

SUPPLEMENTARY NOTES ON THE ERIOCAULACEAE, AVICENNIACEAE, AND
VERBENACEAE OF TEXAS. II

Harold N. Moldenke

Since the publication of my discussion of these three families in Lundell's "Flora of Texas", volume 3, part 1, pages 1--87 (1942) and the first in my series of supplementary notes thereto in *Phytologia* 2: 123--128 (1945) nine hundred and sixty-three additional Texan specimens have been examined. These additional specimens have yielded several scores of new county records and even three new species and varieties for the state. This new material has come to me from thirty-three herbaria, the abbreviations for which as employed hereinafter are as follows: Al = New York State Museum, Albany, New York; Au = University of Texas, Austin, Texas; Br = Jardin Botanique de l'Etat, Brussels, Belgium; Bt = Butler University, Indianapolis, Indiana; Cm = Carnegie Museum, Pittsburgh, Pennsylvania; Cn = University of Cincinnati, Cincinnati, Ohio; Du = Dudley Herbarium, Leland Stanford University, California; Fc = Colorado Agricultural & Mechanical College, Fort Collins, Colorado; Ga = Georgia Agricultural Experiment Station, Experiment, Georgia; Go = Botaniska Trädgård, Göteborg, Sweden; H = Duke University, Durham, North Carolina; Hp = H. Hapeman herbarium, Minden, Nebraska; Hs = Crispus Attucks High School, Indianapolis, Indiana; I = Langlois Herbarium, Catholic University of America, Washington; It = Cornell University, Ithaca, New York; Ka = Kansas State College, Manhattan, Kansas; Kr = B. A. Krukoff herbarium, New York Botanical Garden, New York City; Ky = University of Kentucky, Lexington, Kentucky; La = University of California at Los Angeles, Los Angeles, California; Ll = Lloyd Library, Cincinnati, Ohio; Me = Instituto de Biología, Universidad Nacional de México, Mexico City; Ml = Instituto Miguel Lillo, Tucumán, Argentina; N = Britton Herbarium, New York Botanical Garden, New York City; Ok = University of Oklahoma, Norman, Oklahoma; Pl = State College of Washington, Pullman, Washington; Po = Pomona College, Claremont, California; Pr = Princeton University herbarium, New York Botanical Garden, New York City; Se = University of Washington, Seattle, Washington; St = Oklahoma Agricultural & Mechanical College, Stillwater, Oklahoma; Up = University of Pennsylvania, Philadelphia, Pennsylvania; Vt = University of Vermont, Burlington, Vermont; W = United States National Herbarium, Smithsonian Institution, Washington; and We = West Virginia University, Morgantown, West Virginia. I am deeply grateful to the directors and curators of these herb-

aria for permitting me to examine and annotate this material.

ERIOCAULON COMPRESSUM Lam.

Hardin Co.: E. J. Palmer 9563 (Du); Tharp s.n. [July 20, 1929] (Au). Jefferson Co.: Hooks s.n. [Beaumont, 5/3/1930] (Au, N), s.n. [Beaumont, 5/30/34] (Au).

ERIOCAULON DECANGULARE L.

Anderson Co.: LeSueur & Smith s.n. [7/7/35] (Au, N), s.n. [7/7/38] (Au). Austin Co.: Tharp 44347 (N), 44348a (N), s.n. [6/28/42] (Al, Au). Freestone Co.: G. W. Goldsmith s.n. [6/15/41] (Au, Au). Hardin Co.: Tharp s.n. [July 20, 1929] (Au, Au), s.n. [7-21-42] (Au). Henderson Co.: Tharp 2880 (Au). Jasper Co.: G. L. Fisher 32101 (Au, Au). Jefferson Co.: Mrs. Smith s.n. [Beaumont, July '15] (Au). Newton Co.: Tharp 44342 (Au, N). Robertson Co.: F. A. Barkley 1340 (Al), 13034 (N). Rusk Co.: Vinzent 47 (Br). Smith Co.: J. Reverchon 2766 (Po), 4359a (Po). Tyler Co.: Tharp 44345 (Au, N). Waller Co.: E. Hall 675 (Po).

ERIOCAULON KÖRNICKIANUM Van Heurck & Müll.-Arg.

Polk Co.: Tharp 42-6 (N), 42-7 (N).

ERIOCAULON TEXENSE Körn.

Austin Co.: Tharp s.n. [5/4/40] (Au); Warnock 224 (N). Leon Co.: F. A. Barkley 13556 (N). Milam Co.: Tharp 4434c (Au, N), 44344 (N), 44344b (N). Robertson Co.: F. A. Barkley 13543 (N); Painter & Barkley 13540 (N).

LACHNOCAULON ANCEPS (Walt.) Morong

Jasper Co.: Whitehouse s.n. [6/10/1931] (Au, Au, N). Jefferson Co.: Hooks s.n. [5/30/34] (Au), s.n. [6/7/36] (Au). Newton Co.: Tharp 44346 (Au, N). Tyler Co.: Tharp 44343 (Au, N).

AVICENNIA NITIDA Jacq.

An additional vernacular name for the species from Texas is "mangle negro", recorded by Runyon.

Cameron Co.: Parks 1724 (Au); R. Runyon 4031 (Au). Nueces Co.: Tharp s.n. [July 2, 1939] (Au).

ALOYSIA LIGUSTRINA (Lag.) Small

Bexar Co.: G. L. Fisher s.n. [San Antonio, July 11, 1921] (Hp, Vt); Headley s.n. [April 15, 1907] (I); Metz 62 (Hp, I, Se), 65 (I), s.n. [October 23, 1933] (I); H. B. Parks 2524 (Au). Brewster Co.: C. H. Mueller s.n. [July 12, 1932] (Au); L. T. Murray s.n. [Garden Springs, May 21, 1928] (It); Nelson & Nelson 5108 (Au); Warnock 66, in part (Au), 20675 (Au), 20689 (Au), W.288 (Au). Cameron Co.: R. Runyon s.n. [Browns-

ville, 1930] (Hp). Comal Co.: Lindheimer 275 (Ka), 1070 (Br, Me, Me, Me, Me). Concho Co.: J. Reverchon s.n. [Curtiss 1965*] (I, Vt). Culberson Co.: U. T. Waterfall 4629 (N), 5091 (Au, N), 5458 (N). Dallas Co.: J. Reverchon s.n. [Aug. 1877] (Vt). Frio Co.: Griffen & Barkley 13909 (Au). Hidalgo Co.: Clover 10, in part (I, Me). Hudspeth Co.: U. T. Waterfall 4963 (N). Jeff Davis Co.: F. A. Barkley 141837 (Au); Tracy & Earle 184 (Cm). Kleberg Co.: J. F. Sinclair s.n. [Kingsville, Spring, 1940] (Au). La Salle Co.: Mauermann 2 (Au), 21 (Au). Llano Co.: Tharp s.n. [8-17-40] (Pl). Mason Co.: Nelson & Nelson 5195 (Au). Mitchell Co.: Tracy 8308 (Cm). Pecos Co.: Tharp 43-794 (Al, Au). Presidio Co.: Hitchcock & Stanford 6811 (Pl, Po, Se); M. S. Young s.n. [Sept. 7, 1914] (Se). Travis Co.: C. C. Albers 32018 (Au); F. A. Barkley 13432 (Au); Letterman 390 (Ka), s.n. [Austin, July, 1882] (Al); R. H. Painter 29 (Ka); Tharp s.n. [Austin, 7/25/41] (Pl, Se). Val Verde Co.: W. H. Rhoades s.n. [Delrio, Aug. 1932] (Hs). County undetermined: A. S. Hitchcock s.n. (Ka); Lindheimer 502 (Br, Ka).

ALOYSIA LIGUSTRINA var. SCHULZII (Standl.) Moldenke

Brewster Co.: Warnock 66, in part (Au). Hidalgo Co.: Clover 10, in part (Me). Pecos Co.: Hinckley s.n. [June 30, 1941] (Au); Tharp 43-793 (Au). Val Verde Co.: Cory 39092 (Au); G. L. Fisher 32233 (Po); Munz 1446 (Po).

ALOYSIA MACROSTACHYA (Torr.) Moldenke

Hidalgo Co.: Clover 1075 (I); Mrs. E. J. Walker 20 (Au, Au); T. R. Walker s.n. [summer, 1938] (Au). Live Oak Co.: Owens 1717 (Au); H. B. Parks 2043 (Au).

ALOYSIA WRIGHTII (A. Gray) Heller

Brewster Co.: Warnock 308 (Au, Au), 308b (Au), 20051 (Au), 20438 (Au), 21272 (Au). El Paso Co.: Shiner 40171 (Au). Jeff Davis Co.: M. S. Young s.n. [Davis Mts., Aug. 11, '14] (Se). Pecos Co.: Tharp 43-795 (Au), 253 (H). Presidio Co.: Hinckley s.n. [July 8, 1941] (Au).

BOUCHEA SPATHULATA Torr.

Brewster Co.: H. C. Hanson 718 (Ka); Moore & Steyermark 3446 (Du).

CALLICARPA AMERICANA L.

Aransas Co.: Cory 45742 (Au). Bexar Co.: A. A. Heller 1832 (Se); Metz 273 (Se). Comal Co.: Lindheimer 297 (Ka), 1067 (Me, Me, Me). De Witt Co.: M. Riedel s.n. [6-3-42] (Au). Fayette Co.: Forshey s.n. [Rutersville, 1857] (Ka). Gregg Co.: C. L. York s.n. [Fall, 1937] (Au). Nacogdoches Co.: Crausley s.n. [July 18, 1944] (Au). Polk Co.: Girvin

101 (Au). Robertson Co.: F. A. Barkley 13590 (Au). Travis Co.: McKee & Wesley 3860 (Au); R. H. Painter s.n. [Austin, 8/6/23] (Ka); Ripperton & Barkley 14524 (Au); Tharp 44416 (Au), s.n. [Austin, 7-21-40] (Pl, Se); York & Wolf 46 (Au). Trinity Co.: Goodrum s.n. [June, 1936] (Au). Washington Co.: C. C. Albers 32022 (Au); Brackett 253 (Au), s.n. [7/1/39] (Au). Victoria Co.: Ferris & Duncan 3258 (Du).

CALICARPA AMERICANA var. LACTEA F. J. Muller

Chambers Co.: G. L. Fisher s.n. [Anahuac, Sept. 18, 1931] (Du).

CITHAREXYLUM BERLANDIERI B. L. Robinson

Cameron Co.: Clover 1237 (Du); Ferris & Duncan 3051 (Du); G. L. Fisher 41195 (Hp); Owens & Parks R.1713 (Au), R.1714 (Au); I. Shiller 659 (Au); Tharp 1852 (N). Willacy Co.: Tharp 1227 (N), 1249 (N).

CLERODENDRUM FRAGRANS var. PLENIFLORUM Schau.

Gonzalez Co. (cultivated): Cory 29602 (Au).

CLERODENDRUM INDICUM (L.) Kuntze

Cultivated: Drushel, Tharp, & Barkley 13A163 (Au).

LANTANA CAMARA L.

Travis Co.: Warnock 11 (Au).

LANTANA CAMARA var. MISTA (L.) L. H. Bailey

Travis Co.: J. L. White 4732 (Au).

LANTANA HORRIDA H.B.K.

Aransas Co.: Cory 45381 (Au), 45740 (Au). Bexar Co.: Metz 57 (Se); H. B. Parks 15596 (Kr). Cameron Co.: R. Runyon s.n. [Brownsville, 1930] (Hp). Comal Co.: Lindheimer 334 (Ka), 1068 (Me, Me, Me). De Witt Co.: M. Riedel s.n. [7-27-41] (Au). Gonzales Co.: F. A. Barkley 13882 (Au); Tharp s.n. [Ottine, 5/1/35] (St). Harris Co.: G. L. Fisher s.n. [Houston, May 16, 1916] (Hp). Hays Co.: Heald & Wolf 911 (Au); Straudtmann s.n. [San Marcos, Apr. 23, 1937] (Au). Hidalgo Co.: Walker & George 133 (Au). Medina Co.: Tharp s.n. [Devine] (Au). Nueces Co.: A. A. Heller 1386 (Pl). Travis Co.: C. C. Albers 32017 (Au); Harpin, Waldorf, & Barkley 13076 (Au); R. H. Painter 85 (Ka); Tharp 44155 (Au), s.n. [Austin, 5/9/35] (St). Victoria Co.: P. O. Schallert 555, in part (H). Washington Co.: C. C. Albers 34012 (Au); Brackett s.n. [July 1938] (Au). Willacy Co.: Tharp 1197 (Au). County undetermined: Nealley s.n. [s.w. Texas, 1888] (Fc).

LANTANA MACROPODA Torr.

Mr. V. L. Cory offers the following valuable corrections to my key to the Texan species of Lantana: "No. 35922 is Lantana macropoda Torr. to me is correct; but from your key in FLORA OF TEXAS I would not place it there. In that key the separation from L. citrosa is unsatisfactory so far as our material is concerned. 'Leaf-blades sharply serrate' is not true for the material of 35922, and it might stretch it some to be considered true for the material from Starr County (No. 35934), although there is a point to the teeth here and this is lacking in the material from Zapata County and on up the Rio Grande. I have written in my book this correction of your key 'leaf-blades broadly crenate to serrate'. Now as to L. citrosa (No. 36729), the 'Leaf-blades finely crenate or subentire' to me also is misleading, for the leaves here to me are more nearly serrate than they are in L. macropoda. However, there are other differences in the leaves of these two species that would not be misleading."

Brewster Co.: C. H. Muller 32016 (Au), s.n. [Chisos Mts., 7-17-32] (Au); Warnock 253 (Au), 831, in part (Au), s.n. [May 2, 1937] (Au, Au). Cameron Co.: Small & Wherry 11841 (Ml). Duval Co.: F. A. Barkley 13889 (Au). Hidalgo Co.: M. L. Walker 105 (Au). Kinney Co.: H. B. Parks PX.002 (Au). Presidio Co.: Hinckley 1502 (Au, N). Reeves Co.: Tharp 8852 (N). Starr Co.: Clover 1395 (I). Val Verde Co.: Cory 38096 (Au), 39745 (Au); G. L. Fisher s.n. [Davila River, July 14, 1927] (Hp); M. E. Jones 26218 (I); Rose-Innes & Moon 1292 (Au); Rose-Innes & Warnock 602 (Au).

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

A. D. J. Meeuse in "Blumea", vol. 5, pp. 68--69 (1942) claims that the correct name for this plant is L. javanica (Burm. f.) Spreng. However, until I am able to examine the type specimen and complete certain bibliographic inquiries I am reserving judgment and am continuing to use Brown's name.

Cameron Co.: A. M. Davis s.n. [Palm Grove, Sept. '41] (Au); G. L. Fisher s.n. [Brownsville, Aug. 16, 1924] (Hp), s.n. [Apr. 20, 1941] (Au, Au); R. Runyon 228 (N), s.n. [Brownsville, 1930] (Hp). Hidalgo Co.: M. L. Walker 34 (Au)

LIPPIA GRAVEOLENS H.B.K.

The species is said by Hanson to frequent canyons.

Brewster Co.: H. C. Hanson 709 (Ka); Warnock 831, in part (Au). Cameron Co.: Nealley s.n. [Pt. Isabel, 1891] (Au). Hidalgo Co.: I. Shiller 736 (Au); Mrs. E. J. Walker 22 (Au), s.n. [Rio Grande Valley, Feb. 2, 1942] (Au); M. L. Walker 104 (Au). Maverick Co.: Pringle 9034 (Me, Me, Me, Vt). Starr Co.: Clover 1676 (I). Val Verde Co.: G. L. Fisher s.n. [Langtry, July 18, 1922] (Hp, Vt).

PHYLA CUNEIFOLIA (Torr.) Greene

Mr. V. L. Cory has sent me valuable corrections to my key to the members of this very complex group in Texas, for which corrections as well as all his other helpfulness I am deeply grateful. He says "In your key to the genus Phyla I find that your key as it applies to our species P. cuneifolia and P. incisa is misleading. All of our material according to this would be referred to P. incisa, whereas three-fourths or more of it is really P. cuneifolia. However, I found that the New Mexico material of P. cuneifolia really does have the shorter peduncles. As far as we are concerned, if the separation was made on the bracts particularly then one could not go wrong in following the key. This would make the key foolproof."

Brewster Co.: Warnock 20736 (Au), 20737 (Au), 21204 (Au), 21277 (Au), s.n. [July 23, 1940] (Au). Crockett Co.: Cory 37357 (Au), 39334 (Au). Culberson Co.: U. T. Waterfall 4685 (N). Howard Co.: Tracy 7998 (Cm). Midland Co.: Cory 40613 (Au). Olgham Co.: M. W. Howard 25 (Au). Potter Co.: G. J. Goodman 3052 (Se). Reagan Co.: Cory 12540 (Au). Scurry Co.: Tharp s.n. [7/9/41] (Au, N). Taylor Co.: Tolstead 7547 [Herb. Texas Agr. Exp. Sta. 42543] (Au).

PHYLA INCISA Small

Bell Co.: Cohn T.21 (Au); L. McLean s.n. [Temple, 8-30-34] (St); J. F. Normand s.n. [1928] (N, N). Bexar Co.: Metz 9 (I), 88 (I, I), 159 (I), s.n. [Aug. 10, 1931] (Se). Brazos Co.: Chenault s.n. [May 15, 1937] (Au). Brewster Co.: Warnock 20435 (Au), 20676 (Au), 20741 (Au). Brooks Co.: Tharp s.n. [6/26/41] (Au). Cameron Co.: A. M. Davis s.n. [Palm Grove, Sept. '41] (Au). Comal Co.: Lindheimer 262 (Ka), 288 (Ka), 1069 (Me, Me), 1071 (Me, Me). Dallas Co.: M. A. Hynes s.n. [Dallas, 6/2/26] (Au). El Paso Co.: Cory 45055 (Au); F. W. Johnson 1707 (Go). Fayette Co.: E. W. Crawford s.n. [Colony, June, 1892] (Ka). Galveston Co.: G. L. Fisher s.n. [Galveston, Aug. 31, 1919] (H). Galveston or Harris Co.: E. C. Smith s.n. [between Houston and Galveston, 5-2-1942] (Fc). Grayson Co.: Schleuse 36008 (Au). Gregg Co.: C. L. York s.n. [9-2-39] (Au), s.n. [Aug. 28, 1941] (Au). Harris Co.: G. L. Fisher s.n. [Houston, May 4, 1918] (Vt). Hudspeth Co.: U. T. Waterfall 4589 (N, Pl). Jackson Co.: Tharp s.n. [Aug. 28, 1941] (Au, N), s.n. [Sept. 3, 1941] (Au, Au, N). Kerr Co.: A. A. Heller 1920 (Se). Kleberg Co.: J. F. Sinclair s.n. [Kingsville, Spring 1940] (Au). Nueces Co.: A. A. Heller 1806 (N--isotype, Pl--isotype, Se--isotype). Presidio Co.: Hinckley s.n. [San Esteban Lake] (Au), s.n. [Marfa, July, 1936] (Au). Reeves Co.: U. T. Waterfall 4361 (N), 4372 (N). Refugio Co.: Tharp s.n. [Austwell, 9-7-1929] (Au, Pl). Robertson Co.: F. A. Barkley 13003 (Au). Tarrant Co.: Let-

terman 391 (Ka); Ruth 91 (Ll), 106 (Cm, La). Taylor Co.: Tolstead 7550 [Herb. Texas Agr. Exp. Sta. 42551] (Au, Au). Tom Green Co.: Cory 39600 (Au). Travis Co.: Cohn & Barkley 13193 (Au), 13245 (Au); A. M. Ferguson s.n. [Waller Creek] (Au); E. Hall 436 (Pr); Heald & Wolf s.n. [Austin, 4-30-09] (Au); Straudtmann s.n. [July 17, 1940] (Au); Tharp 44138 (Au), 44188 (Au), s.n. [Austin, 5-15-35] (St), s.n. [Austin, 5/10/38] (Pl), s.n. [7-18-41] (Au, Au, N), s.n. [August, 1941] (Au); Waldorf 19 (Au). Victoria Co.: P. O. Schallert 550 (H). Washington Co.: C. C. Albers 33022 (Au); Brackett 20 (Au), 253 (N), s.n. [Apr. 30, 1939] (Au). County undetermined: Lindheimer s.n. (Ka).

PHYLA LANCEOLATA (Michx.) Greene

Lundell reports the corolla as white with an orange-yellow eye or pink with a rose eye.

Anderson Co.: F. A. Barkley 13586 (Au). Austin Co.: Tharp s.n. [6/28/42] (Au). Dallas Co.: C. L. Lundell 11656 [Plant. Exsicc. Gray. 1276] (Al, Au, H, I, Ka, N, Pl, St, We). Gonzales Co.: Straudtmann s.n. [Aug. 12, 1940] (Au); Tharp 44182 (Au), s.n. [8-10-40] (Pl). Harris Co.: Boon 53 (Au). Jackson Co.: Tharp s.n. [Aug. 27, 1941] (Au, N). Lubbock Co.: E. L. Reed 3827 (I).

PHYLA NODIFLORA (L.) Greene

Aransas Co.: Cory 45739 (Au). Galveston Co.: H. Hapeman s.n. [Galveston, May 10, '94] (Hp); Tharp s.n. [5-1-37] (Pl). Harris or Jefferson Co.: Crockett 7002 [between Beaumont and Houston] (Au). Kerr Co.: H. R. Reed 45998 (Au). Nueces Co.: C. C. Albers 32021 (Au).

PHYLA NODIFLORA var. REPTANS (H.B.K.) Moldenke

The following collections previously reported and cited by me as this variety are actually P. incisa Small: M. A. Hynes s.n. [Dallas, 6/2/26], E. Beck 58, Hinckley s.n. [Marfa, July, 1936], s.n. [San Esteban Lake], and Tharp s.n. [Austwell, 9-7-1929]. The following collections previously cited by me as P. nodiflora var. reptans are actually P. yucatana Moldenke: Cory 28215, Mrs. P. Cottrell s.n. [San Benito, Feb.-Apr. 1931], Ferris & Duncan 3091, H. C. Hanson 508, Lundell & Lundell 10013, R. Runyon 350, 2688, s.n. [Harlington, May 11, 1941], Small & Wherry 11892, Seventh Grade Brownsville s.n. [Brownsville, April 1934], and Tharp 1203. The following collections previously cited by me as P. nodiflora var. reptans are actually P. yucatana var. parvifolia Moldenke: Clover 119, Berlandier 867, 2287, and Lundell & Lundell 9922.

Cameron Co.: R. Runyon s.n. [Brownsville, 1930] (Hp). Chambers Co.: Tharp s.n. [4--7/10/36] (N). Comanche Co.:

Lindheimer 1071 (Me, Me). Edwards Co.: Cory 37901 (Au). Tom Green Co.: Cory 39321 (Au), 42826 (Au). Travis Co.: C. C. Albers 32030 (Au); Armer 5532 (Au); Tharp s.n. [7/10/39] (N). Uvalde Co.: Cory 38212 (Au), 39428 (Au), 44511 (Au). Wichita Co.: Tharp s.n. [5-28-22] (N).

PHYLA YUCATANA Moldenke

Cameron Co.: Mrs. P. Cottrell s.n. [San Benito, Feb.-Apr. 1931] (Au); A. M. Davis s.n. [Palm Grove, Sept. '41] (Au); Ferris & Duncan 3091 (N); H. C. Hanson 508 (N); Lundell & Lundell 10013 (N); R. Runyon 350 (Au, N), 2688 (N), s.n. [Harlington, May 11, 1941] (N); Seventh Grade Brownsville s.n. [Brownsville, April 1934] (Au, N); Small & Wherry 11892 (N); Tharp 1203 (Au, N). Hidalgo Co.: Cory 28215 (N); Mrs. E. J. Walker s.n. [La Joya, April 1942] (Au); M. L. Walker 107 (Au).

PHYLA YUCATANA var. PARVIFOLIA Moldenke

Hidalgo Co.: Clover 119 (N). Presidio Co.: U. T. Waterfall 4782 (N). Starr Co.: Lundell & Lundell 9922 (N). County undetermined: Berlandier 867 (T), 2287 (C).

PRIVA LAPPULACEA (L.) Pers.

Mr. L. I. Davis reports that this species "is fairly common in certain parts of Hidalgo County."

Cameron Co.: Cory 36620 (Au); A. M. Davis s.n. [Palm Grove, Sept. '41] (Au).

TETRACLEA COULTERI var. ANGUSTIFOLIA (Woot. & Standl.) A. Nels. & Macbr.

Culberson Co.: U. T. Waterfall 3765 (N), 4457 (N).

VERBENA AMBROSIFOLIA Rydb.

Brewster Co.: Cory 44804 (Au); Rose-Innes & Moon 1172 (Au); Warnock 20121 (Au), 20921 (Au), T.66, in part (Au), W.283, in part (Au). Culberson Co.: U. T. Waterfall 4458 (N, Pl). Hudspeth Co.: Tharp 43-798 (Au); U. T. Waterfall 4895 (N). Jeff Davis Co.: Cory 40365 (Au); Warnock 21676 (Au); U. T. Waterfall 4722 (N). Pecos Co.: Tharp 43-796 (Al, Au), 43-797 (Au).

VERBENA BIPINNATIFIDA Nutt.

Baylor Co.: Bridge s.n. [near Seymour, 6/16] (Cn). Bexar Co.: Barkley & Parsons 1 (Au); Lindheimer 10 (Ka); Metz 79 (I, Se). Brewster Co.: Warnock W.284 (Au). Burnet Co.: C. C. Albers 38003 (Au, Au); Warnock W.1096 (Au). Caldwell Co.: Straudtmann s.n. [Dec. 30, 1936] (Au). Comal Co.: W. H. Kellogg 8 (Au); Lindheimer 1072 (Me, Me, Me), 1973 (Me, Me, Me). Culberson Co.: Hitchcock & Stanford 6782 (Po). Dallas Co.:

E. Brainerd s.n. [Dallas, March 28, 1908] (Vt); Lundell & Lundell 11315 [Plant. Exsicc. Gray. 1275] (Al, Au, H, I, Ka, N, Fl, St, We); Reverchon s.n. [Curtiss 1962*] (Cm, I, Vt). DeWitt Co.: M. Riedel s.n. [7-18-41] (Au). Eastland Co.: Hodge Oak School 18 (Au). Ellis Co.: Cory 39243 (Au). Fannin Co.: McCart 2032 (Au). Gillespie Co.: G. Jermy 182 (Ka); Mainland & Barkley 14522 (Au). Gonzales Co.: C. C. Albers 35006 (Au). Grayson Co.: C. S. Sheldon s.n. [Denison, June 13, 1891] (Al). Harris Co.: E. Hall 435, in part (Pr). Kimble Co.: Straudtmann s.n. [Aug. 19, 1941] (Au). La Salle Co.: Mauermann 12 (Au). Lynn Co.: Rose-Innes & Moon 1052 (Au). Nueces Co.: Tharp s.n. [11-9-39] (Au). Parker Co.: Tracy 7999 (Cm, Vt). Sutton Co.: Cory 39625 (Au). Tarrant Co.: F. C. Gates 19134 (Ka); H. Hapeman s.n. [Fort Worth, May '94] (Hp); Ruth 92 (Ll), 107 (Cm, Ka), s.n. [Fort Worth, June 19, 1909] (Po). Taylor Co.: Tolstead 6927 (Au); Tracy 8000 (Cm). Travis Co.: C. C. Albers 33021 (Au), 34011 (Au, Au, Au); Birge 2957 (Au); Cohn & Barkley 13252 (Au); Herb. Hort. Bot. Gothenb. s.n. [Austin, June 6, 1903] (Go); R. H. Painter 6 (Ka); R. B. Payton 41 (Au); Ripperton & Barkley 14542a (Au, N); Smith s.n. [Austin, 5/1/1935] (St); Straudtmann s.n. [July 17, 1940] (Au); Tharp 44090 (Au), s.n. [Austin, 4/12/35] (St), s.n. [Austin, 5/9/35] (St); Tharp & Warnock 46084 (Au); Thompson & Hamilton 3451 (Se); Warnock 107 (Au), 46033 (Au); H. H. York s.n. [3-18-08] (Au); York & Wolf s.n. [Sept. 29, '08] (Au). Washington Co.: Brackett 253 (Au), s.n. [Apr. 1928] (Au, Au). County undetermined: Capt. Bolton s.n. [April, 1895] (Ka); Lindheimer 232 (Ka).

VERBENA BONARIENSIS L.

Galveston Co.: Mrs. A. F. Nelson s.n. [5-5-42] (Au). Harris Co.: Boon 60 (Au); G. L. Fisher 34094 (Au). Tyler Co.: C. C. Albers 39011 (Au).

VERBENA BRACTEATA Lag. & Rodr.

Collin Co.: Timmons 743 (Au). Culberson Co.: Tharp 43253 (Au, N). Dallas Co.: F. C. Gates 20972 (Ka). El Paso Co.: Fringle s.n. [El Paso, 11 June 1885] (Vt). Garza Co.: Tharp s.n. [7/9/41] (Au, N). Hunt Co.: Legget s.n. [Loneoak, 7/15/1927] (Au); Tharp 2929 (Au). Lubbock Co.: Demaree 7562 (H). Tarrant Co.: Ruth 109 (Cm, Ka). Taylor Co.: Tracy 8001 (Cm, Vt).

VERBENA CAMERONENSIS L. I. Davis

Cameron Co.: L. I. Davis s.n. [Southmost, Spring '41] (Au), s.n. [Southmost, March 22, 1942] (Ml); Ecology Class Univ. Texas s.n. [3.1.30] (Au); G. L. Fisher 41031 (Au).

VERBENA CANADENSIS (L.) Britton

Chambers Co.: Tharp 36006 (Au). Galveston Co.: Mrs. A. F. Nelson s.n. [3-20-42] (Au). Gregg Co.: C. L. York s.n. [3-20-38] (Au, Au). Harris Co.: G. L. Fisher s.n. [Houston, Apr. 3, 1913] (H, Hp), s.n. [Houston, Apr. 22, 1923] (Hp), s.n. [Spring, May 4, 1924] (H), s.n. [Mar. 17, 1930] (I); E. Hall 435, in part (Fr). Newton Co.: C. C. Albers 39009 (Au). Polk Co.: Girvin 2000 (Au), s.n. [March 15, 1940] (Au); Rose-Innes & Warnock 765 (Au); Tharp s.n. [3/15/41] (Au, Au).

VERBENA CANESCENS var. ROEMERIANA (Scheele) Perry

Bee Co.: J. S. Williams 39378 (Au). Bexar Co.: Metz 76 [Aug. 21] (I), 76 [Aug. 24] (I), 881 (I); Texas Agr. Exp. Sta. Herb. Exchange 3496 (Hp). Brewster Co.: Tharp s.n. [6/19/31] (N), s.n. [10/9/36] (Pl); Warnock s.n. [May 3, 1937] (Au). Brooks Co.: Perkins & Hall 2637, in part (Po). Brown Co.: Reverchon s.n. [Curtiss 1961] (Cm, Ka). Comal Co.: C. C. Albers 38004 (Au); Lindheimer 294 (Ka), 1074 (Me, Me). Hidalgo Co.: Mrs. E. J. Walker 30 (Au, N), 34 (Au, Au), 49 (Au, Au), s.n. [Feb. 9, 1942] (Au, Au, N); M. L. Walker 66 (Au). Fecos Co.: Tharp 43-800, in part (Au). Starr Co.: Ecology Class Univ. Texas s.n. [2.28.30] (Au). Travis Co.: C. C. Albers 32016 (Au), 34009 (Au); Cohn & Barkley 15148 (Au); R. H. Painter 249 (Au), 392 (Ky); Tharp 44099 (Au), s.n. [7-18-40] (Au, Au), s.n. [7-19-40] (Au); Warnock 86 (Au); M. S. Young s.n. [10/10/13] (Au), s.n. [4/29/14] (Au), s.n. [4/1/18] (Au), s.n. [4/5/18] (Au). Williamson Co.: Bodin s.n. [Georgetown, Dec. 22, 1889] (Ka); Wolcott 117 (Au).

VERBENA CILIATA Benth.

The following notes from my friend, V. L. Cory, are of particular interest. In speaking of his no. 35568, named by me as V. ciliata, he says: "This is the white-flowered verbenena growing in the Ft. Stockton, Sanderson, and Marathon country, and which has been determined before for me as V. pumila (to which I objected) and as V. racemosa. Of the three I favor V. ciliata. In the FLORA OF TEXAS I note that you do not give this plant as having a white corolla -- almost everything but white; whereas our plant almost always has a white corolla. In age there is a suggestion of purplish coloration. This species grows in abundance in highly calcareous soils, is of prostrate growth, and usually makes rather a limited growth. It may have a connection with V. racemosa or with V. ciliata, if it is not V. ciliata itself. This number was of one plant only and was from a draw about two miles west of the Glass Mountains."

Brewster Co.: Warnock T.66, in part (Au), W.625 (Au). Cameron Co.: R. Runyon s.n. [Brownsville, 1930] (Hp).

VERBENA CILIATA var. LONGIDENTATA Perry

Bexar Co.: Barkley & Parsons 8 (Au). Cameron Co.: L. I. Davis s.n. [Palm Grove, Summer '41] (Au). Nueces Co.: A. A. Heller 1385, in part (N, Pl, Se); Tharp s.n. [11-9-32] (St).

VERBENA CILIATA var. PUBERA (Greene) Perry

Jeff Davis Co.: Tracy & Earle 162 (Cm--isotype, Vt--isotype).

VERBENA CLOVERI Moldenke

Mr. L. I. Davis, to whom we are indebted for so much of our accurate field knowledge of members of this genus, reports that V. Cloveri is found in Kennedy County. He also states that "our friend Thelma Walker doubts that a lavender flowered V. Cloveri could be considered a valid variety since she says all of the flowers are slightly on the lavender side of blue and she thinks every shade of intergrade is found. She has a much better chance to study that species... as her farm is literally covered with the plants in the spring."

Brooks Co.: Painter & Barkley 14315 (Au). Frio Co.: Painter, Lucas, & Barkley 14230 (Au). Kleberg Co.: J. F. Sinclair s.n. [Kingsville, Spring, 1940] (Au).

VERBENA DELTICOLA Small

The Ecology Class Univ. Texas s.n. [3.1.30] cited by me in the "Flora of Texas" as this species is actually V. cameronensis. I am deeply grateful to Mr. L. I. Davis for pointing out to me this and several other mis-identifications corrected in this paper. He states that "there must be a thousand pink-flowering plants of V. delticola to one of the lavender form. It seems to be a mutation that is likely to happen anywhere though and once it occurs is likely to spread locally. Although this color form is sometimes found mixed up with masses of V. ciliata var. longidentata plants, it is just as likely to be found where there are no V. ciliata varieties for miles around."

Cameron Co.: L. I. Davis s.n. [Olmito, Dec. '41] (Au); R. Runyon 327 (Au). Hidalgo Co.: Clover 566 (Me).

VERBENA ELEGANS var. ASPERATA Perry

Hidalgo Co.: Mrs. E. J. Walker 32 (N), s.n. [Feb. 9, 1942] (Au).

VERBENA HALEI Small

Smith records the common name "European vervain" for this species from Texas.

Anderson Co.: K. E. Smith s.n. [Palestine, 4/21/35] (St). Bell Co.: Cohn T.11 (Au); Cohn & Barkley T.44 (Au). Bexar Co.: Headley s.n. [March 24, 1907] (I); Metz 62 (I), 75 (I),

3240 (Au); E. D. Schulz 766 (I); Texas Agr. Exp. Sta. Herb. Exchange 3495 (Hp). Brazos Co.: Chenault s.n. [April 12, 1937] (N); Lake s.n. [May, 1890] (Pr). Brewster Co.: Warnock 583 (Au). Burnet Co.: Rose-Innes & Warnock 798 (Au). Cameron Co.: L. I. Davis s.n. [Palm Grove, Summer '41] (Au); R. Runyon s.n. [Brownsville, 1930] (Hp). Cherokee Co.: F. A. Barkley 13585 (Au). Comal Co.: Lindheimer 537 (Ka), 1076 (Me, Me, Me). Culberson Co.: U. T. Waterfall 4496 (N). Denton Co.: McCart 2006 (Au, St). De Witt Co.: M. Riedel s.n. [9-26-41] (Au). Duval Co.: Croft 119 (Ga). Galveston Co.: R. L. Crockett s.n. [Apr. 22, 1944] (Au); G. L. Fisher s.n. [Galveston, June 6, 1920] (H); Tracy 7533 (Cm). Gonzales Co.: C. G. Ward 288 (St). Gregg Co.: C. L. York s.n. [Fall, 1937] (Au), s.n. [4-2-38] (Au). Grimes Co.: Harding 579 (St); T. V. Weaver 1038 (Ml). Harris Co.: L. Anderson s.n. [Sept.-Oct. 1936] (Au); Boon 62 (Au); G. L. Fisher s.n. [Houston, Apr. 23, 1914] (Hp), s.n. [Apr. 9, 1931] (St); E. Hall 432 (Pr); Rose-Innes & Warnock 673 (Au). Hidalgo Co.: Painter & Barkley 14428 (Au, N). Jackson Co.: Tharp & Barkley 13All4 (Au, Ml, N, N). Kleberg Co.: J. F. Sinclair s.n. [Kingsville, Summer, 1940] (Au). Leon Co.: E. C. Smith s.n. [Oakwood, 5-4-1942] (Fc). Montague Co.: McCart 1634 (Au). Nueces Co.: Warnock 20999 (Au). Pecos Co.: Warnock 46166 (Au). Polk Co.: Girvin s.n. [April 12, 1940] (Au, Au); Tharp s.n. [4-12-42] (Au). Reeves Co.: U. T. Waterfall 4388 (N). Tarrant Co.: F. C. Gates 19133 (Ka); Ruth 84 (Au), 93 (Ll), 108 (Cm, Ka), s.n. [Fort Worth, June 5, 1909] (Po). Taylor Co.: Tracy 7996 (Cm, N, Vt). Travis Co.: C. C. Albers 33016 (Au); Armer 5385 (Au); Cohn & Barkley 13253 (Au); Tharp 1529 (Au), s.n. [Austin, 4/23/29] (Au, Fl), s.n. [Austin, 5/2/35] (Au, St), s.n. [Austin, 5/9/35] (Au, St); Warnock 45-5 (Au), 46104 (Au); M. S. Young 77 (Au), s.n. [4/5/18] (Au). Val Verde Co.: M. E. Jones 26229 (I). Waller Co.: Dooley 2 (Au, N). Washington Co.: C. C. Albers 33017, in part (Au); Brackett 253 [March 29, 1938] (Au), s.n. [April 21, 1939] (Au). Webb Co.: Perkins & Hall 2627, in part (Po).

VERBENA MACDOUGALII Heller

Culberson Co.: Grassl 175 (I).

VERBENA MATTHESII Turcz.

Fayette Co.: Matthes 13 [Macbride photos 34343] (Kr--photo of isotype, N--photo of isotype).

VERBENA NEOMEXICANA (A. Gray) Small

The Sixth Grade Brownsville 34, s.n. [Nov. 1934], and Tharp 1201 cited by me in the "Flora of Texas" as this species prove, upon more careful examination, to be *V. Runyoni* Moldenke. I am grateful to L. I. Davis for calling my atten-

tion to these mis-identifications.

VERBENA NEOMEXICANA var. *HIRTELLA* Perry

The Ecology Class Univ. Tex. s.n. [2.28.30], R. H. Painter 249, and Tharp s.n. [6/19/31] cited by me in the "Flora of Texas" as this variety prove, upon re-examination, to be *V. canescens* var. *Roemeriana*.

Brewster Co.: L. T. Murray s.n. [May 22, 1928] (It); E. J. Palmer 34065 (N--isotype); Rose-Innes & Moon 1200 (Au); Rose-Innes & Warnock 537 (Au); Tharp s.n. [Wilson Ranch] (Au); Warnock 20436, in part (Au), s.n. [May 3, 1937] (Au). Hudspeth Co.: U. T. Waterfall 5143 (N). Presidio Co.: Hinckley 1971 (Au). Travis Co.: C. L. York 46035 (Au, N).

VERBENA NEOMEXICANA var. *XYLOPODA* Perry

The Nelson & Nelson specimen cited below is very anomalous. Its fruiting-calyxes and fruit are much larger than normal. It may prove to be a new variety or even species.

Terrell or Webb Co.: Nelson & Nelson 5138 (Au). Victoria Co.: Owens 3125 (Au). Webb Co.: Ferkins & Hall 2627, in part (Po).

VERBENA PERENNIS Wootton

Brewster Co.: G. L. Fisher s.n. [Alpine, Aug. 24, 1932] (Hp); Warnock 287 (Au), 21090 (Au), 21205 (Au), 21279 (Au), 21827 (Al). Culberson Co.: U. T. Waterfall 3795 (N), 4510 (Au, N), 5209 (N).

VERBENA PLICATA Greene

Baylor Co.: Bridge s.n. [near Seymour, 6/16] (Cn). Bexar Co.: Metz 557 (I), 2156 (Se). Brewster Co.: Cory 43929 (Au); Rose-Innes & Moon 1169 (Au); Warnock 20436, in part (Au), 20437 (Au), 21230 (Au), s.n. [May 3, 1937] (Au). Culberson Co.: U. T. Waterfall 4171 (N), 5172 (Au, N). Ector Co.: Tharp s.n. [7/10/41] (Au). Frio Co.: Lucas, Painter, & Barkley 14227 (Au). Hidalgo Co.: Mrs. E. J. Walker s.n. [2/9/42] (Au, Au). Hudspeth Co.: Tharp 43-804 (Au); U. T. Waterfall 5348 (N). Kendall Co.: Metz 170 (I). Kleberg Co.: J. F. Sinclair s.n. [Kingsville, Spring 1940] (Au). Midland Co.: Cory 42034 (Au). Mitchell Co.: Cory 48041 (Au). Pecos Co.: Tharp 43-800, in part (Au); Warnock 46122 (Au, N). Taylor Co.: Tolstead 7103 [Herb. Texas Agr. Exp. Sta. 41986] (Au). Travis Co.: Armer 5380 (Au). Val Verde Co.: Cory 39090 (N). Ward Co.: Tracy & Earle 30 (Cm--isotype).

VERBENA PLICATA var. *DEGENERI* Moldenke

Pecos Co.: Tharp 43-799 (Au), 43-801 (Au), 43-802 (Au), 43-803 (Au).

VERBENA FUMILA Rydb.

Bell Co.: Wolff 1373 (Hp). Bexar Co.: Lindheimer 434 (Ka); Metz 152 (I), 524 (I, I), 3246 (Pl); Fatoni s.n. [San Antonio, Marzi 1914] (Me, Me). Brewster Co.: Sperry 493 (W). Cameron Co.: H. C. Hanson 322 (Ka). Coke Co.: Cory 37143 (N). Comal Co.: Lindheimer 1075 (Me, Me, Me, Ok). Dallas Co.: J. Reverchon s.n. [Curtiss 1963**] (Go). Edwards Co.: Cory 37068 (Au), 37070 (N); M. E. Jones 26228 (I). Frio Co.: Fainter, Lucas, & Barkley 14201 (Au), 14213 (Au). Hays Co.: Friesner 10401 (Bt). Jeff Davis Co.: Tracy & Earle 178 (Cm). Kleberg Co.: J. F. Sinclair s.n. [Kingsville, Spring, 1940] (Au). Llano Co.: G. L. Fisher s.n. [Bluffton, Apr. 20, 1931] (Bt); Rose-Innes & Warnock 793 (Au). Reeves Co.: Tracy & Earle 106 (Cm). Schleicher Co.: Cory 34444 (N). Tarrant Co.: Ruth 110 (Cm). Taylor Co.: Tolstead 7071 (Au, Au). Tom Green Co.: Cory 40913 (N). Travis Co.: C. C. Albers 34006 (Au); Armer s.n. [Austin, 4-2-29] (Fl); E. Hall 431 (Pr); Tharp 1362 (Au), 1364 (Au), 44116 (Au); Warnock 20623 (Au), 46086 (Au); M. S. Young s.n. [2/28/14] (Au, N). Williamson Co.: Wolcott 121 (Au). County undetermined: Turpin s.n. (Au, Au); M. S. Young s.n. [west of IAGN Ry.] (Au).

VERBENA QUADRANGULATA Heller

An additional Texas reference is A. M. T. Davis, A study of Boscaje de la Palma in Cameron County, Texas, and of Sabal texana (thesis), p. 62. August, 1942.

Bexar Co.: Metz 755 (Hp, I). Cameron Co.: A. M. Davis s.n. [Olmito, Summer '41] (Au). Hidalgo Co.: Mrs. E. J. Walker 41 (Au, N). Nueces Co.: A. A. Heller 1385, in part (Pl), 1388 (Pl--isotype, Se--isotype). Wharton Co.: J. K. Small s.n. [April 12, 1925] (H, We). Zavala Co.: Cory 43814 (Au).

VERBENA RACEMOSA Eggert

Brewster Co.: Cory 31653 (N), 43930 (Au); Rose-Innes & Warnock 527 (Au), 21430 (Au); Warnock 418 (Au), 20105 (Au). Glasscock Co.: Cory 42070 (Au). Jeff Davis Co.: Tracy & Earle 106a (Cm). Pecos Co.: H. R. Reed 34064 (N); Tharp 43-805 (Au), 43-806 (Au), 43-807 (Au), 43-808 (Au); Warnock T.46 (Au, Au), 46136 (Au, N). Reeves Co.: Nelson & Nelson 4985 (Au, Ka), 4995 (Au).

VERBENA RIGIDA Spreng.

Galveston Co.: Mrs. A. F. Nelson s.n. [4/20/42] (Au); E. C. Smith s.n. [Dickinson Bayou, 5-2-1942] (Fc). Harris Co.: C. C. Albers 35004 (Au); G. L. Fisher s.n. [Houston, Sept. 14, 1913] (Hp), s.n. [Houston, Apr. 11, 1930] (Bt), s.n. [Sept. 10, 1932] (I). Travis Co.: Tharp s.n. [Austin, 5/2/35] (Bt, St). County undetermined: C. C. Albers 39008 (Au, Au).

VERBENA RUNYONI Moldenke

An additional Texan reference is A. M. T. Davis, A study of Boscaje de la Palma in Cameron County, Texas, and of Sabal texana (thesis), p. 62. August, 1942. Mr. L. I. Davis, who has done much fine work on the verbenas of Texas and Mexico in the field, reports that "the nutlets of V. Runyoni are not slightly arched down the back as in V. neomexicana and they are plainly longitudinally striate from top to bottom" and the inflorescence is glandular-viscid before drying. He says "I think we had better assume that neither V. xutha nor V. neomexicana occurs in Cameron County" and that all specimens so named hitherto are really V. Runyoni. "The first part of this month [August] V. Runyoni was blooming everywhere hereabouts. Just below San Benito there was a field acres in extent where there was a plant about every two feet. Here according to the soil and moisture supply one could easily find every stage of V. Runyoni from the slender one foot high plant to the giant four and a half foot, heavy stemmed plant. But all have the same seeds and pubescence."

Cameron Co.: Cory 36467 (N); Mrs. F. Cottrell 8743 (Au); L. I. Davis s.n. [Southmost, May, 1942] (Au); Lundell & Lundell 10753 [Plant. Exsicc. Gray. 1274] (Al, Au, H, I, Ka, N, Fl, St, We); Rose & Russell 24238 (W); R. Runyon 3178 [Herb. Texas Agr. Exp. Sta. 43663] (Au), 4187 (Au, N); Sixth Grade Brownsville 34 (Au), s.n. [Nov. 1934] (Au); Tharp 1201 (Au).

VERBENA RUNYONI f. ROSIFLORA L. I. Davis

Additional Texan references are A. M. T. Davis, A study of Boscaje de la Palma in Cameron County, Texas, and of Sabal texana (thesis), p. 62. August, 1942, and Moldenke, Known Geogr. Distrib. Verbenac. Suppl. 1: 2, nom. nud. November 15 1943.

Cameron Co.: L. I. Davis s.n. [Southmost, May, 1942] (Au --type).

VERBENA SCABRA Vahl

Bexar Co.: Lindheimer 618 (Ka), 1077 (Me, Me, Me, Ok, Up); Metz 782 (I). Gonzales Co.: Tharp & Barkley 13850 (Au). Kerr Co.: G. L. Fisher s.n. [Kerrville, Aug. 27, 1932] (Bt). Kimble Co.: Strandtmann s.n. [Aug. 19, 1941] (Au). Liberty Co.: E. J. Palmer 8557 (W). Real Co.: Cory 39708 (Au), 39709 (N), 42774 (Au). Travis Co.: C. C. Albers 40004 (Au, Au, Au, Au, Au, Au); F. A. Barkley 13366 (Au); Strandtmann s.n. [Aug. 1, 1940] (Au). Val Verde Co.: Cory 38068 (Au, Au), 38069 (N). Walker Co.: C. C. Albers 39010 (Au). County undetermined: Lindheimer s.n. [1850] (Ka).

VERBENA STRICTA Vent.

Cook Co.: Strandtmann s.n. [July 26, 1941] (Au). Tarrant

Co.: Ruth 162 (L1), s.n. [Fort Worth, Aug. 27, 1909] (Po).

VERBENA TENUISECTA Briq.

Galveston Co.: Mrs. A. F. Nelson s.n. [3-15-42] (Au).
Jasper Co.: Rose-Innes & Warnock 21818 (Au); Tharp s.n. [4/13/41] (Au, N). Jefferson Co.: C. C. Albers 34008 (Au, Au), s.n. [8/29/34] (Au). Nacogdoches Co.: Biggar s.n. [August 6, 1944] (Au). Polk Co.: Girvin s.n. [March 15, 1940] (Au, N); Tharp s.n. [5/14/42] (Au).

VERBENA TUMIDULA Ferry

Edwards Co.: Cory 38940 (N). Uvalde Co.: Cory 44509 (Au).

VERBENA URTICIFOLIA L.

Tarrant Co.: Ruth 504 (Cm).

VERBENA WRIGHTII A. Gray

Brewster Co.: Nelson & Nelson 5025 (Ka); Rose-Innes & Warnock 586 (Au); Warnock 20022 (Au), T.66, in part (Au), W.283, in part (Au). Culberson Co.: Hitchcock & Stanford 6782 (Pl, Se). Jeff Davis Co.: Hinckley s.n. [H. O. Canyon, July 27, 1937] (N). Pecos Co.: G. L. Fisher s.n. [July 20, 1936] (Se); Warnock C.802 (Au). Presidio Co.: Hinckley s.n. [July 9, 1941] (Au). Reeves Co.: Nelson & Nelson 4983 (Au, Ka), 5014 (Au); U. T. Waterfall 4386 (N). Ward Co.: Tracy & Earle 61 (Cm, Vt).

VERBENA XUTHA Lehm.

The Mrs. P. Cottrell 8743 cited by me in the "Flora of Texas" as Verbena xutha proves, upon re-examination, actually to be Verbena Runyonii. I am indebted to my friend, L. I. Davis, for calling my attention to this mis-identification.

Aransas Co.: Cory 45879 (Au). De Witt Co.: M. Riedel s.n. [7-4-41] (Au). Freestone Co.: Harding 399 (St). Galveston Co.: G. L. Fisher s.n. [San Leon, July 7, 1929] (Bt); Mrs. A. F. Nelson s.n. [11-2-41] (Au). Grimes Co.: T. V. Weaver 1039 (Ml, N). Harris Co.: Boon 61 (Au), 20001 (Au, N); G. L. Fisher s.n. [Houston, May 18, 1914] (Hp); Lindheimer s.n. [Houston, 1843] (Pr). Jackson Co.: Tharp s.n. [8/30/41] (Au), s.n. [Sept. 27, 1941] (Au). Jefferson Co.: C. C. Albers 34005 (Au, Au); Tharp s.n. [9/12/37] (Au, Au). Leon Co.: E. C. Smith s.n. [Oakwood, 5-12-1942] (Fc). Liberty Co.: Harding 172 (St). Robertson Co.: L. Morris 42 (Au). Travis Co.: F. A. Barkley 13365 (Au); R. H. Fainter 16 (Ka); Strandtmann s.n. [July 26, 1940] (Au); Tharp 668 (Au), s.n. [8-7-40] (Au). Victoria Co.: Tharp s.n. [McFaddin Beach, 9-11-37] (Pl). Walker Co.: Albers & Warnock 45136 (Au, N). Waller Co.: H. B. Parks 2432 (Au). Washington Co.:

C. C. Albers 33013 (Au), 33017, in part (Au); Brackett 253 (Au), s.n. [Apr. 21, 1939] (Au). Wharton Co.: E. J. Palmer 6622 (W). County undetermined: Lindheimer s.n. [Fasc. IV, 1849] (Ka).

VITEX AGNUS-CASTUS L.

Maverick Co.: C. C. Albers 38005 (Au). Real Co.: Cory 34773 (N). Tarrant Co.: Ruth 993 (Ka, St). Travis Co.: F. A. Barkley 13081 (Al); Harpin, Waldorf, & Barkley 13081 (Au); Herb. Univ. Texas s.n. [Austin, 8/14/19] (Au). Cultivated: C. C. Albers 32019 (Au), 41003 (Au); I. Shiller 870 (Au).

VITEX AGNUS-CASTUS var. ALBA West.

Travis Co.: McKee & Wesley 3896 (Au).

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VERBENA XUTHA Lehm.

Washington Co.: E. Hall 434 (Pr).



Moldenke, Harold N. 1946. "Supplementary notes on the Eriocaulaceae, Avicenniaceae, and verbenaceae of Texas II." *Phytologia* 2(4), 152–168.

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