

THE GENUS EPIPHYLLUM AND ITS ALLIES.

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INTRODUCTION.

An examination of the literature relating to *Phyllocactus* convinces us that this name should be regarded as a synonym of *Epiphyllum*. The latter genus, published in 1812, was based on *Cactus phyllanthus*. The genus *Phyllocactus*, published in 1831, was based on two species, *Cactus phyllanthus* and *Cactus phyllanthoides*.

Unfortunately the name *Epiphyllum* has been retained by recent authors for another genus, of which *Epiphyllum truncatum*, the crab cactus, is the type, segregated from the true *Epiphyllum*. For this genus Schumann once proposed the name *Zygocactus*, but afterwards abandoned it. This name should be restored.

The subgenera *Disisocactus* and *Pseudepiphyllum* of the genus *Phyllocactus* of Schumann deserve, in our opinion, generic rank, under the names *Disocactus* and *Schlumbergera*, respectively.

To this relationship we refer *Wittia* and two new genera here described and typified, as well as *Epiphyllanthus*, which Mr. Alwin Berger places between *Zygocactus* and *Rhipsalis*.

The genus *Rhipsalis* will be discussed in a subsequent paper.

SYSTEMATIC TREATMENT.

EPIPHYLLUM Haw. Syn. Pl. Succ. 197. 1812.

PHYLLOCACTUS Link, Handb. Gewächs. 2: 10. 1831.

Plants mostly epiphytic, generally with flattened, often thin, leaf-like branches; spines wanting, except on seedlings and juvenile forms; cotyledons rather large, often persisting for a long time; flowers large, regular, mostly nocturnal, the tube narrow; filaments slender and long; style elongated, white or colored.

Type species, *Cactus phyllanthus* L.

Epiphyllum ackermannii Haw. Phil. Mag. 6: 109. 1829.

Cactus ackermannii Lindl. Edwards's Bot. Reg. 16: pl. 1531. 1830.

Cereus ackermannii Otto in Pfeiff. Enum. Cact. 123. 1837.

Phyllocactus ackermannii Salm-Dyck, Cact. Hort. Dyck. 38. 1842.

TYPE LOCALITY: In Mexico.

DISTRIBUTION: Mexico.

ILLUSTRATIONS: Edwards's Bot. Reg. 16: pl. 1531, as *Cactus ackermannii*. Curtis's Bot. Mag. 64: pl. 3598, as *Cereus ackermannii*. Blühende Kakt. pl. 49; Cycl. Amer. Hort. Bailey 3: f. 1773; Dict. Gard. 3: f. 133; Karst. Deutsch. Fl. f. 6; Först. Handb. Cact. ed. 2. f. 111; Rümpl. Sukkulente f. 81—all as *Phyllocactus ackermannii*.

Epiphyllum acuminatum Schum. in Mart. Fl. Bras. 4²: 222. 1890.

Phyllocactus acuminatus Schum. Gesamtb. Kakt. 213. 1899.

TYPE LOCALITY: In the Province of Rio de Janeiro, Brazil.

DISTRIBUTION: Brazil; in cultivation in Mexico.

ILLUSTRATIONS: Mart. Fl. Bras. 4²: pl. 45. Engl. & Prantl, Pflanzenfam. 3^{6a}: f. 59. D, as *Phyllocactus acuminatus*.

Epiphyllum anguliger (Lem.) Don; Loud. Encycl. Pl. ed. 2. 1380. 1855.

Phyllocactus anguliger Lem. Jard. Fleur. 1: pl. 92. 1850-51.

TYPE LOCALITY: In Mexico.

DISTRIBUTION: Central Mexico.

ILLUSTRATIONS: Curtis's Bot. Mag. 85: pl. 5100; Cycl. Amer. Hort. Bailey 1: f. 306; Dict. Gard. Nicholson 3: f. 134; Lem. Jard. Fleur. 1: pl. 92; Palmer, Cult. Cact. 167; Paxton's Fl. Gard. 1: pl. 34—all as *Phyllocactus anguliger*.

Epiphyllum cartagense (Weber) Britt. & Rose.

Phyllocactus cartagensis Weber, Bull. Mus. Hist. Nat. 8: 462. 1902.

TYPE LOCALITY: Near Cartago, Costa Rica.

DISTRIBUTION: Costa Rica.

Epiphyllum caudatum Britt. & Rose, sp. nov.

Old stems terete and slender; lateral branches elongated-lanceolate, cuneately narrowed at base into a terete stalk, long-acuminate, 15 to 20 cm. long, 3 to 4 cm. wide, the margins crenate; flowers 12 to 15 cm. long, white; tube slender; ovary and most of the flower tube quite naked.

Type in the United States National Herbarium, no. 691390, collected near Comaltepec, Oaxaca, Mexico, altitude 540 to 900 meters, July 30-31, 1894, by E. W. Nelson (no. 919).

Epiphyllum caulorrhizum (Lem.) Don; Loud. Encycl. Pl. ed. 2. 1380. 1855.

Phyllocactus caulorrhizus Lem. Jard. Fleur. 1: Misc. 6. 1854.

TYPE LOCALITY: Not given.

DISTRIBUTION: Known only from greenhouse material of uncertain origin.

Epiphyllum costaricense (Weber) Britt. & Rose.

Phyllocactus costaricensis Weber, Bull. Mus. Hist. Nat. 8: 463. 1902.

TYPE LOCALITY: Rio Virilla, near San José, Costa Rica.

DISTRIBUTION: Costa Rica.

Epiphyllum crenatum (Lindl.) Don; Loud. Encycl. Pl. ed. 2. 1378. 1855.

Cereus crenatus Lindl. Edwards's Bot. Reg. 30: pl. 31. 1844.

Phyllocactus crenatus Lem. Hort. Univ. 6: 87. 1845.

TYPE LOCALITY: In Honduras.

DISTRIBUTION: Honduras and Guatemala.

ILLUSTRATIONS: Edwards's Bot. Reg. 30: pl. 31, as *Cereus crenatus*.

Epiphyllum darrahi (Schum.) Britt. & Rose.

Phyllocactus darrahi Schum. Gesamtb. Kakt. Nachtr. 69. 1903.

TYPE LOCALITY: In Mexico.

DISTRIBUTION: Mexico.

ILLUSTRATIONS: Blühende Kakt. pl. 91, as *Phyllocactus darrahi*.

Epiphyllum gaillardae Britt. & Rose, Contr. U. S. Nat. Herb. 16: 240. 1913.

TYPE LOCALITY: In Canal Zone, Panama.

DISTRIBUTION: Panama and northern Colombia.

ILLUSTRATION: Contr. U. S. Nat. Herb. 16: pl. 68.



EPIPHYLLUM GUATEMALENSE BRITT. & ROSE.

Epiphyllum grande (Lem.) Britt. & Rose.*Phyllocactus grandis* Lem. Fl. Serr. 3: 255. 1847.

TYPE LOCALITY: In Cuba, according to Lemaire. The plant is not known in Cuba at the present time.

DISTRIBUTION: Honduras and Cuba, according to Schumann.

ILLUSTRATIONS: Monatschr. Kakteenk. 20: 123, as *Phyllocactus grandis*.**Epiphyllum grandilobum** (Weber) Britt. & Rose.*Phyllocactus grandilobus* Weber, Bull. Mus. Hist. Nat. 8: 463. 1902.

TYPE LOCALITY: La Hondura, Costa Rica.

DISTRIBUTION: Costa Rica.

This must be *Phyllocactus macrolobus* of Schumann's Keys.**Epiphyllum guatemalense** Britt. & Rose, sp. nov.

PLATE 78.

A rather stout plant, in cultivation a meter high or more; old stem woody, with gray bark, terete; branches green, flat, 4 to 8 cm. broad, narrowed at base and there terete, coarsely crenate, obtuse at apex; flower bud pointed; flowers nocturnal, including the ovary about 28 cm. long; tube about 15 cm. long, straight or nearly so, green or yellowish green, somewhat angled, at least below, bearing only a few red-tipped scales, the inner and central part of the tube densely pilose; outer sepals scale-like with red reflexed tips; petals pure white, narrow, 8 or 9 cm. long, acuminate; stamens borne on the whole inner surface of the rather short throat, and therefore in more than one series; filaments pure white; style 25 cm. long, somewhat glossy, bright yellow; ovary pale, bearing only a few spreading bracts.

Type in United States National Herbarium, no. 691401, collected in Guatemala by F. Eichlam, but definite locality not given.

Living material, sent to Washington by the late F. Eichlam in 1910 as *Phyllocactus thomasianus*, flowered in Washington October 10, 1912. It is decidedly different from that species in its white filaments, yellow style, and other characters.EXPLANATION OF PLATE 78.—Branch and flower of the living type plant, in cultivation. Scale $\frac{1}{2}$.**Epiphyllum hookeri** Haw. Phil. Mag. 6: 108. 1829.*Cereus hookeri* Link & Otto, Cat. Sem. Hort. Berol. 1828.*Phyllocactus hookeri* Salm-Dyck, Cact. Hort. Dyck. 38. 1842.

TYPE LOCALITY: In Brazil.

DISTRIBUTION: Brazil.

ILLUSTRATIONS: Curtis's Bot. Mag. 53: pl. 2692, as *Cactus phyllanthus*. Pfeiff. & Otto, Abbild. Besch. Cact. 1: pl. 5, as *Cereus hookeri*.**Epiphyllum latifrons** Zucc. in Pfeiff. Enum. Cact. 125. 1837, as synonym.*Cereus latifrons* Pfeiff. Enum. Cact. 125. 1837.*Phyllocactus latifrons* Link in Walp. Repert. Bot. 2: 341. 1843.

TYPE LOCALITY: Mexico, between Vera Cruz and Cordova, according to Schumann.

DISTRIBUTION: Mexico, but not known from wild material.

ILLUSTRATIONS: Pfeiff. & Otto, Abbild. Besch. Cact. 1: pl. 10, f. 2-3; Curtis's Bot. Mag. 67: pl. 3818—both as *Cereus latifrons*. Cact. Journ. 1: 55, as *Phyllocactus latifrons*.**Epiphyllum lepidocarpum** (Weber) Britt. & Rose.*Phyllocactus lepidocarpus* Weber, Bull. Mus. Hist. Nat. 8: 462. 1902.

TYPE LOCALITY: Near Cartago, Costa Rica.

DISTRIBUTION: Known only from Costa Rica.

Epiphyllum nelsonii Britt. & Rose, sp. nov.

Stems 60 to 120 cm. long, perhaps erect, slender and terete below, flat and thin above, here 3 to 4 cm. broad; margin crenate; flowers appearing from near the tips of the branches, 8 cm. long, light rose red; tube of flower short, funnel-form; ovary globular, bearing minute scales.

Type in the United States National Herbarium, no. 255576, collected near Chicharras, Chiapas, Mexico, altitude 900 to 1,800 meters, February 12 to 15, 1896, by E. W. Nelson (no. 3761).

The plant grows on oak trees.

Epiphyllum oxypetalum (DC.) Haw. Phil. Mag. 6: 109. 1829.

Cereus oxypetalus DC. Prodr. 3: 470. 1828.

Phyllocactus oxypetalus Link in Walp. Repert. Bot. 2: 341. 1843.

Phyllocactus grandis Lem. Fl. Serr. 3: 255. 1847.

TYPE LOCALITY: In Mexico.

DISTRIBUTION: Mexico and Guatemala.

ILLUSTRATIONS: Mém. Mus. Hist. Nat. 17: pl. 14, as *Cereus oxypetalus*. Först. Handb. Cact. ed. 2. f. 112, as *Phyllocactus oxypetalus*. Monatsschr. Kakteenk. 20: 123, as *Phyllocactus grandis*. Gartenwelt 10: 560, as *Phyllocactus latifrons*.

Epiphyllum phyllanthoides (DC.) Sweet, Hort. Brit. 172. 1826.

Cactus phyllanthoides DC. Cat. Hort. Monsp. 84. 1813.

Cereus phyllanthoides A. DC. Prodr. 3: 469. 1828.

Phyllocactus phyllanthoides Link, Handb. Gewächs. 2: 11. 1831.

TYPE LOCALITY: In Mexico.

DISTRIBUTION: Mexico.

ILLUSTRATIONS: Curtis's Bot. Mag. 46: pl. 2092, as *Cactus phyllanthoides*. Schum. Gesamtb. Kakt. f. 42; Pfeiff. & Otto, Abbild. Besch. Cact. 2: pl. 17; Monatsschr. Kakteenk. 7: 87; Safford, Ann. Rep. Smiths. Inst. 1908: f. 24—all as *Phyllocactus phyllanthoides*. Bonpl. Descr. Pl. Rar. pl. 3; Edwards's Bot. Reg. 4: pl. 304, both as *Cactus speciosus*.

Epiphyllum phyllanthus (L.) Haw. Syn. Pl. Succ. 197. 1812.

Cactus phyllanthus L. Sp. Pl. 469. 1753.

Opuntia phyllanthus Mill. Gard. Dict. ed. 8. no. 9. 1768.

Cereus phyllanthus A. DC. Prodr. 3: 469. 1828.

Phyllocactus phyllanthus Link, Handb. Gewächs. 2: 11. 1831.

TYPE LOCALITY: In Brazil.

DISTRIBUTION: Northern South America.

ILLUSTRATIONS: Petiver, Gazoph. Dec. pl. 59. f. 12. Pluk. Almag. Bot. pl. 247. f. 5. Mart. Fl. Bras. 4²: pl. 44. Curtis's Bot. Mag. 53: pl. 2692; DC. Pl. Succ. Hist. pl. 145; Vell. Fl. Flum. 5: pl. 33—all three as *Cactus phyllanthus*. Dill. Hort. Elth. pl. 64, as *Cereus*. Pfeiff. & Otto, Abbild. Besch. Cact. 1: pl. 10. f. 1, as *Cereus phyllanthus*. Monatsschr. Kakteenk. 2: 73, as *Phyllocactus phyllanthus*.

Epiphyllum pittieri (Weber) Britt. & Rose.

Phyllocactus pittieri Weber, Dict. Hort. Bois 957. 1898.

TYPE LOCALITY: In Costa Rica.

DISTRIBUTION: Costa Rica.

Epiphyllum pumilum Britt. & Rose, sp. nov.

Old stems and lower branches woody and terete; upper branches rather thin, flat, 10 to 60 cm. long by 3 to 5 cm. wide, acute, sometimes with a long tip; margins remotely toothed; flowers small for the genus, including the ovary and petals only 10 cm. long; tube proper about 5 cm. long, greenish white, bearing a few very small, ascending and appressed red scales; sepals linear, greenish or reddish, acute; petals white, lanceolate, acuminate; stamens in two groups; style slender, white; fruit not known.

Type in the United States National Herbarium, no. 691392, collected in Guatemala by F. Eichlam and flowered in Washington, October 3, 1912.

This species has frequently been collected in Guatemala, but has usually passed under the name of *E. pittieri*. This it resembles somewhat in the size of the flower, but the style is always white.



DISOCACTUS EICHLAMII WEING. BRITT. & ROSE.

Epiphyllum stenopetalum (Först.) Britt. & Rose.*Phyllocactus stenopetalus* Först. Handb. Cact. 441. 1846.

TYPE LOCALITY: None given.

DISTRIBUTION: Mexico.

Epiphyllum strictum (Lem.) Britt. & Rose.*Phyllocactus strictus* Lem. Illustr. Hort. Lem. 1: Misc. 107. 1853.

TYPE LOCALITY: In Cuba. The plant is, however, unknown in the wild state in Cuba.

DISTRIBUTION: Cuba; Guatemala, fide Schumann.

ILLUSTRATIONS: Schum. Gesamtb. Kakt. f. 41. Monatschr. Kakteenk. 6: 183, as *Phyllocactus strictus*.**Epiphyllum thomasianum** (Schum.) Britt. & Rose.*Phyllocactus thomasianus* Schum. Monatschr. Kakteenk. 5: 6. 1896.

TYPE LOCALITY: Not given.

DISTRIBUTION: Costa Rica.

ILLUSTRATIONS: Blühende Kakt. pl. 41. Monatschr. Kakteenk. 5: pl. [1], as *Phyllocactus thomasianus*.

UNCERTAIN SPECIES.

Phyllocactus purpusii Weing. Monatschr. Kakteenk. 17: 34. 1907.We know this species only from description. It seems to be closely related to *Epiphyllum oxypetalum*, and comes from near the home of that species.**Phyllocactus macrocarpus** Weber, Bull. Mus. Hist. Nat. 8: 464. 1902.This appears to be the same as *Epiphyllum thomasianum*.**Phyllocactus macropterus** Lem. Illustr. Hort. Lem. 11: Misc. 73. 1864.

Known to us only from the original imperfect description, which may apply to one of the Costa Rican species above listed.

DISOCACTUS Lindl. Edwards's Bot. Reg. 31: pl. 9. 1845.*Disisocactus* Kunze, Bot. Zeit. 3: 533. 1845.

Stems terete, usually erect, the branches flattened; flower regular, its tube very short; petals few, elongated, spreading; ovary naked, small; fruit nearly globular, not at all angled.

Type species, *Cereus biformis* Lindl.**Disocactus biformis** Lindl. Edwards's Bot. Reg. 31: pl. 9. 1845.*Cereus biformis* Lindl. Edwards's Bot. Reg. 29: Misc. 66. 1843.*Disisocactus biformis* Kunze, Bot. Zeit. 3: 533. 1845.*Phyllocactus biformis* Labour. Monogr. Cact. 418. 1858.

TYPE LOCALITY: In Honduras, but the species was described from a garden specimen.

DISTRIBUTION: Honduras.

ILLUSTRATIONS: Edwards's Bot. Reg. 31: pl. 9. Palmer, Cult. Cact. 175. Först. Handb. Cact. ed. 2. f. 120; Rümpl. Sukkulente f. 86—both as *Disisocactus biformis*. Blühende Kakt. pl. 54; Curtis's Bot. Mag. 101: pl. 6156; Dict. Gard. Nicholson 3: f. 135; Monatschr. Kakteenk. 9: 141—all as *Phyllocactus biformis*.**Disocactus eichlamii** (Weing.) Britt. & Rose.

PLATE 79.

Phyllocactus eichlamii Weing. Monatschr. Kakteenk. 21: 5. 1911.

TYPE LOCALITY: In Guatemala.

DISTRIBUTION: Guatemala.

EXPLANATION OF PLATE 79.—A plant in cultivation, received from F. Eichlam, showing old or half-withered flowers. Scale $\frac{1}{2}$.

ZYGOCACTUS Schum. in Mart. Fl. Bras. 4²: 223. 1890.

Stems much branched, flattened, divided into short joints; flowers terminal, irregular, zygomorphic; ovary terete, smooth and bractless, gradually broadening from the base, bearing minute bracts above; sepals ovate; corolla tube abruptly bent just above the ovary, bearing scattered petals along its sides and ending in a serrate mouth; stamens slender, white, arranged in two clusters; outer stamens borne along the inside of the corolla tube from near the base to near the middle; inner clusters of stamens about 20 (Schumann says 10) arising from the center and forming a short tube about the base of the style with an inner, deflexed, toothed membrane, the upper part free; style purple, slender, as long as the stamens; stigma single, clavate, solid, purple.

Type species, *Epiphyllum truncatum* Haw.

Zygocactus altensteinii (Pfeiff.) Schum. in Mart. Fl. Bras. 4²: 225. 1890.

Epiphyllum altensteinii Pfeiff. Enum. Cact. 128. 1837.

TYPE LOCALITY: In Brazil.

DISTRIBUTION: Brazil.

ILLUSTRATIONS: Pfeiff. & Otto, Abbild. Beschr. Cact. 1: pl. 28, as *Epiphyllum altensteinii*.

Zygocactus delicatus (N. E. Brown) Britt. & Rose.

Epiphyllum delicatum N. E. Brown, Gard. Chron. III. 32: 411. 1902.

Epiphyllum delicatulum Schum. Monatschr. Kakteenk. 13: 9. 1903.

TYPE LOCALITY: In Brazil.

DISTRIBUTION: Brazil.

ILLUSTRATIONS: Gard. Chron. III. 32: f. 140. Schum. Gesamtb. Kakt. Nachtr. f. 9; Monatschr. Kakteenk. 13: 7—both as *Epiphyllum delicatulum*.

Zygocactus truncatus (Haw.) Schum. in Mart. Fl. Bras. 4²: 224. 1890. PLATE 80.

Epiphyllum truncatum Haw. Suppl. Pl. Succ. 85. 1819.

Cactus truncatus Link, Enum. Pl. 2: 24. 1822.

Cereus truncatus A. DC. Prodr. 3: 470. 1828.

TYPE LOCALITY: In Brazil.

DISTRIBUTION: Brazil.

ILLUSTRATIONS: Mart. Fl. Bras. 4²: pl. 46. Curtis's Bot. Mag. 52: pl. 2562; Edwards's Bot. Reg. 9: pl. 696; Reichenb. Fl. Exot. pl. 325—all as *Cactus truncatus*. Blühende Kakt. pl. 25; Cact. Journ. 1: 34, 114; Cycl. Amer. Hort. Bailey 2: f. 765; Engl. & Prantl, Pflanzenfam. 3^{6a}: f. 61. A, B, C; Schum. Gesamtb. Kakt. f. 9, 43; Hort. Univ. 7: facing p. 132; Karst. Deutsch. Fl. 887. f. 3; Först. Handb. Cact. ed. 2. 129. f. 5; Rümpl. Sukkulente f. 87—all as *Epiphyllum truncatum*.

EXPLANATION OF PLATE 80.—Flowering branch of a greenhouse specimen. Natural size.

SCHLUMBERGERA Lem. Rev. Hort. IV. 7: 253. 1858.

Stems much branched, flattened; plants similar in habit to *Zygocactus*; flower regular, its tube very short.

The taxonomic history of the two species here recognized is interesting. *S. gaertneri* was first supposed to be conspecific with *S. russelliana* and was regarded as a variety of that species by Regel. In 1890 Schumann considered them distinct species, but congeneric, while in 1899 he referred them to different genera. Both species are probably from Brazil.

Type species, *Schlumbergera epiphyллоides* Lem.

Schlumbergera gaertneri (Regel) Britt. & Rose.

Epiphyllum russellianum gaertneri Regel, Gartenflora 33: 323. 1884.

Epiphyllum gaertneri Schum. in Mart. Fl. Bras. 4²: 218. 1890.

Phyllocactus gaertneri Schum. in Engl. & Prantl, Pflanzenfam. 3^{6a}: 218. 1894.



ZYGOCACTUS TRUNCATUS (HAW.) SCHUM.



SCHLUMBERGERA RUSSELLIANA (HOOK.) BRITT. & ROSE.



WITTIA COSTARICENSIS BRITT. & ROSE.

TYPE LOCALITY: Near Rio de Janeiro, Brazil.

DISTRIBUTION: Brazil.

ILLUSTRATIONS: Cact. Journ. 1: 9, 114; Gartenflora 39: f. 96; Rev. Hort. Belg. 15: 229. f. 2—all as *Epiphyllum russellianum gaertneri*. Curtis's Bot. Mag. 117: pl. 7201; Gartenwelt 10: 559—both as *Epiphyllum gaertneri*. Blühende Kakt. pl. 21; Gartenflora 33: pl. 1172; Monatsschr. Kakteenk. 4: 107; Rümpl. Sukkulente 148. f. 80—all as *Phyllocactus gaertneri*.

Schlumbergera russelliana (Hook.) Britt. & Rose.

PLATE 81.

Epiphyllum russellianum Hook. Curtis's Bot. Mag. 66: pl. 3717. 1840.

Phyllocactus russellianus Salm-Dyck, Cact. Hort. Dyck. 37. 1845.

Schlumbergera epiphyllodes Lem. Rev. Hort. IV. 7: 253. 1858.

TYPE LOCALITY: Organ Mountains, Brazil.

DISTRIBUTION: Brazil.

ILLUSTRATIONS: Curtis's Bot. Mag. 66: pl. 3717; Gartenflora 33: pl. 1172; Först. Handb. Cact. ed 2. f. 119—all as *Epiphyllum russellianum*. Cycl. Amer. Hort. Bailey 2: f. 766, as *Epiphyllum truncatum russellianum*. Rümpl. Sukkulente f. 79, as *Phyllocactus russellianus*.

EXPLANATION OF PLATE 81.—Flowering branch of a greenhouse specimen. Natural size.

WITTIA Schum. Monatsschr. Kakteenk. 13: 117. 1903.

Joints flattened, somewhat thickened, spineless, the margins more or less crenate; flowers small for this group, not fugacious, with a definite tube; lobes much shorter than the tube; style (so far as known) slender, white; ovary and fruit small. In many respects similar to *Rhipsalis*, but with very different flowers.

Type species, *Wittia amazonica* Schum.

Wittia amazonica Schum. Monatsschr. Kakteenk. 13: 117. 1903.

TYPE LOCALITY: Peru, near Laetica and Tarapoto.

DISTRIBUTION: Known only from the type locality.

ILLUSTRATIONS: Monatsschr. Kakteenk. 13: 119.

Wittia costaricensis Britt. & Rose.

PLATE 82.

Stems 40 to 50 cm. long, erect or curved, flat, 1 to 3 cm. broad, with horizontal branches narrowed at base, pointed, the margin low-serrate; areoles 12 to 15 mm. apart; ovary, tube, and sepals purplish; ovary 3 mm. long, bearing a few very short bracts; tube of flower about 8 mm. long; petals white, obtuse, spreading; stamens erect; style white; stigmas 4.

Type in the United States National Herbarium, no. 691402, collected on the west coast of Costa Rica in 1907 by H. Pittier.

EXPLANATION OF PLATE 82.—Growing plant of the type collection, raised from a cutting. Scale about $\frac{1}{2}$.

Wittia panamensis Britt. & Rose, Contr. U. S. Nat. Herb. 16: 241. 1913.

TYPE LOCALITY: Mountains above Chepo, Panama.

DISTRIBUTION: Panama.

ILLUSTRATIONS: Contr. U. S. Nat. Herb. loc. cit. pl. 72.

ECCREMOCACTUS Britt. & Rose, gen. nov.

Plants epiphytic, pendent, several-jointed, the joints flat and thin, with spine-bearing marginal areoles; flowers funnel-form, the short, nearly cylindrical tube bearing small scales, but no spines; perianth withering-persistent, its segments obtuse, rounded, or the innermost acutish; stamens and style white, included; fruit carmine red, oblong, with a few spineless areoles; seeds numerous, minute, black.

Type species, *Eccremocactus bradei* Britt. & Rose.

Eccremocactus bradei Britt. & Rose, sp. nov.

PLATE 83.

Joints 15 to 30 cm. long, 5 to 10 cm. broad, light dull green, flat, but the central axis somewhat elevated on both sides, the margins shallowly crenate, with small spine-bearing areoles in the sinuses; spines solitary or in twos or threes, dark brown, 6 mm. long or less; flowers about 5 cm. long; outer perianth segments pale yellow, the inner white, the tube nearly as long as the limb; fruit juicy, 2.5 to 4 cm. long, somewhat 5-ribbed, the ribs undulate; seeds 1.5 mm. long.

Type in the herbarium of the New York Botanical Garden, from a plant collected near Santo Domingo, Turruvares, Costa Rica, altitude 200 meters, by Brade in 1905 and brought from Costa Rica to the New York Botanical Garden by Mr. William R. Maxon in 1906 (*Maxon* 21). The plant flowered at the New York Botanical Garden in June and October, 1911.

The flowers of this plant resemble in form those of *Weberocereus*; its joints resemble those of some species of *Epiphyllum*.

EXPLANATION OF PLATE 83.—A growing cutting of the type collection, the three new branches beginning to assume the normal hanging position. Scale about $\frac{1}{2}$.

STROPHOCACTUS Britt. & Rose, gen. nov.

Plants epiphytic, climbing and twining, with aerial roots along the midnerve; stems thin, broad, somewhat branching, the margins bearing numerous closely set areoles; spines numerous, acicular; flowers large, red, nocturnal; ovary and flower tube with numerous hairs and bristles in the axils of the scales; corolla separating from the ovary as in *Cereus*; fruit egg-shaped, with a truncate apex; seeds black (?), ear-shaped, with an open (?) hilum.

Type species, *Cereus wittii* Schum.

Strophocactus wittii (Schum.) Britt. & Rose.

PLATE 84.

Cereus wittii Schum. Monatschr. Kakteenk. 10: 154. 1900.

TYPE LOCALITY: Swampy woods near Manaus, Brazil.

DISTRIBUTION: Brazil.

ILLUSTRATIONS: Schum. Gesamtb. Kakt. Nachtr. f. 6; Monatschr. Kakteenk. 10: 155; 12: 139; 15: 25—all as *Cereus wittii*.

EXPLANATION OF PLATE 84.—Reproduced from the illustration in the Monatschrift für Kakteenkunde, vol. 10, p. 155, showing: *A*, habit of plant; *B* and *C*, branches bearing young fruit; *D*, areole, with spines; *E*, fruit; *F*, seed. *A*, scale $\frac{1}{8}$; *B*, scale $\frac{1}{2}$; *C*, scale $\frac{1}{2}$; *D* and *E*, natural size; *F*, scale 8.

EPIPHYLLANTHUS Berger, Rep. Mo. Bot. Gard. 16: 84. 1905.

Epiphytic; stems much branched, ribbed, jointed; joints slightly flattened, bearing several setæ from the areoles; flowers similar to those of *Zygocactus*; ovary angular; inner stamens united at base.

Type species, *Cereus obtusangulus* Schum.

Epiphyllanthus obtusangulus (Lindb.) Berger, Rep. Mo. Bot. Gard. 16: 84. 1905.

Epiphyllum obtusangulum Lindb.; Schum. in Mart. Fl. Bras. 4²: 198. 1890.

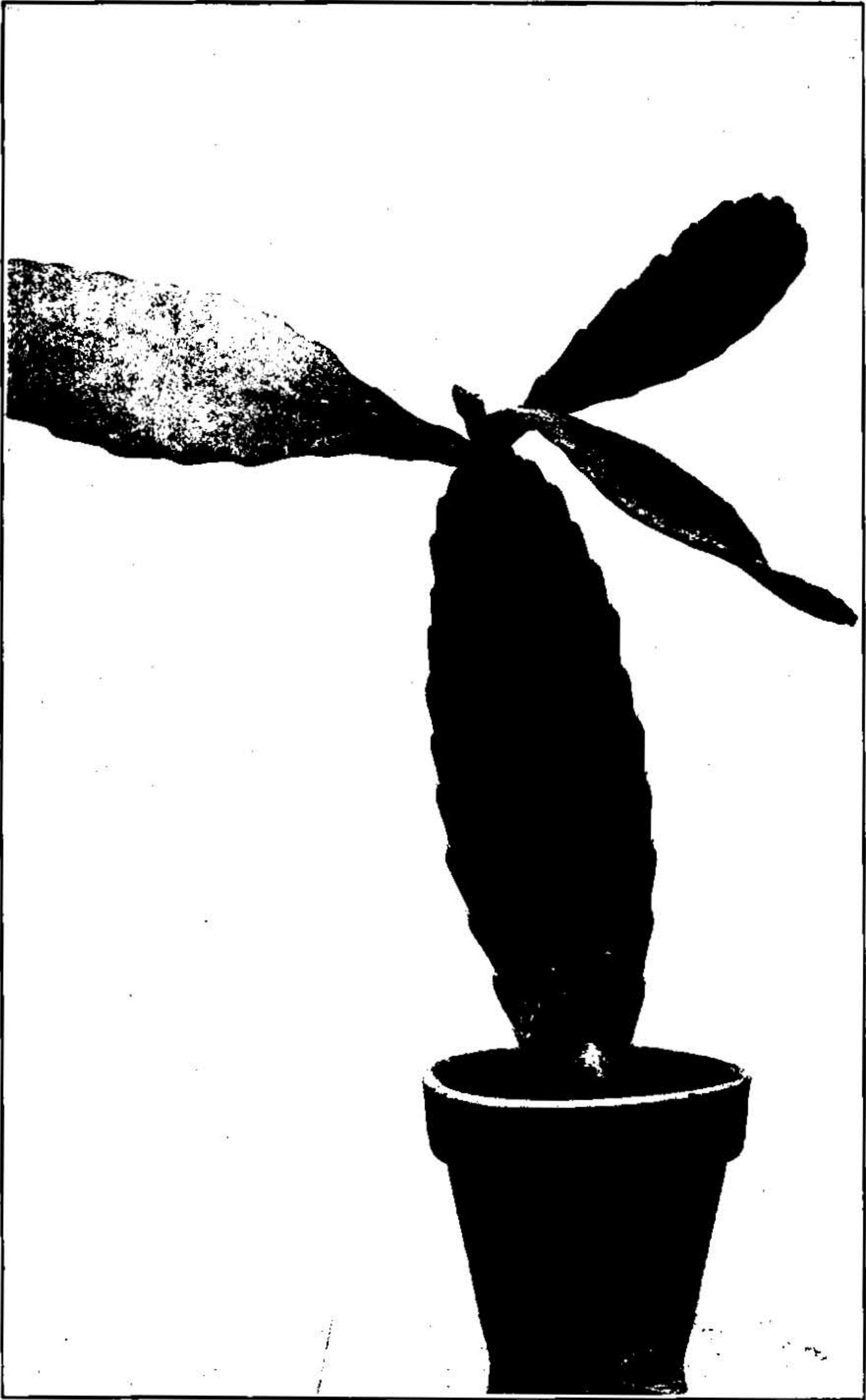
Cereus obtusangulus Schum. in Mart. Fl. Bras. 4²: 198. 1890.

?*Cereus anomalus* Schum. Keys Monogr. Cact. 16. 1903, name only.

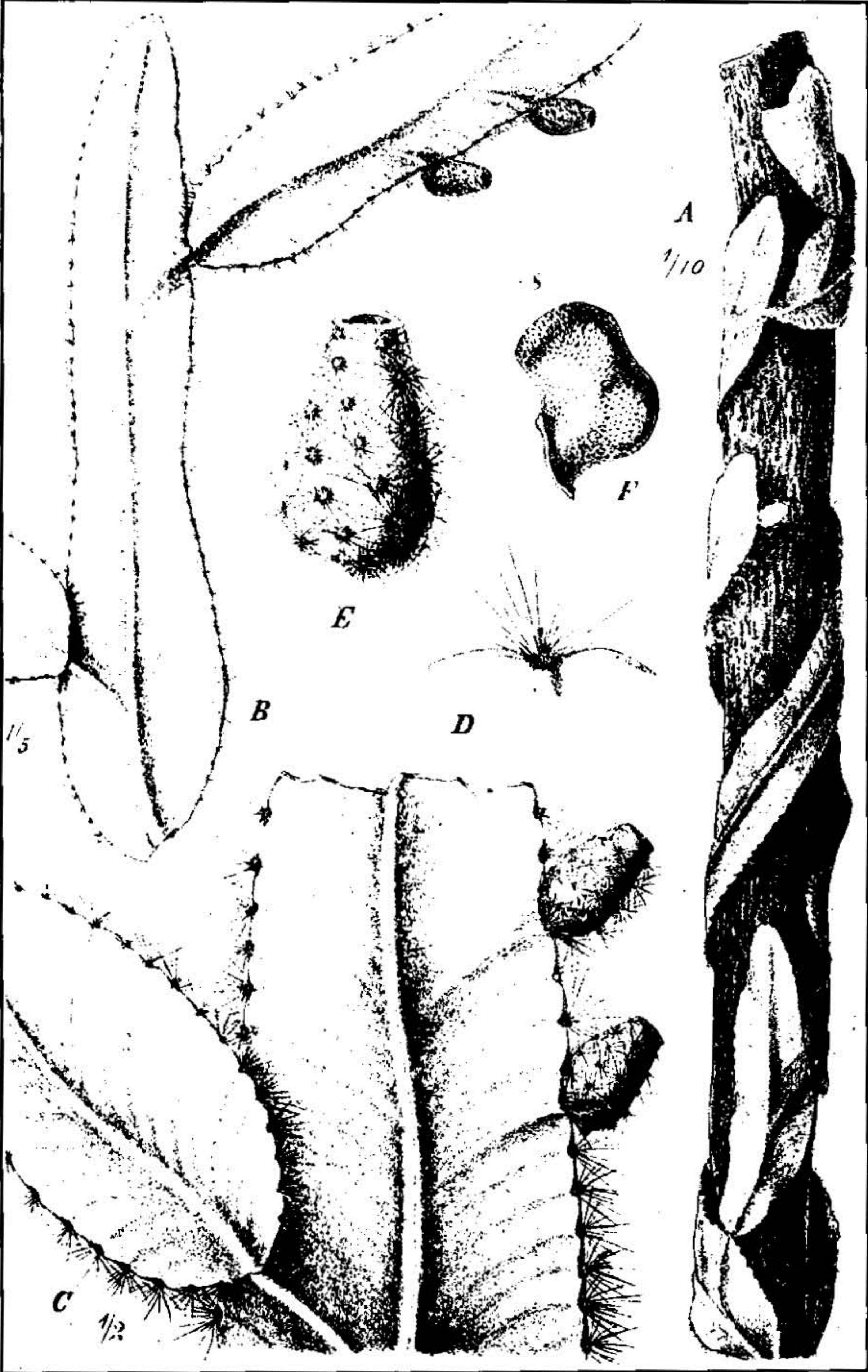
TYPE LOCALITY: In Brazil.

DISTRIBUTION: Brazil.

ILLUSTRATIONS: Schum. Gesamtb. Kakt. f. 30, as *Cereus obtusangulus*.



ECCREMOCACTUS BRAZEI BRITT. & ROSE.



STROPHOCACTUS WITTII (SCHUM.) BRITT. & ROSE.