

## *Sedum furfuraceum*



Fig. 54 *Sedum furfuraceum* as it grew at the type locality, November 1959. Natural size.

### **A new species from San Luis Potosi, México**

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In the late fall of 1959, under the auspices of the San Diego Museum of Natural History, Myron Kimmach and I spent six weeks collecting in Mexico, paying particular attention to *Crassulaceae*. It would be hard to name the most interesting area we visited, for almost every day we found intriguing plants some familiar to us from cultivation but perhaps with few or no known wild localities, some vaguely known from descriptions, and some quite strange and new.

A memorable afternoon was one we spent in the western foothills of the Sierra de Alvarez east of the city of San Luis Potosi, on the road to Zaragoza and beyond. It did not seem extravagant to find in the one afternoon five kinds of *Sedum* and one each of *Echeveria*, *Pachyphytum*, and *Villadia*, to say nothing of cacti. Our most interesting stop was on a pine-covered hillside above the Ranchito de Juárez. On a north-facing cliff grew *Sedum palmeri* and *Pachyphytum* sp. resembling *P. hookeri*, which, however, has not flowered to reveal its identity. On the shaded slope were many beautiful plants of that old garden favorite *Echeveria agavoides* for which the monograph of Britton and Rose gives no locality more precise than "Mexico" and that of von Poellnitz no locality other than "San Luis Potosi".

But most remarkable of all was a strange sedum forming coarse mats in the peat-like duff on pine-shaded rocks. The creeping stems with upturned ends bore egg-shaped leaves a third of an inch long crowded in 5 spiral rows, dark green but somewhat frosted with tiny dandruffy scales peeling from the surface. This curious plant called to mind some of the compact South African crassulas, though of course they differ in having the leaves opposite and so in four rows instead of five. In March and April of 1961, this plant flowered at San Diego, permitting the description of what

appears to be a new species of *Sedum*.

***Sedum furfuraceum* sp. nov.**

Planta glabra; caules perennes, decumbentes,  $\frac{1}{2}$ - $1\frac{1}{2}$  dm longi, basi ad 8 mm diametro, cortice cano molli; folia alterna, in 5 seriebus subtortuosis conferta, ovoidea, obtusa, circiter 9 mm longa et 5 mm lata, cuticulam in forma furfuris albi deponentia; inflorescentia terminales, sessilis, conferta, ex 1-3 floribus constans; flores sub-sessiles, roseo-albi, 8-10 mm diametro; sepala elliptico-ovata, ad  $2\frac{1}{2}$  mm longa, latitudine subinaequalia; petala lanceolata, acuta,  $4\frac{1}{2}$ -5 mm longa,  $\frac{1}{2}$ -1 mm connata; squamae subquadratae, subrutilae; pistilla  $3\frac{1}{2}$ -4 mm alta, brevistylia, sub fructu adscendentia.

Glabrous perennial. Stems prostrate to ascending, branching sparsely throughout, growing sympodially past the terminal old inflorescences,  $\frac{1}{2}$ - $1\frac{1}{2}$  dm long, ca.  $1\frac{1}{2}$  mm thick near the apex, 3 mm thick at the base of the leaf-bearing part, and 8 mm thick at the base, not terete but flattened at each leaf attachment, near the apex crowded-papillose, the papillae ca. 0.1-0.2 mm wide, soon withering orange-brown, some of them turning black and persisting to roughen the stem after leaf-fall, the internodes ca. 1 mm long, the leaf-base site oval, ca. 3 mm wide and  $2\frac{1}{2}$  mm high, scarcely evident after leaf-fall except as a flattened area, the leaf attachment oval, 0.5-1.2 mm wide, 0.3-0.5 mm high, the stem surface yellow-green, soon obscured except at a few irregularly distributed fissures by a grayish white persistent and thickening soft somewhat flaky bark. Leaves dark green or in strong sunlight somewhat purplish red, alternate, 20-35 crowded in 5 obvious parastichies in the upper  $1\frac{1}{2}$ -3 cm of the stem, subtriquetrous-ovoid, obtuse, 6-11 mm long,  $4\frac{1}{2}$ -6 mm wide, 4-5 mm thick, the margins and keel evident as obtuse ridges in the apical half or at least near the apex, the surface at first shiny, soon appearing somewhat frosted as the cuticle splits irregularly into flakes ca. 0.1-1.0 mm wide, which become partially free but persist on the surface. Inflorescence terminal, sessile and crowded, of 1-3 flowers, when 3-flowered a uniparous or biparous cyme, whose flowers open at intervals of mostly ca. 6 (-14) days, each axis with ca. two bracts, which wither before fructescence. Bracts elliptic-oblong, obtuse, subtriquetrous, each with thin acute margins, rounded keel, and concave ventral face, the lower ca.  $3\frac{1}{2}$  mm long,  $1\frac{1}{2}$  mm wide, and 1 mm thick, the upper about half as large. Pedicels ca. 1 mm long and slightly thicker, irregularly rugose-papillose. Buds ovoid, acutish. Flowers in March and April (at San Diego), pinkish, 8-10 mm wide, each open for ca. 10 days. Sepals ascending, appressed to the corolla, often somewhat asymmetrically placed, elliptic-ovate, obtuse to rounded at the apex, rounded dorsally, concave ventrally, with somewhat flaky cuticle especially towards the margins, 2.2-2.5 mm long, 1.2-1.7 mm wide, 0.5-0.6 mm thick, those of one flower about equal in length but unequal in width especially because of the varying width of the thin acute margins. Petals non-convolute in the bud, connate  $\frac{1}{2}$ -1 mm, broadly lanceolate, acute  $4\frac{1}{2}$ -5 mm long, 2- $2\frac{1}{2}$  mm wide just below the middle and about half as wide at the base, channeled ventrally for about the width of the filament, somewhat scurfy dorsally, white, in the distal half purplish red on the keel and pinkish in the center ventrally, the proximal half ascending, the distal half horizontally spreading or usually somewhat reflexed after ca. 2 days, finally withering in an ascending position. Stamens erect as the flower opens, the epipetalous remaining against the petals as they spread but erect again by the end of the second day, when their anthers have dehisced, all stamens ascending to spreading after the fourth day; filaments white, tapering from the base, 3- $3\frac{1}{2}$  mm long, 0.3-0.4 mm wide at the base, the antesealous adnate ca.  $\frac{1}{2}$  mm, the epipetalous slightly wider, adnate ca. 1 mm; anthers before dehiscence low red-muriculate on a yellowish background and thus light red, subovoid, flattened and somewhat channeled lengthwise on the four sides, 0.7-0.8 mm long, 0.5-0.7 mm wide, 0.4-0.5 mm thick, the antesealous dehiscing the first day, the epipetalous on or before the second day. Nectar scales yellowish minutely dotted with red, sub-quadrangle in dorsal view, obcuneate in lateral view, ca. 0.4 mm high, 0.3 mm thick at the base, 0.5 mm wide. Pistils white or pinkish,  $3\frac{1}{2}$ -4 mm high, at first erect and appressed, gradually thickening and separating in the upper third until at the end of

anthesis adjacent stigmas are ca. 1½ mm apart, the ovaries 2½-3 mm high, ca. 0.8 mm wide, at first ca. 0.9 mm thick, becoming ca. 1.3 mm thick, somewhat keeled dorsally and humped two-thirds above the base, connate ca. 1 mm by the ventral margins, narrowing abruptly to styles ca. 1 mm long, the marginal lips ca. 0.3 mm wide; placentae ca. 1½ mm long, with ca. 14-17 ovules, the lower horizontal to declined, the upper ascending; ovules clavate, ca. 0.6 mm long and 0.25 mm thick. Follicles red, drying reddish, the ovaries ca. 3 mm high, 1.6 mm thick, and 0.8 mm wide, before dehiscence erect and in contact in the lower two-thirds, the inner margins ascending above at ca. 45°. Seeds reddish brown, narrowly obovoid, 0.6-0.7 mm long, 0.25-0.3 mm thick-reticulate-pitted in ca. 20 longitudinal rows. Chromosome number: n=34.

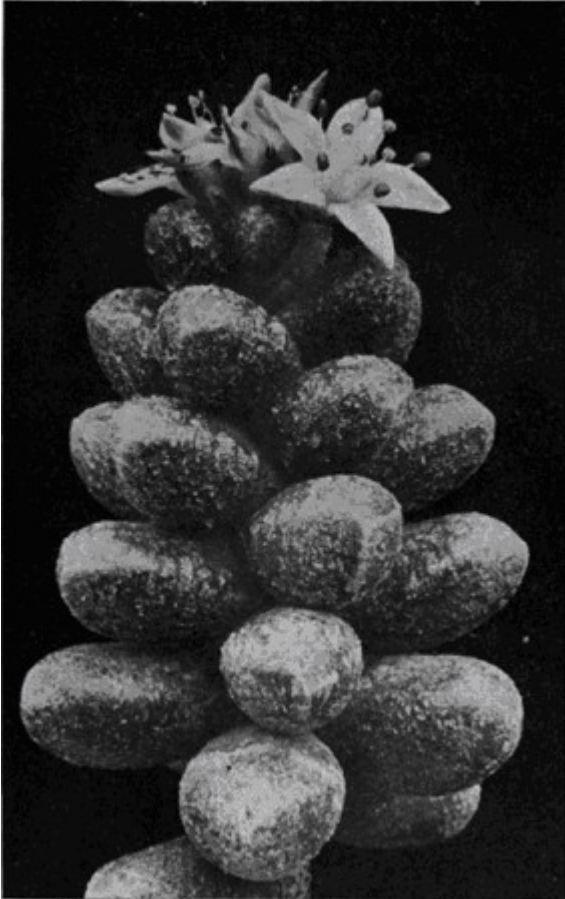


Fig. 55. *Sedum furfuraceum* flowering in San Diego, 28 March 1961. X 3.6.

**TYPE:**

Forming a coarse mat on rocks, pine-covered hillside at 2100 m, above Ranchito de Juárez, 11 miles by road southeasterly from Zaragoza, San Luis Potosi, México (near 21° 59' N, 100° 42' W), 7 November 1959, Moran & Kinnach 7659; flowering at San Diego, California, 28 March 1961 (SD 51098). Living plants of the type collection were sent to the Instituto Nacional de Investigaciones Forestales, in Mexico; to the Sociedad Mexicana de Cactología, A. C.; and to the International Succulent Institute, which will distribute plants when enough are propagated. The relationships of *Sedum furfuraceum* are not clear. The Mexican sedum whose leaves are most similar in size and shape is *S. stahlii* Solms; but that plant has thinner stems, longer internodes, opposite puberulent leaves that often are orange-red, and more numerous and larger yellow flowers. Perhaps *S. furfuraceum* is closest to such smaller plants as *S. moranense* HBK, which has perennial stems, crowded thick alternate leaves, terminal inflorescences of few to several subsessile white flowers, and spreading follicles with short styles and rather wide marginal lips. From *S. moranense* and its relatives, it differs in its larger stems and leaves, peeling cuticle, thick soft bark, and uniformly small and compact inflorescence.

Dr. Charles H. Uhl of Cornell University has made a chromosome count from material of the type collection. He reports a gametic chromosome number of 34.

