

NOMENCLATURE CHANGES IN *CYLINDROPUNTIA* AND *OPUNTIA* (CACTACEAE) AND NOTES ON INTERSPECIFIC HYBRIDIZATION

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For the upcoming treatment of Opuntioideae (Cactaceae) for the Flora of North America, the following changes in nomenclature are necessary.

CYLINDROPUNTIA

Cylindropuntia californica (J. Torrey & A. Gray) Knuth in Backeberg & Knuth, *Kaktus-ABC* 125. 1935 var. *parkeri* (J. M. Coulter) D. J. Pinkava, comb. nov.

Basionym: *Opuntia echinocarpa* Engelm. & J. M. Bigelow var. *parkeri* J. M. Coulter. 1896. *Contr. U.S. Natl. Herb.* 3: 446.

Cylindropuntia × campii (M. A. Baker & D. J. Pinkava) M. A. Baker & D. J. Pinkava, comb. nov. [*C. acanthocarpa* (Engelm. & J. M. Bigelow) Knuth × *C. bigelovii* (Engelm.) Knuth]

Basionym: *Opuntia × campii* M. A. Baker & D. J. Pinkava. 1999. *Cact. & Succ. J. (Los Angeles)* 71:320.

Cylindropuntia × fosbergii (C. B. Wolf) J. P. Rebman, M. A. Baker & D. J. Pinkava, comb. nov., (pro sp.) [*C. bigelovii* (Engelm.) Knuth × *C. echinocarpa* (Engelm. & J. M. Bigelow) Knuth].

Basionym: *Opuntia fosbergii* C. B. Wolf. 1938. *Rancho Santa Ana Bot. Gard. Occasional Papers* 1:79, fig. 22, nom. nov. Syn.: *Opuntia bigelovii* Engelm. var. *hoffmannii* Fosberg. 1933. *Bull. So. Calif. Acad. Sci.* 32: 122, non *Opuntia hoffmannii* H. Bravo. 1930. *An. Inst. Biol.-Mex.* 1:89; *O. × fosbergii* C. B. Wolf (pro sp.) (by Backeberg. 1958. *Die Cactaceae* 1:140, 192).

Cylindropuntia ganderi (C. B. Wolf) J. P. Rebman & D. J. Pinkava, comb. nov.

Basionym: *Opuntia acanthocarpa* Engelm. & J. M. Bigelow var. *ganderi* C. B. Wolf. 1938. *Rancho Santa Ana Bot. Gard. Occasional Papers* 1:75, fig. 20. Syn.: *Opuntia ganderi* (C. B. Wolf) J. P. Rebman and D. J. Pinkava in D. J. Pinkava. 1996. *Haseltonia* 4:103.

Cylindropuntia wolfii (L. D. Benson) M. A. Baker, comb. nov.

Basionym: *Opuntia echinocarpa* Engelm. & J. M. Bigelow var. *wolfii* L. D. Benson. 1969. *Cact. & Succ. J. (Los Angeles)* 41:33. Syn.: *Opuntia wolfii* (L. D. Benson) M. A. Baker. 1992. *Madroño* 39:108.

OPUNTIA, SENSU STRICTO

Opuntia aureispina (Brack & Heil) Pinkava & Parfitt, comb. nov.

Basionym: *Opuntia macrocentra* Engelm. var. *aureispina* Brack and Heil in Heil and Brack. 1988. *Cact. & Succ. J. (Los Angeles)* 60:17; fig. 4.

Opuntia aureispina (Brack & Heil) D. J. Pinkava and Parfitt. 1988. *Sida* 13:128, is invalid by Art. 33.3, Note 1 of the International Code of

Botanical Nomenclature (St. Louis Code) (Greuter et al. 1999) because literature citation is improper since it includes total pagination and involves several other taxa. The entry above validates the new combination.

Interspecific Hybridization

Based on morphological and cytological studies for Flora North America, the following are notes on interspecific hybrids:

Opuntia × alta Griffiths, Rept. Missouri Bot. Gard. 21:165 (pro sp.) is a hybrid between *O. engelmannii* Salm-Dyck ex Engelm. & *O. stricta* (Haw.) Haw. and grows along coasts of southeastern Texas and Louisiana.

Chromosome counts and pollen stainability (by D. J. Pinkava) include: Louisiana: Cameron Parish: 2.4 mi W of LA 536 on LA 82, W of town Johnson's Bayou, Parfitt 5155 & Hampsten (ASU 210642-210644), $n = 33$ and pollen stainability (p.s.) = 9%; 4.2 mi W of Creole W of jct. LA 27 & 82 and 10.5 mi W of Mermentau River, Parfitt 5156 & Hampsten ASU 210654 (p.s. = 8%); LA 8/27 ca. 13 mi W of Texas and ca. 15 mi W of Holly Beach, 29°48'N, 93°40'W, Christy 2793 (ASU 210865) (p.s. = 73%).

Opuntia × edwardsii V. Grant & K. A. Grant. 1979. *Bot. Gaz.* 140:205, (pro sp.) of central Texas is a hybrid between hexaploid *Opuntia engelmannii* Salm-Dyck ex Engelm. and tetraploid *O. macrorhiza* Engelm. The isotype has $2n = 55$ handwritten on it, though not published.

Cylindropuntia munzii (C. B. Wolf) Backeberg. 1966. *Kakteenlexikon* 113, (pro hybr.). Main populations are in Mexico just south of the U.S. border with only small outlier populations in California's Chocolate and Chuckwalla Mountain areas. We find no evidence for *C. munzii* to be an interspecific hybrid, although we have observed morphological intermediates between *C. munzii* and *C. echinocarpa*.

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