

Supplementary Electronic Material

Appendix 2. Mean nectar trait values for species in a genus that share a particular bird pollination system. Sample size is the number of species used to calculate each grand mean. Grand means were used for the analyses in figure 1. Source references are given in Appendix 1.

Region	Bird pollination system	Genus	Nectar volume (µl)		Nectar concentration (%)		Sucrose proportion (%)	
			Mean	n	Mean	n	Mean	n
Africa	Generalized	<i>Aloe</i>	60.2	10	9.0	10	0.7	3
Africa	Generalized	<i>Erythrina</i>	194.8	2	9.3	2	6.0	2
Africa	Generalized	<i>Greyia</i>	15.6	3	8.5	3		1
Africa	Generalized	<i>Melianthus</i>	49.2	7	11.8	7	1.5	2
Africa	Generalized	<i>Schotia</i>	166.6	1	12.2	1	2.0	1
Africa	Generalized	<i>Spathodea</i>			5.4	1		
Africa	Generalized	<i>Strelitzia</i>	377.9	2	14.3	2		1
Africa	Specialized	<i>Aloe</i>	14.8	9	19.6	9	0.3	3
Africa	Specialized	<i>Babiana</i>	26.3	3	23.3	3	67.0	2
Africa	Specialized	<i>Brunsvigia</i>	13.2	1	34.8	1	58.0	1
Africa	Specialized	<i>Burchellia</i>	4.5	1	28.0	1		
Africa	Specialized	<i>Chasmanthe</i>	16.1	3	13.7	3	7.8	3
Africa	Specialized	<i>Clivia</i>	5.5	1	13.0	1		
Africa	Specialized	<i>Cotyledon</i>	43.8	2	23.9	2	1.0	1
Africa	Specialized	<i>Crocosomia</i>	12.0	1	18.0	1	39.0	1
Africa	Specialized	<i>Cyrtanthus</i>	1.1	1	15.2	1		
Africa	Specialized	<i>Disa</i>	4.6	2	10.4	2		
Africa	Specialized	<i>Erica</i>	6.4	23	19.6	25	78.8	24
Africa	Specialized	<i>Gladiolus</i>	20.1	15	27.6	15	64.0	12
Africa	Specialized	<i>Haemanthus</i>	3.8	2	28.4	2	3.0	1
Africa	Specialized	<i>Kalanchoe</i>			20.7	1	1.0	1
Africa	Specialized	<i>Kniphofia</i>	5.7	2	11.3	2		
Africa	Specialized	<i>Leonotis</i>	10.4	2	25.8	2	61.8	2
Africa	Specialized	<i>Liparia</i>			36.7	1	72.0	1
Africa	Specialized	<i>Microloma</i>	14.2	1	23.6	1	30.0	1
Africa	Specialized	<i>Satyrium</i>	6.6	3	27.8	3	90.0	3
Africa	Specialized	<i>Syncelostemon</i>	2.3	1	21.6	1		
Africa	Specialized	<i>Tecomaria</i>	5.5	1	17.5	1	12.0	1
Africa	Specialized	<i>Tritoniopsis</i>	10.2	7	26.0	7	80.3	6
Africa	Specialized	<i>Watsonia</i>	48.7	10	19.0	10	52.4	10
Americas	Generalized	<i>Agave</i>					10.3	4
Americas	Generalized	<i>Erythrina</i>	102.9	5	13.6	8	3.7	6
Americas	Generalized	<i>Marcgravia</i>					3.0	1
Americas	Generalized	<i>Norantea</i>					2.0	1
Americas	Generalized	<i>Opuntia</i>			22.0	1		
Americas	Generalized	<i>Oryctabthus</i>						1
Americas	Generalized	<i>Puya</i>					2.3	3
Americas	Generalized	<i>Tricanthera</i>					16.0	1
Americas	Specialized	<i>Abutilon</i>			32.8	2	51.5	2

Americas	Specialized	<i>Aechmea</i>			23.1	1	76.8	1
Americas	Specialized	<i>Agastache</i>	2.4	1	24.7	1		
Americas	Specialized	<i>Agave</i>			10.0	1		
Americas	Specialized	<i>Alloplectus</i>			20.2	2	70.4	2
Americas	Specialized	<i>Anisacanthus</i>			34.1	1		
Americas	Specialized	<i>Aphelandra</i>	14.2	2	24.8	5	53.7	3
Americas	Specialized	<i>Aquilegia</i>	1.2	1	39.1	3	89.5	2
Americas	Specialized	<i>Arbutus</i>					68.0	1
Americas	Specialized	<i>Bauhinia</i>					55.3	7
Americas	Specialized	<i>Beloperone</i>			41.2	1		
Americas	Specialized	<i>Besleria</i>			21.1	2	84.9	2
Americas	Specialized	<i>Bomarea</i>			16.4	2	77.6	2
Americas	Specialized	<i>Bonplandia</i>					64.0	1
Americas	Specialized	<i>Bouvardia</i>			16.4	1	49.0	3
Americas	Specialized	<i>Brachyotus</i>			20.8	1		
Americas	Specialized	<i>Brodiaea</i>			27.0	1		
Americas	Specialized	<i>Brugmansia</i>					55.0	1
Americas	Specialized	<i>Burmeistera</i>					36.0	1
Americas	Specialized	<i>Calliandra</i>					13.0	1
Americas	Specialized	<i>Campsis</i>	4.7	1	23.6	2	73.0	1
Americas	Specialized	<i>Cantua</i>					71.0	3
Americas	Specialized	<i>Castilleja</i>	3.9	3	29.4	8	71.2	7
Americas	Specialized	<i>Cavendisha</i>			19.5	7	73.9	9
Americas	Specialized	<i>Centropogon</i>			18.8	8	68.3	5
Americas	Specialized	<i>Cephaelia</i>			22.5	2	78.9	2
Americas	Specialized	<i>Cestrum</i>			15.5	2	62.5	2
Americas	Specialized	<i>Chuquiraga</i>			24.8	1		
Americas	Specialized	<i>Cirsium</i>			18.1	1		
Americas	Specialized	<i>Clerodendrum</i>					84.0	1
Americas	Specialized	<i>Columnea</i>			29.0	10	77.3	10
Americas	Specialized	<i>Cordia</i>			16.3	3		
Americas	Specialized	<i>Costus</i>			30.3	5	98.8	3
Americas	Specialized	<i>Cuphea</i>	14.5	1	25.5	1	70.3	3
Americas	Specialized	<i>Datura</i>			23.1	1		
Americas	Specialized	<i>Delphinium</i>			36.2	2		
Americas	Specialized	<i>Distictis</i>					59.0	2
Americas	Specialized	<i>Drymonia</i>			27.0	4	60.9	6
Americas	Specialized	<i>Echeveria</i>					36.0	1
Americas	Specialized	<i>Echinocereus</i>			42.3	1	82.0	1
Americas	Specialized	<i>Erythrina</i>	36.4	1	30.6	1	45.0	1
Americas	Specialized	<i>Erythrina</i>	13.3	3	29.0	25	54.8	23
Americas	Specialized	<i>Eucnide</i>					85.0	1
Americas	Specialized	<i>Euphorbia</i>					9.0	1
Americas	Specialized	<i>Fouquieria</i>			41.7	1	63.8	2
Americas	Specialized	<i>Fridericia</i>			35.0	1	69.0	1
Americas	Specialized	<i>Fuchsia</i>			18.8	7	57.3	10
Americas	Specialized	<i>Gaiadendron</i>			18.0	2		
Americas	Specialized	<i>Galvesia</i>			23.0	1	80.0	1
Americas	Specialized	<i>Gambelia</i>					68.9	1
Americas	Specialized	<i>Gaultheria</i>			12.0	1		

Americas	Specialized	<i>Gibsoniothamnus</i>			25.1	1	68.0	1
Americas	Specialized	<i>Gonzalegunia</i>			22.2	1	59.7	1
Americas	Specialized	<i>Hamelia</i>			18.0	2	69.8	1
Americas	Specialized	<i>Hedeoma</i>	2.2	1	15.8	1		
Americas	Specialized	<i>Heliconia</i>			24.8	25	68.1	25
Americas	Specialized	<i>Helicteres</i>			22.0	1	78.0	1
Americas	Specialized	<i>Hibiscus</i>			24.0	1	5.6	1
Americas	Specialized	<i>Impatiens</i>					33.3	1
Americas	Specialized	<i>Inga</i>					45.5	9
Americas	Specialized	<i>Lochroma</i>					55.0	1
Americas	Specialized	<i>Ipomoea</i>			27.0	2	50.0	1
Americas	Specialized	<i>Ipomopsis</i>			25.1	1	69.5	1
Americas	Specialized	<i>Iris</i>			8.0	1		
Americas	Specialized	<i>Isertia</i>	1.5	1	22.1	1		
Americas	Specialized	<i>Isertia</i>			24.4	1		
Americas	Specialized	<i>Jacobina</i>			37.0	2	70.0	1
Americas	Specialized	<i>Justicia</i>	5.7	1	22.7	5	65.4	5
Americas	Specialized	<i>Keckiella</i>					54.0	1
Americas	Specialized	<i>Kohleria</i>			18.5	2	72.5	3
Americas	Specialized	<i>Lamourouxia</i>	7.5	1	15.9	1	66.0	1
Americas	Specialized	<i>Lapageria</i>					72.0	1
Americas	Specialized	<i>Leonotis</i>	4.7	1	15.7	1	66.0	1
Americas	Specialized	<i>Lilium</i>			13.0	2		
Americas	Specialized	<i>Loasa</i>			17.3	1	67.9	1
Americas	Specialized	<i>Lobelia</i>	23.8	2	20.1	4	65.8	1
Americas	Specialized	<i>Loeselia</i>	1.1	1	29.9	1	41.3	3
Americas	Specialized	<i>Lonicera</i>	4.7	1	23.9	1	63.0	2
Americas	Specialized	<i>Lopezia</i>					73.0	2
Americas	Specialized	<i>Lophospermum</i>					85.5	2
Americas	Specialized	<i>Mabrya</i>					85.2	3
Americas	Specialized	<i>Macleania</i>			15.2	1	76.0	1
Americas	Specialized	<i>Macromeria</i>					86.0	1
Americas	Specialized	<i>Malaviscus</i>			21.4	3	56.3	2
Americas	Specialized	<i>Mandevilla</i>			31.4	1	70.0	1
Americas	Specialized	<i>Mimulus</i>			21.0	3	72.3	3
Americas	Specialized	<i>Mirabilis</i>			21.0	1	71.0	1
Americas	Specialized	<i>Monardella</i>			14.0	1		
Americas	Specialized	<i>Morinda</i>			22.0	1		
Americas	Specialized	<i>Mutisia</i>			23.7	1	18.0	1
Americas	Specialized	<i>Neopalia</i>					70.0	1
Americas	Specialized	<i>Nicotiana</i>			24.0	1	47.0	1
Americas	Specialized	<i>Nopalea</i>			27.3	1		
Americas	Specialized	<i>Odontonema</i>			17.2	1	50.0	1
Americas	Specialized	<i>Operculina</i>	9.3	1	35.7	1		
Americas	Specialized	<i>Opuntia</i>			24.3	1		
Americas	Specialized	<i>Pachystachys</i>			29.6	1		
Americas	Specialized	<i>Passiflora</i>			25.3	3	87.5	3
Americas	Specialized	<i>Pavonia</i>	1.2	1	16.4	1		
Americas	Specialized	<i>Pavonia</i>			29.2	1	32.0	1
Americas	Specialized	<i>Pedilanthus</i>					55.0	1

Americas	Specialized	<i>Pellicourea</i>	0.7	1					
Americas	Specialized	<i>Penstemon</i>	5.0	1	26.0	13	71.3	8	
Americas	Specialized	<i>Pentagonia</i>	8.6	1	35.6	1	94.7	1	
Americas	Specialized	<i>Phaseolus</i>					66.0	1	
Americas	Specialized	<i>Piscidia</i>			22.0	1			
Americas	Specialized	<i>Psammisia</i>			22.1	1	89.6	1	
Americas	Specialized	<i>Psittacanthus</i>			18.2	1	26.0	2	
Americas	Specialized	<i>Puya</i>					57.0	4	
Americas	Specialized	<i>Pyrostegia</i>			46.3	1	74.6	1	
Americas	Specialized	<i>Quamoclit</i>	5.1	1	27.7	1			
Americas	Specialized	<i>Quassia</i>			17.0	1	58.0	1	
Americas	Specialized	<i>Razisea</i>			20.5	2	61.4	2	
Americas	Specialized	<i>Renealmia</i>			21.9	3	41.9	1	
Americas	Specialized	<i>Ribes</i>					68.0	1	
Americas	Specialized	<i>Rubus</i>			27.4	1			
Americas	Specialized	<i>Russelia</i>			28.0	1	61.0	4	
Americas	Specialized	<i>Saccularia</i>					60.8	1	
Americas	Specialized	<i>Salvia</i>	10.8	7	27.9	14	76.3	15	
Americas	Specialized	<i>Sanchezia</i>			33.0	1	71.3	1	
Americas	Specialized	<i>Schlumbergera</i>					65.0	1	
Americas	Specialized	<i>Scutellaria</i>			18.5	1	76.9	1	
Americas	Specialized	<i>Silena</i>	8.7	1	24.2	1	71.0	1	
Americas	Specialized	<i>Stachys</i>			41.5	1	81.0	1	
Americas	Specialized	<i>Stachytarpheta</i>			23.0	1	50.0	1	
Americas	Specialized	<i>Streptosolen</i>					68.0	1	
Americas	Specialized	<i>Symbolanthus</i>			19.4	1	64.7	1	
Americas	Specialized	<i>Symphonia</i>			15.2	1	57.4	1	
Americas	Specialized	<i>Symplocos</i>					68.0	1	
Americas	Specialized	<i>Techophyllum</i>			15.7	1			
Americas	Specialized	<i>Tecoma</i>					2.0	1	
Americas	Specialized	<i>Tecophyllum</i>			15.7	1			
Americas	Specialized	<i>Thevetia</i>					55.0	2	
Americas	Specialized	<i>Tillandsia</i>			26.7	1	50.0	1	
Americas	Specialized	<i>Trichostemma</i>			23.0	1	70.0	1	
Americas	Specialized	<i>Tropaeolum</i>			30.2	4	78.5	1	
Americas	Specialized	<i>Turnera</i>			15.0	1			
Americas	Specialized	<i>Urechites</i>			30.0	1			
Americas	Specialized	<i>Vaccinium</i>			24.9	1			
Americas	Specialized	<i>Warscewiczia</i>			16.0	1			
Americas	Specialized	<i>Wigandia</i>					61.0	1	
Americas	Specialized	<i>Xerococcus</i>					62.0	1	
Americas	Specialized	<i>Xylonagra</i>					61.0	1	
Americas	Specialized	<i>Zauschneria</i>			19.9	3	76.0	1	
Americas	Specialized	<i>Zeheyra</i>			25.5	1	76.1	1	