

Recent collectors have found this plant growing in full exposure to the sun on disturbed areas, flowering in July, and describe it as a small tree, with white flowers.

Additional citations: BRAZIL: Amapá: W. A. Egler 1478 [Herb. Mus. Par. Emil. Goeldi 24634] (N); Fróes & Black 27481 (W--2248464); Murça Pires, Rodrigues, & Irvine 50327 (N, N).

AEGIPHILA VITELLINIFLORA Klotzsch

Additional synonymy: Aegiphila vittelliniflora Klotzsch ex Rambo, Pesquis. Bot. 21: 58, sphalm. 1965.

Additional bibliography: Hayek in Engl., Bot. Jahrb. 42: 172. 1908; Moldenke, Phytologia 8: 20--21. 1961; Rambo, Pesquis. Bot. 21: 58. 1965; Moldenke, Résumé Suppl. 13: 6. 1966; Moldenke, Phytologia 13: 321. 1966.

Sampaio records the vernacular name "marmelinho" for this plant.

Additional citations: BRAZIL: Rio de Janeiro: Aguillar s.n. [2-12-1922] (Ja--114104, Ja); Sampaio 8199 (Ja--44835).

AEGIPHILA VITELLINIFLORA var. EGLERI Moldenke

Bibliography: Moldenke, Phytologia 8: 385. 1962; Moldenke, Biol. Abstr. 42: 1517. 1963; Hocking, Excerpt. Bot. A.6: 455. 1963.

Citations: BRAZIL: Amapá: Irwin, Egler, & Murça Pires 47162 (N--type).

AEGIPHILA WIGANDIODES Lundell

Additional bibliography: Moldenke, Phytologia 4: 438. 1953; Moldenke, Biol. Abstr. 37: 1062. 1962.

Additional citations: MEXICO: Chiapas: Matuda 4253 (Ld--isotype).

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 ADDITIONAL NOTES ON THE GENUS LIPPIA. I

Harold N. Moldenke

LIPPIA Houst.

Additional & emended bibliography: Robins. & Fernald in A. Gray, New Man. Bot., ed. 7, 688--690 & 906, fig. 881 & 882. 1908; Loes., Verh. Bot. Ver. Brand. 53: 43 & 75--78 [Abhandl. 240--243]. 1912; J. Matsumura, Ind. Pl. Jap. 2 (2): 533. 1912; Dunn & Tutcher, Kew Bull. Misc. Inf. Addit. Ser. 10: 201. 1912; Uphof in Karst. & Schenck, Vegetationsbild. 21 (1-2): n.p. 1930; H. B. Davis, Life & Works Pringle 47, 52, 56, 58, 81, 97, 124, 136, 143, 144, 187, 204, 235, 301, 668, & 669. 1936; Moldenke, Biol. Abstr. 33: 1215 & 1862. 1959; Goodspeed, Pl. Hunt. Andes 162. 1961; Moldenke, Biol. Abstr. 36: 4036 (1961) and 37: 1062. 1962; Hocking, Excerpt. Bot. A.5: 44

& 45. 1962; Dyer, Verdoorn, Codd, & Letty, Wild Fls. Transv. 281, pl. 140, fig. 4. 1962; Rickett, New Field Book Am. Wild Fls. 280. 1963; Thieret, Castanea 28: 170. 1963; Loewenfeld, Herb Gardening 214 & 216--217. 1964; Angely, Bibl. Veg. Paran. 44 & 242. 1964; Gooding, Loveless, & Proctor, Fl. Barbados 353, 362, & 476. 1965; Neal, In Gard. Hawaii, ed. 2, 721 & 724. 1965; Anon., Biol. Abstr. 46 (19): B.72 (1965), 46 (21): B.53 & B.128 (1965), and 46 (22): B.73 & B.131. 1965; Rambo, Pesquis. Bot. 21: 24--29, 58, & [59]. 1965; Hocking, Excerpt. Bot. A.8: 226 (1965) and A.9: 367. 1965; Moldenke, Biol. Abstr. 46: 3246 & 3616 (1965) and 46 (23): B.72 & B.94. 1965; Moldenke, Résumé Suppl. 12: 1--7 & 9--12. 1965; Moldenke, Phytologia 12: 6--71, 73--120, 130--181, 187--242, 252--312, & 331--367 (1965), 12: 478--506, 508--510, & 512 (1966), and 13: 1--35. 1966; Moldenke, Résumé Suppl. 13: 1, 3, 4, & 7. 1966; A. Löve, Taxon 15: 161. 1966; Anon., Biol. Abstr. 47 (8): S.79. 1966.

In the main body of this work, to which this is the first supplement, 16,427 herbarium specimens and 854 mounted photographs and other illustrations are cited.

An anonymous editor of "Biological Abstracts" [46 (23): B.72 & B.94] places the genus Lippia in the family Phytolaccaceae for some reason entirely unknown to me!

Several additional abbreviations for the names of herbaria in which cited material is deposited used in the following notes will be explained in my Callicarpa paper which will appear shortly on these pages.

#### LIPPIA ABYSSINICA (Otto & Dietr.) Cuf.

Additional bibliography: Moldenke, Biol. Abstr. 37: 1062. 1962; Moldenke, Résumé Suppl. 12: 6 & 10. 1965; Moldenke, Phytologia 12: 23, 39--44, 175, 176, 230, 232, 298, 305, 307, 350--352, 431, 447, 458, & 459 (1965), 12: 483 (1966), and 13: 171. 1966; Moldenke, Résumé Suppl. 13: 7. 1966.

According to Troupin this plant may attain a height of 3 meters; his II.635 is described as having had white corollas, flowering in March. He records the vernacular name "umuzirarorwe". The A. Peter 41351, distributed as L. adoensis Hochst., is actually L. schliebeni Moldenke.

Additional citations: ERITREA: Pappi 5602 (W--1969226). ETHIOPIA: Schimper 376 (W--806464). RUANDA: Troupin II.635 (W--2375118). ANGOLA: Province undetermined: A. Rocha 60 [Malange] (U1).

#### LIPPIA ABYSSINICA var. PUBESCENS (Moldenke) Moldenke

Additional bibliography: Moldenke, Biol. Abstr. 37: 1062. 1962; Moldenke, Phytologia 12: 43--44. 1965; Moldenke, Résumé Suppl. 13: 7. 1966.

#### LIPPIA ACUTIDENS Mart. & Schau.

Additional bibliography: Moldenke, Phytologia 12: 24 & 44--45.

1965.

Additional citations: BRAZIL: Minas Gerais: Martius s.n. [Yha; Macbride photos 20319] (W--photo of type).

## LIPPIA AFFINIS Schau.

Additional bibliography: Moldenke, *Phytologia* 12: 23, 26, 46--48, 61, 162, 164, 170, 189, 196, 219, 283, 332, 339, 346, & 455. 1965.

The Mello Barreto collection cited below was originally identified and distributed as L. organoides H.B.K.

Additional citations: BRAZIL: Minas Gerais: Mello Barreto 10804 (Ja--45908).

## LIPPIA ALBA (Mill.) N. E. Br.

Additional & emended synonymy: Lippia panamensis Turcz., *Bull. Soc. Nat. Mosc.* 36 (2): 201--202. 1863. Lippia havannensis Turcz., *Bull. Soc. Nat. Mosc.* 36 (2): 202--203. 1863. Lippia melissaeodora C. A. Mey. ex Moldenke, *Résumé Suppl.* 12: 10, in syn. 1965. Lippia melissacodora C. A. Mey. ex Moldenke, *Résumé Suppl.* 12: 10, in syn. 1965.

Additional bibliography: Loes., *Verh. Bot. Ver. Brand.* 53: 75 [Abhand. 240]. 1912; H. B. Davis, *Life & Works Pringle* 52. 1936; Moldenke, *Biol. Abstr.* 36: 4036. 1961; Angely, *Bibl. Veg. Paran.* 44. 1964; Moldenke, *Résumé Suppl.* 12: 2, 9, & 10. 1965; Rambo, *Pesquis. Bot.* 21: 24 & [59]. 1965; Buchheim, *Huntia* 2: 38. 1965; Moldenke, *Phytologia* 12: 24, 47--71, 76, 81, 96--98, 115, 119, 158, 179, 187, 189, 190, 196, 217, 219, 225, 228--232, 235, 236, 240, 260, 262, 264, 332, 340, 358, 434, 450, & 459 (1965), 12: 487 & 505 (1966), and 13: 17, 19, 21, 26, & 32. 1966.

The name, Lippia melissaeodora, appears to be based on the Herb. Hort. Bot. Petrop. s.n. deposited in the Leningrad herbarium, a duplicate of which is in the United States National Herbarium at Washington.

The Eitens record the species as escaped from cultivation in Maranhão, Brazil, where it is used to make a tea in the treatment of colds or simply for its flavor. They describe the flowers as lilac, the center darker lilac or golden-yellow with a white halo.

The Bailetti 238, Herb. Inst. Miguel Lillo 32060, 32063, & 32075, and Lillo 3842, distributed as this species, are actually all L. suffruticosa (Griseb.) Kuntze, Sanzin 1832 and Venturi 8120 & 8518 are L. turbinata Griseb., and Martinez & Trevino 29 & 43 are Lantana macropoda Torr.

Turczaninow (1863) describes his L. havannensis as follows: "L. caule tereti fruticoso multirameo, ramisque pube adpressa vestitis; foliis petiolatis oppositis parvis ellipticis obtusis, basi in petiolum attenuatis crenatis, longitudine petiolorum supra rugosis, utrinque subtus densius tomentosus; pedunculis in axillis solitariis folia aequantibus; capitulis hemisphaericis; bracteis lanceolatis acutiusculis glandulosis margine ciliatis, tubum corollae tegentibus; calycibus pubescentibus carina dense

ciliatis. Flores e schedula albi." He describes his L. panamensis as follows: "L. ramis teretiusculis aut superne subtetragonis, breviter ramulosis; foliis petiolatis oppositis ternatisve parvulis ovatis acutiusculis, basi in petiolum angustatis, parvo spatio integerrimis, dein crenatis, triplinerviis, supra bullato-rugosis glabriusculis, subtus pubescentibus; pedunculis in axillis solitariis petiolum duplo superantibus, foliis brevioribus; bracteis late rhombeis in acumen breve productis, calycibus que dorso anguste alatis, totis pilosis; tubo corollae calycem duplo excedente; coccis maturitate secedentibus. Habitus fere L. geminatae, at folia duplo minora, in pagina superiore rugosa glabra calycesque tenuiter sed manifeste alati." He places it in Section Dipterocalyx.

Rambo (1965) cites Schauer's work in Martius, Fl. Bras. as "1951" instead of 1851, doubtless through an orthographic or typographic error. He cites Herb. Anchieta 434, 10138, 11265 [Emrich s.n.], 11545 [Buck s.n.], 26430 [Buck s.n.], 27560 [Henz s.n.], 28261, 29629 [Emrich s.n.], 35551 [Henz s.n.], 38012, 39489, 43206, 47332 [Spies s.n.], 47815 [Sehnem 3823], 49694, 50497 [Sehnem 3872], 59158 [Pivetta 970], and 61654 [Camargo 2785] from Rio Grande do Sul, all collected by himself, many from cultivated material, except where otherwise designated. He describes the plant as a "Shrub with long, virgate, more or less recumbent branches", growing "apparently on sandy, dry, shrubby Campos..... often cultivated for medicinal purposes; apparently native near the sea coast" in Rio Grande do Sul, with a general distribution "From southern USA to central Argentina and Uruguay."

Additional citations: TEXAS: Hidalgo Co.: M. L. Walker 34 (Ld). MEXICO: San Luis Potosí: Crutchfield & Johnston 5135 (Mi). Tamaulipas: R. M. King 4035 (Mi). WINDWARD ISLANDS: Martinique: R. A. Howard 11718 (Mi). VENEZUELA: Apuré: Humboldt & Bonpland s.n. [Macbride photos 39485] (W--photo). ECUADOR: Guayas: Fagerlind & Wibom 138 (Mi). BRAZIL: Ceará: Drouet 2561 (W--1692594). PARAGUAY: Hassler 7397 (Mi); T. Rojas 228 (A). CULTIVATED: Brazil: Eiten & Eiten 4850 (W--2445201). Russia: Herb. Hort. Bot. Petrop. s.n. (W--73531).

#### LIPPIA ALBA var. CARTERAE Moldenke

Additional bibliography: Moldenke, Phytologia 12: 71. 1965; Moldenke, Biol. Abstr. 36: 4036. 1961.

#### LIPPIA ALNIFOLIA Schau.

Additional bibliography: Moldenke, Phytologia 12: 24, 71, & 73--74. 1965.

Additional citations: BRAZIL: Minas Gerais: Martius s.n. [Macbride photos 20321] (W--photo of cotype).

#### LIPPIA AMERICANA L.

Additional bibliography: Moldenke, *Phytologia* 12: 20, 23, 63, 74--82, 208, 291, & 363 (1965) and 12: 484. 1966; Moldenke, *Résumé Suppl.* 13: 7. 1966.

Additional citations: COLOMBIA: Magdalena: H. H. Smith 450 (Mi). Santander do Norte: Schlim 274 [Macbride photos 24657] (W--photo).

LIPPIA AMERICANA f. HYPTOIDES (Benth.) Moldenke

Additional synonymy: Lippia hyptodes Benth. ex Kuntze, *Rev. Gen. Pl.* 3 (2): 252, sphalm. 1898.

Additional bibliography: Moldenke, *Phytologia* 12: 63, 77, & 79--81. 1965; Moldenke, *Résumé Suppl.* 13: 7. 1966.

LIPPIA ANGUSTIFOLIA Cham.

Additional bibliography: Moldenke, *Résumé Suppl.* 12: 10. 1965; Rambo, *Pesquis. Bot.* 21: 25 & [59]. 1965; Moldenke, *Phytologia* 12: 24, 82--85, 102, 205, 259, 293, 294, 347, & 464 (1965) and 13: 14 & 15. 1966.

It should be noted here that L. angustifolia Chod. is a synonym of L. tristis Briq.

Rambo (1965) cites Herb. Anchieta 25780 from Rio Grande do Sul and 36858 [Hatschbach 661] from Paraná, the former collected by himself. He describes the plant as a "Slender, woody shrub, unbranched, up to 1 m high", growing in "Swampy thickets" on the "Southwestern plains only" in Rio Grande do Sul, with a general distribution of "Minas Gerais to RGS [Rio Grande do Sul]; Paraguay to Uruguay."

Additional citations: BRAZIL: Minas Gerais: Sellow s.n. [Brasilia merid.; Macbride photos 17495] (W--photo of cotype). PARAGUAY: Hassler 7971 (A).

LIPPIA ARECHAVALETAE Moldenke

Additional bibliography: Rambo, *Pesquis. Bot.* 21: 25 & [59]. 1965; Moldenke, *Phytologia* 12: 86--87 & 366 (1965) and 13: 3. 1966.

Rambo (1965) cites Herb. Anchieta 2751, 3920, & 28181 from Rio Grande do Sul -- the first as "var. microphylla Mold." -- all collected by himself. He describes the plant as a "Slender, woody shrub, very elegant, up to 1 m high", growing on "Very dry Campos" in the "Western Campos area, rare" in Rio Grande do Sul, with a general distribution "From Paraná through Argentine Mesopotamia to western RGS [Rio Grande do Sul] and Uruguay."

LIPPIA ARECHAVALETAE var. MICROPHYLLA Moldenke

Additional bibliography: Rambo, *Pesquis. Bot.* 21: 25. 1965; Moldenke, *Phytologia* 12: 87. 1965.

LIPPIA ASPERRIMA Cham.

Additional bibliography: Rambo, *Pesquis. Bot.* 21: 25--26 & [59]. 1965; Moldenke, *Phytologia* 12: 24, 63, 88--94, 135, 136, 232, 290, 347, 429, & 434 (1965) and 13: 11, 12, 28, & 29. 1966.

The Jönsson 35a cited by me in *Phytologia* 12: 90 (1965) is actu-

ally L. turnerifolia Cham.

Rambo (1965) cites Herb. Anchieta 3035, 3040, 4159, 9350, 26114, 34486 [Augusto s.n.], 48041, 48281 [Hatschbach 1006], 53011, 53437, 59123 [Pivetta 981], 60323, 63153 [Spies s.n.], & 63196 [Spies s.n.] from Rio Grande do Sul, all collected by himself except where otherwise noted. He describes the plant as a "Small, woody shrub 10--50 cm high", growing on "Very dry, open, grassy Campos" in the "Western Campos area only" in that state, with a general distribution from "Minas Gerais to RGS [Rio Grande do Sul]; Paraguay to northern and northeastern Argentina".

Additional citations: BRAZIL: Paraná: Dombrowski 688 (Ac); Dombrowski, Saito, & Pereira 757/550/144 (Ac), 889/679/272 (Ac). ARGENTINA: Salta: T. Meyer 3452 [Herb. Inst. Miguel Lillo 35569] (G).

LIPPIA ASPERRIMA var. LONGIPEDUNCULATA Moldenke

Additional bibliography: Moldenke, *Phytologia* 12: 91--93 & 294 (1965) and 13: 29. 1966.

LIPPIA BALANSAE Briq.

Additional bibliography: Moldenke, *Phytologia* 12: 24, 63, 94--97, & 446. 1965.

Additional citations: PARAGUAY: Balansa 1033 [Macbride photos 24645] (W--photo of type), 1033a (N); Hassler 8653 (A).

LIPPIA BAUMII Gürke

Additional bibliography: Moldenke, *Phytologia* 12: 48, 56, 97--98, 225, & 230. 1965.

LIPPIA BELLATULA Moldenke

Additional bibliography: Hocking, *Excerpt. Bot. A.9*: 367. 1965; Moldenke, *Phytologia* 12: 24 & 98--99. 1965; Moldenke, *Biol. Abstr.* 46: 3246. 1965.

Additional citations: BRAZIL: Bahia: Martius 1983 [Macbride photos 20322] (W--photo of type).

LIPPIA BOLIVIANA Rusby

Additional bibliography: Moldenke, *Phytologia* 12: 99--101 & 219. 1965.

Additional citations: BOLIVIA: Cochabamba: Eyerdam 24885 (G).

LIPPIA BOTHRIOURA Briq.

Additional bibliography: Moldenke, *Phytologia* 12: 84 & 101--103. 1965.

Additional citations: PARAGUAY: Hassler 7471 [Macbride photos 24646] (Mi--isotype, W--photo of type).

LIPPIA BRACTEATA Carr.

Additional bibliography: Moldenke, *Phytologia* 12: 103, 137, 160, & 265. 1965.

## LIPPIA BRACTEOSA (Mart. &amp; Gal.) Moldenke

Additional bibliography: Greenm., Field Mus. Publ. Bot. 2: 341. 1912; H. B. Davis, Life & Works Pringle 144. 1936; Moldenke, Phytologia 12: 102--105, 111, 115, & 268 (1965) and 12: 502. 1966; Moldenke, Résumé Suppl. 13: 1. 1966.

The flowers of this species are described as "yellow" on Breedlove 14194 and on Breedlove & Raven 13178. These collectors report that the plant is 3--4 feet tall, flowering in October and December, and growing on steep slopes with Quercus, at 2500--5100 feet altitude. The Rzedowski 17649, distributed as L. bracteosa, is actually L. inopinata Moldenke.

Additional citations: MEXICO: Chiapas: Breedlove 14194 (Z); Breedlove & Raven 13178 (Ac). Michoacán: Diguet s.n. [Barranca de Yungapeo, Octubre 1907] (Mi).

## LIPPIA BURTONII J. G. Baker

Additional bibliography: Moldenke, Phytologia 12: 42, 105--106, 231, 232, 307, 352, & 431. 1965.

## LIPPIA CAFFRA Sond.

Additional bibliography: Moldenke, Phytologia 12: 107 & 232. 1965.

## LIPPIA CALLICARPAEFOLIA H.B.K.

Additional bibliography: Loes., Verh. Bot. Ver. Brand. 53: 78 [Abhandl. 243]. 1912; H. B. Davis, Life & Works Pringle 143 & 301. 1936; Moldenke, Résumé Suppl. 12: 2 & 10. 1965; Moldenke, Phytologia 12: 24, 98, 99, 104, 108--112, 132, 137, 207, 215, 268, 292, 360, 362, & 363 (1965), 12: 504 (1966), and 13: 7, 34, 35, & 162. 1966.

Gilly & Simpson describe this plant as a shrubby climber and found it growing on the bottom of a barranca, fruiting in February. The species has also been collected in fruit in January, and herbarium material has been misidentified and distributed in herbaria as Lagascea sp. The Mercado s.n. [Mayo 1945], distributed as L. callicarpaefolia, is actually L. pringlei Briq.

The following specimens are filed under L. callicarpaefolia in the Harvard University herbaria, but have not been verified by me: MEXICO: México: Seler & Seler 4446 (G). Morelos: Seler & Seler 376 (G). Vera Cruz: Ervendberg 278 (G); Kerber s.n. [Prope Cordoba, IX.821] (A). The Herb. Colo. A. & M. A. Coll. s.n., Hernandez Xolocotzi C.1444, and H. Pittier 1855, distributed as L. callicarpaefolia, are actually L. substrigosa Turcz., while Hinton 11910 is L. umbellata Cav.

Additional citations: MEXICO: México: Gilly & Simpson 23 (Mi); Paray 548 (Ip), 3340 (Ip). GUATEMALA: Amatitlan: Kellerman 6379 (W--2443056). Sacatepéquez: S. S. White 5271 (Ip).

## LIPPIA CANDICANS Hayek

Additional bibliography: Moldenke, *Phytologia* 12: 113—114. 1965; Moldenke, *Résumé Suppl.* 12: 4. 1965.

This species has been found growing in chapada of tall trees on top of a low plateau at an altitude of 300 meters.

Additional citations: BRAZIL: Goiás: E. Y. Dawson 14695 (Z—photo); G. Gardner 3942 [Macbride photos 34329] (W—photo of type). Maranhão: Eiten & Eiten 4162a (W—2445195).

## LIPPIA CARDIOSTEGIA Benth.

Additional bibliography: Moldenke, *Phytologia* 12: 63, 104, 114—116, 137, 189, 301, & 302 (1965) and 13: 34 & 162. 1966.

Breedlove 12098 is said to have had "yellow" flowers. This collector encountered the species on shrubby and on gradual heavily wooded slopes.

In the Harvard University herbaria there are also the following specimens filed under this species but not as yet verified by me: HONDURAS: Santa Bárbara: Molina R. 3661 (G). NICARAGUA: Ometepe Island: C. L. Smith s.n. [1893] (G). Department undetermined: C. Wright s.n. [1853—56] (G). COSTA RICA: Alajuela: Hunnewell 16720 (G). Heredia: P. H. Allen 565 (A).

Additional citations: MEXICO: Chiapas: Breedlove 12098 (Rf), 13921 (Ac).

## LIPPIA CARVIODORA Meikle

Additional bibliography: Moldenke, *Phytologia* 12: 116—118 & 144. 1965.

## LIPPIA CHACENSIS Moldenke

Additional bibliography: Moldenke, *Phytologia* 12: 63 & 119. 1965.

## LIPPIA CHEVALIERII Moldenke

Additional bibliography: Moldenke, *Phytologia* 12: 42, 43, 119—120, & 130—131. 1965.

## LIPPIA CHIAPASENSIS Loes.

Additional synonymy: Lippia chiapensis Loes. ex P. C. Standl., *Contrib. U. S. Nat. Herb.* 23: 1246, sphalm. 1924.

Additional & emended bibliography: Loes., *Verh. Bot. Ver. Brand.* 53: 78—79 [Abhandl. 243—244]. 1912; P. C. Standl., *Contrib. U. S. Nat. Herb.* 23: 1246. 1924; Moldenke, *Phytologia* 12: 131—132 (1965), 12: 504 (1966), and 13: 35. 1966.

Breedlove & Raven found this plant growing on heavily wooded slopes and on slopes with Quercus and Pinus, at 4800—8200 feet altitude, and describe it as a shrub, 8 feet tall, flowering in November. Standley reduces the species to synonymy under L. umbellata Cav., but to this I cannot agree. The flowers are described as "yellow" on Breedlove 14073 & 14095.

In the Harvard University herbaria there are the following two



specimens identified as L. chiapasensis, but not verified as yet by me: MEXICO: Chiapas: Ghiesbreght 13 (G); E. W. Nelson 3482 (G). The former bears an annotation "aff. L. graveolens". The Ghiesbreght 634, distributed as L. chiapasensis, is actually L. substrigosa Turcz.

Additional citations: MEXICO: Chiapas: Breedlove 14073 (Rf), 14095 (Ac); Breedlove & Raven 8331 (Ac); Raven & Breedlove 20076 (Ac).

LIPPIA CHRYSANTHA Greenm.

Additional bibliography: Loes., Verh. Bot. Ver. Brand. 53: 78 [Abhandl. 243]. 1912; H. B. Davis, Life & Works Pringle 204. 1936; Moldenke, Phytologia 12: 132--133. 1965.

In the Harvard University herbaria there is a specimen of Seler & Seler 2023 (G) from Oaxaca, identified as this species, but not as yet verified by me. The Paray 3014, distributed as L. chrysantha, is actually L. pringlei Briq.

LIPPIA CIPOËNSIS Moldenke

Additional bibliography: Moldenke, Biol. Abstr. 33: 1862. 1959; Moldenke, Phytologia 12: 133. 1965.

LIPPIA CONTERMINA Briq.

Additional bibliography: Moldenke, Phytologia 12: 134--136 & 290 (1965) and 13: 29. 1966.

LIPPIA CONTROVERSA Moldenke

Additional bibliography: Moldenke, Phytologia 12: 136--138 (1965), 12: 504 (1966), and 13: 162. 1966.

Breedlove & Raven encountered this species in dense woodland with Quercus and Pinus, at 5300 feet altitude, flowering and fruiting in January; their no. 8381 is described as having had "yellow" flowers. Rzedowski found the plant in oak and pine woods at 1600 meters altitude.

Additional citations: MEXICO: Chiapas: Breedlove & Raven 8381 (Z); J. Rzedowski 663 (Ip). HONDURAS: Morazán: N. L. H. Krauss 984 (Ac). Tegucigalpa: N. L. H. Krauss 991 (Ac).

LIPPIA CORIACEA Briq.

Additional bibliography: Moldenke, Phytologia 12: 138--140 (1965) and 13: 14. 1966.

LIPPIA CORYMBOSA Cham.

Additional bibliography: Moldenke, Phytologia 12: 140--141 & 366. 1965.

LIPPIA COSTARICENSIS Moldenke

Additional bibliography: Moldenke, Phytologia 12: 141--142 & 302 (1965) and 13: 162. 1966.

## LIPPIA CURTISIANA Moldenke

Additional bibliography: Moldenke, *Phytologia* 12: 142--143 (1965) and 13: 162. 1966.

## LIPPIA DIAMANTINENSIS Glaz.

Additional bibliography: Moldenke, *Phytologia* 12: 144--146, 166, & 200. 1965.

## LIPPIA DRACOCEPHALOIDES Turcz.

Additional bibliography: Moldenke, *Phytologia* 12: 146--147. 1965.

Turczaninow (1863) places this species in Section Rhodolippia.  
Additional citations: BRAZIL: Brasilia: Heringer 8939/1133 (N).

## LIPPIA DUARTEI Moldenke

Additional bibliography: Hocking, *Excerpt. Bot. A.9*: 367. 1965; Moldenke, *Phytologia* 12: 147--148. 1965; Moldenke, *Biol. Abstr.* 46: 3246. 1965.

## LIPPIA DUMETORUM Herzog

Additional bibliography: Moldenke, *Phytologia* 12: 148, 170, & 203. 1965.

## LIPPIA DURANGENSIS Moldenke

Additional bibliography: Moldenke, *Phytologia* 12: 149--150 (1965) and 13: 35 & 162. 1966.

Paray found this species flowering and fruiting in November. Material has been misidentified and distributed in herbaria as L. umbellata Cav.

Additional citations: MEXICO: Durango: Paray 3123 (Ip).

## LIPPIA EKMANI Moldenke

Additional bibliography: Moldenke, *Phytologia* 12: 150--151. 1965; Rambo, *Pesquis. Bot.* 21: 26 & [59]. 1965.

Rambo (1965) cites Herb. Anchieta 3041 & 61369 [Pivetta 1157] from Rio Grande do Sul, the former collected by himself. He describes the plant as an "Elegant, woody shrub, up to 75 cm high", growing on "Dry, more or less shrubby Campos" in the "Western Campos only" in that state, with a general distribution of "Misiones; western RGS [Rio Grande do Sul]".

## LIPPIA ELEGANS Cham.

Additional bibliography: Moldenke, *Phytologia* 12: 151--152, 170, 333, & 446 (1965) and 12: 488. 1966.

The flowers on Jesus 85 are described as "white". The F. C. Hoehne s.n. [Sta. Barbara, 10-1-1921], cited by me as this species in *Phytologia* 12: 152 (1965), proves to be L. rubiginosa Schau. instead. The Guedes 447 distributed as L. elegans is actually L. schomburgkiana Schau.

Additional citations: BRAZIL: Minas Gerais: Jesus 85 (Z).

## LIPPIA ELLIPTICA Schau.

Additional bibliography: Moldenke, *Phytologia* 12: 153 & 437. 1965.

## LIPPIA FELIPPEI Moldenke

Additional bibliography: Hocking, *Excerpt. Bot. A.9*: 367. 1965; Moldenke, *Phytologia* 12: 154--155. 1965; Moldenke, *Biol. Abstr.* 46: 3246. 1965.

## LIPPIA FERRUGINEA H.B.K.

Additional bibliography: Moldenke, *Phytologia* 12: 155--157 (1965) and 13: 1. 1966.

## LIPPIA FLORIDA Cham.

Additional bibliography: Moldenke, *Phytologia* 12: 159--161 & 268. 1965.

The Tryons describe this plant as a few-stemmed shrub, to 2 m. tall, with lavender bracts and flowers that are yellowish to white, growing in grassland and sedgeland with shrubby areas, with sandstone and quartzite rocks and derived soils, at 1120 m. altitude, flowering in November.

Additional citations: BRAZIL: Minas Gerais: Tryon & Tryon 6835 (Ac).

## LIPPIA FORMOSA T. S. Brandeg.

Additional bibliography: Moldenke, *Phytologia* 12: 161--162, 164, 189, 283, 332, & 339. 1965.

Recent collectors have found this plant fruiting in January.

Additional citations: MEXICO: Baja California: Guzmán Huerta H. 77 (Ip).

## LIPPIA FRAGRANS Turcz.

Additional bibliography: Moldenke, *Phytologia* 12: 162--164, 189, 283, 332, & 339. 1965.

Recent collectors have found this plant growing at 1250 meters altitude, flowering in September.

Additional citations: CHILE: Coquimbo: Ricardi & Marticorena 4521/906 (Z).

## LIPPIA FRANCENSIS Moldenke

Additional bibliography: Moldenke, *Phytologia* 12: 164--165 & 268. 1965.

## LIPPIA GARDNERIANA Schau.

Additional bibliography: Turcz., *Bull. Soc. Nat. Mosc.* 36 (2): 205. 1863; Moldenke, *Phytologia* 12: 145, 165--166, & 200. 1965.

Turczaninow (1863), in speaking of his L. cordata [= L. lacunosa Mart. & Schau.] says: "L. Gardneriana, e descriptione hujus, valde similis, at folia petiolo etiamsi brevissimo, tamen manifesto insident, obtusa nec acuta, bractee praeter inferiores obtusae."

## LIPPIA GEHRTII Moldenke

Additional bibliography: Moldenke, *Phytologia* 12: 166--167 & 268. 1965.

## LIPPIA GENTRYI Standl.

Additional bibliography: Moldenke, *Phytologia* 12: 167--169 & 363 (1965) and 13: 162. 1966.

## LIPPIA GLANDULOSA Schau.

Additional bibliography: Moldenke, *Phytologia* 12: 169--171, 222, & 440 (1965) and 12: 487. 1966.

The flowers on Belém 1156 are described as "cream-colored" and the plant was in anthesis in June.

Additional citations: BRAZIL: Bahia: Belém 1156 (Ac).

## LIPPIA GRACILIS Schau.

Additional bibliography: Moldenke, *Phytologia* 12: 170, 172--173, & 454 (1965), 12: 488 (1966), and 13: 32 & 34. 1966.

The Löfgren 586, distributed as L. gracilis, is actually L. schomburgkiana Schau.

## LIPPIA GRANDIFLORA Mart. &amp; Schau.

Additional bibliography: Moldenke, *Phytologia* 12: 174--175 & 280. 1965.

## LIPPIA GRANDIFOLIA Hochst.

Additional bibliography: Moldenke, *Phytologia* 12: 175--178 & 430 (1965) and 13: 174. 1966.

Troupin found this species growing in wooded savannas; his II. 670 is said to have had white flowers. The Troupin II.635, distributed as L. grandifolia, is actually L. abyssinica (Otto & Dietr.) Cuf.

Additional citations: RUANDA: Troupin II.670 (W--2375141).

## LIPPIA GRATA Schau.

Additional bibliography: Moldenke, *Phytologia* 12: 170, 178--179, & 455. 1965.

## LIPPIA GRAVEOLENS H.B.K.

Additional synonymy: Lantana graveolens Crutchfield & Johnston, in herb.

Additional bibliography: Loes., *Verh. Bot. Ver. Brand.* 53: 76 & 77 [Abhandl. 241 & 242]. 1912; H. B. Davis, *Life & Works Pringle* 48 & 144. 1936; Moldenke, *Phytologia* 12: 162, 164, 170, 179--181, 187--194, 215, 283, 301, 310, 332, 333, 339, 340, & 363 (1965), 12: 504 (1966), and 13: 34. 1966; Moldenke, *Résumé Suppl.* 12: 1 (1965) and 13: 1. 1966.

Recent collectors describe this species as shrub, bush, or straggly brittle twiggy perennial 3--12 dm. tall, or a shrub 3--6 feet tall, aromatic, with light-yellow calyxes, cream, cream-white, or white to lemon-yellow corollas, and yellow anthers, growing on rocky clay

banks or rocky clay roadsides, hills, brushy slopes, or cliffs, among boulders, and on slopes or steep slopes with Quercus, at altitudes of 1000--1850 meters, flowering in June, July, September, and December. Breedlove 11777 & 13177 and Gentry, Barclay, & Arguelles 20221 are said to have had "white" flowers, while on Herald & Clark 429 they are described as "cream", on D. S. Correll 31565 "cream-white", on Correll & Wasshausen 27707 "lemon-yellow", and on Feddema 2288 & 2433 "white with a yellow throat". Rzedowski found the species growing in association with Helietta parvifolia.

In the Harvard University herbaria there are specimens of Wiggins 11379 (G) from Baja California and of Nelson & Goldman 7220 (G), identified as L. palmeri S. Wats., which seem to be L. graveolens instead, although other material of the former collection is cited by me as L. palmeri. The Ghiesbreght 634, distributed as L. graveolens, is actually L. substrigosa Turcz.

Additional citations: TEXAS: Brewster Co.: D. S. Correll 31565 (Ld); E. Marsh 148 (Au--214069). Webb Co.: Correll & Correll 32139 (Ld). Zapata Co.: Correll & Wasshausen 27707 (Ld). MEXICO: Chiapas: Breedlove 11777 (Rf), 13177 (Ac). Coahuila: J. A. de la Cruz s.n. [17.V.1961] (Ip); Marín s.n. [17-I-1961] (Ip, Mi); E. Marsh 542 (Au--212494); E. G. Marsh 1832 (Au--213612); Salgado s.n. [26.V.1961] (Ip). Guerrero: Herald & Clark 429 (Mi); Lord & McComas 621 (Mi). Jalisco: Feddema 2288 (Mi), 2433 (Mi); J. Rzedowski 17557 (Mi). Morelos: Paray 3015 (Ip). Puebla: Gentry, Barclay, & Arguelles 20221 (W--2451102); J. Rzedowski 9010 (Ip). Querétaro: Paray 2148 (Ip). San Luis Potosí: J. Rzedowski 4533 (Ip, Ip), 6686 (Ip), 9425 (Ip). Tamaulipas: Crutchfield & Johnston 4986 (Mi); Gonzales Medrano 108 (Ip).

#### LIPPIA GRISEBACHIANA Moldenke

Additional bibliography: Moldenke, Phytologia 12: 194--197, 230, 236, & 240. 1965.

#### LIPPIA HASSLERIANA Chod.

Additional bibliography: Rambo, Pesquis. Bot. 21: 26 & [59]. 1965; Moldenke, Phytologia 12: 197--199 & 211 (1965) and 12: 490 & 491. 1966.

Rambo (1965) cites Herb. Anchieta 10004 from Rio Grande do Sul, collected by himself. He describes the species as a "Small shrub, up to 1 m high", growing on "Dry, shrubby Campos" and notes that in Rio Grande do Sul "One only findplace". He gives the general distribution of the species as "Paraguay, RGS [Rio Grande do Sul]"

The Hassler 8988c, distributed as L. hassleriana, is actually L. sclerophylla Briq.

#### LIPPIA HEDERAEFOLIA Mart. & Schau.

Additional bibliography: Mansf., Notizbl. Bot. Gart. Berlin 9: 155. 1924; Moldenke, Phytologia 12: 199--201, 274, & 437 (1965) and 12: 501. 1966.

LIPPIA HICKENII Troncoso

Additional bibliography: Moldenke, Phytologia 12: 202--203 (1965) and 12: 496. 1966.

LIPPIA HIERACIFOLIA Cham.

Additional bibliography: Rambo, Pesquis. Bot. 21: 26--27 & [59]. 1965; Moldenke, Phytologia 12: 203--205. 1965.

Rambo (1965) cites Herb. Anchieta 438, 1219, 1802, 4867, 6735, 8297 [Emrich s.n.], 8362 [Emrich s.n.], 9145, 9456, 9953, 10059, 10077, 25547 [Heidler s.n.], 25614, 25782, 27010, 28682 [Emrich s.n.], 29394, 35824 [Emrich s.n.], 38138, 38681, 39170, 39467, 39541, 39651, 40508, 40945, 46715, 46849, 51343, 53033, 58638 [Camargo 82], 58786 [Camargo 234], 50507 [Sacco s.n.], & 63931 [Sacco 558] from Rio Grande do Sul, all collected by himself except where otherwise designated. He describes the plant as "Herbaceous, from a woddy rootstock, up to 1 m high", growing on "Dry, grassy or more or less shrubby Campos.....Frequent all over the Campos area" in that state, with a general distribution of "Argentine Mesopotamia, RGS [Rio Grande do Sul], Uruguay".

LIPPIA HIRSUTA L. f.

Additional bibliography: Moldenke, Biol. Abstr. 46: 3616. 1965; Moldenke, Résumé Suppl. 12: 10. 1965; Moldenke, Phytologia 12: 198, 205--209, 292, & 363 (1965), 12: 485 & 486 (1966), and 13: 165. 1966.

Additional citations: VENEZUELA: Mérida: Bernardi 3135 (N).

LIPPIA HIRTA (Cham.) Meisn.

Additional bibliography: Moldenke, Phytologia 12: 198, 199, & 209--211 (1965) and 12: 489 & 490. 1966.

This plant has been found growing at 900 meters altitude. The flowers on Reitz & Klein 17411 are described as "roxa".

Additional citations: BRAZIL: Paraná: Dombrowski 1477 [Herb. Inst. Def. Pat. Nat. 9449] (Ac); Reitz & Klein 17411 (Ac); Smith & Klein 14922 (Ac).

LIPPIA HYPOLEIA Briq.

Additional bibliography: Moldenke, Phytologia 12: 190, 213--216, & 302 (1965) and 13: 34 & 162. 1966; Moldenke, Résumé Suppl. 13: 1. 1966.

Raven & Breedlove describe this species as a shrub, 5--15 feet tall, growing on steep heavily wooded slopes with Quercus, Pinus, Liquidambar, and tree legumes, at altitudes of 2500--5500 feet. They describe the flowers as "white" on their nos. 19816 & 19948. The flowers are also said to have been white on Breedlove 13968 and Molina R. 11277 & 11330, "cream color" on Breedlove & Raven 13603,

and "pale-yellow" on Breedlove & Gregory 14215 and Dressler & Jones 190. Breedlove & Gregory found the plant growing on steep northwest facing slopes with Quercus and Arbutus. Rzedowski found it in much disturbed woods of Quercus, Liquidambar, and Clethra; Molina R. calls it "frequent in mixed wet woods" in Honduras. It has been collected in anthesis and fruit in October.

Additional citations: MEXICO: Chiapas: Breedlove 13968 (Rf); Breedlove & Raven 13603 (Ac), 13615a (Ac); Raven & Breedlove 19816 (Ac), 19948 (Ac). Nayarit: Breedlove & Gregory 14215 (Rf). Puebla: Paray 2801 (Ip). Vera Cruz: Dressler & Jones 190 (Mi); Paray 2892 (Ip); J. Rzedowski 18956 (Mi). HONDURAS: El Paraíso: Molina R. 11330 (W--2445228). Morazán: Molina R. 11277 (W--2445592).

LIPPIA INOPINATA Moldenke

Additional bibliography: Hocking, Excerpt. Bot. A.8: 226. 1965; Moldenke, Phytologia 12: 217--218. 1965; Moldenke, Résumé Suppl. 12: 2 (1965) and 13: 1. 1966.

Rzedowski describes this species as a rare shrub, 2.5 m. tall, growing at 1700 m. altitude in "ladera ignea con vegetación de bosque tropical deciduo" in Jalisco. Detling found it in xeric matorral on a gentle south slope with Opuntia, Bursera fagaroides, and Ipomoea intrapilosa at an altitude of 2045 meters, fruiting in October. McVaugh reports that it is "abundant" and describes it as a tree, 5--6 m. tall, with conspicuous greenish-white bracts, growing on steep hills in the deciduous forest with Bursera, Cordia, and various legumes, at 700 meters altitude, flowering in March, and also in deciduous forest in wooded ravines, the forest composed mostly of Acacia, Bursera, and Ipomoea. It has also been found in flower and fruit in November. Material has been misidentified and distributed in herbaria as L. bracteosa (Mart. & Gal.) Moldenke.

Additional citations: MEXICO: Aguascalientes: Detling 8739 (Mi). Jalisco: R. McVaugh 22888 (Mi); J. Rzedowski 17649 (Au--238081, Ip, Mi). Puebla: R. McVaugh 22493 (Mi).

LIPPIA INTEGRIFOLIA (Griseb.) Hieron.

Additional bibliography: Moldenke, Phytologia 12: 196 & 218--220. 1965.

Additional citations: ARGENTINA: Catamarca: Cristóbal 482 (Ca--1181622).

LIPPIA INTERMEDIA Cham.

Additional bibliography: Moldenke, Phytologia 12: 220--221 & 429. 1965.

LIPPIA IODOPHYLLA Schau.

Additional bibliography: Moldenke, Phytologia 12: 221--222 & 280. 1965.

Additional citations: BRAZIL: Rio de Janeiro: Castellanos 23221

[Herb. Cent. Pesq. Florest. 1068] (2).

LIPPIA JALISCANA Moldenke

Additional bibliography: Moldenke, *Phytologia* 12: 222--223 (1965) and 13: 162. 1966.

LIPPIA JANGADENSIS S. Moore

Additional bibliography: Moldenke, *Résumé Suppl.* 12: 4. 1965; Moldenke, *Phytologia* 12: 223--225 (1965) and 13: 166. 1966.

LIPPIA JANGADENSIS var. EITENORUM Moldenke

Additional bibliography: Moldenke, *Phytologia* 12: 224--225. 1965; Moldenke, *Résumé Suppl.* 12: 4. 1965.

LIPPIA JAVANICA (Burm. f.) Spreng.

Additional bibliography: Wild, *Kirkia* 5: 4. 1965; Moldenke, *Résumé Suppl.* 12: 10. 1965; Moldenke, *Phytologia* 12: 225--235, 240, 264, 307, 343, 344, 352, 358, 431, 434, 436, 450, 459, & 461 (1965), 12: 483 (1966), and 13: 171, 173, 174, & 176. 1966; Moldenke, *Résumé Suppl.* 13: 4. 1966.

Recent collectors describe this plant as an "annual herb of the savannas" (Torre 7696 & 7706) or a shrub, 1--3 meters tall, the aromatic leaves used for making tea, growing in ruderal places, secondary woods, the edges of streams, and open forests of Pari-nari sp., at 500--800 meters altitude, flowering in April, May, November, and December, fruiting in November. The flowers are said to have been "white" on F. A. Mendonca 1201 & 1645 and Torre 1973 & 2367, "whitish" on Torre 2768, and "cream-white" on E. Sousa 157. The vernacular names "linuñiganuñiga" and "m'fungofana" are recorded from Portuguese East Africa. Mendonca 737 is said to match Stuhlmann I.168, Sousa 158 matches Jackson 22, and Mendonca 1645 matches Schlechter 12230 and Wilms 1182 in the British Museum herbarium.

The A. Peter 2056 & 4263, distributed as this species, are actually L. schliebeni Moldenke, Garcia 315 and Torre 3637 are L. whytei Moldenke, while Baum 250 and Leendertz s.n. [20.X.1909] are L. wilmsii H. H. W. Pearson.

Additional citations: SOUTHERN RHODESIA: E. A. Robinson 6170 (N). PORTUGUESE EAST AFRICA: Cabo Delgado: Torre & Paiva 12020 (U1). Inhambane: Torre 2768 (U1). Limpopo: Torre 2367 (U1). Lourenço Marques: F. A. Mendonça 1645 (U1), 3013 (U1); E. Sousa 157 (U1), 158 (U1); Torre 1973 (U1), 7696 (U1), 7706 (U1). Manica e Sofala: Andrada 1147 (U1), 1244 (U1). Mozambique: F. A. Mendonça 1201 (U1, U1); Torre 899 (U1), 1201 (U1), 1383 (U1). Niassa: F. A. Mendonça 737 (U1); Torre 43 (U1, U1); Torre & Paiva 10920 (U1). Zambezia: Torre 1513 (U1), 5266 (U1).

LIPPIA JUNELLIANA (Moldenke) Troncoso



Additional bibliography: Moldenke, *Phytologia* 12: 196, 235--237, 240, 357, & 358. 1965.

*LIPPIA LACUNOSA* Mart. & Schau.

Additional bibliography: Moldenke, *Phytologia* 12: 238--239 & 445 (1965) and 13: 353. 1966.

Turczaninow (1863) describes his L. cordata as follows: "L. caule fruticoso tetragono, apice ramoso viscido-pubescente; foliis oppositis brevissime periolatis, cordato-oblongis, supra lucidis bullatis parce piliferis, subtus reticulato-rugosis densius vestitis pallidioribus; capitulis axillaribus (cum pedunculis) foliis brevioribus et aliis ad apicem ramorum congestis brevissime pedunculatis, folia non superantibus. Capitula primo minora, postea excrescunt ad magnitudinem L. lupulinae. Bracteae in sicco fuscescentes, in capitulis junioribus floribus breviores, dein illos omnino tegentes. L. Gardnerianae, e descriptione hujus, valde similis, at folia petiolo etiamsi brevissimo, tamen manifesto insident, obtusa nec acuta, bracteae praeter inferiores obtusae."

Heringer reports the leaves and flowers to be fragrant.

Additional citations: BRAZIL: Brasilia: Heringer 9195/389 (N).

*LIPPIA LANTANIFOLIA* F. Muell.

Additional bibliography: Moldenke, *Phytologia* 12: 194 & 240. 1965.

*LIPPIA LASIOCALYCINA* Cham.

Additional bibliography: Moldenke, *Phytologia* 12: 240--242 & 349. 1965; Moldenke, *Résumé Suppl.* 12: 4. 1965.

Recent collectors refer to this plant as a shrub, 2 m. tall, with fragrant flowers and pale-purple corollas, flowering in August, and growing on sandstone. Castellanos 24347 is said to have had "rose" corollas

Additional citations: BRAZIL: Bahia: Castellanos 24347 (Ac, Ac). Goiás: Prance & Silva 58522 (N). Maranhão: N. T. Silva 57775 (N).

*LIPPIA LASIOCALYCINA* var. *SAINTHILAIREI* Moldenke

Additional bibliography: Moldenke, *Phytologia* 12: 242, 252, & 349. 1965.

*LIPPIA LIBERIENSIS* Moldenke

Additional bibliography: Moldenke, *Phytologia* 12: 254--255. 1965; Moldenke, *Résumé Suppl.* 12: 2. 1965.

*LIPPIA LINDMANII* Briq.

Additional bibliography: Moldenke, *Phytologia* 12: 255--256 & 268. 1965.

*LIPPIA LONGEPEDUNCULATA* Kuntze

Additional bibliography: Moldenke, *Phytologia* 12: 257--260 (1965) and 13: 14 & 29. 1966.

Additional citations: PARAGUAY: T. Rojas s.n. [Hassler 2592] (Ca—950440).

LIPPIA LUCENS Standl.

Additional bibliography: Moldenke, *Résumé Suppl.* 12: 2. 1965; Moldenke, *Phytologia* 12: 262—264 (1965) and 12: 504. 1966.

Additional citations: HONDURAS: Comayagua: Yuncker, Dawson, & Youse 6003 (Dp, Mi), 6387 (Bt, Dp, Mi).

LIPPIA LUPULIFORMIS Moldenke

Additional bibliography: Moldenke, *Phytologia* 12: 264—265. 1965; Moldenke, *Résumé Suppl.* 12: 6. 1965.

LIPPIA LUPULINA Cham.

Additional & emended bibliography: Turcz., *Bull. Soc. Nat. Mosc.* 36 (2): 204 & 205. 1863; Greenm., *Field Mus. Publ. Bot.* 2: 341. 1912; Moldenke, *Résumé Suppl.* 12: 4, 5, & 10. 1965; Moldenke, *Phytologia* 12: 256, 265—272, & 360 (1965) and 12: 502. 1966.

Turczaninow (1863) describes his L. clauseni as follows: "L. caule fruticoso tetragono, molliter piloso; foliis oppositis brevissime petiolatis utrinque obtusis grosse crenatis, in utraque pagina densiuscule pubescentibus; capitulis axillaribus solitariis folio (cum pedunculo) longioribus. Bracteae magnae roseae, capitula illis L. lupulinae majora."

Additional citations: BRAZIL: Brasilia: Heringer 7873/67 (N). Paraná: Reiss 12 (Mi); Reitz & Klein 17516 (Ac).

LIPPIA LUPULINA var. PARAGUARIENSIS Chod.

Emended synonymy: Lippia renifolia Turcz., *Bull. Soc. Nat. Mosc.* 36 (2): 204—205. 1863.

Additional & emended bibliography: Turcz., *Bull. Soc. Nat. Mosc.* 36 (2): 204—205. 1863; Moldenke, *Phytologia* 12: 272. 1965; Moldenke, *Résumé Suppl.* 12: 4, 5, & 10. 1965.

Turczaninow (1863) describes his L. renifolia as follows: "L. caule fruticoso teretiusculo cano-pubescente; foliis oppositis sessilibus, subrotundo-reniformibus obtusis, sinu profundo, superioribus subimbricatis, a basi ipsa grosse crenatis, supra bullatopugosis pubescentibus, subtus reticulatis densius vestitis; capitulis breve pedunculatis subterminalibus. Capitula minora quam in L. lupulina, in statu sicco bracteis fusciscentibus obvallata." He classifies it in Section Rhodolippia.

LIPPIA MARRUBIIFOLIA Reichardt

Additional bibliography: Moldenke, *Phytologia* 12: 273—274 & 437. 1965; Moldenke, *Résumé Suppl.* 12: 4. 1965.

LIPPIA MARTIANA Schau.

Additional bibliography: Moldenke, *Résumé Suppl.* 12: 4. 1965; Moldenke, *Phytologia* 12: 274—275, 310, 355, & 455 (1965) and 12: 496. 1966.

The Regnell III.942 [25/10/1848] distributed as L. martiana is

actually L. sidoides Cham.

Additional citations: BRAZIL: Brasilia: De Jesus s.n. [Campus de U.N.B.] (N).

LIPPIA MATTOGROSSENSIS Moldenke

Additional bibliography: Moldenke, Phytologia 12: 276--277. 1965.

Additional citations: BRAZIL: Goiás: E. Y. Dawson 14864 (Z--photo).

LIPPIA MEGAPOTAMICA Spreng.

Additional bibliography: Moldenke, Phytologia 12: 277--278. 1965; Rambo, Pesquis. Bot. 21: 58. 1965.

LIPPIA MICROCEPHALA Cham.

Additional bibliography: Moldenke, Résumé Suppl. 12: 4. 1965; Moldenke, Phytologia 12: 278--281 & 363. 1965.

Additional citations: BRAZIL: Brasilia: Sucre 284 (Z).

LIPPIA MICROMERA Schau.

Additional bibliography: Neal, In Gard. Hawaii, ed. 2, 724. 1965; Moldenke, Phytologia 12: 281--287, 332, 333, & 339. 1965; Moldenke, Résumé Suppl. 12: 2 & 3. 1965.

LIPPIA MICROMERA var. HELLERI (Britton) Moldenke

Additional bibliography: Moldenke, Phytologia 12: 283--286, 332, & 339. 1965.

LIPPIA MICROMERA var. PALUDICOLA Moldenke

Additional bibliography: Moldenke, Phytologia 12: 286--287. 1965.

Castellanos describes the plant as aromatic, with white flowers, blooming in July.

Additional citations: BRAZIL: Bahia: Castellanos 25101 [Herb. Cent. Pesq. Florest. 3870] (Z).

LIPPIA MICROPHYLLA Cham.

Additional bibliography: Moldenke, Résumé Suppl. 12: 10. 1965; Moldenke, Phytologia 12: 287--289, 355, & 440 (1965), 12: 486 & 487 (1966), and 13: 26. 1966.

Additional citations: BRAZIL: Bahia: Castellanos 25108 [Herb. Cent. Pesq. Florest. 3877] (Ac). Maranhão: Castellanos 25356 [Herb. Cent. Pesq. Florest. 4125] (Ac).

LIPPIA MODESTA Briq.

Additional bibliography: Moldenke, Phytologia 12: 289--291 (1965) and 13: 12. 1966.

LIPPIA MORITZII Turcz.

Additional bibliography: Moldenke, Phytologia 12: 291--292 (1965) and 12: 484--486. 1966.

Turczaninow (1863) classifies this species in Section Zapania.

LIPPIA MORONGII Kuntze

Additional bibliography: Rambo, *Pesquis. Bot.* 21: 28 & [59]. 1965; Moldenke, *Phytologia* 12: 293--297, fig. 1--12, 347, & 434 (1965) and 13: 15, 29, & 30. 1966.

Illustrations: Moldenke, *Phytologia* 12: 295--296, fig. 1--12. 1965.

The L. angustifolia of Chodat, mentioned in the synonymy of this species, belongs in the synonymy of L. tristis Briq.

Rambo (1965) cites Herb. Anchieta 25783 from Rio Grande do Sul, collected by himself. He describes the plant as a "Shrub, up to 50 cm high", growing on "Dry, more or less open grassy Campos.... One only findplace on the southwestern plains" in that state. He gives the general distribution of the species "From Mattogrosso through Paraguay and northeastern Argentina to western RGS [Rio Grande do Sul], and Uruguay."

LIPPIA MULTIFLORA Moldenke

Additional bibliography: Moldenke, *Phytologia* 12: 297--300, 448, 458, & 459. 1965.

LIPPIA MULTIFLORA var. PUBESCENS Moldenke

This taxon is now reduced to synonymy under L. savoryi Meikle.

LIPPIA MYRIOCEPHALA Schlecht. & Cham.

Additional bibliography: P. C. Standl., *Field Mus. Publ. Bot.* 3: 403. 1930; H. B. Davis, *Life & Works Pringle* 81, 668, & 669. 1936; Moldenke, *Phytologia* 12: 278 & 300--303 (1965), 12: 486 (1966), and 13: 34 & 35. 1966.

Raven & Breedlove found this plant growing on slopes with an old milpa. Standley (1930) suggests that L. yucatana Loes. may be referable here as a synonym, but I regard it as a distinct species.

Lippia myriocephala has been found in fruit in October. The Dressler & Jones 190, Molina R. 11277 & 11330, and J. Rzedowski 18956, distributed as L. myriocephala, are actually L. hypoleia Briq.

Additional citations: MEXICO: Chiapas: Raven & Breedlove 20118 (Ac). San Luis Potosí: J. Rzedowski 8345 (Ip, Ip).

LIPPIA MYRIOCEPHALA var. INTEGRIFOLIA Loes.

Additional bibliography: Moldenke, *Phytologia* 12: 302 & 303. 1965.

Tucker describes this plant as a spreading tree, 4.5 m. tall, with white corollas, the throat yellow within, flowering in January, and inhabiting the north slopes of the "highest peak" at 1320-1380 meters altitude.

Additional citations: EL SALVADOR: Morazán: Tucker 793 (Mi).

LIPPIA NIGERIENSIS Moldenke

Additional bibliography: Moldenke, *Phytologia* 12: 298, 304--306,

458, & 459. 1965; Moldenke, Résumé Suppl. 12: 5 & 6. 1965.

LIPPIA NIGERIENSIS var. BREVIPEDUNCULATA Moldenke

This taxon is now reduced to synonymy under L. savoryi Meikle.

LIPPIA OATESII Rolfe

Additional bibliography: Wild, Kirkia 5: 4. 1965; Moldenke, Résumé Suppl. 12: 7. 1965; Moldenke, Phytologia 12: 306--307, 352, & 431 (1965) and 13: 171. 1966.

LIPPIA OAXACANA Robinson & Greenm.

Additional bibliography: H. B. Davis, Life & Works Pringle 136, 187, 668, & 669. 1936; Moldenke, Phytologia 12: 307--308. 1965.

LIPPIA OBSCURA Briq.

Additional bibliography: Moldenke, Phytologia 12: 275 & 309--311. 1965.

Recent collectors have encountered this species in secondary woods, pastures, and cerrado (open scrub), on rock outcrops, and ruderal, at 840--860 meters altitude, flowering in January.

Additional citations: BRAZIL: Paraná: Smith, Klein, & Hatschbach 14604 (Ac), 14637 (Ac). PARAGUAY: Hassler 8016 (Mi--isotype).

LIPPIA ORIGANOIDES H.B.K.

Additional bibliography: Moldenke, Résumé Suppl. 12: 10. 1965; Moldenke, Phytologia 12: 283, 286, 310--312, 331--334, 339, 346, 446, 452, & 454 (1965), 12: 496 (1966), and 13: 164. 1966.

Breteler describes this plant as a shrub, 1.5 m. tall, with grayish-brown bark, dull pale-green leaves, and white corollas, yellow-orange in the throat, growing with other shrubs on dry southern slopes in poor rocky soil, at 1150 m. altitude, flowering in October. Cuatrecasas & Jaramillo refer to it as a subshrub, with spreading branches, grayish leaves, and corolla and fruit lilac, growing on arid clayish hills, from 2550 to 2700 meters altitude. The Martius 1037, distributed as L. organoides, is actually L. velutina Schau.

Additional citations: COLOMBIA: Cundinamarca: Cuatrecasas & Jaramillo 26688 (W--2455980). Magdalena: H. H. Smith 587 (Mi).

VENEZUELA: Mérida: Breteler 3205 (N).

LIPPIA OXYCNEMIS Schau.

Additional bibliography: Moldenke, Phytologia 12: 334--335. 1965.

The flowers on Sucre 750 are said to have been "lilac".

Additional citations: BRAZIL: Brasilia: Sucre 750 (Ac).

LIPPIA OXYPHYLLARIA (Donn. Sm.) Standl.

Additional bibliography: Moldenke, Résumé Suppl. 12: 2. 1965; Moldenke, Phytologia 12: 336--337 (1965), 12: 503 & 504 (1966), and 13: 162. 1966.

## LIPPIA PALMERI S. Wats.

Additional bibliography: Moldenke, *Résumé Suppl.* 12: 2 & 10. 1965; Moldenke, *Phytologia* 12: 332 & 337--342 (1965) and 13: 355. 1966.

Recent collectors have found this plant growing in rocky desert washes, at 225 feet altitude. The Guzmán Huerta H.331 and I. L. Wiggins 5539, distributed as L. palmeri, are perhaps better regarded as representing var. spicata Rose.

Additional citations: MEXICO: Baja California: Wiggins & Ernst 576 (Mi).

## LIPPIA PALMERI var. SPICATA Rose

Additional bibliography: Moldenke, *Phytologia* 12: 332 & 339--342. 1965; Moldenke, *Résumé Suppl.* 12: 2 & 10. 1965.

Wiggins describes the flowers of this plant as "in small stout spikes", and found it growing along dry washes, blooming in April. Guzmán Huerta found it in fruit in January and identified it as L. palmeri S. Wats.

Additional citations: MEXICO: Baja California: Guzmán Huerta H. 331 (Ip); I. L. Wiggins 5539 (Mi).

## LIPPIA PEARSONI Moldenke

Additional bibliography: Moldenke, *Phytologia* 12: 342--343. 1965; Moldenke, *Résumé Sypl.* 12: 6. 1965.

## LIPPIA PEARSONI var. SESSILIS Moldenke

Additional bibliography: Moldenke, *Résumé Suppl.* 12: 6. 1965; Moldenke, *Phytologia* 12: 343. 1965.

## LIPPIA PEDUNCULATA H. H. W. Pearson

Additional bibliography: Moldenke, *Phytologia* 12: 343--344, 358, & 462 (1965) and 13: 174. 1966.

The E. E. Galpin 578, in part, distributed as L. pedunculata, is actually L. wilmsii H. H. W. Pearson.

## LIPPIA PENDULA Rusby

Additional bibliography: Moldenke, *Résumé Suppl.* 12: 5. 1965; Moldenke, *Phytologia* 12: 333 & 345--346 (1965) and 12: 505. 1966.

## LIPPIA PHRYXOCALYX Briq.

Additional bibliography: Moldenke, *Phytologia* 12: 347--349. 1965; Moldenke, *Résumé Suppl.* 12: 4. 1965.

## LIPPIA PICKELII Moldenke

This taxon is now regarded by me as L. recolletae var. pickelii (Moldenke) Moldenke, which see.

## LIPPIA PLICATA J. G. Baker

Additional bibliography: Moldenke, *Résumé Suppl.* 12: 5--7, 10, & 11. 1965; Moldenke, *Phytologia* 12: 350--354 & 431 (1965) and 12: 483. 1966; Moldenke, *Résumé Suppl.* 13: 4. 1966.

## LIPPIA PLICATA var. ACUMINATA (Moldenke) Moldenke

Additional bibliography: Moldenke, *Phytologia* 12: 352--353. 1965; Moldenke, *Résumé Suppl.* 12: 5--7 & 11 (1965) and 13: 4. 1966.

Recent collectors describe this plant as a shrub or subshrub, 2--3 m. tall, growing on rocky deserts among granite boulders and near rivers, at 1450 m. altitude, flowering in March, fruiting in September. The corollas on Torre & Paiva 11072 are described as having been "white". Material has been misidentified and distributed in herbaria as Lantana sp.

Additional citations: PORTUGUESE EAST AFRICA: Niassa: R. Monteiro 35 (U1). Tete: Torre & Paiva 11072 (U1).

## LIPPIA PLICATA var. PARVIFOLIA (Moldenke) Moldenke

Additional bibliography: Moldenke, *Phytologia* 12: 353--354. 1965; Moldenke, *Résumé Suppl.* 12: 5, 6, & 11. 1965.

## LIPPIA POHLIANA Schau.

Additional bibliography: Moldenke, *Phytologia* 12: 354--355 (1965) and 12: 494. 1966.

## LIPPIA PRETORIENSIS H. H. W. Pearson

Additional bibliography: Moldenke, *Phytologia* 12: 344, 357--359, 436, & 461 (1965) and 13: 173. 1966.

## LIPPIA PRIMULINA S. Moore

Additional bibliography: Moldenke, *Résumé Suppl.* 12: 4 & 5. 1965; Moldenke, *Phytologia* 12: 359--360. 1965.

## LIPPIA PRINGLEI Briq.

Additional bibliography: P. C. Standl., *Contrib. U. S. Nat. Herb.* 23: 1246. 1924; Moldenke, *Résumé Suppl.* 12: 10. 1965; Moldenke, *Phytologia* 12: 360--365 (1965) and 13: 7, 35, & 162. 1966; Moldenke, *Résumé Suppl.* 13: 1. 1966.

Standley (1924) reduces this species to synonymy under L. umbellata Cav., but I feel that the two taxa are abundantly distinct.

Recent collectors have found L. pringlei in mesophytic woods with Carpinus, in secondary matorrales, and on the banks of large permanent creeks, at 250--1900 meters altitude, describing it as a shrub, 2.5--3 m. tall, or a tree, 15--20 feet tall. Feddema refers to it as an "occasional tree, along pastured area" on karstic limestone outcrops in open woodland at 2000 m. altitude. Rzedowski & McVaugh describe the bracts as "amarillento-verdoso pálido" and found the species growing on "calizas kársticas con vegetación de matorral secundario". McVaugh found it on steep rocky hills with Acacia, Guazuma, and Bursera at 1100 m. altitude, the "bracts conspicuous, greenish yellow; corolla yellow".

Material has been misidentified and distributed in herbaria as L. chrysantha Greenm.

Additional citations: MEXICO: Guerrero: Feddema 2868 (Mi); Rze-

dowski & McVaugh 307 (Mi). Jalisco: Diguet 457 (Mi). Morelos: Paray 3014 (Ip). Nayarit: J. Rzedowski 15630 (Ip, Mi). Oaxaca: R. McVaugh 22282 (Mi); J. Rzedowski 19280 (Mi). Puebla: Mercado s.n. [Mayo 1945] (Ip). Sinaloa: Breedlove 1572 (Mi).

LIPPIA PUMILA Cham.

Additional bibliography: Moldenke, *Résumé Suppl.* 12: 4. 1965; Moldenke, *Phytologia* 12: 367, 429--430, & 439 (1965) and 13: 4 & 5. 1966; Moldenke, *Résumé Suppl.* 13: 3. 1966.

Recent collectors have found this plant growing on campos, in low or low pastured woods, and in bogs, at 900--1000 meters altitude, flowering from October to December. Smith & Klein 13343 and Smith & Reitz 12853 are said to have had yellow flowers. Material has been misidentified and distributed in herbaria as Verbena sp.

Additional citations: BRAZIL: Santa Catarina: Smith & Klein 13343 (W--2451601), 13786 (W--2451604); Smith & Reitz 12853 (W--2451600).

LIPPIA RAMBOI Moldenke

Additional bibliography: Rambo, *Pesquis. Bot.* 21: 28 & [59]. 1965; Moldenke, *Phytologia* 12: 431--432. 1965.

Rambo (1965) cites Herb. Anchieta 11569 [Buck s.n.], 46306, 52156, & 54583 from Rio Grande do Sul, all collected by himself except where otherwise designated. He describes the plant as a "Woody shrub, 2 m high", growing in "Dense Araucaria forest in moist places.....Along the southern rim of the northeastern Highlands only" in that state, with a general distribution of "So far, RGS [Rio Grande do Sul] only".

LIPPIA RECOLLETAE Morong

Additional bibliography: Moldenke, *Phytologia* 12: 432--434 (1965) and 12: 505. 1966; Moldenke, *Résumé Suppl.* 13: 3 & 7. 1966.

LIPPIA RECOLLETAE var. PICKELII (Moldenke) Moldenke

Synonymy: Lippia pickelii Moldenke, *Lilloa* 5: 424--425. 1940.

Additional bibliography: Moldenke, *Phytologia* 12: 349--350 (1965) and 13: 364. 1966; Moldenke, *Résumé Suppl.* 13: 3 & 7. 1966.

Citations: PARAGUAY: Hassler 11040 (Ca--950509--isotype, N--isotype, N--isotype, N--photo of type, N--photo of isotype).

LIPPIA REHMANNI H. H. W. Pearson

Additional synonymy: Lippia rehmanni Gürke ex Moldenke, *Résumé* 316, sphalm. 1959. Lippia rehmannii Gürke ex Moldenke, *Résumé* 316, in syn. 1959.

Additional bibliography: Dyer, Verdoorn, Codd, & Letty, *Wild Fls. Transv.* 281, pl. 140, fig. 4. 1962; Moldenke, *Phytologia* 12: 434--436 & 461 (1965) and 13: 173 & 174. 1966.



Additional illustrations: Dyer, Verdoorn, Codd, & Letty, Wild Fls. Transv. pl. 140, fig. 4. 1962.

LIPPIA RZEDOWSKII Moldenke

Bibliography: Moldenke, Phytologia 12: 478--479. 1966; Moldenke, Résumé Suppl. 13: 1. 1966.

Feddema describes this plant as a shrub, to 1.5 m. tall, the flowers whitish, the throat of the corolla yellow, blooming in November, and growing in disturbed grassland with shrubs in gullies, at 1800 meters altitude.

Citations: MEXICO: Zacatecas: Feddema 2396 (Mi); J. Rzedowski 17635 (Ip--type, Mi--isotype, Z--isotype).

LIPPIA SALVIAEFOLIA Cham.

Additional bibliography: Moldenke, Phytologia 12: 452--456 (1965), 12: 496 & 497 (1966), and 13: 164. 1966.

LIPPIA SAVORYI Meikle

Additional bibliography: Moldenke, Phytologia 12: 458--460 & 462 (1965) and 13: 362 & 363. 1966.

LIPPIA SCABERRIMA Sond.

Additional bibliography: Moldenke, Phytologia 12: 436 & 459--462 (1965) and 13: 173 & 174. 1966.

LIPPIA SCHLIEBENI Moldenke

Additional bibliography: Moldenke, Phytologia 12: 482--484 (1966) and 13: 32. 1966.

LIPPIA SCHLIMII var. GLABRESCENS (Moldenke) Moldenke

Additional bibliography: Hocking, Excerpt. Bot. A.9: 367. 1965; Moldenke, Phytologia 12: 484--486. 1966.

LIPPIA SCLEROPHYLLA Briq.

Additional bibliography: Moldenke, Phytologia 12: 488--492 (1966) and 13: 355. 1966.

LIPPIA SERICEA Cham.

Additional bibliography: Moldenke, Phytologia 12: 492--494. 1966.

The flowers on Sucre 713 are described as having been yellow.

Additional citations: BRAZIL: Brasilia: Sucre 713 (Ac).

LIPPIA SIDOIDES Cham.

Additional bibliography: Rambo, Pesquis. Bot. 21: 58. 1965; Moldenke, Phytologia 12: 495--497 (1966) and 13: 361. 1966.

LIPPIA SUBSTRIGOSA Turcz.

Additional bibliography: Moldenke, Phytologia 12: 501--505 (1966) and 13: 10, 35, 162, & 355. 1966.

Recent collector have found this plant growing in pinewoods and

on steep moist slopes with Quercus and Pinus, fruiting in August, at altitudes of 1000 to 3065 meters, and describe it as a shrub, 1--5 meters tall or a tree 2--6 meters tall, with viscid foliage, "frequent" in Guatemala and "frequent on hills and in matorral" in Honduras, flowering and fruiting in March.

The flowers are described as "cream" on Molina R. & Molina 12116 & 12389, "yellow-cream" on Molina R. 11327, and "yellow" on Molina R. 11290 & 11365.

Additional citations: GUATEMALA: Alta Verapaz: Molina R. & Molina 12116 (W--2445424). Guatemala: Molina R. & Molina 12389 (W--2445425). Huehuetenango: Breedlove 11486 (Ac). HONDURAS: El Paraíso: Molina R. 11327 (W--2445621), 11365 (W--2445628), 11845 (W--2445652). Intibucá: Molina R. & Molina 13931 (W--2445359). Morazán: Molina R. 11290 (W--2445586).

LIPPIA TAYACAJANA Moldenke

Additional bibliography: Moldenke, *Phytologia* 12: 506 (1966) and 13: 1 & 218. 1966; Moldenke, *Résumé Suppl.* 13: 3. 1966.

LIPPIA TAYACAJANA var. SESSILIFLORA Moldenke

Bibliography: Moldenke, *Phytologia* 13: 218. 1966; Moldenke, *Résumé Suppl.* 13: 3. 1966.

Citations: PERU: Cajamarca: Hutchison & Wright 7025 (Z--type).

LIPPIA TEGULIFERA var. OVATA Briq.

Additional bibliography: Moldenke, *Phytologia* 13: 3--6. 1966.

Additional citations: PARAGUAY: T. Rojas s.n. [Hassler 9906] (Ca--950431).

LIPPIA TEPICANA Moldenke

Additional bibliography: Moldenke, *Phytologia* 13: 6--7 & 162. 1966.

LIPPIA TORRESII Standl.

Additional bibliography: Moldenke, *Résumé Suppl.* 13: 7. 1966; Moldenke, *Phytologia* 13: 8--10. 1966.

LIPPIA TURNERIFOLIA Cham.

Additional bibliography: Moldenke, *Phytologia* 13: 12, 14, 15, 26--31, & 168. 1966.

Additional citations: BRAZIL: Paraná: Reitz & Klein 17722 (W--2465579).

LIPPIA UMBELLATA Cav.

Additional bibliography: Moldenke, *Phytologia* 13: 162--163, 178, & 179. 1966.

King & Soderstrom found this plant growing on pinewood slopes and in meadows at altitudes of 8900--9000 feet and describe it as a tree, to 5 m. tall, in shaded areas, the flowers yellow and the bracts light-green. A wood sample accompanies their no. 5161.