**SUPPLEMENTARY MATERIALS**

**Table S1** Springtail collection information showing the location, coordinates and BOLD sample IDs of sequences for each unique haplotype

| Haplotype # | Location | Coordinates | BOLD Sample IDs |
|---|---|---|---|
| ***G. hodgsoni*** | | | |
| Gh1 | Tiger Island | -76.784 162.452 | ANTSP607 |
| | Flatiron | -77.005 162.408 | ANTSP585, ANTSP587, ANTSP589, ANTSP605, ANTSP606, ANTSP607, ANTSP628, ANTSP629 |
| | Benson Glacier | -76.822 162.107 | ANTSP596, ANTSP597 |
| | St Johns Range | -77.2801 161.731 | ANTSP129, ANTSP131, ANTSP134, ANTSP136, ANTSP137, ANTSP138, ANTSP140, ANTSP141, ANTSP143, ANTSP151, ANTSP216 |
| Gh2 | St Johns Range | -77.2801 161.731 | ANTSP128, ANTSP144, ANTSP145, ANTSP147, ANTSP148, ANTSP149, ANTSP214, ANTSP218 |
| Gh3 | St Johns Range | -77.208 161.7 | ANTSP210 |
| Gh4 | Flatiron | -77.005 162.408 | ANTSP584, ANTSP586, ANTSP604 |
| | St Johns Range | -77.208 161.7 | ANTSP213, ANTSP215 |
| Gh5 | Flatiron | -77.005 162.408 | ANTSP631 |
| Gh6 | Benson Glacier | -76.87 161.754 | ANTSP564, ANTSP565 |
| Gh7 | Mount Seuss | -77.015 161.75 | ANTSP153, ANTSP166, ANTSP167, ANTSP534 |
| Gh8 | St Johns Range | -77.208 161.7 | ANTSP209 |

| | | | |
|---|---|---|---|
| Gh9 | St Johns Range | -77.2801 161.731 | ANTSP132, ANTSP133, ANTSP135, ANTSP139, ANTSP211, ANTSP212 |
| Gh10 | St Johns Range | -77.285 161.726 | ANTSP217 |
| Gh11 | Flatiron | -77.005 162.408 | ANTSP634, ANTSP635 |
| Gh12 | St Johns Range | -77.2849 161.726 | ANTSP150 |
| Gh13 | Mount Seuss | -77.023 161.738 | ANTSP152, ANTSP154, ANTSP157, ANTSP158, ANTSP159, ANTSP160, ANTSP161, ANTSP163, ANTSP164, ANTSP165, ANTSP168, ANTSP169, ANTSP172, ANTSP174, ANTSP175, ANTSP225, ANTSP518, ANTSP520, ANTSP521, ANTSP522, ANTSP524, ANTSP532, ANTSP533, ANTSP540, ANTSP541 |
| | Benson Glacier | -76.87 161.754 | ANTSP563 |
| Gh14 | Mount Seuss | -77.021 161.737 | ANTSP521 |
| Gh15 | Mount Seuss | -77.015 161.75 | ANTSP535 |
| Gh16 | Flatiron | -77.005 162.408 | ANTSP627 |
| Gh17 | Tiger Island | -76.783 162.452 | ANTSP639 |
| Gh18 | Tiger Island | -76.783 162.452 | ANTSP590, ANTSP612 |
| Gh19 | Tiger Island | -76.783 162.452 | ANTSP592, ANTSP637, ANTSP638, ANTSP640, ANTSP642, ANTSP643, ANTSP644, ANTSP646 |
| | Benson Glacier | -76.822 162.107 | ANTSP623 |
| Gh20 | Mount Seuss | -77.011 161.768 | ANTSP142, ANTSP173, ANTSP519, ANTSP525, ANTSP531 |

| | | | |
|---|---|---|---|
| Gh21 | Mount Seuss | -77.023 161.738 | ANTSP539 |
| Gh22 | Mount Seuss | -77.2849 161.726 | ANTSP142 |
| Gh23 | Towle Glacier | -76.655 161.093 | ANTSP561 |
| Gh24 | Towle Glacier | -76.729 161.011 | ANTSP556, ANTSP557, ANTSP558, ANTSP559 |
| Gh25 | Mount Gran | -76.982 161.16 | ANTSP202 |
| Gh26 | St Johns Range | -77.2849 161.726 | ANTSP146 |
| Gh27 | Benson Glacier | -76.822 162.107 | ANTSP594, ANTSP595, ANTSP598, ANTSP599, ANTSP600, ANTSP601, ANTSP624, ANTSP649, ANTSP651, ANTSP652, ANTSP653, ANTSP654, ANTSP655, ANTSP656 |
| ***A. monoculata*** | | | |
| Am1 | Cliff Nunatak | -76.11 162.015 | ANTSP552, ANTSP553, ANTSP554, ANTSP555, ANTSP566, ANTSP567, ANTSP568, ANTSP569, ANTSP579, ANTSP580, ANTSP581, ANTSP582 |
| | Mount Murray | -76.11 162.014 | ANTSP570, ANTSP571,ANTSP572, ANTSP573, ANTSP574, ANTSP575, ANTSP576, ANTSP577, ANTSP578, ANTSP613, ANTSP615 |
| Am2 | Pegtop Mountain | -77.046 161.362 | ANTSP618 |
| Am3 | Pegtop Mountain | -77.046 161.362 | ANTSP616 |
| Am4 | Benson Glacier | -76.822 162.107 | ANTSP622 |
| Am5 | Springtail Point | -77.168 160.71 | ANTSP196, ANTSP235 |

| | | | |
|---|---|---|---|
| Am6 | Springtail Point | -77.168 160.71 | ANTSP194, ANTSP195, ANTSP203, ANTSP204, ANTSP205 |
| ***C. nivicolus*** | | | |
| Cn1 | Tiger Island | -76.784 162.452 | ANTSP609 |
| | Mount Seuss | -77.023 161.738 | ANTSP124, ANTSP155, ANTSP156, ANTSP536, ANTSP543, ANTSP544, ANTSP548, ANTSP611 |
| | Mount Gran | -76.972 161.148 | ANTSP619, ANTSP620, ANTSP621 |
| Cn2 | Mount Seuss | | ANTSP170 |
| Cn3 | Mount Seuss | -77.023 161.738 | ANTSP547 |
| Cn4 | Mount Seuss | -77.023 161.746 | ANTSP537, ANTSP550 |
| Cn5 | Towle Glacier | -76.655 161.093 | ANTSP602, ANTSP603 |
| Cn6 | Springtail Point | -77.1676 160.71 | ANTSP119, ANTSP121 |
| Cn7 | Springtail Point | -77.1676 160.71 | ANTSP118 |

**Fig. S1** Bayesian Inference tree showing estimated divergence times for *Gomphiocephalus hodgsoni* , *Cryptopygus nivicolus* and *Antarcticinella monoculata*. Timescale along the bottom is in My. Numbers on nodes refer to estimated divergence times for those populations.

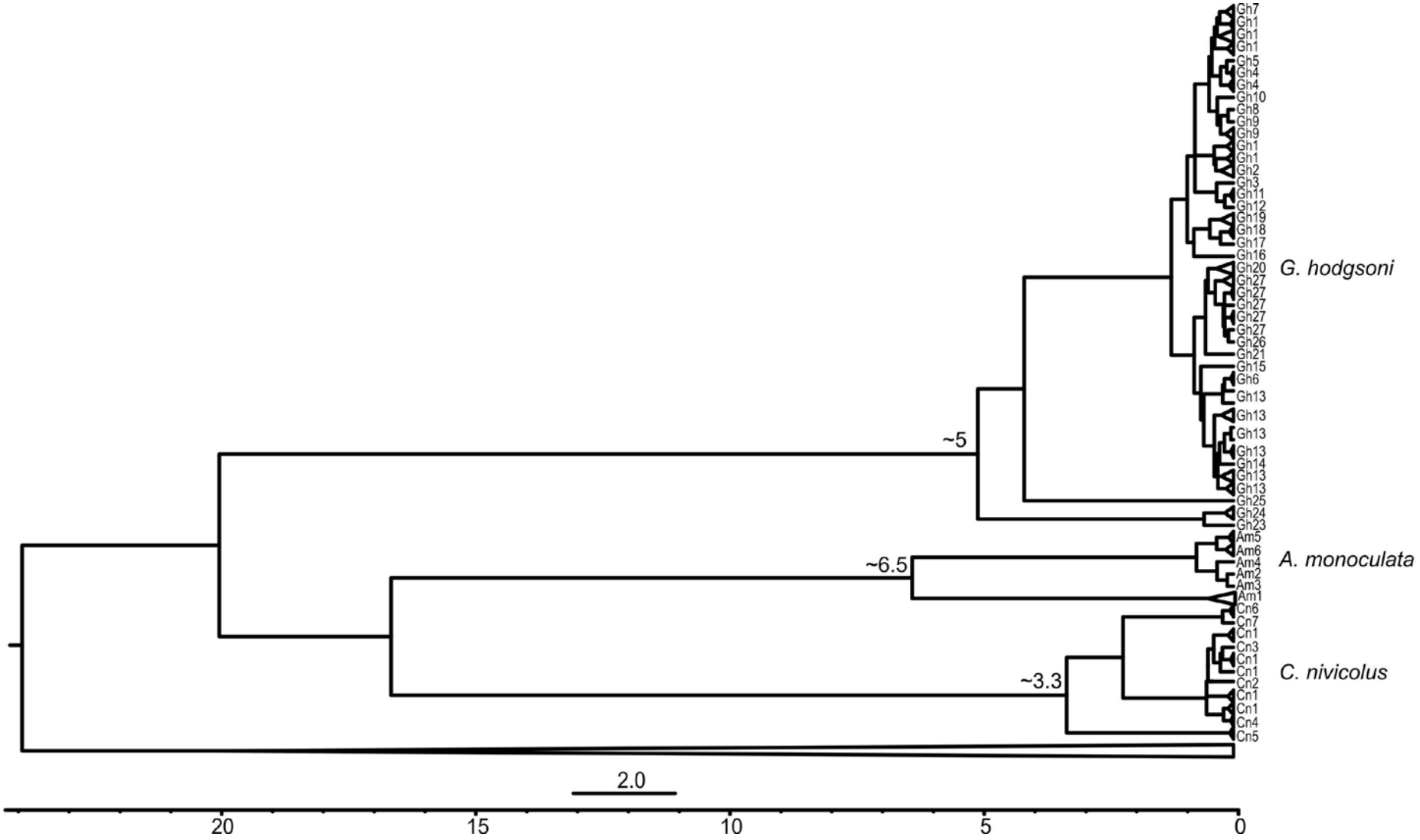
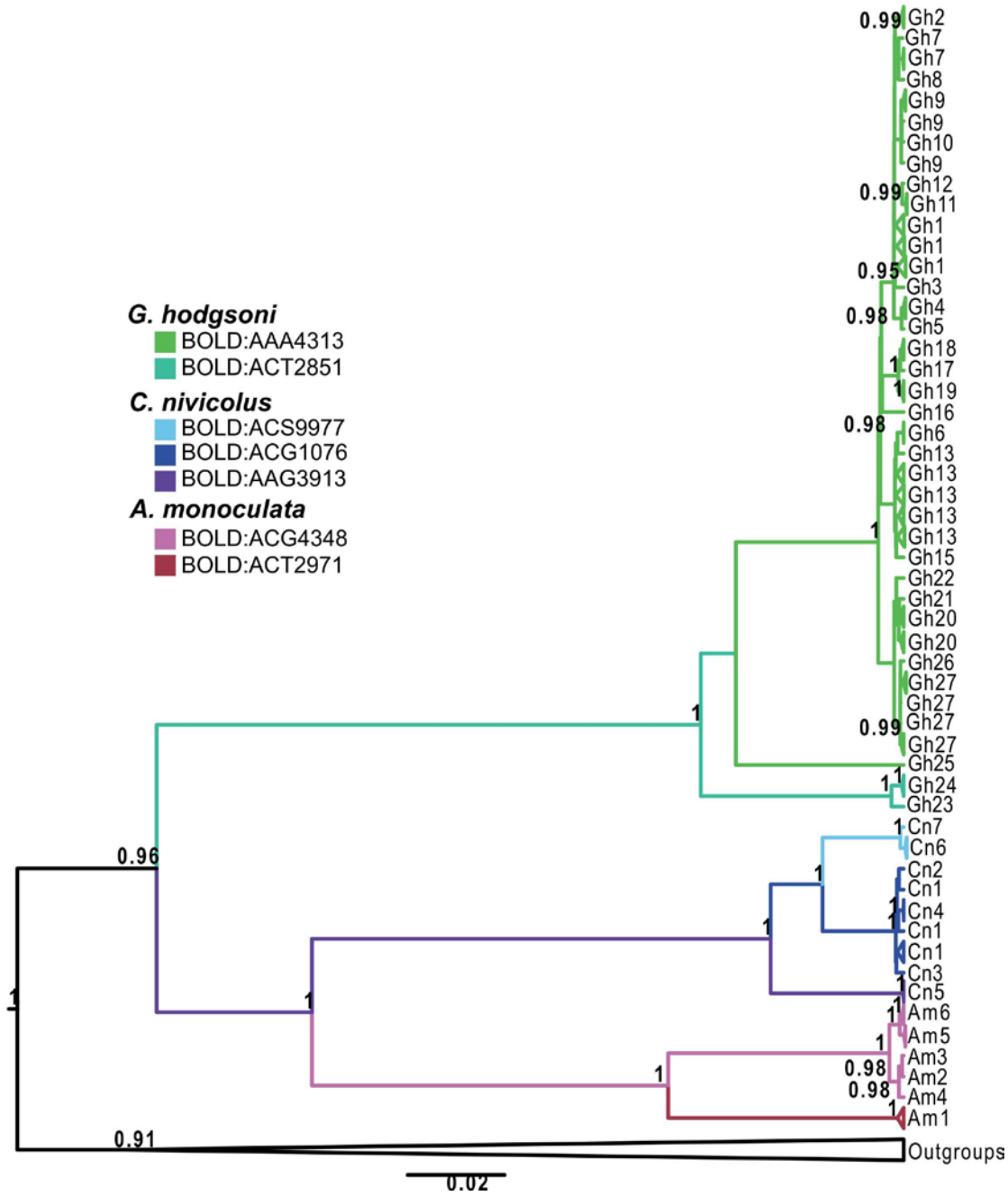
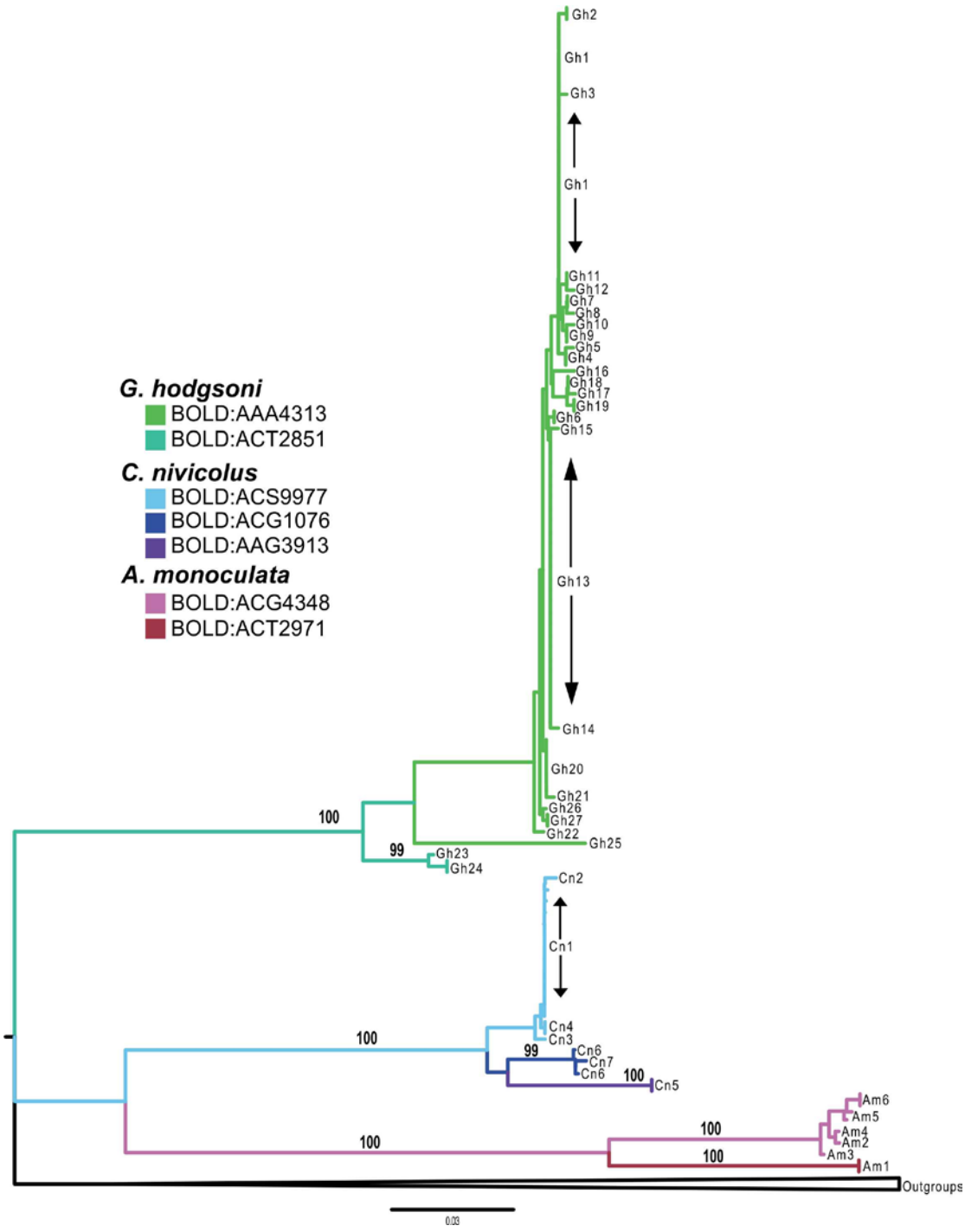


**Fig. S2** Phylogenetic trees (Bayesian followed by Neighbour Joining) of sequences representing 40 unique haplotypes for three springtail species including three Symphypleona outgroups (*Sminthurides aquaticus* IHCO046-03, *S. malmgreni* IHCO047-03 and *Sminthurinus elegans* COONT067-08). Support values over 0.95/95 are displayed with trees coloured according to the seven BINs present.




G. hodgsoni
BOLD:AAA4313
BOLD:ACT2851
C. nivicolus
BOLD:ACS9977
BOLD:ACG1076
BOLD:AAG3913
A. monoculata
BOLD:ACG4348
BOLD:ACT2971
Gh2
Gh1
Gh3
Gh1
Gh11
Gh12
Gh7
Gh8
Gh10
Gh9
Gh5
Gh4
Gh16
Gh18
Gh17
Gh19
Gh6
Gh15
Gh13
Gh14
Gh20
Gh21
Gh26
Gh27
Gh22
Gh25
100
99
Gh23
Gh24
Cn2
Cn1
Cn4
Cn3
100
99
Cn6
Cn7
Cn6
100
Cn5
Am6
Am5
Am4
Am2
Am3
Am1
100
100
100
Outgroups
0.03