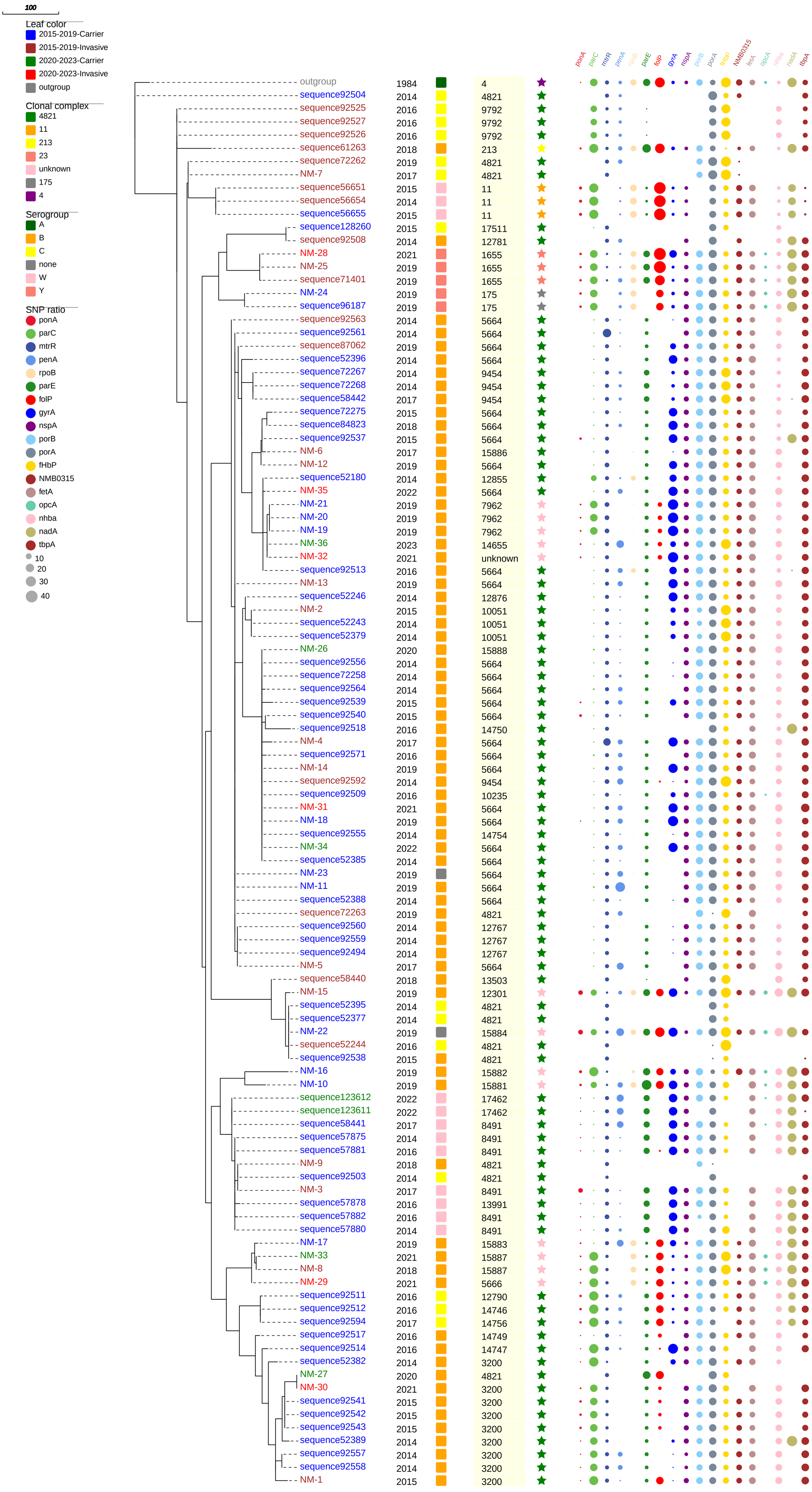
100
Leaf color
2015-2019-Carrier
2015-2019-Invasive
2020-2023-Carrier
2020-2023-Invasive
outgroup
Clonal complex
4821
11
213
23
unknown
175
4
Serogroup
A
B
C
none
W
Y
SNP ratio
ponA
parC
mtrR
penA
rpoB
parE
folP
gyrA
nspA
porB
porA
fHbP
NMB0315
fetA
opcA
nhba
nadA
tbpA
10
20
30
40
ponA parC mtrR penA rpoB parE folP gyrA nspA porB porA fHbP NMB0315 fetA opcA nhba nadA tbpA
outgroup 1984 4
sequence92504 2014 4821
sequence92525 2016 9792
sequence92527 2016 9792
sequence92526 2016 9792
sequence61263 2018 213
sequence72262 2019 4821
NM-7 2017 4821
sequence56651 2015 11
sequence56654 2014 11
sequence56655 2015 11
sequence128260 2015 17511
sequence92508 2014 12781
NM-28 2021 1655
NM-25 2019 1655
sequence71401 2019 1655
NM-24 2019 175
sequence96187 2019 175
sequence92563 2014 5664
sequence92561 2014 5664
sequence87062 2019 5664
sequence52396 2014 5664
sequence72267 2014 9454
sequence72268 2014 9454
sequence58442 2017 9454
sequence72275 2015 5664
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sequence92537 2015 5664
NM-6 2017 15886
NM-12 2019 5664
sequence52180 2014 12855
NM-35 2022 5664
NM-21 2019 7962
NM-20 2019 7962
NM-19 2019 7962
NM-36 2023 14655
NM-32 2021 unknown
sequence92513 2016 5664
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sequence52246 2014 12876
NM-2 2015 10051
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sequence52379 2014 10051
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sequence92539 2015 5664
sequence92540 2015 5664
sequence92518 2016 14750
NM-4 2017 5664
sequence92571 2016 5664
NM-14 2019 5664
sequence92592 2014 9454
sequence92509 2016 10235
NM-31 2021 5664
NM-18 2019 5664
sequence92555 2014 14754
NM-34 2022 5664
sequence52385 2014 5664
NM-23 2019 5664
NM-11 2019 5664
sequence52388 2014 5664
sequence72263 2019 4821
sequence92560 2014 12767
sequence92559 2014 12767
sequence92494 2014 12767
NM-5 2017 5664
sequence58440 2018 13503
NM-15 2019 12301
sequence52395 2014 4821
sequence52377 2014 4821
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sequence52244 2016 4821
sequence92538 2015 4821
NM-16 2019 15882
NM-10 2019 15881
sequence123612 2022 17462
sequence123611 2022 17462
sequence58441 2017 8491
sequence57875 2014 8491
sequence57881 2016 8491
NM-9 2018 4821
sequence92503 2014 4821
NM-3 2017 8491
sequence57878 2016 13991
sequence57882 2016 8491
sequence57880 2014 8491
NM-17 2019 15883
NM-33 2021 15887
NM-8 2018 15887
NM-29 2021 5666
sequence92511 2016 12790
sequence92512 2016 14746
sequence92594 2017 14756
sequence92517 2016 14749
sequence92514 2016 14747
sequence52382 2014 3200
NM-27 2020 4821
NM-30 2021 3200
sequence92541 2015 3200
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sequence92557 2014 3200
sequence92558 2014 3200
NM-1 2015 3200