

NEW CIRCUMSCRIPTION AND COMBINATIONS IN THE TRIBE *LEPTOCEREA*E BUXBAUM *SENSU* GUIGGI (*CACTACEAE-CACTOIDEAE*) FROM THE CARIBBEAN REGION

Leptocereae Buxbaum *sensu* Guiggi. **Annotarum:** Buxbaum (1958: 178-179) described a new Tribus "*Leptocereae*" [genus *typicum*: *Leptocereus* (A.Berger) Britton *et* Rose] for the most primitive genera of the subfamily *Cereoideae* K. Schumann (*cfr.* *Cactoideae* Eaton, Nyffeler & Eggli, 2010: 120-121) including also *Neoabbottia* Britton *et* Rose and many others presumed archaic genera from South America (*e.g.* *Armatocereus* Backeberg, *Neoraimondia* Britton *et* Rose, *Eulychnia* Philippi, *etc.*). In a recent molecular and morphological analysis (Barrios *et al.*, 2020: 5-7, 12) to avoid the paraphyly in *Leptocereus sensu lato*, the accepted genus *Dendrocereus* Britton *et* Rose (Anderson, 2001: 216-217; Hunt *et al.*, 2006: 74) is submerged in it. However, this procedure is not necessary because in the cladograms included in Barrios *et al.* (2020: 6, 8) is possible to recognize a *monophylum* [*i.e.* *Leptocereae* Buxbaum *sensu* Guiggi] with three different *cladi* or evolutive lines [*i.e.* *Leptocereus* (A.Berger) Britton *et* Rose *sensu stricto*, *Dendrocereus* Britton *et* Rose, *Neoabbottia* Britton *et* Rose] with the same bio-geographical history in the Caribbean region, that corresponding to the follow circumscribed valid genera, easily distinguished by the reproductive characters of their flowers and seeds. Furthermore, pending a new phylogenetic analysis, *Serrulatocereus* Guiggi (2018: 1) could also belong to this tribe.

Dendrocereus Britton *et* Rose [Arborescent to 10 m high; ribs 3-5, to 7 cm high; flower funnellform, solitary, nocturnal, to 20 cm long, tube long, slender, with small, reflexed scales, and few, short spines, perianth segments long-oblong, whitish; fruit hard, naked, to 12 cm long; seeds with testa cells strongly convex at the periphery, ca. 3.6 x 2.8 mm; distributed in Cuba, S Hispaniola; incl. *D. undulosus* (De Candolle) Britton *et* Rose and subsp. *nudiflorus* (Engelmann *ex* C.Wright) Guiggi; *cfr.* Britton & Rose, 1920: 113; Backeberg, 1955: 50-53, 1960: 1948-1950, 1977: 127; Barthlott & Hunt, 2000: 36, 63; Anderson, 2001: 216; Hunt *et al.*, 2006: 74; Barrios *et al.*, 2020: 11].

Leptocereus (A.Berger) Britton *et* Rose [Normally shrubby or creeping, < 1-3(8) m high; ribs 3-8(-9), to 2 cm high; flower tubular- or obconical-campanulate, solitary or in cluster, diurnal or nocturnal, to 5.5(7) cm long, tube short, stout, spiny, perianth segments short-obovate, reflexed, normally colored; fruit fleshy, normally spiny and ribbed, 1.5-8(-10) cm long; seeds with testa cells flats or verrucous, pitted, ca. 2.5 x 1.6-2 mm; distributed in Cuba, Dominican Republic; incl. *L. arboreus* Britton *et* Rose, *L. assurgens* (C.Wright *ex* Grisebach) Britton *et* Rose (= *Leptocereus ekmanii* (Werdermann) F.M.Knuth, = *L. prostratus* Britton *et* Rose), *L. assurgens* subsp. *albellus* (Areces) Guiggi, *L. assurgens* subsp. *chrysotyrius* (Areces) Guiggi, *L. carinatus* Areces, *L. demissus* Areces (*holo.* and *iso.* not found, *fide* the JBSD and NY databases; *lectotypus hic designatus: ico.* 6, a branch with an apical cluster of flowers of the type specimen "Areces 6812" in Areces, 2017: 118), *L. leonii* Britton *et* Rose (= *L. scopulophilus* Areces, = *L. wrightii* León), *L. sylvestris* Britton *et* Rose (= *L. maxonii* Britton *et* Rose, = *L. santamarinae* Areces); *cfr.* Britton & Rose, 1920: 77; Backeberg, 1960: 1958-1964, 1977: 222-223; Anderson, 2001: 391-395; Barthlott & Hunt, 2000: 36, 63; Hunt *et al.*, 2006: 143-144; Areces-Mallea, 1992: 45-46, 1993a: 227-229, 1993b: 245-248, 2017: 118-121, 2018: 258-266; Barrios *et al.*, 2020: 6, 11].

Neoabbottia Britton *et* Rose [Arborescent to 10 m high or shrubby; ribs normally 4 or 3-7, to 2.5 cm high; flower tubular, in group or solitary from the apical felted areoles, nocturnal, to 7 cm long, tube slender, with longitudinal scales, sometimes with bristles or cluster of spines, perianth segments short-oblong, normally greenish- or yellowish-white; fruit hard, naked or with spines, to 7 cm long; seeds with testa cells tubercled or crested at the periphery, ca. 2.5 x 1.7 mm; distributed in S Hispaniola, Puerto Rico, British Virgin Islands; incl. *N. grantiana* (Britton) Buxbaum, *N. paniculata* (Lamarck) Britton *et* Rose (= *N. paniculata* var. *humboldtii* Backeberg), *N. quadricostata* (Bello) Guiggi, *N. weingartiana* (E.Hartmann) Guiggi; *cfr.* Britton & Rose, 1921: 2-3; Backeberg, 1955: 50-53, 1960: 1950-1958, 1977: 322; Barthlott & Hunt, 2000: 36, 63; Anderson, 2001: 392-395; Hunt *et al.*, 2006: 143-144; Areces-Mallea, 2017: 116-118; Barrios *et al.*, 2020: 11].

Combinations et stati novi

Dendrocereus Britton *et* Rose, The Cact. 2: 113 (1920).

Dendrocereus undulosus (De Candolle) Britton *et* Rose **subsp. nudiflorus** (Engelmann *ex* C.Wright) Guiggi **comb. et stat. nov.** *Basionymus:* *Cereus nudiflorus* Engelmann *ex* C.Wright in Sauvalle, in Anales Acad. Ci. Méd. Fís. Nat. Habana Revista Ci. 6: 98. 1869. **Typus:** Cuba, on the shores, near Habana and Guantánamo, 1866-1867, C.Wright 3570 [MO, *holo.*?; GH, *iso.*; NY *iso. spec. vis.*, corp, cos, ar, sp, fl, *cfr.* Barrios *et al.*, 2020: 12). *Synonymi:* *Dendrocereus nudiflorus* (Engelmann *ex* C.Wright) Britton *et* Rose, The Cact. 2: 113 (1920); *Leptocereus nudiflorus* (Engelmann *ex* C.Wright) D.Barrios *et* S.Arias, in Pl. Syst. Evol. 306: 12 (2020). **Distributio:** Cuba. **Annotarum:** a geographical subspecies with a disjunct distribution in Cuba (*vs.* Hispaniola) characterized by the shorter flowers (to 12 cm long *vs.* to 20 cm), while the vegetative characters are identical (*cfr.* Britton & Rose, 1920: 113, 1925: 221; Hunt *et al.*, 2006: 74).

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

Leptocereus assurgens (C.Wright *ex* Grisebach) Britton *et* Rose **subsp. 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 *cfr.* Barrios *et al.* (2020: 12), Guiggi (2020: 5)]. **Lectotypus** (*designatus* by Barrios *et al.* 2020: 12): *ico.* 5, flower of the type specimen “Areces 6343” in Areces (2018: 260). **Epitypus** (*designatus* by Barrios *et al.* 2020: 12): Cuba, Pinar del Río, Minas de Matahambre, mogote de la cueva de Cando, en ladera sur, Sierra de San Carlos, 15 May 2018, D.Barrios *et* J.L.Guerra HFC90015 [HAJB, *epi.*; HAJB *isoepti.*]. *Synonymus:* *Leptocereus albellus* (Areces) Barrios *et* S. Arias, in Pl. Syst. Evol. 306: 12 (2020). **Distributio:** W Cuba. **Annotarum:** the DNA analysis (Barrios *et al.* 2020: 6) confirms this taxon as nested in the *Leptocereus assurgens* complex *cfr.* Hunt *et al.* (2006: 143-144), with distinguishable vegetative and reproductive characters and a peculiar habitat (*cfr.* Areces, 2018: 262; Guiggi, 2020: 5), as consequence the recognition as an infra-specific taxon is more appropriate as suggested by Areces (2018: 260).

Leptocereus assurgens (C.Wright *ex* Griseb.) Britton *et* Rose **subsp. chrysotyrus** (Areces) Guiggi **comb. et stat. nov.** *Basionymus:* *Leptocereus chrysotyrus* Areces, in Cact. Succ. J. (U.S.) 90(4): 263 (2018). **Typus:** Cuba, Prov. Pinar del Río, near the Río San Diego, 1 km N of San Diego de los Baños, 3 Nov. 1976, A.E.Areces 4547 [HAJB *holo.*, NY, *iso.*; not found *fide* the HAJB and NY databases]. **Lectotypus hic designatus:** *ico.* 8, flower of the type specimen “Areces 4547” in Areces (2018: 263). **Distributio:** W Cuba. **Annotarum:** a recognized subspecies distinguished

by the spines reddish-brown, longer, to 53 mm (vs. yellowish, to 2 cm long) and a flower tube purplish (vs. yellowish-green), *cfr.* Areces (2018: 263-265), Hunt. *et al.* (2006: 143-144).

Neoabbottia Britton *et* Rose, in *Smithsonian Misc. Collect.* 72, no. 9: 2 (1921).

Neoabbottia quadricostata (Bello) Guiggi **comb. nov.** *Basionymus:* *Cereus quadricostatus* Bello, in *Anal. Soc. Esp. Hist. Nat.* 10: 276 (1881). **Typus:** Puerto Rico, on the shores of Guánica, *D. Bello, non servatus* (*cfr.* Hunt *et al.* 2006: 144). **Neotypus** (*designatus* by Santiago-Valentín *et al.* 2015: 336): Puerto Rico, *prope* Guayanilla in *montibus calcareis ad los Indios*, 29 Aug. 1886, *P. Sintenis* 4919 *sub Cereus quadricostatus* [B, *neo.*; US, *isoneo. spec. vis.*, corp, cos, ar, sp; K *isoneo. spec. vis.*, corp, cos, ar, sp, fl, fr; BM, G, GH, W]. **Synonymus:** *Leptocereus quadricostatus* (Bello) Britton *et* Rose, in *Contr. U.S. Natl. Herb.* 16: 242 (1913). **Distributio:** Puerto Rico, British Virgin Islands.

Neoabbottia weingartiana (E.Hartmann) Guiggi **comb. nov.** *Basionymus:* *Cereus weingartianus* E.Hartmann in Dams, in *Monatsschr. Kakteenk.* 14: 155 (1904). **Typus:** Haiti, *ex cult., non servatus* (*cfr.* Hunt *et al.* 2006: 144). **Lectotypus hic designatus:** *ico.* in Hartmann, *loc. cit.* 14: 155 (1904). **Epitypus hic designatus:** Haiti, Petite Gonave Island, 9-10 Jul. 1920, *E.C. Leonard* 5256 *sub Leptocereus weingartianus* [NY, *epi. spec. vis.*, corp, cos, ar, sp, fig. 1] **Synonymus:** *Leptocereus weingartianus* (E.Hartmann) Britton *et* Rose, *The Cact.* 2: 77 (1920). **Distributio:** Hispaniola. **Annotarum:** the neo- and isotypes designated by Areces (2017: 121) have not been found *fide* the JBSD and NY database.

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Figure. 1: epitype here designated of *Cereus weingartianus* E.Hartmann [\equiv *Neoabbottia weingartiana* (E.Hartmann) Guigg], collected in Haiti by *E.C. Leonard* 5256, slender, multi-stemmed sections, deposited at NY. Photo: © New York Botanical Garden.

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Nomenclatural novelties proposed in this *supplementum*

Dendrocereus undulosus subsp. *nudiflorus* (Engelmann ex C.Wright) Guiggi *comb. et stat. nov.*

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

Leptocereus assurgens subsp. *chrysotyrius* (Areces) Guiggi *comb. et stat. nov.*

Neoabbottia quadricostata (Bello) Guiggi *comb. nov.*

Neoabbottia weingartiana (E.Hartmann) Guiggi *comb. nov.*

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