

ADDITIONAL NOTES ON THE GENUS STYLODON. I

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Herbarium acronyms employed in this and all other of my papers in this journal since 1929 are full explained in my Fifth Summary (1971) pages 795—801.

STYLODON Raf., Neogenyt. 2. 1825.

Additional & emended bibliography: Michx., Fl. Bor.-Am., imp. 1, 2: 14. 1803; Balbis, Cat. Pl. Hort. Bot. Taur. 48. 1804; Poir. in Lam., Encycl. Méth. Bot. 8: 548. 1808; Balbis, Cat. Stirp. Hort. Acad. Taur. 80. 1813; Pursh, Fl. Am. Sept. 2: 417. 1814; Michx., Fl. Bor.-Am., imp. 2, 2 ["1"]: 14. 1820; S. Ell., Sketch, imp. 1 & 2, 2: 99—100 & 743. 1821; Steud., Nom. Bot. Phan., ed. 2, 2: 750. 1841; D. Dietr., Syn. Pl. 3: 601. 1843; Schau. in A. DC., Prodr. 11: 520 & 545. 1847; Buek, Gen. Spec. Syn. Candoll. 3: 343 & 494. 1858; Darby, Bot. South. States 474. 1866; A. Gray, Syn. Fl. N. Am., ed. 1, 2 (1): 336 (1878) and ed. 2, 2 (1): 336. 1886; A. W. Cham., Fl. South. U. S., ed. 2, imp. 2, 307 (1887), ed. 2, imp. 3, 307 (1889), and ed. 2, imp. 4, 307. 1892; Briq. in Engl. & Prantl, Nat. Pflanzenfam., ed. 1, 4 (3a): 148. 1894; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 2: 504 (1894) and imp. 1, 2: 1011, 1012, & 1178. 1895; Baerecke, Anal. Key Ferns Flow. Pl. Atl. Sect. Middl. Fla. 114. 1906; Lowe, Miss. State Geol. Surv. Bull. 17: 236. 1921; Perry, Ann. Mo. Bot. Gard. 20: 248—250, 262, 309—310, & 355. 1933; M. F. Baker, Fla. Wild Fls., ed. 2, imp. 1, 188. 1938; Fedde & Schust., Justs Bot. Jahresber. 60 (2): 575. 1941; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 2, 2: 504, 1011, 1012, & 1178. 1946; H. N. & A. L. Mold., Pl. Life 2: 30. 1948; Lawrence, Taxon, Vasc. Pl., imp. 1, 687. 1951; Greene & Blomquist, Fls. South 109. 1953; Thorne, 2: 504, 1011, 1012, & 1178. 1946; Lawrence, Taxon, Vasc. Pl., imp. 1, 687. 1951; Greene & Blomquist, Fls. South 109. 1953; Thorne, Am. Midl. Nat. 52: 313. 1954; Angely, Cat. Estat. Gen. Bot. Fan. 17: 6. 1956; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 3, 2: 504, 1011, 1012, & 1178. 1960; Mold., Biol. Abstr. 36: 719. 1961; Hocking, Excerpt. Bot. A.4: 224. 1962; Mold., Phytologia 8: 279, 477, 483, 484, 487, & 489 (1963) and 9: 34, 165, 206, 215, & 220. 1963; Shelford, Ecol. N. Am. 77 & 607. 1963; A. L. Mold., Phytologia 11: 72. 1964; Mold., Phytologia 11: 13 & 117. 1964; Radford, Ahles, & Bell, Guide Vasc. Fl. Carol. 281 & 282. 1964; F. A. Barkley, List Ord. Fam. Anthoph. 76 & 213. 1965; Mold., Phytologia 12: 6. 1965; Mold., Résumé Suppl. 12: 1. 1965; Airy Shaw in J. C. Willis, Dict. Flow. Pl., ed. 7, 1085 & 1086. 1966; G. Taylor, Ind. Kew. Suppl. 13: 143. 1966; Rickett, Wild Fls. U. S. 2 (2): 464, 465, & 685, pl. 171. 1967; W. C. Grimm, Recog. Flow. Wild Pl. 228 & 229. 1968; Mold., Phytologia 15: 495. 1968; Pullen, Jones, & Watson, Castanea 33: 332. 1968; Anon., Torr. Bot. Club Ind. Am. Bot. Lit. 3: 309. 1969; Rickett, Wild Fls. U. S. 3 (2): 365. 1969; G. W. Thomas, Tex. Pl. Ecolog. Summ. 77. 1969; El-Gazzar & Wats.,

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STYLODON CARNEUS (Medic.) Mold., Revist. Sudam. Bot. 5: 2. 1937.

Additional & emended synonymy: Verbena caroliniana, erecta, foliis oblongo-obovalibus, obtusis; spicis filiformibus, longissimis, distinctifloris Michx. apud Poir. in Lam., Encycl. Méth. 8: 548, in syn. 1808. Verbena carolinensis (Walt.) Small, Fl. SE. U. S., ed. 1, 1009. 1903. Verbena caroliniana (Walt.) Michx. ex Mold., Résumé Suppl. 2: 11, in syn. 1960. Verbena caroliniana Gmel. ex Mold., Phytologia 8: 279, in syn. 1962. Stylodon carnea (Medic.) Mold., Résumé Suppl. 4: 13, in syn. 1962. Verbena carnosa Medic. ex Mold., Résumé Suppl. 7: 9, in syn. 1963. Verbena carolinensis var. caroliniana Michx. ex Mold., Résumé Suppl. 7: 9, in syn. 1963. Stylodon carolinensis a. decumbens Murrill, in herb.

Bibliography: see under the genus as a whole.

Illustrations: Greene & Blomquist, Fls. South 109. 1953; Rickett, Wild Fls. U. S. 2 (2): pl. 171 (in color). 1967; Grimm, Recog. Flow. Wild Pl. 220. 1968.

Recent collectors refer to this plant as upright and have found it growing on dry or sandy soil and railroad gravel on railroad rights-of-way, in low sandy ground, at the edges of creeks and roads, on sandy pine-hardwood hills and sandhills, in sandy oak woods and dry pinelands, dry or sandy woods, oak-hickory forests, flat pinewoods, sandy open woods, sandy oak scrub, and upland open pine-oak woodlands, in fields, pinebarrens, barren and open pastures, and sandy low ground along roadsides, in pineland-hardwood association, open and cutover longleaf pine areas, open sandy woods, on longleaf pine hills, "in semi-shade in sand of grown-over second growth pine" and well-drained longleaf pine forests, flowering and fruiting from April to July.

The corollas are said to have been "pink" on Correll 27417, Dress & Hansen 2032, and Dress & Read 9840, "pink-lavender" on Bougere 1046, "light-lavender" on Smith 57, "light-blue" on Allen 1282,

"white" on Graves 621, "white to very pale-lavender" on Tharp & al. 54856, "pale-lavender, almost white" on Bougere 1153, and "white to flesh, drying faint-purple" on Braun 5648.

Tharp and his companions encountered the species "on red gravelly sand upland among well spaced cutover longleaf and shortleaf pine over a thick groundcover of Paspalum and Andropogon" and "in deep loose sand soil beneath large old stands of Pinus palustris, the podsol covered with duff". Allen found it "abundant in open areas with Helenium, Spiranthes, Gaylussacia, and Rudbeckia". Dress and his associates found it "in very sandy soil of rather barren open fields" and at the "edge of low rather open sandy and grassy pine and holly woodland".

Radford, Ahles, & Bell (1964) record Stylodon carneus from sandy, frequently xeric, thin woodlands, in the central parts of the Carolinas north into Wake County, North Carolina, flowering there from April to July. Lelong (1977) asserts that it is "common in dry, open woods" in Mobile County, Alabama. Lowe (1921) avers that it is found "Usually in dry pine lands" and lists it from Jones and Lowndes Counties, Mississippi. Pullen and his associates (1968) record it from Clarke, Forrest, George, Greeve, Harrison, Jackson, Jones, Kempér, Lowndes, and Pearl River Counties, Mississippi. Rogers (1977) lists it from Forrest and Perry Counties in the same state. Grimm (1968) tells us that "It grows in open sandy woods and thickets, chiefly in the coastal plain" from North Carolina south to Florida and west to Louisiana. He says that the flowers are "almost 1/4 inch across, pink purplish, or white".

Common names recorded for the species are "Carolina verbena", "Carolina-verbena", and "Carolina vervain".

Green & Blomquist (1953) note that "This is another species which varies somewhat in its flower characters from a true verbena.....However, the habit of the plant is typical of a verbena". Perry (1933) says that it "is probably a relic of some ancient form; the distinctive character of the schizocarp gives no clue to its affinities, but rather emphasizes the anomaly of the species".

The polynomial credited to Michaux by Poirét (1808) is erroneously placed by him in the synonymy of Verbena carolina L., a very different plant.

Material of Stylodon carneus has been misidentified and distributed in some herbaria as Verbena angustifolia Michx., V. carolina L., V. hastata L., V. stricta Vent., Buchnera elongata Sw. [in the Scrophulariaceae], "Lobelia carolina L." [Lobeliaceae], and Lobelia inflata L. [Lobeliaceae]. On the other hand, the Bynum, Ingram, & Jayne s.n. [April 18, 1933] and McAtee 1953, distributed as Stylodon carneus, are actually Verbena halei Small, Cory 54253 and G. L. Fisher 51001 are V. rigida Spreng., F. A. Barkley 13365, Flemming s.n. [Rutledge swamp, Oct. 9, 1934], and Uzzell 17 are V. xutha Lehm., and Godfrey 4643 is Buchnera elongata Sw. in the Scrophulariaceae.

Additional citations: NORTH CAROLINA: Bladen Co.: Bell s.n. [May 18, 1946] (Hi--33705). Brunswick Co.: A. C. Mathews s.n. [May 2, 1935] (Hi--5849). Cumberland Co.: Ahles & Haesloop 29741 (Hi--104892); C. Knox s.n. [June 7, 1942] (Se--202550). Duplin Co.: A. C. Mathews s.n. [June 5, 1932] (Hi--59459). Harnett Co.: R. K. Godfrey 4239 (W--1767334). Hoke Co.: Ahles & Neuber 25000 (Hi--104415); B. E. Smith s.n. [May 20, 1934] (Hi--59458). Montgomery Co.: Radford 14711 (Hi--92859). Pender Co.: Ahles & Haesloop 27915 (Hi--104414, Se--199297); Hyams s.n. [Burgaw, Aug. 1878] (W--144299). Richmond Co.: Radford 19289 (Hi--92860). Robeson Co.: Terrell 3052 (Hi--104413). Scotland Co.: Ahles & Leisner 32864 (Hi--104412); Duke 872 (Hi--122975). Wake Co.: W. B. Fox 3636 (Hi--55469). County undetermined: McCarthy s.n. [North Carolina] (W--72317). SOUTH CAROLINA: Aiken Co.: Duke 1290 (Hi--112972); Ravenel 1164 (W--1323068), s.n. [Aiken] (W--72321). Bamberg Co.: Ahles & Haesloop 25948 (Hi--104891), 30445 (Bl--180864). Beaufort Co.: Mellichamp 137 (W--1323069). Calhoun Co.: Ahles & Haesloop 30287 (Hi--104893). Chesterfield Co.: Swails 41 (Hi--110658). Clarendon Co.: Radford 24564 (Hi--101651). Darlington Co.: Coker s.n. [July 1, 1936] (Hi--59451); J. B. Norton s.n. [May 5, 1921] (Hi--59449); Radford & Stewart 351 (Ca--984508, Hi--23189); Rogers s.n. [April 21, 1910] (Hi--59450); B. E. Smith 57 (Hi--26481), 1457 (Hi--26483), 1739 (Hi--26474). Dorchester Co.: Ahles & Haesloop 26292 (Hi--104416), 26293 (Hi--104417); K. A. Taylor s.n. [Summerville, June '91] (W--308496). Georgetown Co.: Bozeman & Logue 9149 (Ld); Godfrey & Tryon 180 (Ca--956863, W--1837108); Radford 25106 (Hi--101650). Hampton Co.: C. R. Bell 2572 (N). Kershaw Co.: Radford 23650 (Hi--101649). Lee Co.: Radford 24077 (Hi--101648). Lexington Co.: Duke 756 (Hi--112973); Godfrey & Tryon 1202 (W--1837919). Marion Co.: C. R. Bell 7822 (Hi--101647). Witherspoon Island: B. E. Smith 1458 (Hi--26482). County undetermined: Curtiss s.n. [S. Carolina, 1875] (W--72320). GEORGIA: Baker Co.: Thorne 4026 (W--1929872). Chatham Co.: W. M. Canby s.n. [Savannah, May 1858] (Pa). Richmond Co.: Duke & Ahles 2039 (Hi--112974). Screven Co.: Ahles 54322 (Hi--201959). Seminole Co.: Dress & Hansen 2032 (Ba). Tattnall Co.: Ahles 54211 (Hi--201602). FLORIDA: Alachua Co.: O'Neill 986 (W--1325947). Bay Co.: Billington 22 (W--1222437). Clay Co.: W. M. Canby s.n. [Hibernia, March 1869] (Pa, W--72319); Totten s.n. [August 31, 1945] (Hi--28108). Duval Co.: Curtiss 1959 (Ms--30782, Mu--1559, W--72318), 4386 (Ca--58612, W--218279), 4765 (Ca--104828, W--224491); Fredholm 5136 (W--717124). Escambia Co.: G. L. Fisher 9 (Ca--445610). Franklin Co.: A. W. Chapman s.n. [Biltmore Herb. 4761a] (W--332103). Gadsden Co.: F.

H. Sargent 6160 (St). Hernando Co.: Murrill 583 (W-1928403).
 Jefferson Co.: Godfrey 59506 (Hi-155818). Lake Co.: Nash 601
 (Ca-104827, W-228139). Leon Co.: N. C. Henderson 63-1058 (Au-
 223001). Liberty Co.: A. W. Chapman s.n. [Aspalaga, 1898] (Dt).
 Orange Co.: Barrows s.n. [Winter Park, 1894] (Dt); Meislahn 135a
 (W-511392); Pieters 71 (W-511583). Polk Co.: McFarlin 5025
 (Mi). Seminole Co.: Lewton s.n. (Ms-50459). Suwannee Co.: God-
frey & Houk 60815 (Hi-201509). Volusia Co.: S. M. Deam 1799 (W-
 753720); J. R. Perkins s.n. [DeLand, March-April 1918] (Ca-
 882629). Wakulla Co.: Rugel s.n. [St. Marks, Apr.-Jun. 1843]
 (Go). County undetermined: A. W. Chapman s.n. [Florida, 1845]
 (Bm, S), s.n. [W. Florida] (Dt); Rugel s.n. [Late January-Mar.
 '45] (Bm). ALABAMA: Baldwin Co.: Dress & Read 9840 (Ba). Lee
 Co.: F. S. Earle s.n. [Auburn, 5/20/99] (Dt). Mobile Co.: Bush
312 (W-318485); E. W. Graves 621 (W-984446); C. Mohr s.n. [Mo-
 bile, June 1879] (W-771854). MISSISSIPPI: Harrison Co.: S. M.
Tracy 4981 (W-341064), s.n. [Biloxi, 5/8/1895] (W-307751).
 Jackson Co.: J. Skehan s.n. [Seymour & Earle 118] (Gg-364176, Hi-
 59447, Lb-16423). Lamar Co.: S. B. Jones 13653 (Au-260961); F.
H. Sargent 7743 (Go). LOUISIANA: Natchitoches Par.: E. J. Palmer
7564 (W-603331). Orleans Par.: T. Drummond 253 (Au-121551).
 Rapides Par.: Mayeau s.n. [May 9, 1942] (Lv). Saint Helena Par.:
C. M. Allen 725 (Lv), 1282 (Lv). Saint Tammany Par.: Anect 60
 [Herb. Leonard 2289] (W-1036677, W-2261413); Arsène 11820 (Lv,
 W-1033023), 12117 (W-1033046); Bougere 1046 (Lv), 1153 (Lv);
C. A. Brown 7698 (Lv). Tangipahoa Par.: H. R. Wilson 151 (Lv).
 Washington Par.: C. A. Brown 5648 (Lv); R. D. Thomas & al. 14240
 (N). TEXAS: Jasper Co.: D. S. Correll 27417 (Ld). Jefferson Co.:
McLeod 1156 (Au-184051). Tyler Co.: D. S. Correll 37255 (Ld);
Tharp, Turner, & Johnston 54731 (Au-121551), 54856 (Au-121550,
 St). LOCALITY OF COLLECTION UNDETERMINED: Hiendlmayr s.n. (Mu-
 1246); J. Torrey s.n. ["New York"] (Lu).