

Table S15. Detailed information on the identification success rate of two-locus combinations at the genus level and the corresponding statistical test results.

| Genus | N | <i>trnH-psbA</i> +ITS2 and <i>trnH-psbA</i> + <i>matK</i> | | | | <i>trnH-psbA</i> +ITS2 and <i>trnH-psbA</i> + <i>rbcL</i> | | | | <i>matK</i> + <i>rbcL</i> and <i>trnH-psbA</i> +ITS2 | | | |
|--------------|-----|---|--|--------|--|---|--|--------|--|--|------------------------------------|--------|---|
| | | <i>trnH-psbA</i> +ITS2 success (%) | <i>trnH-psbA</i> + <i>matK</i> success (%) | 2-Tail | Result | <i>trnH-psbA</i> +ITS2 success (%) | <i>trnH-psbA</i> + <i>rbcL</i> success (%) | 2-Tail | Result | <i>matK</i> + <i>rbcL</i> success (%) | <i>trnH-psbA</i> +ITS2 success (%) | 2-Tail | Result |
| Ficus | 9 | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A |
| Chenopodium | 24 | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A |
| Amaranthus | 24 | 54.2 | 45.8 | 0.7732 | N/S | 54.2 | 20.8 | 0.0355 | <i>trnH-psbA</i> +ITS2> <i>trnH-psbA</i> + <i>rbcL</i> | 45.8 | 54.2 | 0.7732 | N/S |
| Silene | 19 | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A | 89.5 | 100.0 | 0.4865 | N/S |
| Rheum | 6 | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A |
| Begonia | 46 | 100.0 | 45.7 | <.0001 | <i>trnH-psbA</i> +ITS2> <i>trnH-psbA</i> + <i>matK</i> | 100.0 | 54.3 | <.0001 | <i>trnH-psbA</i> +ITS2> <i>trnH-psbA</i> + <i>rbcL</i> | 30.4 | 100.0 | <.0001 | <i>trnH-psbA</i> +ITS2> <i>matK</i> + <i>rbcL</i> |
| Prunus | 17 | 100.0 | 100.0 | N/A | N/A | 100.0 | 64.7 | 0.0184 | <i>trnH-psbA</i> +ITS2> <i>trnH-psbA</i> + <i>rbcL</i> | 100.0 | 100.0 | N/A | N/A |
| Parnassia | 160 | 98.1 | 90.6 | 0.006 | <i>trnH-psbA</i> +ITS2> <i>trnH-psbA</i> + <i>matK</i> | 98.1 | 88.8 | 0.001 | <i>trnH-psbA</i> +ITS2> <i>trnH-psbA</i> + <i>rbcL</i> | 71.9 | 98.1 | <.0001 | <i>trnH-psbA</i> +ITS2> <i>matK</i> + <i>rbcL</i> |
| Ribes | 7 | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A |
| Acer | 12 | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A |
| Panax | 4 | 100.0 | 50.0 | 0.4286 | N/S | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A |
| Datura | 14 | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A |
| Solanum | 11 | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A |
| Sambucus | 22 | 95.5 | 95.5 | 1 | N/S | 95.5 | 95.5 | 1 | N/S | 50.0 | 95.5 | 0.0015 | <i>trnH-psbA</i> +ITS2> <i>matK</i> + <i>rbcL</i> |
| Viburnum | 24 | 91.7 | 66.7 | 0.0723 | N/S | 91.7 | 66.7 | 0.0723 | N/S | 41.7 | 91.7 | 0.0005 | <i>trnH-psbA</i> +ITS2> <i>matK</i> + <i>rbcL</i> |
| Ligularia | 26 | 100.0 | 53.8 | <.0001 | <i>trnH-psbA</i> +ITS2> <i>trnH-psbA</i> + <i>matK</i> | 100.0 | 30.8 | <.0001 | <i>trnH-psbA</i> +ITS2> <i>trnH-psbA</i> + <i>rbcL</i> | 42.3 | 100.0 | <.0001 | <i>trnH-psbA</i> +ITS2> <i>matK</i> + <i>rbcL</i> |
| Nyssa | 6 | 100.0 | 33.3 | 0.0606 | N/S | 100.0 | 33.3 | 0.0606 | N/S | 33.3 | 100.0 | 0.0606 | N/S |
| Ilex | 11 | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A |
| Rhododendron | 211 | 52.6 | 57.3 | 0.3786 | N/S | 52.6 | 50.7 | 0.7701 | N/S | 36.5 | 52.6 | 0.0012 | <i>trnH-psbA</i> +ITS2> <i>matK</i> + <i>rbcL</i> |
| Allium | 59 | 86.4 | 67.8 | 0.0273 | <i>trnH-psbA</i> +ITS2> <i>trnH-psbA</i> + <i>matK</i> | 86.4 | 78.0 | 0.3359 | N/S | 72.9 | 86.4 | 0.1082 | N/S |
| Cassiope | 12 | 75.0 | 58.3 | 0.6668 | N/S | 75.0 | 58.3 | 0.6668 | N/S | 66.7 | 75.0 | 1 | N/S |
| Gaultheria | 118 | 49.2 | 56.8 | 0.2968 | N/S | 49.2 | 38.1 | 0.115 | N/S | 56.8 | 49.2 | 0.2968 | N/S |

| | | | | | | | | | | | | | |
|---------------|-----|-------|-------|--------|--|-------|-------|--------|--|-------|-------|--------|---|
| Ligustrum | 58 | 91.4 | 86.2 | 0.5577 | N/S | 91.4 | 82.8 | 0.2681 | N/S | 79.3 | 91.4 | 0.1133 | N/S |
| Alisma | 5 | 100.0 | 0.0 | 0.0079 | <i>trnH-psbA</i> +ITS2> <i>trnH-psbA</i> + <i>matK</i> | 100.0 | 0.0 | 0.0079 | <i>trnH-psbA</i> +ITS2> <i>trnH-psbA</i> + <i>rbcL</i> | 0.0 | 100.0 | 0.0079 | <i>trnH-psbA</i> +ITS2> <i>matK</i> + <i>rbcL</i> |
| Maianthemum | 29 | 89.7 | 82.8 | 0.7057 | N/S | 89.7 | 58.6 | 0.0148 | <i>trnH-psbA</i> +ITS2> <i>trnH-psbA</i> + <i>rbcL</i> | 82.8 | 89.7 | 0.7057 | N/S |
| Cyananthus | 24 | 100.0 | 79.2 | 0.0496 | <i>trnH-psbA</i> +ITS2> <i>trnH-psbA</i> + <i>matK</i> | 100.0 | 75.0 | 0.0219 | <i>trnH-psbA</i> +ITS2> <i>trnH-psbA</i> + <i>rbcL</i> | 62.5 | 100.0 | 0.0016 | <i>trnH-psbA</i> +ITS2> <i>matK</i> + <i>rbcL</i> |
| Lepidium | 21 | 47.6 | 42.9 | 1 | N/S | 47.6 | 42.9 | 1 | N/S | 23.8 | 47.6 | 0.1971 | N/S |
| Gentiana | 8 | 50.0 | 100.0 | 0.0769 | N/S | 50.0 | 50.0 | 1 | N/S | 100.0 | 50.0 | 0.0769 | N/S |
| Hydrangea | 7 | 57.1 | 85.7 | 0.5594 | N/S | 57.1 | 57.1 | 1 | N/S | 85.7 | 57.1 | 0.5594 | N/S |
| Amentotaxus | 13 | 100.0 | 46.2 | 0.0052 | <i>trnH-psbA</i> +ITS2> <i>trnH-psbA</i> + <i>matK</i> | 100.0 | 46.2 | 0.0052 | <i>trnH-psbA</i> +ITS2> <i>trnH-psbA</i> + <i>rbcL</i> | 38.5 | 100.0 | 0.0016 | <i>trnH-psbA</i> +ITS2> <i>matK</i> + <i>rbcL</i> |
| Pedicularis | 298 | 97.0 | 94.0 | 0.1136 | N/S | 97.0 | 90.3 | 0.0012 | <i>trnH-psbA</i> +ITS2> <i>trnH-psbA</i> + <i>rbcL</i> | 77.9 | 97.0 | <.0001 | <i>trnH-psbA</i> +ITS2> <i>matK</i> + <i>rbcL</i> |
| Luculia | 10 | 20.0 | 0.0 | 0.4737 | N/S | 20.0 | 0.0 | 0.4737 | N/S | 0.0 | 20.0 | 0.4737 | N/S |
| Morinda | 13 | 69.2 | 53.8 | 0.6882 | N/S | 69.2 | 15.4 | 0.0154 | <i>trnH-psbA</i> +ITS2> <i>trnH-psbA</i> + <i>rbcL</i> | 46.2 | 69.2 | 0.4283 | N/S |
| Mussaenda | 21 | 81.0 | 85.7 | 1 | N/S | 81.0 | 90.5 | 0.6628 | N/S | 71.4 | 81.0 | 0.7186 | N/S |
| Oldenlandia | 13 | 100.0 | 100.0 | N/A | N/A | 100.0 | 84.6 | 0.48 | N/S | 100.0 | 100.0 | N/A | N/A |
| Nitraria | 5 | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A | 20.0 | 100.0 | 0.0476 | <i>trnH-psbA</i> +ITS2> <i>matK</i> + <i>rbcL</i> |
| Cipadessa | 7 | 85.7 | 57.1 | 0.5594 | N/S | 85.7 | 57.1 | 0.5594 | N/S | 57.1 | 85.7 | 0.5594 | N/S |
| Tacca | 39 | 89.7 | 92.3 | 1 | N/S | 89.7 | 82.1 | 0.517 | N/S | 56.4 | 89.7 | 0.0018 | <i>trnH-psbA</i> +ITS2> <i>matK</i> + <i>rbcL</i> |
| Suaeda | 5 | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A |
| Hippophae | 10 | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A |
| Aconitum | 34 | 58.8 | 52.9 | 0.8073 | N/S | 58.8 | 47.1 | 0.4664 | N/S | 23.5 | 58.8 | 0.0062 | <i>trnH-psbA</i> +ITS2> <i>matK</i> + <i>rbcL</i> |
| Osmorhiza | 26 | 100.0 | 76.9 | 0.0226 | <i>trnH-psbA</i> +ITS2> <i>trnH-psbA</i> + <i>matK</i> | 100.0 | 57.7 | 0.0003 | <i>trnH-psbA</i> +ITS2> <i>trnH-psbA</i> + <i>rbcL</i> | 84.6 | 100.0 | 0.1104 | N/S |
| Peucedanum | 19 | 94.7 | 78.9 | 0.3398 | N/S | 94.7 | 78.9 | 0.3398 | N/S | 78.9 | 94.7 | 0.3398 | N/S |
| Pleurospermum | 11 | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A |
| Lonicera | 7 | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A |
| Primula | 134 | 100.0 | 89.6 | <.0001 | <i>trnH-psbA</i> +ITS2> <i>trnH-psbA</i> + <i>matK</i> | 100.0 | 91.8 | 0.0008 | <i>trnH-psbA</i> +ITS2> <i>trnH-psbA</i> + <i>rbcL</i> | 87.3 | 100.0 | <.0001 | <i>trnH-psbA</i> +ITS2> <i>matK</i> + <i>rbcL</i> |
| Smilax | 4 | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A |
| Paris | 40 | 90.0 | 50.0 | 0.0002 | <i>trnH-psbA</i> +ITS2> <i>trnH-psbA</i> + <i>matK</i> | 90.0 | 52.5 | 0.0004 | <i>trnH-psbA</i> +ITS2> <i>trnH-psbA</i> + <i>rbcL</i> | 45.0 | 90.0 | <.0001 | <i>trnH-psbA</i> +ITS2> <i>matK</i> + <i>rbcL</i> |
| Cephalotaxus | 29 | 41.4 | 100.0 | <.0001 | <i>trnH-psbA</i> +ITS2< <i>trnH-psbA</i> + <i>matK</i> | 41.4 | 13.8 | 0.0379 | <i>trnH-psbA</i> +ITS2> <i>trnH-psbA</i> + <i>rbcL</i> | 100.0 | 41.4 | <.0001 | <i>trnH-psbA</i> +ITS2< <i>matK</i> + <i>rbcL</i> |

| | | | | | | | | | | | | | |
|--------------|----|-------|-------|--------|--|-------|-------|--------|--|-------|-------|--------|---|
| Arisaema | 4 | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A |
| Kengyilia | 48 | 75.0 | 47.9 | 0.0114 | <i>trnH-psbA</i> +ITS2> <i>trnH-psbA</i> + <i>matK</i> | 75.0 | 56.3 | 0.0849 | N/S | 45.8 | 75.0 | 0.0063 | <i>trnH-psbA</i> +ITS2> <i>matK</i> + <i>rbcL</i> |
| Cardamine | 9 | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A | 77.8 | 100.0 | 0.4706 | N/S |
| Hypericum | 5 | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A |
| Hedyotis | 20 | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A |
| Leptodermis | 15 | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A | 60.0 | 100.0 | 0.0169 | <i>trnH-psbA</i> +ITS2> <i>matK</i> + <i>rbcL</i> |
| Hemsleya | 91 | 72.5 | 73.6 | 1 | N/S | 72.5 | 72.5 | 1 | N/S | 50.5 | 72.5 | 0.0036 | <i>trnH-psbA</i> +ITS2> <i>matK</i> + <i>rbcL</i> |
| Zygophyllum | 10 | 70.0 | 60.0 | 1 | N/S | 70.0 | 60.0 | 1 | N/S | 30.0 | 70.0 | 0.1789 | N/S |
| Ostryopsis | 20 | 65.0 | 65.0 | 1 | N/S | 65.0 | 70.0 | 1 | N/S | 10.0 | 65.0 | 0.0008 | <i>trnH-psbA</i> +ITS2> <i>matK</i> + <i>rbcL</i> |
| Stachyurus | 5 | 100.0 | 60.0 | 0.4444 | N/S | 100.0 | 80.0 | 1 | N/S | 40.0 | 100.0 | 0.1667 | N/S |
| Draba | 6 | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A |
| Alpinia | 8 | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A |
| Sinosenecio | 60 | 96.7 | 76.7 | 0.0022 | <i>trnH-psbA</i> +ITS2> <i>trnH-psbA</i> + <i>matK</i> | 96.7 | 58.3 | <.0001 | <i>trnH-psbA</i> +ITS2> <i>trnH-psbA</i> + <i>rbcL</i> | 46.7 | 96.7 | <.0001 | <i>trnH-psbA</i> +ITS2> <i>matK</i> + <i>rbcL</i> |
| Tupistra | 9 | 100.0 | 100.0 | N/A | Na | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A |
| Bistorta | 10 | 90.0 | 50.0 | 0.1409 | N/S | 90.0 | 50.0 | 0.1409 | N/S | 50.0 | 90.0 | 0.1409 | N/S |
| Oxyria | 7 | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A |
| Rhodiola | 6 | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A |
| Thladiantha | 84 | 97.6 | 96.4 | 1 | N/S | 97.6 | 96.4 | 1 | N/S | 78.6 | 97.6 | 0.0002 | <i>trnH-psbA</i> +ITS2> <i>matK</i> + <i>rbcL</i> |
| Pugonium | 10 | 0.0 | 0.0 | N/A | N/A | 0.0 | 0.0 | N/A | N/A | 0.0 | 0.0 | N/A | N/A |
| Sorosaris | 6 | 66.7 | 33.3 | 0.5671 | N/S | 66.7 | 33.3 | 0.5671 | N/S | 16.7 | 66.7 | 0.2424 | N/S |
| Pterygiella | 17 | 64.7 | 41.2 | 0.3028 | N/S | 64.7 | 17.6 | 0.0134 | <i>trnH-psbA</i> +ITS2> <i>trnH-psbA</i> + <i>rbcL</i> | 41.2 | 64.7 | 0.3028 | N/S |
| Syncalathium | 8 | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A | 100.0 | 100.0 | N/A | N/A |

N/A: Not Applicable, N/S: Not Significant.