

(a) BQCV

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Ref. NC_003784 TAGTGGCGGAGATGTATGCGCTTTATCGAGGAGGAGTTCGAGTTAAAGTAGTTACTGAGAAGGGTGTAGATTTTCGTCAGAGCTACCGTTAG
A.mellifera H 1 .....T.....G.....
A.mellifera H 2 .....T.....G.....
A.mellifera H 3 .....T.....C.....G.....
A.mellifera H 4 .....T.....G.....
A.mellifera H 5 .....T.....G.....
B.lucorum K 1 .....T.....G.....T.....
B.lucorum K 2 .....T.....G.....T.....
B.lucorum K 3 .....T.....G.....T.....
B.lucorum K 4 .....T.....G.....T.....
B.terrestris N 1 NNN.....T.....G.....
B.terrestris N 2 .....T.....G.....
B.terrestris N 3 .....G.....G.....
B.terrestris N 4 .....G.....G.....
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Ref. NC_003784 TCCTCAACAGACTTATGGTAGCGATGTCGCTCCTACTACTCACATCAGTACTCCTTTGGCAATAGAACAAATACCTATAAAGGGAGTCGCAGAGTTC
A.mellifera H 1 .....C..T.....T.....
A.mellifera H 2 .....C..T.....T.....
A.mellifera H 3 .....C..T.....T.....
A.mellifera H 4 .....C..T.....T.....
A.mellifera H 5 .....C..T.....T.....
B.lucorum K 1 .....G.....C..T.....T.....
B.lucorum K 2 .....C..T.....T.....
B.lucorum K 3 .....G.....C..T.....T.....
B.lucorum K 4 .....C..T.....T.....
B.terrestris N 1 .....C..C..T..A.....T.....
B.terrestris N 2 .....C..C..T..A.....T.....
B.terrestris N 3 .....T.....C.....C.....C.....
B.terrestris N 4 .....T.....C.....C.....C.....
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Ref. NC_003784 CAAATACCGTACTATGCTCCATGTTTGTCACTTCGTTTAGAGCGAATTCGGAAACATTTTACTATAGTTCAGGTCGGAATAATCTCGATATAGCCACTTCACCTCC
A.mellifera H 1 .....C..T.....
A.mellifera H 2 .....C..T.....
A.mellifera H 3 .....C..T.....
A.mellifera H 4 .....C..T.....
A.mellifera H 5 .....C..T.....NNNNNNNN
B.lucorum K 1 .....C.....
B.lucorum K 2 .....C.....
B.lucorum K 3 .....C.....
B.lucorum K 4 .....C.....
B.terrestris N 1 .....
B.terrestris N 2 .....C.....
B.terrestris N 3 .....G.....A.....A.....
B.terrestris N 4 .....G.....A.....A.....
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(c) SBPV

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Ref. NC_014137      GCGCTTTAGTTCAATTGCCCTCTCTATCCCCATGGATTAAAGAAATACAGCCTGACGTTAATAATCCAATATGGAAATATTATGCGTGATGGTCATATTCCTGTTATTTCAAGTGGAA
A.mellifera C 1      .....C.....
A.mellifera C 2      .....
A.mellifera C 3      .....
A.mellifera C 4      .....
A.mellifera C 5      .....
B.pascuorum C 1      .....
B.pascuorum C 2      .....
B.pascuorum C 3      .....
B.pascuorum C 4      .....
B.pascuorum C 5      .....
B.terrestris C 1     .....C.....
B.terrestris C 2     .....C.....
B.terrestris C 3     .....C.....
B.terrestris C 4     .....C.....
B.terrestris C 5     .....C.....

Ref. NC_014137      TTCAGGTATTTTAGAGGAGGATTACGACTCCGCATAGTTGTTGAAGGCTTAATAGCTGTGTTGGGTGCAACATCATCCTGATAGACCTAGTATATTTTCACGTCCATAAAT
A.mellifera C 1      .....
A.mellifera C 2      .....
A.mellifera C 3      .....
A.mellifera C 4      .....
A.mellifera C 5      .....
B.pascuorum C 1      .....
B.pascuorum C 2      .....
B.pascuorum C 3      .....T.....
B.pascuorum C 4      .....
B.pascuorum C 5      .....
B.terrestris C 1     .....G.....
B.terrestris C 2     .....G.....
B.terrestris C 3     .....G.....
B.terrestris C 4     .....C.....G.....
B.terrestris C 5     .....C.....G.....

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Fig. S1. (a) BQCV partial sequence alignment of up to four clones from a single forager of *A. mellifera*, *B. lucorum* and *B. terrestris* from sites H, K, and N respectively. (b) ABPV partial sequence alignment of up to four clones from a single *A. mellifera* and *B. terrestris* forager from site M. (c) SBPV partial sequence alignment of up to five clones from single foragers of *A. mellifera*, *B. pascuorum*, and *B. terrestris* from site C.