

Table S2. *Nicotiana* species and accessions analyzed for floral morphology

Species	Section	Ploidy	No. of plants	No. of flowers ^a	QMUL or UCR?
<i>N. acuminata</i> TW2	<i>Petunioides</i>	diploid	5	25	QMUL
<i>N. alata</i> TW8	<i>Alatae</i>	diploid	5	25	UCR
<i>N. arensii</i> TW12	<i>Undulatae</i>	tetraploid	5	25	QMUL
<i>N. attenuata</i> 'Baldwin'	<i>Petunioides</i>	diploid	5	25	both
<i>N. benavidesii</i> 894750181	<i>Paniculatae</i>	diploid	5	23	QMUL
<i>N. bonariensis</i> TW28	<i>Alatae</i>	diploid	5	25	both
<i>N. clevelandii</i> TW30	<i>Polydichiae</i>	tetraploid	5	25	QMUL
<i>N. cordifolia</i> TW33	<i>Paniculatae</i>	diploid	1	5	UCR
<i>N. corymbosa</i> TW35	<i>Petunioides</i>	diploid	5	5	UCR
<i>N. forgetiana</i> TW50	<i>Alatae</i>	diploid	5	5	UCR
<i>N. glauca</i> 51725	<i>Noctiflorae-Petunioides</i>	homoploid	4	20	QMUL
<i>N. glauca</i> 51751	<i>Noctiflorae-Petunioides</i>	homoploid	5	25	QMUL
<i>N. glutinosa</i> SCR1 1996	<i>Tomentosae-Undulatae</i>	homoploid	3	15	QMUL
<i>N. kawakamii</i> TW72	<i>Tomentosae</i>	diploid	5	5	UCR
<i>N. knightiana</i> CPG	<i>Paniculatae</i>	diploid	5	25	QMUL
<i>N. langsdorffii</i> 804750066	<i>Alatae</i>	diploid	1	5	QMUL
<i>N. langsdorffii</i> CAM	<i>Alatae</i>	diploid	5	25	QMUL
<i>N. linearis</i> TW77	<i>Noctiflorae-Petunioides</i>	homoploid	2	10	both
<i>N. longiflora</i> TW80	<i>Alatae</i>	diploid	5	25	UCR
<i>N. miersii</i> TW85	<i>Petunioides</i>	diploid	10	50	QMUL
<i>N. mutabilis</i> QMUL	<i>Alatae</i>	diploid	1	5	QMUL
<i>N. mutabilis</i> CPG12456	<i>Alatae</i>	diploid	5	25	QMUL
<i>N. mutabilis</i> CPG3	<i>Alatae</i>	diploid	1	5	QMUL
<i>N. nesophila</i> 974750097	<i>Repandae</i>	tetraploid	1	5	QMUL
<i>N. noctiflora</i> TW88	<i>Noctiflorae</i>	diploid	3	15	QMUL
<i>N. nudicaulis</i> 964750114	<i>Repandae</i>	tetraploid	5	25	QMUL
<i>N. × obtusiata</i> line 1 'Baldwin'	synthetic <i>Polydichiae</i>	tetraploid	5	25	QMUL
<i>N. × obtusiata</i> line 2 'Baldwin'	synthetic <i>Polydichiae</i>	tetraploid	5	25	both
<i>N. × obtusiata</i> line 5 'Baldwin'	synthetic <i>Polydichiae</i>	tetraploid	5	25	both
<i>N. obtusifolia</i> var. <i>obtusifolia</i> 'Baldwin'	<i>Trigonophyllae</i>	diploid	5	25	UCR

<i>N. obtusifolia</i> var. <i>obtusifolia</i> TW143	<i>Trigonophyllae</i>	diploid	5	25	QMUL
<i>N. obtusifolia</i> var. <i>palmeri</i> TW98	<i>Trigonophyllae</i>	diploid	5	25	QMUL
<i>N. otophora</i> TW95	<i>Tomentosae</i>	diploid	5	25	both
<i>N. paniculata</i>	<i>Paniculatae</i>	diploid	5	25	QMUL
<i>N. pauciflora</i> TW104	<i>Petunioides</i>	diploid	5	25	QMUL
<i>N. petunioides</i> TW105	<i>Noctiflorae</i>	diploid	5	29	QMUL
<i>N. plumbaginifolia</i> TW106	<i>Alatae</i>	diploid	5	25	QMUL
<i>N. quadrivalvis</i> 904750042	<i>Polydichiae</i>	tetraploid	5	25	QMUL
<i>N. quadrivalvis</i> TW18	<i>Polydichiae</i>	tetraploid	5	25	QMUL
<i>N. raimondii</i> TW109	<i>Paniculatae</i>	diploid	5	25	QMUL
<i>N. 'rastroensis'</i>	<i>Alatae</i>	diploid	4	20	UCR
<i>N. repanda</i> TW110	<i>Repandae</i>	tetraploid	5	25	QMUL
<i>N. rustica</i> var. <i>asiatica</i>	<i>Rusticae</i>	tetraploid	5	25	QMUL
<i>N. rustica</i> var. <i>pavonii</i>	<i>Rusticae</i>	tetraploid	5	25	QMUL
Synthetic (U×P)	synthetic <i>Rusticae</i>	homoploid	1	10	QMUL
Synthetic PUE1 F ₁	synthetic <i>Rusticae</i>	homoploid	1	5	QMUL
Synthetic <i>N. rustica</i> PUE1-R10 S ₀	synthetic <i>Rusticae</i>	tetraploid	1	5	QMUL
Synthetic <i>N. rustica</i> PUE1-R1 S ₁	synthetic <i>Rusticae</i>	tetraploid	1	5	QMUL
<i>N. setchellii</i>	<i>Tomentosae</i>	diploid	5	25	QMUL
<i>N. solanifolia</i> TW123	<i>Paniculatae</i>	diploid	5	25	UCR
<i>N. stocktonii</i> 974750101	<i>Repandae</i>	tetraploid	1	5	QMUL
<i>N. stocktonii</i> TW126	<i>Repandae</i>	tetraploid	5	25	QMUL
<i>N. suaveolens</i> CAM	<i>Suaveolentes</i>	tetraploid	5	25	QMUL
<i>N. sylvestris</i> 6898	<i>Sylvestres</i>	diploid	5	25	QMUL
<i>N. sylvestris</i> A04750326	<i>Sylvestres</i>	diploid	5	26	both
<i>N. tabacum</i> 095-55	<i>Nicotiana</i>	tetraploid	5	25	QMUL
<i>N. tabacum</i> 51789	<i>Nicotiana</i>	tetraploid	2	10	QMUL
<i>N. tabacum</i> 'Chulumani'	<i>Nicotiana</i>	tetraploid	4	20	QMUL
<i>N. tabacum</i> SR1	<i>Nicotiana</i>	tetraploid	4	20	UCR
Synthetic <i>N. tabacum</i> QM	synthetic <i>Nicotiana</i>	tetraploid	18	87	both
Synthetic <i>N. tabacum</i> TH37	synthetic <i>Nicotiana</i>	tetraploid	1	5	QMUL
<i>N. tomentosiformis</i> BRNO 4103	<i>Tomentosae</i>	diploid	5	24	QMUL
<i>N. undulata</i> PI306637-61C	<i>Undulatae</i>	diploid	5	25	QMUL

<i>N. wigandioides</i>	<i>Undulatae</i>	diploid	3	22	both
TH32 (<i>N. sylvestris</i> × <i>N. otophora</i>)	synthetic <i>Sylvestres-Tomentosae</i>	tetraploid	5	25	QMUL

^aTotal number of flowers in analysis, usually five flowers per plant. TW and TH accessions come from the United States *Nicotiana* Germplasm Collection. 9-digit **4750*** accessions come from Radboud University, Nijmegen, The Netherlands. ‘Baldwin’ accessions come from the Baldwin lab (Max Planck Institute, Jena, Germany). CAM accessions come from the Cambridge University Botanic Garden, UK. CPG accessions come from the Chelsea Physic Garden, UK. The 095-55 accession comes from IPK Gatersleben, Germany. 517** accessions were collected in Bolivia; the number refers to the field collection numbers of M. Nee (New York Botanical Garden, USA). *N. ‘rastroensis’* material came from the Smith Lab (University of Colorado, Boulder, Boulder, CO, USA), voucher: Holtsford, *s.n.* and represents an undescribed species.