

ARGENTINA: NOMENCLATURAL REVISION IN *CACTACEAE*

Austrocactus Britton *et* Rose, The Cact. 3: 44 (1922).

Austrocactus coxii (K.Schumann) Backeberg **subsp. longicarpus** (E.Sarnes *et* N.Sarnes) Guiggi **comb. et stat. nov.** *Basionymus: Austrocactus longicarpus* E.Sarnes *et* N.Sarnes, in Kakt. and. Sukk. 65(10): 258 (2014). **Typus:** Argentina, Neuquén Prov., 19.5 km W from Zapala towards Primeros Pinos, 1130 m, 23 Dec. 1995, R.Nyffeler, U.Eggli *et* J.Lüthy 52265 [MERL, *holo.*]. **Distributio:** NW Neuquén. **Annotarum:** infra-specific taxa characterized by a lesser number of spines (7-12 *versus* ca. 15), central ones 1-3 (3-4), to 4 cm long (3.5 cm long), radial ones 6-9 (7-11), to 2.2 cm long (to 1.5 cm), flower slender funnelform (widely funnelform), pinkish (yellowish), fruit cylindrical, to 2.5 cm long (globose, 1.5-2 cm \varnothing), seed 2 x 3 mm (3 x 2 mm), with a northern distribution in the bio-geographical range of the species.

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BRAZIL: NOMENCLATURAL REVISION IN CACTACEAE

Discocactus Pfeiffer in Otto & Dietrich, Allg. Gartenzeitung 5: 241 (1837).

Discocactus boliviensis Backeberg ex Buining et Brederoo **subsp. ferricola** (Buining et Brederoo) Guiggi **comb. et stat. nov.** *Basionymus*: *Discocactus ferricola* Buining et Brederoo, Kakt. and. Sukk. 26(1): 2 (1975). **Typus**: Brazil, Mato Grosso do Sul, in the area of Corumbá, 200 m, 31 May-1 Jun. 1972, L. Horst et W. Uebelmann HU 195 [U, *holo.*]. **Distributio**: NW Mato Grosso do Sul. **Annotarum**: an ecological subspecies referred here to *D. boliviensis* growing on iron/manganese substrate (*vs.* calcareous) with spirally tubercles (linear tubercles), longer and slender radial spines (< 5 cm *vs.* < 3.5 cm), distributed in Brazil near the border with Bolivia, geographically close to the *locus classicus* of the subspecies type (Bolivia, Santa Cruz, San Cyrilo). *Discocactus boliviensis* Backeberg was validated by Buining & Brederoo (*cf.* Buining 1980: 90).

Discocactus diersianus Esteves **subsp. cephaliaciculosus** (Buining et Brederoo ex P.J. Braun et Esteves) Guiggi **comb. et stat. nov.** *Basionymus*: *Discocactus cephaliaciculosus* Buining et Brederoo ex P.J. Braun et Esteves, in Kakt. and. Sukk. 46(3): 63 (1995). **Typus**: Brazil, S Tocantins, Mar. 1994, E. Esteves 402 [UFG, *holo.*]. *Synonymi*: *Discocactus cephaliaciculosus* Buining et Brederoo, in Kakt. and. Sukk. 26(5): 97 (1975), *nom. inval.* (*cf.* ICN Art. 40.1, Turland *et al.*, 2018 *cf.* Braun & Esteves, 1995: 63). *Typus non designatus*: Goiás, Rio Maranhão (Rio Tocantins) and Rio Paraná, 380 m, 15 Jun. 1974, L. Horst et W. Uebelmann HU430/HU431[U]. **Distributio**: NE Goiás, S Tocantins. **Annotarum**: the presence of stout dark reddish spines (to 3 cm long) growing from the *cephalium* is here considered a distinctive character with an ecological value, for this reason is recognized as an infra-specific taxon with an additional lesser number and length of the radial spines (4-6, to 3.7 cm long *vs.* 5-13, to 7 cm), a lower altitudinal range (380-440 m *vs.* 650-700) and a northern distribution more than 400 km far from subspecies type (Diers & Esteves, 1980: 78), apart these peculiarities the flower with slender perianth segments, the spines stout, flattened, reflexed or spreading, seeds [(1.2-)1.4-1.6 mm long *vs.* 1.25-1.7 mm] are conspecific with *Discocactus diersianus*.

Discocactus diersianus Esteves **subsp. nudicephalus** (P.J. Braun et Esteves) Guiggi **comb. nov.** *Basionymus*: *Discocactus cephaliaciculosus* subsp. *nudicephalus* P.J. Braun et Esteves, in Kakt. and. Sukk. 46(3): 63 (1995). **Typus**: Brazil, Tocantins, E Rio Tocantins, ca. 300 m, 1978, E. Esteves 148 [UFG, *holo.*]. **Distributio**: S Tocantins. **Annotarum**: an extreme ecological dwarf subspecies (stem to 7 x to 14 cm; *cephalium* smaller, depressed, unarmed, *cf.* Braun & Esteves, 1992: 221-223) growing on ironstone soil “Pedra Canga” at the lowest altitudinal range (300 m) for *Discocactus diersianus*.

Melocactus Link et Otto, Verh. Vereins Beford. Gartenbaues Konigl. Preuss. Staaten 3: 417 (1827), *nom. cons.*

Melocactus azureus Buining et Brederoo **subsp. krainzianus** (Buining et Brederoo) Guiggi **stat. nov.** *Basionymus*: *Melocactus krainzianus* Buining et Brederoo in Krainz, Kakteen 62: CV1d (1975), excl. the misplaced icon referred to *M. acispinosus* Buining et Brederoo (*cf.* Taylor 1991: 37). **Typus**: Brazil, Bahia, Mun. Irecê, 760 m, L. Horst H 264 [U, *holo.*] *Synonymus*: *Melocactus azureus* var. *krainzianus* (Buining et Brederoo) P.J. Braun, in Bradleya 6: 94 (1988). **Distributio**: Central N Bahia. **Annotarum**: infra-specific taxon distinguished for its *habitus* globose (14 x 14

cm), epidermis grey-green glaucous, ribs 10-12, 2.5 cm wide, radial spines 7-9, central spine 1, to 3 cm long, cephalium longer and larger (10 x 8 cm), flower longer (to 19 mm), distributed in the Municipality of Irecê.

Melocactus viridescens* Guiggi *nom. nov.

Synonymus: Melocactus pachyacanthus subsp. *viridis* N.P.Taylor, in *Bradleya* 9: 40 (1991). **Typus:** Brazil, Bahia, Mun. América Dourada, 2 Km W Campo Belo (Belo Campo), 750 m, 26 Dec. 1988, R.M.Harley, N.P.Taylor et D.C.Zappi 27400 [CEPEC, *holo.*; SPF *iso.*; K, *iso. spec. vis.*, three sheets, corp, ceph, ar, sp]. **Distributio:** Central N Bahia. **Annotarum:** taxon elevated at specific rank for its southern disjunct distribution (Mun. Morro de Chapéu, América Dourada, Irecê), growing at higher altitude > 700 m (vs. 400-650 m), *habitus* depressed-globose (15 x 20 cm vs. 30 x 20 cm), cephalium stout, woolless with dense bristles (10 x 10 or more cm vs. 12 x 10 cm), epidermis viridescens (grey-green glaucous), flower longer to 25 mm (to 20 mm). A *nomen novum* from Latin *viridescens* “to be green” referred to the colour of the epidermis is here proposed to avoid the confusion with some previous varietal taxa (*i.e. Melocactus communis* var. *viridis* Pfeiffer, *Melocactus zehntneri* var. *viridis* F.Ritter).

Melocactus zehntneri* (Britton et Rose) Luetzelb. f. *douradaensis* (Hovens et Strecker) Guiggi *stat. nov. *Basionymus: Melocactus douradaensis* Hovens et Strecker, in *Succulenta* 63(1): 3 (1984). **Typus:** Brazil, Bahia, Mun. América Dourada, in the nearby of Cafarnaum, 26 Aug. 1981, J.Hovens et al. 81/172 [U, *holo.* not found *cf.* Taylor, 1991: 45; WU, *lectotypus hic designatus*; HAL, *isolecto.*, *cf.* Braun & Heimen, 2020: 110]. *Synonymi: Melocactus zehntneri* f. *douradaensis* (Hovens et Strecker) Delanoy, in *Cactus & Co.* 8(4): 262 (267) (2004), *nom. inval.* (*cf.* ICN Art. 41.1, Turland et al., 2018); *Melocactus zehntneri* subsp. *douradaensis* (Hovens et Strecker) P.J. Braun et Heimen, in *Kakt. and. Sukk.* 71(4): 110 (2020). **Distributio:** Central N Bahia. **Annotarum:** the analyzed vegetative and reproductive characters of this taxon belong to the wide morphological variability of *M. zehntneri* (*cf.* Taylor, 1991: 45; Hovens & Strecker, 1984: 3-4), as consequence is here recognized as a bluish glaucous form of the cited species growing on calcareous rocks. The glaucous epidermis appears to be an ecological adaptment in common with others *Melocactus* taxa (*i.e. M. azureus* Buining et Brederoo, *M. pachyacanthus* Buining et Brederoo) that inhabiting on limestone substrate in Brazil. This only character is not enough in my opinion to deserve the status of subspecies.

***Mirabella* F.Ritter, *Kakt. Südamer.* 1: 108 (1979).**

Mirabella estevesii* (P.J.Braun) Guiggi *comb. nov.

Basionymus: Cereus estevesii P.J.Braun, in *Brit. Cact. Succ. J.* 22(1): 20 (2004). **Typus:** Brazil, Minas Gerais, 15 km S of Carinhanha, W of the Rio São Francisco, ca. 400 m, 1999, E. Esteves Pereira 497 [UFG, *holo.*]. *Synonymus: Monvillea estevesii* (P.J.Braun) Lodé, *Cact.-Avent. Int.* 98(Suppl.): 6 (2013). **Distributio:** N Minas Gerais. **Annotarum:** in a recent phylogenetic analysis *Mirabella* F. Ritter (1979: 108-109) is confirmed as a valid genus sister of *Cipocereus* F. Ritter and distinct from *Cereus* Mill. (Franco et al., 2017: 203). *Cereus estevesii* is here combined in *Mirabella* for its sprawling *habitus*, stem initially glaucous, angular, areoles separated (2.5-5.3 cm), ribs few (5-6), spines brownish, acicular, short (to 2.6 cm long), flower long funnellform (to 17.5 cm long), receptacle angular with scales, fruit with flower remnant persistent, sandy soil habitat and for its distribution in Minas Gerais (Eastern Brazil); all these characteristics belong to the other known species of the genus [*i.e. M. albicaulis* (Britton & Rose) F. Ritter, *M. minensis* F. Ritter, *cf.* Braun, 2004: 20-22; Taylor & Zappi, 2004: 270-273]. *Mirabella minensis* F. Ritter (1979: 111-112) is sympatric with *M. estevesii* at the type locality of the latter species (Braun, 2004: 22)

Pilosocereus Byles et G.D.Rowley, in Cact. Succ. J. Gr. Brit. 19: 66 (1957).

Pilosocereus pernambucoensis F.Ritter **subsp. viridis** (Taylor et Albuquerque-Lima) Guiggi **comb. nov.** *Basionymus*: *Pilosocereus pachycladus* F.Ritter subsp. *viridis* Taylor et Albuquerque-Lima, in *Bradleya* 38: 242 (2020). **Typus**: Brazil, Pernambuco, Buíque, N of Carneiro, Fazenda Jiboa, 9 Feb. 2020, *S. Albuquerque-Lima* 52 [UFG, *holo.*]. **Distributio**: E Pernambuco, Paraíba, Rio Grande do Norte (*cfr.* Taylor & Albuquerque-Lima, 2020: 242). **Annotarum**: an infra-specific variability referred to *Pilosocereus pernambucoensis* (Taylor & Zappi, 2004: 333-334; Taylor & Albuquerque-Lima, 2020: 242) support it as a distinct taxon from *P. pachycladus*. The recognized geographical subspecies with an eastern range is characterized by a stem green (*vs.* blue glaucous), with a thinner flowering apical branch (5-8.5 cm ø *vs.* 15 cm) and larger flowers (6.5 x 5.8 cm), *cfr.* Taylor & Albuquerque-Lima (2020: 242).

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CARIBBEAN REGION: NOMENCLATURAL REVISION IN CACTACEAE

Harrisia Britton, in Bull. Torrey Bot. Club 35: 561 (1909).

Harrisia fragrans Small *ex* Britton *et* Rose **subsp. aboriginum** (Small *ex* Britton *et* Rose) Guiggi **comb. et stat. nov.** *Basionymus*: *Harrisia aboriginum* Small *ex* Britton & Rose, The Cact 2: 154 (1920). **Lectotypus**: (*designatus* by Benson *cf.* 1982: 934-935): United States, Florida [Manatee Co.], W shore of Terra Ceia Island, Hammock, 29 Apr. 1919, J.K. Small *et al.* s.n. [NY, *lecto. spec. vis.*, corp, cost, ar, sp; US, *isolec. spec. vis.*, corp, cost, ar, sp]. *Synonymus*: *Harrisia gracilis* var. *aboriginum* (Small *ex* Britton *et* Rose) D.B.Ward, in Novon 14(3): 366 (2004). **Distributio**: Central W Florida. **Annotarum**: geographical subspecies from Central W Florida (*vs.* S & E Florida) characterized by its areoles more separated (to 3 cm *vs.* to 2 cm), spines lesser in number (7-9 *vs.* 9-13) shorter (to 1.5 cm *vs.* to 4 cm long), brown at the tip (*vs.* yellow), fruit larger (to 7.5 cm ø *vs.* 6 cm) yellowish at maturity (*vs.* orange-red); in common with the subspecies type are the flowers with receptacle and scale pinkish or reddish and the seeds dimension (*cf.* Britton & Rose, 1920:149-150, fig. 216, Pl. XIX figs 1-2, 152-154, fig. 223; Parfitt & Gibson, 2003: 153; Franck, 2012: 96, 2016: 15, 103-106 figs. 54-57, 135-139 figs 87-91).

Leptocereus (A. Berger) Britton *et* Rose, in Contr. U.S. Natl. Herb. 12(10): 433 (1909).

Leptocereus albellus (Areces) Guiggi **comb. et stat. nov.** *Basionymus*: *Leptocereus assurgens* var. *albellus* Areces, in Cact. Succ. J. (U.S.) 90(4): 260 (2018). **Typus**: Cuba, Prov. Pinar del Río, approximately 20 km NNE from Guane, in Sierra de San Carlos mountain range, on cliffs surrounding the “Hoyo de los Helechos,” a deep solution hole within the Majagua-Cantera cavernous system, 28 Mar. 1992, A.E.Areces 6343 [HAJB *holo.*, NY, *iso.* not found *fide* NY database]. **Distributio**: W Cuba. **Annotarum**: the consistent differences in *habitus* (*e.g.* trunkless, spreading-pendent), in vegetative (*e.g.* ultimate stem 3-4.5 cm ø; ribs 6-7, 10-13 mm high, 1.5-2 cm apart) and reproductive characters (*e.g.* flower white, 3-4 cm ø, tube bright green, stamens exerted to 9 mm), associated with a remote distribution (Sierra de San Carlos) support the here recognition as a rare and relictual species of the Cuban Mogotes.

Pilosocereus Byles *et* G.D.Rowley, in Cact. Succ. J. Gr. Brit. 19: 66 (1957).

Pilosocereus polygonus (Lamarck) Byles *et* G.D. Rowley **subsp. curtisii** (Otto *ex* Pfeiffer) Guiggi **comb. et stat. nov.** *Basionymus*: *Cereus curtisii* Otto *ex* Pfeiffer, Enum. Diagn. Cact. 81. 1837, as ‘Curtisi’. **Lectotypus** (*designatus* by Howard 1989: 419): Grenada, *icon* in Curtis & Hooker, Bot. Mag. 59: 3125 (1832). *Synonymi*: *Pilosocereus curtisii* (Otto) A.R. Franck, in Phytotaxa 411(3): 161 (2019); *Cephalocereus nobilis sensu* Britton *et* Rose *non* Haworth, in Contr. U.S. Natl. Herb. 12: 418 (1909); *Cephalocereus urbanianus* (K.Schumann) Britton *et* Rose, in Contr. U.S. Natl. Herb. 12: 420 (1909); *Cephalocereus barbadensis* Britton *et* Rose, The Cact. 2: 44 (1920). **Specimina visa**: Barbados, 30 Sept. 1915, J.N.Rose *et* P.G.Russell 21181 *sub* *Cephalocereus barbadensis* [US, *holo.*, sheet and box, corp, cost, ar, sp, lan, fl, fr, sem; NY *iso.*, corp, cost, ar, sp, fl, fr, sem]; Barbados, 12 Nov. 1915, J.N.Rose 21181 *sub* *Cephalocereus barbadensis* [NY, fl, ico]; Barbados, Grenville, *sine data*, R.A.Howard *sub* *Cephalocereus barbadensis* [US, ico]; *cult. hort.* NY, 1916, M.E.Eaton *sub* *Cephalocereus barbadensis* 1767 in Britton & Rose, 1920: Pl. VI fig. 3 [US, ico]; *cult. hort.* NY, *sine data*, M.E.Eaton *sub*

Cephalocereus nobilis 1768 in Britton & Rose, 1920: Pl. VI fig. 2 [US, ico]; Guadeloupe, St. Anne, 20 Aug. 1894, *A Duss* 3506 sub *Cephalocereus urbanianus* [NY, corp, ar, sp, fl, fr]. **Distributio:** British Virgin Islands and Lesser Antilles (*cfr.* Franck *et al.*, 2019: 160). **Annotarum:** a geographical recognized subspecies (Lesser Antilles *vs.* Hispaniola) distinguish in its reproductive characters by the longer spines (to 7 cm *vs.* to 3 cm) and silken hairs (to 6 cm *vs.* to 3 cm) in the fertile areoles, flower with inner perianth segments pinkish-white (*vs.* whitish), and sometimes for a thinner stem (*e.g.* to 3.5 cm \emptyset as the fruit, *cfr.* Franck *et al.*, 1919: 162). In common with the subspecies type are: *habitus* columnar to *candelabriformis*; ribs to 13; areoles to 1 cm apart; spines dimorphic, yellowish to brown; flower 5-7 cm long; fruit reddish, small, depressed-globose, 3-3.5 cm \emptyset ; seeds shiny black (Britton & Rose, 1920: 43-45; Franck *et al.*, 2019: 139-141 figs. 8-10, 153-155 figs. 22-24, 161-162, 167). In agree with Franck *et al.* (2019: 174), *Cereus nobilis* Haworth (1812: 179) with its subpentagonal ribs is not referred to a Caribbean *Pilosocereus*. The name *Cereus curtisii* as *curtisi* (Otto, 1833: 365) published without a description was validated in Pfeiffer (1837: 81).

Pilosocereus polygonus (Lamarck) Byles *et* G.D.Rowley **subsp. gaumeri** (Britton *et* Rose) Guiggi, **comb. et stat. nov.** *Basionymus:* *Cephalocereus gaumeri* Britton *et* Rose, *The Cact.* 2: 47 (1920). **Typus:** Mexico, Yucatán, near Progreso, 1918, *G.F.Gaumer* 23934 [NY, *holo. spec. vis.* reported as type on the label, corp, cost, ar, sp, lan, dated 1 Jan. 1918 *fide* NY database; US, *iso. spec. vis.*, corp, cost, ar, sp, lan]. *Synonymus:* *Pilosocereus gaumeri* (Britton *et* Rose) Backeberg, *Die Cact.* 4: 2462 (1960). **Specimina visa:** Mexico, Yucatán, near Progreso, 1918, *G.F.Gaumer* 23934 [NY, sp, lan, fl from a living plant, ?Apr. 1918]; Mexico, Yucatán, near Progreso, 1918, *G.F.Gaumer* 23934 [NY, sp, lan, fl from a living plant, 10 Jun. 1918]. **Distributio:** Mexico (Campeche, Yucatán, *cfr.* Franck *et al.* 2019: 163). **Annotarum:** geographical subspecies distinguish by the stem yellowish-green (*vs.* grayish green), sometimes very slender (2-3 cm \emptyset), ribs lower (<1 cm *vs.* \geq 2 cm), spines to 5 cm long (*vs.* to 3 cm long), flower with inner perianth segments yellowish (*vs.* whitish), fruit purplish (*vs.* reddish), distributed in E Mexico (*vs.* Hispaniola), while other characters as the colour of the spines, ribs number, silken hairs in the fertile areoles, flower length and colour of the outer perianth segments are conspecific with the subspecies type (Britton & Rose, 1920: 47; Bravo-Hollis & Sanchez-Mejorada, 1978: 683; Bravo-Hollis & Arias Montes, 2011: 22-23; Franck *et al.*, 2019: 142 fig. 11, 153-155 figs. 22-24, 163, 167). The collection from Gaumer n. 23934 was sent to NY as living specimens in 1918 (*cfr.* Britton & Rose, 1920: 47) and successively preserved as holotype, while at US is deposited a duplicated specimen with the NY label.

Pilosocereus polygonus (Lamarck) Byles *et* G.D.Rowley **subsp. jamaicensis** (Proctor) Guiggi **comb. et stat. nov.** *Basionymus:* *Pilosocereus jamaicensis* Proctor in Franck *et al.*, in *Phytotaxa* 411(3): 163 (2019). **Typus:** Jamaica, St. Ann Parish, along Queens Highway, 2 mi. E of Rio Bueno, 23 Aug. 1955, *G. Proctor* 10561 [IJ, *holo.*]. *Synonymus:* *Cephalocereus swartzii sensu* Britton *et* Rose *non* Grisebach (*cfr.* Franck *et al.* 2019: 172), in *Contr. U.S. Natl. Herb.* 12: 420 (1909) and *The Cact.* 1920: 46. **Distributio:** Jamaica, Cayman Islands. **Annotarum:** geographical infra-specific taxon recognized by its ribs higher in number (to 16 *vs.* to 13), spines longer (to 5 cm *vs.* 3 cm), silken hairs shorter or early deciduous in fertile areoles (to 2 cm *vs.* to 3 cm long), flower with greenish outer perianth segments (*vs.* reddish) distributed in Jamaica and Cayman Islands (*vs.* Hispaniola), the other characters are as in the subspecies type (*cfr.* Britton & Rose, 1920: 46-47; Franck *et al.*, 2019: 143-148 figs. 12-17, 153-155 figs. 22-24, 163, 167).

Pilosocereus robinii (Lemaire) Byles *et* G.D.Rowley **subsp. keyensis** (Britton *et* Rose) Guiggi **stat. nov.** *Basionymus:* *Cephalocereus keyensis* Britton *et* Rose, in *Contr. U.S. Natl. Herb.* 12: 416 (1909). **Typus:** United States, Florida, Key West, hammock, 7-12 Apr. 1909, *N.L. Britton* 518 [NY, *holo. spec. vis.*, corp, cost, ar, sp, fl, fr?, reported as type on the label; US, *iso. spec. vis.*, corp, cost, ar, sp, fl, ico, reported as co-type on the label]. *Synonymi:* *Cephalocereus deeringii* Small, in *J. New York Bot. Gard.* 18: 201 (1917); *Pilosocereus*

robinii var. *deeringii* (Small) Kartesz *et* Gandhi, in *Phytologia* 71(4): 276 (1991). **Specimina visa:** United States, Florida, Monroe Co., Lower Matecumbe Key, Hammocks, 8 Apr. 1916, *J.K.Small* 7790 *sub Cephalocereus deeringii* [NY, *holo.*, corp, cost, ar, sp; US, *iso.*, corp, cost, ar, sp, ico dated 1917]. **Distributio:** United States, Florida Keys (Benson, 1982: 572; Parfitt & Gibson, 2003: 180-181). **Annotarum:** an ecological recognized infra-specific taxon of *Pilosocereus robinii*, endemic of Florida Keys, growing in tropical hardwood forest “Hammock”, distinguishable by its *habitus* taller (to 10 m *vs.* to 8 m) and simple or few ramified (*vs.* strongly ramified), stem thinner (5-6 cm \varnothing *vs.* 7-10 cm) and with fewer ribs (9-10 *vs.* 10-13), elevated numbers of spines (to 31 *vs.* to 20), distributed in Big Pine Key, Upper and Lower Matecumbe Key (*cf.* Small, 1917: 202-203; Britton & Rose, 1909: 416, 1920: 40; Lima & Adams, 1996: 58). The record for Key Largo has been referred to *P. robinii* ssp. *millspaughii* (see next combination).

Pilosocereus robinii (Lemaire) Byles *et* G.D.Rowley **subsp. millspaughii** (Britton) Guiggi **comb. et stat. nov.** *Basionymus:* *Cephalocereus millspaughii* Britton, in *Contr. U.S. Natl. Herb.* 12: 417 (1909). **Typus:** Bahamas, Cave Cay, Exuma Chain, 19 Feb. 1905, *N.L.Britton et C.F. Millspaugh* 2832 [NY, *holo.* (*fide* NY Database) *spec vis.*, corp, cost, ar, sp, lan, ico; F, *iso.* *cf.* Franck *et al.*, 2019: 165]. *Synonymus:* *Pilosocereus millspaughii* (Britton) Byles *et* G.D. Rowley, in *Cact. Succ. J. Gr. Brit.* 19: 67 (1957). **Distributio:** S Bahamas; N Central Cuba; Haiti; Turks & Caicos; United States, Florida, Key Largo (*cf.* Frank *et al.*, 2019: 165). **Annotarum:** geographical subspecies distinguished by its thicker stem (to 12 cm \varnothing *vs.* to 10 cm) longer spines at the upper flowering areoles (to 7 cm *vs.* to 3 cm long), longer silken hairs (to 7 cm *vs.* < 3 cm long); it has been referred here to *P. robinii* for the followed sharing characters: stem green normally glaucous, ribs acutish, to 13; areoles to 2 cm apart; spines yellowish brown, to 20; flower 5-7 cm long, purplish outside, inner perianth segments whitish, glaucous; fruit reddish, 3-4 cm \varnothing (*cf.* Britton & Millspaugh, 1920: 291-292; Britton & Rose, 1909: 417, 1920: 39-40, 45-46; Franck *et al.*, 2019: 150-151 figs. 19-20, 156-157 figs. 25-26, 165, 169).

Pilosocereus royenii (Linnaeus) Byles *et* Rowley **subsp. brooksianus** (Britton *et* Rose) Guiggi **comb. et stat. nov.** *Basionymus:* *Cephalocereus brooksianus* Britton *et* Rose, in *Torreya* 12: 14 (1912). **Typus:** Cuba, Novaliches, 6 mi. S of Guantánamo, a few feet above sea level, 8 May 1907, *W.R.Maxon* 4512 [NY, *holo.* (*fide* NY Database) *spec vis.*, cost, ar, sp, lan; US, *iso. spec vis.*, corp, cost, ar, sp, lan, fl]. *Synonymus:* *Pilosocereus brooksianus* (Britton *et* Rose) Byles *et* G.D. Rowley, in *Cact. Succ. J. Gr. Brit.* 19: 66 (1957). **Specimina visa:** Cuba, Guatanamo Bay, 1909, *N.E.Britton*, flowering branch illustrated in Britton & Rose (1920: Pl. 8, fig. 1) [US, *M.E. Eaton* painting]. **Distributio:** SE Cuba. **Annotarum:** geographical subspecies characterized by longer silky hairs in young areoles (to 5 cm *vs.* to 4 cm), shorter spines (to 3 cm *vs.* to 6 cm long) and a disjunct distribution in Cuba (*vs.* Puerto Rico, Virgin Islands). The blue glaucous colour of the stem, the yellowish spines and greenish yellow or purplish flower, 5-7 cm long, red or green fruit are conspecific with the subspecies type (*cf.* Britton & Rose, 1920: 49-50; Franck *et al.*, 2019: 133 fig. 3, 135-137 figs. 4-6, 158-159 figs. 27-28, 160, 170-171).

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CHILE: NOMENCLATURAL REVISION IN CACTACEAE

Eulychnia Philippi, Fl. Atacam. 23, t. 11 A (1860).

Eulychnia iquiquensis (K.Schumann) Britton *et* Rose **subsp. taltalensis** (F.Ritter) Guiggi **comb. et stat. nov.** *Basionymus*: *Eulychnia breviflora* var. *taltalensis* F.Ritter, Kakt. Südamer. 3: 898 (1980). **Typus**: Chile, Antofagasta, Taltal, 1956, *F.Ritter* FR 214 loc. 1 [U, *holo.*, corp, ar, sp, *cfr.* Eggli *et al.* 1995: 169]. *Synonymus*: *Eulychnia taltalensis* (F.Ritter) Hoxey, in Cact. Succ. J. (U.S.) 83(4): 169 (2011). **Distributio**: Antofagasta. **Annotarum**: a recent phylogenetic analysis confirms that *Eulychnia iquiquensis* and *E. taltalensis* are close relatives taxa (Larridon *et al.*, 2018: 647), as consequence the latter is here considered an ecological subspecies of the former inhabiting more humid environment, distinguished for the brownish areoles without wool or hairs and darker wool on the receptacular tube and fruit (Hoxey & Klaassen, 2011: 171-172), while the other morphological characters are very similar (*cfr.* Hunt, 2013: 6, 10-11; 2018: 36).

Eulychnia saint-pieana F.Ritter **subsp. tenuis** (F.Ritter) Guiggi **comb. et stat. nov.** *Basionymus*: *Eulychnia breviflora* var. *tenuis* F.Ritter, Kakt. Südamer. 3: 898 (1980). **Typus**: Chile, Copiapó (as Coquinbo), coast near Caldera, Jan. 1956, *F.Ritter* FR 215a loc. 1 [U, *holo.*, corp, ar, sp; ZSS, *iso.*, sem; *cfr.* Eggli *et al.* 1995 : 170]. **Distributio**: Copiapó. **Annotarum**: the phylogram included in Larridon *et al.* (2018: 647) show as this taxon is not related to *Eulychnia breviflora* Philippi but to *E. saint-pieana* from a not so far northern locality of Chañaral; comparing the two descriptions included in Ritter (1980: 888-900), *Eulychnia breviflora* var. *tenuis* appears as a southern subspecies of *E. saint-pieana* characterized by a shorter (1-1.5 m high vs. 2-4 m) and semi-prostrated *habitus*, thinner stem (3-7 cm \varnothing vs. 7-10 cm) and shorter areolar wool.

Philippicereus Backeberg, Cactaceae (Berlin) 2: 75. 1941 (1942). **Annotarum**: the validity of this genus [*typus generis*: *P. castaneus* (K.Schumann) Backeberg] here amplified and characterized by ribs low and broad, flower and fruit with short wool, distributed southerly, occurring mainly inland at altitudes up to 1300 m (Larridon *et al.*, 2018: 653) is supported as Clade 2 by a recent phylogenetic analysis (Larridon *et al.*, 2018: 647). New *status* and combinations are presented as follows:

Philippicereus acidus (Philippi) Guiggi **comb. nov.**

Basionymus: *Eulychnia acida* Philippi, in Linnaea 33: 80 (1864). **Typus**: Chile, near Illapel and Choapoa, *C.L.Landbeck* s.n. [*cfr.* Leuenberger & Eggli, 2000: 69-73]. **Distributio**: Atacama, Coquimbo.

Philippicereus chorosensis (P.Klaassen) Guiggi **comb. nov.**

Basionymus: *Eulychnia chorosensis* P.Klaassen, in Cact. Succ. J. (U.S.) 83(4): 172 (2011). **Typus**: Chile, Atacama, Freirina, 1963, *F.Ritter* FR 650 loc. 1 [U, *holo.*, corp, ar, sp, *cfr.* Eggli *et al.* 1995: 342]. *Synonymus*: *Eulychnia acida* var. *procumbens* F.Ritter, Kakt. Südamer. 3: 895 (1980). **Distributio**: Atacama.

Philippicereus elatus (F.Ritter) Guiggi **comb. et stat. nov.**

Basionymus: *Eulychnia acida* var. *elata* F.Ritter, Kakt. Südamer. 3: 896 (1980). **Typus**: Chile, Atacama, Copiapó, 1963, *F. Ritter* FR 651 loc. 2 [U, *holo.*, corp, ar, sp, *cfr.* Eggli *et al.* 1995: 342]. **Distributio**: Copiapó. **Annotarum**: the recognition as a distinct species than *P. acidus* for its taller *habitus* (4-6 m vs 2-4 m), thinner stem (8-10 cm \varnothing vs. 9-12 cm), lesser number of the ribs (9-13

vs. 10-16), flower longer (65-85 mm vs. 55-70 mm long), *hypanthium* with conspicuous wool, for a far and northern distribution is also supported by the results of the phylogenetic analysis of Larridon *et al.* (2018: 647).

Philippicereus vallenarensis (P.C.Guerrero *et* Helmut Walter) Guiggi **comb. nov.**

Basionymus: *Eulychnia vallenarensis* P.C.Guerrero *et* Helmut Walter, in *Phytotaxa* 392(1): 89 (2019). **Typus:** Chile, Atacama Reg., 20 km S of Vallenar, Panamericana Road km 645, 741 m, P.C. Guerrero 1258 [CONC, *holo.*]. **Distributio:** Atacama.

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ECUADOR (GALAPAGOS ARCH.): NOMENCLATURAL REVISION IN CACTACEAE

Opuntia Miller, Gard. Dict. abr. ed. 4 (1754).

Opuntia galapageia Henslow **subsp. helleri** (K.Schumann ex. B.L.Robinson) Guiggi *stat. nov.* *Basionymus*: *Opuntia helleri* K.Schumann in Robinson, in Proc. Amer. Acad. 38(4): 180-181 (1902). **Typus**: Ecuador, Galápagos Arch., Wolf Island “Wenman Island”, *Snodgrass et Heller* 917 [B, *holo.*, in alc., corp, ar, sp, fl, *cfr.* Eggli & Leuenberger, 2008: 257]. *Synonymus*: *Opuntia galapageia* var. *helleri* (K.Schumann ex. B.L.Robinson) Backeberg, Die Cact. 1: 562 (1958). **Distributio**: Darwin, Genovesa, Marchena, Wolf Islands (*cfr.* Anderson & Walkington, 1971: 544; Anderson, 2001: 500). **Annotarum**: subspecies from the northern smallest islands, distinguish for its normally prostrate *habitus*, rarely shrubby, to 1.5(2) m high, without trunk and forming thickets, cladodes 20-37 x 10-22 cm, areoles 1.5-2.6 (3.5) cm apart, spines bristly not dimorphic, to ca. 20(28), to 5 cm long, fruit with bristles, 2-7 cm long (*cfr.* Schumann, 1902: 180-181; Dawson, 1965: 136-140; Anderson & Walkington, 1971: 543-544; Anderson, 2001: 500)

Opuntia galapageia Henslow **subsp. insularis** (Stewart) Guiggi *stat. nov.* *Basionymus*: *Opuntia insularis* Stewart, in Proc. Calif. Acad. Sci. IV, 1: 113 (1911). **Typus**: Ecuador, Galápagos Arch., Isabela “Albemarle” Island, Tagus Cove, 4 Apr. 1906, A.Stewart 3041 [CAS, *holo.*]; *Synonymi*: *Opuntia galapageia* var. *insularis* (Stewart) Backeberg, Die Cact. 1: 561 (1958); *Opuntia saxicola* Howell, in Proc. Calif. Acad. Sci. IV, 21: 45 (1933), *syn. nov.* **Typus**: Isabela “Albemarle” Island, 5 miles NE of Webb Cove, 22 May 1932, J.T.Howell 9453 [CAS, *holo.*]; *Opuntia galapageia* var. *saxicola* (Howell) Backeberg, Die Cact. 1: 562 (1958). **Distributio**: Fernandina, Isabela Islands (*cfr.* Howell, 1933: 46; Anderson & Walkington, 1971: 544; Anderson, 2001: 502). **Annotarum**. subspecies with an eastern distribution, characterized by a shrubby *habitus* with a not definite trunk, to 2.5(3) m high, cladodes 10-52 x 18-25 cm, areoles 1.4-1.8(-3) cm apart, spines pungent, to 50, normally to 2(3) cm long, fruit with spines and bristles, 2-4.2 cm long (*cfr.* Stewart, 1911 : 113; Dawson, 1965: 144; Anderson & Walkington, 1971: 544; Anderson, 2001: 502)

Opuntia galapageia Henslow **subsp. megasperma** (Howell) Guiggi *comb. et stat. nov.* *Basionymus*: *Opuntia megasperma* Howell, in Proc. Calif. Acad. Sci. IV, 21: 46 (1933). **Typus**: Ecuador, Galápagos Arch., Champion “Charles” Island, Black Beach, 15 May 1932, J.T.Howell 9360 [CAS, *holo.*]. *Synonymi*: *Opuntia megasperma* var. *orientalis* Howell, in Proc. Calif. Acad. Sci. IV, 21: 48 (1933). *Opuntia megasperma* var. *mesophytica* J. Lundh, in Madroño 20: 254 (1970). **Distributio**: Champion, Española, Gardner, San Cristóbal, Santa María Islands (*cfr.* Howell, 1933: 49; Lundh, 1970: 254; Anderson & Walkington, 1971: 544-546). **Annotarum**: infra-specific taxon with a southern distribution, characterized by largest fruit normally with bristles (5-17 cm long vs. 2-11.7 cm) and seeds (5-17 mm long vs. 2-6 mm) than the other *subsp.* (*cfr.* Howell, 1933: 46-47; Anderson & Walkington, 1971: 539-541; Anderson, 2001: 507).

Opuntia galapageia Henslow **subsp. myriacantha** (F.A.C.Weber) Guiggi *stat. nov.* *Basionymus*: *Opuntia myriacantha* F.A.C.Weber, in Bois. Dict. Hort. 894 (1898), *non* Link et Steud (1841), *nom. nud.* (*cfr.* Hunt et al., 2006: 202). **Lectotypus** (*cfr.* Anderson & Eggli, 2011: 456): Ecuador, Galápagos Arch., Santa Cruz “Indefatigable” Island, Conway Bay, 17-18 Jun. 1872, L.Agassiz s.n. [MO, *lecto.*, corp, *cfr.* Howell, 1933: 50]. *Synonymi*: *Opuntia galapageia* var. *myriacantha* (Weber) Backeberg, Die Cact. 1: 561 (1958); *Opuntia echios* Howell, in Proc. Calif. Acad. Sci. IV, 21: 49 (1933), *nom. illeg.* (*cfr.* ICN Art. 52.1, Turland et al., 2018); *Opuntia echios* var. *gigantea* Howell, in Proc. Calif. Acad. Sci. IV, 21: 51 (1933); *Opuntia galapageia* var. *echios*

(Howell) Backeberg, *Die Cact.* 1: 561 (1958); *Opuntia echios* var. *inermis* Dawson, in *Cact. Succ. J. (U.S.)* 34: 103 (1962); *Opuntia echios* var. *prolifera* Dawson, in *Cact. Succ. J. (U.S.)* 34: 104 (1962); *Opuntia echios* var. *barringtonensis* Dawson, in *Cact. Succ. J. (U.S.)* 34: 104 (1962). **Distributio:** Baltra, Daphne Major, Isabela, Las Plazas, Santa Cruz, Santa Fé Islands (*cfr.* Anderson & Walkington, 1971: 539-541; Anderson, 2001: 496). **Annotarum:** subspecies with a central geographical range, differing from *Opuntia galapageia* Henslow (incl. var. *macrocarpa* E.Y. Dawson and var. *profusa* E.F. Anderson *et* Walkington) and from the other recognized *subsp.* for its arborescent *habitus*, to 10 m high, crown not compact, with a distinct trunk, cladodes often dropping, 25-50 x 15-25 cm, areoles 1.3-3 cm apart, spines rigid, pungent, to 20(50), 1.2-13 cm long, fruit normally with spines, 4-9(11.7) cm long (*cfr.* Howell, 1933: 49; Anderson & Walkington, 1971: 539-541; Anderson, 2001: 496).

Opuntia galapageia **subsp. zacana** (Howell) Guiggi *stat. nov.* *Basionymus:* *Opuntia zacana* Howell, in *Proc. Calif. Acad. Sci.* IV, 21: 48 (1933). **Typus:** Ecuador, Galápagos Arch., N Seymour Island, 11 Jun. 1932, *J.T.Howell* 9957 [CAS, *holo.*]. **Synonymi:** *Opuntia galapageia* var. *zacana* (Howell) Backeberg, *Die Cact.* 1: 562 (1958); *Opuntia echios* var. *zacana* (Howell) Anderson *et* Walkington, in *Madroño* 20: 256 (1970). **Distributio:** Seymour Island (*cfr.* Howell, 1933: 48; Anderson & Walkington, 1971: 542; Anderson, 2001: 502). **Annotarum.** subspecies characterized by a shrubby *habitus*, normally without a trunk, to 1.5(2) m high, cladodes 25-50 x 20-30 cm, areoles 1.5-3 cm apart, spines erect, rigid, to 17, 0.6-3.7 cm long, fruit with spines, 4-8.5 cm long (*cfr.* Howell, 1933: 48; Anderson & Walkington, 1971: 542; Anderson, 2001: 496).

Jasminocereus Britton *et* Rose, *The Cact.* 2: 146 (1920).

Jasminocereus thouarsii (F.A.C. Weber) Backeberg **subsp. howellii** (Dawson) Guiggi *comb. et stat. nov.* *Basionymus:* *Jasminocereus howellii* Dawson, in *Cact. Succ. J. (U.S.)* 34: 71 (1962). **Typus:** Ecuador, Galápagos Arch., Santa Cruz “Indefatigable” Island, Academy Bay, 15 Feb. 1962, *E.Y. Dawson et C.M.Dawson* 21952 [AHFH, *holo.*]. **Synonymi:** *Jasminocereus howellii* var. *delicatus* Dawson, in *Cact. Succ. J. (U.S.)* 34: 72 (1962); *Jasminocereus thouarsii* var. *delicatus* (Dawson) Anderson *et* Walkington, in *Madroño* 20: 256 (1970). **Distributio:** Bartolomé, San Salvador, Santa Cruz Islands (*cfr.* Dawson, 1962: 71-73; Anderson & Walkington, 1970: 256; Anderson, 2001: 383). **Annotarum:** subspecies characterized by the flowering apical stems with longer central spines to 9 cm long (*vs.* to 5 cm), shorter flower (5-6.5 cm long *vs.* 9-11 cm), not waxy (*vs.* ± waxy), and the fruit from ovoid to globular, 2-4.4 cm long (*vs.* globular to elongated, to 7 cm) than the subspecies type from Champion, Fernandina, Isabela, San Cristobal, Santa Maria Islands [incl. *Jasminocereus sclerocarpus* (K.Schumann) Backeberg], *cfr.* Dawson (1962: 70-73), Anderson & Walkington (1970: 256; 1971: 536-537), Anderson (2001: 383).

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MEXICO: NOMENCLATURAL REVISION IN CACTACEAE

Neodawsonia Backeberg, Blätt. Sukkulentenk. 1: 4 (1949). **Annotarum:** the validity of this genus characterized by a primary apical and successively anular *pseudocephalium* is confirmed in a phylogenetic analysis where the *cladus* of *Neodawsonia* is basal and distinct from those of *Neobuxbaumia* Backeberg *sensu stricto* and the remaining taxa of *Cephalocereus* Pfeiffer complex (Tapia *et al.*, 2017: 715).

Neodawsonia apicicephalium (E.Y. Dawson) Backeberg **subsp. totalapensis** (Bravo *et T. MacDougal ex Tapia et al.*) Guiggi **comb. et stat. nov.** *Basionymus:* *Neodawsonia totalapensis* Bravo *et T. MacDougal ex Tapia et al.*, in *Syst. Bot.* 42: 720 (2017). **Lectotypus** (*designatus* by Tapia *et al.*, 2017: 720): *icon* 1 in Bravo & MacDougal (1959, 29: 75). **Epitypus** (*designatus* by Tapia *et al.*, 2017: 720): Oaxaca, Mpio. San Pedro Totolapan, 600 m on the way of San José de Gracia to El Romedo, 861 m, 16 Mar. 2012, S. Arias 2182 [MEXU, *epi. spec. vis.*, corp, cost, ar, sp]. *Synonymi:* *Neodawsonia totalapensis* Bravo *et T. MacDougal*, in *Anales Inst. Biol. Univ. Nac. México* 29: 74 (1959), *nom. inval.* (*cf.* ICN Art. 40.1, Turland *et al.*, 2018). *Typus non designatus:* Oaxaca, Totolapan; *Cephalocereus totalapensis* (Bravo *et T. MacDougal*) Buxbaum, in *Kakt. and Sukk.* 16(3): 45 (1965), *nom. illeg.* (*cf.* ICN Art. 11.4, Turland *et al.*, 2018). **Distributio:** Oaxaca. **Annotarum:** a here recognized infra-specific taxon resulting distinct in the dendrogram of Tapia *et al.* (2017: 715) from the typical *N. apicicephalium* (\equiv *N. nizandensis* Bravo *et T. MacDougal*, *syn. nov.*) and vegetatively different principally by its simple (*vs.* basi- or mesotonic branching) and taller *habitus* (to 5-8 m *vs.* to 2-3 m), apparently growing at higher altitude (600-1000 m *vs.* 200-500 m) (*cf.* Dawson, 1948: 10-12; Bravo-Hollis & Sanchez-Mejorada, 1978: 675-680; Tapia *et al.*, 2017: 720).

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PERU: NOMENCLATURAL REVISION IN CACTACEAE

Gymnanthocereus Backeberg, Blätt. Kakteenf. 4(7): [2]. (1937), *cfr.* Guiggi (2014: 13).

Gymnanthocereus altissimus F. Ritter **subsp. utcubambensis** (Hutchison *ex* Wittner) Guiggi **comb. et stat. nov.** *Basionymus*: *Browningia utcubambensis* Hutchison *ex* Wittner, in *Kakt. and. Sukk.* 63(10): 269 (2012). **Typus**: Peru, Dept. Amazonas, Prov. Chachapoyas, Río Utcubamba, 7-10 km downstream and N from Caclic, 1450-1475 m, 24 Mar. 1964, *P.C.Hutchison et J.K.Wright* 4506 [UC, *holo.*; MO, NY, K, *iso. spec. vis.*, corp, cos, ar, sp]. **Distributio**: Amazonas, Utcubamba valley. **Annotarum**: an ecological recognized subspecies growing at higher altitude (1450-1800 vs. 500 m), identical in its vegetative characters (≥ 5 m, stem dark green, ribs 7-8, areoles greyish, large, sunken), but distinct in those reproductive than the subspecies type (*i.e.* receptacle with the dry, brownish, apical parts of the scales longer, triangular at the top and papery; fruit subcylindrical vs. clavate or subcylindrical in Guiggi 2014: 15 fig. 18), *cfr.* Ritter (1959: 119, 1981: 1315-1316), Wittner (2012: 269, 2020: 53, 55-56).

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UNITED STATES: NOMENCLATURAL REVISION IN *CACTACEAE*

Opuntia (L.) Mill., Gard. Dict. Abr., ed. 4. [974] (1754).

Opuntia austrina Small **subsp. *abjecta*** (Small *ex* Britton *et* Rose) Guiggi **comb. et stat. nov.**

Basionymus: *Opuntia abjecta* Small *ex* Britton *et* Rose, The Cact. 4: 257 (1923). **Typus:** United States, Florida, Monroe Co., hammock, SE tip of Big Pine Key, 12 Apr. 1921, *J.K. Small et P. Matthaus* s.n. [NY *spec. vis.*, corp, ar, sp]. **Distributio:** Florida Keys. **Annotarum:** *Opuntia abjecta* is confirmed to be the sister taxa of *O. austrina* *cf.* Majure *et al.* (2017: 6). This infra-specific taxon is recognized for its *habitus* prostrate, caespitose, forming clumps, growing on limestone, with a disjunct distribution in Key Largo, Crawl Key and Big Pine Keys, Florida (Majure, 2017: 16). The distinctive characters included in the key by Majure *et al.* (2017: 13, *e.g.* disarticulation of cladodes, roughness of spines, *etc*) appear overlapping with those of the more variable *Opuntia austrina* ssp. *austrina* (Majure, 2017: 20).

Opuntia humifusa (Rafinesque) Rafinesque **subsp. *mesacantha*** (Rafinesque) Guiggi **comb. et stat. nov.** **Basionymus:** *Opuntia mesacantha* Rafinesque, in Ser. Bull. Bot. 216 (1830). **Neotypus** (*designatus* by Majure, 2014: 1): United States, Virginia, Hampton, 31 May 1878, *J.W. Chickering Jr.* s.n. [US *holo. spec. vis.*, corp, ar, sp, fl]. **Synonymi:** *Opuntia mesacantha* subsp. *lata* (Small) Majure, in Phytoneuron 106: 1 (2014); *Opuntia lata* Small, in J. New York Bot. Gard. 20: 26 (1919), **syn. nov.** **Typus:** United States, Florida, Alachua Co., pine-woods, 12 mi. W of Gainesville, 13 Dec. 1917, *J.K. Small* s.n. [NY *holo. spec. vis.*, rad, corp, ar, sp, fr, sem]. **Distributio:** SE United States. **Annotarum:** Apart the phylogenetic hypothesis, the descriptions of *O. humifusa* and *O. mesacantha* included in Majure *et al.* (2017) are very close relative, so the latter taxon is considered here as an ecological subspecies of *O. humifusa*, which colonizes the sandy coastal plains in SE United States with more typical spiny cladodes and larger seeds. As reported in Majure *et al.* (2017: 53) *Opuntia lata* is hardy distinguishable from the typical *O. mesacantha* with only slight differences in margin of cladodes, stoutness of spines and in seeds, for this reason the former taxon is considered here only as a new synonym of the latter.

x *Opuntia ochrocentra* Small *ex* Britton & Rose, The Cact. 4: 262 (1923). **Typus:** United States, Florida, Monroe Co., Big Pine Key, hammock, S end of Big Pine Key, 11 Dec. 1921, *J.K. Small, G.K. Small et P. Matthews* s.n. [NY *holo. spec. vis.*, corp, ar, sp; US *iso. spec. vis.*, corp, ar, sp]. **Distributio:** Florida Keys. **Annotarum:** nothospecies that involved *Opuntia austrina* ssp. *abjecta* and *O. dillenii* (Ker-Gawler) Haworth, which are sympatric on Big Pine Key *cf.* Majure *et al.* (2013, 2017: 17).

Opuntia polyacantha Haworth **subsp. *arenaria*** (Engelmann) Guiggi **stat. nov.**

Basionymus: *Opuntia arenaria* Engelmann, in Proc. Amer. Acad. Arts 3: 301 (1857). **Lectotypus** (*designatus* by Benson, 1982: 920): United States, sandy ridges at Frontera, on the Rio Grande “NW El Paso, Texas”, 15 May 1852, *C. Wright* 311[MO, *lecto. spec. vis.*, corp, rad, ar, sp; POM, *isolecto.*]. **Synonymus:** *Opuntia polyacantha* var. *arenaria* (Engelmann) B.D. Parfitt, in Cact. Succ. J. (U.S.) 70(4): 188 (1998). **Distributio:** United States (New Mexico, Texas), Mexico (Chihuahua), *cf.* Pinkava (2003: 147). **Annotarum:** a recognized ecological subspecies, tiny in its vegetative characters with cladodes narrowly obovate to oblong than the subspecies type (4-7 x 2-3 cm *vs.* 8.5-12 x 5.5-11 cm) with a rhizomelike root growing on sandy soil (*cf.* Pinkava, 2003: 147-148). Its close relationships with *Opuntia polyacantha* are supported by a phylogenetic analysis (Majure *et al.*, 2012: 852, 855).

Opuntia polyacantha Haworth **subsp. hystricina** (Engelmann et J.M. Bigelow) Guiggi **stat. nov.** *Basionymus*: *Opuntia hystricina* Engelmann et J.M. Bigelow, in Proc. Amer. Acad. Arts 3: 299 (1856). **Lectotypus** (*designatus* by Benson, 1982: 921): United States, Arizona, Little Colorado River, 8 Dec. 1853, J.M. Bigelow sn. [MO, *lecto.*; POM, *isolecto.*]. *Synonymi*: *Opuntia polyacantha* var. *hystricina* (Engelm. et J.M. Bigelow) B.D. Parfitt, in Cact. Succ. J. (U.S.) 70(4): 188 (1998); *Opuntia rhodantha* K. Schumann, Gesamtb. Kakt. 735 (1898); *Opuntia xanthostemma* K. Schumann, Gesamtb. Kakt. 735 (1898). **Distributio**: Arizona, California, Colorado, Nevada, New Mexico, Utah (*cf.* Pinkava, 2003: 148). **Annotarum**: a recognized geographical infra-specific taxon distributed at the south-western range of the species, differentiated by its normally darker (brownish-black vs. brownish-yellow) and longer major spines (to 8 cm vs. to 4 cm), fruits with fewer areoles (to 21 vs. to 28) and longer spines (to 1.8 cm vs. to 1 cm long), *cf.* Pinkava (2003: 147-148). Its close relationships with *Opuntia polyacantha* are defined in a phylogenetic analysis (Majure et al., 2012: 855).

Opuntia polyacantha Haworth **f. trichophora** (Engelmann et J.M. Bigelow) Guiggi **stat. nov.** *Basionymus*: *Opuntia missouriensis* var. *trichophora* Engelmann et J.M. Bigelow, in Proc. Amer. Acad. Arts 3: 300 (1856). **Lectotypus** (*designatus* by Benson, 1982: 919): United States, New Mexico, Santa Fé Creek, 3 Oct. 1853, J.M. Bigelow sn. [MO, *lecto. spec. vis.*, corp, ar, sp; POM, *isolecto.*]. *Synonymi*: *Opuntia polyacantha* var. *trichophora* (Engelm. et J.M. Bigelow) J.M. Coult., Contr. U.S. Natl. Herb. 3(7): 437 (1896); *Opuntia trichophora* (Engelman et J.M. Bigelow) Britton et Rose, in Smithsonian Misc. Collect. 50(4): 535 (1908). **Distributio**: Arizona, Colorado, New Mexico, Oklahoma, Texas, Utah, Wyoming (*cf.* Benson, 1982: 392; Pinkava, 2003: 148). **Annotarum**: an occasional form with longer flexible, whitish spines (*cf.* Benson, 1982: 392; Pinkava, 2003: 147).

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Edited & published by Alessandro Guiggi
DISTAV, Polo Botanico, Università degli Studi di Genova
International Cactaceae Research Center (ICRC)
alex.guiggi@libero.it

The texts have been written by Alessandro Guiggi
Roy Mottram reviser of the English text
Illustrations by individual contributors

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Nomenclatural novelties proposed in this *supplementum*

Austrocactus coxii subsp. *longicarpus* (E.Sarnes et N.Sarnes) Guiggi *comb. et stat. nov.*

Discocactus boliviensis subsp. *ferricola* (Buining et Brederoo) Guiggi *comb. et stat. nov.*

Discocactus diersianus subsp. *cephaliaciculosus* (Buining et Brederoo ex P.J.Braun et Esteves) Guiggi *comb. et stat. nov.*

Discocactus diersianus subsp. *nudicephalus* (P.J.Braun et Esteves) Guiggi *comb. nov.*

Eulychnia iquiquensis subsp. *taltalensis* (F.Ritter) Guiggi *comb. et stat. nov.*

Eulychnia saint-pieana subsp. *tenuis* (F.Ritter) Guiggi *comb. et stat. nov.*

Gymnanthocereus altissimus subsp. *utcubambensis* (Hutchison ex Wittner) Guiggi *comb. et stat. nov.*

Harrisia fragrans subsp. *aboriginum* (Small ex Britton et Rose) Guiggi *comb. et stat. nov.*

Jasminocereus thouarsii subsp. *howellii* (Dawson) Guiggi *comb. et stat. nov.*

Leptocereus albellus (Areces) Guiggi, *comb. et stat. nov.*

Melocactus azureus subsp. *krainzianus* (Buining et Brederoo) Guiggi *stat. nov.*

Melocactus viridescens Guiggi *nom. nov.*

Melocactus zehntneri f. *douradaensis* (Hovens et Strecker) Guiggi *stat. nov.*

Mirabella estevesii (P.J.Braun) Guiggi *comb. nov.*

Neodawsonia apicicephalium subsp. *totalapensis* (Bravo et T. MacDougal ex Tapia et. al.) Guiggi *comb. et stat. nov.*

Opuntia austrina subsp. *abjecta* (Small ex Britton & Rose) Guiggi *comb. et stat. nov.*

Opuntia galapageia subsp. *helleri* (K.Schumann ex. B.L. Robinson) Guiggi *stat. nov.*

Opuntia galapageia subsp. *insularis* (Stewart) Guiggi *stat. nov.*

Opuntia galapageia subsp. *megasperma* (Howell) Guiggi *comb. et stat. nov.*

Opuntia galapageia subsp. *myriacantha* (F.A.C.Weber) Guiggi *stat. nov.*

Opuntia galapageia subsp. *zacana* (Howell) Guiggi *stat. nov.*

Opuntia humifusa subsp. *mesacantha* (Rafinesque) Guiggi *comb. et stat. nov.*

x *Opuntia ochrocentra* Small ex Britton & Rose

Opuntia polyacantha subsp. *arenaria* (Engelmann) Guiggi *stat. nov.*

Opuntia polyacantha subsp. *hystricina* (Engelmann et J.M.Bigelow) Guiggi *stat. nov.*

Opuntia polyacantha f. *trichophora* (Engelmann et J.M. Bigelow) Guiggi *stat. nov.*

Philippicereus acidus (Philippi) Guiggi *comb. nov.*

Philippicereus chorosensis (P.Klaassen) Guiggi *comb. nov.*

Philippicereus elatus (F.Ritter) Guiggi *comb. et stat. nov.*

Philippicereus vallenarensis (P.C. Guerrero et Helmut Walter) Guiggi *comb. nov.*

Pilosocereus pernambucoensis subsp. *viridis* (Taylor et Albuquerque-Lima) Guiggi *comb. nov.*

Pilosocereus polygonus subsp. *curtisii* (Otto ex Pfeiffer) Guiggi *comb. et stat. nov.*

Pilosocereus polygonus subsp. *gaumeri* (Britton et Rose) Guiggi, *comb. et stat. nov.*

Pilosocereus polygonus subsp. *jamaicensis* (Proctor) Guiggi *comb. et stat. nov.*

Pilosocereus robinii subsp. *keyensis* (Britton et Rose) Guiggi *stat. nov.*

Pilosocereus robinii subsp. *millspaughii* (Britton) Guiggi *comb. et stat. nov.*

Pilosocereus royenii subsp. *brooksianus* (Britton et Rose) Guiggi *comb. et stat. nov.*