

Supplemental Fig. 1: Micrograph of numbered chromosomes from a squash of a *Nma* root tip which confirms the presence of 48 chromosomes.

***Nicotiana ×mierata* Krügel, nothospec. nov.**

(≡ *Nicotiana miersii* J. Remy in C. Gay, Fl. Chil. 5: 56. 1849 [♀] × *N. torreyana* Nelson & J. F. Macbr. in Bot. Gaz. 61: 43, 1916 [♂])

Differt a *N. miersii* foliis rosulatis majoribus, ovalibus ad ovatis (non lanceolatis vel late lanceolatis), floribus seminibusque majoribus. Differt a *N. torreyana* foliis rosulatis latioribus margine magis undulantes, floribus limbo latiore cum sectionibus petalorum obtusis, colore seminum atro et odore typico foliorum *Nicotianae miersii*.

Typus: *Nicotiana ×mierata* F5, KA-nr.0605/04, plant 1, cultured 1L pot, leg. T. Krügel, 04. 08.2005. (JE).

Calculation of Mean Parent Values

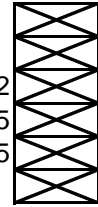
The average values of 3 lineages of *Nmi* for JA, alkaloid, phenolic, diterpene glycoside, and VOC concentrations (from Figures 5-10) were compared to the calculated mean of the two parental species *Nmi* and *Na* in order to assess whether *Nma* traits could be predicted as the average of its two parental species. The mean parent value is calculated as $(AVE_{Na} + AVE_{Nmi})/2$ and the standard deviation (SD) is $(SD_{Na}^2 + SD_{Nmi}^2)^{1/2}$. The mean parental value was compared to each of the 3 groups of *Nma* with an unpaired, 2-tailed, Bonferroni-corrected T-test. Corresponding T-values and P-values are shown for each comparison. Data is in appended table.

Pls	Control			W			OS	
	AVERAGE	Tvalue	Pvalue	AVERAGE	Tvalue	Pvalue	AVERAGE	Tvalue
PI								
Group1	0	4.464705	0.0024	0.388	0.536998	1.8033	0.318	2.83099
Group2	0	4.464705	0.0024	0.045	2.231388	0.1365	0.124	3.33168
Group3	0	4.464705	0.0024	0.035	2.323255	0.1155	0.258	3.020189
mean pare	0.0765			0.2985			1.5725	
Alkaloids								
Nicotine								
Group1	185.79	0.220174	0.6605218	163.45	2.351788	0.0954	120.73	8.497464
Group2	224.72	0.628706	1.8861168	223.87	0.457729	1.9599	103.87	9.086702
Group3	253.72	1.080749	3.242248	230.92	0.240797	2.4384	176.45	4.279889
mean pare	197.13			239.075			261.92	
Nornicotine								
Group1	39.77	3.571659	0.0075	46.3	4.791395	0.0006	52.33	4.690907
Group2	25.16	2.941865	0.0288	90.65	5.171156	<0.0001	61.64	6.045526
Group3	29.07	2.829772	0.0363	55.87	3.520337	0.0084	77.66	5.334326
mean pare	13.17			14.055			16.95	
phenolics								
chlorogenic acid								
Group1	142.84	0.163056	2.6367	44.09	1.383194	0.367	87.44	1.078303
Group2	256	2.516256	0.063	104.44	1.211326	0.4828	47.23	0.29218
Group3	109.68	1.209427	0.7239	53.65	0.803516	0.8644	25.6	1.996326
mean pare	147.475			66.29			51.965	
caffeoylputrescine								
Group1	0	2.801613	0.0342	0	1.538777	0.2826	0.73	1.74187
Group2	0	2.801613	0.0342	0	1.538777	0.2826	0	1.601555
Group3	0	2.494448	0.066	0	1.538777	0.2826	0	1.929518
mean pare	3.155			1.71			8.405	
DTGs								
DTG								
Group1	0.66501	0.695112	1.4877	2.29983	0.133274	2.6865	4.39513	0.820721
Group2	0.19107	0.875387	1.1787	0.17506	1.611429	0.3735	0.17506	2.689912
Group3	0.5463	0.739874	1.4067	1.55976	0.570419	1.7262	0.55328	2.277097
mean pare	2.51659			2.52172			2.92333	
VOCs								
bergamotene								
Group1				0.0831	0.216593	2.5071	0.09416	2.609273
Group2				0.03322	0.744227	1.4547	0.0324	3.304073
Group3				0.05062	0.406607	2.0952	0.02444	3.400777
mean parent				0.071525			0.341395	
germacrene								
Group1				0	4.230173	0.0165	0	1.705964
Group2				0	4.230173	0.0165	0	1.705964
Group3				0	4.230173	0.0165	0	1.705964
mean parent				0.033635			0.35259	
caryophyllene								
Group1				0.43539	1.516046	0.5409	0.70818	1.619265
Group2				0.1455	0.479164	1.9464	0.3839	0.457263
Group3				0.328	2.636574	0.1161	0.4716	0.895121

mean parent	0.112785			0.270715	
<i>linalool</i>					
Group1	0.08428	0.757299	1.4325	0.07686	1.11343
Group2	0.12399	0.006265	2.9856	0.07319	1.136856
Group3	0.08165	0.806104	1.3527	0.06906	1.216802
mean parent	0.123635			0.17622	

Pvalue	LC			MJ			JA conc W timepoin AVERAG
	AVERAGE	Tvalue	Pvalue	AVERAGE	Tvalue	Pvalue	
<i>0.0453</i>	0	1.726914	0.3294	4.118	1.580866	0.4197	0 25.501
<i>0.018</i>	0	1.726914	0.3294	2.255	0.13304	2.6892	0.5 766.258
<i>0.0321</i>	0	1.726914	0.3294	2.362	0.005045	2.9883	1 477.899
	0.1845			2.3575			1.5 159.497
<i><0.0001</i>	195.25	1.023516	0.9639	216.89	0.319347	2.2608	3 82.0612
<i><0.0001</i>	197.38	1.185806	0.759	236.32	0.17998	2.5782	8 50.9307
<i>0.0018</i>	198.79	1.392897	0.5481	286.86	1.410014	0.5331	
	145.315			229.98			
<i>0.0006</i>	31.01	3.3874	<i>0.0114</i>	22.96	1.812631	0.2661	
<i><0.0001</i>	25.43	3.321963	<i>0.0129</i>	16.62	0.530968	1.8081	
<i><0.0001</i>	25.01	3.096032	<i>0.0207</i>	21.49	1.533337	0.4341	
	10.03			14.4			
0.5902	209.7	0.435133	1.3372	37.3	4.718573	<i>0.0003</i>	
1.547	92.23	1.699267	0.213	15.05	5.301322	<i><0.0001</i>	
0.1226	71.44	2.030298	0.1148	5.1	5.542869	<i><0.0001</i>	
	182.92			226.79			
0.1972	0	1.609012	0.25	4.88	1.781334	0.1834	
0.2534	0	1.699409	0.213	6.87	1.702917	0.2116	
0.1392	0	1.609012	0.25	0	1.977005	0.1272	
	3.705			49.65			
1.2675	0.20816	2.030143	0.1722	40.12948	0.891361	1.1535	
<i>0.0483</i>	0	2.330219	0.0996	26.62	0.149865	2.6475	
0.1107	0	2.330219	0.0996	26.17209	0.184166	2.5677	
	1.764425			28.50654			
0.1206	0.03777	1.253731	0.7698	0.17035	1.944688	0.2994	
<i>0.0489</i>	0.10788	0.089981	2.7936	0.10472	2.507888	0.138	
<i>0.0435</i>	0.05006	1.026562	1.0326	0.10724	2.472051	0.1449	
	0.11421			0.616265			
0.4167	0	1.088697	0.9543	0	1.862325	0.3357	
0.4167	0	1.088697	0.9543	0	1.862325	0.3357	
0.4167	0	1.088697	0.9543	0	1.862325	0.3357	
	0.120285			0.35769			
0.4695	0.14184	0.799826	1.3629	0.5442	0.744488	1.4541	
1.9908	0.44544	3.319462	<i>0.048</i>	0.77125	0.546865	1.8126	
1.2156	0.30108	2.489006	0.1416	1.35737	0.031175	2.9283	

	0.08371			1.323875		
0.9243	0.00537	1.235108	0.789	0.08231	0.579466	1.7502
0.897	0.00219	1.436509	0.6027	0.05047	0.341365	2.2335
0.8082	0.00698	1.167812	0.8616	0.03949	0.64717	1.6245
	0.028655			0.061735		



			OS			
AVERAGE	Tvalue	Pvalue	AVERAGE	AVERAGE	Tvalue	Pvalue
35.31678	0.862445	1.2405	52.91598	30.50717	1.105148	0.9036
701.6188	0.556367	1.7796	961.5731	993.2114	0.200923	2.5374
247.9262	2.682188	0.0834	935.0295	387.8734	4.909708	0.0036
74.3881	2.0015	0.2409	321.9849	80.80142	3.78208	0.0162
55.9568	0.826052	1.2981	167.4089	83.68549	2.314443	0.1479
38.32176	1.448314	0.5568	64.97661	38.673	1.804176	0.3267