

NOTEWORTHY SPECIES FROM MEXICO AND ADJACENT
UNITED STATES, I

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SINCE, in continuation of studies of the flora of northern Mexico, many noteworthy species from the adjacent parts of the United States will be discussed, it seems advisable to begin a new series under the above more inclusive title to replace my "New Phanerogams from Mexico," of which no. V was published in this Journal, **24**: 90-98. 1943. Unless otherwise noted, the material cited in this series is deposited in the Gray Herbarium or in the herbarium of the Arnold Arboretum.

Atriplex prosopidum, sp. nov.

Frutex monoicus rotundus pallidus 5-12 dm. altus ramosissimus; ramulis gracilibus foliosis ascendentibus numerosis teretibus pallidis vesiculosis; foliis integerrimis numerosis alternis oblanceolatis ad late oblanceolatis vel oblongo-obovatis, 4-plo ad subduplo longioribus quam latis, 15-20(-24) mm. longis, 3-6(-7) mm. latis, supra medium vel medium versus latioribus, deinde basim versus in petiolum 1-2 mm. longum gradatim attenuatis, costatis sed enervatis, indumento pallido vesiculoso tectis, apice obtusis vel subretusis; floribus masculis flavis in panicula conspicua terminali subnuda moniliforma dispositis; floribus femineis abundantibus glomeratis in spica plus minusve interrupta infra medium foliato-bracteata dispositis; bracteis fructiferis 4-alatis dense furfuraceis summum ad apicem connatis, corpore (alis 1-3 mm. latis exclusis) 1-2 mm. longe stipitato 3-5 mm. longo infra medium crassiore apice in rostrum 1-1.5 mm. longum angustum vel triangularem protracto, corpore alato a latere viso triangularem vel triangularem ovato, 2.5-6 mm. lato, supra medium saepe latiore, basi rotundo vel obtuso, margine alis prominenter paucidentatis; seminibus brunneis ad 2 mm. longis, radícula lateraliter erecta.

COAHUILA: About 10 miles north of Cuatro Ciénegas, *Wynd* 742 and 744; south of El Oso, rounded bush 2-3 ft. tall, *Johnston* 8877 (TYPE, Gray Herb.); near Flores, plant bushy, somewhat globose, 1-4 ft. tall, *Johnston* 8875; 12 miles north of Monclova, bush 3-4 ft. tall, *Johnston* 7187.

This species appears to be a relative of *A. canescens*, but differs in selection of habitat, indument, form of growth, color of herbage, shape of leaves, and size and shape of fruit. The fruit has four wings as in *A. canescens*, but it is smaller, distinctly more furfuraceous, and short-stipitate. About Flores and El Oso, on the road from Cuatro Ciénegas north to Ocampo (in the area where Wynd also collected the plant), I was able to compare living specimens of *A. prosopidum* and *A. canescens*. The former is a pallid rounded somewhat globose bush growing with *Suaeda*. *Atriplex canescens* did not associate with the *Suaeda* and differed conspicuously from *A. prosopidum* in being taller, stricter in branching and erect, and a light ashy

green rather than pallid. The indument of *A. prosopidum* is similar to that of *A. obovate* and *A. Nuttallii*, and hence very much denser and much paler than in *A. canescens*. North of Cuatro Ciénegas and north of Monclova the plant grows abundantly in silty, somewhat gypseous and saline valley soils supporting a luxuriant growth of *Prosopis glandulosa*. About Flores and El Oso *A. canescens* was rare in the areas where *A. prosopidum* abounded, perhaps because of the gypseous content of the soil.

***Suaeda jacoensis*, sp. nov.**

Planta succulenta annua vel perennis 1–3 dm. alta glabra pallide viridis, basi ramosa; caulibus gracilibus numerosis erectis strictis simplicibus vel sparse ramosis plus minusve minute verrucosis non raro rosaceis; foliis linearibus 1–2 cm. longis 1.2 mm. latis compressis succulentis, apice obtusis apiculatis, inferioribus conspicue oppositis, ceterum alternis; floribus axillaribus sessilibus glomeratis subspicatis; bracteis hyalinis triangularibus vel oblongis dentatis vel lacerato-dentatis haud conspicuis; calyce fructifero latiore quam lato (sine appendiculis 1–1.5 mm. diametro) depresso asymmetrico, lobis deltoideis margine scariosis dorso irregulariter tuberculato-cristatis vel carinatis, basi non raro transverse alatis vel gibbosis; seminibus horizontalibus 1.1–1.3 mm. longis nitidis atro-brunneis; stylis 2.

COAHUILA: Salt-flats at the southeastern end of Laguna de Jaco, common, *Johnston & Muller 1087*, *Stewart & Johnston 1975* (TYPE, Gray Herb.) and 1976.

Related to *Suaeda mexicana*, from which it differs in its lower stature, more slender and smaller leaves (which are conspicuously opposite below), more slender somewhat purplish usually verrucose stems, and irregularly cristate and keeled mature calyx-lobes. The perianth-lobes become unequally cristate and carinate at maturity, some being almost unappendaged, others corky-tuberculate, while others may have a vertical as well as a transverse basal keel that may become corky-thickened. In *S. mexicana* all the perianth-lobes become corky-thickened and prolonged off obliquely at their base. The proposed species may appear as a perennial, with the stems arising from a small caudex crowning a coarse persisting root. Most of the plants seen, however, appear to be annual. The species is very common on the flats at the southeastern end of Lake Jaco. The soil here is strongly saline and also gypsiferous.

***Suaeda nigrescens*, sp. nov.**

Frutex 3–6 dm. altus ascendenter ramosus erectus vel decumbens in sicco saepe nigrescens; ramulis gracilibus rigidulis fruticosis ramulosis angulatis, pilis minutis brunnescentibus saepe abundantibus donatis, in vivo saepe purpurascens; foliis succulentis plus minusve glaucis glabris 3–5(–8) mm. longis 1(–2) mm. latis, plus minusve compressis lineari-oblongis vel oblanceolatis numerosis confertis, medium versus latioribus, apice obtusis vel rotundis, basi angustatis; floribus glomeratis basim versus foliorum superiorum vix conspicuorum enatis homomorphis subspicatis; bracteis scariosis triangularibus vel ovato-triangularibus sparse dentatis inconspicuis haud persistentibus; calyce fructifero glabro turbinato 1.5–2 mm. diametro, lobis deltoideis convexis succulentis; stylis 2 vel 3; seminibus nigris nitidis oblique ovoideis crassis erectis vel horizontalibus ca. 1 mm. longis.

COAHUILA: 4 mi. southwest of Hermanas, saline flat, *Johnston* 7074; 8 mi. north of Avalos, saline flat, *Johnston* 7340; 12 mi. north of La Ventura, saline flat, *Johnston* 7650 (TYPE, Gray Herb.). SAN LUIS POTOSI: 6 mi. northwest of Cedral, saline flat, *Johnston* 7603; San Miguel, saline flat, *Johnston* 7619; San Domingo Lake, *Lundell* 5576; Hacienda del Salado, Dec. 1827, *Berlandier* 1345; San Luis Potosi to Tampico, *Palmer* 778½.

Suaeda nigrescens, var. *glabra*, var. nov.

A varietate typica differt ramulis omnino glabris saepe glaucis, raro ramulis junioribus pilis sparsissimis pallidulis donatis.

CHIHUAHUA: Meoqui, 1935, *LeSueur* 197. COAHUILA: about 30 mi. south of Sierra Mojada, 1937, *Wynd* 771. TEXAS: along irrigation ditch, Rio Grande Valley, near old Fort Quitman, *Waterfall* 3993a (TYPE, Gray Herb.); saline plains of Rio Grande [near Eagle Pass], 1848, *Wright*; salt flats near Pilgrim, Gonzales Co., *Cory* 18992 and 19213. NEW MEXICO: White Sands, Otero Co., *Archer* 7334; Hagerman, Chaves Co., *Benke* 5023.

The present plant is that treated by Standley, in No. Am. Fl. **21**: 90 (1916) and in Bull. Torr. Cl. **44**: 428 (1917), as indistinguishable from the Old World *Suaeda fruticosa* (L.) Forsk. That species was based on plants from the Mediterranean coast of France and Spain. It differs from our present plant in aspect, as well as in the more slender and elongate styles and less persistent more scarious bracteoles. Our species behaves as a native plant and I am convinced that it is indigenous. It is related to *S. fruticosa*, but so are such generally recognized West American species as *S. Torreyana* Wats., *S. Palmeri* Standl., *S. ramosissima* (Standl.) Johnston, etc. In fact, our plant is as closely related to these American congeners as it is to the Old World plant. Unless most of the American members of *Suaeda* Section *Salsina* are to be submerged in *S. fruticosa*, the present species must also be accorded recognition.

I can find no available published names for the present plant. *Suaeda fruticosa* var. *multiflora* Torr. (1857) is based upon a collection by Bigelow, from "Llano Estacado," or, to be more precise, from the region about Tucumcari, New Mexico. This plant may represent *S. nigrescens* var. *glabra*, but because of *Suaeda multiflora* Phil., a Chilean species, the name is unavailable for our North American plant. *Suaeda Moquini* (Torr.) Greene, based upon the casually published *Chenopodina Moquini* Torr. (1858), is properly discarded as a hyponym by Standley, in Bull. Torr. Cl. **44**: 428 (1917). Standley, in No. Am. Fl. **21**: 90 (1916), cites *S. intermedia* Wats. (1879) as a synonym of *S. fruticosa*. That species, based upon cited material from Utah, collected by Ward, Parry, Hooker and Gray, is not *S. nigrescens*. Since *Parry* 84, from "Central Utah," is the only cited collection of *S. intermedia* with good flowers and is the only one on whose sheet Watson wrote his binomial, I am taking that plant as the type of *S. intermedia* Wats. This type and the other cotypes all appear to represent the common Utah plant which most recent authors, including Standley, have called *S. Torreyana* Wats. Though it seems probable that Watson proposed *S. Torreyana* to include American plants formerly placed in *S. fruticosa*, usage has centered his binomial on Great Basin plants, and Standley has typified it with the material collected on the west shore of the

Great Salt Lake by Stanbury. *Suaeda diffusa* Wats. was based upon eleven collections, of which the two collections of Charles Wright represent *S. nigrescens*, and of which *Gregg 458* represents *S. suffrutescens* var. *detonsa*. Seven of the original eleven collections came from Utah and Arizona and appear to represent the plant commonly called *S. Torreyana*. In describing *S. diffusa*, Watson drew heavily on his collection no. 996 and his account of it in the Botany of the King Expedition, p. 294. That specimen is logically the type of his *S. diffusa*. It was collected in Truckee Valley and is conspecific with *Heller 8650*, also from that area, and obviously belongs to the aggregate called "*S. Torreyana*." Standley cites *Dondia conferta* Small as a synonym of *S. fruticosa*. That species, based on plants collected on the coastal flats at Corpus Christi, Texas, differs from *S. nigrescens* in its spreading less fruticose habit, large flowers, and conspicuous leafy bracts. It is the sea-coast plant found on the coast of Texas and eastern Mexico and in the West Indies. It should be called:

Suaeda conferta (Small), comb. nov.

Dondia conferta Small, in Bull. N. Y. Bot. Gard. 1: 280. 1899.

Suaeda suffrutescens Wats., var. ***detonsa***, var. nov.

A varietate genuina differt foliis glabris, caulibus non raro glabrescentibus.

COAHUILA: 3 mi. west of Cuatro Cienegas, saline flats, loosely and widely branched, 1-5 ft. tall, frequently supported by other bushes, *Johnston 7128* (TYPE, Gray Herb.); 3 mi. south of Cuatro Cienegas, saline land, low shrub, *White 1913*; Cuatro Cienegas, *Marsh 2042*; Perros Bravos, shrubby, 3 ft. tall, abundant, Sept. 20, 1848, *Gregg 458*; Saltillo, July 1880, *Palmer 1167*; 5 mi. west of Viesca, plant erect, *Johnston 7739*; Bolson de Mapimi, April 15, 1847, *Gregg 449*.

Suaeda suffrutescens is the most common and mostly widely distributed member of its genus in trans-Pecos Texas and along the Rio Grande and Pecos valleys in adjacent New Mexico. It extends south in northern Coahuila and Chihuahua. If not restricted to saline gypseous soils, it at least appears strongly to favor that substratum. The species is readily recognized because of its pubescence, abundant staminate flowers, and very moderately fleshy usually hairy perianth-lobes.

As originally described, the species was a complex. The specimens originally cited are *Berlandier 1345*, representing *S. nigrescens* from San Luis Potosi, and *Wright 578* in part and *Emory*, representative of the species as here taken. In subsequent usage the name *S. suffrutescens* has been applied to the present plant of Texas and to another, more western species, also with hairy herbage. The latter, *S. ramosissima* (Standl.) Johnston, was segregated and named by Standley, who redefined *S. suffrutescens* and gave its type-locality as "Western Texas." I have selected *Wright 578 in part* as the type-collection. This is part of a mixed sheet containing specimens obtained by Charles Wright at three different localities in trans-Pecos Texas and representing three different species, *S. suffrutescens* Wats., *S. duripes* Johnston, and *S. nigrescens* var. *glabra* Johnston. These were obtained at (1) Escondido Springs, about 20 miles east of Ft. Stockton, Aug. 17, 1849, (2) near Ft. Stockton, Aug. 18, 1849, and (3) near San Elizario, Oct. 4,

1849. Just which species was obtained at which locality cannot now be determined. The largest specimen on the sheet represents *S. suffrutescens* as here accepted. It was distinguished from the other material on the sheet by Watson and labeled by him "*S. suffrutescens*, W." It is a form of the species with the leaves only sparsely hairy. Watson's reference to the material collected by "*Emory*" is unintelligible unless it refers to the material treated by Torrey in the Botany of the Mexican Boundary, p. 184, as *Suaeda fruticosa* var. *multiflora*. Torrey cites collections of Bigelow from Presidio del Norte (i.e. Ojinaga) which probably represent *S. suffrutescens*, the common species at that locality, and collections of Thurber from the Rio Pecos, which perhaps represent *S. duripes*.

The plant of southern Coahuila, which I have distinguished as *S. suffrutescens* var. *detonsa*, differs from the more northern typical form of the species in having green glabrous leaves that contrast noticeably with the hairy stems. Its stems are usually densely hairy, occasionally, however, they are only sparsely so. Among the specimens which I have cited as representing the var. *detonsa*, Gregg 458 was referred to *S. diffusa* and Gregg's collection from the "Bolson de Mapimi" was referred to *S. Torreyana* when Watson originally published these latter species.

***Suaeda duripes*, sp. nov.**

Planta succulenta herbacea vel fruticosa 5–30 cm. alta; ramis gracilibus ut videtur ascendentibus vel decumbentibus, laevibus vel obscure vesiculato-tuberculatis, glabris vel pilis sparsissimis minutissimis obsitis; foliis succulentis linearibus vel oblongo-obovatis 3–7 mm. longis 1–3 mm. latis compressis, basim versus gradatim contractis, haud petiolatis, late affixis a basi usque ad 1–1.5 mm. supra basim induratis et in caule persistentibus, apice obtusis vel rotundis; glomerulis plurifloris, basi foliis haud vel breviter longioribus basim versus induratis enatis; bracteolis inconspicuis mox deciduis membranaceis triangularibus vel lanceolato-triangularibus saepe integris; perianthio infra medium lobato sub anthesi succulento maturitate vesiculoso et suberoso-incrassato depresso ca. 2–2.5 mm. diametro, lobis prominenter convexis; seminibus nigris erectis nitidis laevibus.

TEXAS: Pecos River, in salt soil, Nov. 1850, *Thurber 114* (TYPE, Gray Herb.); trans-Pecos Texas, 1849, *Wright 878 in part*.

A well marked species, apparently confined to Reeves and Pecos Counties, Texas, and characterized by thickened and persistent leaf-bases and the corky-thickened lobes of the fruiting calyx. The collection of Charles Wright is part of the mixed sheet which I have described above in my discussion of *S. suffrutescens*. It consists of small apparently annual plants less than a decimeter tall. Since Wright's field notes give his collection from San Elizario as a small bush, it is obvious that his material of *S. duripes* was collected either near the present Ft. Stockton or about 20 miles to the eastward, along the old San Antonio-El Paso wagon road, at the watering place which Wright called Escondido Springs. Thurber's material was collected along the northern wagon road to El Paso which crossed the Pecos about 50 miles south of the New Mexico boundary and then went up the west side of the river to Delaware Creek before continuing westward.

Tidestromia carnos (Steerm.), comb. nov.

Cladotrix lanuginosa var. *carnosa* Steerm., in Ann. Mo. Bot. Gard. **19**: 389 (1932).

Tidestromia lanuginosa var. *carnosa* Cory, in Rhodora **38**: 405 (1936).

This plant appears to be restricted to gypseous saline Upper Cretaceous clays and is known only from Brewster County, Texas, and south of Ojinaga, Chihuahua. South of Ojinaga I found it growing in close proximity to *T. lanuginosa*. The two species were so completely different in appearance and so constant in their differences that it seems surprising that they have continued to be treated only as variety and species. From the widely ranging *T. lanuginosa* the present species differs in the very fleshy yellowish green nearly glabrous herbage, more brittle stems, and more indurate involucre bearing subsessile leaves. These characters are constant in all the herbarium material I have examined. The closest relative of *T. carnos* is *T. tenella* Johnston, of the gypseous soils in western Coahuila south of Laguna del Rey, from which it differs in having much coarser stems and leaves, flowers that dry brownish rather than white, and coarsely branched rather than minutely barbellate hairs along the stem and on the flowers. The three species *T. lanuginosa*, *T. carnos*, and *T. tenella* are all annual herbs. The remaining species of the genus are all strong-rooted perennials.

Tidestromia suffruticosa, var. *coahuilana*, var. nov.

A varietate typica differt indumento laeviore minus pruinoso, foliis involucre petiolatis, floribus mox glabratis; caulibus rigidis distincte fruticosis.

COAHUILA: Sierra Cruces, 5 km. west of Picacho San José, limestone hillside, Stewart 820; Sierra Cruces, 5 mi. north of Santa Elena, stony bank, Johnston & Muller 1014 (TYPE, Gray Herb.); Sierra del Pino, Cañon Ybarra, dry hillside, Stewart 1855; Lomas del Aparejo, east side of Llano de Guaje, Johnston & Muller 773; south end of Sierra del Pino, northeast of Armendais, rocky flat, Johnston & Muller 363; western base of grade over Cuesta Zozaya, limestone slopes, Muller 3287 and Johnston 9300; Aguaje Pajarito, west end of Sierra Fragua, rocky ridges and slopes, Johnston 8677; 3 mi. west of Socorro, dry arroyo banks, Johnston 8844; Sierra Paila, Oct. 1910, Purpus 4927.

Typical *T. suffruticosa* was based upon material collected by Wright on mountain sides near Frontera, July 19, 1851, and on hills about 30 miles west of the Pecos, Aug. 18, 1849. Subsequent collections have been made in Brewster County, Texas, and in Dona Ana County, New Mexico. This typical form, of Texas and New Mexico, differs from the plant of central and western Coahuila in its looser pruinose indument, much less woody stems, permanently hairy flowers, and shorter petioles on the involucre leaves. These differences are not always strongly developed, but together they add up to appreciable differences in the gross aspects of the two plants. In Coahuila the plant is most commonly found on planed down upper Cretaceous beds at the base of anticlinal mountains and is usually associated with *Dyssodia acerosa* and *Coldenia hispidissima* and other indicators of somewhat gypseous soil. The localities at which the typical form of *T. suffruticosa* has been collected suggest that it too may select rocky soils containing at least some gypsum.

Tidestromia rhizomatosa sp. nov.

Planta perennis prostrata ramosa grisea pilis ramosis vestita; rhizomatibus laevibus brunneis gracilibus; caulibus 1–2 mm. crassis griseis 1–2 dm. longis basi gemmis albis parvis donatis, internodiis 5–20 mm. longis; foliis carnosis saepe plus minusve reflexis et plano-convexis subtus conspicue crassinerviis, inferioribus obovatis 5–12 mm. longis 5–10 mm. latis, maturitate plus minusve glabrescentibus, supra medium latioribus deinde basim versus gradatim attenuatis, apice rotundis vel obtusis, superioribus ovatis sessilibus; glomerulis 1- vel 2-floris; floribus lacteis 3 mm. longis; lobis perianthii obtusiusculis ovato-oblongis ad 3 mm. longis 1–1.2 mm. latis quam bracteis lateralibus circa duplo longioribus, extus basim versus glaberrimis brunnescentibus alibi tomentosus; tubo staminali 0.4–0.5 mm. alto staminodia 5 et filamentas 5 gerentibus; filamentis subulatis 0.7–0.9(–1.2) mm. longis, antheras ad 1 mm. longas 4–5-plo longiores quam latas gerentibus; staminodeis subulatis quam filamentis $1/5$ – $1/2$ brevioribus; ovario globoso; stigmatate profunde bilobato; semine ad 1.3 mm. longo erecto brunnescente ovoideo.

COAHUILA: Near El Anteojo, about 3 miles west of Cuatro Ciénegas, with *Allenrolfea* on a silty saline, probably also gypseous, flat just east of the pond, locally abundant, decidedly prostrate, grayish, rhizomatous, leaves fleshy and more or less reflexed, Sept. 5, 1941, *Johnston 8873* (TYPE, Gray Herb.).

A perennial species with the stems flat on the soil and spreading underground by slender smooth rhizomes. The leaves are fleshy, thinly clothed with trichomes, and more or less plano-convex and reflexed. They are very strongly veined beneath. The species is most closely related to *T. gemmata*, from which it differs in its rhizomes, lack more elongate stems, more or less glabrescent more fleshy reflexed leaves, slightly larger flowers, and the development of staminodes. The well developed staminodes distinguish the species from all its congeners save only *T. oblongifolia* (Wats.) Standley, of California and Arizona. The plant is probably a halophytic gypsophile.

Tidestromia gemmata, sp. nov.

Planta perennis pilis ramosis dense vestita, e radice valida palari profunda apice gemmis conspicuis albo-tomentosis donata et non raro caudicem compactam proferente oriens; caulibus laxe ramosis prostratis vel decumbentibus rubiginosis pilis griseis vestitis 1.5–2.3 mm. crassis 1–1.5 dm. longis, internodiis 1–2.5 cm. longis; foliis juvenilibus albis vel cinereis, maturis dilute flavescentibus; foliis inferioribus conspicue petiolatis, lamina 12–15(–23) mm. longa 1–1.6 mm. lata, subtus prominenter nervata, apice obtusa vel rotundata, basi truncata vel obtusa in petiolum 4–8(–10) mm. longum abrupte contracta; foliis superioribus numerosis ovatis subsessilibus sursum gradatim reductis; glomerulis 2–4-floris; floribus lacteis 2.5 mm. longis; lobis perianthii ad 2 mm. longis lanceolato-oblongis vel ovato-oblongis obtusiusculis quam bracteis lateralibus circa duplo longioribus, extus basim versus glabris alibi praesertim medium versus tomentosus; tubo staminali 0.6–0.7 mm. alto; staminodeis nullis; filamentis 0.8–1.2 mm. longis; antheris oblongis 0.8–1 mm. longis.

COAHUILA: Just south of Matrimonio Viejo, restricted to gypsiferous shales, prostrate, common, Sept. 22, 1941, *Johnston 9363* (TYPE, Gray Herb.); just east of Ameri-

canos, on cemented gravels capping gypsum, prostrate, locally common, Sept. 23, 1941, *Johnston 9379*; 20 km. southeast of Rancho Alegre on road to Acatita, on flats, prostrate, common, Sept. 20, 1942, *Stewart 2668*.

This species superficially resembles coarse plants of *T. lanuginosa*, but differs in its coarse very strong tap-root, conspicuous large cottony buds borne near the surface of the soil, slightly more fruticulose reddish stems, and thicker more strongly veined leaves. I first recognized the distinctness of the species near Matrimonio, where I found it growing near specimens of the common and widely distributed annual, *T. lanuginosa*. I suspect that the *Tidestromias* I noted as growing in gypsum seams in the shales south of Laguna de Leche may also belong to *T. gemmata*.

***Spiraea Northcraftii*, sp. nov.**

Frutex; ramulis gracilibus rigidis laxe ascendentibus vel subdivaricatis glaberrimis, vetustioribus griseis subspinescentibus, juventute castaneis; foliis minutis numerosis crassis laevibus enervatis obscure costatis pallidulis glaberrimis solitariis vel plus minusve fasciculatis integerrimis oblanceolatis, 3–8 mm. longis 1–2.5 mm. latis, apicem versus latioribus deinde basim versus in petiolum 0.5–1 mm. longum subcastaneum gradatim contractis, apice rotundis vel obtusis abrupte conspicue mucronatis; inflorescentia terminali subcorymbosa 8–15-flora plus minusve hemisphaerica ca. 8 mm. diametro glabra; bracteis linearibus 1–1.5 mm. longis, pedicellis 1–1.5 mm. longis, hypanthio 1.5 mm. alto et diametro, lobis triangularibus ad 1 mm. longis valvatis intus sparse tomentulosis; petalis albis 1.5–2 mm. longis 1–1.3 mm. latis, margine erosis; staminibus 15, filamentis linearibus 1.5 mm. longis; carpellis 2 vel 3 glaberrimis; folliculis non visis.

COAHUILA: Summit of Picacho de Jimulco, 13 km. east of Jimulco, in thick underbrush in woodland association with oak, pine and juniper, June 29, 1941, *Stanford, Retherford & Northcraft 115* (TYPE, Gray Herb.).

A microphyllous shrub related to *S. Hartwegiana* Rydb., of Hidalgo, Puebla and Oaxaca, from which it differs in being smaller in all parts, and in having a shorter less elongate hypanthium and a dense few-flowered subcorymbose rather than an elongate many-flowered racemose inflorescence.

***Vauquelinia Retherfordii*, sp. nov.**

Frutex 3 m. altus; ramulis cortice grisea glabra obtectis; foliis apice ramulorum confertis lineari-oblongis 2–5 cm. longis 4–7 mm. latis, basim versus in petiolum 2–4 mm. longum pallidum abrupte contractis, supra viridibus inconspicue sparseque puberulentis canaliculatis sed inconspicue minuteque reticulatis, subtus pallidis tomentulosis pilis mollibus contortis brevibus albis dense vestitis maturitate aliquantulum deciduis, margine utrinque dentibus 15–20 parvis ascendentibus donatis, apice obtusis; corymbo terminali 2–3 cm. diametro 10–30-floro, ramulis tomentulosis; hypanthio hemisphaerico 3–4 mm. diametro dense puberulente; sepalis ovatis intus tomentulosis; petalis ellipticis albis ad 4 mm. longis ca. 2 mm. latis integerrimis; staminibus 12–15, filamentis linearibus ca. 3 mm. longis; capsulis submaturis globoso-ovoideis ca. 3 mm. diametro.

COAHUILA: Sierra Jimulco, about 11 km. northeast of Jimulco, in rolling hills covered with *Agave*, *Yucca* and low mesquites, *Stanford, Retherford & Northcraft 87* (TYPE, Gray Herb.).

A species related to *V. californica*, from which it differs in its smaller

narrow elongate short-petiolate leaves clustered on short-shoots, its permanently tomentulose lower leaf-faces, and its small few-flowered corymbs.

Thamnosma Stanfordii, sp. nov.

Frutex 6 dm. altus ramosissimus glaberrimus; ramulis teretibus tuberculatis 1–2 mm. crassis foliosis evanescenter glaucis; foliis numerosis confertis lineari-oblongatis vel linearibus compressis 7–12 mm. longis 0.8–1.5 mm. latis, medium versus usque ad apicem versus latioribus, costatis sed enervatis, juventute subglaucis, margine minute sed distincte sinuatis; floribus 1 vel 2 extra-axillaribus apicem ramuli versus gestis; pedicellis 1.5–2 mm. longis, fructiferis ad 5 mm. longis; calyce ca. 4 mm. longo infra medium lobato, lobis triangulari-oblongis ca. 3 mm. longis obtusis purpurascensibus basi ad 2 mm. latis; corolla alba purpurascens; petalis 4, ad 10 mm. longis, oblongo-ovatis (infra medium ad 4 mm. latis) acutis; filamentis 4 exterioribus ad 5 mm. longis; filamentis 4 oppositipetalis 3 mm. longis linearibus; antheris ellipsoideis ca. 1.5 mm. longis; stylo stamina superante; capsula stipite ad 1 mm. longo incluso 1 cm. longa, ca. 6 mm. lata, apice ca. 2 mm. profunde bilobata.

COAHUILA: Sierra de Jimulco, 11 km. northeast of Jimulco, rolling hills with *Agave*, *Yucca* and low mesquites, plant 2 ft. tall, fl. purple, fennel-like odor, June 27, 1941, *Stanford, Retherford & Northcraft 16* (TYPE, Gray Herb.).

A very distinct addition to this small genus of North America and Africa. In its strongly biseriate stamens and in its bushy growth-habit it departs widely from the three American species previously described. It is a much-branched slender-stemmed bush with numerous leaves. The leaves somewhat suggest those of *T. texana*. The large flowers superficially resemble those of *T. montana*. The capsule most suggests that of *T. texana* but is larger and more elongate. The stamens in *T. texana* and *T. montana* (flowers not known in *T. trifoliata*) are subequal. In *T. Stanfordii* the filaments of the inner whorl of stamens are very conspicuously shorter than those of the outer whorl.

Pseudosmodingium ? anomalum, sp. nov.

Frutex erectus ca. 2.5 m. altus; ramulis vetustioribus cortice grisea glabra obtectis, hornotinis dense puberulentis; foliis submaturis (vetustioribus non visis) simplicibus angustissimis integerrimis minute puberulentis apice ramulorum confertis, 2–5 cm. longis 2–3 mm. latis, utrinque attenuatis costatis sed haud vel vix nervatis, 1–2 mm. longe petiolatis; paniculis sub anthesi (fructiferis non visis) 4–5 cm. longis elongatis sparsifloris sparse ramosis minute sparseque puberulentis quam foliis subduplo longioribus, axi paniculae gracillimo parte 1/3 raro ad 1/2 inferiore nudo deinde sursum ramulos 3 vel 4 gracillimos 3–12 mm. distantes ascendentes sparsifloros 3–10 mm. longos simplices vel raro pauciramosos gerente; bracteis linearibus 1–2 mm. longis; floribus minutis 5-meris; pedicellis gracillimis 1–3 mm. longis; sepalis ca. 0.6 mm. longis et latis triangularibus apice rotundis basi abrupte constrictis; petalis imbricatis ellipticis vel elliptico-ovatis, 1.5 mm. longis 1.2 mm. latis, medium versus vel infra medium latioribus, apice rotundis, basi subtruncatis; disco patelliformi; antheris ca. 0.5 mm. longis et latis, basi cordatis, apice rotundis; filamentis subulatis ca. 0.6 mm. longis latere exteriori disci affixis; ovario sessili glabro stigmatibus 3 tuberculatis terminato; fructu ignoto.

COAHUILA: Sierra de Jimulco, about 11 km. northeast of Jimulco, along arroyo in rolling hills covered with *Agave*, *Yucca* and low mesquites, plant uncommon, erect, 8 ft. tall, June 28, 1941, *Stanford, Retherford & Northcraft 73* (TYPE, Gray Herb.).

A deciduous shrub with slender woody stems bearing scattered clusters of elongate simple entire leaves on short-shoots. The type material shows nearly fully grown new leaves and well developed inflorescences with the flowers at anthesis. Without fruit the generic position of the plant is necessarily uncertain. I have placed it in *Pseudosmodingium* because in that genus I find leaves clustered on similar short-shoots, panicles of similar position and form, and flowers of similar appearance and structure. Prof. Irving W. Bailey reports that the wood of the plant is also suggestive of the genus. The described species of *Pseudosmodingium*, however, have well developed imparipinnate leaves. The leaves are distinctly simple in the present plant. Their obscure veining shows that they are not phyllodal and the absence of a secondary basal articulation gives no indication that they might be the terminal leaflet of an otherwise suppressed pinnate leaf.

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