ADDITIONAL NOTES ON THE GENUS VERBENA. XXIX

Harold N. Moldenke

VERBENA xMOECHINA Moldenke

Mohlenbrock (1975) says that in Illinois this hybrid occurs in "Dry ground, particularly in pastures; Adams, Hardin, Peoria, and Winnebago cos."

VERBENA MONACENSIS Moldenke

Additional bibliography: López-Palacios, Fl. Venez. Verb. [577], 1977; Moldenke, Phytologia 36: 243. 1977.

Illustrations: López-Palacios, Fl. Venez. Verb. [577], fig. 135 [as V. tenuisecta]. 1977

Pinkus reports of his two collections, cited below, that the plants are usually called V. elegans in the horticultural trade and that they are "practically hardy in Dallas, Texas, area, but in a cold winter young plants will die, old established ones in protected places near a house will overwinter successfully; the plant is good for hanging baskets."

Additional citations: CULTIVATED: Ohio: Pinkus 1 (Z). Tennessee: Pinkus 2 (Z).

VERBENA MONTEVIDENSIS Spreng.

Additional bibliography: Moldenke, Phytologia 36: 236 & 243--244. 1977.

The corollas are said to have been "blue" on Cabrera & al. 27646.

Material of this species has been misidentified and distributed in some herbaria as V. litoralis var. caracasana (H.B.K.) Briq.

Additional citations: ARGENTINA: Entre Ríos: Cabrera, Kiesling, & Tur 27646 (N). Misiones: Krapovickas, Cristóbal, Maruñak, Pire, & Tressens 15302 (Ld). Santa Fé: Alvarez 95a (N).

VERBENA NEOMEXICANA (A. Gray) Small

Additional bibliography: Moldenke, Phytologia 36: 244--245 & 287 (1977) and 41: 171. 1979.

The Powell & Powell 3000, distributed as V. neomexicana, actually is V. bracteata Lag. & Rodr., while York 49002 is V. canescens var. roemeriana (Scheele) Perry. Crockett 248 & 6447 are V. cloverae Moldenke, Burr 454 is V. halei Small, Higgins 10269 & Rowell 11147 are V. perennis Wooton, and Powell 2158 is V. plicata Greene.

VERBENA NEOMEXICANA var. HIRTELLA Perry

Additional bibliography: Moldenke, Phytologia 36: 244--246 & 287 (1977) and 41: 171. 1979.

Recent collectors have encountered this plant "in rocky alluvial

soils with Mimosa shrubs" and "on rocky hillsides with Gutierrezia, Rhus, Atriplex, Opuntia, Yucca, and Juniperus", flowering and fruiting in October. The corollas are said to have been "purple" on Edwards & Repass 4730.

The Gentry & Barclay 18439, distributed as V. neomexicana var. hirtella, actually is V. cloverae Moldenke.

Additional citations: NEW MEXICO: Socorro Co.: Edwards & Repass 4730 (N). MEXICO: Chihuahua: G. N. Jones 23227 (Ld); Wallace, LeDoux, & Dunn 197 (Ld).

VERBENA NEOMEXICANA var. XYLOPODA Perry

Additional bibliography: Moldenke, Phytologia 36: 244 & 246. 1977.

Recent collectors have encountered this plant in "Idria-Franseria association with volcanic rock, on sandy wash bottoms, and "infrequent on shrubby hillsides", at 2400--3800 feet altitude, flowering and fruiting in April and May. The corollas are said to have been "light-blue" on Holmgren & Holmgren 6810 and "pinkish-violet" on their no. 7122.

The Gentry & Barclay 18439, distributed in some herbaria as V. neomexicana var. xylopoda, actually is V. cloverae Moldenke.

Additional citations: ARIZONA: Pima Co.: Holmgren & Holmgren 6810 (N). Yavapai Co.: Holmgren & Holmgren 7122 (N). MEXICO: Baja California: Gentry & Cech 8998 (W--2810946).

VERBENA NIGRICANS Rojas

Additional bibliography: Moldenke, Phytologia 36: 246. 1977.

Rojas Acosta (1897) says for this taxon only "122 -- Verbena negra, verbena nigricans, (Roj.) Difiere muy poco de la anterior par el color negrazco, pero tiene las mismas aplicaciones i propiedadas".

VERBENA NIVEA Moldenke

Additional bibliography: Moldenke, Phytologia 36: 246--247. 1977.

Additional citations: ARGENTINA: Jujuy: Fabris & Marchionni 1810 (Mu).

VERBENA OCCULTA Moldenke

Additional bibliography: Moldenke, Phytologia 36: 247. 1977.

Recent collectors describe this species as an ascending herb with "purple" corollas, known locally as "verbena", and found it growing at 2900 meters altitude, flowering in June.

Additional citations: PERU: Cajamarca: Sagástegui A., Cabanillas S., & Dios C. 8078 (N).

VERBENA OFFICINALIS L.

Additional & emended bibliography: R. Br., Prodr. Fl. Nov. Holl., imp. 1, 512 (1810) and imp. 2, 2, [Isis 1819:] 154. 1819; Haines,

Bot. Bihar & Orissa, ed. 1, 4: 707--708. 1922; Gathorny-Hardy, Wild Fls. Brit. 22. 1938; Perez-Arbelaez, Pl. Util. Colomb., ed. 1, 441 (1947) and ed. 2, 745. 1956; Haines, Bot. Bihar & Orissa, ed. 2, 2: 742. 1961; Bolkh., Grif, Matvej., & Zakhar., Chrom. Numb. Flow. Pl., imp. 1, 717. 1969; J. R. Forster in Kalm, Travels N. Am., ed. 2, 67. 1972; Bolkh., Grif, Matvej., & Zakhar., Chrom. Numb. Flow. Pl., imp. 2, 717. 1974; Shosteck, Flow. & Pl. 279. 1974; T. Johnson, Gerard Herbal, ed. 3, 717--719, fig. 1. 1975; Arutyunov, Izv. Akad. Nauk Turkm. SSR. Biol. Nauk 5: 69. 1976; Cleene & De Ley, Bot. Rev. 42: 452. 1976; Malag. Heras, Act. Phytotax. Barcin. 18: 108. 1976; Tasei, Apidologia 7: [277]--280, 282, 286, 291, 298, & 299, fig. 7e. 1976; Arutyunov, Biol. Abstr. 64: 5194. 1977; Clay & Hubbard, Haw. Gard. Trop. Shrubs 185 & 294. 1977; Hocking, Quart. Journ. Crude Drug Res. 15: [iv]. 1977; S. C. Hood, Quart. Journ. Crude Drug Res. 15: 212. 1977; Kajewska, Act. Biol. Cracow Ser. Bot. 20: 41--50. 1977; Lelong, Sida 7: 140. 1977; Lewis & Elvin-Lewis, Med. Bot. 122, 193, 370, 391, & 514. 1977; López-Palacios, Fl. Venez. Verb. 11, 559, & 654. 1977; Moldenke, Biol. Abstr. 64: 6575. 1977; Moldenke, Phytologia 36: 274--279, 297, & 452. 1977; Speta, Candollea 32: 145 & 155. 1977; Tasei, Biol. Abstr. 64: 6635. 1977; Kajewska, Biol. Abstr. 66: 935. 1978; Moldenke, Phytologia 41: 155 & 181. 1979.

Additional illustrations: T. Johnson, Gerard Herbal, ed. 3, 717, fig. 1. 1975; Tasei, Apidologia 7: 291, fig. 7e. 1976.

Speta (1977) records this species from Brać Island, Jugoslavia, and says that "In den Kernen der Korolle und deren perlschnurartigen Haaren sowie der Blätter konnte ich keine Kristalle finden". Cleene & De Ley (1976) report that it is susceptible to crown-gall, Agrobacterium tumefaciens. Lelong (1977) reports the plant as "Rare on roadsides" in Mobile County, Alabama. Tasei (1976) states that pollen is gathered from its flowers by the solitary bee, Osmia coerulescens.

Kajewska (1977) found that "In V. officinalis the course of meiosis is regular, giving rise to tetrads of macrospores. The embryo sac of the Polygonum type develops from the chalazal macrospore. The endosperm is cellular from the start. After 3 mitotic divisions with cytokinesis 3 tiers of endosperm cells are formed. The middle tier develops into the cellular proper endosperm, whereas the micropylar one transforms itself into a short-lived small few-celled micropylar haustorium. It degenerates still before the division of the zygote. The chalazal cell functions directly as a haustorium after one nuclear division without cytokinesis. Both nuclei increase their degree of ploidy in the way of endomitoses and attain 12n. The proper endosperm as well as the micropylar haustorium remain on the triploid level. The development of the zygote is delayed. It starts its mitotic divisions only in the stage of well developed proper endosperm and the chalazal haustoum. The micropylar haustorium and the viable synergid which becomes binucleate after an additional mitotic division take part in the nutrition of the zygote."

Hood (1977) reminds us that this species has been used widely in folk magic and in the past also as a styptic, vulnerary, and in the treatment of sores and tumors. Lewis & Elvin-Lewis (1977), speaking of the physical basis underlying some native uses of plants in medicine, say "A treatment having even weaker foundations, but important psychological implications, was used in the court of the Roman emperor Thedosius (fourth century AD): vervain (Verbena officinalis) root was cut in half, with one part hung around the patient's neck and the other hung to dry over a smouldering fire. As the vervain dried, the tumor supposedly shriveled. If the patient at any time appeared to be ungrateful for the cure, however, the physician would threaten to throw the root into water, assuring the patient that as the root absorbed moisture, the tumor would return."

It is interesting to note that Gathorny-Hardy (1938) places the genus Verbena in the Labiatae (Lamiaceae).

López-Palacios, in a personal communication to me, says "Aparece citada en el Fifth Summary...: 120 para el Valle del Cauca, pero seguramente debe tratarse de algún ejemplar cultivado".

Walker (1976) cites the following specimens of V. officinalis from the Ryukyu Island Archipelago: Ishigati: Fosberg 37244; Masamune & Mori s.n.; A. Smith 50, 211. Takemoti: Fosberg 37559. Miyako: Fosberg 38169, 38374, 38613. Kurema: Okuhara & Sunagawa 22. Irabu: Okuhara & Sunagawa 81. Okinawa: Field & Lowe 21t, 96e; Moran 5066; Phillips 105; SIRI 5720; E. H. Walker 7557, 8101. Yonaguni: Hatusima 24199. Island undetermined: Wright s.n. He lists the vernacular name, "kuma-tsu-zura" [=very old man, application uncertain].

The Cox, Dunn, & Harmon 391, distributed as V. officinalis, actually is V. abramsi Moldenke, while Bayliss BS.7937 is V. brasiliensis Vell., Cristóbal, Arbo, Marufiak, Marufiak, & Irogoyen 16634 is V. litoralis H.B.K., Contreras 6152 is V. longifolia Mart. & Gal., Contreras 5247 is V. longifolia f. albiflora Moldenke, and Pringle 8534 is V. menthaefolia Benth.

Additional citations: MOROCCO: Lewalle 8334 (Ld). INDOCHINA: Annam: Scholes s.n. [1 July 1943] (W--2630558). MOUNTED CLIPPINGS: E. H. Walker, Fl. Okin. & South. Ryuk. 883--884. 1976 (W).

VERBENA ORCUTTIANA Perry

Additional bibliography: Moldenke, Phytologia 36: 279--280. 1977.

Additional citations: MEXICO: Baja California: R. Moran 13604 (Ld).

VERBENA OVATA Cham.

Additional bibliography: Moldenke, Phytologia 36: 280. 1977.

Additional citations: ARGENTINA: Corrientes: Krapovickas, Cristóbal, Arbo, Marufiak, Marufiak, & Irigoyen 17069 (Ld).

VERBENA PARODII (Covas & Schnack) Moldenke

Additional bibliography: Moldenke, Phytologia 36: 280. 1977.

Richardson reports seeing this plant "itermittently" in Mendoza, Argentina; the corollas on his no. 2015 are said to have been "white" when fresh.

Additional citations: ARGENTINA: Mendoza: Richardson 2015 (Ld, N).

VERBENA PARVULA Hayek

Additional bibliography: López-Palacios, Fl. Venez. Verb. 560, 571--573, 653, & 654, fig. 134. 1977; Moldenke, Biol. Abstr. 64: 4787. 1977; Moldenke, Phytologia 36: 280--281 (1977) and 41: 180. 1979.

Illustrations: López-Palacios, Fl. Venez. Verb. [572], fig. 134. 1977.

Taylor encountered this species in low forests and wet upland pastures, at 1600 meters altitude. López-Palacios (1977) cites the following collections from Venezuela: Mérida: López-Palacios 2525: Ruiz-Terán, López-Figueiras, & López-Palacios 8231. Trujillo: Ruiz-Terán & López-Palacios 2327. He records "verbena" as a vernacular name applied to the plant.

Additional citations: COSTA RICA: Heredia: J. Taylor 17625 (Ld, W--2770932).

VERBENA PARVULA var. GIGAS Moldenke

Additional bibliography: Moldenke, Phytologia 36: 281. 1977.

The corollas are said to have been "blue" on Sagastegui, Fukushima, & Vásquez 6463 and these collectors found the plant in anthesis in April.

Additional citations: PERU: Cajamarca: Segastegui, Fukushima, & Vásquez 6463 (W--2701938).

VERBENA PERENNIS Wooton

Additional bibliography: Moldenke, Phytologia 36: 281--282. 1977.

Recent collectors have found this plant growing in gravelly limestone soil in Yucca-Opuntia-Prosopis grassland communities, as well as in limestone canyons and bluffs, flowering and fruiting in May. The corollas are said to have been "purple" on Powell 3287.

Additional citations: TEXAS: Brewster Co.: A. M. Powell 3287 (Au). Culberson Co.: Marcks & Marcks 1310 (Au); Sikes & Smith 513 (Ld). Pecos Co.: R. McVaugh 7935 (Au--122398); Rowell 11147 (Ld). NEW MEXICO: Chaves Co.: Higgins 10269 (N).

VERBENA xPERRIANA Moldenke

Additional bibliography: Mohlenbrock, Guide Vasc. Fl. Ill. 366. 1975; Moldenke, Phytologia 36: 282. 1977; Mohlenbrock & Ladd, Distrib. Ill. Vasc. Pl. [247] & 276. 1978.

Mohlenbrock (1975) says that in Illinois this hybrid occurs in "Dry soil" in Adams, Cass, Monroe, Wabash, and Woodford counties.

VERBENA PERUVIANA (L.) Britton

Additional synonymy: Verbena chamaedry-folia Palmer & Fowler, Fieldb. Nat. Hist., ed. 2, 286, sphalm. 1975.

Additional bibliography: Darwin, Journ. Res. Voy. Beagle, ed. 2, 40. 1860; Stafford, Ann. Rep. Smithson. Inst. 1916: 414. 1917; Haines, Bot. Bihar & Orissa, ed. 1, 4: 707 (1922) and ed. 2, 2: 742. 1961; Gillanders, Paterson, & Rotherham, Know Your Rock Gard. Pl. 45, 63, & 101. 1973; Mohlenbrock, Guide Vasc. Fl. Ill. 365 & 366. 1975; Palmer & Fowler, Fieldb. Nat. Hist., ed. 2, 286. 1975; Moldenke, Biol. Abstr. 64: 6575. 1977; Moldenke, Phytologia 36: 283--285 & 299. 1977; Speta, Candollea 32: 146 & 155. 1977; Mohlenbrock & Ladd, Distrib. Ill. Vasc. Pl. [247] & 276. 1978; Moldenke, Phytologia 41: 167. 1979.

Mohlenbrock (1975) says that in Illinois this species is "frequently cultivated but rarely escaped; Kane and Kankakee cos."

Additional vernacular names recorded for this species are "scarlet-flower'd vervain", "verbena de jardin", and "verbena extranjera". Speta reports (1977) that "Die Kerne in Zellen der Korolle (Epidermis und Haare) enthalten Stapelquadratischer Plättchen" as in V. canadensis (L.) Britton.

Darwin (1860) observed fields of this plant at Maldonado on the banks of the Río La Plata in the vicinity of Montevideo, Uruguay (July 26) and enthuses: "What would a florist say to whole tracts so thickly covered by the Verbena melindres, as, even at a distance, to appear of the most gaudy scarlet?" One can well imagine his amazement at such a sight of this truly spectacular plant! Fortunately he was not colorblind to red!

Meyer & Vaca report the species "abundant" in Chaco and found it in anthesis in November, the corolla-color being "red".

Additional citations: ARGENTINA: Catamarca: Dillon & Rodriguez 531 (Ld). Chaco: Meyer & Vaca 23286 (N).

VERBENA PHLOGIFLORA Cham.

Additional bibliography: Loud., Hort. Brit., ed. 2, 553. 1832; Moldenke, Biol. Abstr. 64: 6575. 1977; Moldenke, Phytologia 36: 283--285 (1977) and 41: 182. 1979.

Loudon (1832) calls this species "Tweedie's vervain" and asserts that it was introduced into cultivation in England from South America in 1836. The corollas on Gibbs & al. 3416 are said to have been "lilac" when fresh.

Additional citations: BRAZIL: São Paulo: Gibbs, Leitão Filho, Kinoshita, & Andrade 3416 (N, N). PARAGUAY: V. Maruñak 134 (Ld).

VERBENA PINETORUM Moldenke

Additional bibliography: Moldenke, Phytologia 36: 265 (1977) and 41: 171. 1979.

Recent collectors have come upon this species in pinyon pine-oak forests, at 7900 feet altitude, flowering in August. It has been misidentified and distributed in some herbaria as V. halei Small.

Additional citations: MEXICO: Chihuahua: Dunn, Torke, Bennett, & Wieder 22610 (Au, N).

VERBENA PLATENSIS Spreng.

Additional synonymy: ?Verbena albicans Rojas, Cat. Hist. Nat. Corrient. 76, 173, & 206. 1897. ?Lantana albicans Rojas, Cat. Hist. Nat. Corrient. 205. 1987. ?Verbena albiflora Rojas, Cat. Hist. Nat. Corrient. 206, num. nud. 1897.

Additional bibliography: Rojas Acosta, Cat. Hist. Nat. Corrient. 76--77, 173, 205, & 206. 1897; Krapovickas, Bol. Soc. Argent. Bot. 11: Supl. 261 & 269. 1970; Heslop-Harrison, Ind. Kew. Suppl. 15: 142. 1974; Moldenke, Phytologia 30: 132, 150, & 164--165 (1975), 31: 388, 392, & 412 (1975), 34: 270 (1976), and 36: 123 & 286. 1977; López-Palacios, Fl. Venez. Verb. 560 ' 654. 1977.

Rojas Acosta (1897) says of his V. albicans: "140 -- Verbena blanca, verbena albicans (Roj.) Corrientes i otras provincias. Especie parecida a su congénere la verbena negra; anua, ramosa, ascendente, de unos 30 centimetros. Tallo cuadrangular, nodoso, flores de color albado en espigos cilindricas i alargadas, frutos una cuatro ...." Unfortunately, my photographic reproduction of the pages involved are very indistinct and in places virtually undecipherable, but there is some additional description on p. 173. It seems most probable that "Lantana albicans" is a transcription error for Verbena albicans, since the vernacular, "Verbena blanca", is given for both. It seems probable also that Verbena albiflora may likewise belong here. Final disposition of these names depends on an examination of the types, if they can ever be located.

VERBENA PLICATA Greene

Additional bibliography: McGregor & al., Fl. Great Plains 569. 1977; Moldenke, Phytologia 36: 286--287 (1977) and 41: 163. 1979.

McGregor (1977) records this species from Cimarron, Harmon, and Jackson counties, Oklahoma, as well as from Bailey, Childress, Cottle, Hall, and Motley counties, Texas.

The corollas are said to have been "light-blue" on Hutchins 351 & 361, "purple" on Smith & al. 9, "red-purple" on Holmgren & Holmgren 6933, and "light-purple" on Smith & al. 32. Recent collectors describe this plant as from 1--3 feet tall, perennial, "common" or "locally common to frequent along roadsides" or in pastures, at 3300 feet altitude, sometimes in association with Larrea tridentata and Prosopis glandulosa, flowering and fruiting in April.

The Pichon 177, distributed as V. plicata, actually is V. canescens H.B.K., while Crockett 6466 is V. canescens var. roemeriana (Scheele) Perry.

Additional citations: TEXAS: Garza Co.: Hutchins 351 (Ld), 361

(Ld). Hidalgo Co.: Crockett 296a (Ld); Lundell & Lundell 10038 (Ld), 10069 (Ld); R. Runyon 4875 (Au--266159). Kleberg Co.: R. Runyon 4283 (Au--290498). Midland Co.: Lundell & Lundell 10260 (Ld). Pecos Co.: Lundell & Lundell 10204 (Ld). Presidio Co.: York 48164 (Au--122448). Starr Co.: Lundell & Lundell 9788 (Ld). Taylor Co.: T. A. Williams s.n. [May 15, 1900] (Ld). Upton Co.: Lundell & Lundell 10223 (Ld). Uvalde Co.: Smith, Butterwick, Cuba, Turner, & Turner 9 (Ld). Ward Co.: Lundell & Lundell 11381 (Ld); Powell 2158 (Au--296045). Webb Co.: Smith, Butterwick, Cuba, Turner, & Turner 32 (Ld). Zapata Co.: Lundell & Lundell 10109 (Ld). NEW MEXICO: Eddy Co.: Holmgren & Holmgren 6933 (N).

VERBENA PULCHELLA var. CLAVELLATA (Troncoso) Shinners

Additional bibliography: Flook, Sida 5: 169. 1973; Moldenke, Phytologia 24: 49. 1972.

VERBENA PUMILA Rydb.

Additional bibliography: McGregor & al., Fl. Great Plains 281, map 1123. 1977; Moldenke, Phytologia 36: 288 (1977) and 41: 158. 1979.

The Warnock 4600, distributed as V. pumila, actually is V. bracteata Lag. & Rodr.

Additional citations: TEXAS: Bexar Co.: J. Jermy 65 (Ld). Hardeman Co.: Ball 1114 (Ld).

VERBENA QUADRANGULATA Heller

Additional bibliography: Moldenke, Phytologia 36: 288—289. 1977.

Recent collectors refer to this plant as decumbent and found it in flower and fruit in April. The corollas are said to have been "light-purple" on Smith & al. 29.

Additional citations: TEXAS: Webb Co.: Smith, Butterwick, Cuba, Turner, & Turner 29 (Ld).

VERBENA RECTA H.B.K.

Additional bibliography: Moldenke, Phytologia 36: 289—290. 1977.

Additional citations: MEXICO: México: J. Rzedowski 18409 (Ld).

VERBENA RIGIDA Spreng.

Additional bibliography: J. C. & M. Willis, Rev. Cat. Flow. Pl. Ceyl. [Perad. Man. Bot. 2:] 142. 1911; Cleene & De Ley, Bot. Rev. 42: 452. 1976; Lelong, Sida 7: 140. 1977; López-Palacios, Fl. Venez. Verb. 560, 573—575, & 654. 1977; Moldenke, Biol. Abstr. 64: 6575. 1977; Moldenke, Phytologia 36: 283, 290—294, & 307. 1977; W. J. Park, Park Seeds Fls. & Veg. 1978: 90. 1977; K. E.

Rogers, Sida 7: 78. 1977; Anon., Exxon USA 17 (2): 5. 1978; W. J. Park, Park Seed Fls. Veg. 1979: 90. 1978; Moldenke, Phytologia 41: 165. 1979.

Additional illustrations: Anon, Exxon USA 17 (2): 5 [in color]. 1978.

Loudon (1832) reports that this species was introduced into English gardens from Buenos Aires in 1830. Rogers (1977) reports it "Local in dry open places. Introduced" in Forrest and Perry Counties, Mississippi, and Lelong (1977) reports it "Infrequent on roadsides, waste places" in Mobile County, Alabama. Cleene & De Ley (1976) report that it is susceptible to crown-gall disease caused by Agrobacterium tumefaciens. The corollas on Vasconcelos Neto 3241 are said to have been "roxas" when fresh, while on Correll & Correll 38740 and Proctor 23557 they were "bright-purple", on Correll & Correll 38438 "dark bright-purple", and on Hatschbach 40391 "violet".

Walker (1976) records the vernacular name, "bijo-zakura" [meaning a beautiful woman, applied also to the flowering-cherries]. He cites Amano 5828 and SIRI 5976 from Okinawa. López-Palacios (1977) cites only López-Palacios 2891 from Federal District, Venezuela, but comments "Citada como cultivada por Knuth, Initia Fl. Venez. 599. 1928, y por Badillo in Pittier et al. Cat. Fl. Venez. 2: 331. 1947." He lists "Virginia" as a vernacular name.

Amazingly, material of V. rigida has been misidentified and distributed in some herbaria as Glandularia dissecta (Willd.) Schnack & Covas.

Additional citations: SOUTH CAROLINA: Richland Co.: Logue 976 (Ld). LOUISIANA: East Baton Rouge Par.: Blackwood 60 (Ld); Crockett 8661 (Ld). TEXAS: Fayette Co.: Crockett 8633 (Ld). Fort Bend Co.: Correll & Correll 38439 (Au--284197, Ld). Hardin Co.: Crockett 354 (Ld). Harris Co.: Taylor & Taylor 9919 (Ac, Ld). Jefferson Co.: Crockett 6924 (Ld), 8306 (Ld). Shelby Co.: Correll & Correll 38740 (Ld); Lundell & Lundell 10502 (Ld). JAMAICA: Crosby, Hespenheide, & Anderson 427 (Ld); Proctor 23557 (Ld). BRAZIL: Paraná: Hatschbach 40391 (N). São Paulo: Vasconcelos Neto 3241 (N). MOUNTED CLIPPINGS: E. H. Walker, Fl. Okin. & South. Ryuk. 884. 1976 (W).

VERBENA RIGIDA f. LILACINA (Benary & Bodger) Moldenke, Phytologia 37: 27. 1977.

Additional bibliography: Moldenke, Phytologia 36: 293 (1977) and 37: 275. 1977; W. J. Park, Park Seeds Fls. & Veg. 1978: 90. 1977.

Park (1977) offers this color form, described as having "lavender flowers", to the horticultural trade under the name, "hardy Verbena venosa".

VERBENA RUFIFLORA Rojas

Additional bibliography: Moldenke, Phytologia 36: 295. 1977.

Rojas Acosta (1897) calls this plant "margarita roja".

[to be continued]