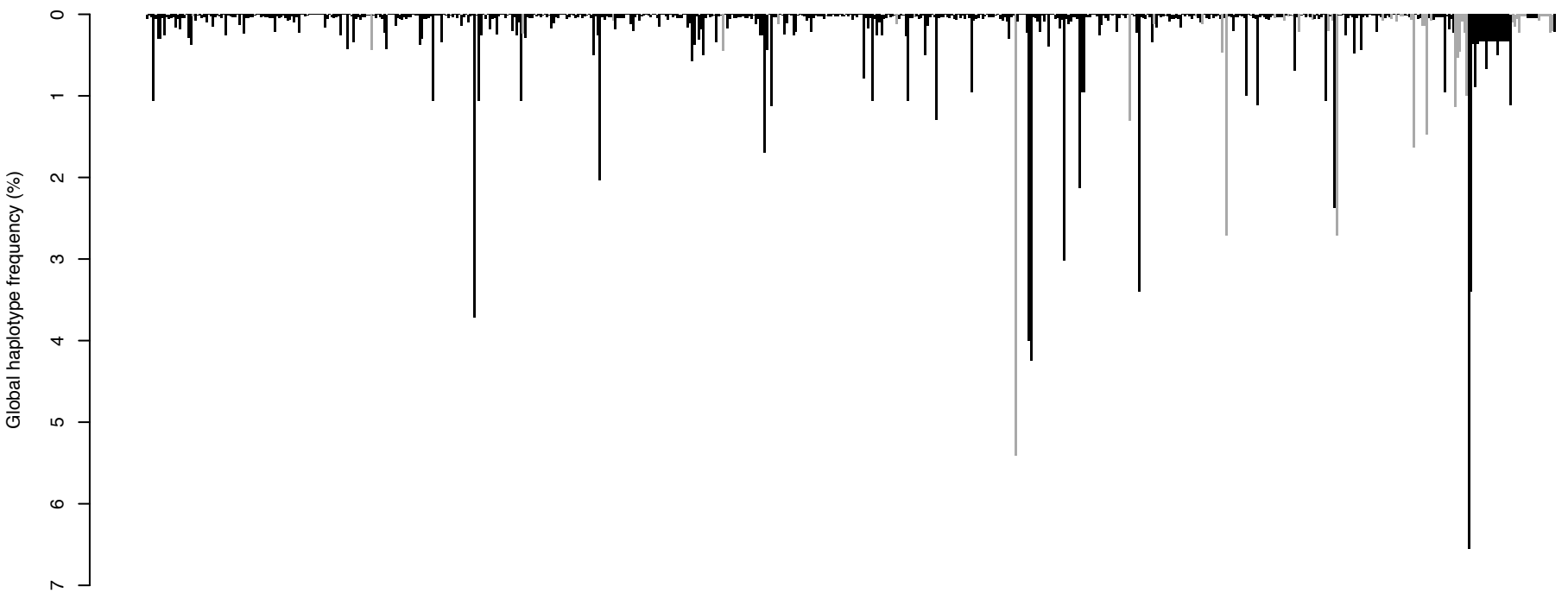
C*03:03
(~2.8% globally)



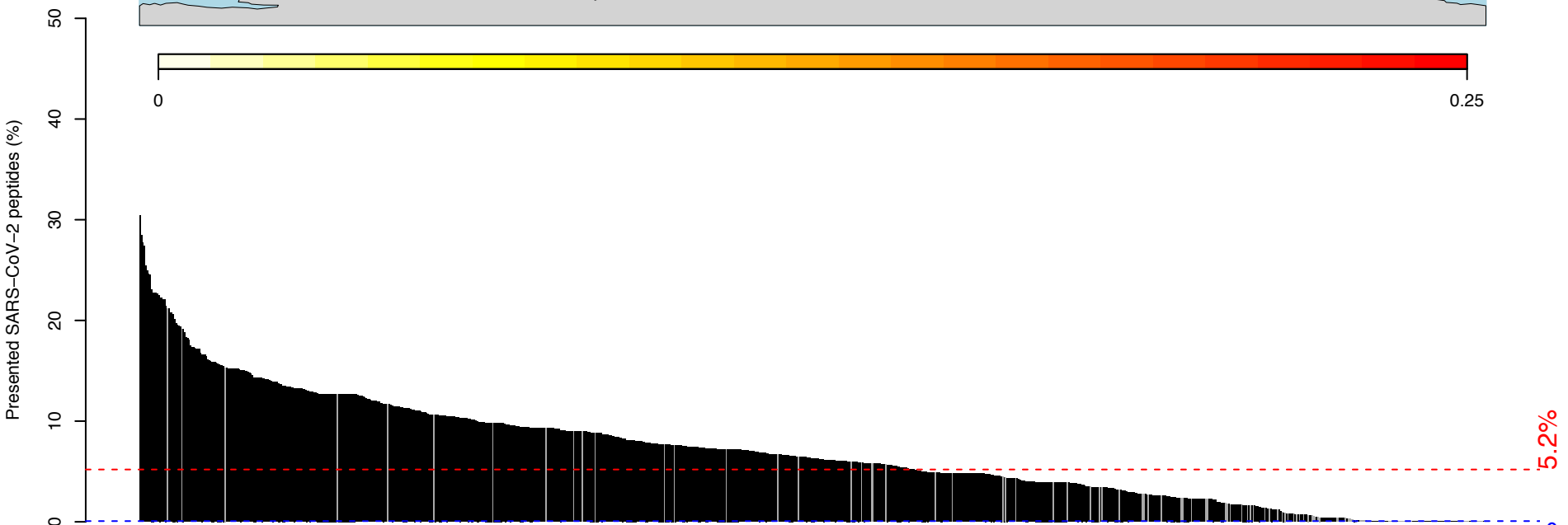
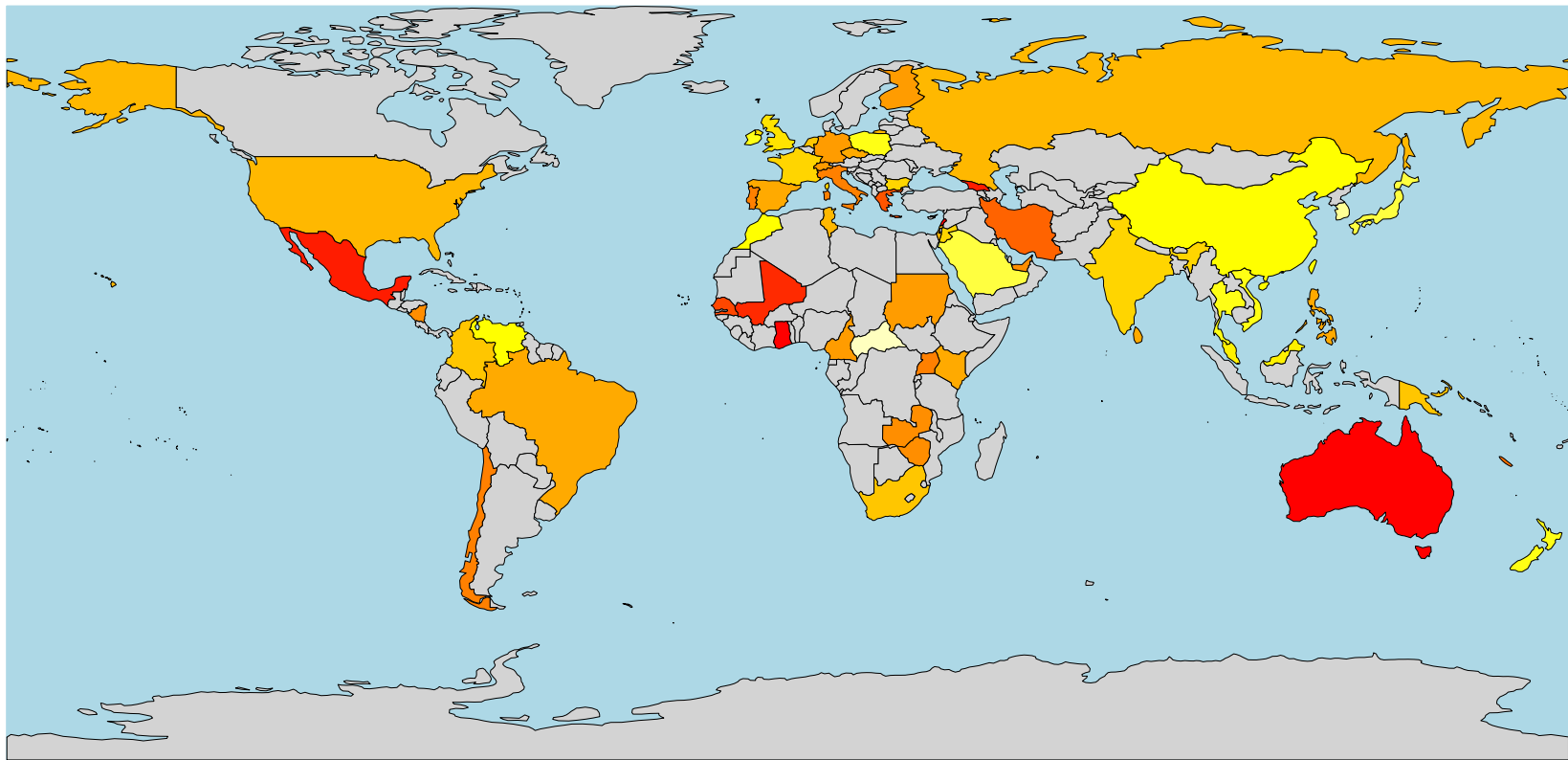
C*03:04
(~3.9% globally)



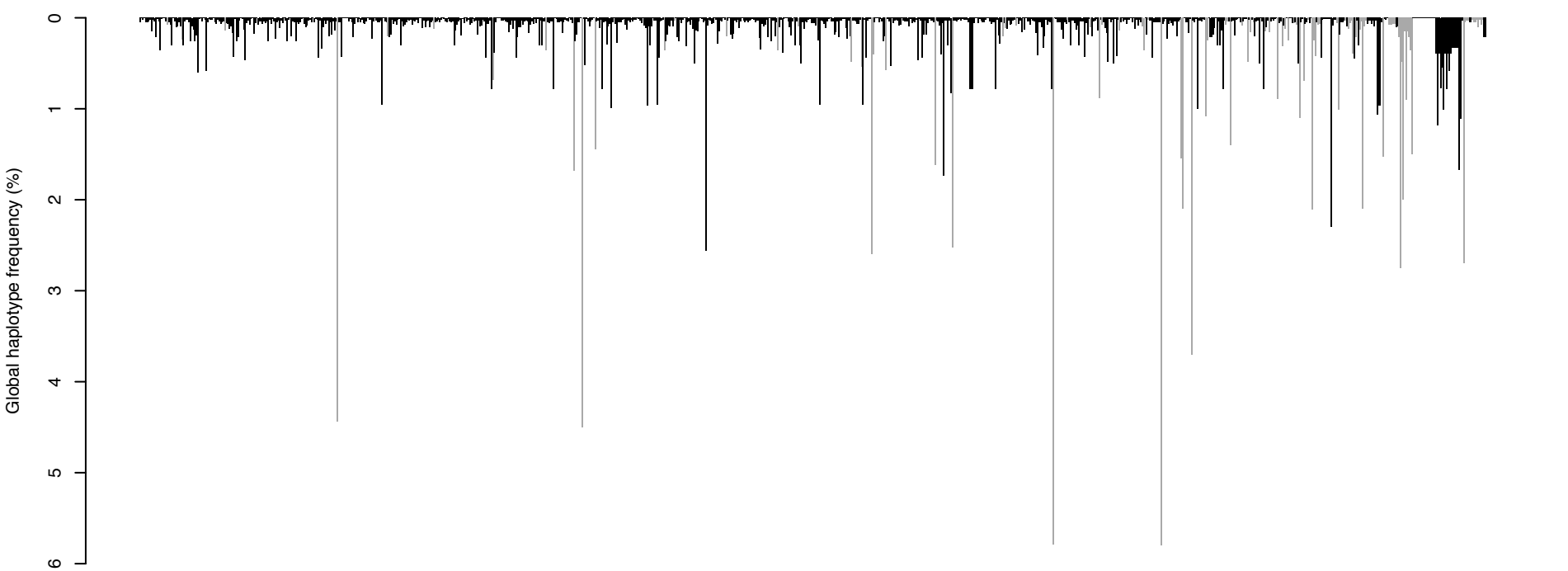
C*03:04 Haplotypes (n=641)



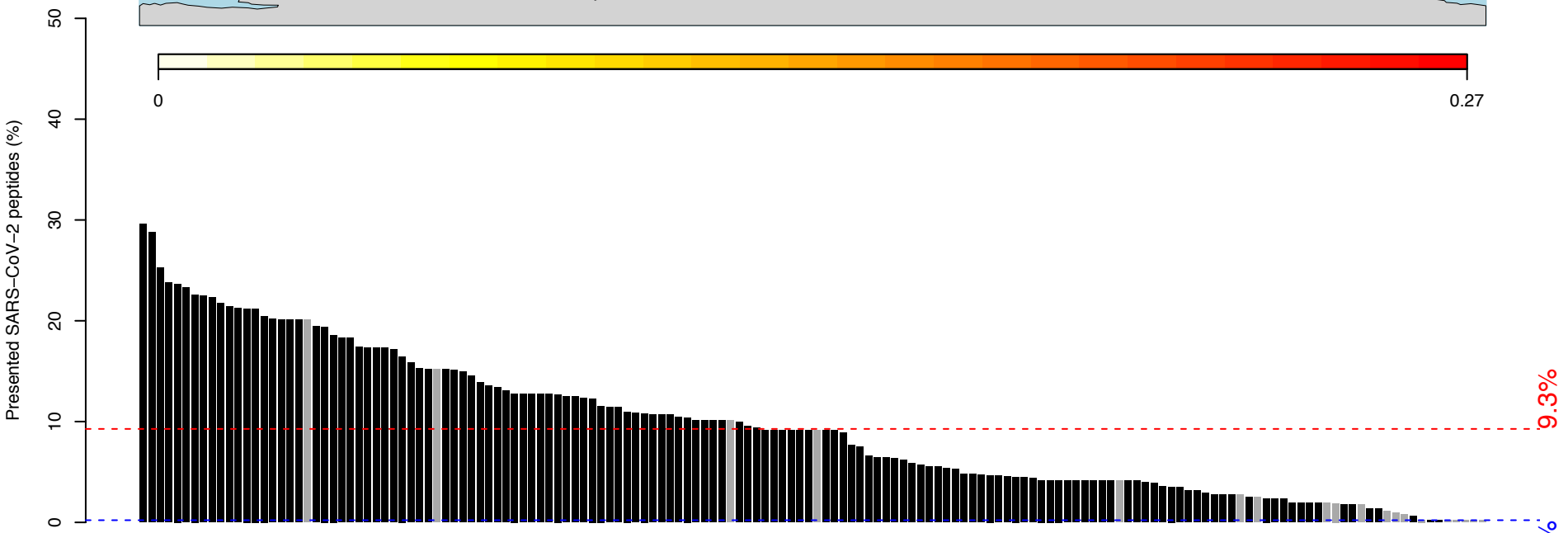
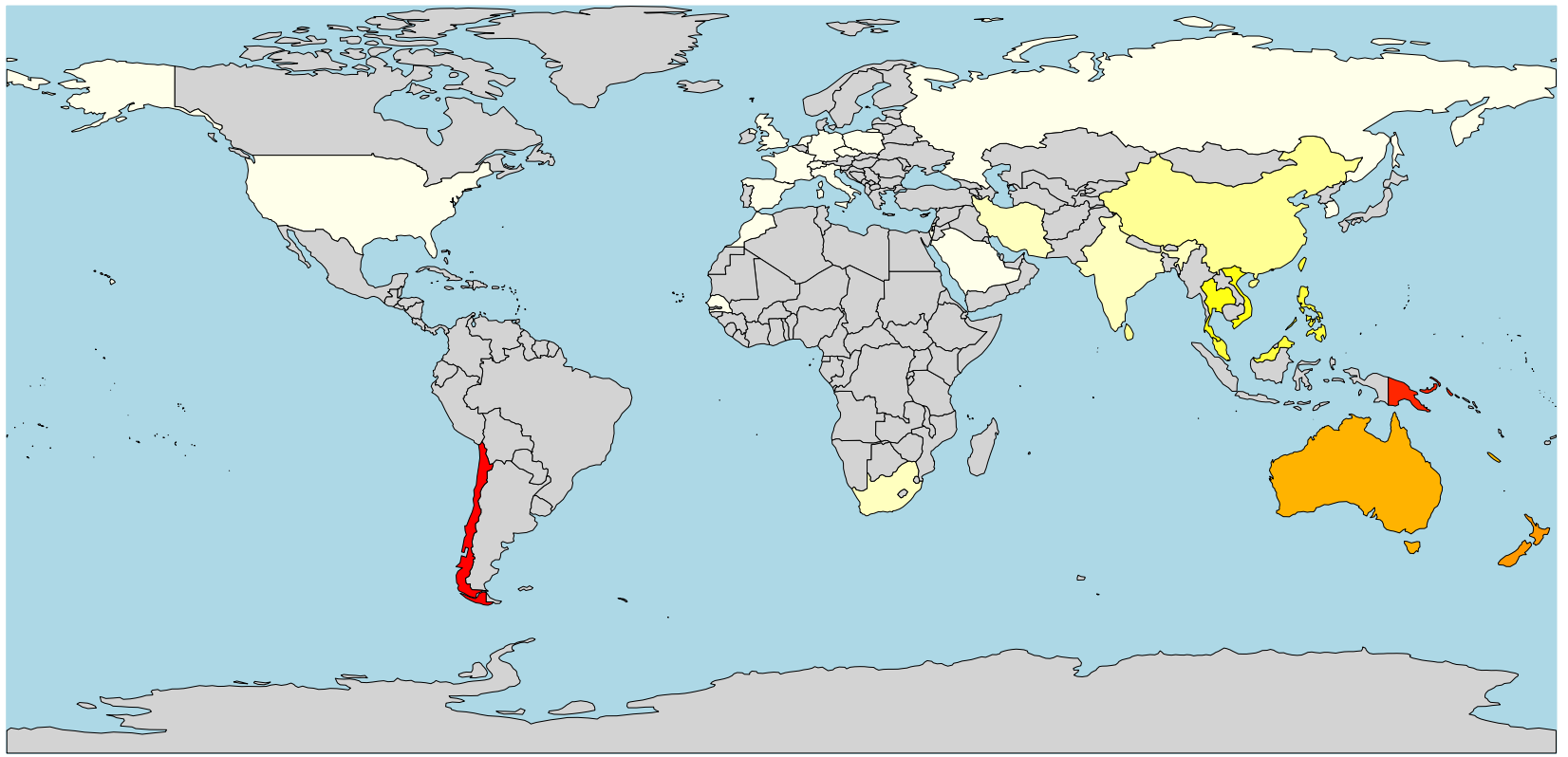
C*04:01
(~6.4% globally)



C*04:01 Haplotypes (n=935)



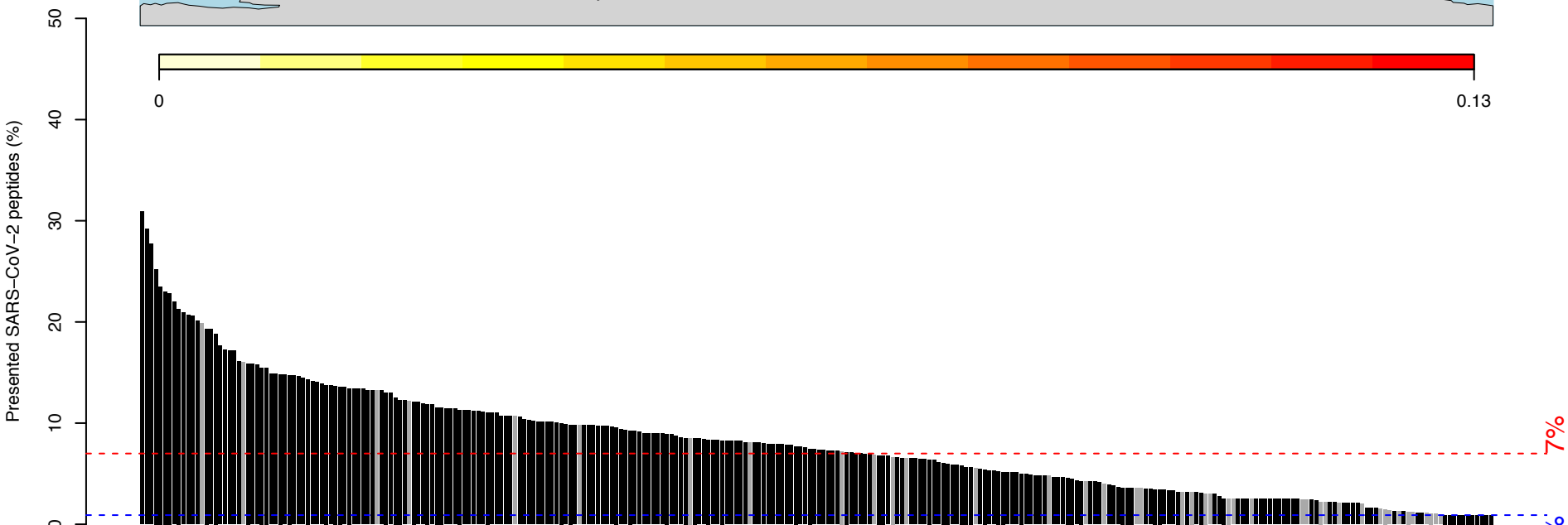
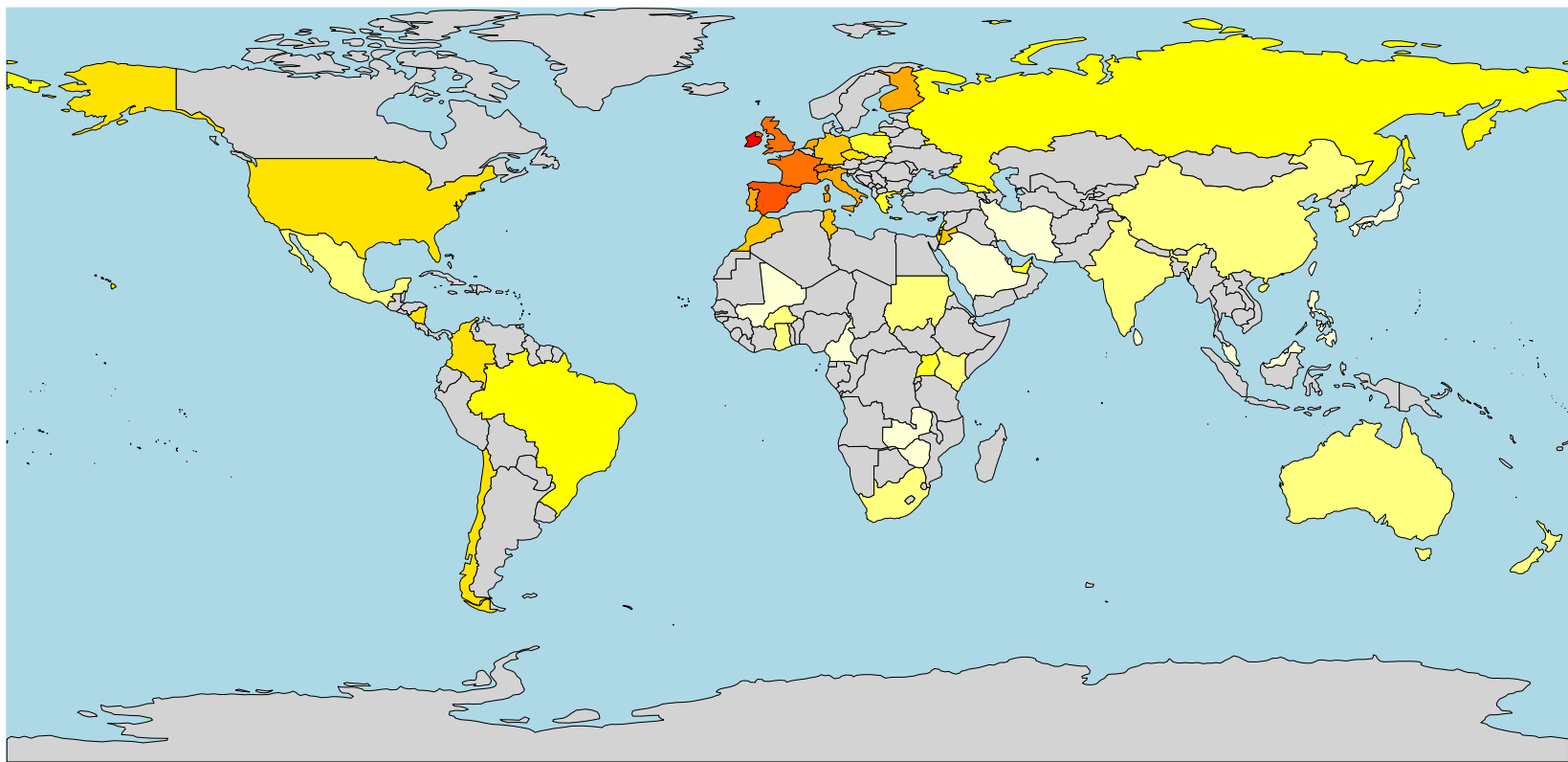
C*04:03
(~2.1% globally)



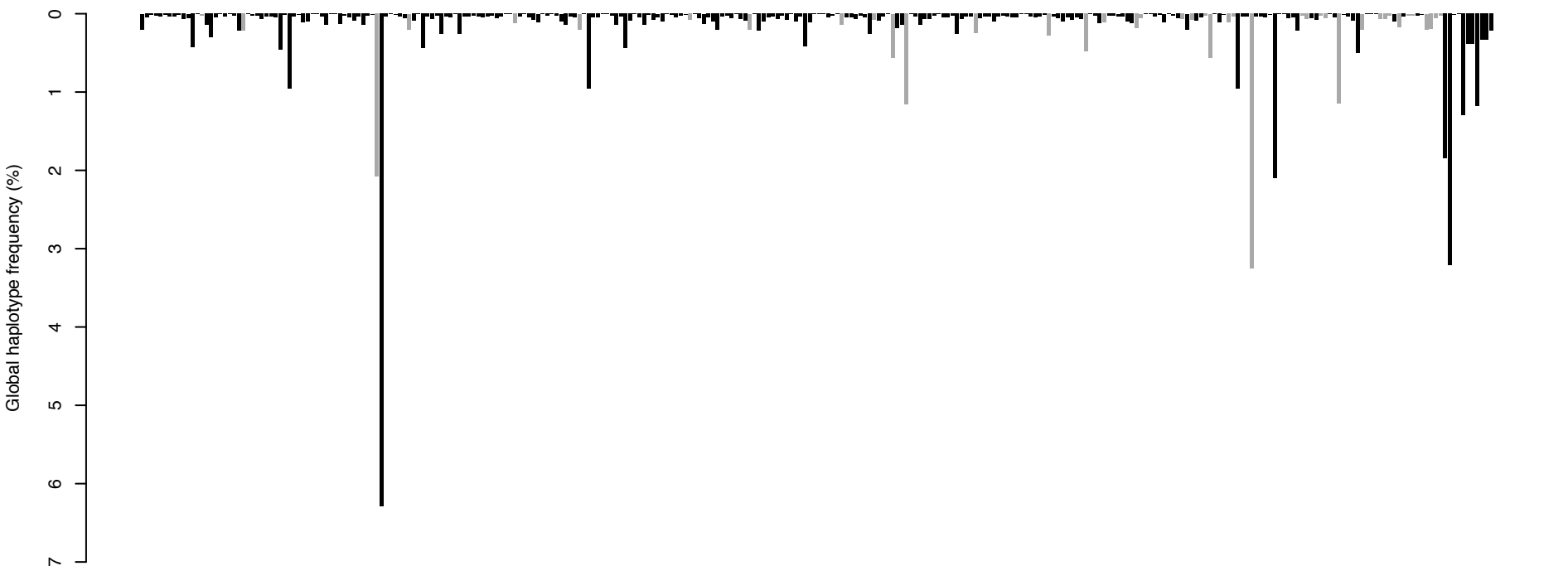
C*04:03 Haplotypes (n=156)



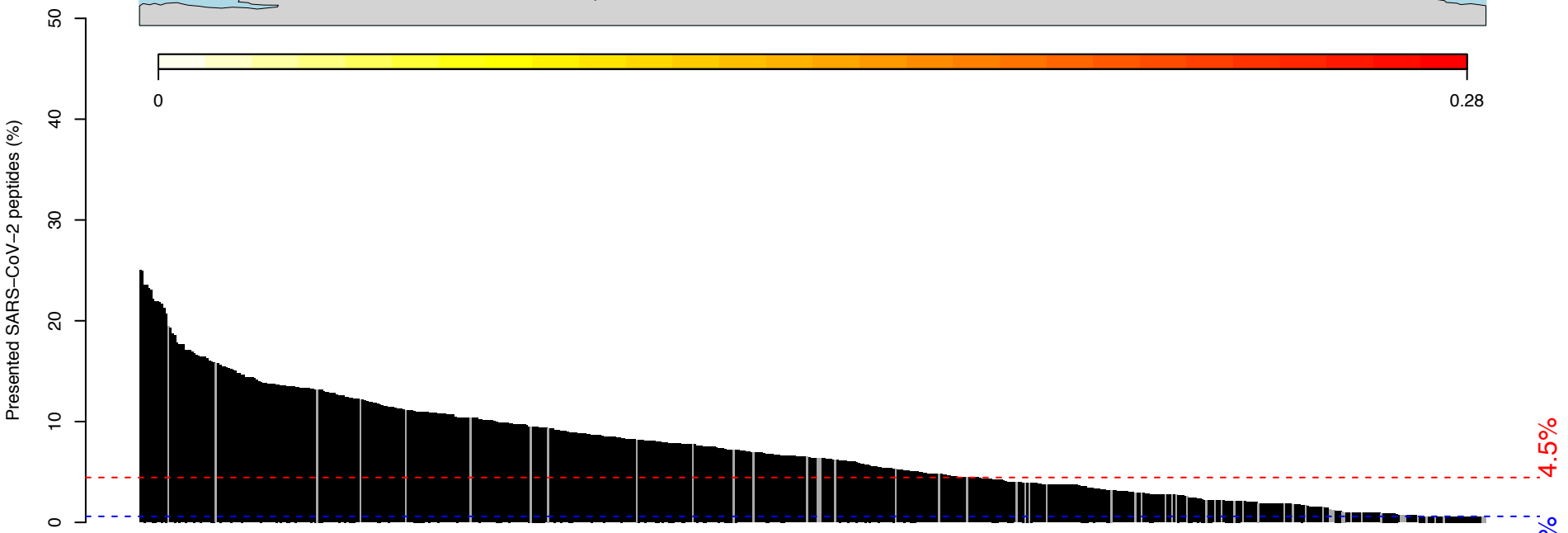
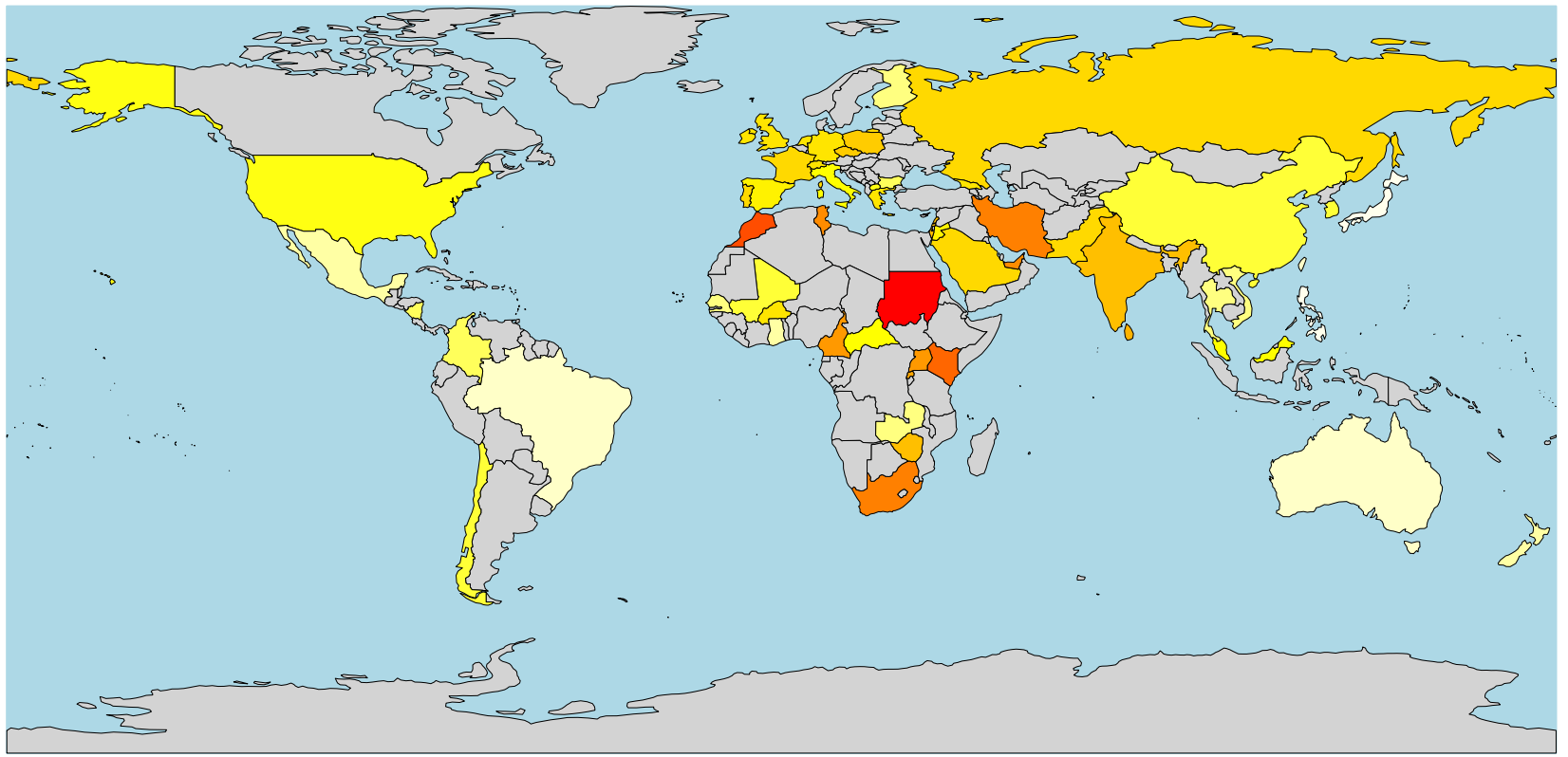
C*05:01
(~2.2% globally)



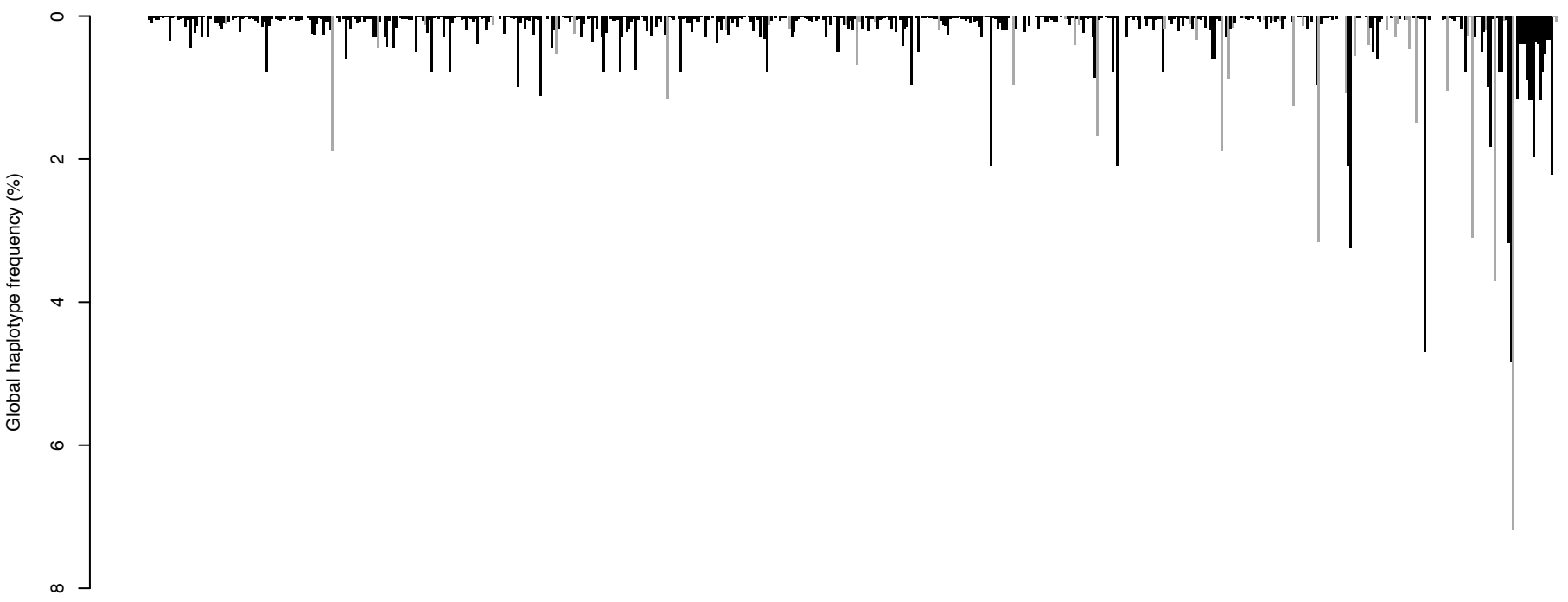
C*05:01 Haplotypes (n=294)



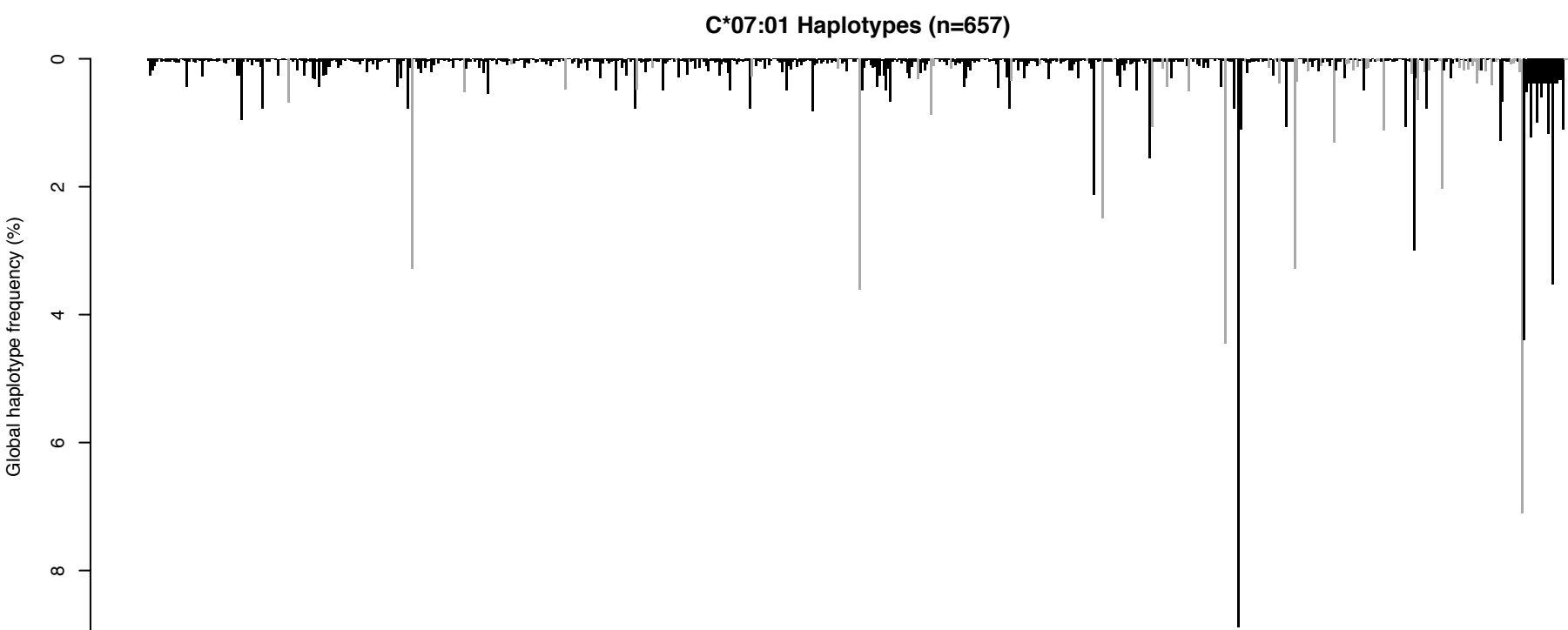
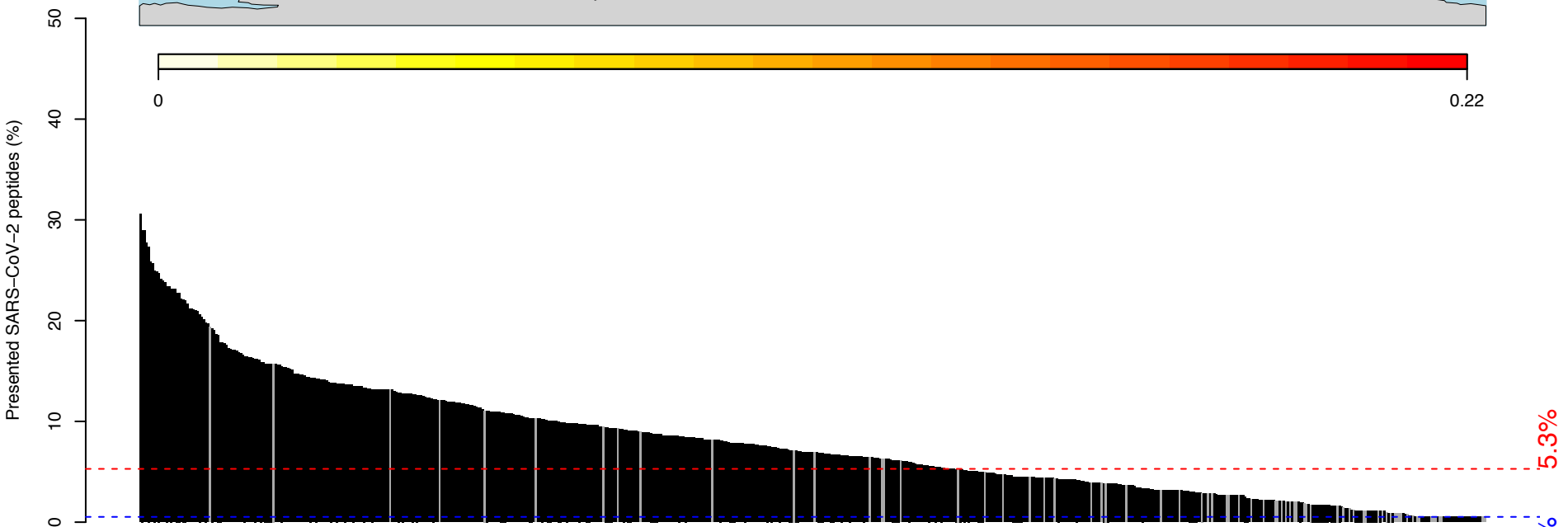
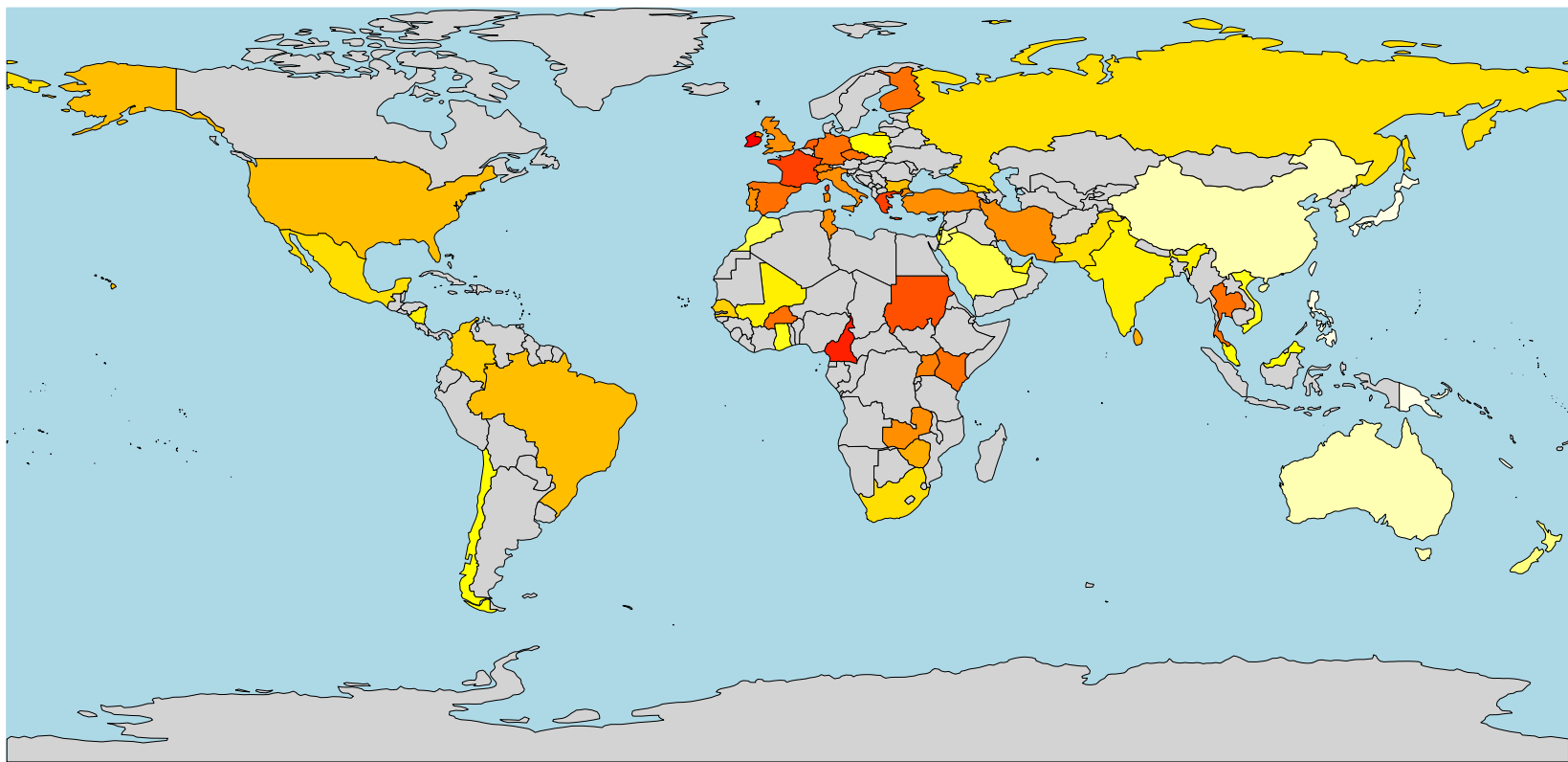
C*06:02
(~8.3% globally)



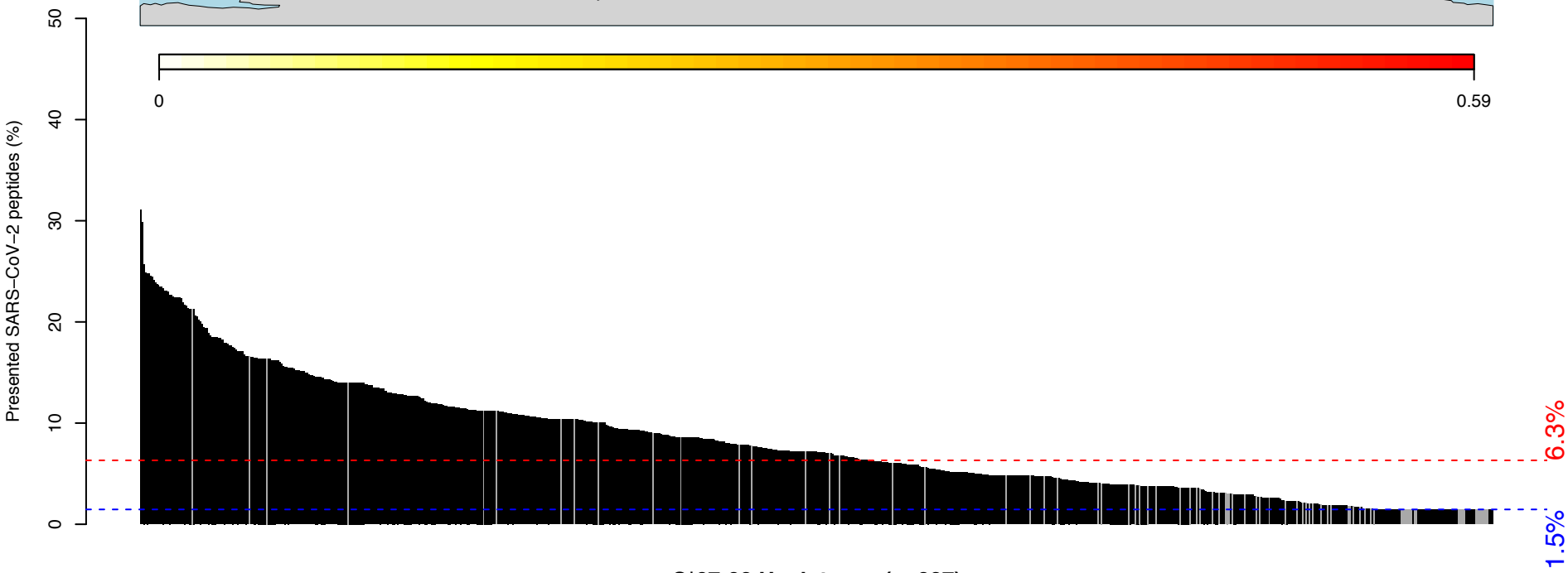
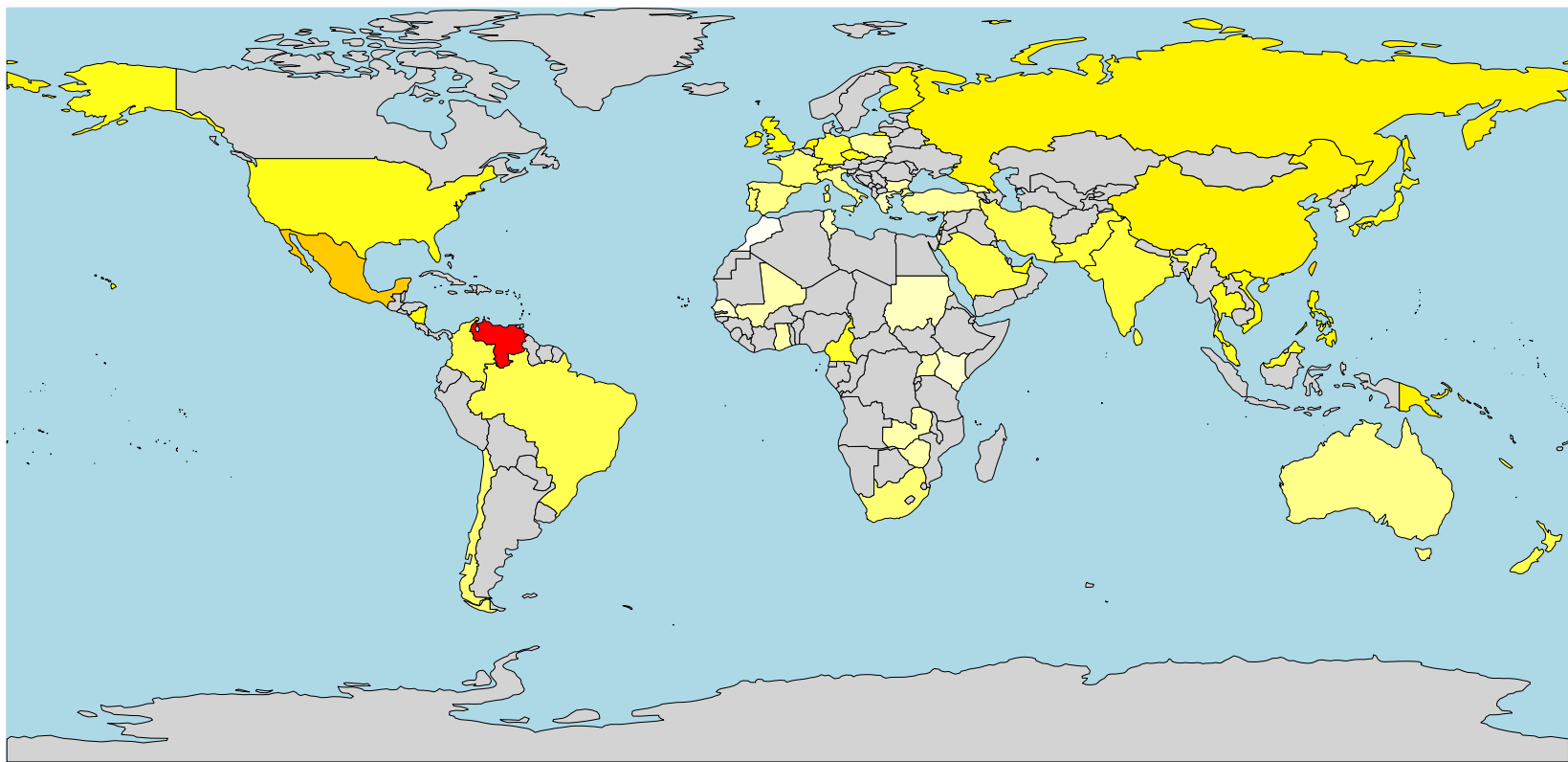
C*06:02 Haplotypes (n=624)



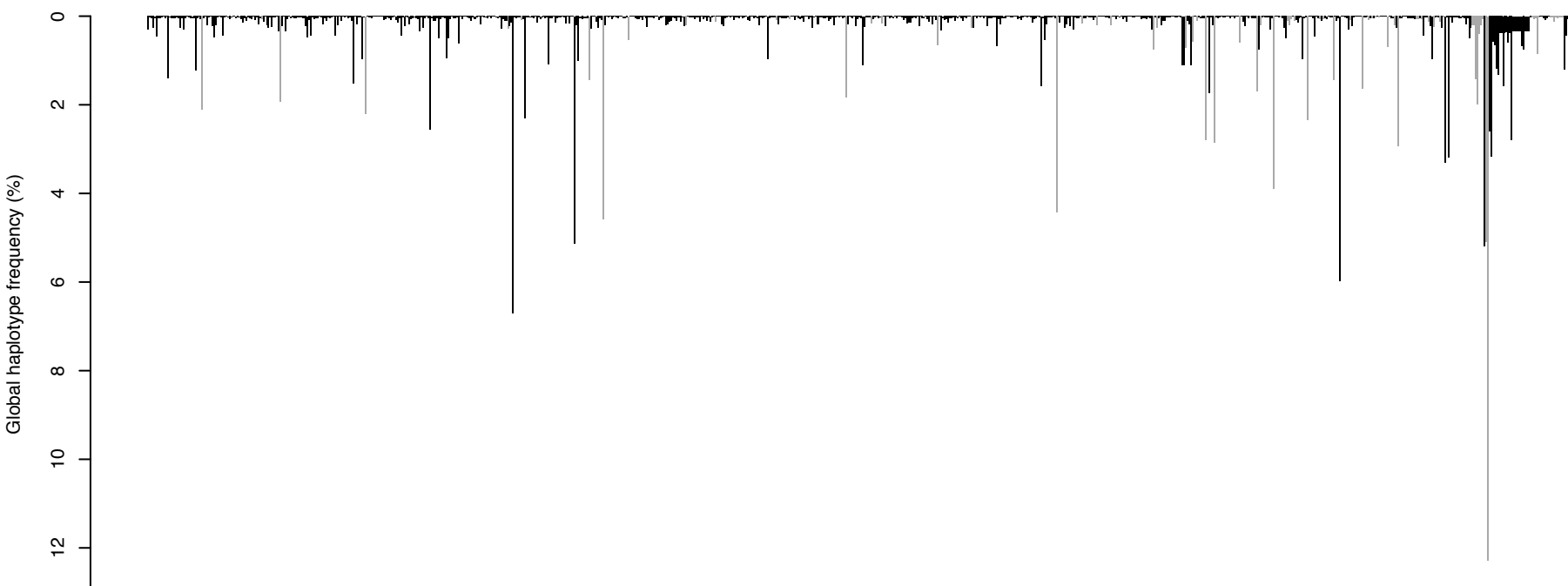
C*07:01
(~3.6% globally)



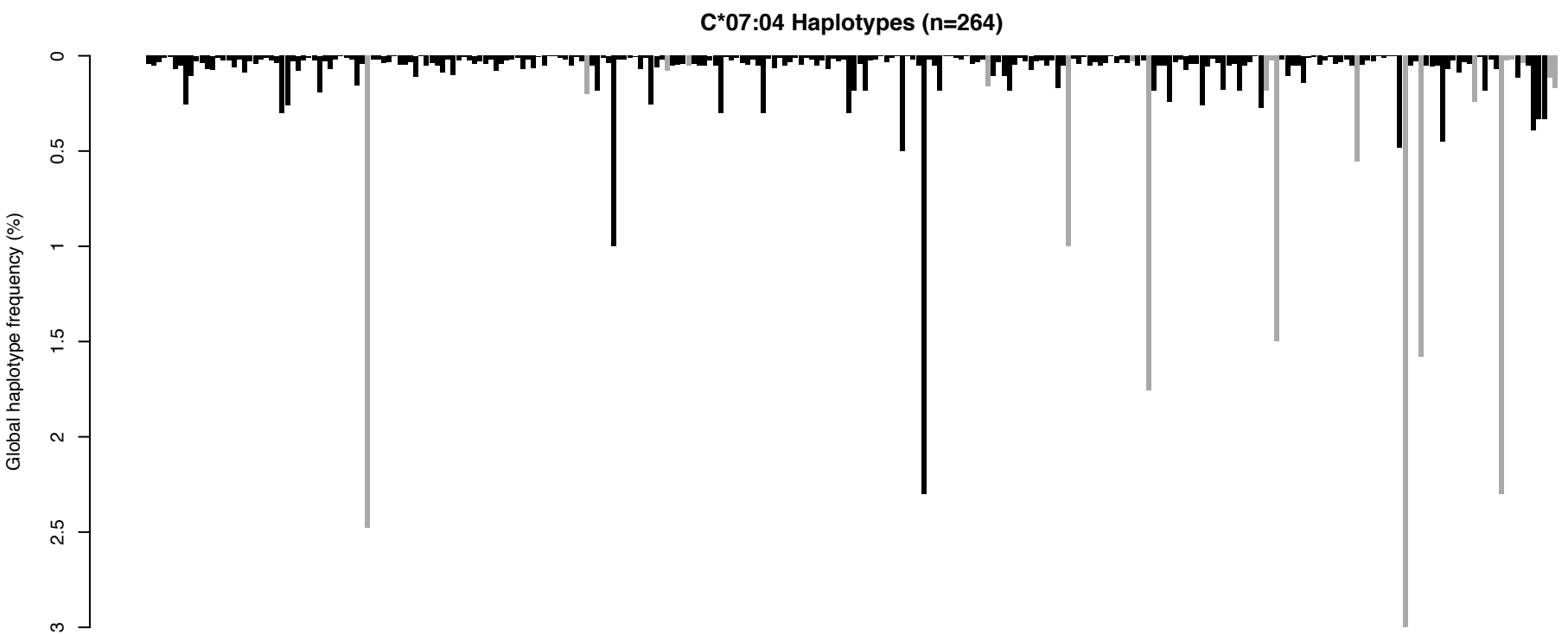
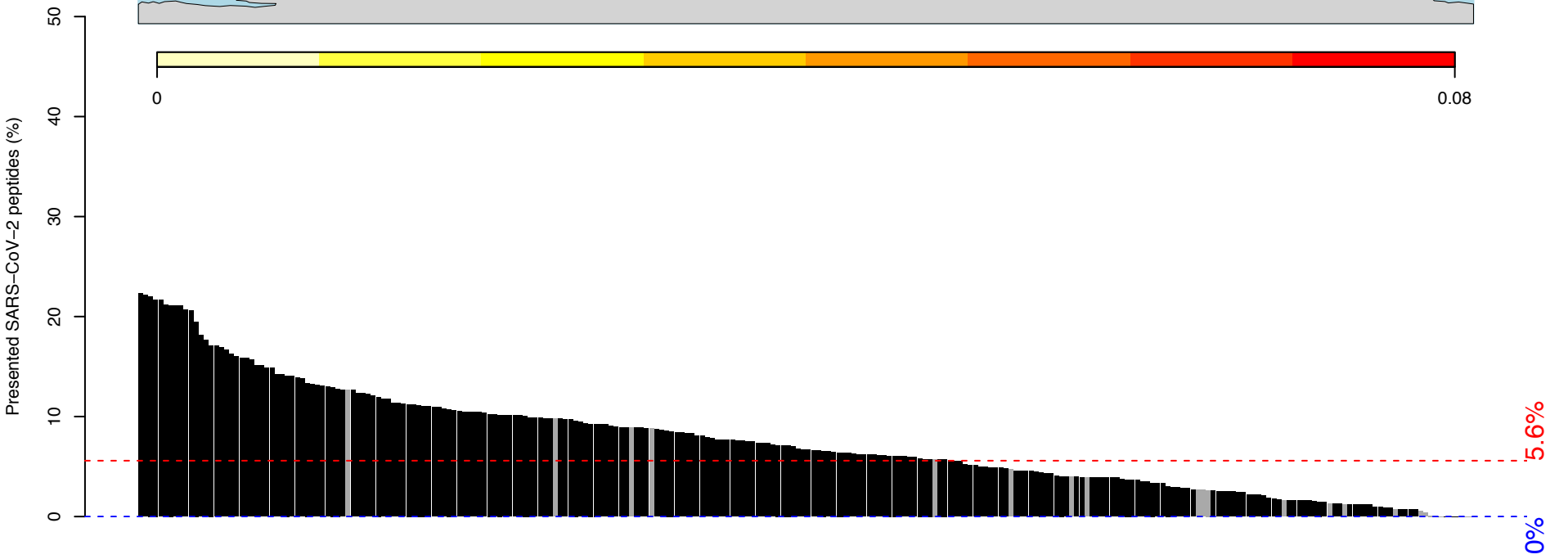
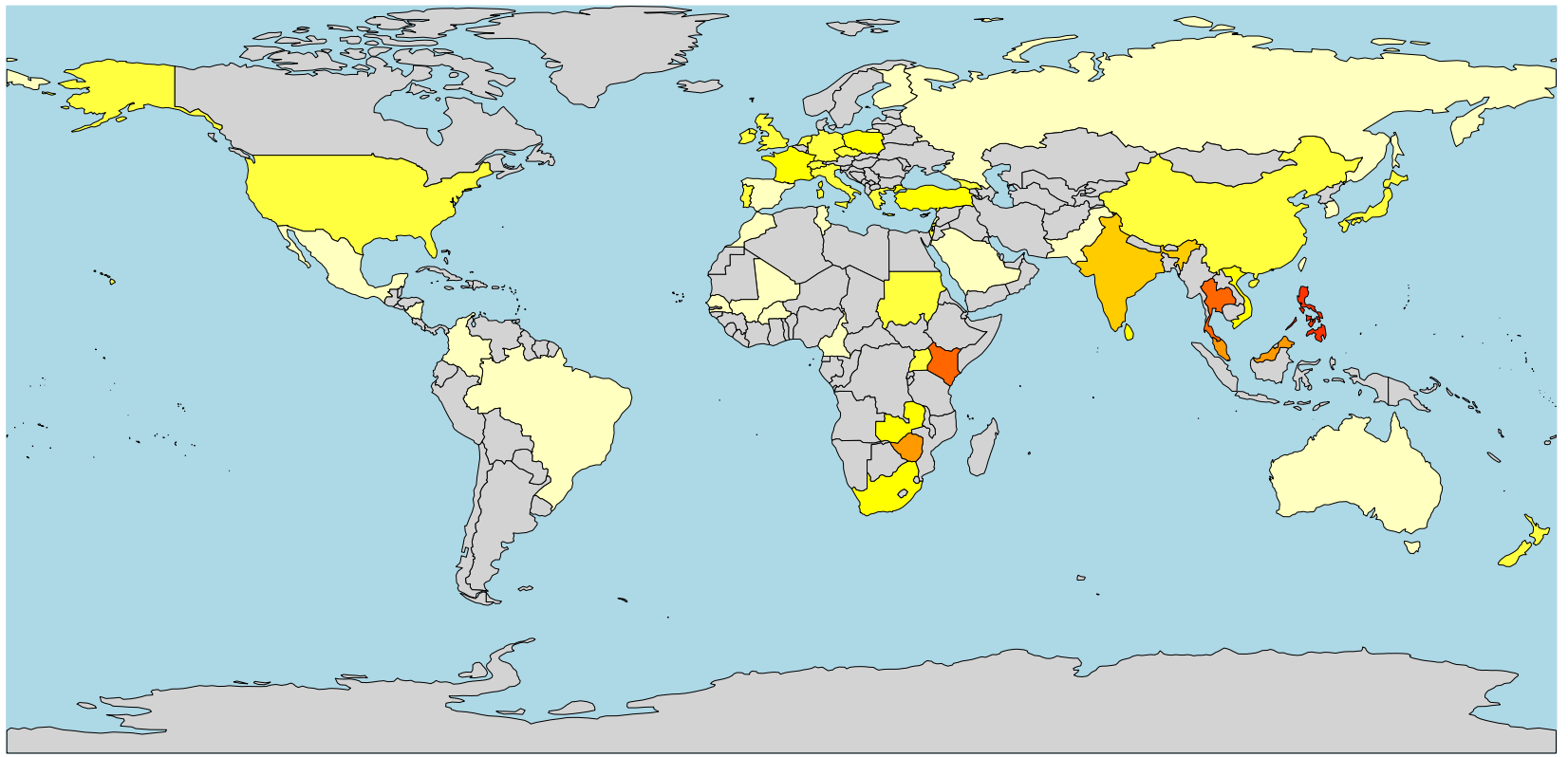
C*07:02
(~7.9% globally)



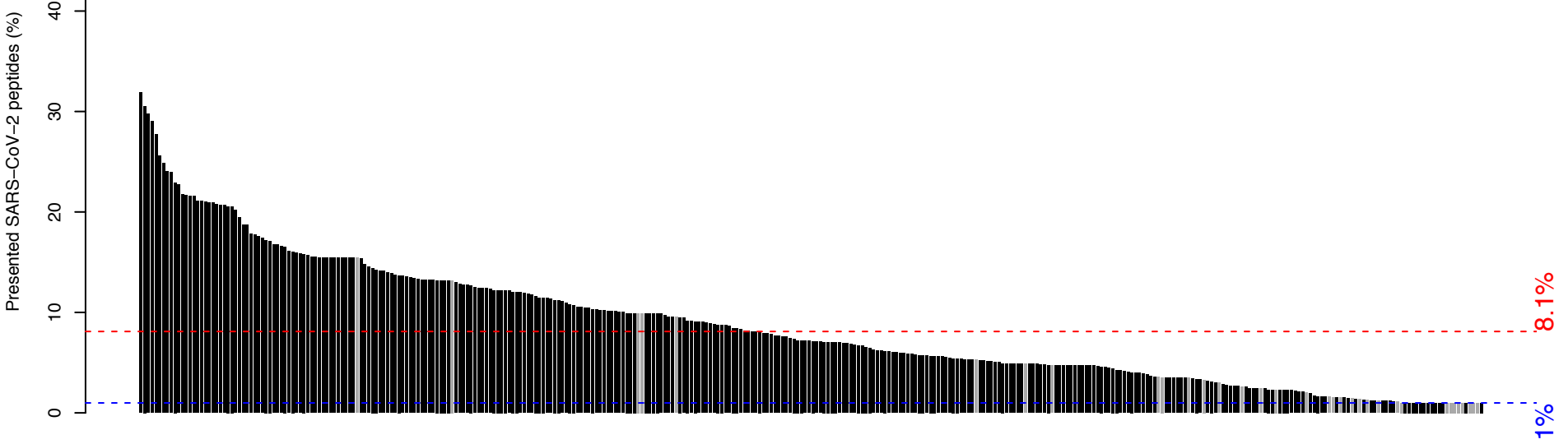
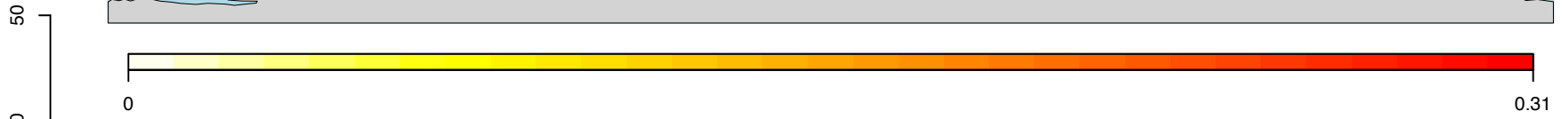
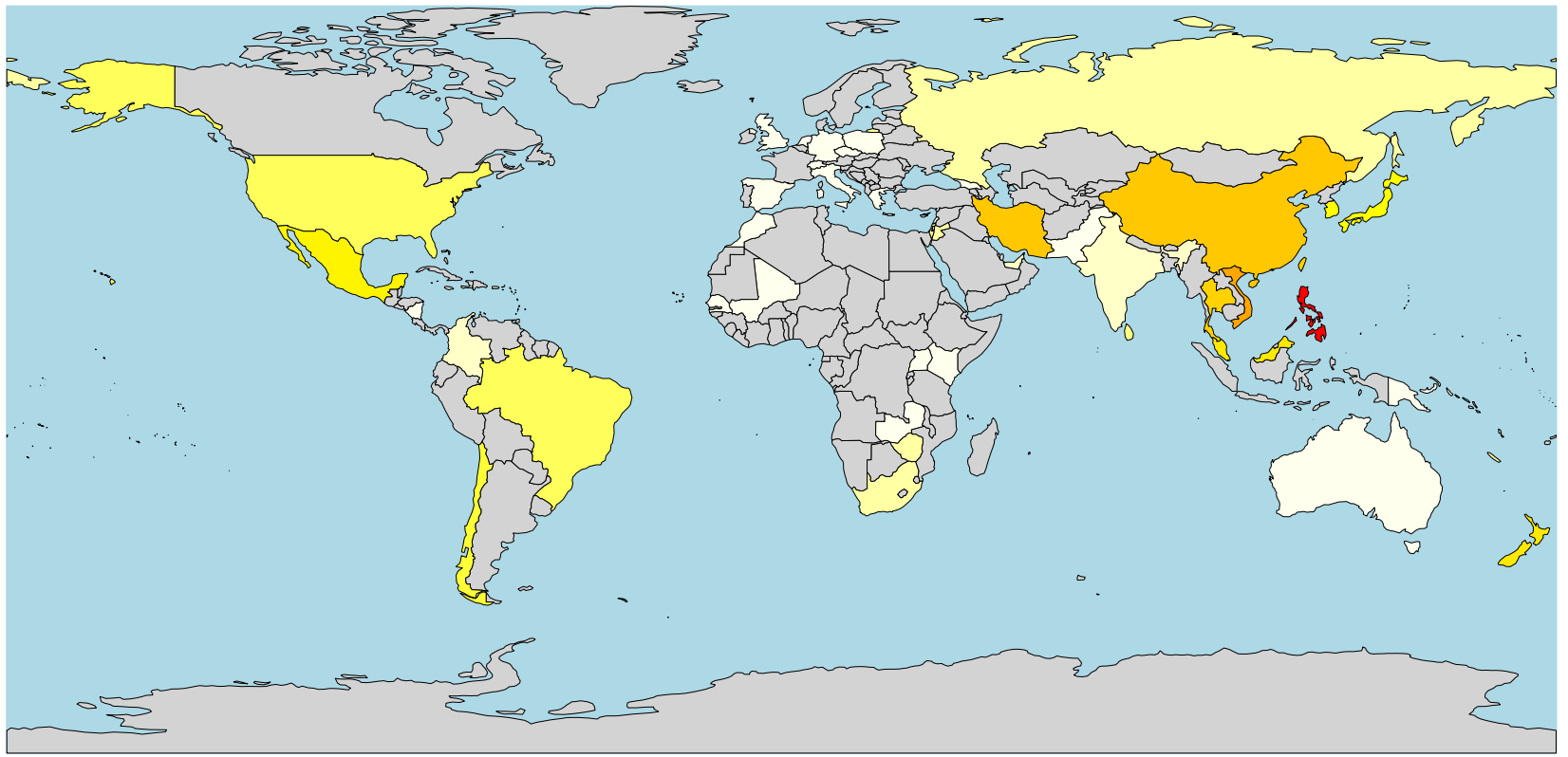
C*07:02 Haplotypes (n=837)



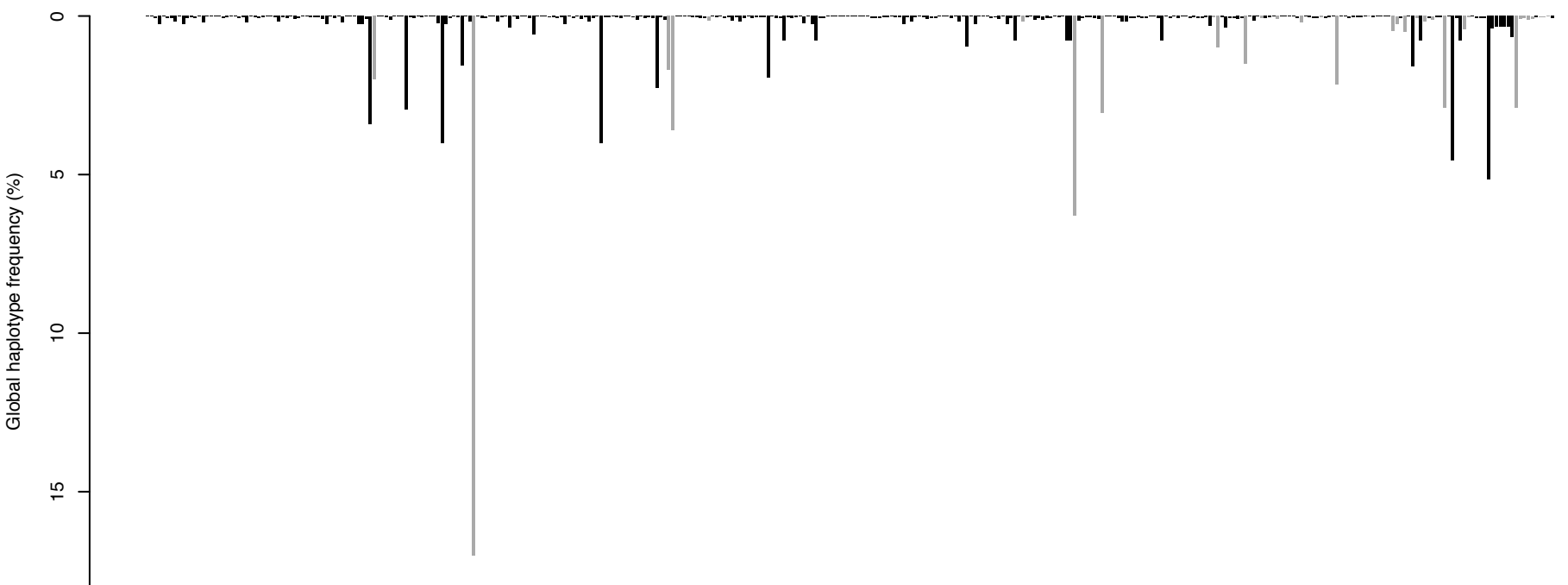
C*07:04
(~1.8% globally)



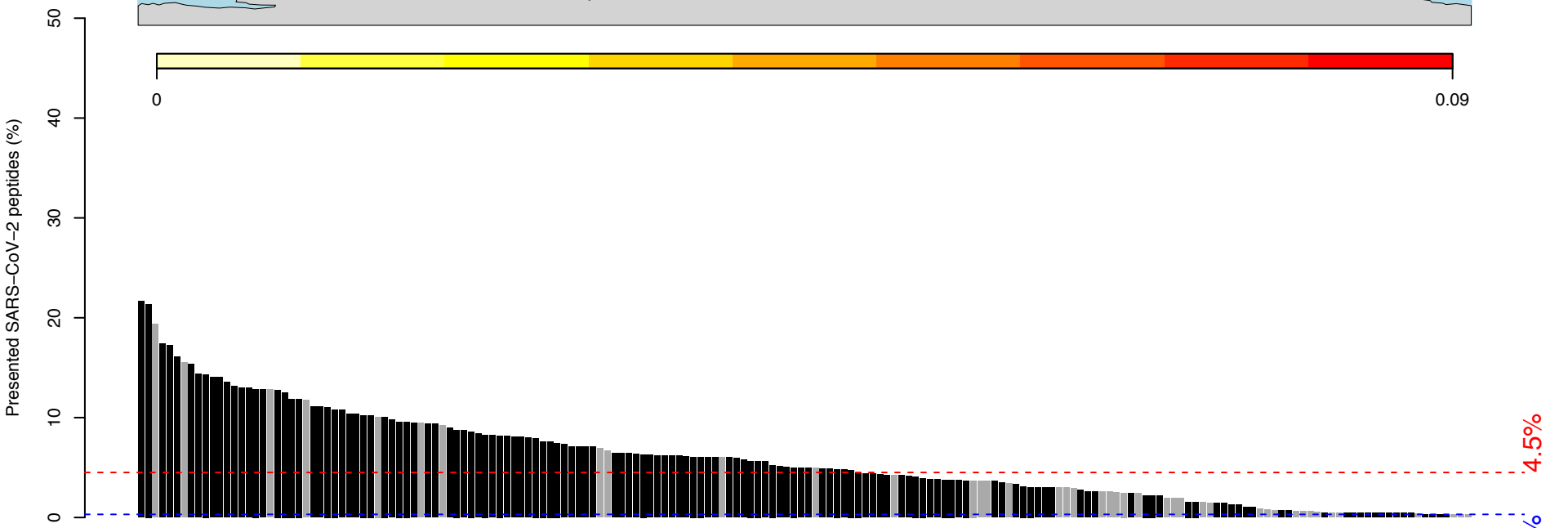
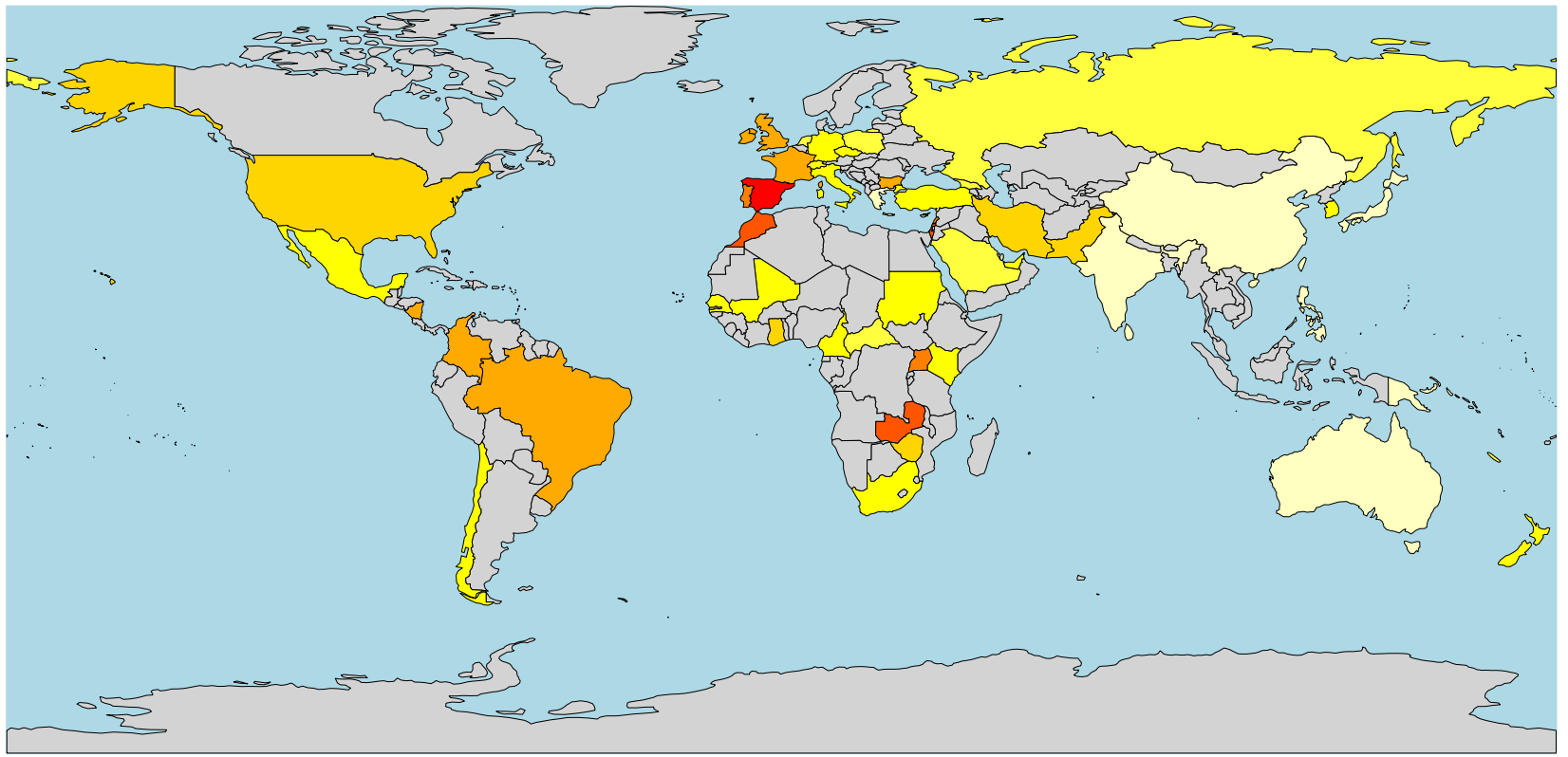
C*08:01
(~5.3% globally)



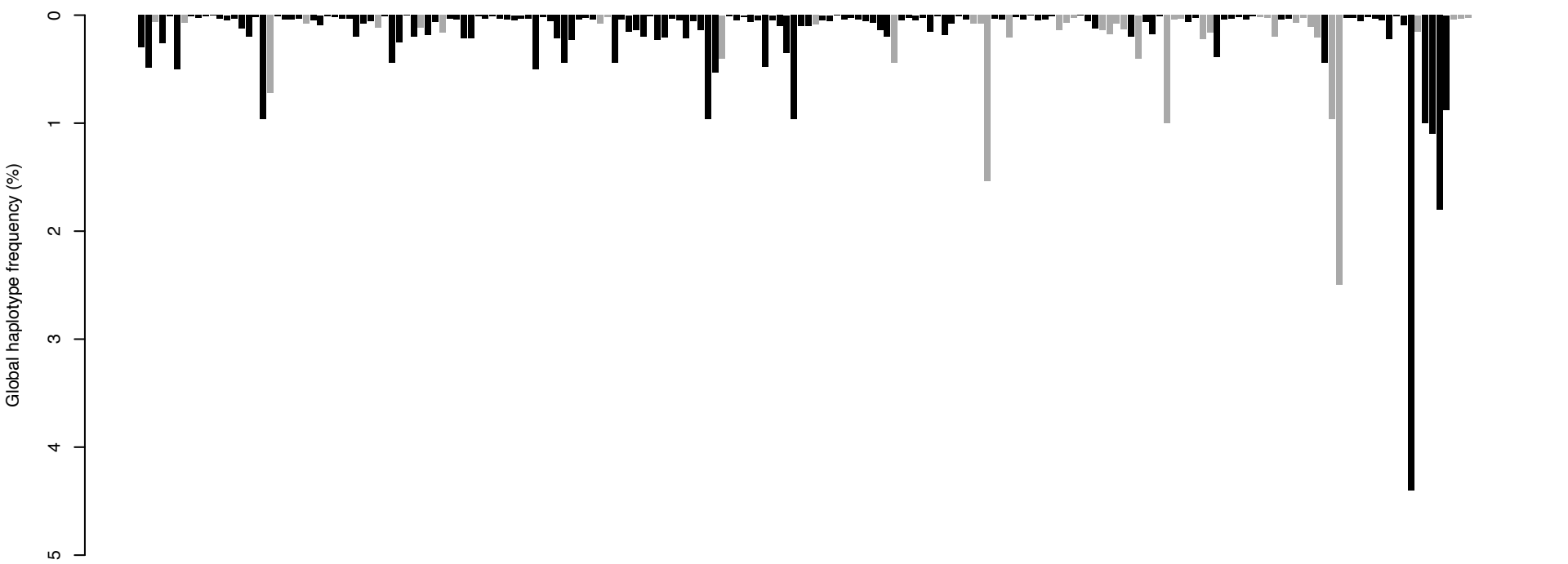
C*08:01 Haplotypes (n=354)



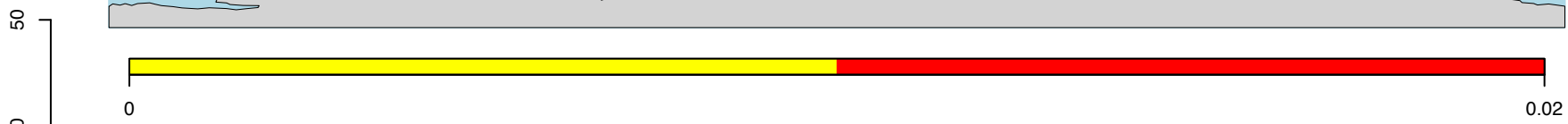
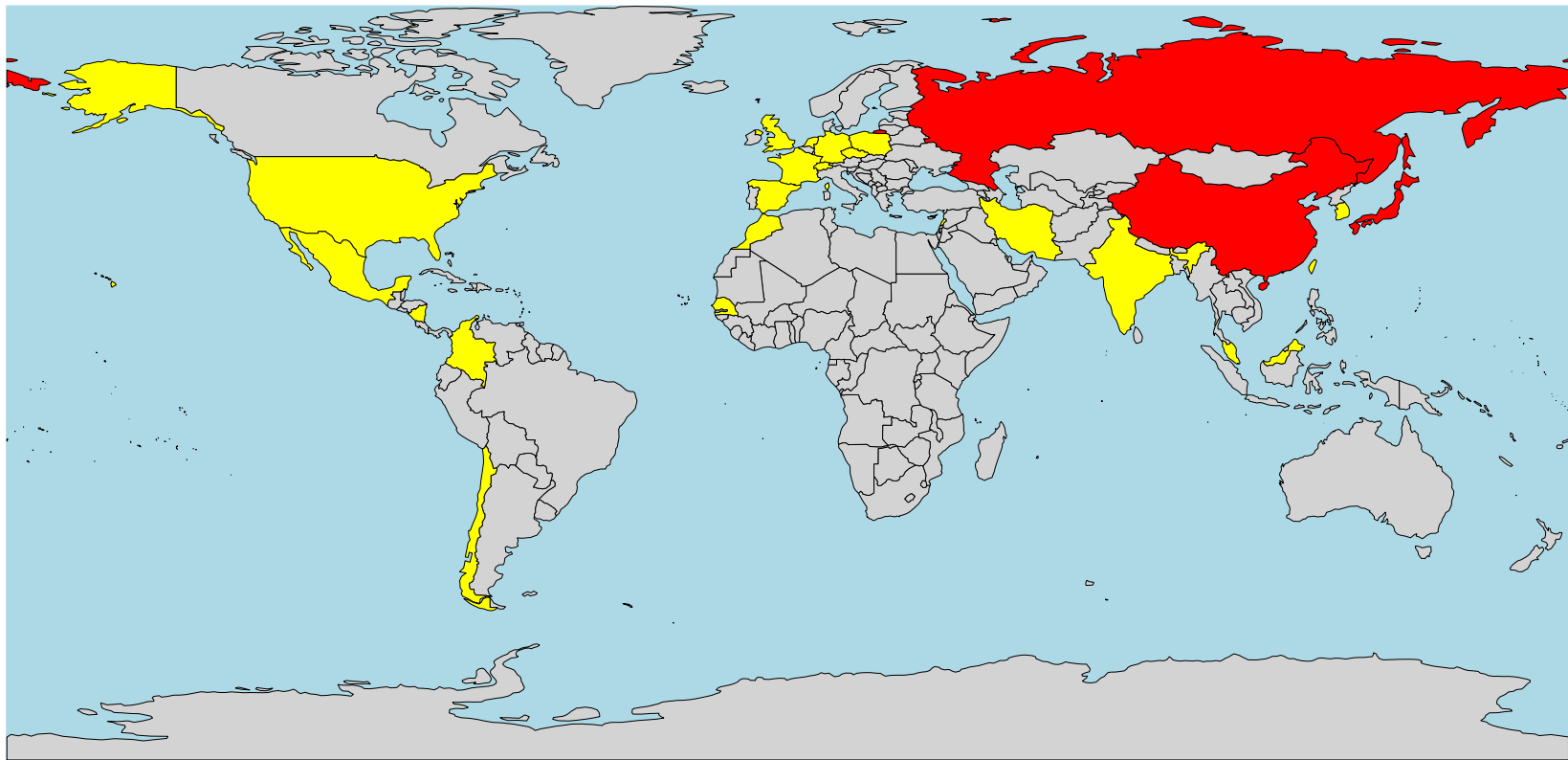
C*08:02
(~1.9% globally)



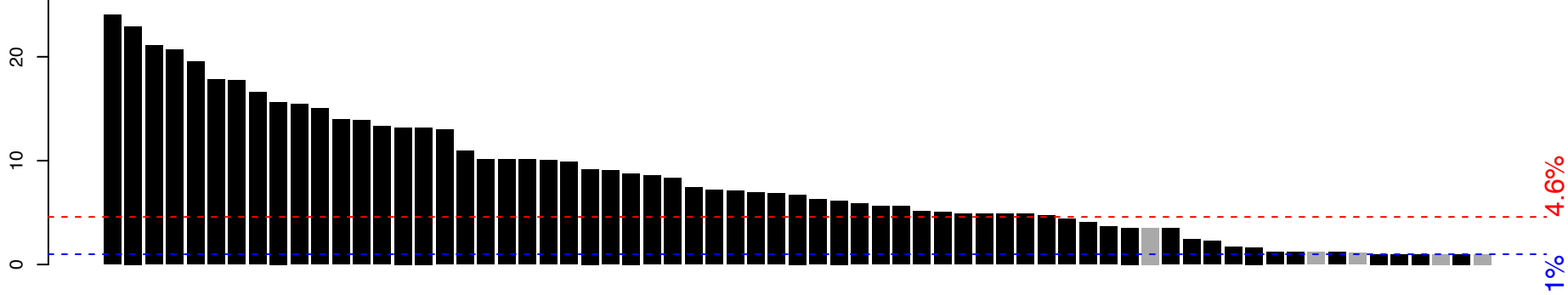
C*08:02 Haplotypes (n=186)



C*08:03
(~1.3% globally)

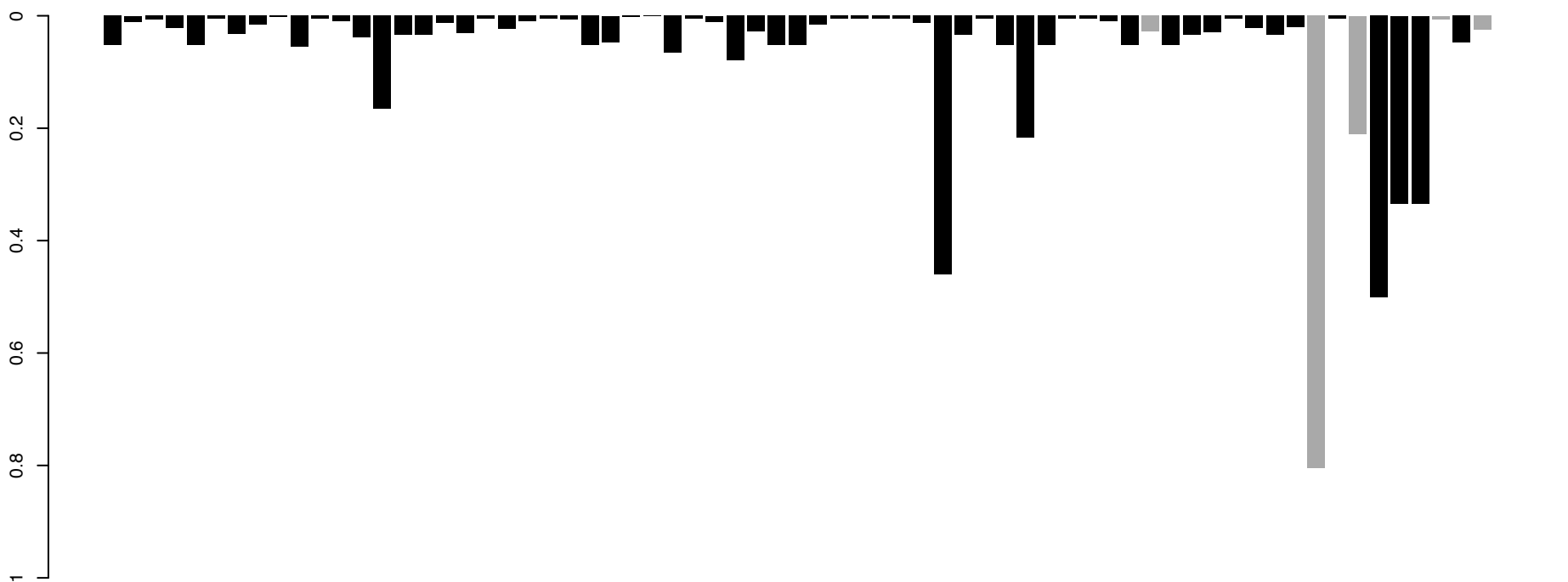


Presented SARS-CoV-2 peptides (%)

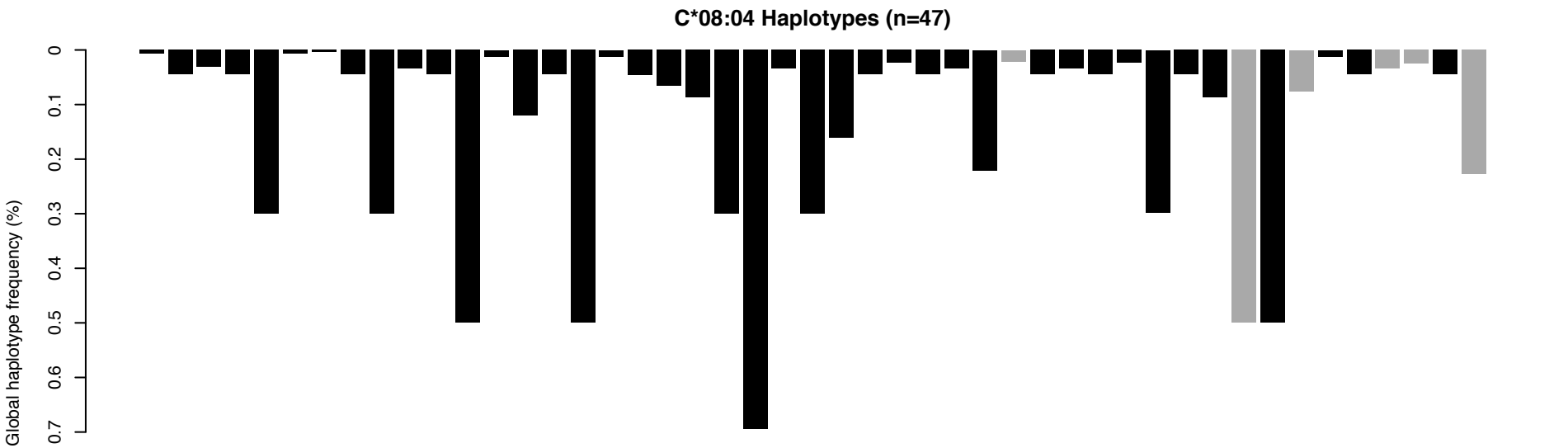
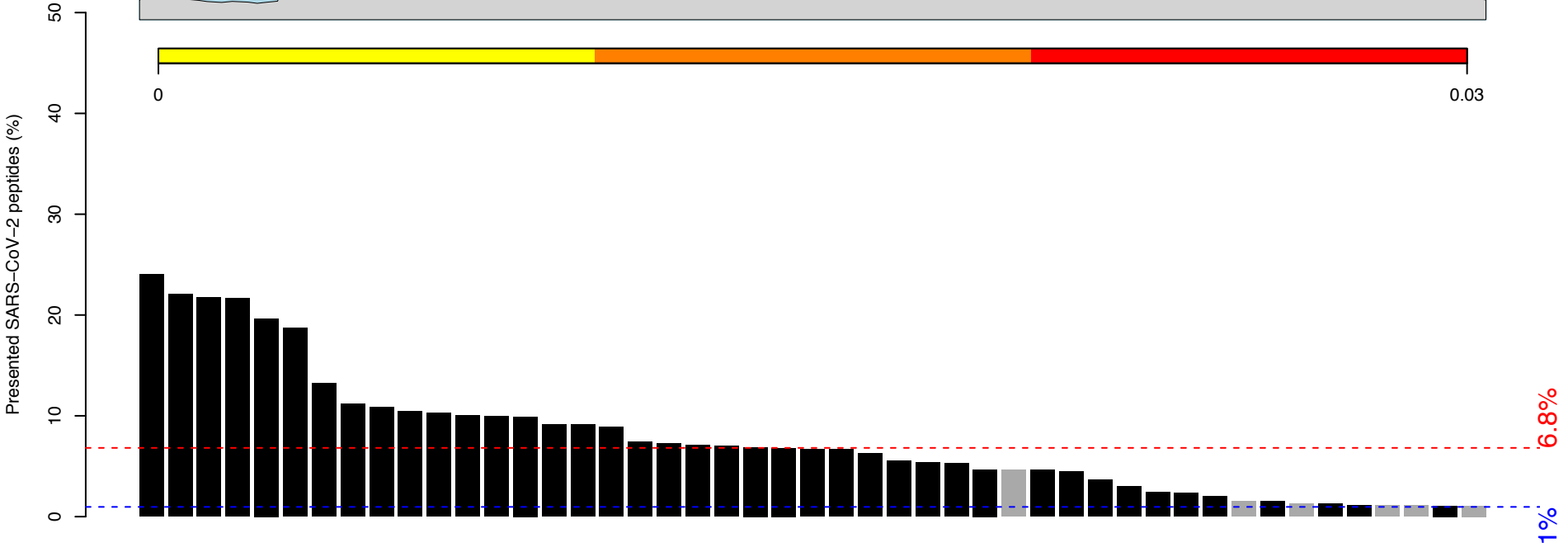
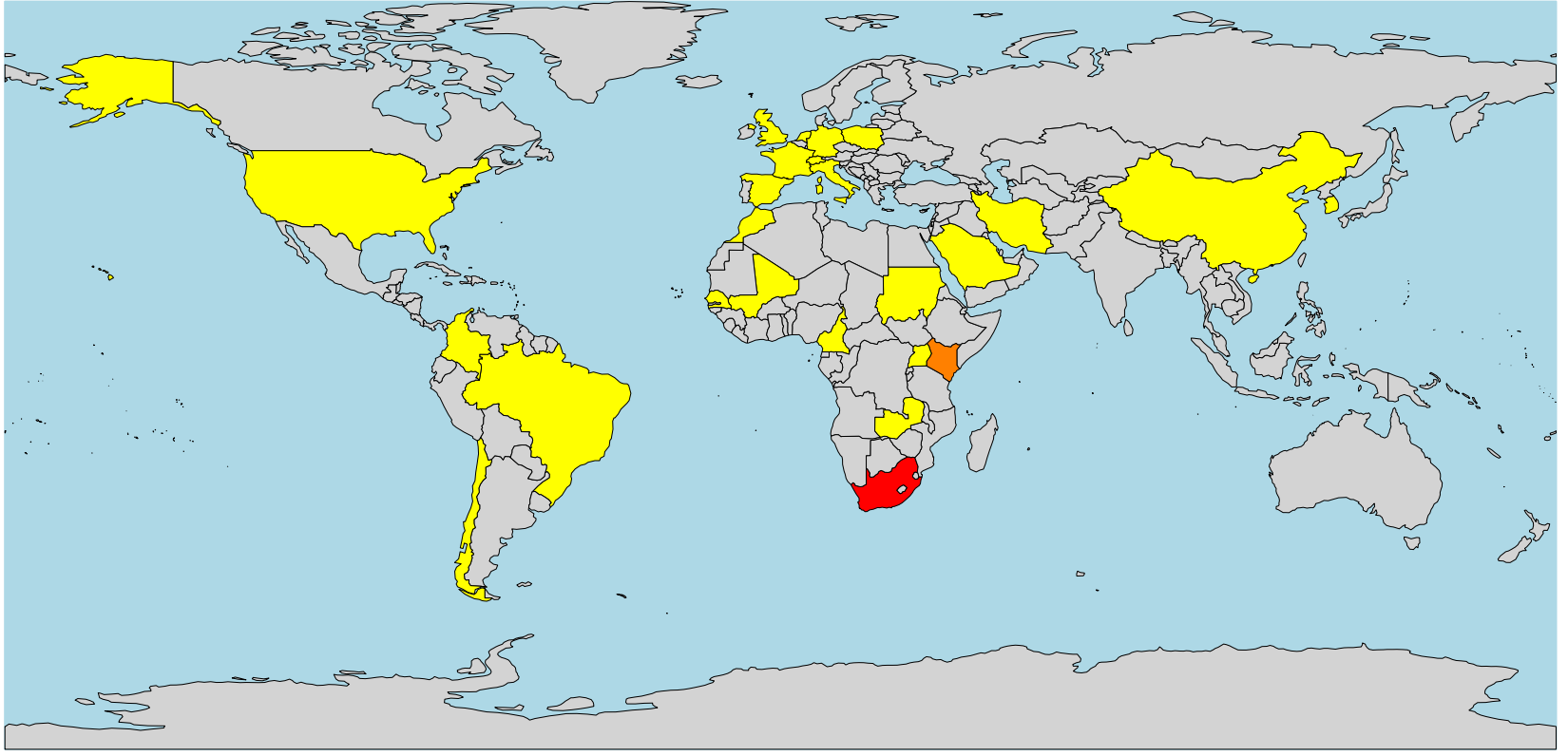


C*08:03 Haplotypes (n=67)

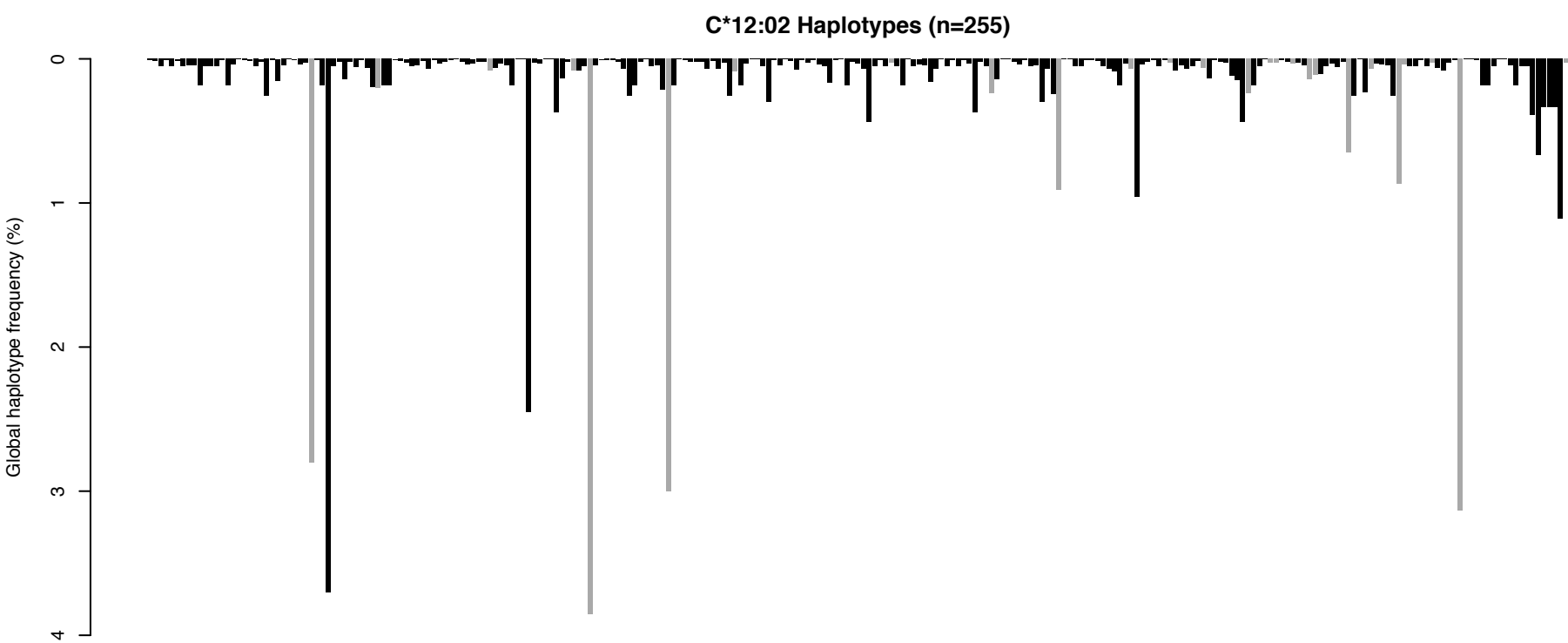
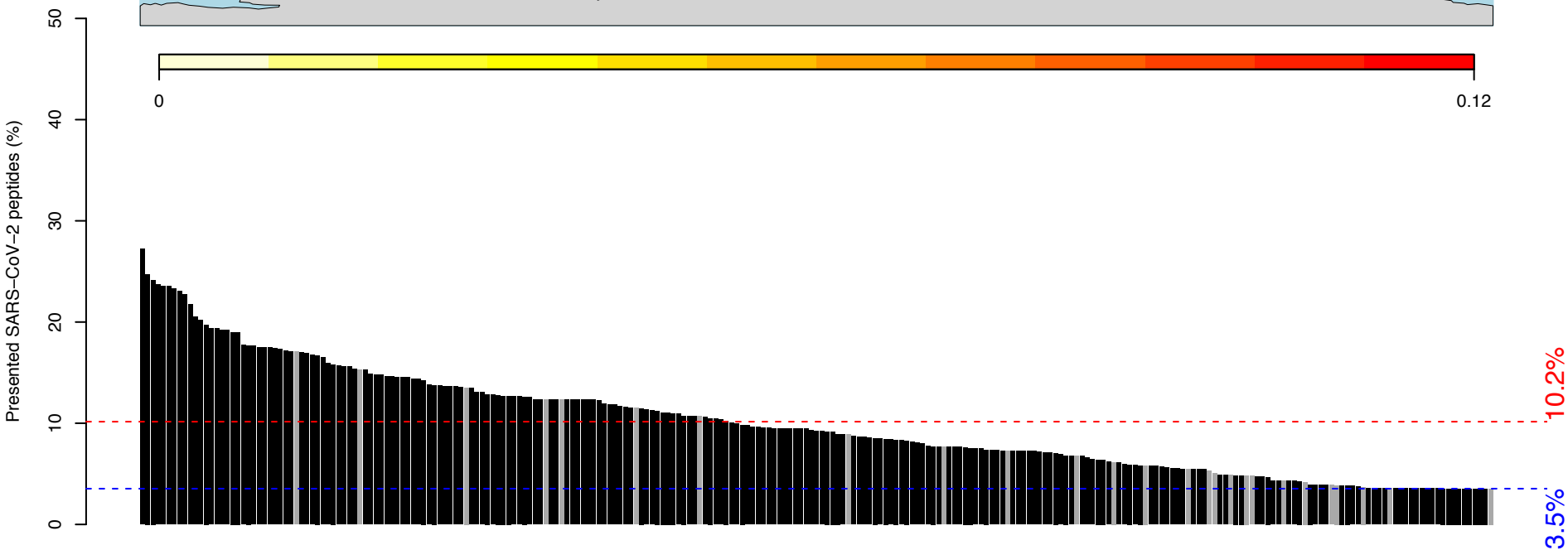
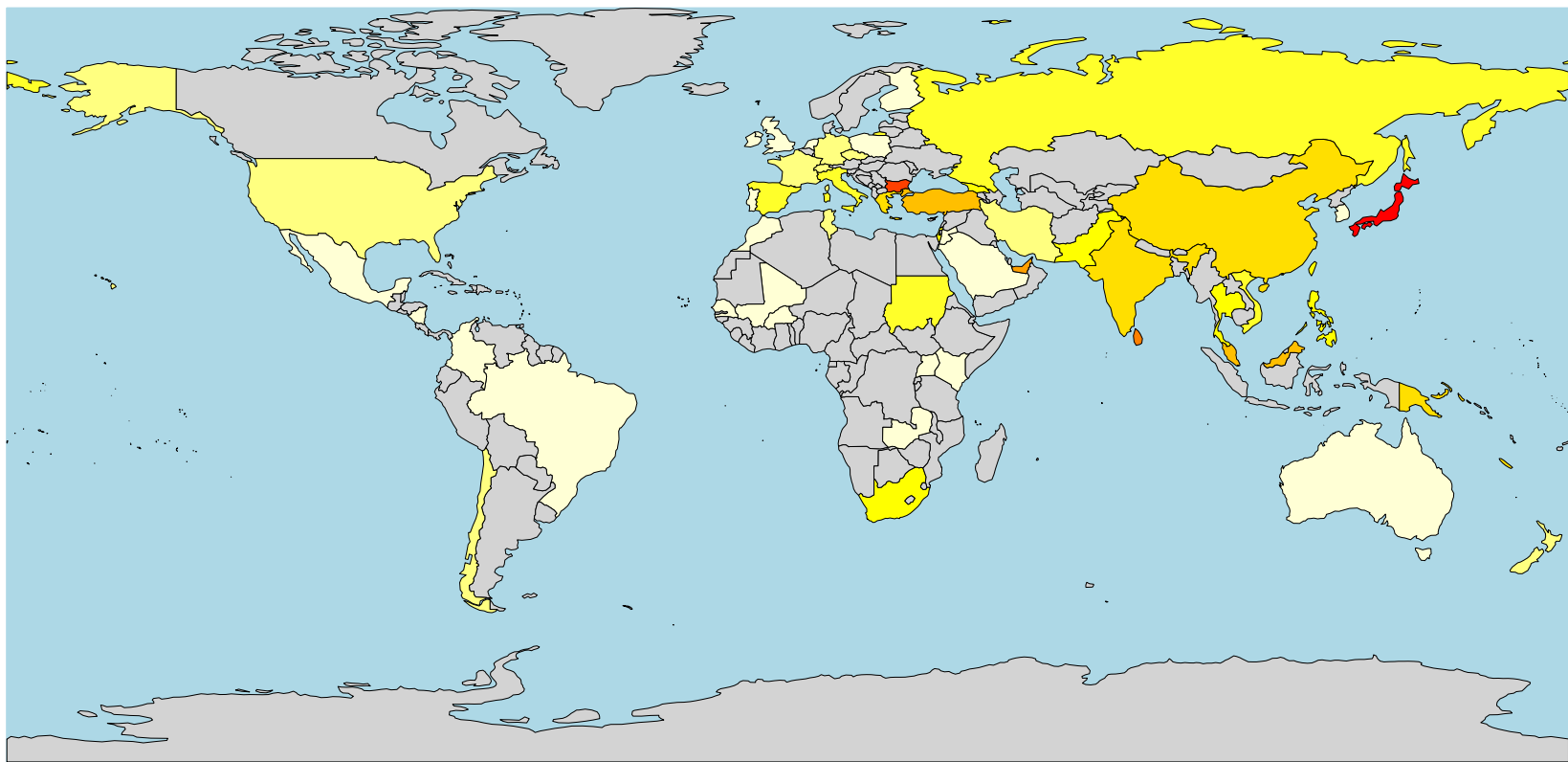
Global haplotype frequency (%)



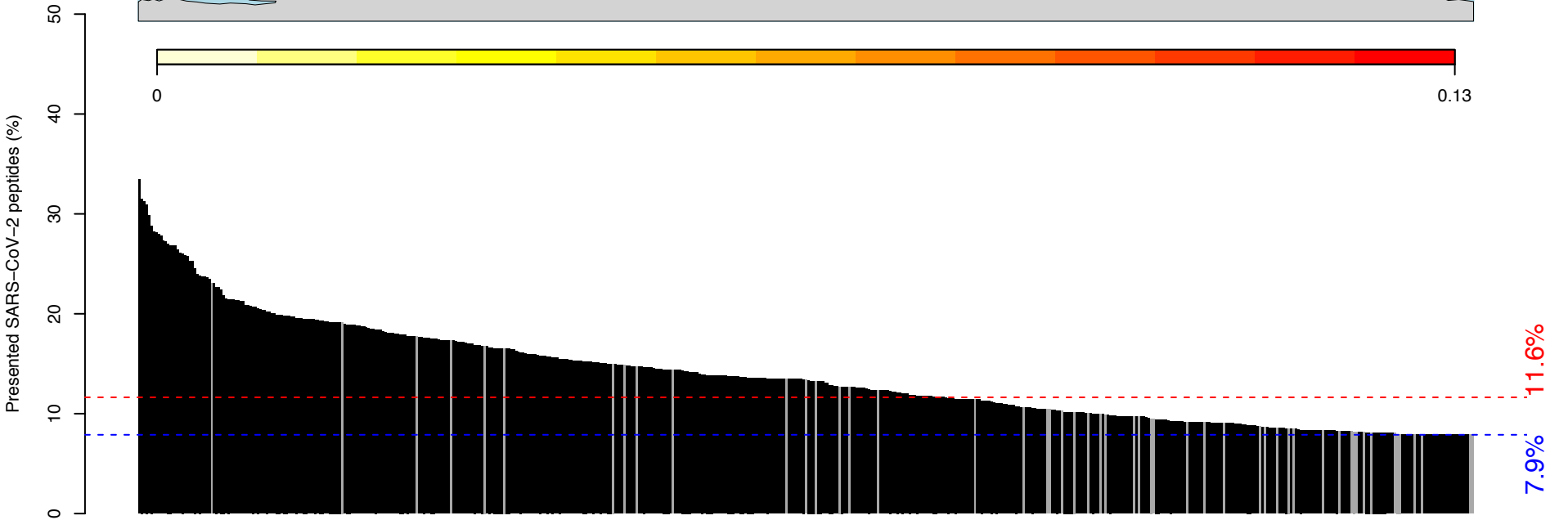
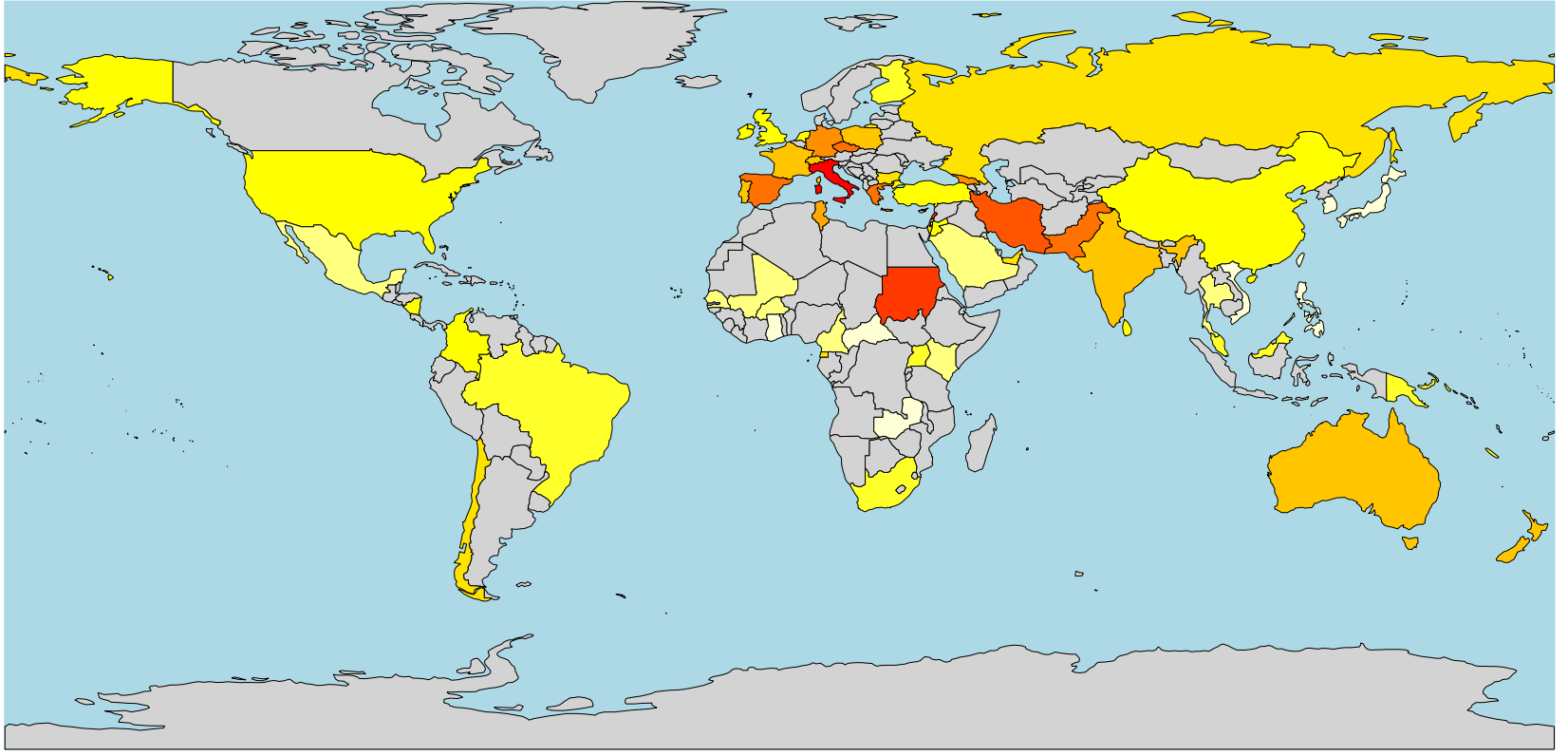
C*08:04
(~0.22% globally)



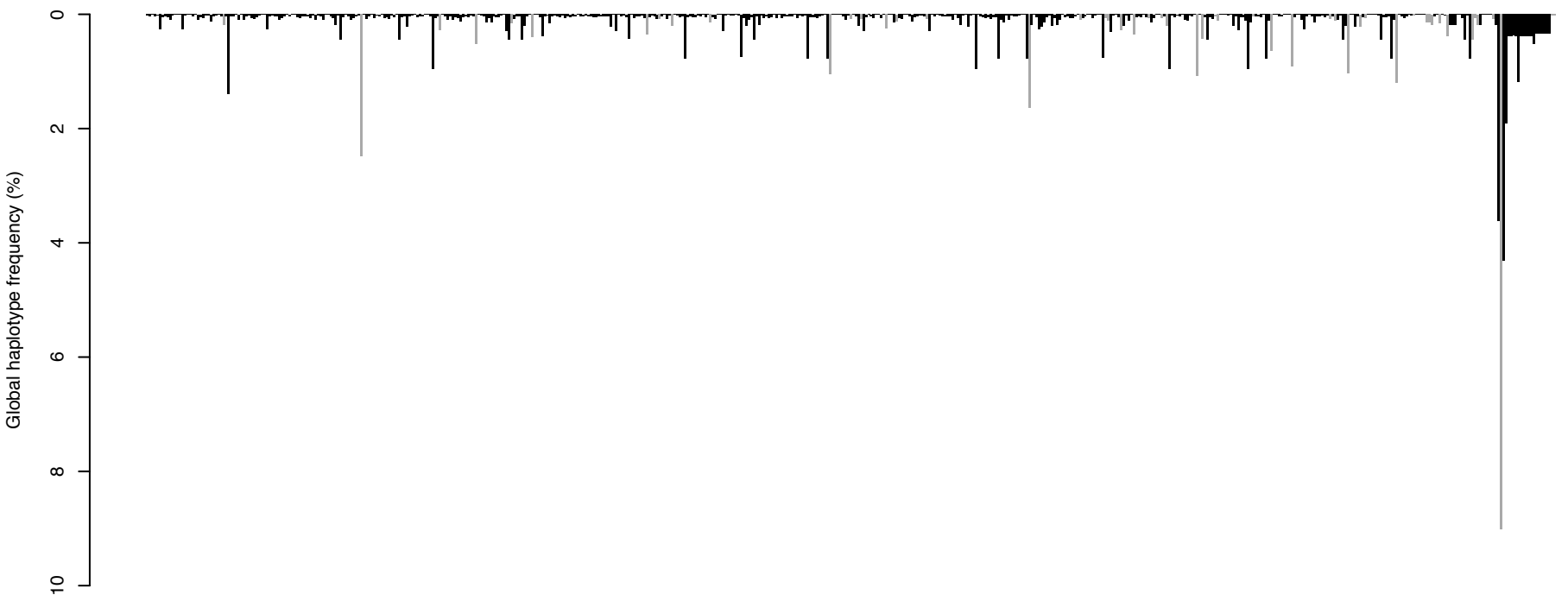
C*12:02
(~2.4% globally)



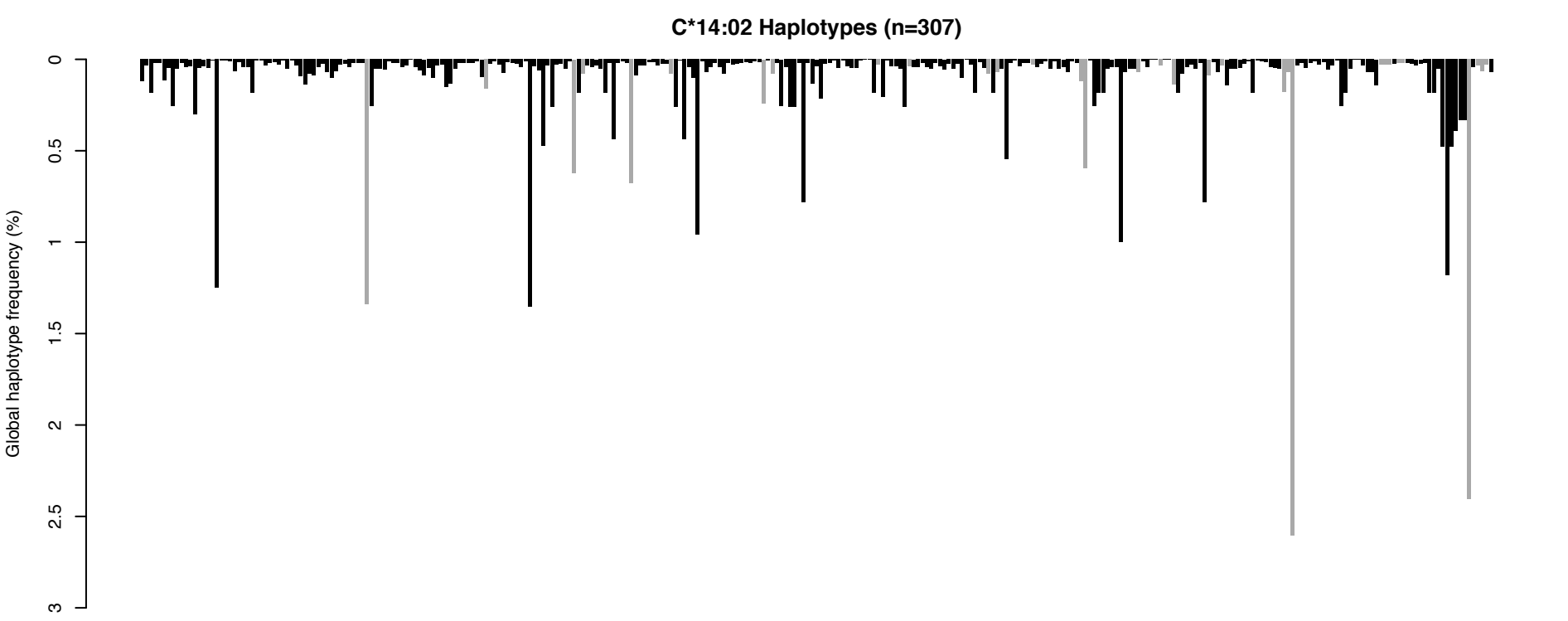
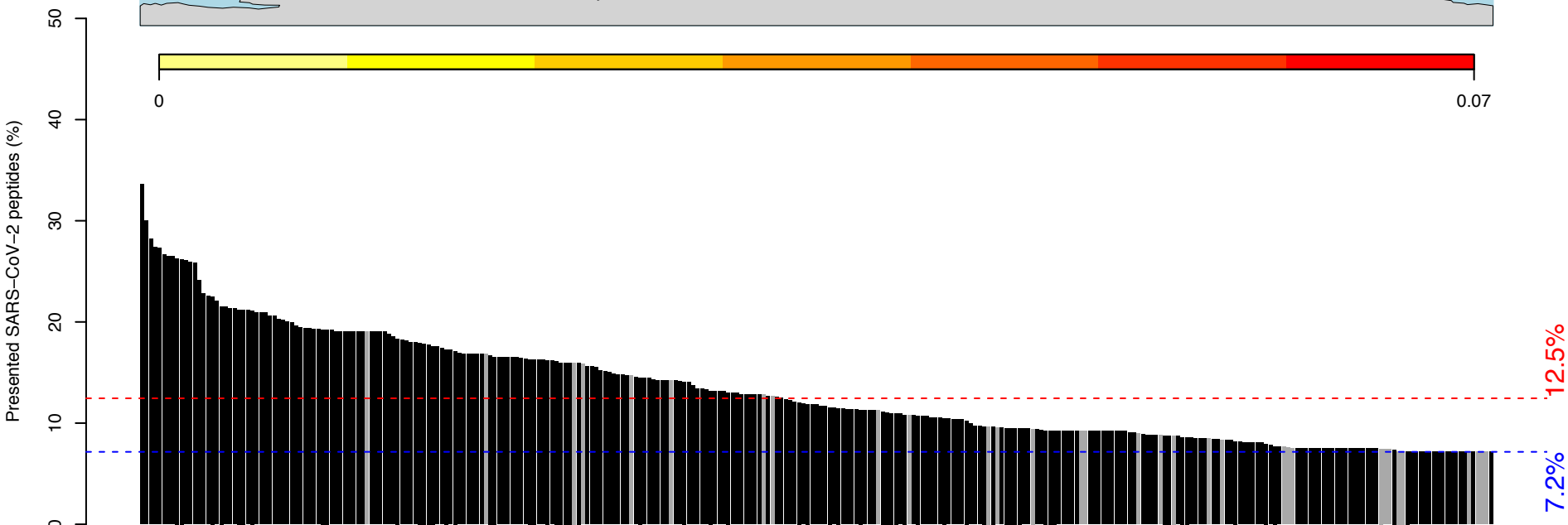
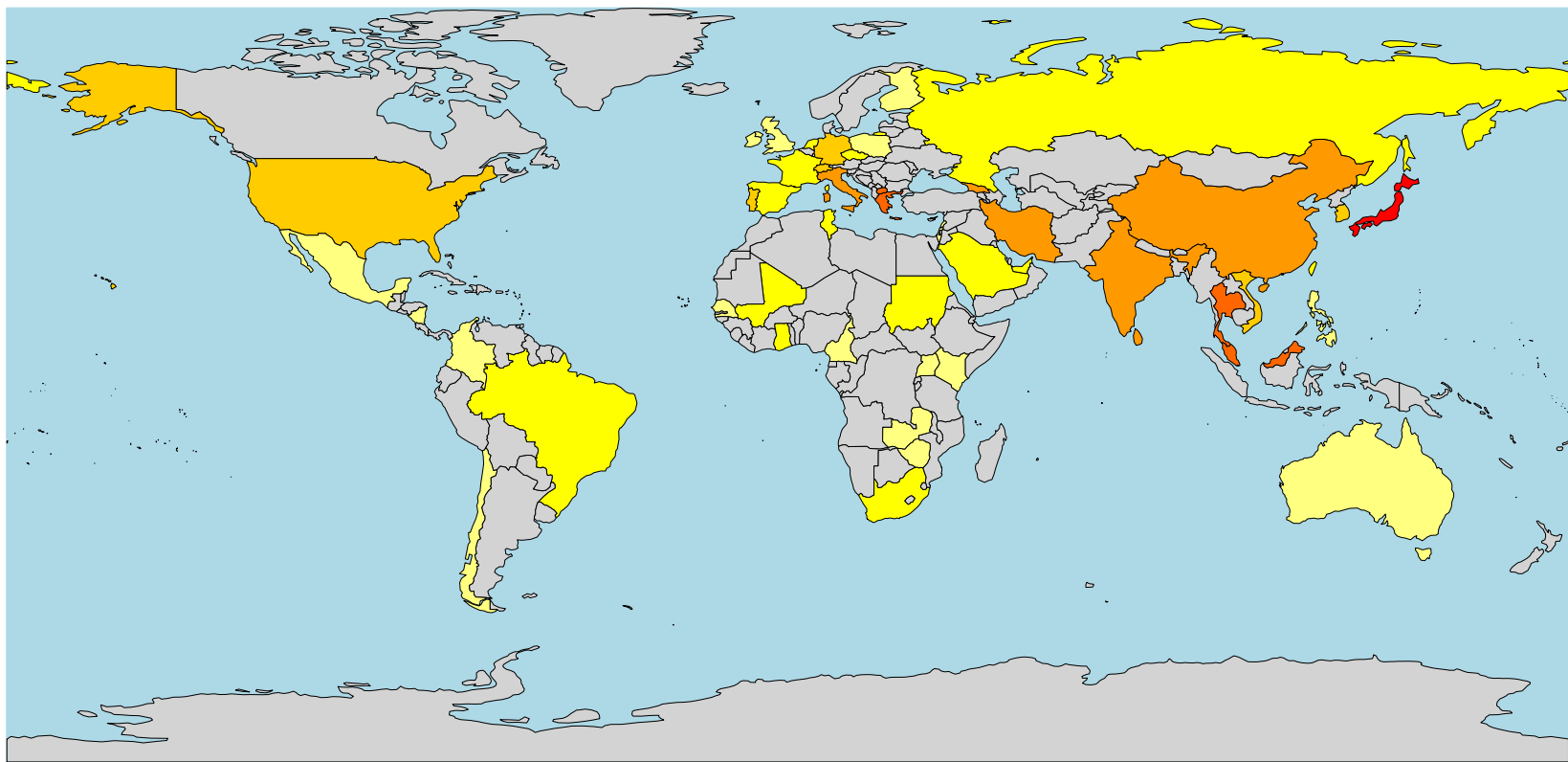
C*12:03
(~3% globally)



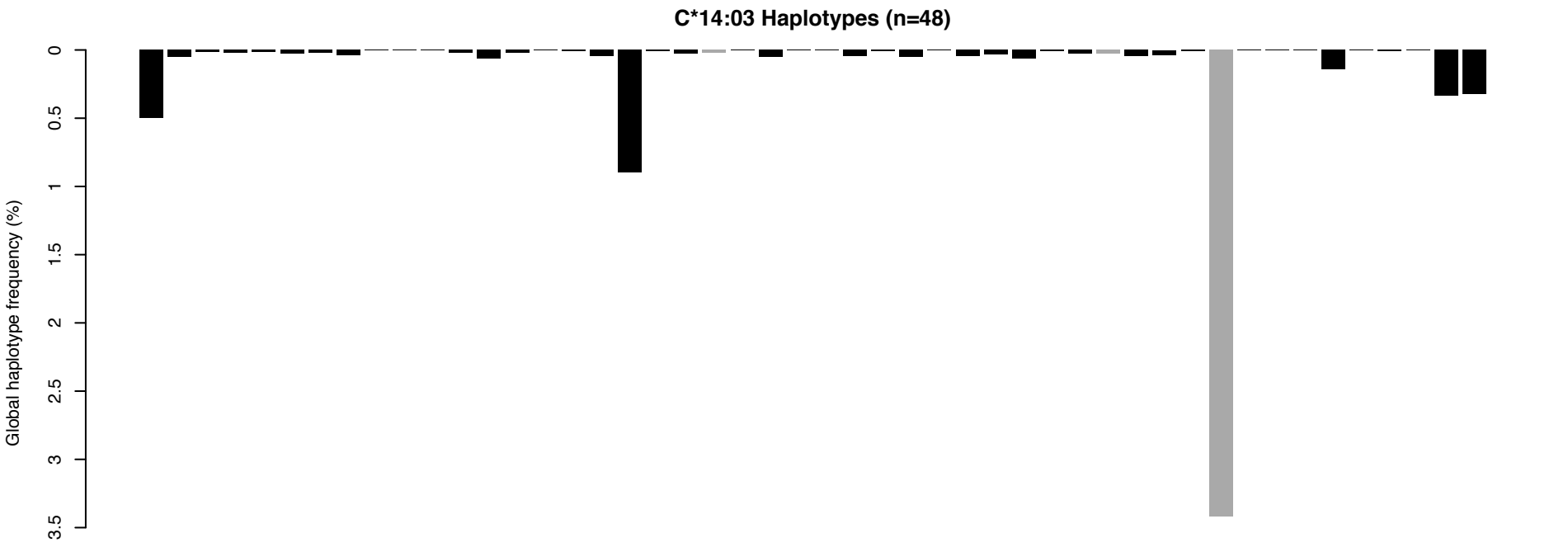
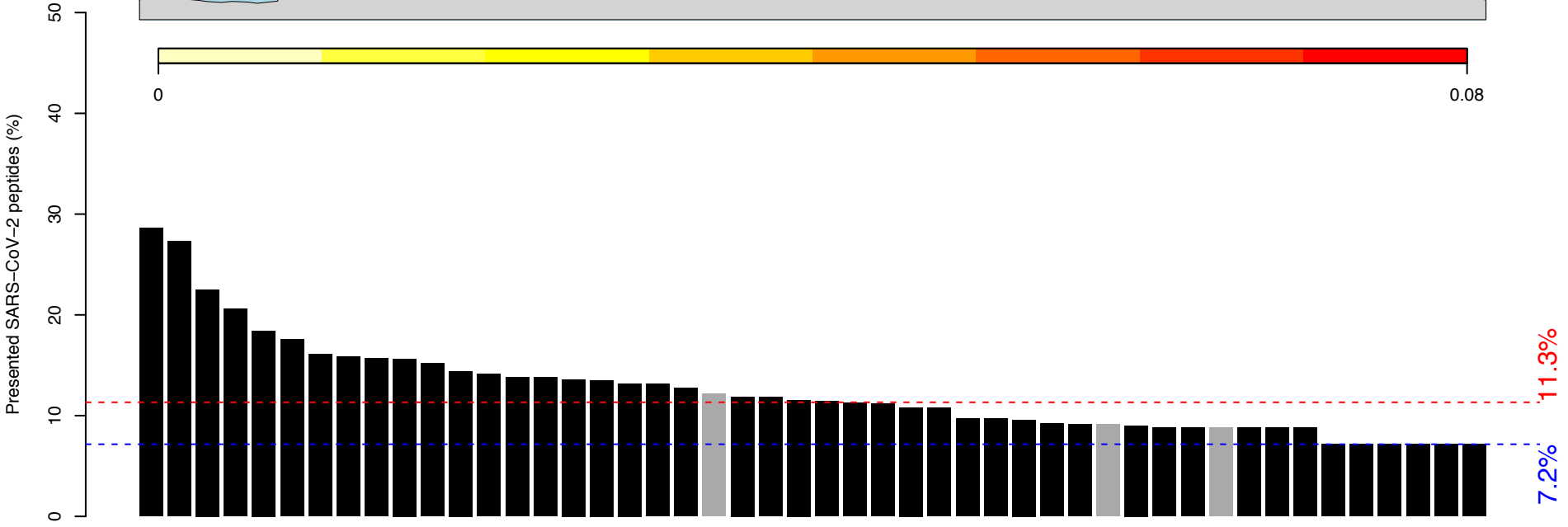
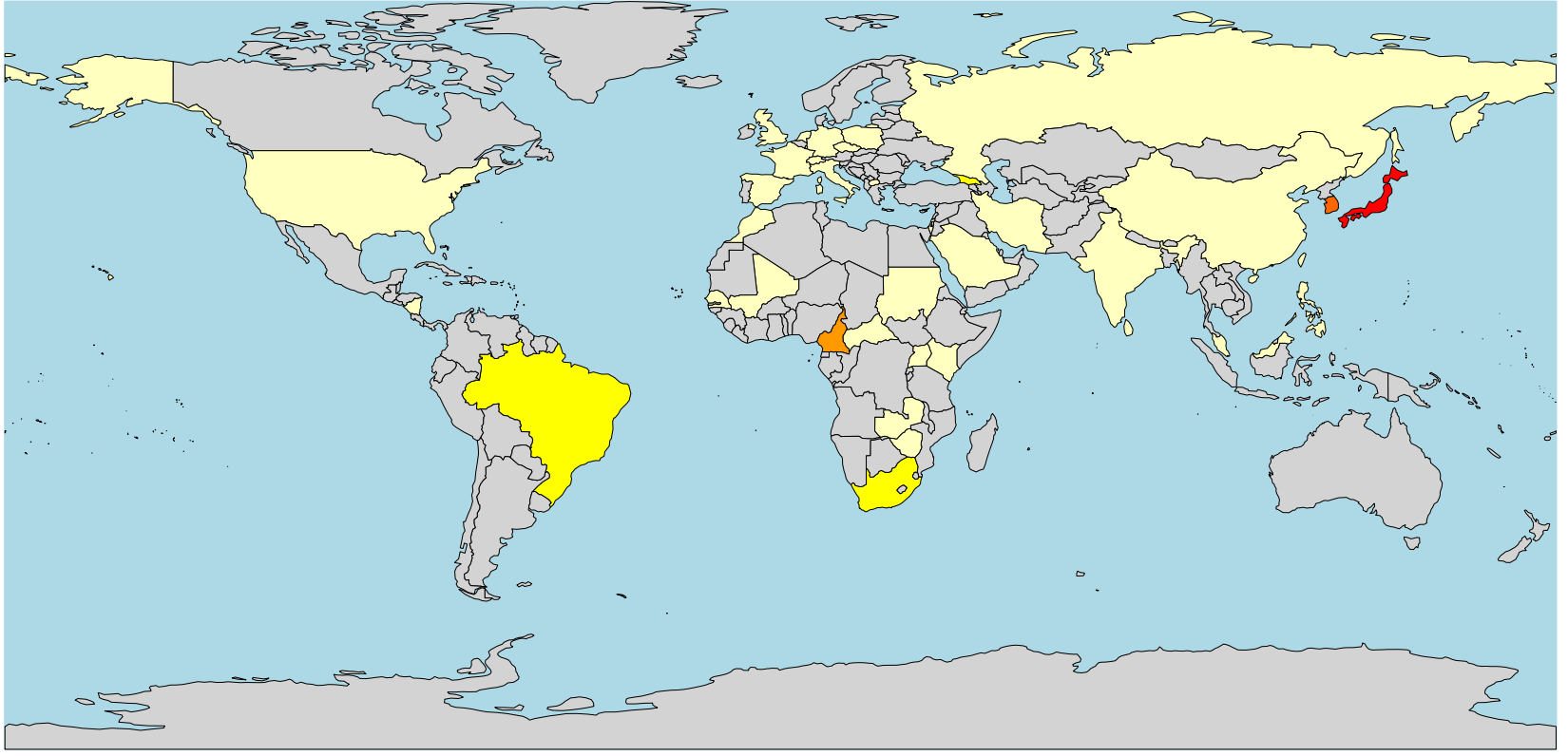
C*12:03 Haplotypes (n=553)



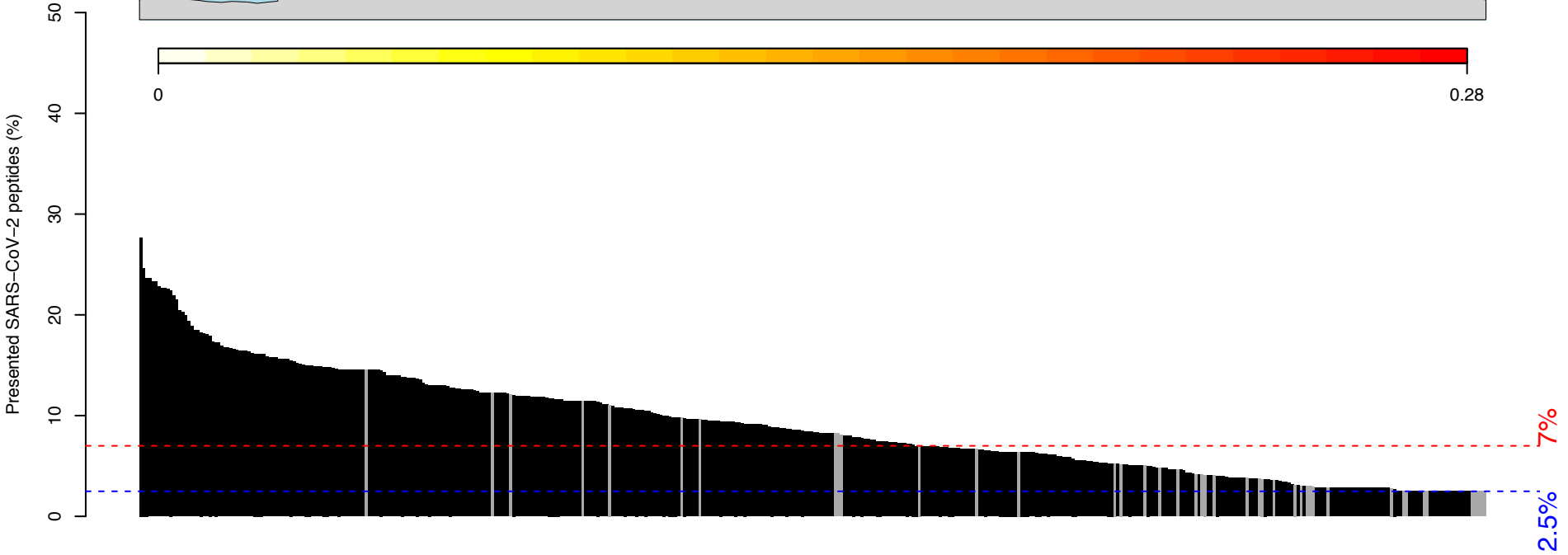
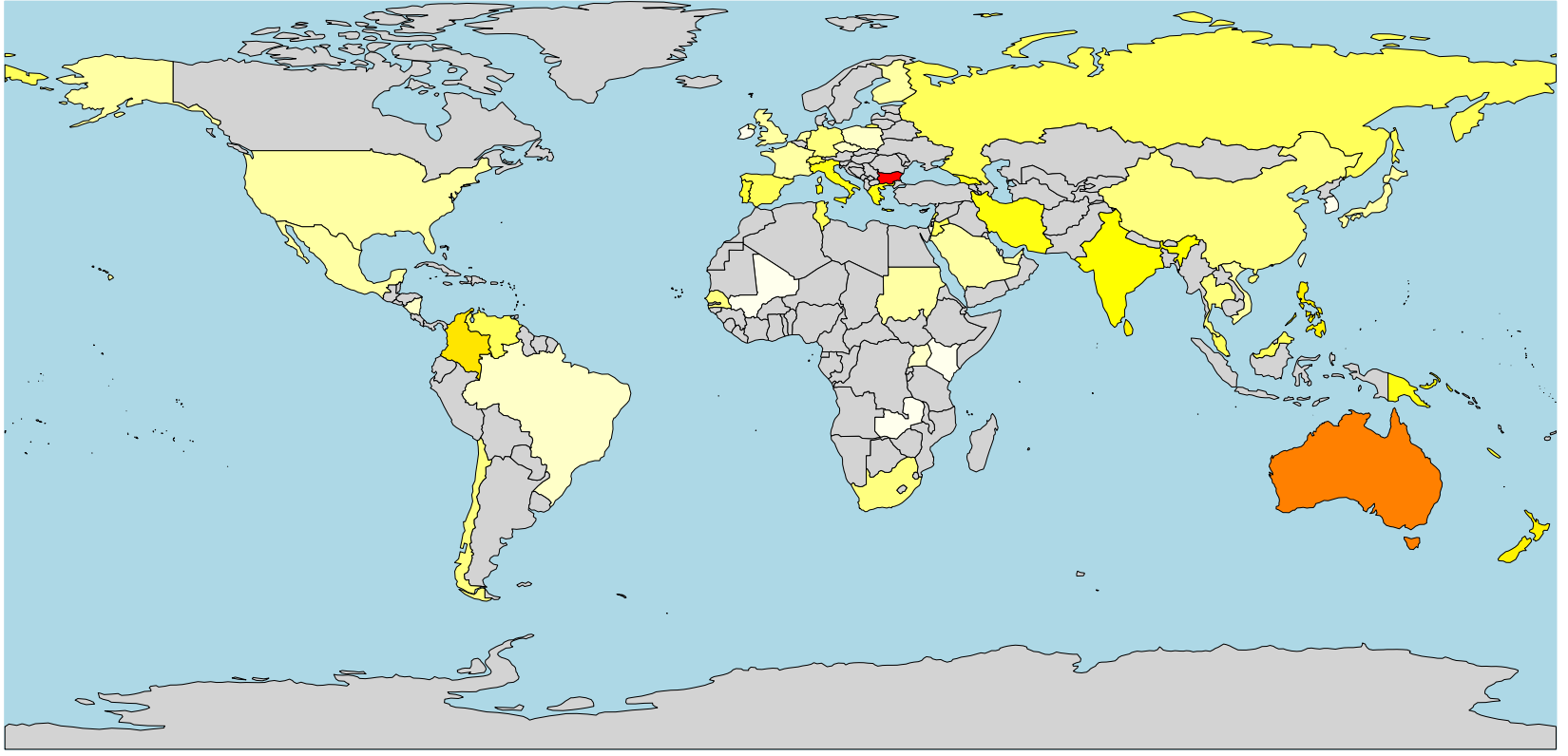
C*14:02
(~2.1% globally)



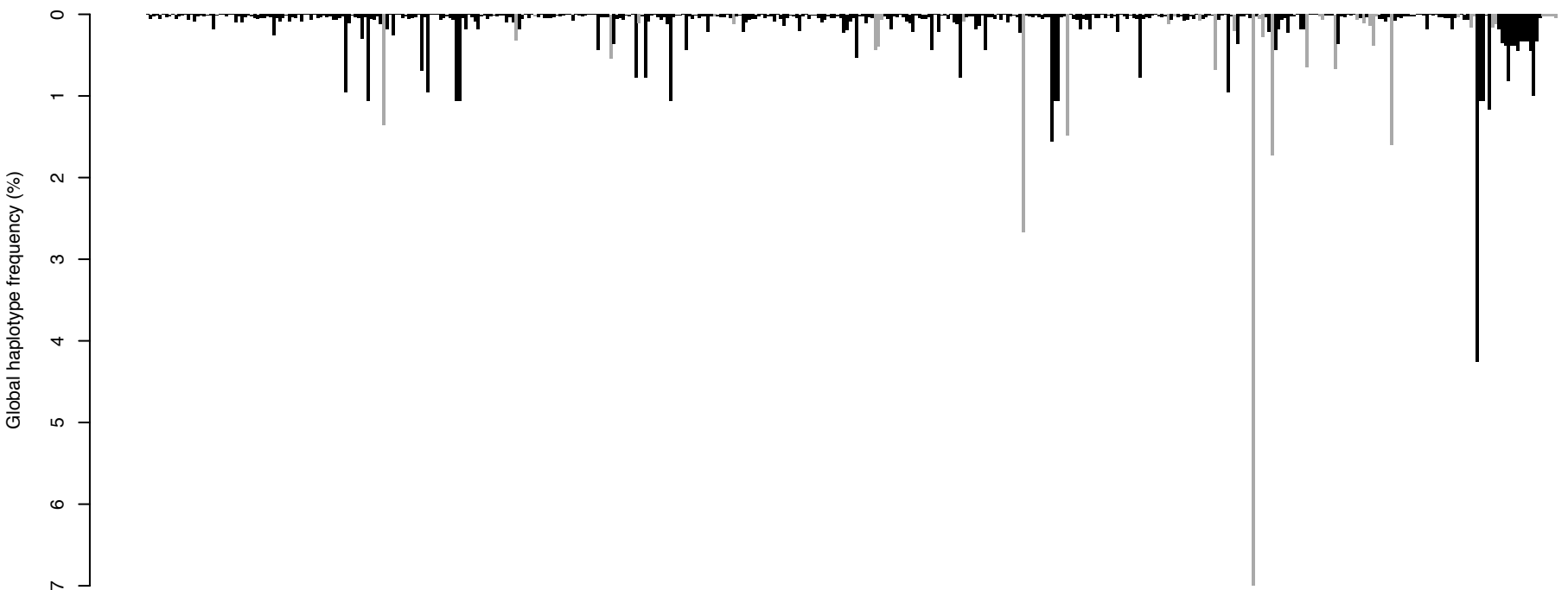
C*14:03
(~0.88% globally)



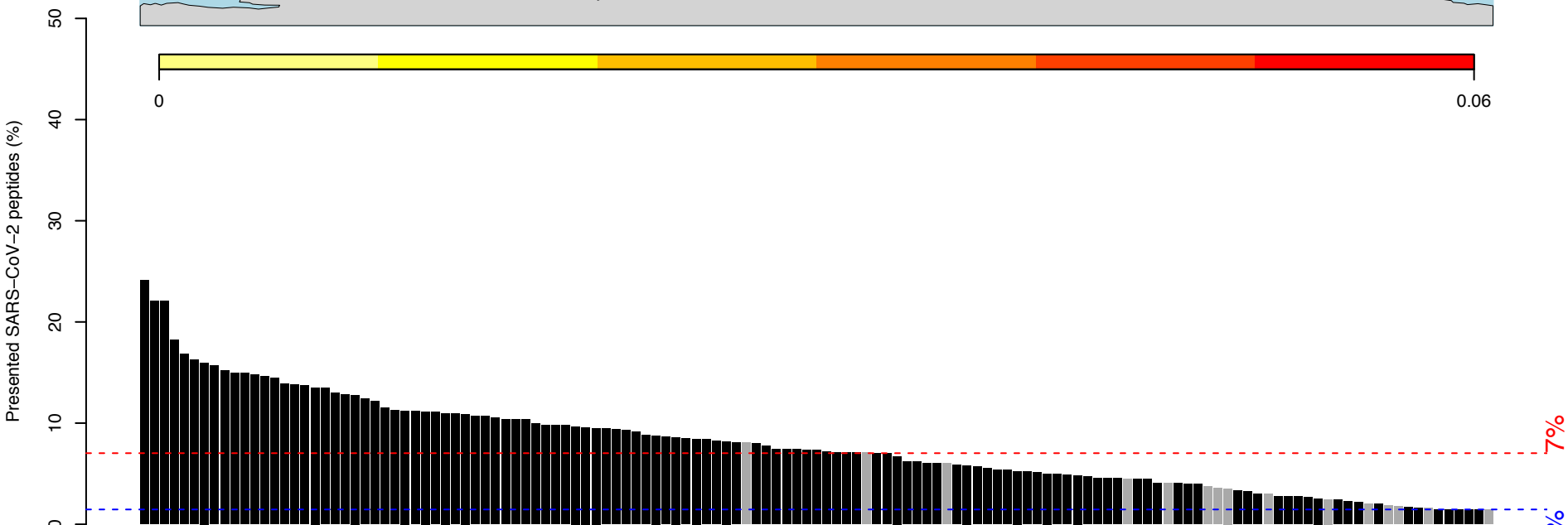
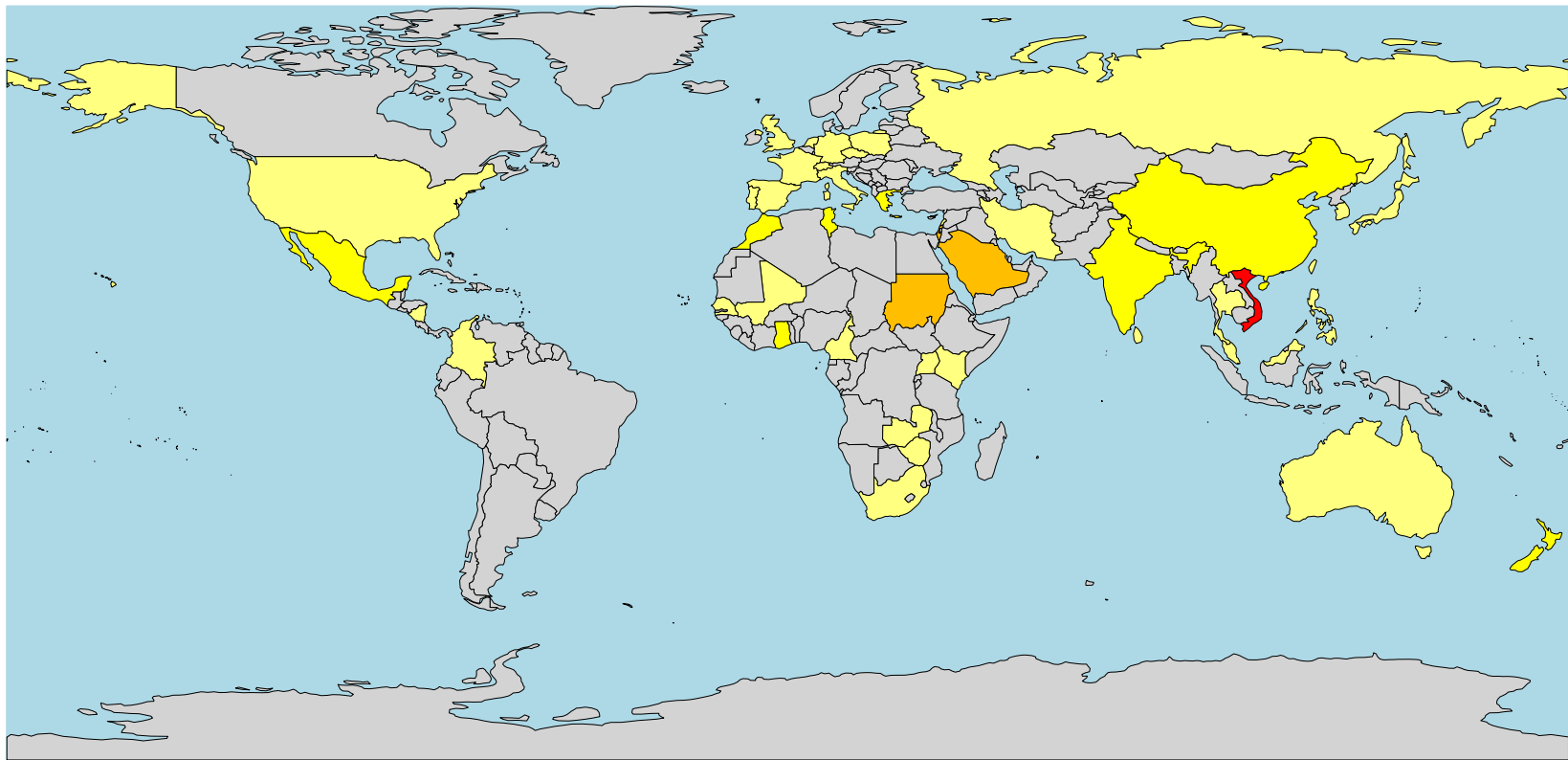
C*15:02
(~4% globally)



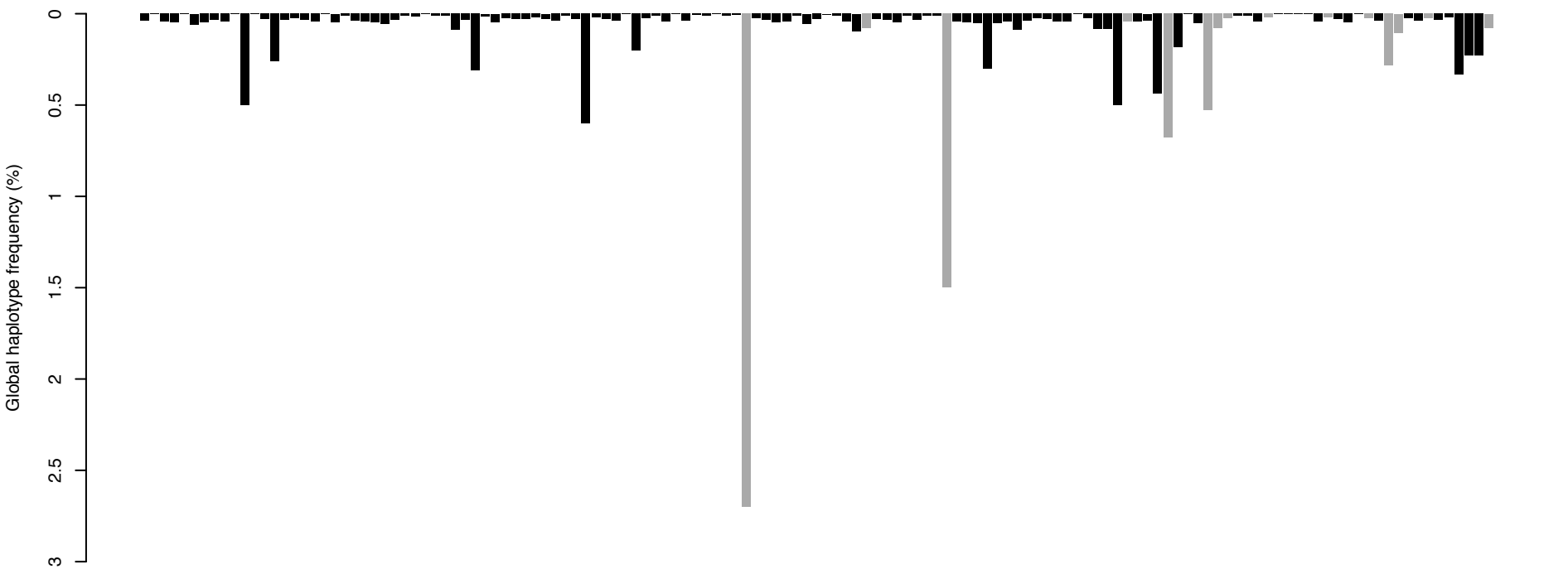
C*15:02 Haplotypes (n=448)



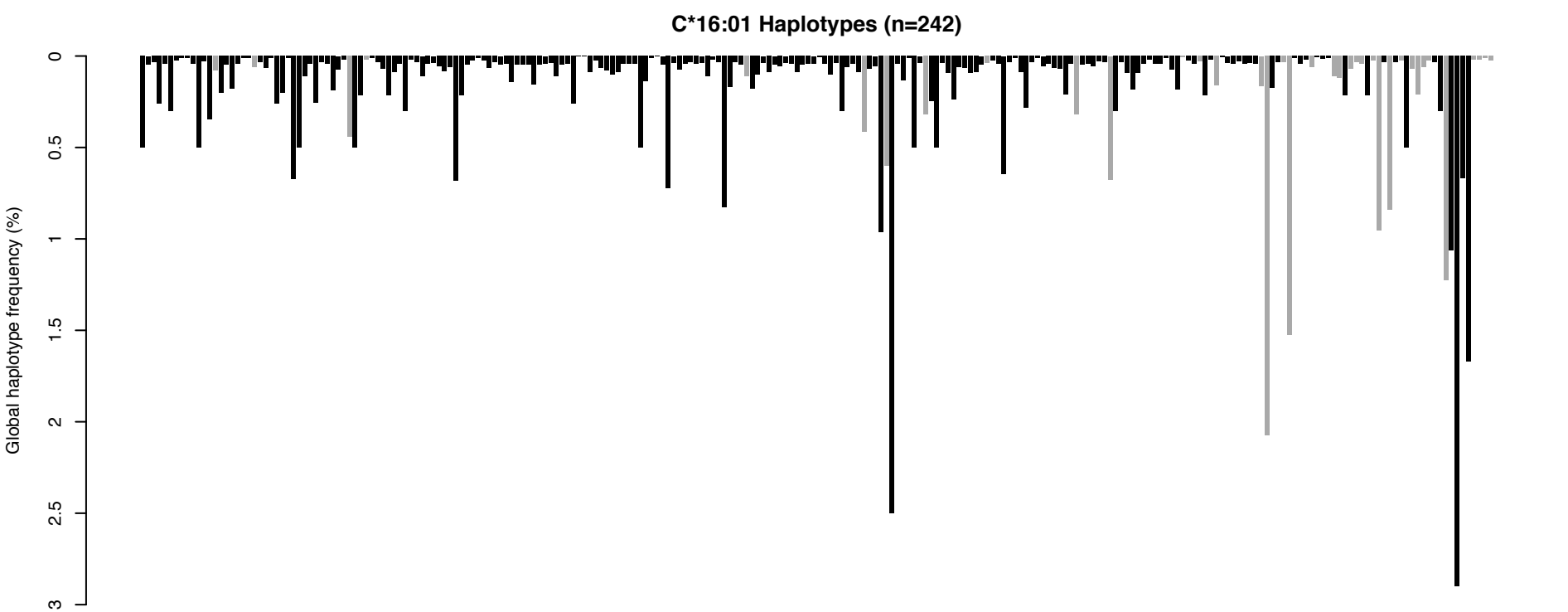
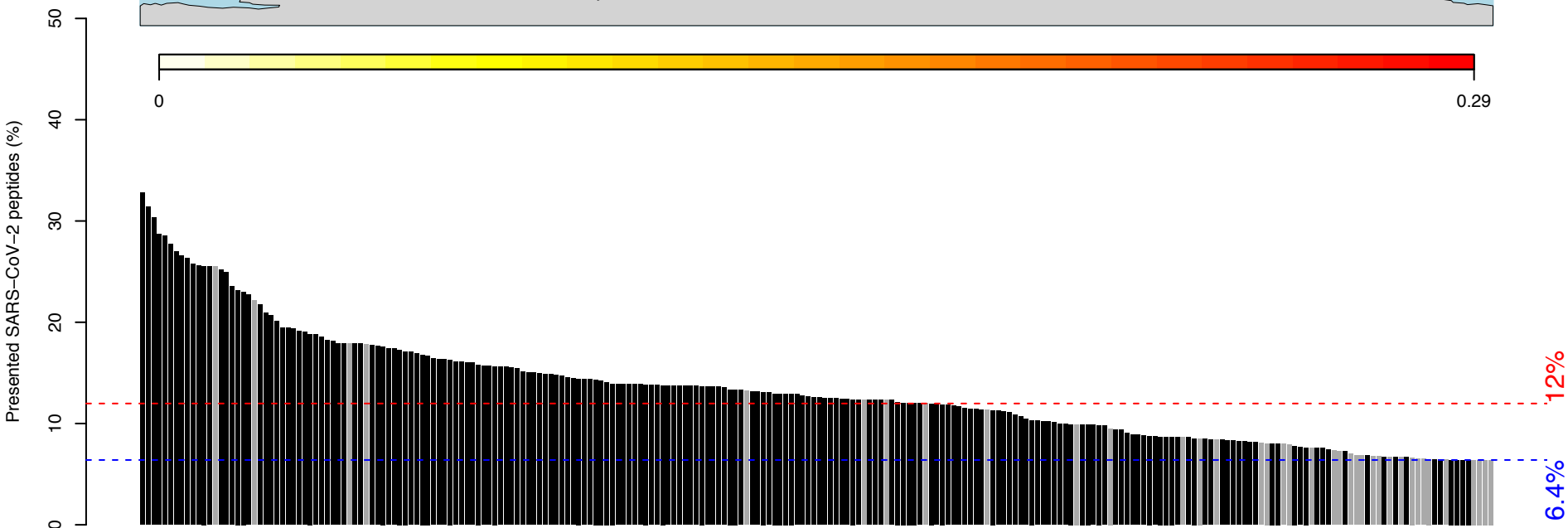
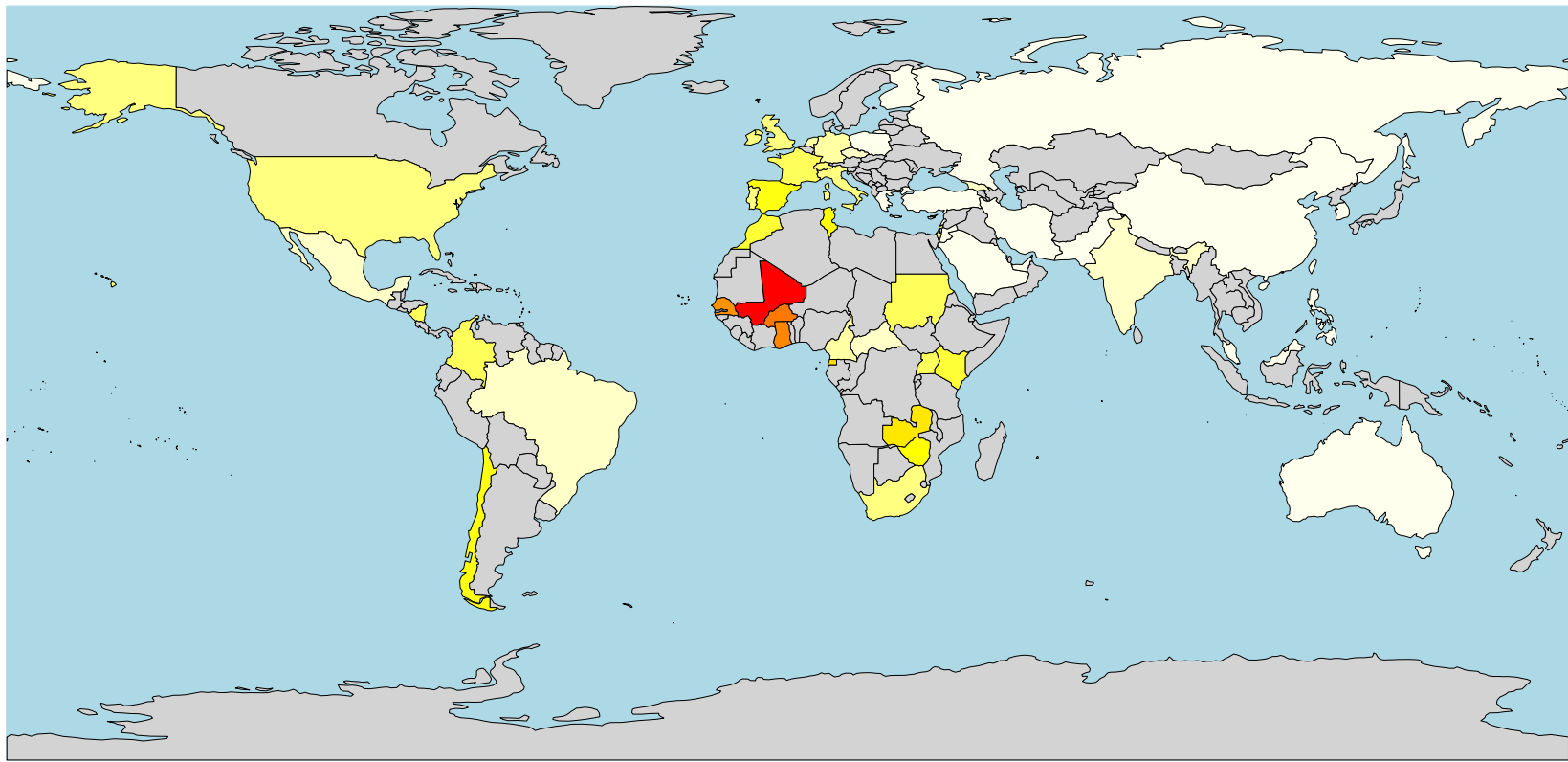
C*15:05
(~0.56% globally)



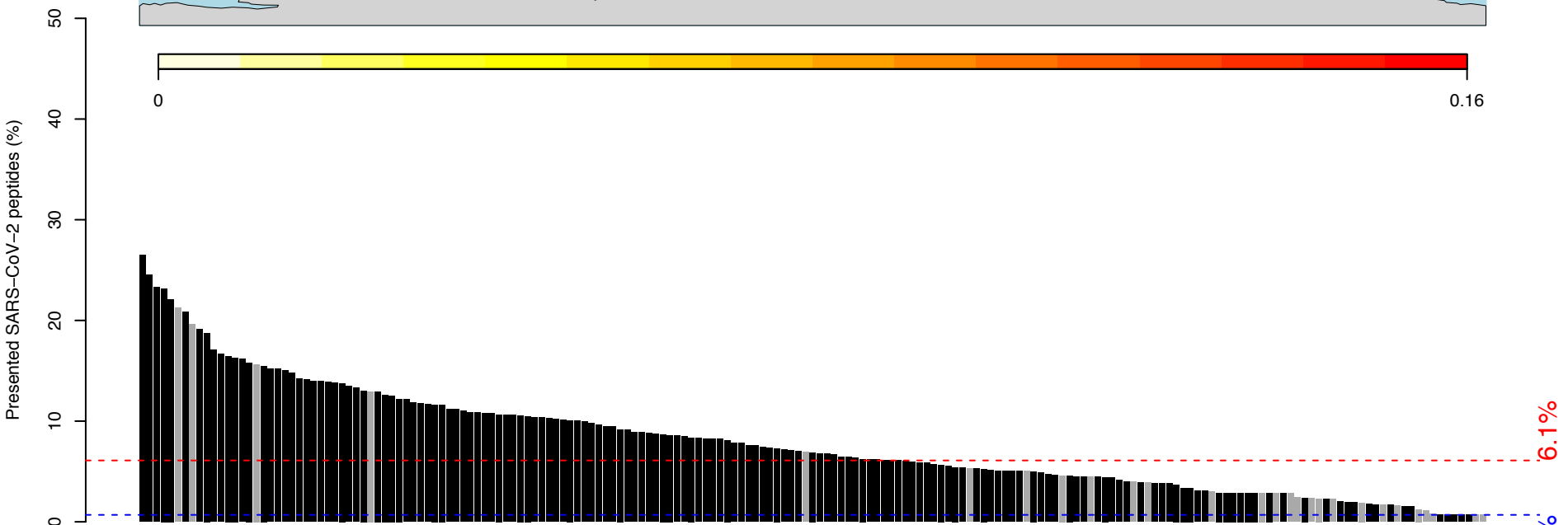
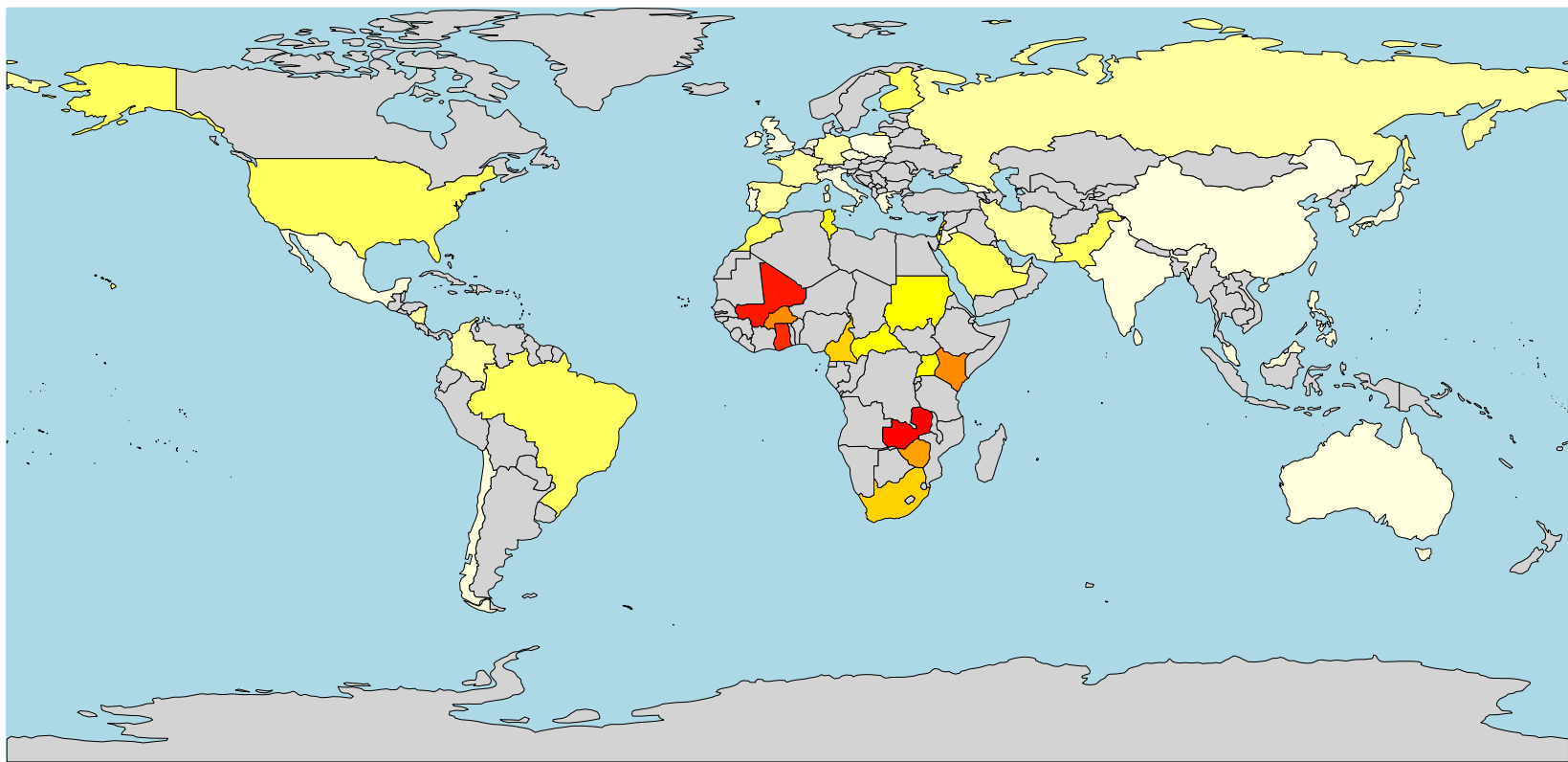
C*15:05 Haplotypes (n=135)



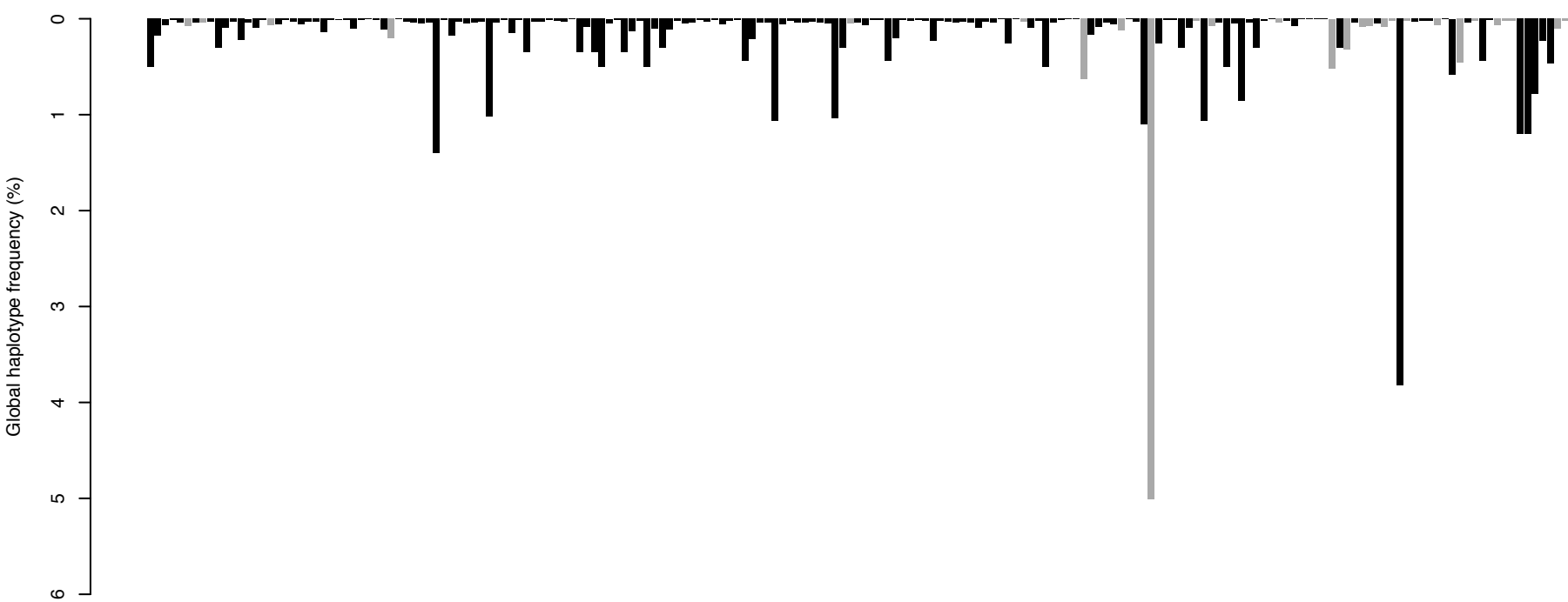
C*16:01
(~2% globally)



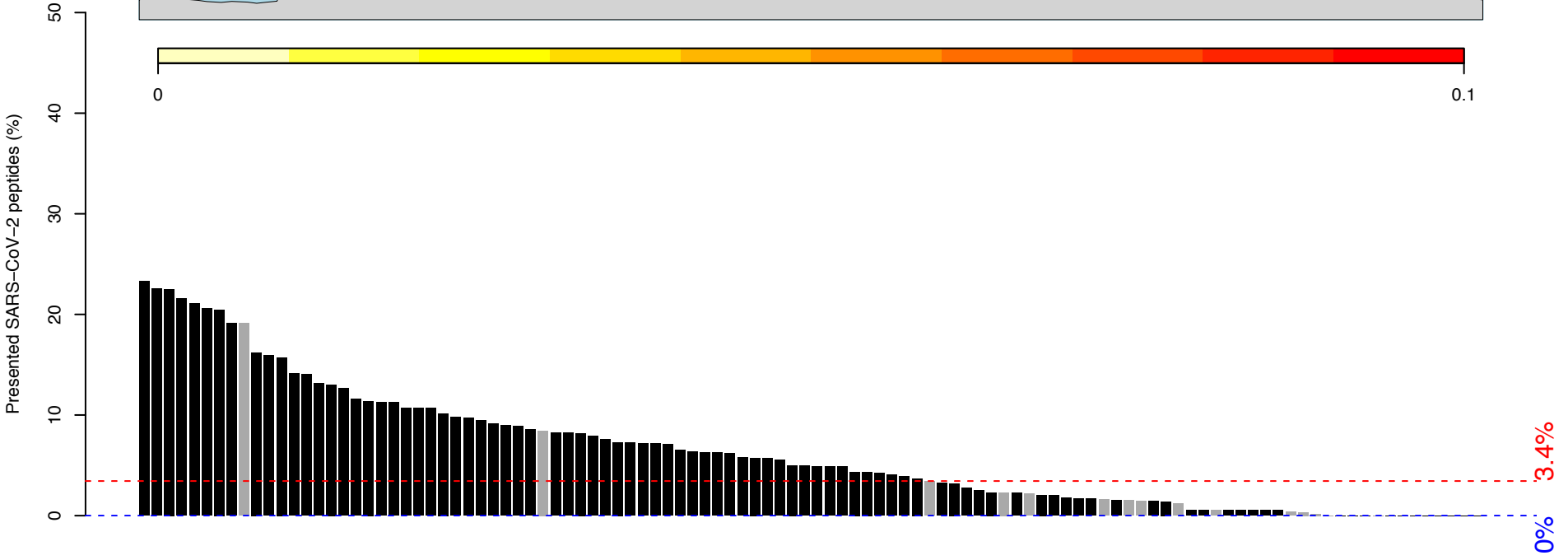
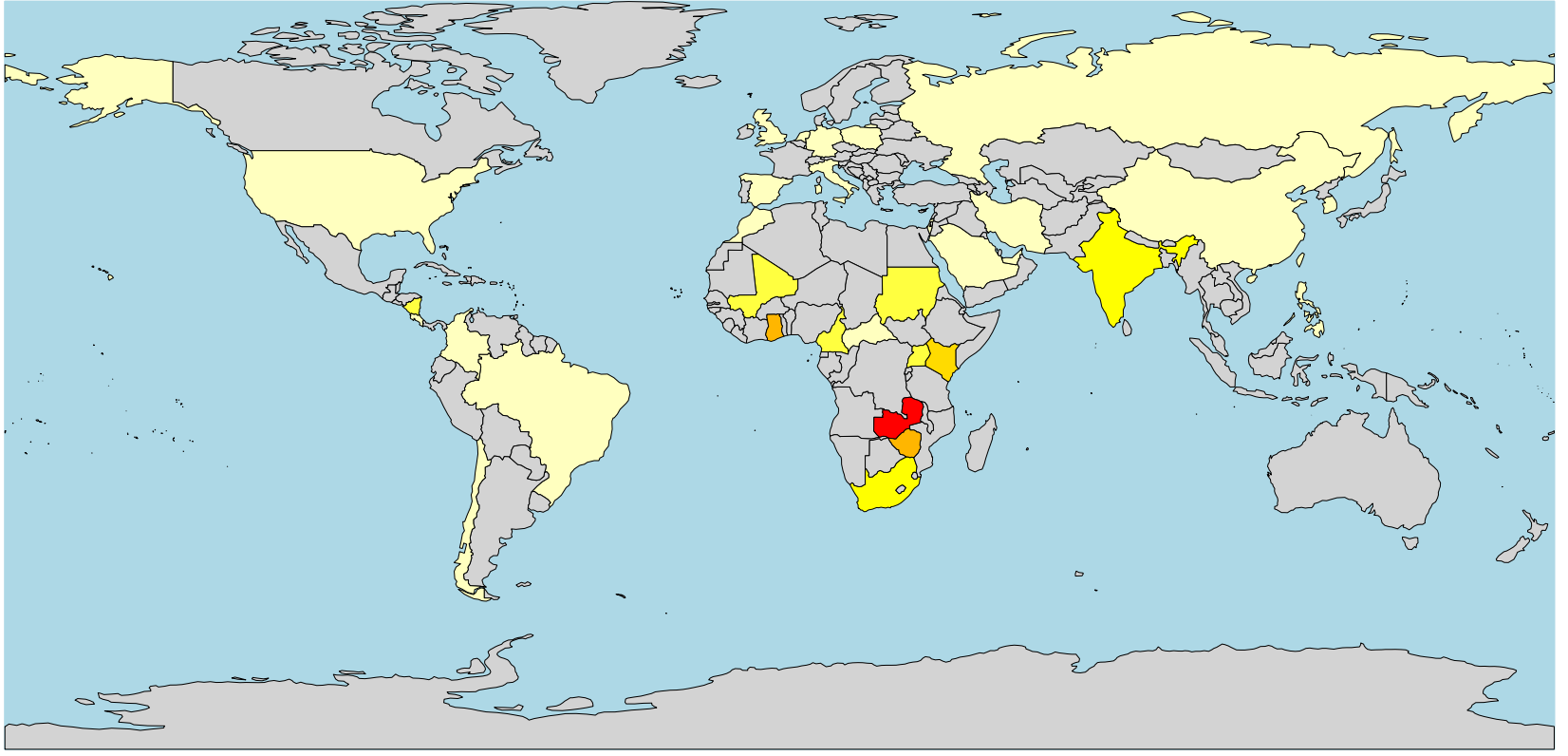
C*17:01
(~1.1% globally)



C*17:01 Haplotypes (n=189)



C*18:01
(~1% globally)



C*18:01 Haplotypes (n=108)

