



## New combinations and a new species of *Eriogonum* (Polygonaceae: Eriogonoideae) from the Great Basin Desert, United States

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### Abstract

Three new species of *Eriogonum* have been identified from field research and ongoing molecular systematic analysis of selected members of *Eriogonum* subg. *Eucycla*. *Eriogonum alexanderae*, formerly recognized as a variety of *E. ochrocephalum* or subsumed within *E. crosbyae*, warrants species-level designation. *Eriogonum calcareum*, also previously recognized as a variety of *E. ochrocephalum*, shares many affinities with the narrowly distributed *E. novonudum*, however range and morphology do not overlap between these two species. *Eriogonum crosbyae* var. *mystrium* shares a more similar evolutionary history to *E. crosbyae*, rather than *E. prociduum*, thus a new combination is proposed. *Eriogonum domitum* is described as a new species. This isolated taxon from west-central Utah is no longer thought to be a member of *E. mancum*, differing in morphological characters, geographic distribution and molecular information.

**Key words:** Edaphic endemism, subgenus *Eucycla*, wild buckwheat

### Introduction

While much of the vegetation throughout the Great Basin Desert is relatively homogenous, the rich geological history and heterogenous edaphic substrates create islands of potential evolutionary endemism. *Eriogonum* Michaux (1803: 246) is a prime example of a plant genus that matches this landscape diversity with species diversity. Consisting of over 250 species, *Eriogonum* is one of the most species rich genera found in North America (Reveal 2005). As more and more field and molecular research is conducted, additional revised and previously undescribed species of *Eriogonum* come to light. Here we propose three species, *Eriogonum alexanderae* and *Eriogonum calcareum*, formerly recognized as varieties of *E. ochrocephalum* Watson (1880: 480), and *Eriogonum domitum* previously confused with *E. mancum* Rydberg (1917: 220). In addition, a novel combination is proposed. *Eriogonum crosbyae* var. *mystrium* is more closely related to *E. crosbyae* Reveal (1981) than it is to *E. prociduum* Reveal (1972: 442), based on DNA sequence data. Because these taxa are perennial and possess flowers that lack a simple, stipe-like extension of the perianth, they are classified in *Eriogonum* subg. *Eucycla* (Nuttall 1848: 16) Kuntze (1903: 204).

### Taxonomic Treatment

*Eriogonum alexanderae* (Reveal) Grady & Reveal, *comb. & stat. nov.*, based on *E. ochrocephalum* S. Watson var. *alexanderae* Reveal (1985: 276). TYPE:—U.S.A. Nevada: Lyon County: Wilson Canyon, 12.8 mi NE of Smith, Lyon Co., Nevada, 21 June 1978, Reveal *et al.* 4737 (holotype US, isotypes ASU,