



6-30-1973

A new subfruticose *Eriogonum* (Polygonaceae) from western Colorado

James L. Reveal

University of Maryland, College Park, and Smithsonian Institution, Washington, D.C.

Follow this and additional works at: <https://scholarsarchive.byu.edu/gbn>

Recommended Citation

Reveal, James L. (1973) "A new subfruticose *Eriogonum* (Polygonaceae) from western Colorado," *Great Basin Naturalist*: Vol. 33 : No. 2, Article 6.

Available at: <https://scholarsarchive.byu.edu/gbn/vol33/iss2/6>

This Article is brought to you for free and open access by the Western North American Naturalist Publications at BYU ScholarsArchive. It has been accepted for inclusion in Great Basin Naturalist by an authorized editor of BYU ScholarsArchive. For more information, please contact scholarsarchive@byu.edu, ellen_amatangelo@byu.edu.

A NEW SUBFRUITICOSE ERIOGONUM (POLYGONACEAE) FROM WESTERN COLORADO

James L. Reveal¹

ABSTRACT.— A new subfruticose *Eriogonum* (Polygonaceae) is described as *E. pelinophilum*, from specimens obtained near Hotchkiss, Delta Co., Colorado. A member of the subgenus *Eucycla*, the new species is most closely related to *E. contortum* Small ex Rydb., but differs in having cream-colored flowers instead of bright yellow flowers. The two species also differ in that *E. pelinophilum* has narrowly turbinate involucre which are longer than those of *E. contortum* and larger flowers and achenes. The new species is apparently restricted to gumbo clay hills west of Hotchkiss.

In my series of Notes on *Eriogonum*, part VI dealt with the *Eriogonum microthecum* Nutt. portion of the Section Corymbosa Benth. in DC. (Reveal, 1971). In that treatment, I discussed an undescribed species known only from a single collection which occurred on clay hills near Hotchkiss, Delta Co., Colorado. In spite of two attempts to find additional material, the plant could not be located in the field, and the decision was made not to provide formal recognition of this entity until it could be rediscovered and an exact location established.

In July 1972, fieldwork in the Hotchkiss area led to the relocation of this long-sought buckwheat which may now be called:

Eriogonum pelinophilum Reveal, spec. nov. A *Eriogono contorta* Small ex Rydb. floribus albidis et longioribus (2.5) 3-3.5 mm longis, involucris anguste turbinatis (2.5) 3-3.5 mm longis differt. *Plantae* subfruticosae 5-10 cm altae et 8-20 (30) cm latae; *folia* oblanceolata, laminis 5-12 (15) mm longis et 1-2 (3) mm latis, subtus albotomentosis, supra subglabris vel glabris raro floccosis, marginibus revolutis, petiolis brevissimis, 1 mm longis, floccosis vel glabris; *caules* graciles, (3) 5-10 mm longi, floccosi vel glabri; *inflorescentiae* cymosae, 1-2 cm longae et 1-3 cm latae, ramis floccosis vel glabris, radiis 2-7 (10) mm longis; *bractee* ternatae, 0.5-1 mm longae et latae; *pedunculi* erecti, 1-5 mm longi, floccosi vel glabri; *involucra* solitaria, anguste turbinate, (2.5) 3-3.5 mm longa et 1-1.5 mm lata, floccosa vel glabra, 5-lobatis 0.3-0.4 mm longis, bracteolis oblanceolatis, 1.8-2.5 mm longis, pedicellis 2.5-4.5 mm longis et glabris; *flores* albidum cum costa et funda rufi, (2.5) 3-3.5 mm longi, glabri, tepalis similaribus, oblongis, 0.8-1.2 mm latis; *stamina* exserta, 2.5-4 mm longa, filamentis sparse pilosis basi, antheris albidis, 0.6-0.7 mm longis, oblongis; *achaeia* infuscata, 3-3.5 mm longa.

Low-rounded, heavily branched, pulvinate subshrub 5-10 cm high, 8-20 (30) cm across, the lower woody stems light brown, the bark exfoliating in long loose strips or in wide plates, leafless, arising from a stout, woody taproot, the upper branches herbaceous, slender, floccose to glabrous; *leaves* solitary, scattered along the entire

¹Department of Botany, University of Maryland, College Park 20742, and National Museum of Natural History, Smithsonian Institution, Washington, D.C. 20560.

length of the herbaceous stems except for the last (3) 5-10 mm, somewhat closely arranged and congested to widely spaced, the leaf-blade oblanceolate, 5-12 (15) mm long, 1-2 (3) mm wide, densely white-tomentose below, the midvein totally obscured by the tomentum, subglabrous to glabrous and green above, the margin entire, revolute and complete enclosing the lower surface, the apex and base acute, the blades persistent throughout the growing season, the petiole short, 1 mm long, light yellowish-brown to tan and thinly pubescent when young, becoming glabrous and brownish at maturity, the petiole-base elongate-triangular, 1-2 mm long, 0.7-1.2 mm wide, slightly pubescent to glabrous and light brown without, densely tomentose within; *flowering stems* erect, slender, 5-10 mm long, floccose to glabrous; *inflorescences* cymose, \pm compact and congested, 1-2 cm long and 1-3 cm wide, trichotomous, the rays 2-7 (10) mm long, once or twice divided, floccose to glabrous; *bracts* scalelike, ternate, 0.5-1 mm long and wide, triangular, floccose to glabrous without, thinly tomentose within, connate at the base; *peduncles*, when present, 1-5 mm long, erect, floccose to glabrous, those of the central involucre longest, 3-5 mm long, those of the lateral involucre shorter, up to 2 mm long; *involucre*s solitary, narrowly turbinate, (2.5) 3-3.5 mm long, 1-1.5 mm wide, floccose to glabrous without, glabrous within, the 5 acute teeth 0.3-0.4 mm long, the bractlet oblanceolate, 1.8-2.5 mm long, minutely fringed with capitate, gland-tipped cells, the pedicel 2.5-4.5 mm long, glabrous; *flowers* white to cream with reddish-brown midribs and large, conspicuous brownish-red to greenish-red bases, (2.5) 3-3.5 mm long, glabrous within and without except for microscopic glands along the midribs within, the tepals essentially similar, oblong, the outer whorl of tepals 1-1.2 mm wide, the inner whorl 0.8-1 mm wide, the apex of both whorls rounded, united at least $\frac{1}{2}$ the length of the flower; *stamens* slightly exserted, 2.5-4 mm long, the filament sparsely pubescent basally, the anther white to cream, 0.6-0.7 mm long, oblong; *achenes* light brown, 3-3.5 mm long, the globose base tapering abruptly to a long, three-angled beak.

TYPE.— COLORADO: Delta Co.: Along Colorado Highway 92, 8.6 miles west of the western edge of Hotchkiss, 0.9 miles east of the Red Mesa turnoff and 3.1 miles west of Lazear, 11.5 miles east of U.S. Highway 50 at Delta, on rolling clay hills associated with scattered species of *Atriplex* and *Eriogonum lonchophyllum*, at 6400 feet elevation, 16 July 1972, *Reveal and Reveal 2780*. Holotype, US! Isotypes, 30 duplicates to be distributed from US.

Additional specimens examined: COLORADO: Delta Co.: In desert just out of Hotchkiss, 23 July 1958, *Gentry 2283* (COLO).

The Clay-loving Buckwheat, *Eriogonum pelinophilum*, was first thought to be a member of the Section *Corymbosa* and to be related to *E. bicolor* M. E. Jones (Reveal, 1971). Since seeing the plant in the field, it appears to be more closely related to *E. contortum* Small ex Rydb., a species which is currently placed in an unnamed section typified by *E. brevicaule* Nutt. (Reveal, 1969). The discovery of

this new species now raises serious questions as to the placement of these two species within the genus. Stokes (1936) associated *E. contortum* with those elements around *E. corymbosum*, but the reduced nature of *E. contortum*, its yellow flowers, and smooth greenish stems seem to exclude it from this group of species. However, the flower color of *E. pelinophilum* removes the significance of the flower color, and one is faced with the problem of whether or not one should place both *E. contortum* and *E. pelinophilum* with *E. brevicaule* or with *E. clavellatum* Small and *E. bicolor*. Compounding the problem is the highly reduced, diminutive *E. acaule* Nutt. of Wyoming. Further work is needed before the exact placement of these species can be made, but it is possible that *E. pelinophilum*, *E. contortum*, and *E. acaule* should be placed in a distinct section occupying an intermediate position between those species of the genus typified by *E. microthecum*-*E. corymbosum* and those related to *E. brevicaule*.

The new species may be distinguished from *Eriogonum contortum* by its white or cream-colored flowers and its longer involucre, flowers, and achenes. *Eriogonum pelinophilum* occurs to the south of all known locations of *E. contortum*, which occupies the Grand Valley of Utah and Colorado. So far as known, *E. pelinophilum* is relatively rare in the field, being restricted to gumbo clay hills and slopes in the desert west of Hotchkiss; no specimens were found to the east and south of this townsite.

ACKNOWLEDGMENT

Field work on the genus *Eriogonum* is supported by National Science Foundation grant GB-22645.

LITERATURE CITED

- REVEAL, J. L. 1969. A revision of the genus *Eriogonum* (Polygonaceae). Unpublished doctoral dissertation. Provo.
- . 1971. Notes on *Eriogonum*—VI. A revision of the *Eriogonum microthecum* complex (Polygonaceae). Brigham Young Univ. Sci. Bull., Biol. Ser. 13(1):1-45.
- STOKES, S. G. 1936. The genus *Eriogonum*, a preliminary study based on geographic distribution. San Francisco.