The prickly problem of interwoven lineages: hybridization processes in Cactaceae

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Table S1. Reports of natural hybrids in Cactaceae based on classic monographs and scientific articles following the taxonomic classification reported by Hunt *et al*. (2006). Information about ploidy level was consulted in The Chromosome Counts Database (CCDB).

Subfamily	Tribe	Genus	Hybridization Interspecific=a Intergeneric=b	Naturally-occurring hybrids	Reported ploidy	Evidence analyzed	Reference
Cactoideae	**Echinocereeae**	*Pachycereus*	b (*Pachycereus* × *Stenocereus*)	*P. pringlei* × *S. thurberi*	2n	Morphological description / Molecular markers	(Hunt *et al*. 2006, Copetti *et al*. 2017)
		Cephalocereus	a	*C. tetetzo* × *C. columna-trajani*, *C. fulviceps*	-	Morphometric analysis / Molecular markers	(Vite *et al*., 1996, Tapia *et al*. 2017)
		Echinocereus	a	*E. coccineus* × *E. dasyacanthus*	2n, 3n, 4n	Experimental crosses and chromosome counting	(Hunt *et al*. 2006, Powell *et al*. 1991)
		Stenocereus	a	*S. pruinosus* × *S. stellatus*	2n	Molecular markers	(Yáñez-López *et al*. 2016)
		Bergerocactus	b (*Bergerocactus* × *Pachycereus*, *Bergerocactus* × *Myrtillocactus*)	*B. emoryi* × *P. pringlei*, *B. emoryi* × *M. cochal*	4n	**Morphological description**	(Hunt *et al*. 2006)

		Myrtillocactus	b (*Myrtillocactus* × *Stenocereus*)	*M. geometrizans* × *S. dumortieri*	2n	**Morphological description**	(Hunt *et al*. 2006)
		Escontria	b (*Escontria* × *Polaskia*)	*E. chiotilla* × *P. chichipe*	-	Morphometric analysis, molecular markers and experimental crosses	(Cruz-Zamora *et al*. 2017)
	Hylocereeae	*Disocactus*	a	*D. phyllanthoides* × *D. speciosus*, *D. ackermannii* × *D. speciosus*	2n	**Morphological description**	(Anderson 2001)
		Selenicereus	a	*S. costaricensis* × *S. monacanthus*, *S. monacanthus* × *S. undatus*, *S. megalanthus* × *S. undatus*, *S. monacanthus* × *S. megalanthus*	2n, 4n	Experimental crosses and cytogenetic analyses	(Tel-Zur *et al*. 2004)
	Cereeae	*Arrojadoa*	a	*A. dinae* × *A. rhodantha*	2n	**Morphological description**	(Anderson 2001, Hunt *et al*. 2006)
		Cereus	b (*Cereus* × *Harrisia*)	*C. stenogonus* × *H. bonplandii*	2n	**Morphological description**	(Hunt *et al*. 2006)
		Coleocephalocereus	b (*Coleocephalocereus* × *Pilosocereus*)	*C. decumbens* × *P. magnificus*	-	**Morphological description**	(Hunt *et al*. 2006)

		Melocactus	a	*M. ernestii* × *M. glaucescens*, *M. curvispinus* × *M. stramineus*, *M. ernestii* × *M. zehntneri* *M. concinnus* × *M. glaucescens*, *M. concinnus* × *M. ernestii*, *M. concinnus* × *M. zehntneri*, *M. concinnus* × *M. paucispinus* (Khan *et al*. 2020)	2n, 4n	Molecular markers and morphometric analysis / Molecular markers	(Hunt *et al*. 2006, Lambert *et al*., 2006a, 2006b, Khan *et al*. 2020)
		Micranthocereus	b (*Micranthocereus* × *Pilosocereus*)	*M. purpureus* × *P. pentaedrophorus*	2n	**Morphological description**	(Hunt *et al*. 2006)
		Pilosocereus	a, b	*P. floccosus* × *P. magnificus*, *P. densiareolatus* × *P. pachycladus*	2n, 4n	**Morphological description**	(Anderson 2001, Hunt *et al*. 2006)
	Trichocereeae	*Arthrocereus*	b (*Trichocereus* × *Denmoza*)	*T. atacamensis* × *D. rhodacantha*	-	**Morphological description**	(Font & Picca 2001)
		Cleistocactus	a, b (*Cleistocactus* × *Matucana*,	*C. icosagonus* × *C. serpens*,	2n	**Morphological description**	(Anderson 2001, Hunt *et al*. 2006)

			Cleistocactus × *Yungasocereus*, *Cleistocactus* × *Espostoa*)	*C. fieldianus* × *M. supertexta*, *C. laniceps* × *Y. inquisivensis*, *C. icosagonus* × *E. lanata*			
		Denmoza	b (*Denmoza* × *Echinopsis*)	*D. rhodacantha* × *E. atacamensis*	-	**Morphological description**	(Font & Picca 2001, Hunt *et al*. 2006)
		Echinopsis	a, b (*Echinopsis* × *Matucana*)	*E. strigosa* × *E. terscheckii* *E. senilis* × *M. comacephala*	2n	**Morphological description / Morphological description**	(Hunt *et al*. 2006, Eggli & Giorgetta 2018)
		Espostoa	b (*Espostoa* × *Haageocereus*, *Espostoa* × *Weberbauerocereus*)	*E. melanostele* × *H. pseudomelanostele*, *E. ruficeps* × *W. albus*	2n	**Morphological description**	(Hunt *et al*. 2006)
		Gymnocalycium	a	*G. esperanzae*	2n 4n	Molecular markers	(Řepka & Mráĉek 2012)
		Harrisia	b (*Cereus* × *Harrisia*)	*C. stenogonus* × *H. bonplandii*	2n	**Morphological description**	(Hunt *et al*. 2006)
		Matucana	b (*Matucana* × *Oroya*, *Matucana* × *Oreocereus*)	*M. yanganucensis* × *Oroya borchersii*	2n	**Morphological description**	(Hunt *et al*. 2006)
		Oreocereus	b (*Oreocereus* × *Echinopsis*)	*O. celsianus* × *E. tarijensis*	-	**Morphological description**	(Hunt *et al*. 2006)

				O. celsianus × *E. ferox*			
		Rauhocereus	b (*Rauhocereus* × *Espostoa*)	*R. riosaniensis* × *E. superba*	-	**Morphological description**	(Hunt *et al*. 2006)
	Cacteae	*Escobaria*	a	*E. guadalupensis* × *E. sneedii*	2n	Morphometric analysis	(Baker & Johnson 2000)
		Ferocactus	b (*Ferocactus* × *Leuchtenbergia*)	*Ferocactus* × *L. principis*	2n	**Morphological description**	(Anderson 2001)
		Geohintonia	b (*Geohintonia* × *Aztekium*)	*G. mexicana* × *A. hintonii*	-	**Morphological description**	(Anderson 2001, Hunt *et al*. 2006)
		Sclerocactus	a	*S. wetlandicus* × *S. brevispinus*, *S. glaucus* × *S. parviflorus*	2n	Experimental crosses / Molecular markers	(Tepedino *et al*. 2010, Schwabe *et al*. 2015)
		Turbinicarpus	a	*T. laui* × *T. pseudopectinatus*	2n	**Morphological description**	(Anderson 2001, Hunt *et al*. 2006)
	Notocacteae	-	-	-	-	-	-
	Rhipsalideae	-	-	-	-	-	-
Opuntioideae	**Cylindropuntieae**	*Cylindropuntia*	a	*C. acanthocarpa* × *C. whipplei*, *C. arbuscula* × *C. spinosior*, *C. echinocarpa* × *C. whipplei*, *C. acanthocarpa* × *C. leptocaulis*, *C.*	2n, 3n, 4n, 8n	Morphometric, chromosome counting and pollen viability	(Baker & Pinkava 1987, Hunt *et al*. 2006)

				imbricata × *C. whipplei*, *C. arbuscula* × *C. versicolor*, *C. acanthocarpa* × *C. echinocarpa*, *C. fulgida* × *C. spinosior*, *C. acanthocarpa* × *C. bigelovii*, *C. bigelovii* × *C. echinocarpa*, *C. spinosior* × *C. versicolor*			
	Opuntieae	*Opuntia*	a	*O. littoralis* × *O. phaeacantha*, *O. fragilis* × *O. polyacantha*, *O. engelmannii* × *O. macrorrhiza*, *O. chlorotica* × *O. phaeacantha*, *O. aureispina* × *O. phaeacantha*, *O. littoralis* × *O. engelmannii* × (*O.*	2n, 3n, 4n, 5n, 6n, 8n, 9n	Chromosome counting / Molecular markers	(Pinkava 2002, Hunt *et al*., 2006, Majure *et al*. 2012b, 2014, 2017)

				phaeacantha), *O. aureispina* × *O. macrocentra*, *O. engelmannii* × *O. microdasys* 20 taxa of hybrid origin (Majure *et al*. 2012a) *O. dillenii* × *O. abjecta*, (Majure *et al*. 2014) *O. cespitosa*, *O. humifusa*, *O. nemoralis* (Majure *et al*. 2017)			
		Tacinga	a	*T. inamoena* × *T. palmadora*	2n, 4n	**Morphological description**	(Anderson 2001, Hunt *et al*. 2006)
		Consolea	b (*Consolea* × *Opuntia*)	*C. rubescens* × *O. dillenii*, *C. nashii* × *O. dillenii*, *O. acaulis* *O. bahamana* *O. lucayana*	2n, 6n, 8n, 12n	Chromosome counting	(Negrón-Ortiz 2007, Majure *et al*. 2012b)
Pereskioideae	-	-	-				-
Maihuenioideae	-	-	-				-

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