Supplemental Figure Legend

S1. Vero cells infected by *Rickettsia monteiroi* as demonstrated by Gimenez staining (A and B), by immunofluorescence assay using guinea pig anti- *Rickettsia monteiroi* serum (1:64 dilution) and anti-guinea pig immunoglobulin G secondary antibody (C), and by immunofluorescence assay using guinea pig anti-*Rickettsia bellii* serum (1:64 dilution) and anti-guinea pig immunoglobulin G secondary antibody (D). Photographs were taken using an Olympus optical microscope with a 10× ocular and a 100× objective (A and B) and an Olympus fluorescence microscope with a 10× ocular and a 40× objective (C and D).

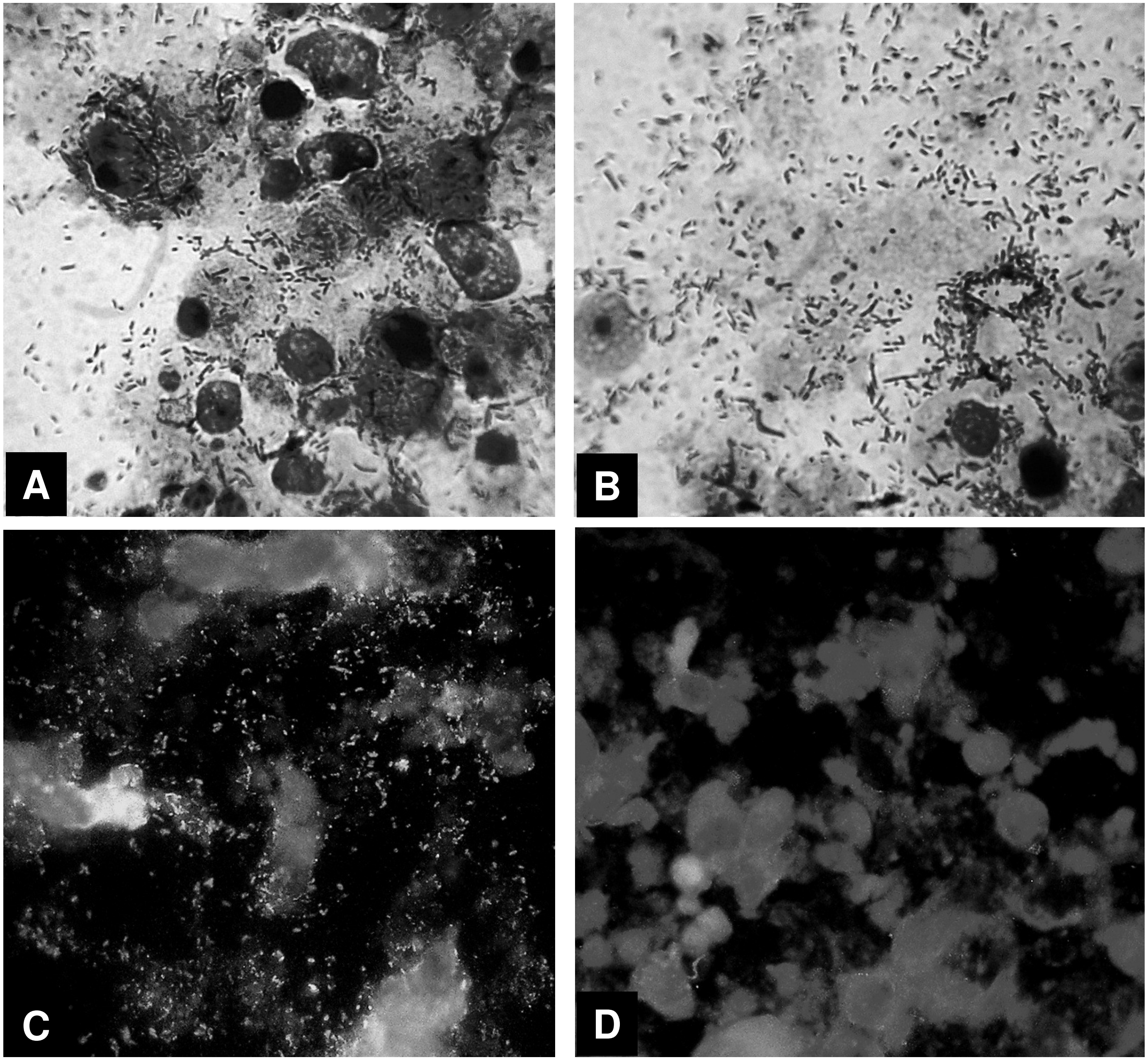
S2. Molecular phylogenetic analysis of *Rickettsia monteiroi* isolated from the tick *Amblyomma incisum* from Brazil. A total of 1,321 unambiguously aligned nucleotide sites of the rickettsial gene *rrs* were subjected to analysis. Bootstrap values higher than 50% are shown at the nodes. Numbers in brackets are GenBank accession numbers. Bar, 0.1% difference.

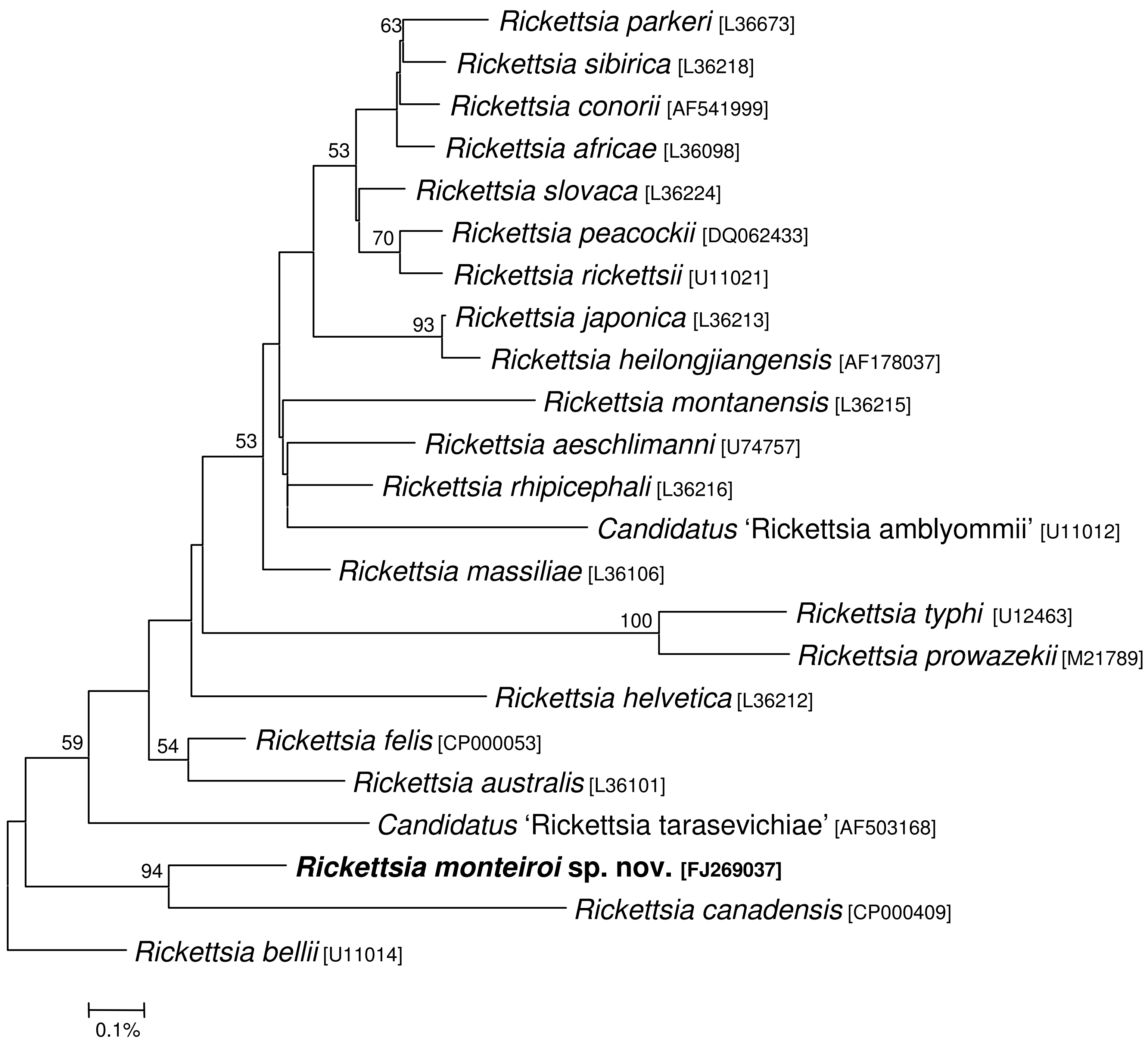
S3. Molecular phylogenetic analysis of *Rickettsia monteiroi* isolated from the tick *Amblyomma incisum* from Brazil. A total of 829 unambiguously aligned nucleotide sites of the rickettsial gene *gltA* were subjected to analysis. Bootstrap values higher than 50% are shown at the nodes. Numbers in brackets are GenBank accession numbers. SFG: spotted fever group; TRG: transitional group; TG: typhus group; CG: canadensis group; AG: adalia group; BG: bellii group. Bar, 2% difference.

S4. Molecular phylogenetic analysis of *Rickettsia monteiroi* isolated from the tick *Amblyomma incisum* from Brazil. A total of 386 unambiguously aligned nucleotide sites of the rickettsial gene *htrA* were subjected to analysis. Bootstrap values higher than 50% are shown at the nodes. Numbers in brackets are GenBank accession numbers. Bar, 1% difference.

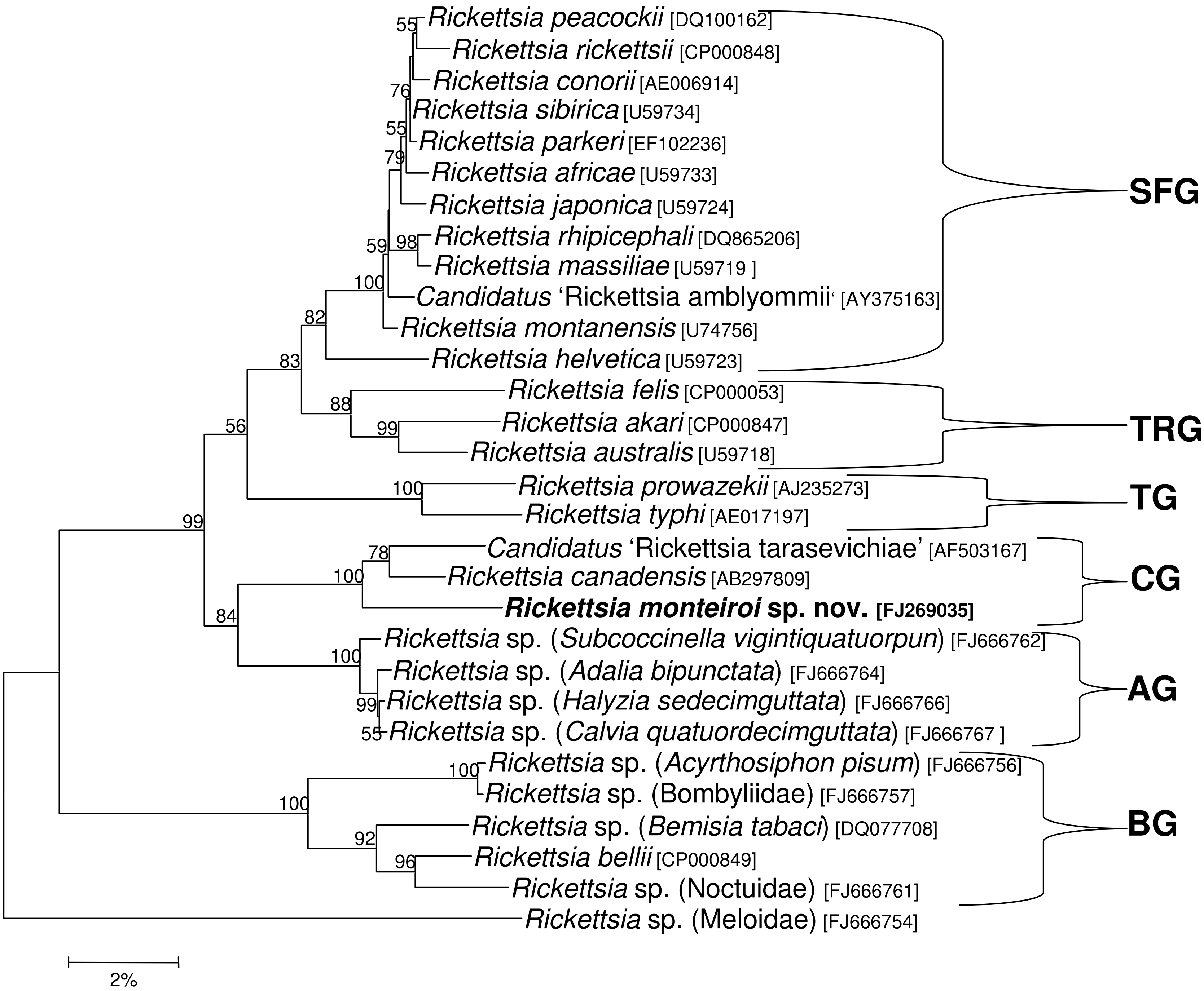
S5. Molecular phylogenetic analysis of *Rickettsia monteiroi* isolated from the tick *Amblyomma incisum* from Brazil. A total of 443 unambiguously aligned nucleotide sites of the rickettsial gene *sca1* were subjected to analysis. Bootstrap values higher than 50% are shown at the nodes. Numbers in brackets are GenBank accession numbers. Bar, 0.5% difference.

S6. Transmission electronic microscopy of *Rickettsia monteiroi* -infected Vero cells. (A) Several electron dense rickettsiae (black arrows) free in the cytosol of a Vero cell. N: nucleus; Bar, 2.5 µm. (B) A rickettsia showing characteristic Gram-negative morphology, with a cell wall (arrow head) and a cytoplasmic membrane (black arrow) separated from the cell wall by the periplasmic space. Bar, 0.34 µm.


A
B
C
D


63
Rickettsia parkeri [L36673]
Rickettsia sibirica [L36218]
Rickettsia conorii [AF541999]
Rickettsia africae [L36098]
53
Rickettsia slovaca [L36224]
70
Rickettsia peacockii [DQ062433]
Rickettsia rickettsii [U11021]
93
Rickettsia japonica [L36213]
Rickettsia heilongjiangensis [AF178037]
Rickettsia montanensis [L36215]
53
Rickettsia aeschlimanni [U74757]
Rickettsia rhipicephali [L36216]
Candidatus 'Rickettsia amblyommii' [U11012]
Rickettsia massiliae [L36106]
100
Rickettsia typhi [U12463]
Rickettsia prowazekii [M21789]
Rickettsia helvetica [L36212]
59
54
Rickettsia felis [CP000053]
Rickettsia australis [L36101]
Candidatus 'Rickettsia tarasevichiae' [AF503168]
94
Rickettsia monteiroi sp. nov. [FJ269037]
Rickettsia canadensis [CP000409]
Rickettsia bellii [U11014]
0.1%

S2



55
Rickettsia peacockii [DQ100162]
Rickettsia rickettsii [CP000848]
Rickettsia conorii [AE006914]
76
Rickettsia sibirica [U59734]
55
Rickettsia parkeri [EF102236]
79
Rickettsia africae [U59733]
Rickettsia japonica [U59724]
59
98
Rickettsia rhipicephali [DQ865206]
Rickettsia massiliae [U59719]
100
Candidatus 'Rickettsia amblyommii' [AY375163]
82
Rickettsia montanensis [U74756]
83
Rickettsia helvetica [U59723]
Rickettsia felis [CP000053]
88
Rickettsia akari [CP000847]
56
99
Rickettsia australis [U59718]
100
Rickettsia prowazekii [AJ235273]
Rickettsia typhi [AE017197]
99
78
Candidatus 'Rickettsia tarasevichiae' [AF503167]
100
Rickettsia canadensis [AB297809]
Rickettsia monteiroi sp. nov. [FJ269035]
84
Rickettsia sp. (Subcoccinella vigintiquatuorpun) [FJ666762]
100
Rickettsia sp. (Adalia bipunctata) [FJ666764]
99
Rickettsia sp. (Halyzia sedecimguttata) [FJ666766]
55
Rickettsia sp. (Calvia quatuordecimguttata) [FJ666767]
100
Rickettsia sp. (Acyrthosiphon pisum) [FJ666756]
Rickettsia sp. (Bombyliidae) [FJ666757]
100
Rickettsia sp. (Bemisia tabaci) [DQ077708]
92
96
Rickettsia bellii [CP000849]
Rickettsia sp. (Noctuidae) [FJ666761]
Rickettsia sp. (Meloidae) [FJ666754]
SFG
TRG
TG
CG
AG
BG
2%

S3


Rickettsia conorii [AE006914]
Rickettsia parkeri [EF102237]
Rickettsia rickettsii [CP000766]
Rickettsia sibirica [AF445384]
Rickettsia peacockii [CP001227]
Rickettsia africae [CP001612]
Rickettsia honei [AF060704]
Rickettsia japonica [D16515]
Rickettsia heilongjiangii [EU503184]
87
Candidatus 'Rickettsia amblyommii ' [DQ517291]
96
Rickettsia montanensis [U11017]
Rickettsia massiliae [CP000683]
67
Rickettsia rhipicephali [DQ865207]
59
Rickettsia helvetica [AF181036]
Rickettsia akari [CP000847]
78
Rickettsia australis [M74042]
100
Rickettsia felis [CP000053]
Rickettsiia sp. (Adalia bipunctata) [AJ269517]
Rickettsia monteiroi sp. nov. [FJ26903]
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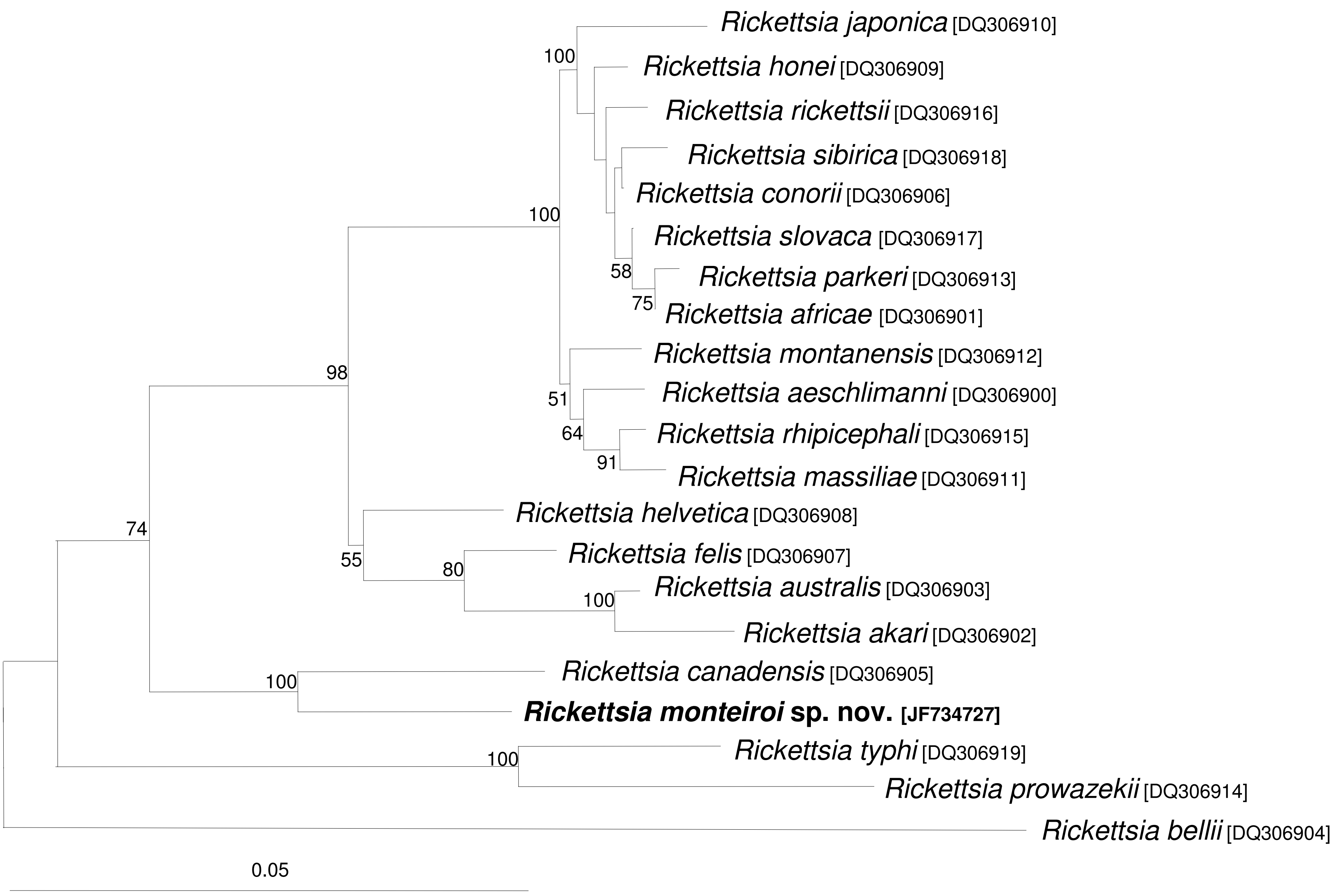
Rickettsia canadensis [AF445381]
Rickettsia bellii [DQ517289]
1%

S4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Rickettsia honei [DQ306909]
Rickettsia rickettsii [DQ306916]
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Rickettsia slovaca [DQ306917]
Rickettsia parkeri [DQ306913]
Rickettsia africae [DQ306901]
Rickettsia montanensis [DQ306912]
Rickettsia aeschlimanni [DQ306900]
Rickettsia rhipicephali [DQ306915]
Rickettsia massiliae [DQ306911]
Rickettsia helvetica [DQ306908]
Rickettsia felis [DQ306907]
Rickettsia australis [DQ306903]
Rickettsia akari [DQ306902]
Rickettsia canadensis [DQ306905]
Rickettsia monteiroi sp. nov. [JF734727]
Rickettsia typhi [DQ306919]
Rickettsia prowazekii [DQ306914]
Rickettsia bellii [DQ306904]
100
100
58
75
51
64
91
98
74
55
80
100
100
100
0.05

S5

S6