

ADDITIONAL NOTES ON THE GENUS *CITHAREXYLUM*. XIX

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CITHAREXYLUM FRUTICOSUM L.

Additional bibliography: Batson, Gen. East. Pl. 147. 1977; Fournet, Fl. Ilust. Phan. Guad. Mart. 1404 & 1405, fig. 668. 1978; Little, Atlas Trees U. S. 5 [U. S. Dept. Agr. For. Serv. Misc. Publ. 1361]: 12, map 182. 1978; Mold., Phytologia 41: 65--68, 72, & 118. 1978; Mukherjee & Chanda, Trans. Bose Res. Inst. 41: 52. 1978; Lewalle & Lakhmiri, Arb. Ornament. Maroc. 1: [13]. 1979; López-Palacios, Revist. Fac. Farm. Univ. Andes 20: 18. 1979; Avery & Loope, S. Fla. Res. Cent. Rep. T-574: 33. 1980; Byrne, Atoll Res. Bull. 240: 199. 1980; Mold., Phytologia 46: 27. 1980; Olmsted, Loope, & Hilsenbeck, So. Fla. Res. Cent. Rep. T-604: 34 & 48. 1980; Mold., Phytol. Mem. 2: 21, 85--88, 92--94, 96--101, 103, 114, 121, 124, 125, 347, 380--383, 396, & 531. 1980; Mold., Phytologia 48: 273. 1981.

Additional & emended illustrations: Alain in León & Alain, Fl. Cuba, imp. 1, 4: 300, fig. 129. 1957; Batson, Gen. East. Pl. 147. 1977; Fournet, Fl. Ilust. Phan. Guad. Mart. 1405, fig. 668. 1978.

Recent collectors describe this plant as a dense shrub or small bushy-crowned slender tree, 2.5--8 m. tall, the trunk 15 cm. in diameter, the outer bark light gray-brown with shallow longitudinal fissures, rather stringy, the inner bark straw-color, the branches and twigs grayish, the leaves "thickish", the flowers very fragrant, the calyx green, and the fruit "large", hard, turning red. They have encountered the species along open roadsides, especially brushy ones, and on dry scrubby coastal hills, at 50 m. altitude, in fruit in November and in both flower and fruit in September. Hartley reports that the flowers are much visited by bees.

Little (1978), calling this species the "Florida fiddlewood", gives its distribution in Florida and beyond as follows: "Local in s. Fla. incl. Fla. keys, n. on e. coast to Cape Canaveral. From Bahamas through West Indies incl. P. R. and V. I. Also Venezuela to Surinam." Woodbury & Little (1976) record it from Buck Island in the Virgin Islands.

The corollas on *Correll* 49939 and *Hartley* 13364 are said to have been "white". Morton emphasizes, as many other collectors have done, that the petioles when fresh are orange in color. The Baileys (1976) assert that the species blooms "throughout the year" and produces a useful timber. Haines (1922) reports it cultivated in Bihar & Orissa, India. Proctor records the local name, "bastard mahogany", in Anguilla island. The plant described and illustrated by Lewalle & Lakhmiri (1979) as *C. fruticosum* from Morocco seems definitely to be the usually cultivated *C. spinosum* L. instead.

Fournet (1978) regards *C. cinereum* L., *C. villosum* Jacq., *C.*

suberratum Sw., *C. pentandrum* Vent., *C. bahamense* Millsp., and *C. fruticosum villosum* O. E. Schulz as straight synonyms of typical *C. fruticosum* L., but in my opinion the subspecific taxa in this very variable species are worth maintaining.

Additional recently reported vernacular names for the species include "bálsamo", "bois carré", "bois de fer blanc", "café cimarrón", "canilla de venado", "fiddlewood", "long-tom", "palo de guitarra", "penda", "pendola", "pendula", "spicate fiddlewood", and "susanaleche". Boquiren (1971) records this species as host to the fungus, *Epithele vermifera* (Bourd.) Boquiren.

The Roberts LBB.16315, distributed as *C. fruticosum*, actually is *C. macrophyllum* Poir., while Proctor 1851 is *C. spinosum* L.

Additional citations: FLORIDA: Big Pine Key: Brumbach 9477 (N). BAHAMA ISLANDS: Great Inagua: D. S. Correll 49939 (N). CAYMAN ISLANDS: Grand Cayman: Correll & Correll 51000 (N). PUERTO RICO: Hartley 13364 (W--2892408), 13369 (W--2892415). PUERTO RICAN ISLANDS: Vieques: Griffis & Brokx N-29-15 (N). LEEWARD ISLANDS: Anguilla: Proctor 18624 (W--2833481). WINDWARD ISLANDS: St. Vincent: C. V. Morton 4726 (W--1883890).

CITHAREXYLUM FRUTICOSUM f. *BAHAMENSE* (Millsp.) Mold.

Additional bibliography: Mold., Phytologia 41: 66--67. 1978; Mold., Phytol. Mem. 2: 86, 99, 347, & 531. 1980.

CITHAREXYLUM FRUTICOSUM var. *BRITTONII* Mold.

Additional bibliography: Fedde & Schust., Justs Bot. Jahresber. 40 (2): 334. 1915; Mold., Phytologia 41: 67 & 68. 1978; López-Palacios, Revist. Fac. Farm. Univ. Andes 20: 18. 1979; Mold., Phytol. Mem. 2: 102, 114, 347, 381, & 531. 1980.

CITHAREXYLUM FRUTICOSUM var. *SMALLII* Mold.

Additional & emended bibliography: Alain in León & Alain, Fl. Cuba, imp. 1, 4: 300. 1957; Mold., Phytologia 41: 67. 1978; Mold., Phytol. Mem. 2: 86--88, 97--99, & 531. 1980.

CITHAREXYLUM FRUTICOSUM f. *SUBERRATUM* (Sw.) Mold.

Additional & emended bibliography: Loud., Hort. Brit., ed. 1, 248 (1830) and ed. 2, 248. 1832; G. Don in Loud., Hort. Brit., ed. 3, 248. 1839; G. Don in Sweet, Hort. Brit., ed. 3, 551. 1839; D. Dietr., Syn. Pl. 3: 614. 1843; Woodr., Gard. Trop., ed. 6, imp. 8, 436. 1910; Firninger, Man. Gard. India, ed. 6, 2: 386. 1918; Haines, Bot. Bihar Orissa, ed. 1, 4: 708. 1922; Alain in León & Alain, Fl. Cuba, imp. 1, 4: 300. 1957; Haines, Bot. Bihar Orissa, ed. 2, 2: 743. 1961; Mold., Phytologia 41: 67--68. 1978; Mold., Phytol. Mem. 2: 88, 94, 347, 380--383, & 531. 1980.

CITHAREXYLUM FRUTICOSUM f. *SUBVILLOSUM* (Mold.) Mold.

Additional & emended bibliography: Alain in León & Alain, Fl. Cuba, imp. 1, 4: 300. 1957; Mold., Phytologia 41: 66--68. 1978; Mold., Phytol. Mem. 2: 21, 86--88, 93, 94, 97--100, 103, 125, 347, 380, 382, & 531. 1980.

CITHAREXYLUM FRUTICOSUM var. *VILLOSUM* (Jacq.) O. E. Schulz

Additional & emended bibliography: Loud., Hort. Brit., ed. 1, 248 (1830) and ed. 2, 248. 1832; G. Don in Loud., Hort. Brit., ed. 3, 248. 1839; G. Don in Sweet, Hort. Brit., ed. 3, 551. 1839; D. Dietr., Syn. Pl. 3: 614. 1843; Urb., Symb. Antil. 4: 535. 1911; H. N. & A. L. Mold., Pl. Life 2: 52. 1948; Alain in León & Alain, Fl. Cuba, imp. 1, 4: 300. 1957; Mold., Phytologia 41: 66 & 68. 1978; Mold., Phytol. Mem. 2: 21, 86, 88, 93, 94, 97--101, 347, 381, 383, & 531. 1980.

CITHAREXYLUM FULGIDUM Mold.

Additional bibliography: Mold., Phytologia 31: 453. 1975; Mold., Phytol. Mem. 2: 60 & 531. 1980.

Recent collectors have encountered this species as secondary in mangrove forests of *Avicennia* and some *Pachira* and *Enallagma*, flowering in June, fruiting in February.

Additional citations: MEXICO: Chiapas: *Miranda* 6376 (Me--72291), 9162 (Me--68183). Veracruz: *Gómez-Pompa & Riba* 57 (Me--118580).

CITHAREXYLUM GENTRYI Mold.

Synonymy: *Citharexylum gentry* Mold. ex López-Palacios, Revist. Fac. Farm. Univ. Andes 20: 18, sphalm. 1979.

Additional bibliography: Mold., Phytologia 41: 69 & 112. 1978; López-Palacios, Revist. Fac. Farm. Univ. Andes 20: 18. 1979; Mold., Phytol. Mem. 2: 127, 382, & 531. 1980.

Dodson describes this species as a tall slender tree, to 20 m. high, and found it growing in mature forests, at 150--220 m. altitude, fruiting in May. Material has been misidentified and distributed in some herbaria as *C. poeppigii* Walp. and as *Rubiaceae*.

Additional citations: ECUADOR: Los Ríos: *Dodson* 6002 (W--2843899).

CITHAREXYLUM GLABRUM (S. Wats.) Greenm.

Additional bibliography: Mold., Phytologia 41: 69. 1978; Mold., Phytol. Mem. 2: 60 & 531. 1980.

CITHAREXYLUM GLAZIOVII Mold.

Additional bibliography: Mold., Phytologia 41: 69. 1978; Mold., Phytol. Mem. 2: 140, 347, & 531. 1980.

CITHAREXYLUM GLEASONIANUM Mold.

Additional bibliography: Mold., Phytologia 41: 69 & 105. 1978; Mold., Phytol. Mem. 2: 60, 347, & 531. 1980.

Recent collectors have found this species growing at 1500 m., altitude, flowering in May and June.

Additional citations: MEXICO: Puebla: *Gold* 166 (Me--156517); *Miranda* 8858 (Me--73929).

CITHAREXYLUM HERRERAЕ Mansf.

Additional bibliography: Mold., Phytologia 41: 69. 1978; Mold.,

Phytol. Mem. 2: 132 & 531. 1980.

CITHAREXYLUM HEXANGULARE Greenm.

Additional & emended bibliography: Metcalfe & Chalk, Anat. 2: 1033. 1950; Mold., Phytologia 41: 62, 63, 69--70, 114, & 122. 1978; Hocking, Excerpt. Bot. A.33: 88. 1979; Mold., Phytol. Mem. 2: 60, 71, 74, 75, 78, 80, 347, & 531. 1980; Mold., Phytologia 48: 272. 1981.

Recent collectors describe this plant as a scarce shrub or tree, 2--8 m. tall, the trunk 10 inches in diameter, and have found it growing on riverbanks and in association with *Solanum* and *Leonurus*, at sealevel, in fruit in November and December.

Material of *C. hexangulare* has been misidentified and distributed in some herbaria as *C. ellipticum* Sessé & Moc. On the other hand, the *Magaña & Cowan 2113*, distributed as *C. hexangulare*, actually is *C. ellipticum* Sessé & Moc.

Additional citations: MEXICO: Chiapas: *C. L. Lundell 17845* (Me--137842). Tabasco: *C. Cowan 1612* (N). Veracruz: *Boege 2991* (N, N); *Dorantes 3611* (N). BELIZE: *Dwyer & Coomes 12928* (Ws).

CITHAREXYLUM HEXANGULARE var. *BREVIFOLIUM* Mold.

Additional bibliography: Mold., Phytologia 41: 70. 1978; Hocking, Excerpt. Bot. A.33: 88. 1979; Mold., Phytol. Mem. 2: 60 & 531. 1980.

CITHAREXYLUM HEXANGULARE var. *LATIFOLIUM* Mold.

Additional bibliography: Mold., Phytologia 41: 70 & 122. 1978; Hocking, Excerpt. Bot. A.33: 88. 1979; Mold., Phytol. Mem. 2: 60, 80, & 531. 1980.

Recent collectors have found this plant in fruit (in addition to the months previously recorded) in November.

Additional citations: MEXICO: Chiapas: *Breedlove 20250* (Ld); *Breedlove & Smith 21661* (N); *Breedlove & Thorne 30775* (Au).

CITHAREXYLUM HIDALGENSE Mold.

Additional bibliography: Mold., Phytologia 41: 70--71. 1978; Mold., Phytol. Mem. 2: 60, 347, 382, & 531. 1980.

Recent collectors describe this species as a rare shrub, 3--5 m. tall, with very fragrant flowers and shiny red or "green and red" fruit, and have found it growing in deep sandy soil in matorral on hillsides, in woods and secondary woods of *Pinus* and *Quercus*, and in pinewoods in cañada, at 1800--2170 m. altitude, flowering in March and April, fruiting in July and September. It is said to be scarce in Puebla and Veracruz, but abundant in Hidalgo. The corollas are described as having been "white" on *Moreno G. 79*, "whitish" on *Ventura A. 817*, and "rosy-white" on *Hernandez & Cedillo Trigos 1151*.

The *Ventura A. 1015* and *12752*, distributed as *C. hidalgense*, actually are *C. affine* D. Don (or possibly *C. mexicanum* Mold.).

Additional citations: MEXICO: Hidalgo: *Gimate L. 1060* (N). Nuevo León: *Hernández & Cedillo Trigos 1151* (Me--219598, Me). Pu-

ebla: *Miranda* 3654 (Me--93087, Me--93088); *Moreno G.* 79 (N).
Veracruz: *Fay & Calzada* 892 (Au, N, W--2879279); *Ventura A.* 817 (N).

CITHAREXYLUM HINTONI Mold.

Additional bibliography: Mold., *Phytologia* 41: 71. 1978; Mold., *Phytol. Mem.* 2: 60, 382, & 531. 1980.

CITHAREXYLUM HIRTELLUM Standl.

Additional bibliography: Mold., *Phytologia* 41: 62, 70, & 71. 1978; Mold., *Phytol. Mem.* 2: 60, 71, 74, 83, & 531. 1980.

Recent collectors describe this plant as a tree, 15 m. tall, and have encountered it in evergreen forests, fruiting in February.

Additional citations: MEXICO: Veracruz: *Sousa* 3409 (Me--113088).

CITHAREXYLUM HIRTELLUM var. *GUATEMALENSE* Mold.

Additional bibliography: Mold., *Phytologia* 31: 456. 1975; Mold.; *Phytol. Mem.* 2: 71, 382, & 531. 1980.

CITHAREXYLUM xHYBRIDUM Mold.

Additional bibliography: Mold., *Phytologia* 41: 66, 76, & 107. 1978; Mold., *Phytol. Mem.* 2: 93, 101, 103, 382, 383, & 531. 1980.

CITHAREXYLUM ILICIFOLIUM H.B.K.

Additional synonymy: *Citharexylon ilicifolium* Bonpl. ex Spreng. in L., *Syst. Veg.*, ed. 16, 2: 764. 1825. *Citharexylon ilicifolium* Humb. & Kunth apud D. Dietr., *Syn. Pl.* 3: 615. 1843. *Citharexylon ilicifolium* Mold. ex López-Palacios, *Revist. Fac. Farm. Univ. Andes* 20: 18, sphalm. 1979.

Additional bibliography: D. Dietr., *Syn. Pl.* 3: 615. 1843; L. H. & E. Z. Bailey, *Hortus Third* 275. 1976; Mold., *Phytologia* 41: 71 (1978) and 43: 316. 1979; López-Palacios, *Revist. Fac. Farm. Univ. Andes* 20: 18. 1979; Mold., *Phytol. Mem.* 2: 127, 132, 173, 347, 381, 382, & 531. 1980.

Recent collectors have described this species as a shrub, 2 m. tall, and have encountered it growing "on a stone wall", at 2830--3800 m. altitude, flowering in April and July. The corollas are said to have been "white" on *Boeke & Loyola* 2144, *Cerrate & al.* 4634, and *Norman s.n.*

Additional citations: ECUADOR: Azuay: *Boeke & Loyola* 2144 (N). Pichincha: *Norman s.n.* (W--2848685). PERU: Lima: *Cerrate, Gómez, & Ojeda* 4635 (W--2702888).

CITHAREXYLUM ILTISII Mold.

Additional bibliography: Mold., *Phytologia* 41: 71. 1978; Mold., *Phytol. Mem.* 2: 132 & 531. 1980.

CITHAREXYLUM INTEGERRIMUM (Kuntze) Mold.

Additional bibliography: Mold., *Phytologia* 41: 72 & 115. 1978; Mold., *Phytol. Mem.* 2: 80 & 531. 1980; Mold., *Phytologia* 47: 360. 1981.

Recent collectors describe this plant as a small to medium-sized dioecious tree and have found it growing at 1400 m. altitude, in anthesis in December. The corollas are said to have been "white" on *Haber 260*.

Material of *C. integerrimum* has been misidentified and distributed in some herbaria as *C. donnell-smithii* Greenm.

Additional citations: COSTA RICA: Puntarenas: *Haber 260* (Z).

CITHAREXYLUM xJAMAICENSE Mold.

Additional bibliography: Mold., *Phytologia* 41: 72. 1978; Mold., *Phytol. Mem.* 2: 93, 382, & 531. 1980.

CITHAREXYLUM JÖRGENSENII (Lillo) Mold.

Additional bibliography: Mold., *Phytologia* 41: 72. 1978; Mold., *Phytol. Mem.* 2: 185 & 531. 1980.

CITHAREXYLUM JURGENSENI Briq.

Additional bibliography: Mold., *Phytologia* 41: 72. 1978; Mold., *Phytol. Mem.* 2: 61 & 531. 1980.

CITHAREXYLUM KARSTENI Mold.

Additional & emended bibliography: H. N. & A. L. Mold., *Pl. Life* 2: 55 & 66. 1948; Mold., *Phytologia* 41: 62 & 72--73. 1978; López-Palacios, *Revist. Fac. Farm. Univ. Andes* 20: 18. 1979; Mold., *Phytol. Mem.* 2: 107, 114, 382, & 531. 1980.

Recent collectors speak of the corollas of this plant as being "amarillo-verdosas con el ápice rojizo" and have encountered it at 1600 m. altitude, flowering in June.

Additional citations: COLOMBIA: Cundinamarca: *García-Barriga & Jaramillo Mejía 20533* (W--2844259).

CITHAREXYLUM KARSTENI var. *LANCEOLATUM* Mold.

Additional bibliography: Mold., *Phytologia* 41: 73. 1978; López-Palacios, *Revist. Fac. Farm. Univ. Andes* 20: 18. 1979; Mold., *Phytol. Mem.* 2: 107, 114, 382, & 531. 1980.

Recent collectors have described this plant as a shrub or small tree, to 4 m. tall, the calyx green, and the fruits orange, and have encountered it in fields near road margins, at 1600 m. altitude, in flower and fruit in March. The corollas are said to have been "pale-yellow" on *Barclay & al. 3750*.

Additional citations: COLOMBIA: Cundinamarca: *Barclay, Juajibioy, & Gama 3750* (W--2831831).

CITHAREXYLUM KERBERI Greenm.

Additional bibliography: Mold., *Phytologia* 31: 461. 1975; Mold., *Phytol. Mem.* 2: 61, 347, & 531. 1980.

CITHAREXYLUM KOBUSKIANUM Mold.

Additional bibliography: Mold., *Phytologia* 41: 73. 1978; Mold., *Phytol. Mem.* 2: 132 & 531. 1980.

CITHAREXYLUM KRUKOVII Mold.

Additional bibliography: Mold., *Phytologia* 31: 461. 1975; Mold., *Phytol. Mem.* 2: 140 & 531. 1980.

CITHAREXYLUM KUNTHIANUM Mold.

Additional synonymy: *Citharexylon kunthianum* Humb. & Kunth apud D. Dietr., *Syn. Pl.* 3: 615. 1843.

Additional bibliography: D. Dietr., *Syn. Pl.* 3: 615. 1843; Knuth, *Feddes Repert. Spec. Nov. Beih.* 43: [Init. Fl. Venez.] 605. 1927; Mold., *Phytologia* 41: 74, 108, & 120. 1978; López-Palacios, *Revist. Fac. Farm. Univ. Andes* 20: 18. 1979; Mold., *Phytol. Mem.* 2: 107, 347, 381, & 531. 1980.

Knuth (1927) cites *Pittier 10769* from Zulia, Venezuela, and records the vernacular name, "totumilla". Recent collectors describe this species as a tree, 5 m. tall, with orange-red drupaceous fruit, and have found it growing at 1000--2000 m. altitude, fruiting in January and February, and list the additional vernacular name, "pendo".

Additional citations: COLOMBIA: Nariño: *Fernández & More 1195* (W--2844814). Valle: *Cuatrecasas, Patino, & Ramos 27510* (W--2606067).

CITHAREXYLUM LAETUM Hiern

Additional bibliography: Mold., *Phytologia* 41: 74. 1978; Mold., *Phytol. Mem.* 2: 140 & 531. 1980.

Araujo refers to this plant as a solitary tree, 10 m. tall, and found it bearing vermillion fruit in February.

Additional citations: BRAZIL: Rio de Janeiro: *Araujo 2259* [Herb. FEEMA 14733] (Z).

CITHAREXYLUM LANKESTERI Mold.

Additional bibliography: Mold., *Phytologia* 41: 74. 1978; Hocking, *Excerpt. Bot. A.33*: 90. 1979; Mold., *Phytol. Mem.* 2: 61, 75, 77, 80, 83, & 531. 1980.

Recent collectors have encountered this plant on a volcano slope and "local" in pasture areas with scattered trees and remnant forest, at 2500 m. altitude, fruiting in March and December. They describe it as a tree, 35 feet tall, 30 inches in diameter at breast height, the immature drupes at first orange in color, purple-black when mature, 2-seeded.

Additional citations: MEXICO: Chiapas: *Miranda 5057* (Me--71575). COSTA RICA: Heredia: *Almeda, Nakai, & Verity 4316* (N); *Hartshorn 1126* (Ld).

CITHAREXYLUM LAURIFOLIUM Hayek

Additional bibliography: Mold., *Phytologia* 41: 105. 1978; Hocking, *Excerpt. Bot. A.33*: 91. 1979; Mold., *Phytol. Mem.* 2: 132, 173, & 532. 1980.

CITHAREXYLUM LEMSII Mold.

Additional bibliography: Mold., *Phytologia* 32: 51. 1975; Mold.,

Phytol. Mem. 2: 80 & 532. 1980.

CITHAREXYLUM xLEONIS Mold.

Additional bibliography: Mold., Phytologia 41: 105. 1978; Mold., Phytol. Mem. 2: 88, 382, 383, & 532. 1980.

CITHAREXYLUM LIGUSTRINUM Van Houtte

Additional synonymy: *Citharexylon ligustrinum* Dipp. ex C. K. Schneid., Illust. Handb. Laubholz. 2: 590. 1911. *Citharexylum ligustrinum* Van Houtte ex Mukherjee & Chanda, Trans. Bose Res. Inst. 41: 51, sphalm. 1978.

Additional bibliography: C. K. Schneid., Illust. Handb. Laubholz. 2: 590. 1911; Mold., Phytologia 41: 105. 1978; Mukherjee & Chanda, Trans. Bose Res. Inst. 41: 51. 1978; Mold., Phytologia 47: 224. 1980; Mold., Phytol. Mem. 2: 61, 347, 375, 381--383, & 532. 1980.

Recent collectors describe the fruit (probably immature) of this species as greenish-red, and have found the plant growing in "black rocky argillaceous soil of primary pine-oak" forests, at 1500--2000 m. altitude, in both flower and fruit in August. The corollas are said to have been "white" on Conrad & Conrad 3257.

Material of *C. ligustrinum* has been misidentified and distributed in some herbaria as *C. caudatum* L.

Additional citations: MEXICO: Puebla: Conrad & Conrad 3257 (W--2846396). Veracruz: Ortega 460 (N).

CITHAREXYLUM LOJENSE Mold.

Additional bibliography: Mold., Phytologia 41: 105. 1978; López-Palacios, Revist. Fac. Farm. Univ. Andes 20: 18. 1979; Mold., Phytol. Mem. 2: 127 & 532. 1980.

CITHAREXYLUM LUCIDUM Schlecht. & Cham.

Emended synonymy: *Citharexylon lucidum* Cham. apud D. Dietr., Syn. Pl. 3: 614. 1843.

Additional bibliography: D. Dietr., Syn. Pl. 3: 614. 1843; Mold., Phytologia 41: 106. 1978; Mold., Phytol. Mem. 2: 61 & 532. 1980.

Ventura refers to this species as a shrub, 3 m. tall, with yellow fruit, and found it to be "rare" in matorral in cañada", at 1300 m. altitude, in fruit in January.

Additional citations: MEXICO: Veracruz: Ventura A. 9493 (N).

CITHAREXYLUM LYCIOIDES D. Don

Additional bibliography: Mold., Phytologia 41: 106. 1978; Mold., Phytol. Mem. 2: 61 & 532. 1980.

Material of this species has been misidentified and distributed in some herbaria as *Rhamnus capraefolia* Schlecht.

Additional citations: MEXICO: Hidalgo: Herb. Inst. Biol. 4875 (Me).

CITHAREXYLUM MACRADENIUM Greenm.

Additional bibliography: Mold., Phytologia 41: 106. 1978; Mold.,

Phytol. Mem. 2: 80, 83, & 532. 1980; Mold., Phytologia 47: 360. 1981.

Recent collectors describe this plant as a medium to large tree, 7 m. tall, with bright-orange pendulous fruits. They have found it growing in pastures, at 1550 m. altitude, in flower in September and in fruit in March. The corollas are said to have been "white" on *Haber 195*.

The *Lent 2236*, distributed as *C. macradenium*, actually is *C. donnell-smithii* Greenm.

Additional citations: COSTA RICA: Puntarenas: *Burger & Gentry 8800* (Go); *Haber 195* (Ld).

CITHAREXYLUM MACROCHLAMYS Pittier

Emended synonymy: *Citharexylum macroclamys* Pittier ex Mold., Phytologia 41: 106, in syn. 1978; López-Palacios, Revist. Fac. Farm. Univ. Andes 20: 18. 1979.

Additional bibliography: Mold., Phytologia 41: 106. 1978; Mukherjee & Chanda, Trans. Bose Res. Inst. 41: 40. 1978; López-Palacios, Revist. Fac. Farm. Univ. Andes 20: 18. 1979; Mold., Phytol. Mem. 2: 83, 107, 382, & 532. 1980.

Recent collectors describe this species as a tree, 5--15 m. tall, with pendent infructescences and green immature fruit, and have encountered it in wet and disturbed riverside pluvial forests, at 100 m. altitude, in flower in June and in fruit in August. The corollas are described as having been "white" on *Scolnik 1641*. The vernacular name, "nacero", is reported.

Additional citations: PANAMA: Darién: *Duke 13550* (N). COLOMBIA: Chocó: *Gentry & Fallen 17764* (W--2846394); *Scolnik 1641* (N).

CITHAREXYLUM MACROPHYLLUM Poir.

Additional bibliography: Mold., Phytologia 41: 106--107, 111, & 112. 1978; López-Palacios, Revist. Fac. Farm. Univ. Andes 20: 18. 1979; Mold., Phytol. Mem. 2: 107, 114, 121, 124, 125, 127, 140, 381, & 532. 1980; Mold., Phytologia 47: 359. 1981.

Recent collectors describe this plant as a tree, 10--22 m. tall, with a curved bole, slightly fluted at the base, the bark rather smooth, grayish-brown, very slightly fissured, the leaves thin-coriaceous, very slightly scabrid, shiny medium-green above, dull pale-green beneath, the calyx pale-green, and the stamens white. They have encountered it in secondary vegetation with remnants of primary forest and in secondary forests, at 320--900 m. altitude, in flower in March and June. *Breteler 5039* is accompanied by a wood sample and the corolla is said to have been "pale-yellow". Steyermark and his associates report "some trees sprouting shoots from fallen logs", describing the leaves as coriaceous and dark-green. They found it in rocky quebradas.

Other collectors describe the tree as 6--24 m. tall, the trunk to 40 cm. in diameter at breast height, the stems and branches hollow. with conspicuous ant-holes in the internodes, the flowers fragrant, the calyx green, the filaments white, the anthers "cream-maroon", the style green, the stigma yellow, and

the fruit red, and have found it growing in capoeira and in "mature selectively logged forests", in flower in February, March, and May, in fruit in February and July, known locally as "totumillo blanco". They describe the fruit as orange, borne in pendent infructescences. The corollas are said to have been "white" on Berti 166, Liesner & al. 7908, Prance & al. 11160, Roberts LBB.16315.

Material of *C. macrophyllum* has been misidentified and distributed in some herbaria as *C. fruticosum* L. and *C. poeppigii* Walp. On the other hand, the Haber 247, distributed as *C. macrophyllum*, actually is *C. costaricense* Mold.

Additional citations: VENEZUELA: Aragua: Steyermark, Huber, & Braun 114209 (N). Bolívar: Breteler 5039 (N). Delta Amacuro: Berti 166 (N, N, N, N). Falcón: Liesner, González, & Wingfield 7908 (Ld). SURINAM: Roberts LBB.16415 (N). ECUADOR: Napo: A. Gentry 9810 (Go). BRAZIL: Maranhão: Rosa 2503 (N). Roraima: Prance, Steward, Ramos, & Monteiro 11160 (N, N).

CITHAREXYLUM MATUDAE Mold.

Additional bibliography: Mold., *Phytologia* 32: 55. 1975; Mold., *Phytol. Mem.* 2: 61 & 532. 1980.

CITHAREXYLUM MEXICANUM Mold.

Additional bibliography: Mold., *Phytologia* 32: 55 (1975) and 47: 143. 1980; Mold., *Phytol. Mem.* 2: 61 & 532. 1980.

Recent collectors describe this plant as 2 m. tall and have encountered it in secondary riparian pine-oak forests on rocky soil, flowering in July. The corollas are said to have been "white" on the collection cited below.

It is possible that the Ventura A. 1015 & 12752, cited under *C. affine*, may, instead, represent *C. mexicanum*, a very closely related taxon.

Additional citations: MEXICO: Veracruz: Fay, Byrne, & Hernandez 759 (Au, N, W--2879288).

CITHAREXYLUM MICROPHYLLUM (P. DC.) O. E. Schulz

Additional bibliography: Mold., *Phytologia* 41: 107. 1978; Mold., *Phytol. Mem.* 2: 94 & 532. 1980.

CITHAREXYLUM MIRIFOLIUM Mold.

Additional bibliography: Mold., *Phytologia* 41: 107. 1978; López-Palacios, *Revist. Fac. Farm. Univ. Andes* 20: 18. 1979; Mold., *Phytol. Mem.* 2: 107, 114, & 532. 1980.

CITHAREXYLUM MOCINNI D. Don

Emended synonymy: *Citharexylon rugesdasii* Cham. apud D. Dietr., *Syn. Pl.* 3: 614. 1843.

Additional bibliography: D. Dietr., *Syn. Pl.* 3: 614. 1843; Glaz., *Bull. Soc. Bot. France* 58, *Mem.* 3: 545. 1911; Fedde & Schust., *Justs Bot. Jahresber.* 39 (2): 319. 1913; Mold., *Phytologia* 41: 107--108. 1978; Mold., *Phytol. Mem.* 2: 61, 71, 75, 78, 80, 382, & 532. 1980.

Recent collectors refer to this species as a tree, 10 m. tall, with pendent infructescences and orange colored fruit, and have found it growing in cloudforests and at the edges of lower montane wet forests, in pastures, and in high or middle subevergreen primary forests with yellowish-red rocky soil and associated with *Talauma mexicana*, at 1400--2400 m. altitude, flowering in November, and fruiting in December and March. The corollas are said to have been "white" on Neill 3018.

The Williams, Molina R., & Williams 24810, distributed as typical *C. mocinni*, actually represents f. *williamsii* Mold.

Additional citations: MEXICO: Chiapas: Lathrop 6783 (Me--155646). Veracruz: Hernandez M. 1363 (N); Vazquez T. 357 (N). NICARAGUA: Jinotega: W. D. Stevens 5569 (Ld). Matagalpa: Neill 3018 (N).

CITHAREXYLUM MOCINNI var. *LONGIBRACTEOLATUM* Mold.

Additional bibliography: Mold., Phytologia 32: 58. 1975; Mold., Phytol. Mem. 2: 61, 71, 75, 382, & 532. 1980.

CITHAREXYLUM MOCINNI f. *WILLIAMSII* Mold.

Additional bibliography: Mold., Phytologia 41: 108. 1978; Mold., Phytol. Mem. 2: 78 & 532. 1980.

Additional citations: NICARAGUA: Matagalpa: Williams, Molina R., & Williams 25810 (Ws).

CITHAREXYLUM MONTANUM Mold.

Additional bibliography: Mold., Phytologia 41: 108--109. 1978; López-Palacios, Revist. Fac. Farm. Univ. Andes 20: 18. 1979; Øllgaard & Balslev, Rep. Bot. Inst. Univ. Aarhus 4: 130. 1980; Mold., Phytol. Mem. 2: 107, 127, 347, 381, & 532. 1980.

The Balslev & Madsen 10433, distributed as typical *C. montanum*, seems better regarded as representing var. *chimboraense* Mold.

CITHAREXYLUM MONTANUM var. *CHIMBORAZENSE* Mold.

Additional bibliography: Mold., Phytologia 41: 109. 1978; López-Palacios, Revist. Fac. Farm. Univ. Andes 20: 18. 1979; Mold., Phytol. Mem. 2: 127 & 532. 1980.

Balslev & Madsen have found this plant in partially cleared montane forests, at 1800--1900 m. altitude, flowering in October, and describe it as a tree, 6--8 m. tall, with "white" corollas. Their material was originally distributed as typical *C. montanum* Mold.

Additional citations: ECUADOR: Napo: Balslev & Madsen 10433 (Ac, N).

CITHAREXYLUM MONTEVIDENSE (Spreng.) Mold.

Additional bibliography: D. Dietr., Syn. Pl. 3: 614. 1843; L. H. & E. Z. Bailey, Hortus Third 275. 1976; Mold., Phytologia 41: 109. 1978; Troncoso in Burkart, Fl. Ilustr. Entre Rios 5: 290--291, fig. 137. 1979; Mold., Phytol. Mem. 2: 140, 177, 180, 185, 347, 382, 396, & 532. 1980.

Additional illustrations: Troncoso in Burkart, Fl. Ilustr.

Entre Rios 5: 291, fig. 137. 1979.

Recent collectors describe this plant as a tree, 6--7 m. tall, with orange-colored fruit, and have found it growing at the edge of monte, fruiting in April. The Baileys (1976) describe the corollas as "yellow", as they are also said to have been on *Schinini & al.* 11628.

Troncoso (1979) gives the overall distribution of this species as "Sur de Brasil, Paraguay, Uruguay e NE argentino hasta la selva en galería del Delta y ribera platense e isla Martín García", listing the following vernacular names: "aguay-guazu", "blanco grande", "coronillo colorado", "espina de bañado", and "taramá espinudo". She notes that it is "Cultivado en calles, parques y plazas como ornamental. Su madera blanca y algo blanda se utiliza en carpintería." She cites *Burkart* 8315 & 31058 and *Troncoso & al.* 1269 from Entre Ríos, Argentina, in the San Isidro herbarium.

The *Schinini & Carnevali* 10590, distributed as *C. montevidense*, actually is *C. myrianthum* Cham.

Additional citations: ARGENTINA: Corrientes: *Krapovickas, Cristobal, Tressens, Schinini, & Quarin* 25291 (Ld); *Schinini & al.* 11628 (Ws).

CITHAREXYLUM MUCRONATUM Fourn. & Mold.

Additional bibliography: Mold., *Phytologia* 32: 60--61 (1975) and 47: 224. 1980; Mold., *Phytol. Mem.* 2: 78 & 532. 1980.

Recent collectors describe what appears to be this species as a low shrub, 4--5 m. tall, or a small to moderately large tree, 5--7 m. tall, the calyx green, the inflorescence arching, pendent in fruit, and the fruit itself fleshy, orange-colored. They have encountered it in disturbed roadside thickets, in islands of broadleaf forest on savannas, in pastures and scattered coffee plantations, along rivers,, at forest edges in wet forest second-growth, on open pine savannas, in broadleaf forests along small watercourses, and in coastal scrub behind the beach, at sealevel to 900 m. altitude, in anthesis in April, May, June, and September, and in fruit in June and October. The corollas are described as having been "white" on *Neill* 4541 and *Stevens* 4001, 8173, 8580, & 8599 and "cream-white" on *Neill* 2573.

Additional citations: NICARAGUA: Boaco: *Stevens & Grijalva* 14743 (Ld). Chontales: *W. D. Stevens* 4001 (Ld). Zelaya: *Neill* 2573 (Z), 4069 (Ld), 4541 (Ld); *W. D. Stevens* 8173 (Ld), 8580 (Z), 8599 (Ld).

CITHAREXYLUM MYRIANTHUM Cham.

Additional bibliography: D. Dietr., *Syn. Pl.* 3: 614. 1843; Mold., *Phytologia* 41: 109--110 & 114. 1978; Kummrow, *Bol. Mus. Bot. Munic.* 38: 14. 1979; Klein, *Sellowia* 31: 163. 1979; Mold., *Phytol. Mem.* 2: 140, 177, 185, 347, 396, & 532. 1980.

Recent collectors describe this plant as a tree, 8--10 m. tall, the trunk 10 cm. in diameter, or as a shrub, 1.5 m. tall, the fruiting-calyx olive-color, the fruit green and white spotted when young, scarlet when mature. They have encountered it in

rainforests and in sand in low woodlands, at 50--1100 m. altitude, in anthesis in November, in fruit in February. The corollas are said to have been "white" on *Hatschbach* 41728 & 42605. Kummrow (1979) cites *Hatschbach* 13623 from Paraná, Brazil. The *Irwin & al.* 32458, cited below, exhibits remarkably small-sized (although apparently mature) leaves.

Material of *C. myrianthum* has been misidentified and distributed in some herbaria as *C. montevidense* (Spreng.) Mold.

Additional citations: BRAZIL: Bahia: *Almeide & Santos* 258 (Ld); *Irwin, Harley, & Smith* 32458 (N, Z); *T. S. Santos* 565 (Ld). Espírito Santo: *Pinheiro & Santos* 2284 (Ld). Paraná: *Hatschbach* 41728 (N), 42605 (Ld). Rio de Janeiro: *Carauta & Arruda* 2313 [Herb. FEEMA 12746] (N). São Paulo: *Prance, Shepherd, & Benson* 6929 (W--2883631). ARGENTINA: Corrientes: *Krapovickas, Cristóbal, Arbo, Maruñak, Maruñak, & Irigoyen* 16894 (Ws); *Schinini & Carnevali* 10590 (Ws).

CITHAREXYLUM OBTUSIFOLIUM Kuhlmann

Additional bibliography: Mold., *Phytologia* 41: 110. 1978; Mold., *Phytol. Mem.* 2: 140 & 532. 1980.

Additional citations: BRAZIL: Bahia: *Pinheiro* 1085 (Ld).

CITHAREXYLUM OLEINUM (Benth.) Mold.

Additional bibliography: Mold., *Phytologia* 41: 110. 1978; Mold., *Phytol. Mem.* 2: 61, 347, & 532. 1980.

Recent collectors have found this plant growing in dark-brown, shallow, rocky soil in disturbed oak-pine forests, at 2100 m. altitude, describing it as a scarce shrub, 1--3 m. tall. The corollas are said to have been "white" on *Hernández M. & Vázquez* 3472.

Additional citations: MEXICO: Hidalgo: *Hernández M. & Vázquez* 3472 (Me--276509). Querétaro: *J. Rzedowski* 31610 (Ld)

CITHAREXYLUM OVATIFOLIUM Greenm.

Additional bibliography: Mold., *Phytologia* 41: 110. 1978; Mold., *Phytol. Mem.* 2: 61 & 532. 1980.

CITHAREXYLUM PACHYPHYLLUM Mold.

Additional bibliography: Mold., *Phytologia* 41: 110. 1978; Mold., *Phytol. Mem.* 2: 132 & 532. 1980.

CITHAREXYLUM PACHYPHYLLUM var. *CANESCENS* Mold.

Additional bibliography: Mold., *Phytologia* 41: 110. 1978; Mold., *Phytol. Mem.* 2: 132 & 532. 1980.

CITHAREXYLUM PENTANDRUM Vent.

Additional & emended bibliography: Loud., *Hort. Brit.*, ed. 1, 248 (1830) and ed. 2, 248. 1832; G. Don in Sweet, *Hort. Brit.*, ed. 3, 551. 1839; D. Dietr., *Syn. Pl.* 3: 614--615. 1843; Urb., *Symb. Antill.* 4: 535. 1911; *Liogier, Rhodora* 67: 350. 1965; Mold., *Phytologia* 41: 111. 1978; Mold., *Phytol. Mem.* 2: 93, 95, 97, 347, 381, & 532. 1980.

CITHAREXYLUM xPERKINSI Mold.

Additional bibliography: Mold., *Phytologia* 32: 64. 1975; Mold., *Phytol. Mem.* 2: 93, 97, 382, 383, & 532. 1980; Mold., *Phytologia* 48: 271. 1981.

The Liogier & al. 29890, cited below, is described as having been taken from a small tree, 4--5 m. tall, the corollas white, the fruit green to yellowish, found in a wet forest, at 800 m. altitude, flowering and fruiting in October, distributed as *C. caudatum* L.

Additional citations: PUERTO RICO: Liogier, Liogier, & Martorell 29890 (N).

CITHAREXYLUM PERNAMBUCENSE Mold.

Additional bibliography: Mold., *Phytologia* 41: 111. 1978; Mold., *Phytol. Mem.* 2: 140 & 532. 1980.

CITHAREXYLUM POEPPIGII Walp.

Additional synonymy: *Citharexylum porppiguii* Walp. ex Mold., *Phytol. Mem.* 2: 383, in syn. 1980.

Additional bibliography: Mold., *Phytologia* 41: 107, 111--113, & 122. 1978; López-Palacios, *Revist. Fac. Farm. Univ. Andes* 20: 18 & 19. 1979; Mold., *Phytol. Mem.* 2: 107, 114, 127, 132, 140, 347, 381--383, & 532. 1980.

Recent collectors describe this plant as a shrub or small tree, 3.5--4 m. tall, the leaves firmly membranous, dull-green above, gray-green beneath, the "fruiting-spikes" [=racemes] spreading to ascending, the flower-buds green, and the fruit red. They have encountered it on sandstone slopes and in capoeira fina on terra firme, in fruit in November. The corollas are said to have been "white" on Silva 809.

The Dodson 6002, distributed as *C. poeppigii*, actually is *C. gentryi* Mold., while Berti 166 is *C. macrophyllum* Poir. and Gentry 9810 is *C. poeppigii* var. *margaritaceum* Poepp. & Mold.

Additional citations: COLOMBIA: Meta: Plowman, Davis, & Jacobs 4278 (W--2838897). VENEZUELA: Táchira: Steyermark, Liesner, & González 119459 (Ld). BRAZIL: Amazonas: M. Silva 809 (N).

CITHAREXYLUM POEPPIGII var. CALVESCENS Mold.

Additional bibliography: Mold., *Phytologia* 41: 112. 1978; López-Palacios, *Revist. Fac. Farm. Univ. Andes* 20: 18. 1979; Mold., *Phytol. Mem.* 2: 107, 114, 127, 532, & 627. 1980.

CITHAREXYLUM POEPPIGII var. MARGARITACEUM Poepp. & Mold.

Additional synonymy: *Citharexylum poeppigii* var. *margaritaceum* Mold. ex López-Palacios, *Revist. Fac. Farm. Univ. Andes* 20: 19. 1979. *Citharexylum poeppigii* var. *margaritense* Poepp. & Mold., in herb.

Additional bibliography: Mold., *Phytologia* 41: 112--113. 1978; López-Palacios, *Revist. Fac. Farm. Univ. Andes* 20: 19. 1979; Mold., *Phytol. Mem.* 2: 107, 127, 132, 140, 173, & 532. 1980.

Recent collectors have found this plant growing in secondary forest scrub, at 150--220 m. altitude, and describe it as a shrub

or tree, 4--20 m. tall, flowering in December and January. The corollas are said to have been "white" on *Dodson & Gentry 6348* and *Eiten 399*.

Additional citations: ECUADOR: Los Ríos: *Dodson & Gentry 6348* (Go). BRAZIL: Pará: *Eiten 399* (N).

CITHAREXYLUM PTEROCLADUM Donn. Sm.

Additional bibliography: Mold., *Phytologia* 41: 113. 1978; Mold., *Phytol. Mem.* 2: 61, 71, 74, & 532. 1980.

Recent collectors refer to this plant as a tree, 15 m. tall, and have found it growing in "selva alta subperennifolia primaria, suelo cafe claro con roca aflorante", at 110 m. altitude, in anthesis in March and April. The corollas are said to have been "purple" on the Dorantes collection.

Additional citations: MEXICO: Chiapas: *Miranda 7734 bis* (Me--67751, Me--68752). Veracruz: *Dorantes 2548* (N, N).

CITHAREXYLUM PUNCTATUM Greenm.

Additional bibliography: Mold., *Phytologia* 41: 113. 1978; Mold., *Phytol. Mem.* 2: 132, 173, & 532. 1980.

Recent collectors have encountered this plant growing at 4050 m. altitude, in fruit in August.

Additional citations: PERU: Ancash: *Mostacero L., Alvítez I., Boeke, Jaramillo, & Nerváez 572* (Z).

CITHAREXYLUM QUERCIFOLIUM Hayek

Additional bibliography: Mold., *Phytologia* 41: 113. 1978; Mold., *Phytol. Mem.* 2: 132 & 532. 1980.

ITHAREXYLUM QUITENSE Spreng.

Additional & emended bibliography: Sweet. *Hort. Brit.*, ed. 2, 417. 1830; G. Don in Sweet, *Hort. Brit.*, ed. 3, 551. 1839; D. Dietr., *Syn. Pl.* 3: 614. 1843; Mold., *Phytologia* 41: 113. 1978; López-Palacios, *Revist. Fac. Farm. Univ. Andes* 20: 19. 1979; Mold., *Phytol. Mem.* 2: 127 & 532. 1980.

CITHAREXYLUM RACEMOSUM Sessé & Moc.

Additional bibliography: Mold., *Phytologia* 41: 113. 1978; Mold., *Phytol. Mem.* 2: 61 & 532. 1980; Mold., *Phytologia* 48: 273. 1981.

Recent collectors have found this plant in fruit in March, in flower in July, growing in semi-arid habitats, at 1900 m. altitude, describing it as a scarce shrub. The corollas are said to have been "white" on the Kishler collection cited below.

Material of *C. racemosum* has been misidentified and distributed in some herbaria as *C. flabellifolium* S. Wats. or *C. brachyanthum* (A. Gray) A. Gray.

Additional citations: MEXICO: Guanajuato: *Kishler 674* (Me--274959). Oaxaca: *Miranda 8841* (Me--73258).

CITHAREXYLUM RECURVATUM Greenm.

Additional bibliography: Mold., *Phytologia* 41: 113--114. 1978;

Mold., Phytol. Mem; 2: 80, 83, 347, & 532. 1980; Mold., Phytologia 47: 360. 1981.

Mori & Kallunki describe this plant as a tree, 10--12 m. tall, the trunk to 25 cm. in diameter at breast height, with orange-colored fruit, and refer to it as "very common" in patches of disturbed forest on otherwise cutover land. They have found it in flower in April and in fruit in May.

Additional citations: PANAMA: Chiriquí: Mori & Kallunki 5615 (W--2846411), 5618 (W--2846412), 6013 (W--2846391).

CITHAREXYLUM RETICULATUM H.B.K.

Additional bibliography: D. Dietr., Syn. Pl. 3: 614. 1843; Alain in León & Alain, Fl. Cuba, imp. 1, 4: 299 (1957) and imp. 2, 2: 299. 1974; Mold., Phytologia 41: 114 & 121. 1978; López-Palacios, Revist. Fac. Farm. Univ. Andes 20: 19. 1979; Mold., Phytol. Mem. 2: 107, 127, 132, 347, & 532. 1980.

CITHAREXYLUM RETIFORME Engelhardt

Additional bibliography: Mold., Phytologia 32: 71. 1975; Mold., Phytol. Mem. 2: 368 & 532. 1980.

CITHAREXYLUM RIGIDUM (Briq.) Mold.

Additional bibliography: Mold., Phytologia 41: 110 & 114. 1978; Mold., Phytol. Mem. 2: 140, 177, & 532. 1980.

CITHAREXYLUM RIMBACHII Mold.

Additional bibliography: Mold., Phytologia 32: 71. 1975; Mold., Phytol. Mem. 2: 127 & 532. 1980.

CITHAREXYLUM ROSEI Greenm.

Additional bibliography: Mold., Phytologia 41: 114. 1978; Mold., Phytol. Mem. 2: 61 & 532. 1980.

CITHAREXYLUM ROSEI var. *DURANGENSE* Mold.

Additional bibliography: Mold., Phytologia 32: 71. 1975; Mold., Phytol. Mem. 2: 61, 347, & 532. 1980.

CITHAREXYLUM ROSEI var. *PILOSUM* Mold.

Additional bibliography: Mold., Phytologia 41: 114. 1978; Mold., Phytol. Mem. 2: 61 & 532. 1980.

CITHAREXYLUM ROXANAE Mold.

Additional bibliography: Mold., Phytologia 41: 114. 1978; Mold., Phytol. Mem. 2: 61 & 532. 1980; Wiggins, Fl. Baja Calif. 33 & 529. 1980.

Moran describes this plant as a dense shrub, 2--3 m. tall, with a 3 m. wide spread, fastigate branches, and red fruit, and found it "occasional" on volcanic slopes, at 1325--1340 m. altitude, flowering and fruiting in November. He records the local vernacular name, "palo de escoba".

Additional citations: MEXICO: Baja California: R. Moran 23816 (Ld), 23834 (Ld, N, W--2886995).

CITHAREXYLUM SCABRUM Sesse & Moc.

Additional bibliography: Mold., *Phytologia* 41: 114. 1978; Mold., *Phytol. Mem.* 2: 61 & 532. 1980.

CITHAREXYLUM SCHOTTII Greenm.

Additional bibliography: Mold., *Phytologia* 41: 114--115. 1978; Mold., *Phytol. Mem.* 2: 61, 80, 348, & 532. 1980.

CITHAREXYLUM SCHOTTII var. *PUBESCENS* Mold.

Additional bibliography: Mold., *Phytologia* 32: 74. 1975; Mold., *Phytol. Mem.* 2: 71 & 532. 1980.

CITHAREXYLUM SCHULZII Urb. & Ekm.

Additional & emended bibliography: H. N. & A. L. Mold., *Pl. Life* 2: 43 & 82. 1948; Mold., *Phytologia* 32: 74. 1975; Mold., *Phytol. Mem.* 2: 95 & 532. 1980.

CITHAREXYLUM SERICEUM Lodd. ex Loud., *Hort. Brit.*, ed. 1, 248. 1830.

Additional & emended bibliography: Loud., *Hort. Brit.*, ed. 1, 248 (1830) and ed. 2, 248. 1832; G. Don in Loud., *Hort. Brit.*, ed. 3, 248. 1839; Mold., *Phytologia* 41: 115. 1978; Mold., *Phytol. Mem.* 2: 348, 381, & 532. 1980.

CITHAREXYLUM SESSAEI G. Don

Additional & emended bibliography: Metcalfe & Chalk, *Anat. Dicot.* 2: 1032. 1950; Mold., *Phytologia* 41: 115. 1978; Mold., *Phytol. Mem.* 2: 61 & 532. 1980.

Miranda has found this plant in anthesis in April.

Additional citations: MEXICO: Puebla: *Miranda* 3103 (Me--97287).

CITHAREXYLUM SHREVEI Mold.

Additional bibliography: Mold., *Phytologia* 41: 115. 1978; Mold., *Phytol. Mem.* 2: 61 & 532. 1980.

CITHAREXYLUM SOLANACEUM Cham.

Additional bibliography: D. Dietr., *Syn. Pl.* 3: 614. 1843; Mold., *Phytologia* 41: 115--116. 1978; Dombrowski & Neto, *In-forme Pesq.* 3 (21): 80 & 81. 1979; Milz & Rimpler, *Zeitschr. Naturforsch. Wiesb.* 34C: 323, 325, & 328. 1979; Mold., *Phytol. Mem.* 2: 140, 396, & 533. 1980.

Recent collectors describe this plant as a tree, 5 m. tall, with "white" flowers [corollas], and have found it growing in capão and in secondary mata, flowering in December. The leaf-blades are sharply serrate above the middle on the Oliveira collection cited below.

Additional citations: BRAZIL: Paraná: *Hatschbach* 37348 (W--2839412); *Oliveira* 156 (Ld).

CITHAREXYLUM SOLANACEUM var. *INSOLITUM* Mold.

Additional bibliography: Mold., *Phytologia* 41: 116. 1978;

Mold., Phytol. Mem. 2: 348 & 533. 1980.

CITHAREXYLUM SOLANACEUM var. *MACROCALYX* Mold.

Additional bibliography: Mold., Phytologia 41: 116. 1978; Mold., Phytol. Mem. 2: 140 & 533. 1980.

CITHAREXYLUM SPATHULATUM Mold. & Lundell

Additional bibliography: Mold., Phytologia 41: 116. 1978; Mold., Phytol. Mem. 2: 48, 61, & 533. 1980.

CITHAREXYLUM SPINOSUM L.

Additional & emended bibliography: Poir. in Lam., Tabl. Encycl. Méth. Bot. 3: pl. 545. 1819; Loud., Hort. Brit., ed. 1, 248 (1830) and ed. 2, 248. 1832; G. Don in Loud., Hort. Brit., ed. 3, 248. 1839; G. Don in Sweet, Hort. Brit., ed. 3, 551. 1839; D. Dietr., Syn. Pl. 3: 614. 1843; Stahl, Estud. Fl. Puerto Rico, ed. 1, 3: 293. 1888; D. H. Scott in Solered., Syst. Anat. Dicot. [transl. Boodle & Fritsch] 1: 630, 633, & 634 (1908) and 2: 1021 & 1022. 1908; Knuth, Feddes Repert. Spec. Nov. Beih. 43: [Init. Fl. Venez.] 605. 1927; Stahl, Estud. Fl. Puerto Rico, ed. 2, 3: 293. 1937; Metcalfe & Chalk, Anat. Dicot. 2: 1033. 1950; Alain in León & Alain, Fl. Cuba, imp. 1, 4: 299--301. 1957; Neal, Gard. Hawaii, ed. 2, 725--726. 1965; L. H. & E. Z. Bailey, Hortus Third 275. 1976; Dumont, Mycologia 68: 250. 1976; Fournet, Fl. Illust. Phan. Guad. Mart. 1404--1406, fig. 669. 1978; Mold., Phytologia 41: 116--118. 1978; Holm, Pancho, Herberger, & Plucknett, Geogr. Atlas World Weeds 89. 1979; Lewalle & Lakhmiri, Arb. Ornament. Maroc 1: [13]. 1979; López-Palacios, Revist. Fac. Farm. Univ. Andes 20: 19. 1979; Troncoso in Burkart, Fl. Ilust. Entre Rios 5: 290. 1979; Mold., Phytol. Mem. 2: 85, 88, 92, 93, 95, 97--101, 103, 104, 114, 121, 124, 125, 193, 204, 218, 256, 259, 267, 291, 341, 348, 380--383, 396, & 533. 1980; Mold., Phytologia 48: 273. 1981.

Additional & emended illustrations: Poir. in Lam., Tabl. Encycl. Méth. Bot. 3: pl. 545. 1819; Fournet, Il. Illust. Guad. Mart. 1406, fig. 669. 1978; Lewalle & Lakhmiri, Arb. Ornament. Maroc 1: [13] (as *C. fruticosum*). 1979.

According to Biegel and Scott in Rhodesia this is a "non-suckering tree to 8 m. [tall], branching from [the] base, deciduous when not watered in the very dry season, the foliage more or less shiny dull green, leaves very rarely serrate [1 serrate leaf seen in 100 young plants], with many petioles dull red, flowers white, sweet-scented", growing (in cultivation) at altitudes of 950--1480 feet, flowering in January and March. Lewalle & Lakhmiri (1979) describe and illustrate a "*C. fruticosum*" as cultivated in Morocco, but the plant to which they refer is obviously *C. spinosum*.

Fournet (1978) regards as synonyms of *C. spinosum* the following: *C. caudatum* "Sw. non L.", *C. coriaceum* Desf., *C. lucidum* "Griseb. non Ch. & Schl.", and *C. quadrangulare* Jacq. He lists as a vernacular name, "bois de fer blanc".

Dumont (1976) lists leaves of this species as one of the many

hosts to the parasitic fungus, *Moellerodiscus lentus* Thwaites, based on *Thwaites 104* from Peradeniya, Sri Lanka, in the Kew herbarium.

Proctor reports the flowers of *Citharexylum spinosum* "intensely fragrant", an observation which my wife, son, and myself confirmed in Hawaii, where the tree is used as a street tree in Honolulu. The corollas were white, as Proctor also reported them on his no. 16886. Knuth (1927) cites *Ernst s.n.* from Margarita Island, Venezuela.

The *C. V. Morton 4726*, distributed as *C. spinosum*, seems better regarded as representing a form of *C. fruticosum* L.

Additional citations: LEEWARD ISLANDS: St. Kitts: *Proctor 18510* (W--2833471). WINDWARD ISLANDS: Grenada: *Proctor 16886* (W--2833510). CULTIVATED: Hawaiian Islands: *Herbst 617* (Ne--149145). Zimbabwe: *Biegel 5667* (N); *J. Scott in South. Rhodes. Govt. Herb. 263466* (N).

CITHAREXYLUM STANDLEYI Mold.

Additional bibliography: Mold., *Phytologia* 41: 119. 1978; Mold., *Phytol. Mem.* 2: 80 & 533. 1980.

CITHAREXYLUM STANDLEYI var. *MEXICANUM* Mold.

Additional bibliography: Mold., *Phytologia* 41: 119. 1978; Mold., *Phytol. Mem.* 2: 61 & 533. 1980.

CITHAREXYLUM STENOPHYLLUM Urb. & Ekm.

Additional bibliography: Mold., *Phytologia* 32: 218. 1975; Mold., *Phytol. Mem.* 2: 95 & 533. 1980.

CITHAREXYLUM STEYERMARKII Mold.

Additional bibliography: Mold., *Phytologia* 41: 119. 1978; Mold., *Phytol. Mem.* 2: 71 & 533. 1980.

CITHAREXYLUM SUBEROSUM Loes.

Additional bibliography: Mold., *Phytologia* 41: 119. 1978; Mold., *Phytol. Mem.* 2: 132 & 533. 1980.

CITHAREXYLUM SUBFLAVESCENS Blake

Additional bibliography: Mold., *Phytologia* 41: 108 & 119--120. 1978; Steyer. & Huber, *Fl. Avila* 864. 1978; López-Palacios, *Revist. Fac. Farm. Univ. Andes* 20: 19. 1979; Mold., *Phytol. Mem.* 2: 107, 114, 132, 348, 381, 383, & 533. 1980.

CITHAREXYLUM SUBTHYRSOIDEUM Pittier

Additional bibliography: Knuth, *Feddes Repert. Spec. Nov. Beih.* 43: [Init. Fl. Venez.] 605. 1927; Mold., *Phytologia* 41: 120. 1978; Steyer. & Huber, *Fl. Avila* 864, [865], & 868, fig. 301C. 1978; López-Palacios, *Revist. Fac. Farm. Univ. Andes* 20: 19. 1979; Mold., *Phytol. Mem.* 2: 107, 114, 371, 383, & 533. 1980.

Additional illustrations: Steyer. & Huber, *Fl. Avila* [865], fig. 301C. 1978.

Recent collectors describe this species as a small shrub, 40 cm. to 3 m. tall, with square stems, glabrous aromatic leaves, and green to red fruit, and have found it growing in low forests, at 700 m. altitude, flowering in February, and fruiting in August and October. Others have found it as 950 m. altitude. The corollas are said to have been "white: on *Ferrari* 333. Berry refers to the fruits as "berries", but actually they are drupes.

Knuth (1927) cites *Pittier* 7234 & 9648 from Distrito Federal, Venezuela.

Additional citations: VENEZUELA: Lara: *Ferrari* 333 (Eu--43393). Miranda: *P. Berry* 1087 (N), 1640 (N).

CITHAREXYLUM SUBTRUNCATUM Mold.

Additional bibliography: Mold., *Phytologia* 32: 221. 1975; Mold., *Phytol. Mem.* 2: 140 & 533. 1980.

CITHAREXYLUM SULCATUM Mold.

Additional bibliography: Mold., *Phytologia* 41: 120. 1978; López-Palacios, *Revist. Fac. Farm. Univ. Andes* 20: 20. 1979; Mold., *Phytol. Mem.* 2: 107 & 533. 1980.

CITHAREXYLUM SULCATUM var. *HIRTELLUM* Mold.

Additional bibliography: Mold., *Phytologia* 32: 221--222. 1975; López-Palacios, *Revist. Fac. Farm. Univ. Andes* 20: 20. 1979; Mold., *Phytol. Mem.* 2: 107 & 533. 1980.

CITHAREXYLUM SVENSONII Mold.

Additional bibliography: H. N. & A. L. Mold., *Pl. Life* 2: 85. 1948; Mold., *Phytologia* 32: 222. 1975; López-Palacios, *Revist. Fac. Farm. Univ. Andes* 20: 20. 1979; Mold., *Phytol. Mem.* 2: 127 & 533. 1980.

CITHAREXYLUM TECLENSE Standl.

Additional bibliography: Mold., *Phytologia* 32: 222. 1975; Mold., *Phytol. Mem.* 2: 77, 348, & 533. 1980.

CITHAREXYLUM TERNATUM Mold.

Additional & emended bibliography: Alain in León & Alain, *Fl. Cuba*, imp. 1, 4: 298 & 299. 1957; Mold., *Phytologia* 32: 222. 1975; Mold., *Phytol. Mem.* 2: 88 & 533. 1980.

CITHAREXYLUM TETRAMERUM T. S. Brandeg.

Additional bibliography: Mold., *Phytologia* 32: 222. 1975; Mold., *Phytol. Mem.* 2: 61 & 533. 1980.

CITHAREXYLUM TRISTACHYUM Turcz.

Additional synonymy: *Citharexylum trastachyum* Turcz. ex Mold., *Phytol. Mem.* 2: 533, sphalm. 1980.

Additional & emended bibliography: Alain in León & Alain, *Fl. Cuba*, imp. 1, 4: 299 & 301. 1957; Mold., *Phytologia* 41: 121. 1978; Mold., *Phytol. Mem.* 2: 88, 93, 99, 348, 382, & 533. 1980.

CITHAREXYLUM TRISTACHYUM f. *URBANII* (O. E. Schulz) Mold.

Additional bibliography: C. D. Adams, Flow. Pl. Jamaica 633. 1972; Mold., Phytologia 41: 121. 1978; Mold., Phytol. Mem. 2: 99, 93, 383, & 533. 1980.

CITHAREXYLUM ULEI Mold.

Additional bibliography: Mold., Phytologia 41: 114 & 121. 1978; López-Palacios, Revist. Fac. Farm. Univ. Andes 20: 20. 1979; Mold., Phytol. Mem. 2: 132, 140, & 533. 1980.

CITHAREXYLUM ULEI var. *CALVESCENS* Mold.

Additional bibliography: Mold., Phytologia 41: 114 & 121. 1978; Mold., Phytol. Mem. 2: 140 & 533. 1980.

CITHAREXYLUM ULEI var. *OBOVATUM* Mold.

Additional bibliography: Mold., Phytologia 41: 114 & 121. 1978; López-Palacios, Revist. Fac. Farm. Univ. Andes 20: 20. 1979; Mold., Phytol. Mem. 2: 107 & 533. 1980.

CITHAREXYLUM VALLENSE Mold.

Additional bibliography: Mold., Phytologia 32: 224. 1975; López-Palacios, Revist. Fac. Farm. Univ. Andes 20: 20. 1979; Mold., Phytol. Mem. 2: 107 & 533. 1980.

CITHAREXYLUM VENEZUELENSE Mold.

Additional bibliography: Mold., Phytologia 41: 121--122. 1978; López-Palacios, Revist. Fac. Farm. Univ. Andes 20: 20. 1979; Mold., Phytol. Mem. 2: 114, 380, 383, & 533. 1980.

Recent collectors have described the fruit of this plant as green in color when immature and orange when ripe. They have encountered the species in tropophilous woods and areas of high savannas of *Trachypogon*, at 250--400 m. altitude, in fruit in July and August. They record the vernacular name, "totumillo".

Additional citations: VENEZUELA: Bolívar: *Delascio* Ch. & *Liesner* 7015 (E--2774720). Falcón: *González* 1016 (E--2746567).

CITHAREXYLUM VIRIDE Mold.

Additional bibliography: Mold., Phytologia 41: 122. 1978; Mold., Phytol. Mem. 2: 71, 80, 83, & 533. 1980.

Recent collectors describe this plant as a tree, 50 feet tall, the fruit orange in color, and have found it growing along roadsides, in cutover forests, coffee plantations, and cloudforests, at 900--1000 m. altitude, in fruit in October. The Raven collection cited below bears a notation "not matched at Field Museum".

Additional citations: NICARAGUA: Boaco: *Stevens*, *Grijalva*, & *Araquistain* 14575 (Ld). COSTA RICA: Puntarenas: *Raven* 21536 (Go).

CITHAREXYLUM WEBERBAUERI Hayek

Additional bibliography: Mold., Phytologia 41: 122. 1978; Hocking, Excerpt. Bot. A.33: 91. 1979; Mold., Phytol. Mem. 2: 132 & 533. ;980.



Moldenke, Harold N. 1981. "Additional notes on the genus *Citharexylum*. XIX." *Phytologia* 48, 292–312.

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