



Figure S1. Bayesian tree based on ITS1 gene region containing representative sequences of all phylotypes found in the current study. For visualisation purposes and for the identification of MOTUs the phylogeny was divided into two separate analyses (a) Clades 1-4, and 11 (b) Clades 6-9. MOTUs were assigned to new phylotypes if they did not match any known *Phytophthora* species. Bayesian posterior probabilities are given above the branch.

Table S1. Variables measured for each of the sites sampled

| SAMPLE     | LOCATION            | PARK CLASS        | SOIL FAMILY | PARK AREA | CANOPY | CANOPY    | PHYT_PA | NUMBER- |
|------------|---------------------|-------------------|-------------|-----------|--------|-----------|---------|---------|
|            |                     |                   |             |           | HEALTH | COVER     |         | PHYT    |
| PAB 14-18  | Aberdare Park       | Open Space        | LS1         | 11519.46  | 4.08   | 2162.25   | 1       | 5       |
| PAB 14-87  | Adelaide Park       | Conservation Area | Karrakatta  | 2232.59   | -6.42  | 520.50    | 1       | 2       |
| PAB 14-86  | Adelaide Park       | Open Space        | Karrakatta  | 20639.75  | 1.66   | 3921.75   | 1       | 5       |
| PAB 16-12  | Alfreton Reserve    | Conservation Area | Karrakatta  | 18996.91  | -8.00  | 5399.50   | 0       | 0       |
| PAB 16-13  | Alfreton Reserve    | Open Space        | Karrakatta  | 10691.64  | -10.53 | 2244.50   | 0       | 0       |
| PAB 15-105 | Baltusrol Park      | Open Space        | Quindalup   | 19557.75  | 2.63   | 7939.25   | 1       | 6       |
| PAB 15-103 | Barridale Park      | Park              | Karrakatta  | 42039.84  | 10.77  | 9411.00   | 1       | 7       |
| PAB 15-104 | Barridale Park      | Park              | Karrakatta  | 42039.84  | 10.77  | 9411.00   | 1       | 3       |
| PAB 14-90  | Beaumaris Park      | Conservation Area | Karrakatta  | 52769.25  | 19.51  | 6837.50   | 1       | 1       |
| PAB 14-93  | Beaumaris Park      | Conservation Area | Karrakatta  | 52769.25  | 19.51  | 6837.50   | 1       | 7       |
| PAB 16-57  | Bethany Park        | Conservation Area | Karrakatta  | 7066.89   | 4.09   | 1494.00   | 0       | 0       |
| PAB 16-58  | Bethany Park        | Conservation Area | Karrakatta  | 7067.89   | 4.09   | 1494.00   | 0       | 0       |
| PAB 16-59  | Bethany Park        | Conservation Area | Karrakatta  | 7067.89   | 4.09   | 1494.00   | 0       | 0       |
| PAB 14-73  | Blackboy Park       | Open Space        | Quindalup   | 20750.11  | 9.65   | 5612.25   | 1       | 1       |
| PAB 14-74  | Blackboy Park       | Open Space        | Quindalup   | 20750.11  | 9.65   | 5612.25   | 0       | 0       |
| PAB 14-75  | Blackboy Park       | Open Space        | Quindalup   | 20750.11  | 9.65   | 5612.25   | 1       | 1       |
| PAB 15-96  | Blue Lake Park      | Conservation Area | Karrakatta  | 38697.31  | 2.65   | 10953.75  | 1       | 4       |
| PAB 15-97  | Blue Lake Park      | Conservation Area | Karrakatta  | 38697.31  | 2.65   | 10953.75  | 1       | 6       |
| PAB 15-98  | Blue Lake Park      | Conservation Area | Karrakatta  | 38697.31  | 2.65   | 10953.75  | 1       | 5       |
| PAB 15-99  | Blue Lake Park      | Conservation Area | Karrakatta  | 38697.31  | 2.65   | 10953.75  | 1       | 9       |
| PAB 15-33  | Brazier Park        | Open Space        | Karrakatta  | 6719.00   | 8.07   | 1400.50   | 1       | 3       |
| PAB 14-103 | Burns Beach Park    | Open Space        | Karrakatta  | 393979.79 | -1.73  | 13756.25  | 0       | 0       |
| PAB 16-79  | Burns Beach Park    | Open Space        | Karrakatta  | 393978.79 | -1.73  | 13756.25  | 0       | 0       |
| PAB 16-80  | Burns Beach Park    | Open Space        | Quindalup   | 393979.79 | -1.73  | 13756.25  | 0       | 0       |
| PAB 14-45  | Cadogen Reserve     | Conservation Area | S7          | 622478.35 | -2.14  | 165379.75 | 0       | 0       |
| PAB 16-69  | Caledonia Park      | Park              | Karrakatta  | 900.27    | 5.30   | 409.50    | 0       | 0       |
| PAB 16-70  | Caledonia Park      | Park              | Karrakatta  | 900.27    | 5.30   | 409.50    | 0       | 0       |
| PAB 16-71  | Caledonia Park      | Park              | Karrakatta  | 900.27    | 5.30   | 409.50    | 0       | 0       |
| PAB 16-76  | Callender Park      | Open Space        | Karrakatta  | 10483.24  | 9.29   | 581.50    | 0       | 0       |
| PAB 16-77  | Callender Park      | Open Space        | Karrakatta  | 10483.24  | 9.29   | 581.50    | 0       | 0       |
| PAB 16-33  | Camberwarra Park    | Open Space        | Karrakatta  | 23056.61  | 12.89  | 6272.50   | 0       | 0       |
| PAB 16-64  | Carnaby Reserve     | Conservation Area | Karrakatta  | 21733.29  | 3.17   | 2169.75   | 0       | 0       |
| PAB 16-65  | Carnaby Reserve     | Conservation Area | Karrakatta  | 21733.29  | 3.17   | 2169.75   | 0       | 0       |
| PAB 15-49  | Cawarra Park        | Conservation Area | Quindalup   | 35201.49  | 2.27   | 4148.50   | 1       | 5       |
| PAB 15-50  | Cawarra Park        | Conservation Area | Quindalup   | 35201.49  | 2.27   | 4148.50   | 1       | 5       |
| PAB 14-114 | Central Park        | Conservation Area | Karrakatta  | 30012.47  | 2.91   | 1266.25   | 0       | 0       |
| PAB 14-115 | Central Park        | Open Space        | Karrakatta  | 41644.07  | 5.91   | 11249.00  | 0       | 0       |
| PAB 16-24  | Chadlington Reserve | Conservation Area | Karrakatta  | 8778.61   | 4.49   | 1525.75   | 1       | 4       |
| PAB 16-24  | Chadlington Reserve | Conservation Area | Karrakatta  | 8778.61   | 4.49   | 1525.75   | 1       | 6       |
| PAB 16-25  | Chadlington Reserve | Conservation Area | Karrakatta  | 8778.61   | 4.49   | 1525.75   | 0       | 0       |
| PAB 16-26  | Chadlington Reserve | Conservation Area | Karrakatta  | 8778.61   | 4.49   | 1525.75   | 0       | 0       |
| PAB 15-44  | Chichester Park     | Open Space        | Spearwood   | 28423.99  | -2.44  | 14237.25  | 1       | 7       |
| PAB 15-45  | Chichester Park     | Open Space        | Spearwood   | 28423.99  | -2.44  | 14237.25  | 1       | 6       |
| PAB 15-46  | Chichester Park     | Park              | Spearwood   | 63127.49  | -2.54  | 6810.00   | 1       | 6       |
| PAB 14-101 | Clermont Park       | Conservation Area | Karrakatta  | 15855.41  | 4.84   | 400.50    | 1       | 1       |
| PAB 14-102 | Clermont Park       | Conservation Area | Karrakatta  | 15855.41  | 4.84   | 1044.25   | 1       | 1       |

| SAMPLE     | LOCATION            | PARK CLASS        | SOIL FAMILY | PARK AREA | CANOPY | CANOPY    | PHYT_PA | NUMBER- |
|------------|---------------------|-------------------|-------------|-----------|--------|-----------|---------|---------|
|            |                     |                   |             |           | HEALTH | COVER     |         | PHYT    |
| PAB 14-100 | Clermont Park       | Open Space        | Karrakatta  | 3761.33   | 6.74   | 1044.25   | 0       | 0       |
| PAB 16-14  | Conidae Park        | Open Space        | Karrakatta  | 15270.92  | 17.05  | 3228.00   | 0       | 0       |
| PAB 16-16  | Conidae Park        | Open Space        | Karrakatta  | 15270.92  | 17.05  | 3228.00   | 1       | 6       |
| PAB 14-78  | Craigie Open Space  | Conservation Area | Karrakatta  | 559906.19 | -6.09  | 170592.25 | 1       | 9       |
| PAB 14-79  | Craigie Open Space  | Conservation Area | Karrakatta  | 559906.19 | -6.09  | 170592.25 | 1       | 8       |
| PAB 14-80  | Craigie Open Space  | Conservation Area | Karrakatta  | 559906.19 | -6.09  | 170592.25 | 1       | 10      |
| PAB 14-81  | Craigie Open Space  | Conservation Area | Karrakatta  | 559906.19 | -6.09  | 170592.25 | 1       | 2       |
| PAB 14-82  | Craigie Open Space  | Conservation Area | Karrakatta  | 559906.19 | -6.09  | 170592.25 | 1       | 2       |
| PAB 14-83  | Craigie Open Space  | Conservation Area | Karrakatta  | 559906.19 | -6.09  | 170592.25 | 1       | 6       |
| PAB 14-84  | Craigie Open Space  | Conservation Area | Karrakatta  | 559906.19 | -6.09  | 170592.25 | 1       | 14      |
| PAB 14-85  | Craigie Open Space  | Conservation Area | Karrakatta  | 559906.19 | -6.09  | 170592.25 | 1       | 19      |
| PAB 15-100 | Cranston Park       | Conservation Area | Karrakatta  | 28054.33  | -17.42 | 386.75    | 1       | 6       |
| PAB 15-101 | Cranston Park       | Conservation Area | Karrakatta  | 28054.33  | -17.42 | 386.75    | 1       | 2       |
| PAB 16-73  | Earlsferry Park     | Open Space        | Karrakatta  | 7246.56   | 1.54   | 766.25    | 0       | 0       |
| PAB 15-81  | Emerald Park        | Park              | Karrakatta  | 63682.48  | 11.39  | 11800.75  | 1       | 6       |
| PAB 15-82  | Emerald Park        | Park              | Karrakatta  | 63682.48  | 11.39  | 11800.75  | 1       | 7       |
| PAB 15-83  | Emerald Park        | Park              | Karrakatta  | 63682.48  | 11.39  | 11800.75  | 1       | 9       |
| PAB 15-84  | Emerald Park        | Park              | Karrakatta  | 63682.48  | 11.39  | 11800.75  | 1       | 9       |
| PAB 14-111 | Fairway Park        | Conservation Area | Karrakatta  | 6962.14   | 6.01   | 264.75    | 1       | 8       |
| PAB 14-112 | Fairway Park        | Conservation Area | Karrakatta  | 6962.14   | 6.01   | 264.75    | 0       | 0       |
| PAB 15-34  | Fernwood Park       | Open Space        | Karrakatta  | 3224.84   | -4.82  | 837.50    | 1       | 3       |
| PAB 15-79  | Garrong Park        | Conservation Area | Spearwood   | 4510.52   | -2.00  | 2449.50   | 1       | 7       |
| PAB 15-80  | Garrong Park        | Conservation Area | Spearwood   | 4510.52   | -2.00  | 2449.50   | 1       | 10      |
| PAB 15-35  | Gibson Park         | Open Space        | Quindalup   | 37050.18  | 8.21   | 9535.75   | 1       | 4       |
| PAB 15-36  | Gibson Park         | Open Space        | Quindalup   | 37050.18  | 8.21   | 9535.75   | 1       | 6       |
| PAB 16-07  | Glenbar Park        | Conservation Area | S7          | 53289.54  | 8.31   | 6251.50   | 0       | 0       |
| PAB 16-08  | Glenbar Park        | Conservation Area | LS1         | 53289.54  | 8.31   | 6251.50   | 0       | 0       |
| PAB 16-09  | Glenbar Park        | Conservation Area | LS1         | 53289.54  | 8.31   | 6251.50   | 0       | 0       |
| PAB 14-12  | Granadilla Park     | Open Space        | LS1         | 37863.38  | 11.00  | 8067.75   | 1       | 4       |
| PAB 14-14  | Granadilla Park     | Open Space        | LS1         | 37863.38  | 11.00  | 8067.75   | 1       | 2       |
| PAB 14-15  | Granadilla Park     | Open Space        | LS1         | 37863.38  | 11.00  | 8067.75   | 1       | 1       |
| PAB 15-89  | Greenshank Park     | Open Space        | Karrakatta  | 4177.94   | 8.31   | 49.25     | 1       | 6       |
| PAB 15-90  | Greenshank Park     | Open Space        | Karrakatta  | 4177.94   | 8.31   | 1109.75   | 1       | 5       |
| PAB 15-88  | Greenshank Park     | Thoroughfare      | Karrakatta  | 486.88    | 13.08  | 1109.75   | 1       | 8       |
| PAB 14-16  | Hawker Park         | Conservation Area | S7          | 12070.96  | -0.96  | 4257.75   | 0       | 0       |
| PAB 14-17  | Hawker Park         | Conservation Area | LS1         | 12070.96  | -0.96  | 4257.75   | 1       | 1       |
| PAB 14-21  | Hawker Park         | Park              | S7          | 34634.67  | 10.77  | 3950.25   | 0       | 0       |
| PAB 14-54  | Hepburn Heights     | Conservation Area | Karrakatta  | 221807.93 | 0.93   | 20792.00  | 1       | 2       |
| PAB 14-55  | Hepburn Heights     | Conservation Area | Karrakatta  | 221807.93 | 0.93   | 20792.00  | 1       | 3       |
| PAB 14-56  | Hepburn Heights     | Conservation Area | Karrakatta  | 221807.93 | 0.93   | 20792.00  | 1       | 6       |
| PAB 14-57  | Hepburn Heights     | Conservation Area | Karrakatta  | 221807.93 | 0.93   | 20792.00  | 0       | 0       |
| PAB 14-58  | Hepburn Heights     | Conservation Area | Karrakatta  | 221807.93 | 0.93   | 20792.00  | 1       | 5       |
| PAB 14-59  | Hepburn Heights     | Conservation Area | Karrakatta  | 221807.93 | 0.93   | 20792.00  | 1       | 2       |
| PAB 14-60  | Hepburn Heights     | Conservation Area | Karrakatta  | 221807.93 | 0.93   | 20792.00  | 1       | 21      |
| PAB 14-66  | Hillarys Beach Park | Open Space        | Quindalup   | 60156.77  | 4.64   | 6470.00   | 0       | 0       |
| PAB 14-67  | Hillarys Beach Park | Open Space        | Quindalup   | 60156.77  | 4.64   | 6470.00   | 1       | 8       |
| PAB 14-63  | Hillarys Foreshore  | Conservation Area | Quindalup   | 618427.13 | 0.52   | 92001.00  | 1       | 15      |
| PAB 14-64  | Hillarys Foreshore  | Conservation Area | Quindalup   | 618427.13 | 0.52   | 92001.00  | 1       | 1       |

| SAMPLE     | LOCATION             | PARK CLASS        | SOIL FAMILY | PARK AREA | CANOPY | CANOPY   | PHYT_PA | NUMBER- |
|------------|----------------------|-------------------|-------------|-----------|--------|----------|---------|---------|
|            |                      |                   |             |           | HEALTH | COVER    |         | PHYT    |
| PAB 14-65  | Hillarys Foreshore   | Conservation Area | Quindalup   | 618427.13 | 0.52   | 92001.00 | 1       | 5       |
| PAB 14-68  | Hillarys Foreshore   | Conservation Area | Quindalup   | 618427.13 | 0.52   | 92001.00 | 1       | 2       |
| PAB 14-69  | Hillarys Foreshore   | Conservation Area | Quindalup   | 618427.13 | 0.52   | 92001.00 | 1       | 1       |
| PAB 14-70  | Hillarys Foreshore   | Conservation Area | Quindalup   | 618427.13 | 0.52   | 92001.00 | 1       | 5       |
| PAB 14-71  | Hillarys Foreshore   | Conservation Area | Quindalup   | 618427.13 | 0.52   | 92001.00 | 1       | 2       |
| PAB 14-72  | Hillarys Foreshore   | Conservation Area | Quindalup   | 618427.13 | 0.52   | 92001.00 | 1       | 12      |
| PAB 16-35  | Hillarys Foreshore   | Conservation Area | Quindalup   | 618427.13 | 0.52   | 92001.00 | 1       | 7       |
| PAB 16-36  | Hillarys Foreshore   | Conservation Area | Quindalup   | 618427.13 | 0.52   | 92001.00 | 0       | 0       |
| PAB 16-37  | Hillarys Foreshore   | Conservation Area | Quindalup   | 618427.13 | 0.52   | 92001.00 | 0       | 0       |
| PAB 15-30  | Hillarys Park        | Park              | Quindalup   | 70649.30  | 0.09   | 7843.50  | 1       | 4       |
| PAB 15-31  | Hillarys Park        | Park              | Quindalup   | 70649.30  | 0.09   | 7843.50  | 0       | 0       |
| PAB 15-32  | Hillarys Park        | Park              | Quindalup   | 70649.30  | 0.09   | 7843.50  | 1       | 5       |
| PAB 16-61  | Huntingdale Park     | Open Space        | Karrakatta  | 9101.86   | -5.87  | 1592.25  | 0       | 0       |
| PAB 16-62  | Huntingdale Park     | Open Space        | Karrakatta  | 9101.86   | -5.87  | 1592.25  | 0       | 0       |
| PAB 16-63  | Huntingdale Park     | Open Space        | Karrakatta  | 9101.86   | -5.87  | 1592.25  | 0       | 0       |
| PAB 16-53  | Iluka Reserve        | Conservation Area | Karrakatta  | 362177.28 | 3.04   | 4604.00  | 1       | 4       |
| PAB 16-54  | Iluka Reserve        | Conservation Area | Karrakatta  | 362177.28 | 3.04   | 4604.00  | 1       | 4       |
| PAB 16-55  | Iluka Reserve        | Conservation Area | Quindalup   | 362178.28 | 3.04   | 4604.00  | 1       | 16      |
| PAB 16-56  | Iluka Reserve        | Conservation Area | Quindalup   | 362177.28 | 3.04   | 4604.00  | 1       | 15      |
| PAB 15-20  | Juniper Park         | Park              | S7          | 47055.09  | 10.69  | 24345.50 | 1       | 6       |
| PAB 15-21  | Juniper Park         | Park              | S7          | 47055.09  | 10.69  | 24345.50 | 1       | 7       |
| PAB 15-22  | Juniper Park         | Park              | S7          | 47055.09  | 10.69  | 24345.50 | 0       | 0       |
| PAB 16-38  | Kallaroo Foreshore   | Conservation Area | Quindalup   | 245679.59 | 0.30   | 6780.50  | 1       | 6       |
| PAB 16-39  | Kallaroo Foreshore   | Conservation Area | Quindalup   | 245679.59 | 0.30   | 6780.50  | 0       | 0       |
| PAB 16-40  | Kallaroo Foreshore   | Conservation Area | Quindalup   | 245679.59 | 0.30   | 6780.50  | 1       | 6       |
| PAB 16-41  | Kallaroo Foreshore   | Conservation Area | Quindalup   | 245679.59 | 0.30   | 6780.50  | 1       | 12      |
| PAB 16-42  | Kallaroo Foreshore   | Conservation Area | Quindalup   | 245679.59 | 0.30   | 6780.50  | 1       | 7       |
| PAB 16-43  | Kallaroo Park        | Conservation Area | Karrakatta  | 22839.23  | 0.10   | 1001.50  | 1       | 1       |
| PAB 16-44  | Kallaroo Park        | Conservation Area | Karrakatta  | 22839.23  | 0.10   | 1001.50  | 1       | 5       |
| PAB 16-45  | Kallaroo Park        | Conservation Area | Karrakatta  | 22839.23  | 0.10   | 1001.50  | 1       | 6       |
| PAB 16-46  | Kallaroo Park        | Conservation Area | Karrakatta  | 22839.23  | 0.10   | 1001.50  | 0       | 0       |
| PAB 16-47  | Kallaroo Park        | Conservation Area | Karrakatta  | 22839.23  | 0.10   | 1001.50  | 1       | 4       |
| PAB 16-27  | Kingsley Access Path | Thoroughfare      | Karrakatta  | 44781.51  | 10.04  | 14286.00 | 1       | 7       |
| PAB 16-20  | Korella Park         | Conservation Area | Quindalup   | 30785.72  | 4.78   | 12629.75 | 0       | 0       |
| PAB 16-21  | Korella Park         | Park              | Quindalup   | 15517.47  | 12.59  | 1650.00  | 0       | 0       |
| PAB 16-22  | Korella Park         | Conservation Area | Quindalup   | 30785.72  | 4.78   | 12629.75 | 0       | 0       |
| PAB 16-23  | Korella Park         | Conservation Area | Quindalup   | 30786.72  | 4.78   | 12629.75 | 1       | 1       |
| PAB 16-74  | Lady Evelyn Park     | Conservation Area | Karrakatta  | 7002.89   | 7.90   | 835.75   | 0       | 0       |
| PAB 14-113 | Lakeside Park        | Conservation Area | Karrakatta  | 31343.63  | 0.35   | 3552.25  | 1       | 3       |
| PAB 14-117 | Lakevalley Park      | Conservation Area | Quindalup   | 14504.65  | -2.20  | 2772.00  | 0       | 0       |
| PAB 14-118 | Lakevalley Park      | Conservation Area | Karrakatta  | 14504.65  | -2.20  | 2772.00  | 1       | 1       |
| PAB 15-37  | Legana Park          | Open Space        | Spearwood   | 35380.23  | 7.58   | 15565.50 | 1       | 4       |
| PAB 15-38  | Legana Park          | Open Space        | Spearwood   | 35380.23  | 7.58   | 15565.50 | 1       | 4       |
| PAB 14-120 | Lexcen Park          | Conservation Area | Quindalup   | 21798.97  | 13.97  | 8508.75  | 1       | 5       |
| PAB 14-61  | Lilburne Park        | Conservation Area | Karrakatta  | 56793.33  | 2.75   | 13487.00 | 1       | 1       |
| PAB 14-62  | Lilburne Park        | Conservation Area | Karrakatta  | 56793.33  | 2.75   | 13487.00 | 0       | 0       |
| PAB 15-65  | Littorina Park       | Conservation Area | Quindalup   | 32327.81  | 17.33  | 1801.75  | 1       | 3       |
| PAB 15-67  | Littorina Park       | Conservation Area | Quindalup   | 32327.81  | 17.33  | 4133.00  | 1       | 6       |

| SAMPLE     | LOCATION             | PARK CLASS        | SOIL FAMILY | PARK AREA  | CANOPY | CANOPY   | PHYT_PA | NUMBER- |
|------------|----------------------|-------------------|-------------|------------|--------|----------|---------|---------|
|            |                      |                   |             |            | HEALTH | COVER    |         | PHYT    |
| PAB 15-68  | Littorina Park       | Conservation Area | Quindalup   | 32327.81   | 17.33  | 1801.75  | 1       | 9       |
| PAB 15-69  | Littorina Park       | Conservation Area | Quindalup   | 32327.81   | 17.33  | 1801.75  | 1       | 7       |
| PAB 15-66  | Littorina Park       | Park              | Quindalup   | 28099.51   | 18.78  | 1801.75  | 1       | 6       |
| PAB 16-60  | Lysander Reserve     | Open Space        | Karrakatta  | 5865.57    | 2.88   | 721.00   | 0       | 0       |
| PAB 16-75  | Manapouri Park       | Open Space        | Karrakatta  | 4095.52    | 8.87   | 696.75   | 0       | 0       |
| PAB 14-76  | Maritana Park        | Conservation Area | Quindalup   | 31099.89   | 0.72   | 1804.00  | 1       | 5       |
| PAB 14-77  | Maritana Park        | Conservation Area | Quindalup   | 31099.89   | 0.72   | 1804.00  | 1       | 9       |
| PAB 16-34  | Maritana Park        | Conservation Area | Quindalup   | 31099.89   | 0.72   | 1804.00  | 1       | 11      |
| PAB 16-78  | Menteith Park        | Open Space        | Karrakatta  | 10348.35   | 14.26  | 1692.25  | 0       | 0       |
| PAB 15-91  | Nanika Park          | Conservation Area | Karrakatta  | 15254.13   | 7.34   | 1694.00  | 1       | 3       |
| PAB 15-92  | Nanika Park          | Conservation Area | Karrakatta  | 15254.13   | 7.34   | 1694.00  | 1       | 7       |
| PAB 15-93  | Nanika Park          | Conservation Area | Karrakatta  | 15254.13   | 7.34   | 1694.00  | 1       | 6       |
| PAB 15-94  | Nanika Park          | Conservation Area | Karrakatta  | 15254.13   | 7.34   | 1694.00  | 1       | 4       |
| PAB 15-95  | Nanika Park          | Conservation Area | Karrakatta  | 15254.13   | 7.34   | 1694.00  | 1       | 1       |
| PAB 14-94  | Naturaliste Park     | Conservation Area | Karrakatta  | 33107.78   | 1.28   | 1850.75  | 0       | 0       |
| PAB 14-95  | Naturaliste Park     | Conservation Area | Karrakatta  | 33107.78   | 1.28   | 1850.75  | 1       | 3       |
| PAB 14-96  | Naturaliste Park     | Conservation Area | Karrakatta  | 33107.78   | 1.28   | 1850.75  | 1       | 2       |
| PAB 14-104 | Negresco Park        | Open Space        | Karrakatta  | 2700.11    | -0.56  | 712.50   | 1       | 2       |
| PAB 16-48  | Ocean Reef Foreshore | Conservation Area | Quindalup   | 1079298.87 | 2.97   | 15676.00 | 1       | 4       |
| PAB 16-49  | Ocean Reef Foreshore | Conservation Area | Quindalup   | 1079298.87 | 2.97   | 15676.00 | 1       | 8       |
| PAB 16-50  | Ocean Reef Foreshore | Conservation Area | Quindalup   | 1079298.87 | 2.97   | 15676.00 | 1       | 3       |
| PAB 16-51  | Ocean Reef Foreshore | Conservation Area | Karrakatta  | 1079298.87 | 2.97   | 15676.00 | 1       | 1       |
| PAB 16-52  | Ocean Reef Foreshore | Conservation Area | Karrakatta  | 1079298.87 | 2.97   | 15676.00 | 1       | 6       |
| PAB 15-59  | Periwinkle Park      | Conservation Area | Karrakatta  | 37308.50   | 3.15   | 8790.25  | 1       | 4       |
| PAB 15-60  | Periwinkle Park      | Conservation Area | Karrakatta  | 37308.50   | 3.15   | 8790.25  | 1       | 3       |
| PAB 15-61  | Periwinkle Park      | Conservation Area | Karrakatta  | 37308.50   | 3.15   | 8790.25  | 1       | 7       |
| PAB 15-62  | Periwinkle Park      | Conservation Area | Karrakatta  | 37308.50   | 3.15   | 8790.25  | 1       | 6       |
| PAB 15-63  | Periwinkle Park      | Conservation Area | Karrakatta  | 37308.50   | 3.15   | 8790.25  | 1       | 6       |
| PAB 15-64  | Periwinkle Park      | Conservation Area | Karrakatta  | 37308.50   | 3.15   | 8790.25  | 1       | 5       |
| PAB 16-72  | Pine valley          | Conservation Area | Karrakatta  | 21970.47   | -0.40  | 3100.25  | 1       | 12      |
| PAB 15-77  | Plumdale Park        | Open Space        | Karrakatta  | 17229.56   | -4.64  | 1826.25  | 1       | 10      |
| PAB 15-78  | Plumdale Park        | Open Space        | Karrakatta  | 17229.56   | -4.64  | 1826.25  | 1       | 5       |
| PAB 15-28  | Porteous Park        | Conservation Area | Karrakatta  | 16124.34   | -6.22  | 493.00   | 1       | 8       |
| PAB 15-29  | Porteous Park        | Conservation Area | Karrakatta  | 16124.34   | -6.22  | 493.00   | 1       | 7       |
| PAB 16-17  | Quarry Ramble Park   | Conservation Area | Karrakatta  | 18735.47   | 0.92   | 9462.50  | 0       | 0       |
| PAB 16-19  | Quarry Ramble Park   | Conservation Area | Karrakatta  | 18735.47   | 0.92   | 2181.75  | 0       | 0       |
| PAB 16-18  | Quarry Ramble Park   | Open Space        | Spearwood   | 15040.54   | 13.08  | 9462.50  | 0       | 0       |
| PAB 16-67  | Riversdale Park      | Open Space        | Karrakatta  | 5428.98    | -0.50  | 684.25   | 0       | 0       |
| PAB 16-68  | Riversdale Park      | Open Space        | Karrakatta  | 5428.98    | -0.50  | 2474.75  | 0       | 0       |
| PAB 16-66  | Riversdale Park      | Open Space        | Karrakatta  | 3516.12    | 6.55   | 2474.75  | 0       | 0       |
| PAB 16-28  | Robertson Road       | Thoroughfare      | Karrakatta  | 44781.51   | 10.04  | 14286.00 | 0       | 0       |
| PAB 16-29  | Robertson Road       | Thoroughfare      | Karrakatta  | 44781.51   | 10.04  | 14286.00 | 0       | 0       |
| PAB 16-32  | Robertson Road       | Thoroughfare      | Karrakatta  | 44781.51   | 10.04  | 14286.00 | 0       | 11      |
| PAB 15-74  | Sandalford Park      | Conservation Area | Karrakatta  | 7908.12    | -4.34  | 7984.50  | 1       | 6       |
| PAB 15-75  | Sandalford Park      | Conservation Area | Karrakatta  | 7908.12    | -4.34  | 7984.50  | 1       | 4       |
| PAB 15-76  | Sandalford Park      | Conservation Area | Karrakatta  | 7908.12    | -4.34  | 7984.50  | 1       | 9       |
| PAB 15-70  | Sandalford Park      | Open Space        | Karrakatta  | 36312.28   | 9.79   | 7984.50  | 1       | 10      |
| PAB 15-71  | Sandalford Park      | Open Space        | Karrakatta  | 36312.28   | 9.79   | 2575.75  | 1       | 7       |

| SAMPLE    | LOCATION            | PARK CLASS        | SOIL FAMILY | PARK AREA | CANOPY | CANOPY    | PHYT_PA | NUMBER- |
|-----------|---------------------|-------------------|-------------|-----------|--------|-----------|---------|---------|
|           |                     |                   |             |           | HEALTH | COVER     |         | PHYT    |
| PAB 15-72 | Sandalford Park     | Open Space        | Karrakatta  | 36312.28  | 9.79   | 2575.75   | 1       | 4       |
| PAB 15-73 | Sandalford Park     | Open Space        | Karrakatta  | 36312.28  | 9.79   | 2575.75   | 1       | 6       |
| PAB 14-47 | Shepherds Bush      | Conservation Area | Karrakatta  | 160651.58 | 2.70   | 30854.50  | 1       | 4       |
| PAB 14-48 | Shepherds Bush      | Conservation Area | Karrakatta  | 160651.58 | 2.70   | 30854.50  | 0       | 0       |
| PAB 14-51 | Shepherds Bush      | Conservation Area | Karrakatta  | 160651.58 | 2.70   | 30854.50  | 1       | 3       |
| PAB 14-52 | Shepherds Bush      | Conservation Area | Karrakatta  | 160651.58 | 2.70   | 30854.50  | 1       | 1       |
| PAB 16-30 | Shepherds Bush      | Conservation Area | Karrakatta  | 160651.58 | 2.70   | 30854.50  | 0       | 0       |
| PAB 16-31 | Shepherds Bush      | Conservation Area | Karrakatta  | 160651.58 | 2.70   | 30854.50  | 1       | 8       |
| PAB 14-98 | James McCusker Park | Conservation Area | Karrakatta  | 34205.31  | 12.30  | 3818.75   | 1       | 1       |
| PAB 14-99 | James McCusker Park | Conservation Area | Karrakatta  | 34205.31  | 12.30  | 3818.75   | 1       | 8       |
| PAB 15-85 | St Clair Park       | Conservation Area | Karrakatta  | 35692.63  | 3.90   | 4340.75   | 1       | 11      |
| PAB 15-86 | St Clair Park       | Conservation Area | Karrakatta  | 35692.63  | 3.90   | 4340.75   | 1       | 7       |
| PAB 15-87 | St Clair Park       | Conservation Area | Karrakatta  | 35692.63  | 3.90   | 4340.75   | 1       | 6       |
| PAB 15-41 | Timberlane Park     | Conservation Area | Karrakatta  | 26232.90  | 0.63   | 7919.75   | 1       | 3       |
| PAB 15-40 | Timberlane Park     | Park              | Spearwood   | 53547.08  | 6.57   | 11644.00  | 1       | 8       |
| PAB 15-42 | Timberlane Park     | Park              | Spearwood   | 40378.16  | 6.57   | 7919.75   | 1       | 4       |
| PAB 15-52 | Tom Simpson Park    | Conservation Area | Quindalup   | 40378.16  | -8.05  | 1607.75   | 1       | 4       |
| PAB 15-55 | Tom Simpson Park    | Conservation Area | Quindalup   | 40378.16  | -8.05  | 1607.75   | 1       | 9       |
| PAB 15-56 | Tom Simpson Park    | Conservation Area | Quindalup   | 40378.16  | -8.05  | 1607.75   | 1       | 5       |
| PAB 15-58 | Tom Simpson Park    | Conservation Area | Quindalup   | 40378.16  | -8.05  | 1607.75   | 1       | 8       |
| PAB 15-51 | Tom Simpson Park    | Open Space        | Quindalup   | 40378.16  | -8.05  | 1607.75   | 1       | 9       |
| PAB 15-53 | Tom Simpson Park    | Open Space        | Quindalup   | 40378.16  | -8.05  | 1607.75   | 1       | 6       |
| PAB 15-54 | Tom Simpson Park    | Open Space        | Quindalup   | 40378.16  | -8.05  | 1607.75   | 1       | 5       |
| PAB 15-57 | Tom Simpson Park    | Open Space        | Quindalup   | 40378.16  | -8.05  | 1607.75   | 1       | 7       |
| PAB 15-43 | Trappers Park       | Conservation Area | Karrakatta  | 20217.03  | 6.86   | 8242.00   | 1       | 5       |
| PAB 15-23 | Trigonometric Park  | Conservation Area | LS1         | 26248.50  | -2.43  | 2915.25   | 1       | 7       |
| PAB 15-24 | Trigonometric Park  | Conservation Area | LS1         | 26248.50  | -2.43  | 2915.25   | 1       | 7       |
| PAB 15-25 | Trigonometric Park  | Conservation Area | LS1         | 26248.50  | -2.43  | 2915.25   | 1       | 6       |
| PAB 15-26 | Trigonometric Park  | Conservation Area | LS1         | 26248.50  | -2.43  | 2915.25   | 1       | 3       |
| PAB 15-27 | Trigonometric Park  | Conservation Area | LS1         | 26248.50  | -2.43  | 2915.25   | 1       | 4       |
| PAB 15-47 | Warrandyte Park     | Park              | Quindalup   | 72200.40  | 4.21   | 3348.00   | 1       | 5       |
| PAB 14-19 | Warwick Open Space  | Conservation Area | S7          | 622478.35 | -2.14  | 165379.75 | 1       | 5       |
| PAB 14-22 | Warwick Open Space  | Conservation Area | S7          | 622478.35 | -2.14  | 165379.75 | 1       | 1       |
| PAB 14-23 | Warwick Open Space  | Conservation Area | S7          | 622478.35 | -2.14  | 165379.75 | 1       | 10      |
| PAB 14-24 | Warwick Open Space  | Conservation Area | S7          | 622478.35 | -2.14  | 165379.75 | 1       | 6       |
| PAB 14-25 | Warwick Open Space  | Conservation Area | S7          | 622478.35 | -2.14  | 165379.75 | 1       | 17      |
| PAB 14-26 | Warwick Open Space  | Conservation Area | S7          | 622478.35 | -2.14  | 165379.75 | 1       | 1       |
| PAB 14-29 | Warwick Open Space  | Conservation Area | S7          | 622478.35 | -2.14  | 165379.75 | 1       | 1       |
| PAB 14-35 | Warwick Open Space  | Conservation Area | S7          | 622478.35 | -2.14  | 165379.75 | 1       | 2       |
| PAB 14-37 | Warwick Open Space  | Conservation Area | S7          | 622478.35 | -2.14  | 165379.75 | 1       | 1       |
| PAB 14-38 | Warwick Open Space  | Conservation Area | S7          | 622478.35 | -2.14  | 165379.75 | 1       | 2       |
| PAB 14-40 | Warwick Open Space  | Conservation Area | S7          | 622478.35 | -2.14  | 165379.75 | 1       | 1       |
| PAB 14-42 | Warwick Open Space  | Conservation Area | S7          | 622478.35 | -2.14  | 165379.75 | 1       | 4       |
| PAB 14-43 | Warwick Open Space  | Conservation Area | S7          | 622478.35 | -2.14  | 165379.75 | 0       | 0       |
| PAB 14-44 | Warwick Open Space  | Conservation Area | S7          | 622478.35 | -2.14  | 165379.75 | 0       | 0       |
| PAB 15-39 | Waterview Park      | Open Space        | Spearwood   | 3748.19   | 4.23   | 1459.50   | 1       | 8       |

















Table S3. Co-occurrence species matrix

| sp1 | sp2 | sp1_inc | sp2_inc | obs_cooccur | prob_cooccur | exp_cooccur | p_lt    | p_gt     | sp1_name     | sp2_name        |
|-----|-----|---------|---------|-------------|--------------|-------------|---------|----------|--------------|-----------------|
| 11  | 13  | 130     | 98      | 84          | 0.451        | 75.8        | 0.99938 | 0.00215  | multivora    | arenaria        |
| 11  | 17  | 130     | 88      | 78          | 0.405        | 68.1        | 0.99995 | 0.00022  | multivora    | amnicola        |
| 11  | 32  | 130     | 81      | 72          | 0.373        | 62.7        | 0.9999  | 0.00046  | multivora    | cinnamomi       |
| 11  | 38  | 130     | 77      | 66          | 0.355        | 59.6        | 0.9953  | 0.01345  | multivora    | pseudocryptogea |
| 2   | 11  | 70      | 130     | 61          | 0.322        | 54.2        | 0.99754 | 0.00788  | nicotianae   | multivora       |
| 11  | 30  | 130     | 69      | 61          | 0.318        | 53.4        | 0.99915 | 0.00315  | multivora    | thermophila     |
| 13  | 17  | 98      | 88      | 66          | 0.306        | 51.3        | 1       | 0        | arenaria     | amnicola        |
| 13  | 32  | 98      | 81      | 58          | 0.281        | 47.2        | 0.99981 | 0.00062  | arenaria     | cinnamomi       |
| 13  | 38  | 98      | 77      | 54          | 0.267        | 44.9        | 0.99878 | 0.00336  | arenaria     | pseudocryptogea |
| 17  | 32  | 88      | 81      | 58          | 0.253        | 42.4        | 1       | 0        | amnicola     | cinnamomi       |
| 2   | 13  | 70      | 98      | 50          | 0.243        | 40.8        | 0.99903 | 0.00278  | nicotianae   | arenaria        |
| 13  | 30  | 98      | 69      | 46          | 0.24         | 40.2        | 0.97706 | 0.04699  | arenaria     | thermophila     |
| 17  | 38  | 88      | 77      | 44          | 0.24         | 40.3        | 0.90189 | 0.16312  | amnicola     | pseudocryptogea |
| 32  | 38  | 81      | 77      | 41          | 0.221        | 37.1        | 0.91248 | 0.14781  | cinnamomi    | pseudocryptogea |
| 2   | 17  | 70      | 88      | 50          | 0.218        | 36.7        | 0.99999 | 2.00E-05 | nicotianae   | amnicola        |
| 17  | 30  | 88      | 69      | 43          | 0.215        | 36.1        | 0.98977 | 0.0227   | amnicola     | thermophila     |
| 2   | 32  | 70      | 81      | 44          | 0.201        | 33.8        | 0.99964 | 0.00109  | nicotianae   | cinnamomi       |
| 30  | 32  | 69      | 81      | 43          | 0.198        | 33.3        | 0.99937 | 0.00182  | thermophila  | cinnamomi       |
| 2   | 38  | 70      | 77      | 37          | 0.191        | 32.1        | 0.95559 | 0.08269  | nicotianae   | pseudocryptogea |
| 30  | 38  | 69      | 77      | 37          | 0.188        | 31.6        | 0.96782 | 0.06246  | thermophila  | pseudocryptogea |
| 2   | 30  | 70      | 69      | 41          | 0.171        | 28.8        | 0.99998 | 9.00E-05 | nicotianae   | thermophila     |
| 11  | 24  | 130     | 35      | 32          | 0.161        | 27.1        | 0.99614 | 0.01724  | multivora    | kwongonina      |
| 8   | 11  | 28      | 130     | 25          | 0.129        | 21.7        | 0.97815 | 0.07469  | citrophthora | multivora       |
| 13  | 24  | 98      | 35      | 25          | 0.122        | 20.4        | 0.97655 | 0.05627  | arenaria     | kwongonina      |
| 6   | 11  | 25      | 130     | 24          | 0.115        | 19.3        | 0.99909 | 0.00909  | capensis     | multivora       |
| 17  | 24  | 88      | 35      | 22          | 0.109        | 18.3        | 0.94423 | 0.11389  | amnicola     | kwongonina      |
| 11  | 14  | 130     | 23      | 16          | 0.106        | 17.8        | 0.23759 | 0.88872  | multivora    | boodjera        |
| 5   | 11  | 22      | 130     | 11          | 0.101        | 17          | 0.00228 | 0.99955  | AUS2B        | multivora       |
| 24  | 32  | 35      | 81      | 24          | 0.1          | 16.9        | 0.99827 | 0.00566  | kwongonina   | cinnamomi       |
| 8   | 13  | 28      | 98      | 22          | 0.097        | 16.3        | 0.99629 | 0.01319  | citrophthora | arenaria        |
| 24  | 38  | 35      | 77      | 12          | 0.095        | 16          | 0.08777 | 0.95937  | kwongonina   | pseudocryptogea |
| 2   | 24  | 70      | 35      | 17          | 0.087        | 14.6        | 0.86923 | 0.22937  | nicotianae   | kwongonina      |
| 6   | 13  | 25      | 98      | 19          | 0.087        | 14.6        | 0.98677 | 0.04011  | capensis     | arenaria        |
| 8   | 17  | 28      | 88      | 24          | 0.087        | 14.7        | 0.99999 | 7.00E-05 | citrophthora | amnicola        |
| 24  | 30  | 35      | 69      | 23          | 0.086        | 14.4        | 0.99978 | 9.00E-04 | kwongonina   | thermophila     |
| 11  | 23  | 130     | 18      | 18          | 0.083        | 13.9        | 1       | 0.00741  | multivora    | inundata        |
| 8   | 32  | 28      | 81      | 20          | 0.08         | 13.5        | 0.99833 | 0.00612  | citrophthora | cinnamomi       |
| 13  | 14  | 98      | 23      | 13          | 0.08         | 13.4        | 0.51135 | 0.66423  | arenaria     | boodjera        |
| 6   | 17  | 25      | 88      | 19          | 0.078        | 13.1        | 0.99781 | 0.00852  | capensis     | amnicola        |
| 5   | 13  | 22      | 98      | 14          | 0.076        | 12.8        | 0.77876 | 0.38227  | AUS2B        | arenaria        |
| 8   | 38  | 28      | 77      | 15          | 0.076        | 12.8        | 0.86597 | 0.24394  | citrophthora | pseudocryptogea |

| sp1 | sp2 | sp1_inc | sp2_inc | obs_cooccur | prob_cooccur | exp_cooccur | p_lt    | p_gt     | sp1_name     | sp2_name        |
|-----|-----|---------|---------|-------------|--------------|-------------|---------|----------|--------------|-----------------|
| 11  | 15  | 130     | 16      | 16          | 0.074        | 12.4        | 1       | 0.0132   | multivora    | palmivora       |
| 11  | 43  | 130     | 16      | 14          | 0.074        | 12.4        | 0.91702 | 0.24991  | multivora    | versiformis     |
| 6   | 32  | 25      | 81      | 17          | 0.072        | 12.1        | 0.99138 | 0.02638  | capensis     | cinnamomi       |
| 14  | 17  | 23      | 88      | 13          | 0.072        | 12          | 0.74215 | 0.42067  | boodjera     | amnicola        |
| 2   | 8   | 70      | 28      | 20          | 0.069        | 11.7        | 0.9999  | 0.00052  | nicotianae   | citrophthora    |
| 5   | 17  | 22      | 88      | 13          | 0.069        | 11.5        | 0.81693 | 0.32864  | AUS2B        | amnicola        |
| 11  | 12  | 130     | 15      | 13          | 0.069        | 11.6        | 0.89616 | 0.29485  | multivora    | pachypleura     |
| 11  | 19  | 130     | 15      | 12          | 0.069        | 11.6        | 0.70515 | 0.54736  | multivora    | crassamura      |
| 11  | 27  | 130     | 15      | 12          | 0.069        | 11.6        | 0.70515 | 0.54736  | multivora    | moyootj         |
| 6   | 38  | 25      | 77      | 18          | 0.068        | 11.5        | 0.99901 | 0.00412  | capensis     | pseudocryptogea |
| 8   | 30  | 28      | 69      | 17          | 0.068        | 11.5        | 0.99394 | 0.01828  | citrophthora | thermophila     |
| 14  | 32  | 23      | 81      | 14          | 0.066        | 11.1        | 0.93758 | 0.13944  | boodjera     | cinnamomi       |
| 11  | 18  | 130     | 14      | 13          | 0.064        | 10.8        | 0.97669 | 0.12931  | multivora    | bilborang       |
| 11  | 22  | 130     | 14      | 14          | 0.064        | 10.8        | 1       | 0.02331  | multivora    | gregata         |
| 5   | 32  | 22      | 81      | 13          | 0.063        | 10.6        | 0.90744 | 0.19322  | AUS2B        | cinnamomi       |
| 14  | 38  | 23      | 77      | 15          | 0.063        | 10.5        | 0.98744 | 0.03726  | boodjera     | pseudocryptogea |
| 2   | 6   | 70      | 25      | 14          | 0.062        | 10.4        | 0.96297 | 0.08828  | nicotianae   | capensis        |
| 13  | 23  | 98      | 18      | 12          | 0.062        | 10.5        | 0.84421 | 0.31002  | arenaria     | inundata        |
| 6   | 30  | 25      | 69      | 12          | 0.061        | 10.3        | 0.83741 | 0.29165  | capensis     | thermophila     |
| 5   | 38  | 22      | 77      | 10          | 0.06         | 10.1        | 0.57742 | 0.60353  | AUS2B        | pseudocryptogea |
| 11  | 28  | 130     | 13      | 10          | 0.06         | 10.1        | 0.59863 | 0.66669  | multivora    | rosacearum      |
| 2   | 14  | 70      | 23      | 11          | 0.057        | 9.6         | 0.80901 | 0.33577  | nicotianae   | boodjera        |
| 13  | 15  | 98      | 16      | 10          | 0.056        | 9.3         | 0.72981 | 0.46964  | arenaria     | palmivora       |
| 13  | 43  | 98      | 16      | 9           | 0.056        | 9.3         | 0.53036 | 0.67454  | arenaria     | versiformis     |
| 14  | 30  | 23      | 69      | 15          | 0.056        | 9.4         | 0.99699 | 0.01101  | boodjera     | thermophila     |
| 17  | 23  | 88      | 18      | 10          | 0.056        | 9.4         | 0.70236 | 0.4871   | amnicola     | inundata        |
| 2   | 5   | 70      | 22      | 10          | 0.055        | 9.2         | 0.73347 | 0.43501  | nicotianae   | AUS2B           |
| 4   | 11  | 12      | 130     | 10          | 0.055        | 9.3         | 0.80272 | 0.4626   | AUS2A        | multivora       |
| 5   | 30  | 22      | 69      | 11          | 0.054        | 9           | 0.87359 | 0.24661  | AUS2B        | thermophila     |
| 12  | 13  | 15      | 98      | 11          | 0.052        | 8.8         | 0.93777 | 0.16893  | pachypleura  | arenaria        |
| 13  | 19  | 98      | 15      | 7           | 0.052        | 8.8         | 0.24478 | 0.89087  | arenaria     | crassamura      |
| 13  | 27  | 98      | 15      | 13          | 0.052        | 8.8         | 0.99744 | 0.01604  | arenaria     | moyootj         |
| 23  | 32  | 18      | 81      | 10          | 0.052        | 8.7         | 0.81828 | 0.34066  | inundata     | cinnamomi       |
| 11  | 41  | 130     | 11      | 9           | 0.051        | 8.5         | 0.7585  | 0.52838  | multivora    | constricta      |
| 15  | 17  | 16      | 88      | 9           | 0.05         | 8.4         | 0.72062 | 0.47652  | palmivora    | amnicola        |
| 17  | 43  | 88      | 16      | 11          | 0.05         | 8.4         | 0.95151 | 0.13206  | amnicola     | versiformis     |
| 13  | 18  | 98      | 14      | 9           | 0.049        | 8.2         | 0.77239 | 0.4307   | arenaria     | bilborang       |
| 13  | 22  | 98      | 14      | 9           | 0.049        | 8.2         | 0.77239 | 0.4307   | arenaria     | gregata         |
| 23  | 38  | 18      | 77      | 17          | 0.049        | 8.2         | 1       | 1.00E-05 | inundata     | pseudocryptogea |
| 12  | 17  | 15      | 88      | 11          | 0.047        | 7.9         | 0.97797 | 0.07461  | pachypleura  | amnicola        |
| 17  | 19  | 88      | 15      | 10          | 0.047        | 7.9         | 0.92539 | 0.18731  | amnicola     | crassamura      |
| 17  | 27  | 88      | 15      | 13          | 0.047        | 7.9         | 0.99943 | 0.00451  | amnicola     | moyootj         |

| sp1 | sp2 | sp1_inc | sp2_inc | obs_cooccur | prob_cooccur | exp_cooccur | p_lt    | p_gt    | sp1_name        | sp2_name        |
|-----|-----|---------|---------|-------------|--------------|-------------|---------|---------|-----------------|-----------------|
| 11  | 26  | 130     | 10      | 9           | 0.046        | 7.7         | 0.92908 | 0.29366 | multivora       | litoralis       |
| 15  | 32  | 16      | 81      | 10          | 0.046        | 7.7         | 0.9291  | 0.17393 | palmivora       | cinnamomi       |
| 32  | 43  | 81      | 16      | 12          | 0.046        | 7.7         | 0.99486 | 0.02224 | cinnamomi       | versiformis     |
| 2   | 23  | 70      | 18      | 14          | 0.045        | 7.5         | 0.99982 | 0.00119 | nicotianae      | inundata        |
| 13  | 28  | 98      | 13      | 9           | 0.045        | 7.6         | 0.8702  | 0.30015 | arenaria        | rosacearum      |
| 15  | 38  | 16      | 77      | 13          | 0.044        | 7.3         | 0.99959 | 0.00283 | palmivora       | pseudocryptogea |
| 17  | 18  | 88      | 14      | 5           | 0.044        | 7.3         | 0.15285 | 0.94403 | amnicola        | bilborang       |
| 17  | 22  | 88      | 14      | 9           | 0.044        | 7.3         | 0.88783 | 0.25864 | amnicola        | gregata         |
| 23  | 30  | 18      | 69      | 13          | 0.044        | 7.4         | 0.99901 | 0.00499 | inundata        | thermophila     |
| 38  | 43  | 77      | 16      | 12          | 0.044        | 7.3         | 0.99717 | 0.0135  | pseudocryptogea | versiformis     |
| 12  | 32  | 15      | 81      | 10          | 0.043        | 7.2         | 0.96255 | 0.10953 | pachypleura     | cinnamomi       |
| 19  | 32  | 15      | 81      | 9           | 0.043        | 7.2         | 0.89047 | 0.24637 | crassamura      | cinnamomi       |
| 27  | 32  | 15      | 81      | 8           | 0.043        | 7.2         | 0.75363 | 0.44157 | moyootj         | cinnamomi       |
| 4   | 13  | 12      | 98      | 6           | 0.042        | 7           | 0.37617 | 0.81936 | AUS2A           | arenaria        |
| 3   | 11  | 9       | 130     | 6           | 0.041        | 7           | 0.33118 | 0.88177 | AUS1D           | multivora       |
| 12  | 38  | 15      | 77      | 9           | 0.041        | 6.9         | 0.92297 | 0.18872 | pachypleura     | pseudocryptogea |
| 17  | 28  | 88      | 13      | 8           | 0.041        | 6.8         | 0.83552 | 0.34691 | amnicola        | rosacearum      |
| 19  | 38  | 15      | 77      | 6           | 0.041        | 6.9         | 0.42212 | 0.77089 | crassamura      | pseudocryptogea |
| 27  | 38  | 15      | 77      | 11          | 0.041        | 6.9         | 0.9945  | 0.02405 | moyootj         | pseudocryptogea |
| 2   | 15  | 70      | 16      | 10          | 0.04         | 6.7         | 0.97897 | 0.06638 | nicotianae      | palmivora       |
| 2   | 43  | 70      | 16      | 10          | 0.04         | 6.7         | 0.97897 | 0.06638 | nicotianae      | versiformis     |
| 18  | 32  | 14      | 81      | 7           | 0.04         | 6.7         | 0.66254 | 0.55412 | bilborang       | cinnamomi       |
| 22  | 32  | 14      | 81      | 9           | 0.04         | 6.7         | 0.93852 | 0.16427 | gregata         | cinnamomi       |
| 15  | 30  | 16      | 69      | 8           | 0.039        | 6.6         | 0.84846 | 0.30702 | palmivora       | thermophila     |
| 30  | 43  | 69      | 16      | 8           | 0.039        | 6.6         | 0.84846 | 0.30702 | thermophila     | versiformis     |
| 13  | 41  | 98      | 11      | 10          | 0.038        | 6.4         | 0.99792 | 0.02025 | arenaria        | constricta      |
| 18  | 38  | 14      | 77      | 11          | 0.038        | 6.4         | 0.99821 | 0.01045 | bilborang       | pseudocryptogea |
| 22  | 38  | 14      | 77      | 9           | 0.038        | 6.4         | 0.95829 | 0.12171 | gregata         | pseudocryptogea |
| 2   | 12  | 70      | 15      | 6           | 0.037        | 6.2         | 0.55929 | 0.65502 | nicotianae      | pachypleura     |
| 2   | 19  | 70      | 15      | 9           | 0.037        | 6.2         | 0.96197 | 0.10913 | nicotianae      | crassamura      |
| 2   | 27  | 70      | 15      | 8           | 0.037        | 6.2         | 0.89087 | 0.24478 | nicotianae      | moyootj         |
| 4   | 17  | 12      | 88      | 5           | 0.037        | 6.3         | 0.31844 | 0.85787 | AUS2A           | amnicola        |
| 11  | 33  | 130     | 8       | 7           | 0.037        | 6.2         | 0.87777 | 0.42431 | multivora       | fragariae       |
| 12  | 30  | 15      | 69      | 7           | 0.037        | 6.2         | 0.77072 | 0.42112 | pachypleura     | thermophila     |
| 19  | 30  | 15      | 69      | 7           | 0.037        | 6.2         | 0.77072 | 0.42112 | crassamura      | thermophila     |
| 27  | 30  | 15      | 69      | 7           | 0.037        | 6.2         | 0.77072 | 0.42112 | moyootj         | thermophila     |
| 28  | 32  | 13      | 81      | 8           | 0.037        | 6.3         | 0.90181 | 0.23849 | rosacearum      | cinnamomi       |
| 2   | 18  | 70      | 14      | 9           | 0.035        | 5.8         | 0.98062 | 0.06647 | nicotianae      | bilborang       |
| 2   | 22  | 70      | 14      | 9           | 0.035        | 5.8         | 0.98062 | 0.06647 | nicotianae      | gregata         |
| 8   | 24  | 28      | 35      | 8           | 0.035        | 5.8         | 0.90966 | 0.19511 | citrophthora    | kwongonina      |
| 13  | 26  | 98      | 10      | 10          | 0.035        | 5.8         | 1       | 0.00373 | arenaria        | litoralis       |
| 28  | 38  | 13      | 77      | 10          | 0.035        | 6           | 0.99635 | 0.01938 | rosacearum      | pseudocryptogea |



| sp1 | sp2 | sp1_inc | sp2_inc | obs_cooccur | prob_cooccur | exp_cooccur | p_lt    | p_gt    | sp1_name        | sp2_name        |
|-----|-----|---------|---------|-------------|--------------|-------------|---------|---------|-----------------|-----------------|
| 4   | 32  | 12      | 81      | 7           | 0.034        | 5.8         | 0.84785 | 0.33417 | AUS2A           | cinnamomi       |
| 17  | 41  | 88      | 11      | 9           | 0.034        | 5.8         | 0.99271 | 0.04075 | amnicola        | constricta      |
| 18  | 30  | 14      | 69      | 11          | 0.034        | 5.7         | 0.9995  | 0.00355 | bilborang       | thermophila     |
| 22  | 30  | 14      | 69      | 11          | 0.034        | 5.7         | 0.9995  | 0.00355 | gregata         | thermophila     |
| 4   | 38  | 12      | 77      | 11          | 0.033        | 5.5         | 0.99995 | 0.00091 | AUS2A           | pseudocryptogea |
| 2   | 28  | 70      | 13      | 7           | 0.032        | 5.4         | 0.88811 | 0.26086 | nicotianae      | rosacearum      |
| 11  | 39  | 130     | 7       | 5           | 0.032        | 5.4         | 0.49682 | 0.80794 | multivora       | sp. kelmania    |
| 28  | 30  | 13      | 69      | 8           | 0.032        | 5.3         | 0.96737 | 0.10324 | rosacearum      | thermophila     |
| 32  | 41  | 81      | 11      | 6           | 0.032        | 5.3         | 0.77201 | 0.45026 | cinnamomi       | constricta      |
| 3   | 13  | 9       | 98      | 5           | 0.031        | 5.2         | 0.56137 | 0.70221 | AUS1D           | arenaria        |
| 6   | 24  | 25      | 35      | 5           | 0.031        | 5.2         | 0.57595 | 0.63456 | capensis        | kwongonina      |
| 17  | 26  | 88      | 10      | 9           | 0.031        | 5.2         | 0.9988  | 0.01337 | amnicola        | litoralis       |
| 2   | 4   | 70      | 12      | 8           | 0.03         | 5           | 0.983   | 0.06531 | nicotianae      | AUS2A           |
| 38  | 41  | 77      | 11      | 10          | 0.03         | 5           | 0.99988 | 0.00197 | pseudocryptogea | constricta      |
| 4   | 30  | 12      | 69      | 10          | 0.029        | 4.9         | 0.99973 | 0.00261 | AUS2A           | thermophila     |
| 14  | 24  | 23      | 35      | 3           | 0.029        | 4.8         | 0.24457 | 0.90313 | boodjera        | kwongonina      |
| 26  | 32  | 10      | 81      | 5           | 0.029        | 4.8         | 0.67098 | 0.58107 | litoralis       | cinnamomi       |
| 3   | 17  | 9       | 88      | 4           | 0.028        | 4.7         | 0.44014 | 0.79716 | AUS1D           | amnicola        |
| 9   | 11  | 6       | 130     | 4           | 0.028        | 4.6         | 0.40974 | 0.87014 | elongata        | multivora       |
| 13  | 33  | 98      | 8       | 7           | 0.028        | 4.7         | 0.98816 | 0.08472 | arenaria        | fragariae       |
| 2   | 41  | 70      | 11      | 6           | 0.027        | 4.6         | 0.88663 | 0.2784  | nicotianae      | constricta      |
| 5   | 24  | 22      | 35      | 8           | 0.027        | 4.6         | 0.98214 | 0.05551 | AUS2B           | kwongonina      |
| 26  | 38  | 10      | 77      | 8           | 0.027        | 4.6         | 0.9958  | 0.02714 | litoralis       | pseudocryptogea |
| 30  | 41  | 69      | 11      | 6           | 0.027        | 4.5         | 0.89466 | 0.26426 | thermophila     | constricta      |
| 3   | 32  | 9       | 81      | 3           | 0.026        | 4.3         | 0.28473 | 0.89765 | AUS1D           | cinnamomi       |
| 2   | 26  | 70      | 10      | 5           | 0.025        | 4.2         | 0.81162 | 0.4072  | nicotianae      | litoralis       |
| 3   | 38  | 9       | 77      | 5           | 0.025        | 4.1         | 0.8276  | 0.39593 | AUS1D           | pseudocryptogea |
| 6   | 8   | 25      | 28      | 6           | 0.025        | 4.2         | 0.90834 | 0.21357 | capensis        | citrophthora    |
| 17  | 33  | 88      | 8       | 5           | 0.025        | 4.2         | 0.82807 | 0.41415 | amnicola        | fragariae       |
| 13  | 39  | 98      | 7       | 3           | 0.024        | 4.1         | 0.3196  | 0.8916  | arenaria        | sp. kelmania    |
| 26  | 30  | 10      | 69      | 4           | 0.024        | 4.1         | 0.60843 | 0.64947 | litoralis       | thermophila     |
| 8   | 14  | 28      | 23      | 4           | 0.023        | 3.8         | 0.67067 | 0.55989 | citrophthora    | boodjera        |
| 11  | 31  | 130     | 5       | 4           | 0.023        | 3.9         | 0.72744 | 0.68355 | multivora       | cambivora       |
| 32  | 33  | 81      | 8       | 5           | 0.023        | 3.9         | 0.88345 | 0.32092 | cinnamomi       | fragariae       |
| 2   | 3   | 70      | 9       | 2           | 0.022        | 3.8         | 0.19472 | 0.94671 | nicotianae      | AUS1D           |
| 3   | 30  | 9       | 69      | 4           | 0.022        | 3.7         | 0.71543 | 0.54631 | AUS1D           | thermophila     |
| 5   | 8   | 22      | 28      | 6           | 0.022        | 3.7         | 0.95239 | 0.13175 | AUS2B           | citrophthora    |
| 17  | 39  | 88      | 7       | 1           | 0.022        | 3.7         | 0.04486 | 0.99519 | amnicola        | sp. kelmania    |
| 23  | 24  | 18      | 35      | 3           | 0.022        | 3.8         | 0.45833 | 0.77177 | inundata        | kwongonina      |
| 33  | 38  | 8       | 77      | 7           | 0.022        | 3.7         | 0.99842 | 0.01805 | fragariae       | pseudocryptogea |
| 9   | 13  | 6       | 98      | 5           | 0.021        | 3.5         | 0.96311 | 0.20351 | elongata        | arenaria        |
| 2   | 33  | 70      | 8       | 6           | 0.02         | 3.3         | 0.99045 | 0.05645 | nicotianae      | fragariae       |

| sp1 | sp2 | sp1_inc | sp2_inc | obs_cooccur | prob_cooccur | exp_cooccur | p_lt    | p_gt    | sp1_name        | sp2_name        |
|-----|-----|---------|---------|-------------|--------------|-------------|---------|---------|-----------------|-----------------|
| 6   | 14  | 25      | 23      | 5           | 0.02         | 3.4         | 0.90056 | 0.23937 | capensis        | boodjera        |
| 15  | 24  | 16      | 35      | 3           | 0.02         | 3.3         | 0.56333 | 0.69048 | palmivora       | kwongonina      |
| 24  | 43  | 35      | 16      | 5           | 0.02         | 3.3         | 0.91452 | 0.21852 | kwongonina      | versiformis     |
| 30  | 33  | 69      | 8       | 6           | 0.02         | 3.3         | 0.99133 | 0.05243 | thermophila     | fragariae       |
| 32  | 39  | 81      | 7       | 0           | 0.02         | 3.4         | 0.00885 | 1       | cinnamomi       | sp. kelmania    |
| 5   | 6   | 22      | 25      | 4           | 0.019        | 3.3         | 0.79105 | 0.42044 | AUS2B           | capensis        |
| 9   | 17  | 6       | 88      | 5           | 0.019        | 3.1         | 0.98101 | 0.12884 | elongata        | amnicola        |
| 12  | 24  | 15      | 35      | 7           | 0.019        | 3.1         | 0.99639 | 0.01729 | pachypleura     | kwongonina      |
| 19  | 24  | 15      | 35      | 3           | 0.019        | 3.1         | 0.61787 | 0.64289 | crassamura      | kwongonina      |
| 24  | 27  | 35      | 15      | 3           | 0.019        | 3.1         | 0.61787 | 0.64289 | kwongonina      | moyootj         |
| 38  | 39  | 77      | 7       | 3           | 0.019        | 3.2         | 0.59216 | 0.70393 | pseudocryptogea | sp. kelmania    |
| 5   | 14  | 22      | 23      | 5           | 0.018        | 3           | 0.94363 | 0.1596  | AUS2B           | boodjera        |
| 8   | 23  | 28      | 18      | 3           | 0.018        | 3           | 0.6504  | 0.60899 | citrophthora    | inundata        |
| 10  | 11  | 4       | 130     | 4           | 0.018        | 3.1         | 1       | 0.35476 | frigida         | multivora       |
| 2   | 39  | 70      | 7       | 3           | 0.017        | 2.9         | 0.6804  | 0.61907 | nicotianae      | sp. kelmania    |
| 9   | 32  | 6       | 81      | 4           | 0.017        | 2.9         | 0.9105  | 0.30765 | elongata        | cinnamomi       |
| 13  | 31  | 98      | 5       | 4           | 0.017        | 2.9         | 0.93534 | 0.30543 | arenaria        | cambivora       |
| 18  | 24  | 14      | 35      | 1           | 0.017        | 2.9         | 0.16588 | 0.96737 | bilborang       | kwongonina      |
| 22  | 24  | 14      | 35      | 4           | 0.017        | 2.9         | 0.86098 | 0.32741 | gregata         | kwongonina      |
| 30  | 39  | 69      | 7       | 3           | 0.017        | 2.9         | 0.69247 | 0.60624 | thermophila     | sp. kelmania    |
| 6   | 23  | 25      | 18      | 7           | 0.016        | 2.7         | 0.99871 | 0.00731 | capensis        | inundata        |
| 8   | 15  | 28      | 16      | 3           | 0.016        | 2.7         | 0.73529 | 0.52005 | citrophthora    | palmivora       |
| 8   | 43  | 28      | 16      | 5           | 0.016        | 2.7         | 0.96974 | 0.10263 | citrophthora    | versiformis     |
| 9   | 38  | 6       | 77      | 3           | 0.016        | 2.7         | 0.73444 | 0.57703 | elongata        | pseudocryptogea |
| 17  | 31  | 88      | 5       | 4           | 0.016        | 2.6         | 0.9627  | 0.21493 | amnicola        | cambivora       |
| 24  | 28  | 35      | 13      | 3           | 0.016        | 2.7         | 0.72641 | 0.53431 | kwongonina      | rosacearum      |
| 2   | 9   | 70      | 6       | 3           | 0.015        | 2.5         | 0.80109 | 0.49073 | nicotianae      | elongata        |
| 4   | 24  | 12      | 35      | 0           | 0.015        | 2.5         | 0.05434 | 1       | AUS2A           | kwongonina      |
| 8   | 12  | 28      | 15      | 3           | 0.015        | 2.5         | 0.77581 | 0.47217 | citrophthora    | pachypleura     |
| 8   | 19  | 28      | 15      | 8           | 0.015        | 2.5         | 0.99993 | 0.00065 | citrophthora    | crassamura      |
| 8   | 27  | 28      | 15      | 7           | 0.015        | 2.5         | 0.99935 | 0.00432 | citrophthora    | moyootj         |
| 9   | 30  | 6       | 69      | 3           | 0.015        | 2.5         | 0.80981 | 0.47822 | elongata        | thermophila     |
| 14  | 23  | 23      | 18      | 8           | 0.015        | 2.5         | 0.99992 | 0.00066 | boodjera        | inundata        |
| 5   | 23  | 22      | 18      | 2           | 0.014        | 2.4         | 0.57096 | 0.71953 | AUS2B           | inundata        |
| 6   | 15  | 25      | 16      | 4           | 0.014        | 2.4         | 0.93318 | 0.19732 | capensis        | palmivora       |
| 6   | 43  | 25      | 16      | 6           | 0.014        | 2.4         | 0.99675 | 0.01699 | capensis        | versiformis     |
| 8   | 18  | 28      | 14      | 0           | 0.014        | 2.3         | 0.06941 | 1       | citrophthora    | bilborang       |
| 8   | 22  | 28      | 14      | 2           | 0.014        | 2.3         | 0.57743 | 0.71633 | citrophthora    | gregata         |
| 10  | 13  | 4       | 98      | 2           | 0.014        | 2.3         | 0.55467 | 0.80382 | frigida         | arenaria        |
| 11  | 35  | 130     | 3       | 3           | 0.014        | 2.3         | 1       | 0.4609  | multivora       | cryptogea       |
| 11  | 44  | 130     | 3       | 1           | 0.014        | 2.3         | 0.12861 | 0.98913 | multivora       | AUS11A          |
| 24  | 41  | 35      | 11      | 3           | 0.014        | 2.3         | 0.82662 | 0.41107 | kwongonina      | constricta      |

| sp1 | sp2 | sp1_inc | sp2_inc | obs_cooccur | prob_cooccur | exp_cooccur | p_lt    | p_gt     | sp1_name     | sp2_name        |
|-----|-----|---------|---------|-------------|--------------|-------------|---------|----------|--------------|-----------------|
| 31  | 32  | 5       | 81      | 3           | 0.014        | 2.4         | 0.83778 | 0.46614  | cambivora    | cinnamomi       |
| 31  | 38  | 5       | 77      | 4           | 0.014        | 2.3         | 0.98119 | 0.13607  | cambivora    | pseudocryptogea |
| 6   | 12  | 25      | 15      | 5           | 0.013        | 2.2         | 0.98816 | 0.05125  | capensis     | pachypleura     |
| 6   | 19  | 25      | 15      | 2           | 0.013        | 2.2         | 0.6084  | 0.68983  | capensis     | crassamura      |
| 6   | 27  | 25      | 15      | 8           | 0.013        | 2.2         | 0.99998 | 0.00026  | capensis     | moyootj         |
| 8   | 28  | 28      | 13      | 4           | 0.013        | 2.2         | 0.95589 | 0.14996  | citrophthora | rosacearum      |
| 14  | 15  | 23      | 16      | 5           | 0.013        | 2.2         | 0.98911 | 0.04786  | boodjera     | palmivora       |
| 14  | 43  | 23      | 16      | 3           | 0.013        | 2.2         | 0.84349 | 0.37883  | boodjera     | versiformis     |
| 2   | 31  | 70      | 5       | 5           | 0.012        | 2.1         | 1       | 0.01152  | nicotianae   | cambivora       |
| 4   | 8   | 12      | 28      | 0           | 0.012        | 2           | 0.10325 | 1        | AUS2A        | citrophthora    |
| 5   | 12  | 22      | 15      | 4           | 0.012        | 2           | 0.96996 | 0.11317  | AUS2B        | pachypleura     |
| 5   | 15  | 22      | 16      | 0           | 0.012        | 2.1         | 0.09432 | 1        | AUS2B        | palmivora       |
| 5   | 19  | 22      | 15      | 0           | 0.012        | 2           | 0.11016 | 1        | AUS2B        | crassamura      |
| 5   | 27  | 22      | 15      | 4           | 0.012        | 2           | 0.96996 | 0.11317  | AUS2B        | moyootj         |
| 5   | 43  | 22      | 16      | 3           | 0.012        | 2.1         | 0.86239 | 0.34983  | AUS2B        | versiformis     |
| 6   | 18  | 25      | 14      | 2           | 0.012        | 2.1         | 0.65378 | 0.65007  | capensis     | bilborang       |
| 6   | 22  | 25      | 14      | 3           | 0.012        | 2.1         | 0.86556 | 0.34622  | capensis     | gregata         |
| 6   | 28  | 25      | 13      | 6           | 0.012        | 1.9         | 0.99933 | 0.00504  | capensis     | rosacearum      |
| 10  | 17  | 4       | 88      | 3           | 0.012        | 2.1         | 0.92717 | 0.34701  | frigida      | amnicola        |
| 12  | 14  | 15      | 23      | 4           | 0.012        | 2.1         | 0.96369 | 0.12935  | pachypleura  | boodjera        |
| 14  | 19  | 23      | 15      | 3           | 0.012        | 2.1         | 0.87065 | 0.33714  | boodjera     | crassamura      |
| 14  | 27  | 23      | 15      | 2           | 0.012        | 2.1         | 0.66286 | 0.64084  | boodjera     | moyootj         |
| 24  | 26  | 35      | 10      | 1           | 0.012        | 2.1         | 0.3434  | 0.91017  | kwongonina   | litoralis       |
| 30  | 31  | 69      | 5       | 3           | 0.012        | 2.1         | 0.90781 | 0.3342   | thermophila  | cambivora       |
| 3   | 24  | 9       | 35      | 0           | 0.011        | 1.9         | 0.11519 | 1        | AUS1D        | kwongonina      |
| 4   | 6   | 12      | 25      | 2           | 0.011        | 1.8         | 0.74391 | 0.55961  | AUS2A        | capensis        |
| 5   | 18  | 22      | 14      | 0           | 0.011        | 1.8         | 0.12852 | 1        | AUS2B        | bilborang       |
| 5   | 22  | 22      | 14      | 1           | 0.011        | 1.8         | 0.42615 | 0.87148  | AUS2B        | gregata         |
| 8   | 41  | 28      | 11      | 4           | 0.011        | 1.8         | 0.97964 | 0.08852  | citrophthora | constricta      |
| 10  | 32  | 4       | 81      | 4           | 0.011        | 1.9         | 1       | 0.05196  | frigida      | cinnamomi       |
| 10  | 38  | 4       | 77      | 3           | 0.011        | 1.8         | 0.95774 | 0.25016  | frigida      | pseudocryptogea |
| 14  | 18  | 23      | 14      | 7           | 0.011        | 1.9         | 0.99993 | 0.00067  | boodjera     | bilborang       |
| 14  | 22  | 23      | 14      | 3           | 0.011        | 1.9         | 0.89546 | 0.29558  | boodjera     | gregata         |
| 14  | 28  | 23      | 13      | 2           | 0.011        | 1.8         | 0.74536 | 0.55681  | boodjera     | rosacearum      |
| 2   | 10  | 70      | 4       | 4           | 0.01         | 1.7         | 1       | 0.02864  | nicotianae   | frigida         |
| 4   | 14  | 12      | 23      | 8           | 0.01         | 1.6         | 1       | 1.00E-05 | AUS2A        | boodjera        |
| 5   | 28  | 22      | 13      | 4           | 0.01         | 1.7         | 0.9845  | 0.07128  | AUS2B        | rosacearum      |
| 6   | 41  | 25      | 11      | 7           | 0.01         | 1.6         | 0.99999 | 0.00016  | capensis     | constricta      |
| 8   | 26  | 28      | 10      | 4           | 0.01         | 1.7         | 0.9874  | 0.06374  | citrophthora | litoralis       |
| 10  | 30  | 4       | 69      | 4           | 0.01         | 1.6         | 1       | 0.027    | frigida      | thermophila     |
| 12  | 23  | 15      | 18      | 1           | 0.01         | 1.6         | 0.50351 | 0.83134  | pachypleura  | inundata        |
| 13  | 35  | 98      | 3       | 3           | 0.01         | 1.8         | 1       | 0.19595  | arenaria     | cryptogea       |

| sp1 | sp2 | sp1_inc | sp2_inc | obs_cooccur | prob_cooccur | exp_cooccur | p_lt    | p_gt     | sp1_name     | sp2_name       |
|-----|-----|---------|---------|-------------|--------------|-------------|---------|----------|--------------|----------------|
| 13  | 44  | 98      | 3       | 1           | 0.01         | 1.8         | 0.37542 | 0.92948  | arenaria     | AUS11A         |
| 15  | 23  | 16      | 18      | 5           | 0.01         | 1.7         | 0.99733 | 0.01652  | palmivora    | inundata       |
| 19  | 23  | 15      | 18      | 2           | 0.01         | 1.6         | 0.79437 | 0.49649  | crassamura   | inundata       |
| 23  | 27  | 18      | 15      | 2           | 0.01         | 1.6         | 0.79437 | 0.49649  | inundata     | moyootj        |
| 23  | 43  | 18      | 16      | 4           | 0.01         | 1.7         | 0.98348 | 0.07383  | inundata     | versiformis    |
| 24  | 33  | 35      | 8       | 2           | 0.01         | 1.7         | 0.78211 | 0.52491  | kwongonina   | fragariae      |
| 1   | 11  | 2       | 130     | 1           | 0.009        | 1.5         | 0.40227 | 0.94989  | cactorum     | multivora      |
| 3   | 8   | 9       | 28      | 2           | 0.009        | 1.5         | 0.82662 | 0.46075  | AUS1D        | citrophthora   |
| 4   | 5   | 12      | 22      | 1           | 0.009        | 1.6         | 0.51537 | 0.82563  | AUS2A        | AUS2B          |
| 5   | 41  | 22      | 11      | 4           | 0.009        | 1.4         | 0.99331 | 0.03956  | AUS2B        | constricta     |
| 6   | 26  | 25      | 10      | 7           | 0.009        | 1.5         | 1       | 6.00E-05 | capensis     | litoralis      |
| 11  | 25  | 130     | 2       | 2           | 0.009        | 1.5         | 1       | 0.59773  | multivora    | lacustris      |
| 11  | 34  | 130     | 2       | 2           | 0.009        | 1.5         | 1       | 0.59773  | multivora    | niederhauserii |
| 11  | 36  | 130     | 2       | 2           | 0.009        | 1.5         | 1       | 0.59773  | multivora    | drechsleri     |
| 11  | 37  | 130     | 2       | 2           | 0.009        | 1.5         | 1       | 0.59773  | multivora    | erythroseptica |
| 11  | 40  | 130     | 2       | 2           | 0.009        | 1.5         | 1       | 0.59773  | multivora    | AUS8C          |
| 12  | 15  | 15      | 16      | 1           | 0.009        | 1.4         | 0.56911 | 0.79223  | pachypleura  | palmivora      |
| 12  | 43  | 15      | 16      | 3           | 0.009        | 1.4         | 0.96035 | 0.15793  | pachypleura  | versiformis    |
| 14  | 41  | 23      | 11      | 2           | 0.009        | 1.5         | 0.82315 | 0.46108  | boodjera     | constricta     |
| 15  | 19  | 16      | 15      | 2           | 0.009        | 1.4         | 0.84207 | 0.43089  | palmivora    | crassamura     |
| 15  | 27  | 16      | 15      | 2           | 0.009        | 1.4         | 0.84207 | 0.43089  | palmivora    | moyootj        |
| 15  | 43  | 16      | 16      | 1           | 0.009        | 1.5         | 0.53369 | 0.81396  | palmivora    | versiformis    |
| 17  | 35  | 88      | 3       | 2           | 0.009        | 1.6         | 0.85863 | 0.5359   | amnicola     | cryptogea      |
| 17  | 44  | 88      | 3       | 0           | 0.009        | 1.6         | 0.10585 | 1        | amnicola     | AUS11A         |
| 18  | 23  | 14      | 18      | 9           | 0.009        | 1.5         | 1       | 0        | bilborang    | inundata       |
| 19  | 43  | 15      | 16      | 2           | 0.009        | 1.4         | 0.84207 | 0.43089  | crassamura   | versiformis    |
| 22  | 23  | 14      | 18      | 5           | 0.009        | 1.5         | 0.99885 | 0.00873  | gregata      | inundata       |
| 24  | 39  | 35      | 7       | 0           | 0.009        | 1.5         | 0.1884  | 1        | kwongonina   | sp. kelmania   |
| 27  | 43  | 15      | 16      | 4           | 0.009        | 1.4         | 0.99306 | 0.03965  | moyootj      | versiformis    |
| 32  | 35  | 81      | 3       | 3           | 0.009        | 1.4         | 1       | 0.10992  | cinnamomi    | cryptogea      |
| 32  | 44  | 81      | 3       | 0           | 0.009        | 1.4         | 0.13655 | 1        | cinnamomi    | AUS11A         |
| 3   | 6   | 9       | 25      | 2           | 0.008        | 1.3         | 0.86703 | 0.39839  | AUS1D        | capensis       |
| 4   | 23  | 12      | 18      | 7           | 0.008        | 1.3         | 1       | 3.00E-05 | AUS2A        | inundata       |
| 5   | 26  | 22      | 10      | 1           | 0.008        | 1.3         | 0.61392 | 0.76441  | AUS2B        | litoralis      |
| 8   | 33  | 28      | 8       | 3           | 0.008        | 1.3         | 0.97278 | 0.13001  | citrophthora | fragariae      |
| 12  | 19  | 15      | 15      | 0           | 0.008        | 1.3         | 0.23035 | 1        | pachypleura  | crassamura     |
| 12  | 27  | 15      | 15      | 0           | 0.008        | 1.3         | 0.23035 | 1        | pachypleura  | moyootj        |
| 14  | 26  | 23      | 10      | 2           | 0.008        | 1.4         | 0.85879 | 0.4094   | boodjera     | litoralis      |
| 15  | 18  | 16      | 14      | 4           | 0.008        | 1.3         | 0.99509 | 0.03093  | palmivora    | bilborang      |
| 15  | 22  | 16      | 14      | 2           | 0.008        | 1.3         | 0.86572 | 0.39449  | palmivora    | gregata        |
| 18  | 43  | 14      | 16      | 1           | 0.008        | 1.3         | 0.60551 | 0.76814  | bilborang    | versiformis    |
| 19  | 27  | 15      | 15      | 2           | 0.008        | 1.3         | 0.86424 | 0.39677  | crassamura   | moyootj        |

| sp1 | sp2 | sp1_inc | sp2_inc | obs_cooccur | prob_cooccur | exp_cooccur | p_lt    | p_gt     | sp1_name        | sp2_name        |
|-----|-----|---------|---------|-------------|--------------|-------------|---------|----------|-----------------|-----------------|
| 22  | 43  | 14      | 16      | 0           | 0.008        | 1.3         | 0.23186 | 1        | gregata         | versiformis     |
| 23  | 28  | 18      | 13      | 4           | 0.008        | 1.4         | 0.99398 | 0.03598  | inundata        | rosacearum      |
| 35  | 38  | 3       | 77      | 2           | 0.008        | 1.4         | 0.90576 | 0.43727  | cryptogea       | pseudocryptogea |
| 38  | 44  | 77      | 3       | 1           | 0.008        | 1.4         | 0.56273 | 0.84349  | pseudocryptogea | AUS11A          |
| 1   | 13  | 2       | 98      | 1           | 0.007        | 1.2         | 0.66118 | 0.82784  | cactorum        | arenaria        |
| 2   | 35  | 70      | 3       | 3           | 0.007        | 1.2         | 1       | 0.07052  | nicotianae      | cryptogea       |
| 2   | 44  | 70      | 3       | 1           | 0.007        | 1.2         | 0.62458 | 0.80405  | nicotianae      | AUS11A          |
| 3   | 5   | 9       | 22      | 2           | 0.007        | 1.2         | 0.90281 | 0.33427  | AUS1D           | AUS2B           |
| 3   | 14  | 9       | 23      | 2           | 0.007        | 1.2         | 0.89144 | 0.35577  | AUS1D           | boodjera        |
| 4   | 15  | 12      | 16      | 4           | 0.007        | 1.1         | 0.99781 | 0.0173   | AUS2A           | palmivora       |
| 4   | 43  | 12      | 16      | 1           | 0.007        | 1.1         | 0.6804  | 0.7119   | AUS2A           | versiformis     |
| 6   | 33  | 25      | 8       | 7           | 0.007        | 1.2         | 1       | 1.00E-05 | capensis        | fragariae       |
| 8   | 39  | 28      | 7       | 0           | 0.007        | 1.2         | 0.27199 | 1        | citrophthora    | sp. kelmania    |
| 9   | 24  | 6       | 35      | 1           | 0.007        | 1.2         | 0.6346  | 0.75968  | elongata        | kwongonina      |
| 12  | 18  | 15      | 14      | 0           | 0.007        | 1.2         | 0.25521 | 1        | pachypleura     | bilborang       |
| 12  | 22  | 15      | 14      | 0           | 0.007        | 1.2         | 0.25521 | 1        | pachypleura     | gregata         |
| 12  | 28  | 15      | 13      | 0           | 0.007        | 1.2         | 0.28256 | 1        | pachypleura     | rosacearum      |
| 13  | 25  | 98      | 2       | 1           | 0.007        | 1.2         | 0.66118 | 0.82784  | arenaria        | lacustris       |
| 13  | 34  | 98      | 2       | 2           | 0.007        | 1.2         | 1       | 0.33882  | arenaria        | niederhauserii  |
| 13  | 36  | 98      | 2       | 2           | 0.007        | 1.2         | 1       | 0.33882  | arenaria        | drechsleri      |
| 13  | 37  | 98      | 2       | 1           | 0.007        | 1.2         | 0.66118 | 0.82784  | arenaria        | erythroseptica  |
| 13  | 40  | 98      | 2       | 1           | 0.007        | 1.2         | 0.66118 | 0.82784  | arenaria        | AUS8C           |
| 14  | 33  | 23      | 8       | 3           | 0.007        | 1.1         | 0.98689 | 0.07951  | boodjera        | fragariae       |
| 15  | 28  | 16      | 13      | 0           | 0.007        | 1.2         | 0.25855 | 1        | palmivora       | rosacearum      |
| 18  | 19  | 14      | 15      | 1           | 0.007        | 1.2         | 0.63803 | 0.74479  | bilborang       | crassamura      |
| 18  | 22  | 14      | 14      | 5           | 0.007        | 1.2         | 0.99978 | 0.00248  | bilborang       | gregata         |
| 18  | 27  | 14      | 15      | 0           | 0.007        | 1.2         | 0.25521 | 1        | bilborang       | moyootj         |
| 19  | 22  | 15      | 14      | 2           | 0.007        | 1.2         | 0.8851  | 0.36197  | crassamura      | gregata         |
| 19  | 28  | 15      | 13      | 1           | 0.007        | 1.2         | 0.67333 | 0.71744  | crassamura      | rosacearum      |
| 22  | 27  | 14      | 15      | 1           | 0.007        | 1.2         | 0.63803 | 0.74479  | gregata         | moyootj         |
| 23  | 41  | 18      | 11      | 3           | 0.007        | 1.2         | 0.98083 | 0.09868  | inundata        | constricta      |
| 27  | 28  | 15      | 13      | 6           | 0.007        | 1.2         | 0.99999 | 0.00021  | moyootj         | rosacearum      |
| 28  | 43  | 13      | 16      | 4           | 0.007        | 1.2         | 0.99665 | 0.02349  | rosacearum      | versiformis     |
| 30  | 35  | 69      | 3       | 1           | 0.007        | 1.2         | 0.63329 | 0.79793  | thermophila     | cryptogea       |
| 30  | 44  | 69      | 3       | 0           | 0.007        | 1.2         | 0.20207 | 1        | thermophila     | AUS11A          |
| 1   | 17  | 2       | 88      | 0           | 0.006        | 1           | 0.22526 | 1        | cactorum        | amnicola        |
| 4   | 12  | 12      | 15      | 0           | 0.006        | 1.1         | 0.31262 | 1        | AUS2A           | pachypleura     |
| 4   | 18  | 12      | 14      | 10          | 0.006        | 1           | 1       | 0        | AUS2A           | bilborang       |
| 4   | 19  | 12      | 15      | 1           | 0.006        | 1.1         | 0.70889 | 0.68738  | AUS2A           | crassamura      |
| 4   | 22  | 12      | 14      | 4           | 0.006        | 1           | 0.99892 | 0.01033  | AUS2A           | gregata         |
| 4   | 27  | 12      | 15      | 0           | 0.006        | 1.1         | 0.31262 | 1        | AUS2A           | moyootj         |
| 5   | 33  | 22      | 8       | 2           | 0.006        | 1           | 0.92915 | 0.28159  | AUS2B           | fragariae       |

| sp1 | sp2 | sp1_inc | sp2_inc | obs_cooccur | prob_cooccur | exp_cooccur | p_lt    | p_gt    | sp1_name     | sp2_name       |
|-----|-----|---------|---------|-------------|--------------|-------------|---------|---------|--------------|----------------|
| 6   | 39  | 25      | 7       | 0           | 0.006        | 1           | 0.31653 | 1       | capensis     | sp. kelmania   |
| 8   | 9   | 28      | 6       | 2           | 0.006        | 1           | 0.94113 | 0.26197 | citrophthora | elongata       |
| 15  | 41  | 16      | 11      | 0           | 0.006        | 1           | 0.32079 | 1       | palmivora    | constricta     |
| 17  | 25  | 88      | 2       | 1           | 0.006        | 1           | 0.72712 | 0.77474 | amnicola     | lacustris      |
| 17  | 34  | 88      | 2       | 1           | 0.006        | 1           | 0.72712 | 0.77474 | amnicola     | niederhauserii |
| 17  | 36  | 88      | 2       | 2           | 0.006        | 1           | 1       | 0.27288 | amnicola     | drechsleri     |
| 17  | 37  | 88      | 2       | 1           | 0.006        | 1           | 0.72712 | 0.77474 | amnicola     | erythroseptica |
| 17  | 40  | 88      | 2       | 1           | 0.006        | 1           | 0.72712 | 0.77474 | amnicola     | AUS8C          |
| 18  | 28  | 14      | 13      | 2           | 0.006        | 1.1         | 0.9199  | 0.29585 | bilborang    | rosacearum     |
| 22  | 28  | 14      | 13      | 2           | 0.006        | 1.1         | 0.9199  | 0.29585 | gregata      | rosacearum     |
| 23  | 26  | 18      | 10      | 2           | 0.006        | 1.1         | 0.92301 | 0.29114 | inundata     | litoralis      |
| 24  | 31  | 35      | 5       | 1           | 0.006        | 1           | 0.72119 | 0.69397 | kwongonina   | cambivora      |
| 41  | 43  | 11      | 16      | 5           | 0.006        | 1           | 0.9999  | 0.00135 | constricta   | versiformis    |