

Additional file 7. Comparative analyses conducted with the Concentrated-Changes Test [1] in Araceae. Pollen ornamentation was coded as ‘Echinulate’ vs. ‘Other Ornamentation’, pollination system was coded as ‘Fly’ vs ‘Other Pollination’.

A.

		O→B	O→O	B→O	B→B	Fisher Exact Test	
ACCTTRAN optimization							
Polymorphic species removed	1	Psilate/Verrucate	0	0	0	16	NS
		Other ornamentation	3	61	3	11	
	2	Psilate/Verrucate	0	0	0	14	NS
		Other ornamentation	3	61	3	13	
DELTRAN optimization							
Polymorphic species removed	1	Psilate/Verrucate	1	0	0	15	NS
		Other ornamentation	4	67	1	6	
	2	Psilate/Verrucate	0	0	0	14	NS
		Other ornamentation	5	67	1	7	
ACCTTRAN optimization							
Polymorphic species duplicated	1	Psilate/Verrucate	0	0	2	23	NS
		Other ornamentation	6	70	6	19	
	2	Psilate/Verrucate	0	0	2	21	NS
		Other ornamentation	6	70	6	21	
DELTRAN optimization							
Polymorphic species duplicated	1	Psilate/Verrucate	1	0	2	22	NS
		Other ornamentation	9	82	2	8	
	2	Psilate/Verrucate	0	0	2	21	NS
		Other ornamentation	10	82	2	9	

B.

		O→P/V	O→O	P/V→O	P/V→P/V	Fisher Exact Test	
ACCTTRAN optimization							
Polymorphic species removed	1	Beetle	2	13	1	14	P < 0.05
		Other pollination	0	63	1	0	
Polymorphic species removed	2	Beetle	2	9	1	14	P < 0.05
		Other pollination	0	67	1	0	
DELTRAN optimization							
Polymorphic species removed	1	Beetle	3	16	0	11	P < 0.05
		Other pollination	0	63	1	0	

	2	Beetle	3	12	0	11	P < 0.01
		Other pollination	0	67	1	0	
ACCTTRAN optimization							
	1	Beetle	2	23	2	21	NS
		Other pollination	0	75	1	2	
Polymorphic species	2	Beetle	2	15	2	21	P < 0.05
		Other pollination	0	83	1	2	
DELTRAN optimization							
duplicated	1	Beetle	3	26	1	18	P < 0.05
		Other pollination	0	75	1	2	
	2	Beetle	3	18	1	18	P < 0.01
		Other pollination	0	83	1	2	

A - Distribution of events in the character ‘pollination type’ on branches reconstructed as having ‘Echinulate’ and ‘Other-O’ ornamentation, respectively. B - Distribution of events in the character ornamentation type on branches reconstructed as having ‘Fly’ and ‘Other-P’ pollination, respectively. O: Other-P or Other-O depending on the context; F: Fly; E: Echinulate; 1: Pollination and ornamentation type reconstructed with ACCTTRAN; 2: Pollination and ornamentation type reconstructed with DELTRAN. The Fisher exact test was computed for the columns with numbers in bold (transitions O→B and O→O for table A; O→P/V and O→O for table B).

1. Maddison WP: **A method for testing the correlated evolution of two binary characters: are gains or losses concentrated on certain branches of a phylogenetic tree?** *Evolution* 1990, **44**(3):539-557.