

STACHYTARPHETA BICOLOR f. *PILOSULA* Mold., f. nov.

Haec forma a forma typica speciei caulibus foliisque inflorescentiisque parce pilosulis recedit.

This form differs from the typical form of the species in having its stems, branches, leaves, and inflorescences sparsely pilosulous throughout.

The form is based on André M. de Carvalho & Pessoal do Projeto Flora "Pedra do Cavalo" 539 from a gallery forest on the margin of the Río Paraguaçú, 12°32'35" S. and 39° 3'6" W., in the Municipio de Conceição de Feira, Bahia, Brazil, collected on February 17, 1981, and deposited in my personal herbarium. The collectors describe the plant as a subshrub, about 1 m. tall, the leaves bicolored, the flowers handsome, the corollas cobalt-blue, whitish on the interior of the tube.

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ADDITIONAL NOTES ON THE GENUS *LIPPIA*. XVII

Harold N. Moldenke

LIPPIA PALMERI S. Wats.

Additional bibliography: Anon., Biol. Abstr. 68: 3939. 1979; Hocking, Excerpt. Bot. A.33: 88. 1979; Mold., Phytologia 41: 148 (1979) and 44: 328. 1979; Mold., Phytol. Mem. 2: 65, 70, 421, & 561. 1980; Wiggins, Fl. Baja Calif. 530 & [531], fig. 499. 1980; Mold., Phytologia 48: 185. 1981.

Additional illustrations: Wiggins, Fl. Baja Calif. [531], fig. 499. 1980.

Recent collectors describe this plant as a shrub, 1--1.5 m. tall, the leaves sweet (minty)-scented, and have found it growing in rocky arroyos and on rocky mountains along with *Cereus*, *Bursera*, *Larrea*, and *Fouquieria*, at 50 m. altitude, flowering in February. The corollas are said to have been "cream, orange in tube" on Spellenberg & Spellenberg 4959 and "white" on Moran & Reveal 20085. Moran & Reveal refer to it as "occasional".

The Carter & Ferris 4044 previously cited by me as the typical form of the species, seems better (at least insofar as the Britton Herbarium specimen) regarded as f. *spicata*.

Additional citations: MEXICO: Baja California: Moran & Reveal 20085 (Ld). Sonora: Spellenberg & Spellenberg 4959 (N).

LIPPIA PALMERI f. *SPICATA* (Rose) Mold., Phytologia 44: 328. 1979.

Additional bibliography: Mold., Phytologia 39: 391--392 (1978) and 44: 328. 1979; Mold., Phytol. Mem. 2: 65, 70, 421, & 561. 1980; Wiggins, Fl. Baja Calif. 530. 1980.

Recent collectors have encountered this plant growing on slopes with *Lysiloma candida*, *Mimosa pururascens*, *Jatropha cinerea*, *Sapium biloculare*, *Jacquemontia*, and *Ruellia*, at 600 m. altitude, describing it as a slender, erect shrub, to 1.5 m. tall, and reporting the vernacular name, "orégano". They have found it in anthesis in March. The corollas are said to have been "white to

"pale-lavender" on *Carter & Ferris 4044*, a collection distributed as and previously cited by me as typical *L. palmeri* S. Wats., but at least the Britton Herbarium specimen of it is better regarded as the present not-too-well marked form.

Additional & emended citations: MEXICO: Baja California: *Carter & Ferris 4044* (Au--271014, Ca--199584, Gg, N).

LIPPIA PEARSONI Mold.

Additional bibliography: Mold., *Phytologia* 39: 392--393 (1978) and 40: 203. 1978; Mold., *Phytol. Mem.* 2: 234, 246, & 561. 1980.

LIPPIA PEARSONI var. *SESSILIS* Mold.

Additional bibliography: Mold., *Phytologia* 39: 393. 1978; Mold., *Phytol. Mem.* 2: 234 & 561. 1980

LIPPIA PEDUNCULATA H. H. Pearson

Additional bibliography: Mold., *Phytologia* 39: 393. 1978; Mold., *Phytol. Mem.* 2: 246 & 561. 1980.

LIPPIA PEDUNCULOSA Hayek

Additional bibliography: Mold., *Phytologia* 39: 393. 1978; Mold., *Phytol. Mem.* 2: 149 & 561. 1980.

LIPPIA PENDULA Rusby

Additional bibliography: Fedde & Schust., *Justs Bot. Jahresber.* 40 (2): 335. 1915; Mold., *Phytologia* 41: 148. 1979; Mold., *Phytol. Mem.* 2: 149, 175, & 561. 1980.

Additional citations: BOLIVIA: La Paz: Boeke 1452 (N).

LIPPIA PETIOLATA Mold.

Additional bibliography: Hocking, *Excerpt. Bot. A.* 25: 379. 1975; Mold., *Phytologia* 39: 393. 1978; Mold., *Phytol. Mem.* 2: 149 & 561. 1980.

LIPPIA PHAEOCEPHALA Briq.

Additional bibliography: Mold., *Phytologia* 39: 393--394. 1978; Mold., *Phytol. Mem.* 2: 178, 180, & 561. 1980.

LIPPIA PHRYXOCALYX Briq.

Additional bibliography: Mold., *Phytologia* 39: 394. 1978; Mold., *Phytol. Mem.* 2: 149, 178, & 562. 1980.

LIPPIA PLICATA J. G. Baker

Additional & emended bibliography: R. E. Fries, *Wiss. Ergebn. Schwed. Rhodes.-Exped. Bot.* 2 (2): 273. 1916; Good & Exell, *Journ. Bot.* 68: Suppl. 2: 139--140. 1930; Mold., *Phytologia* 39: 394--395. 1978; Mold., *Phytol. Mem.* 2: 220, 222, 227, 234, 236, 239, 241, & 562. 1980.

Fries (1916) comments that "Die Art ist bisher nur von Fwanbo (in Urungu etwas südlich vom Tanganyika) angegeben, wo sie von Carson gesammelt wurde (n. 81). Dieses Exemplar habe ich in Kew Herbarium gesehen und mit dem meinigen aus der Bangweolo-Gegend identisch gefunden. *Lippia plicata* scheint

jedoch in Afrika eine weite Verbreitung über die südlichen Teile der Tropen zu haben. Im Herbarium des Bot. Museums zu Berlin habe ich nämlich zwei aus Angola stammende Exemplare gefunden und zwar in Benguella auf Mount Elende von Wellman (n. 1292) und bei Malange von Gossweiler (n. 1049) gesammelt."

LIPPIA PLICATA var. *ACUMINATA* (Mold.) Mold.

Additional bibliography: Mold., *Phytologia* 39: 395. 1978; Mold., *Phytol. Mem.* 2: 220, 234, 241, & 562. 1980.

LIPPIA PLICATA var. *PARVIFOLIA* (Mold.) Mold.

Additional bibliography: Mold., *Phytologia* 39: 395. 1978; Mold., *Phytol. Mem.* 2: 220 & 562. 1980.

LIPPIA POHLIANA Schau.

Additional bibliography: Mold., *Phytologia* 39: 438--439. 1978; Hocking, *Excerpt. Bot. A.* 33: 88. 1979; Mold., *Phytol. Mem.* 2: 149 & 562. 1980.

LIPPIA POHLIANA var. *LONGIBRACTEOLATA* Mold.

Additional bibliography: Mold., *Phytologia* 39: 438--439. 1978; Mold., *Phytol. Mem.* 2: 149 & 562. 1980.

LIPPIA POLYTRICHA Briq.

Additional bibliography: Mold., *Phytologia* 39: 439. 1978; Mold., *Phytol. Mem.* 2: 178 & 562. 1980.

LIPPIA POSSENSIS Mold.

Additional bibliography: Mold., *Phytologia* 39: 439. 1978; Mold., *Phytol. Mem.* 2: 149 & 562. 1980.

LIPPIA PRAECOX Mildbr.

Additional bibliography: Mold., *Phytologia* 39: 439. 1978; Mold., *Phytol. Mem.* 2: 239 & 562. 1980.

LIPPIA PRETORIENSIS H. H. Pearson

Additional bibliography: Mold., *Phytologia* 39: 439--440 & 447 (1978) and 40: 203 & 204. 1978; Mold., *Phytol. Mem.* 2: 246 & 562. 1980.

LIPPIA PRIMULINA S. Moore

Additional bibliography: Mold., *Phytologia* 39: 440. 1978; Mold., *Phytol. Mem.* 2: 149 & 562. 1980.

LIPPIA PRIMULINA var. *GOYAZENSIS* S. Moore

Additional bibliography: Mold., *Phytologia* 39: 440. 1978; Mold., *Phytol. Mem.* 2: 149 & 562. 1980.

LIPPIA PRINGLEI Briq.

Additional & emended bibliography: Fedde & Schust., *Justs Bot. Jahresber.* 39 (2): 320. 1913; H. N. & A. L. Mold., *Pl. Life* 2: 51, 66, & 77. 1948; Mold., *Phytologia* 41: 149 & 151. 1979; Mold., *Phytol. Mem.* 2: 65, 357, & 562. 1980.

Recent collectors describe this plant as a shrub or tree, 3.5-7 m. tall, with a single trunk, the fruit "café", and have found it at 400--1350 m. altitude, in flower in March and November and both in flower and fruit in December and February. The corollas are said to have been "yellowish" on Kimnach & Sanchez-Mejorada 2037 & 2244 and "rose" on Delgadillo M. 209.

The Calzada 2170, distributed as *L. umbellata* Cav. and previously cited by me as *L. pringlei*, actually seems to represent *Lippia torresii* Standl.

Additional citations: MEXICO: Morelos: *Miranda* 1193 (Me--73562), 9322 (Me--74569). Oaxaca: *Delgadillo* M. 209 (Me--229112), 220 (Me--229650); *Miranda* 1063 (Me--73563). Sinaloa: Kimnach & Sanchez-Mejorada 2037 (W--2904483), 2244 (W--2904475).

LIPPIA PRINGLEI var. *INTECTA* Mold.

Additional bibliography: Mold., *Phytologia* 39: 443. 1978; Mold., *Phytol. Mem.* 2: 65 & 562. 1980.

LIPPIA PSEUDO-THEA (A. St.-Hil.) Schau.

Additional bibliography: Stapf, Ind. Lond. 4: 39. 1930; Angely, Bot. Aplic. Farm. 267, 297, & 307. 1958; Imbesi, Ind. Piante 450. 1964; Mold., *Phytologia* 41: 149 (1979) and 43: 295. 1979; Mold., *Phytol. Mem.* 2: 149, 417, & 562. 1980.

Angely (1958) reports the local vernacular names, "chá de frade", "chá de pedestre", and "capitão do mato" and states that in Brazil the leaves and tops of the shoots of this plant are employed medicinally.

Additional citations: BRAZIL: Minas Gerais: *Hatschbach* 30140 (Ld.).

LIPPIA PUMILA Cham.

Additional bibliography: Mold., *Phytologia* 39: 444--445. 1978; Mold., *Phytol. Mem.* 2: 149, 421, & 562. 1980.

LIPPIA RADULA J. G. Baker

Additional bibliography: Mold., *Phytologia* 39: 445. 1978; Mold., *Phytol. Mem.* 2: 231 & 562. 1980.

LIPPIA RAMBOI Mold.

Additional bibliography: Mold., *Phytologia* 39: 445. 1978; Mold., *Phytol. Mem.* 2: 149 & 562. 1980.

LIPPIA RAMBOI var. *PILOSA* Mold.

Additional bibliography: Mold., *Phytologia* 39: 445. 1978; Mold., *Phytol. Mem.* 2: 149 & 562. 1980.

LIPPIA RECOLLETAE Morong

Additional bibliography: Mold., *Phytologia* 39: 445--446 (1978) and 40: 70. 1978; Mold., *Phytol. Mem.* 2: 149, 175, 178, 189, 421, & 562. 1980.

Additional citations: PARAGUAY: Arbo, Tressens, Schinini, & Ferrucci 1939 (N); Sparre & Vervoort 943 (N).

LIPPIA RECOLLETAE var. *PICKELII* (Mold.) Mold.

Additional bibliography: Mold., *Phytologia* 39: 446. 1978; Mold., *Phytol. Mem.* 2: 178 & 562. 1980.

LIPPIA REHMANNI H. H. W. Pearson

Additional bibliography: Mold., *Phytologia* 39: 439 & 446--447 (1978) and 40: 59, 203, & 204. 1978; Mold., *Phytol. Mem.* 2: 220, 243, 244, 246, & 562. 1980.

LIPPIA RETICULATA Hayek

Additional bibliography: Mold., *Phytologia* 39: 448. 1978; Mold., *Phytol. Mem.* 2: 149 & 562. 1980.

LIPPIA RHODOCNEMIS Mart. & Schau.

Additional bibliography: Mold., *Phytologia* 39: 448 (1978) and 43: 295. 1979.

Additional citations: BRAZIL: Minas Gerais: Irwin, Fonsêca, Souza, *Reis dos Santos*, & Ramos 28507 (N).

LIPPIA RIEDELIANA Schau.

Additional bibliography: Mold., *Phytologia* 39: 448. 1978; Mold., *Phytol. Mem.* 2: 149, 421, & 562. 1980.

LIPPIA RIGIDA Schau.

Additional bibliography: Mold., *Phytologia* 39: 448--449. 1978; Mold., *Phytol. Mem.* 2: 149 & 562. 1980; Mold. & Bromley in Harley & Mayo, *Toward Checklist Fl. Bahia* 191. 1980.

LIPPIA RIVALIS Mold., *Phytologia* 45: 37--38. 1980.

Bibliography: Mold., *Phytologia* 45: 37--38. 1980; Mold., *Phytol. Mem.* 2: 149 & 562. 1980.

Citations: BRAZIL: Bahia: Hatschbach 42128 (Z--type).

LIPPIA RODRIGUEZII Mold.

Additional bibliography: Mold., *Phytologia* 39: 449. 1978; Mold., *Phytol. Mem.* 2: 189 & 562. 1980.

LIPPIA RONDONENSIS Mold.

Additional bibliography: Mold., *Phytologia* 39: 449. 1978; Mold., *Phytol. Mem.* 2: 134, 149, 175, & 562. 1980.

Recent collectors describe this plant as an herb, 1 m. tall, or as a shrub, 2 m. tall, fragrant, used medicinally against colic in Peru, where it is called "quiche oregano", and found it growing in fields and cultivated areas, flowering in January. The corollas are said to have been "pale-purple with a yellow center" on Prance & Ramos 23627 and these collectors note that it is used as an admixture with *Justicia pectoralis* in Virola snuff, used in this way by all the Tototobi Amerinds, who call it "cedrera" or "makiupa-hanak".

The species is obviously very closely related to or a derivative of the very variable *L. alba* (Mill.) N. E. Br.

Material of *L. rondonensis* has been misidentified and distributed in some herbaria as "Labiatae".

Additional citations: PERU: Huánuco: Schunke Vigo 1522 (W--2865161). BRAZIL: Acre: Santos, Mota, & Ramos 90 (Z). Amazônas: Prance & Ramos 23627 (Z).

LIPPIA ROSELLA Mold.

Additional bibliography: Mold., Phytologia 39: 437 & 449--450. 1978; Mold., Phytol. Mem. 2: 149 & 562. 1980.

LIPPIA ROSMARINIFOLIA Andersss.

Additional synonymy: *Lippia rosmarinifolia* Anders. ex López-Palacios, Revist. Fac. Farm. Univ. Andes 20: 28, sphalm. 1979.

Additional bibliography: López-Palacios, Revist. Fac. Farm. Univ. Andes 20: 28. 1979; Mold., Phytologia 41: 149 (1979) and 44: 384. 1979; Mold., Phytol. Mem. 2: 130, 422, & 562. 1980.

LIPPIA ROSMARINIFOLIA f. *LATIFOLIA* (Mold.) Mold.

Additional bibliography: Mold., Phytologia 39: 451 (1978) and 44: 384. 1979; López-Palacios, Revist. Fac. Farm. Univ. Andes 20: 28. 1979; Mold., Phytol. Mem. 2: 130, 421, & 562. 1980.

Werff found this plant growing on the vertical walls of a volcano crater, at 2400 feet altitude, flowering in September, and describes it as a shrub, the leaves entire or incised, and the "flowers" [corollas] yellow and fragrant.

Additional citations: GALAPAGOS ISLANDS: Santiago: Werff 2345 (N.).

LIPPIA ROSMARINIFOLIA f. *STEWARTII* (Mold.) Mold.

Additional bibliography: Mold., Phytologia 41: 149. 1979; Mold., Phytol. Mem. 2: 130, 421, 422, & 562. 1980.

LIPPIA ROTUNDIFOLIA Cham.

Additional bibliography: Mold., Phytologia 39: 452--453. 1978; Mold., Phytol. Mem. 2: 149 & 562. 1980.

LIPPIA RUBIGINOSA Schau.

Additional bibliography: Mold., Phytologia 39: 453. 1978; Mold., Phytol. Mem. 2: 149 & 562.

LIPPIA RUGOSA A. Chev.

Additional bibliography: Fedde & Schust., Justs Bot. Jahresber. 39 (2): 320. 1913; Mold., Phytologia 39: 453--454. 1978; Mold., Phytol. Mem. 2: 207, 213, 214, & 562. 1980; Mold., Phytologia 48: 155. 1981.

LIPPIA RZEDOWSKII Mold.

Additional bibliography: Mold., Phytologia 39: 454. 1978; Mold., Phytol. Mem. 2: 65 & 562. 1980.

LIPPIA SALAMENSIS Loes.

Additional bibliography: Mold., Phytologia 39: 442 & 454. 1978; Mold., Phytol. Mem. 2: 72 & 562. 1980.

LIPPIA SALICIFOLIA Anderss.

Additional bibliography: Mold., *Phytologia* 39: 454. 1978; López-Palacios, *Revist. Fac. Farm. Univ. Andes* 20: 28. 1979; Mold., *Phytol. Mem.* 2: 130 & 562. 1980.

LIPPIA SALSA Griseb.

Additional bibliography: Mold., *Phytologia* 41: 150. 1979; Mold., *Phytol. Mem.* 2: 189 & 562. 1980.

Burkart refers to this plant as an abundant shrub, to 1.2 m. tall, in saline areas of Santiago del Estero, Argentina. The corollas are said to have been "light-blue" on *Botta & Guoglionone* 828 and "blanca, lilacina antes de abrir" on *Burkart* 30600.

Additional citations: ARGENTINA: Catamarca: *Botta & Guoglionone* 828 (Go). Santiago del Estero: *Burkart* 30600 (Au); *Cabrera, Botta, Ezcurra, Mulgura, & Ragonese* 29678 (W--2893722).

LIPPIA SALVIAEFOLIA Cham.

Additional bibliography: Mold., *Phytologia* 41: 150. 1979; Mold., *Phytol. Mem.* 2: 149, 175, 178, 189, & 562. 1980.

Recent collectors describe this plant as a shrub, 2 m. tall, and have found it growing in cerrado, at 900 m. altitude, in anthesis in February and April. The corollas are said to have been "white" on *Macedo* 5281, *Schaller* 103, and *Shepherd & al.* 7308.

Additional citations: BRAZIL: Mato Grosso: *Schaller* 103 (N). Minas Gerais: *Armando & Rizzini* 5 (N); *Irwin, Fonsêca, Souza, Reis dos Santos, & Ramos* 28042 (N); *Macedo* 5281 (Eu--53633). São Paulo: *Shepherd, Semir, Andrade, & Salgado* 7308 (W--2883666).

LIPPIA SANDWITHIANA Mold.

Additional bibliography: Mold., *Phytologia* 39: 456. 1978; Mold., *Phytol. Mem.* 2: 178 & 562. 1980.

LIPPIA SATUREIAEFOLIA Mart. & Schau.

Additional bibliography: Mold., *Phytologia* 39: 456. 1978; Mold., *Phytol. Mem.* 2: 149, 422, & 562. 1980.

Recent collectors refer to this species as a scandent shrub and have encountered it on campo rupestre, at 1000 m. altitude, flowering in July. The corollas are said to have been "reddish" on the collection cited below.

Additional citations: BRAZIL: Bahia: *Mori, King, Santos, & Hage* 12318 (W--2854247, Z).

LIPPIA SAVORYI Meikle

Additional bibliography: Mold., *Phytologia* 40: 58. 1978; Hocking, *Excerpt. Bot. A.33*: 88. 1979; Mold., *Phytol. Mem.* 2: 211, 213, 220, 234, & 562. 1980.

LIPPIA SCABERRIMA Sond.

Additional bibliography: Dithens, Afric. Handb. 8: [Drug Pl. Afr.] 94. 1949; Mold., *Phytologia* 41: 150. 1979; Mold., *Phytol. Mem.* 2: 243, 246, 422, & 562. 1980; Mold., *Phytologia* 48: 176. 1981.

Dahlstrand has encountered this plant growing in roadcuts, at 1200--1600 m. altitude, flowering and fruiting in January.

Additional citations: SOUTH AFRICA: Transvaal: *Dahlstrand* 442 (Go), 1133 (Go).

LIPPIA SCAPOSA Briq.

Additional bibliography: Mold., *Phytologia* 40: 59. 1978; Mold., *Phytol. Mem.* 2: 178 & 562. 1980.

LIPPIA SCAPOSA var. *MELANOCAULOS* Briq.

Additional bibliography: Mold., *Phytologia* 40: 59. 1978; Mold., *Phytol. Mem.* 2: 178 & 562. 1980.

LIPPIA SCHAUERIANA Mart.

Additional bibliography: Mold., *Phytologia* 40: 59. 1978; Mold., *Phytol. Mem.* 2: 149, 422, & 562. 1980; Mold. & Bromley in Harley & Mayo, *Toward Checklist Fl. Bahia* 191. 1980.

Harley and his associates describe this species as a spindly shrub, to 2.5 m. tall, the leaves aromatic, rugose, pale-green above, grayish-green beneath, the bracts pale-green, and the corolla "pink", and have found it growing among rocks in cerrado in an area of rocky riversides with rapids, riverine vegetation, cerrado with limestone outcrops, and some grassland subject to flooding, at 980 m. altitude, flowering in March.

Additional citations: BRAZIL: Bahia: *Harley, Mayo, Storr, Santos, & Pinheiro in Harley* 20147 (N, Z).

LIPPIA SCHLIEBENI Mold.

Additional bibliography: Mold., *Phytologia* 40: 60 & 80. 1978; Mold., *Phytol. Mem.* 2: 220, 227, 231, 422, & 562. 1980.

LIPPIA SCHLIMII Turcz.

Additional bibliography: López-Palacios, *Revist. Fac. Farm. Univ. Andes* 20: 28. 1979; Mold., *Phytologia* 41: 150--151. 1979; Mold., *Phytol. Mem.* 2: 109, 116, 422, & 562. 1980.

López-Palacios (1979) records the variant vernacular name, "sacacandela", for this species.

LIPPIA SCHLIMII var. *GLABRESCENS* (Mold.) Mold.

Emended synonymy: *Lippia floribunda* Humb. & Bonpl. apud Steud., *Nom. Bot. Phan.*, ed. 1, 485. 1821.

Additional bibliography: Steud., *Nom. Bot. Phan.*, ed. 1, 485 (1821) and ed. 2, 2: 54. 1841; D. Dietr., *Syn. Pl.* 3: 599. 1843; Knuth, *Feddes Repert. Spec. Nov. Beih.* 43: [Init. Fl. Venez.] 603. 1927; López-Palacios, *Revist. Fac. Farm. Univ. Andes* 20: 28. 1979; Mold., *Phytologia* 41: 150--151. 1979; Mold., *Phytol. Mem.* 2: 109, 116, 357, 420, 422, & 562. 1980.

Recent collectors describe this plant as a shrub, 2 m. tall, or a tree, 4--10 m. tall, the leaves aromatic, shiny, rugose, gray-green or sometimes dark- or brilliant-green above and dull-green beneath, rather rigid but fragile, the floral bracts pale-green, and have encountered it on wet forested slopes and steep slopes along streams, at 1650--3530 m. altitude, flowering in June, July, September, and October. Luteyn and his associates report it "common on forested slopes in montane cloud forests".

The corollas are said to have been "white" on Cuatrecasas 20753, Cuatrecasas & Rodriguez 27934 & 27972, Steyermark & Liesner 118550, and Trujillo 8170 and "greenish-white" on Steyermark & Liesner 118230. Cuatrecasas refers to the leaves on his no. 20753 being "amarillento-oscura". He and Rodriguez refer to the inflorescences as "pale-grayish" or "greenish-white and the corollas themselves as "white". The flowering heads are unusually large on Cuatrecasas & Rodriguez 27838. A vernacular name recorded for the plant is "salvia".

Knuth (1927) cites Linden 341 from Mérida and Trujillo, Venezuela.

Additional citations: COLOMBIA: Boyacá: Cuatrecasas & Rodriguez 27838 (W--2616135). Norte de Santander: Cuatrecasas & Rodriguez 27934 (W--2616159). Norte de Santander/Cesar: Cuatrecasas & Rodriguez 27972 (W--2616190). Valle del Cauca: Cuatrecasas 20753 (W--2817820). VENEZUELA: Mérida: Trujillo 8170 (Eu--47847). Táchira: Luteyn, Luteyn, & Ruiz-Teran 5994 (N); Steyermark & Liesner 118230 (Ld), 118550 (Ld).

LIPPIA SCHOMBURGKIANA Schau.

Additional bibliography: Oliv., Trans. Linn. Soc. Lond. Bot., ser. 2, 2: 288. 1887; N. E. Br., Trans. Linn. Soc. Lond. Bot., ser. 2, 6: 57. 1901; Knuth, Feddes Repert. Spec. Nov. Beih. 43: [Init. Fl. Venez.] 603. 1927; López-Palacios, Revist. Fac. Farm. Univ. Andes 20: 28. 1979; Mold., Phytologia 41: 147 & 151. 1979; Mold., Phytol. Mem. 2: 116, 122, 149, 422, & 562. 1980; Mold. & Bromley in Harley & Mayo, Toward Checklist Fl. Bahia 191. 1980; Mold., Phytologia 48: 182. 1981.

Harley and his associates, distributing it as *L. microphylla* Cham., describe this plant as a spindly-stemmed shrub, 1.5--4 m. tall, with a sage-like scent, the stems slender, brittle, the leaves aromatic, rugose, rather dark-green or rich-green above, paler or gray-green beneath, the bracts pale-green, the sepals pale-green, and have found it growing "on hillside and associated rocky riverbed with sandstone rocks and some sparse forest and scrub" and in "caatinga on sand and with quartzitic rocks and metamorphosed sandstone forming rock areas with more open vegetation including extensive areas of *Vellozia*", at 400--1000 m. altitude, flowering and fruiting in February. The corollas are said to have been "white with yellowish tube and yellow in the throat" on their no. 18603, "white with orange-yellow throat" on 19011, and "cream with orange-yellow throat" on 18929.

Knuth (1927) cites Connell & Quelch 2, 235, & 720 and ImThurn 52 from the Roraima region of Venezuela.

The Davidse, Ramia, & Montes 4747, distributed as *L. schomburgkiana*, actually is *L. origanoides* H.B.K.

Additional citations: BRAZIL: Bahia: Harley, Mayo, Storr, Santos, & Pinheiro in Harley 18603 (Ld, N), 18929 (Ld, N), 19011 (Ld, N); Pinheiro 2140 (Ld); T. S. Santos 2529 (Ld).

LIPPIA SCLEROPHYLLA Briq.

Additional bibliography: Mold., Phytologia 40: 63--64. 1978; Mold., Phytol. Mem. 2: 178, 189, & 562. 1980.

LIPPIA SCLEROPHYLLA var. *LORETENSIS* Mold.

Additional bibliography: Mold., Phytologia 40: 64. 1978; Mold., Phytol. Mem. 2: 189 & 562. 1980.

LIPPIA SERICEA Cham.

Additional bibliography: Mold., Phytologia 40: 64--65. 1978; Mold., Phytol. Mem. 2: 149, 422, & 562. 1980.

Additional citations: BRAZIL: Minas Gerais: Irwin, Fonsêca, Souza, Reis dos Santos, & Ramos 26917 (N).

LIPPIA SESSILIFLORA J. G. Baker

Additional bibliography: Mold., Phytologia 40: 65. 1978; Mold., Phytol. Mem. 2: 368 & 563. 1980.

LIPPIA SIDOIDES Cham.

Additional bibliography: Mold., Phytologia 40: 65--66. 1978; Mold., Phytol. Mem. 2: 149 & 563. 1980.

The Héringer & al. collection, cited below, was collected as voucher for phytochemical studies.

Additional citations: BRAZIL: Distrito Federal: Héringer, Elias de Paula, Cunha de Mendonça, & Héringer Salles 1242 (N). Rondônia: Vieira, Petersen, Nelson, Ramos, & Mota 1008 (N, Z).

LIPPIA SIDOIDES f. *FLACCIDA* Hayek

Additional bibliography: Fedde & Schust., Justs Bot. Jahresber. 39 (2): 320. 1913; Mold., Phytologia 40: 66. 1978; Mold., Phytol. Mem. 2: 149 & 563. 1980.

LIPPIA SOMALENSIS Vatke

Additional bibliography: Chiov., Fl. Somalia [1]: 49. 1929; Mold., Phytologia 40: 66. 1978; Mold., Phytol. Mem. 2: 204, 231, & 563. 1980.

LIPPIA STACHYOIDES Cham.

Additional bibliography: Mold., Phytologia 40: 66--67. 1978; Mold., Phytol. Mem. 2: 149 & 563. 1980.

Additional citations: BRAZIL: Mato Grosso: Hatschbach & Koczicki 33231 (W--2839444).

LIPPIA SUBRACEMOSA Mansf.

Additional bibliography: Mold., Phytologia 40: 67. 1978; Mold., Phytol. Mem. 2: 149 & 563. 1980; Mold. & Bromley in Harley & Mayo, Toward Checklist Fl. Bahia 191. 1980.

LIPPIA SUBRACEMOSA var. *HARLEYI* Mold.

Additional bibliography: Mold., Phytologia 40: 67. 1978; Mold., Phytol. Mem. 2: 149 & 563. 1980; Mold. & Bromley in Harley & Mayo, Toward Checklist Fl. Bahia 191. 1980.

LIPPIA SUBSTRIGOSA Turcz.

Additional bibliography: Fedde & Schust., Justs Bot. Jahresber. 40 (2): 335. 1915; Mold., Phytologia 40: 67--70, 81, & 82. 1978; Mold., Phytol. Mem. 2: 65, 72, 74, 76, 78, 79, 422, & 563. 1980.

Recent collectors describe this plant as a weak shrub, 2--3 m. tall, or a small tree to 5 m. tall, and have encountered it in secondary woods of *Trema micrantha*, "common" in mixed forests, or "dominant as secondary growth following milpas", at 1300--2180 m. altitude, flowering in January and March, fruiting in January. The corollas are said to have been "yellow" on Ton 3661, "pale-yellow" on Molina R. 20433, and "yellowish" on Molina R. & Montalvo 21806.

Hernandez Xolocotzi asserts that the wood of this species is used for roofing material. Vernacular names reported are "orégano de árbol", "palo gusano", and "salvia". Material has been misidentified and distributed in some herbaria as *Lantana* sp.

Additional citations: MEXICO: Chiapas: Hernandez Xolocotzi X.1444 (Me, Me); Miranda 6110 (Me--71817), 6188 (Me--71812). 9164 (Me--68426); Ton 3661 (Ws). GUATEMALA: Guatemala: Molina R., Burger, & Wallenta 15987 (W--2840312). EL SALVADOR: San Salvador: Molina R. & Montalvo 21806 (Ws). NICARAGUA: Matagalpa: Molina R. 20433 (W--2866762).

LIPPIA SUFFRUTICOSA (Griseb.) Kuntze

Additional bibliography: Mold., Phytologia 40: 70. 1978; Mold., Phytol. Mem. 2: 175, 189, & 563. 1980.

LIPPIA TAYACAJANA Mold.

Additional bibliography: Mold., Phytologia 40: 70. 1978; Mold., Phytol. Mem. 2: 134 & 563. 1980.

LIPPIA TAYACAJANA var. *SESSILIFLORA* Mold.

Additional bibliography: Mold., Phytologia 40: 70. 1978; Mold., Phytol. Mem. 2: 134 & 563. 1980.

Ellenberg encountered what appears to be this plant on semi-deserts, at 3395 m. altitude.

Additional citations: PERU: Ica: Ellenberg 4912a (W--2852647).

LIPPIA TEGULIFERA Briq.

Additional bibliography: Mold., Phytologia 40: 70--71. 1978; Mold., Phytol. Mem. 2: 178, 189, 422, & 563. 1980.

LIPPIA TEGULIFERA var. *GRISEA* Briq.

Additional bibliography: Mold., Phytologia 40: 71. 1978; Mold., Phytol. Mem. 2: 178 & 563. 1980.

LIPPIA TEGULIFERA var. *OVATA* Briq.

Additional bibliography: Mold., Phytologia 40: 71. 1978; Mold., Phytol. Mem. 2: 149, 178, 189, & 563. 1980.

LIPPIA TEGULIFERA var. *PEDUNCULATA* Briq.

Additional bibliography: Mold., Phytologia 40: 71. 1978; Mold., Phytol. Mem. 2: 178 & 563. 1980.

LIPPIA TEPLICANA Mold.

Additional bibliography: Mold., Phytologia 40: 71. 1978; Mold.,

Phytol. Mem. 2: 65 & 563. 1980.

LIPPIA THYMOIDES Mart. & Schau.

Additional bibliography: Mold., Phytologia 40: 71--72. 1978; Mold., Phytol. Mem. 2: 149, 421, 422, & 563. 1980; Mold. & Bromley in Harley & Mayo, Toward Checklist Fl. Bahia 191. 1980.

Recent collectors refer to this plant as a very common spindly shrub, 1.5--2 m. tall, the branches straight, divaricate, brittle, growing on granite cliffs and in open secondary vegetation with small trees and shrubs, at 700--900 m. altitude, flowering in March. The corollas are described as "white with a yellow eye" on Mori & al. 11075 and "white with a yellow throat" on Harley 20194.

Additional citations: BRAZIL: Bahia: Harley, Mayo, Storr, Santos, & Pinheiro in Harley 20194 (Ld, N); Mori, Mattos Silva, Kalunki, & Santos 9956 (Ld, N); Mori, Santos, & Thompson 11075 (Ld, N); Pinheiro 1412 (Ld); T. S. Santos 2508 (Ld).

LIPPIA THYMOIDES var. *MUCRONULATA* Mold.

Additional bibliography: Mold., Phytologia 40: 72. 1978; Mold., Phytol. Mem. 2: 149 & 563. 1980.

LIPPIA THYMOIDES var. *TONSILIS* (Mold.) Mold.

Additional bibliography: Mold., Phytologia 40: 72. 1978; Mold., Phytol. Mem. 2: 149, 421, & 563. 1980; Mold. & Bromley in Harley & Mayo, Toward Checklist Fl. Bahia 191. 1980.

Recent collectors describe this plant as a shrub, 3 m. tall, with spreading stems and aromatic leaves, pale-green above, paler beneath, and have encountered it on floodplains with riverine and chiefly herbaceous weedy vegetation, at 980 m. altitude, flowering in March. The corollas are said to have been "lilac with yellow throat" on Harley 19838.

Additional citations: BRAZIL: Bahia: Harley, Mayo, Storr, Santos, & Pinheiro in Harley 19838 (Ld, N).

LIPPIA TORRESII Standl.

Additional bibliography: Mold., Phytologia 40: 72--73 & 82. 1978; Mukherjee & Chanda, Trans. Bose Res. Inst. 41: 40. 1978; Mold., Phytol. Mem. 2: 65, 81, 84, 357, & 563. 1980.

The Calzada 2170, cited below, has previously been regarded as representing *L. umbellata* Cav. or *L. pringlei* Briq., but seems better placed here.

Additional & emended citations: MEXICO: Veracruz: Calzada 2170 (N). COSTA RICA: Heredia: Hartshorn 1074 (N), 1085 (Ld).

LIPPIA TRACHYPHYLLA Briq.

Additional bibliography: Mold., Phytologia 40: 74. 1978; Mold., Phytol. Mem. 2: 175, 178, 189, & 563. 1980

LIPPIA TRISTIS Briq.

Additional bibliography: Mold., Phytologia 40: 74 & 78. 1978; Mold., Phytol. Mem. 2: 178 & 563. 1980.

LIPPIA TRISTIS var. *ABERRANS* Briq.

Additional bibliography: Mold., *Phytologia* 40: 74. 1978; Mold., *Phytol. Mem.* 2: 178 & 563. 1980.

LIPPIA TROLLII Mold.

Additional bibliography: Mold., *Phytologia* 40: 74. 1978; Mold., *Phytol. Mem.* 2: 175, 189, & 563. 1980.

LIPPIA TROLLI var. *INERMIS* Mold.

Additional bibliography: Mold., *Phytologia* 40: 74. 1978; Mold., *Phytol. Mem.* 2: 175 & 563. 1980.

LIPPIA TURBINATA Griseb.

Additional & emended bibliography: Griseb., *Pl. Lorentz.* 195. 1874; Reiche & Phil. in Reiche, *Estud. Crit. Fl. Chile* 5: 298 & 301--302. 1910; Sanzin, *Anal. Soc. Cient. Argent.* 88: 97, 98, 100, 102, & 134, fig. 4. 1919; Fester & al., *Anal. Asoc. Quím. Argent.* 40: 38--42 (1952) and 42: 43--53. 1955; Mold., *Phytologia* 41: 151. 1979; Troncoso in Burkart, *Fl. Ilustr. Entre Ríos* 5: 230 & 272--273. 1979; Mold., *Phytol. Mem.* 2: 134, 183, 189, 357, & 563. 1980.

Emended illustrations: Sanzin, *Anal. Soc. Cient. Argent.* 88: 102, fig. 4. 1919.

Sanzin (1919) affirms that this species is characteristic of the subandean zone, 900--1500 m. altitude, in Argentina. Reiche & Philippi (1910) comment that "En los cordilleras de las provincias de Atacama; en territorio chileno?" Troncoso (1979) says "Muy difundida en la región fitogeográfica del Monte. De dudoso indigenato en Entre Ríos", Argentina. She lists the vernacular names, "poleo" and "té del país", and cites only Serié & Migata s.n. She notes that the species is "Medicinal; a la infusión de las hojas se le atribuyen propiedades diuréticas; estomacales, etc., muy difundida en la medicina popular. Rica en esencias colátilles".

The Krapovickas & Cristóbal 14659, distributed as the typical form of this species, actually represents f. *angustifolia* Osten.

LIPPIA TURBINATA f. *ANGUSTIFOLIA* Osten

Additional bibliography: Mold., *Phytologia* 40: 76--77. 1978; Mold., *Phytol. Mem.* 2: 183, 189, & 563. 1980.

Recent collectors describe this plant as a shrub, 1.5 m. tall, and have found it in flower and fruit in January. The corollas are said to have been white on the collection cited below.

Additional citations: ARGENTINA: Cordoba: Krapovickas & Cristóbal 14659 (Ws).

LIPPIA TURBINATA f. *MAGNIFOLIA* Mold.

Additional bibliography: Mold., *Phytologia* 40: 76 & 77. 1989; Mold., *Phytol. Mem.* 2: 189, 357, & 563. 1980.

LIPPIA TURNERIFOLIA Cham.

Additional bibliography: Mold., *Phytologia* 40: 78--79. 1978; Mold., *Phytol. Mem.* 2: 149, 175, 178, 180, 189, & 563. 1980; Mold., *Phytologia* 48: 165. 1981.

Recent collectors have found this plant on campo and rocky campo, describing it as xylopodiferous, flowering in September and October. The corollas are said to have been "yellow" on the two collections cited below.

The *Krapovickas, Cristóbal, & Schinini* 26496, distributed as *L. turnerifolia*, actually is the very similar *L. asperrima* Cham.

Additional citations: BRAZIL: Paraná: Dziewa 47 (Eu--37817); Hatschbach 15042 (Eu--1891).

LIPPIA TURNERIFOLIA var. *ANGUSTA* Kuntze

Additional bibliography: Mold., Phytologia 40: 79. 1978; Mold., Phytol. Mem. 2: 178 & 563. 1980.

LIPPIA TURNERIFOLIA var. *SESSILIFOLIA* Mold.

Additional bibliography: Mold., Phytologia 40: 79. 1978; Mold., Phytol. Mem. 2: 149 & 563. 1980.

LIPPIA UKAMBENSIS Vatke

Additional bibliography: Mold., Phytologia 40: 79--80. 1978; Holm, Pancho, Herberger, & Plucknett, Geogr. Atlas World Weeds 218. 1979; Mold., Phytol. Mem. 2: 227, 231, & 563. 1980.

LIPPIA UMBELLATA Cav.

Additional bibliography: Mold., Phytologia 41: 151. 1979; Mold., Phytol. Mem. 2: 65 & 563. 1980.

Recent collectors describe this plant as a shrub or tree, 3--4 m. tall, with "latex en la flor", scarce or very scarce in oak woods on hillsides, at 2500--2600 m. altitude, in flower in November. Others refer to it as "quite woody and aromatic", the inflorescences clustered at the ends of the branches, the calyxes in the axils of large bracts, and have found it growing in weathered limestone soil on the shaded east-facing sides of steep roadcuts adjacent to rocky streambeds, at only 1080 m. altitude, in fruit in November. The "flowers" are said to have been "green" on *Ventura A.* 2501 and the corollas "yellow" on *Ventura A.* 2370.

Additional citations: MEXICO: Distrito Federal: *Ventura A.* 2370 (N), 2501 (Me--275783). Durango: Peterson & Broome 454 (E). México: J. Rzedowski 28722 (Ws).

LIPPIA VELUTINA Schau.

Additional bibliography: Mold., Phytologia 40: 82. 1978; Mold., Phytol. Mem. 2: 149 & 563. 1980.

Strang has found this plant in anthesis in July, but erroneously distributed as "*Labiateae*".

Additional citations: BRAZIL: Minas Gerais: Strang 1108 [Castellanos 26691; Herb. Brad. 50068] (Eu--3;228).

LIPPIA VERNONIOIDES Cham.

Additional bibliography: Hocking, Excerpt. Bot. A.25: 378. 1975; Mold., Phytologia 40: 83--85 & 201 (1978) and 47: 88. 1980; Mold., Phytol. Mem. 2: 149, 175, 420, & 563. 1980.

LIPPIA VERNONIOIDES var. *ATTENUATA* (Mart.) Mold.

Additional bibliography: D. Dietr., *Syn. Pl.* 3: 600. 1843; Hocking, *Excerpt. Bot.* A.25: 378. 1975; Mold., *Phytologia* 40: 201. 1978; Mold., *Phytol. Mem.* 2: 149, 175, 357, 372, 419, 420, & 563. 1980.

Recent collectors refer to this plant as a very fragrant, medicinal subshrub, 1 m. tall, and have encountered it in cerrado, at 550 m. altitude, flowering in April, May, and July, fruiting in July. They record the vernacular name, "toronjil". The corollas are said to have been "white" on Krapovickas & Schinini 31967.

The Jensen specimen, cited below, is placed here tentatively as it consists mostly of almost pulverized leaves, with only one reasonably good intact leaf; it comprises a crude drug sample from the collections of S. B. Penick & Company, Jersey City, New Jersey, given to me by Dr. George M. Hocking for identification, who states that it was listed formally as "*LIPPIA LEAVES, L. hastata (Salvia Sija)*" and obtained originally from Jensen in Seattle, Washington, in or about 1945.

Additional citations: BRAZIL: Goiás: C. Pereira 492 (Ld). BO-LIVIA: Santa Cruz: Krapovickas & Schinini 31967 (Ld), 32146 (Ld). CULTIVATED: Washington: Jensen s.n. [Seattle, ca. 1945] (Z).

LIPPIA VERNONIOIDES f. *SUBTRUNCATA* Mold., *Phytologia* 47: 88. 1980.

Bibliography: Mold., *Phytologia* 47: 88. 1980; Mold., *Phytol. Mem.* 2: 157 & 563. 1980.

Citations: BRAZIL: São Paulo: Leitão Filho & al. 7372 (W--2883728--type, Z--photo of type).

LIPPIA VILLAFLORIDANA Kuntze

Additional bibliography: Mold., *Phytologia* 40: 201--202. 1978; Hocking, *Excerpt. Bot.* A.33: 88. 1979; Troncoso in Burkart, Fl. Ilustr. Entre Ríos 5: 272, 275, & 276, fig. 130 a--l. 1979; Mold., *Phytol. Mem.* 2: 149, 178, 180, 189, & 563. 1980.

Illustrations: Troncoso in Burkart, Fl. Ilustr. Entre Ríos 5: 276, fig. 130 a--l. 1979.

Troncoso (1979) regards *L. asperrima* var. *longepedunculata* Mold. as a synonym of *L. villafloridana*. She says that the species "Habita en campos secos y lugares abiertos", citing Burkart 26034 & 26355, Galli 251, Guaglianone & Ragonese s.n., Hauman s.n., Job 43, Meyer 11086, Nicora 5941, and Pedersen 6256. She asserts that the species has definitely diclinous flowers

LIPPIA VINOSA Mold.

Additional bibliography: Mold., *Phytologia* 40: 202. 1978; Mold., *Phytol. Mem.* 2: 149 & 563. 1980.

LIPPIA VOLKII Mold.

Additional bibliography: Mold., *Phytologia* 40: 202. 1978; Mold., *Phytol. Mem.* 2: 243 & 563. 1980.

LIPPIA WHYTEI Mold.

Additional bibliography: Mold., *Phytologia* 40: 202. 1978; Mold., *Phytol. Mem.* 2: 220, 224, 227, 231, 236, 238, 239, 241, & 563.

1980; Mold., *Phytologia* 48: 176. 1981.

Dahlstrand encountered this plant along roadsides, at 1800 m. altitude, in flower and fruit in March.

Additional citations: ZIMBABWE: Dahlstrand 58 (Go).

LIPPIA WILMSII H. H. W. Pearson

Additional bibliography: Good & Exell, *Journ. Bot.* 68: Suppl. 2: 140. 1930; Mold., *Phytologia* 40: 202--204. 1978; Mold., *Phytol. Mem.* 2: 223, 227, 236, 238, 239, 241, 243, 246, & 563. 1980.

LIPPIA WILMSII var. *SCABERRIMA* (Mold.) Mold.

Additional bibliography: Mold., *Phytologia* 40: 204. 1978; Mold., *Phytol. Mem.* 2: 238, 239, 246, & 563. 1980.

LIPPIA WILMSII var. *VILLOSA* (Mold.) Mold.

Additional bibliography: Mold., *Phytologia* 40: 204. 1978; Mold., *Phytol. Mem.* 2: 220, 223, 224, 227, 231, 234, 236, 238, & 563. 1980.

LIPPIA WOODII Mold.

Additional bibliography: Mold., *Phytologia* 40: 204. 1978; Mold., *Phytol. Mem.* 2: 238, 239, 246, & 563. 1980.

LIPPIA YUCATANA Loes.

Additional bibliography: Fedde & Schust., *Justs Bot. Jahresber.* 39 (2): 320. 1913; Fedde & Schust., *Justs Bot. Jahresber.* 40 (2): 335. 1915; Mold., *Phytologia* 40: 204--205. 1978; Hocking, *Excerpt. Bot. A.* 33: 88. 1979; Mold., *Phytol. Mem.* 2: 65 & 563. 1980.

ADDITIONAL NOTES ON THE GENUS *CITHAREXYLUM*. XVIII

Harold N. Moldenke

CITHAREXYLUM B. Juss.

Additional & emended bibliography: Sandmark in L., *Amoen. Acad.* 5: 380. 1759; Loud., *Hort. Brit.*, ed. 1, 248 & 529 (1830) and ed. 2, 248 & 529. 1832; G. Don in Loud., *Hort. Brit.*, ed. 3, 248 & 529. 1839; G. Don in Sweet, *Hort. Brit.*, ed. 3, 551. 1839; Ulrich, *Internat. Wörterb.*, ed. 1, 56 (1871) and ed. 2, 56. 1875; Stahl, *Estud. Fl. Puerto Rico*, ed. 1, 3: 293. 1888; D. H. Scott in Solereder, *Syst. Anat. Dicot. [transl. Boodle & Fritsch]* 2: 1021 & 1022. 1908; Urb., *Symb. Antil.* 4: 535. 1911; Firminger, *Man. Gard. India*, ed. 6, 2: 386. 1918; Stahl, *Estud. Fl. Puerto Rico*, ed. 2, 3: 293. 1937; Klein, *Sellowia* 31: 163. 1979; Olmsted, Loope, & Hilsenbeck, *So. Fla. Res. Cent. Rep. T.604*: 34 & 48. 1980; Wiggins, *Fl. Baja Calif.* 33, 525, 526, & 529, fig. 496. 1980; Mold., *Phytologia* 47: 359--360 & 504. 1981.

It is of passing interest to note that Reichenbach (1828) classified this genus (as also all the rest of the Verbenaceae) in the *Labiatae* [=Lamiaceae].



Moldenke, Harold N. 1981. "Additional notes on the genus Lippia. XVII." *Phytologia* 48, 255–270.

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