Nesom, G.L. 2025. *Pyrrocoma tenuicaulis* (Asteraceae: Astereae) from Nevada and Pyrrocoma eureka, sp. nov. Phytoneuron 2025-34: 1–33. Published 8 July 2025. ISSN 2153 733X

PYRROCOMA TENUICAULIS (ASTERACEAE: ASTEREAE) FROM NEVADA AND *PYRROCOMA EUREKA*, SP. NOV.

GUY L. NESOM
Research Associate
Academy of Natural Sciences of Drexel University
Philadelphia, Pennsylvania
guynesom@sbcglobal.net

ABSTRACT

Pyrrocoma tenuicaulis Greene has been treated as a synonym of *P. lanceolata* but is recognized here as distinct species of Elko and White Pine counties, Nevada. **Pyrrocoma eureka** Nesom, **sp. nov.** (Eureka County, known only from the type collection), probably is closely related to *P. tenuicaulis* but is morphologically and geographically distinct. Both species are mapped and illustrated.

The original description of *Haplopappus tenuicaulis* from plants in eastern Nevada) noted that it is "near to [*Haplopappus*] *lanceolatus*, but sufficiently distinguished from it by the narrower and at first white-tomentose leaves, the very slender stems, racemosely rather than corymbosely branched, and the smaller heads, with different involucral scales." Gray (1884), however, placed it as a variety within *H. lanceolatus*, and Hall (1928) followed, recognizing it as *H. lanceolatus* subsp. *tenuicaulis*, emphasizing its few, very small heads.

Ferris (1960) and others (e.g., Mayes 1976; Cronquist 1994), have interpreted *Pyrrocoma tenuicaulis* simply as a synonym of *Pyrrocoma lanceolata*, but observations in this study indicate that specific rank is justified. Hall and others have attributed a wide geographic range to "tenuicaulis," but it is seen here as an endemic of Elko, White Pine, and Nye cos., Nevada.

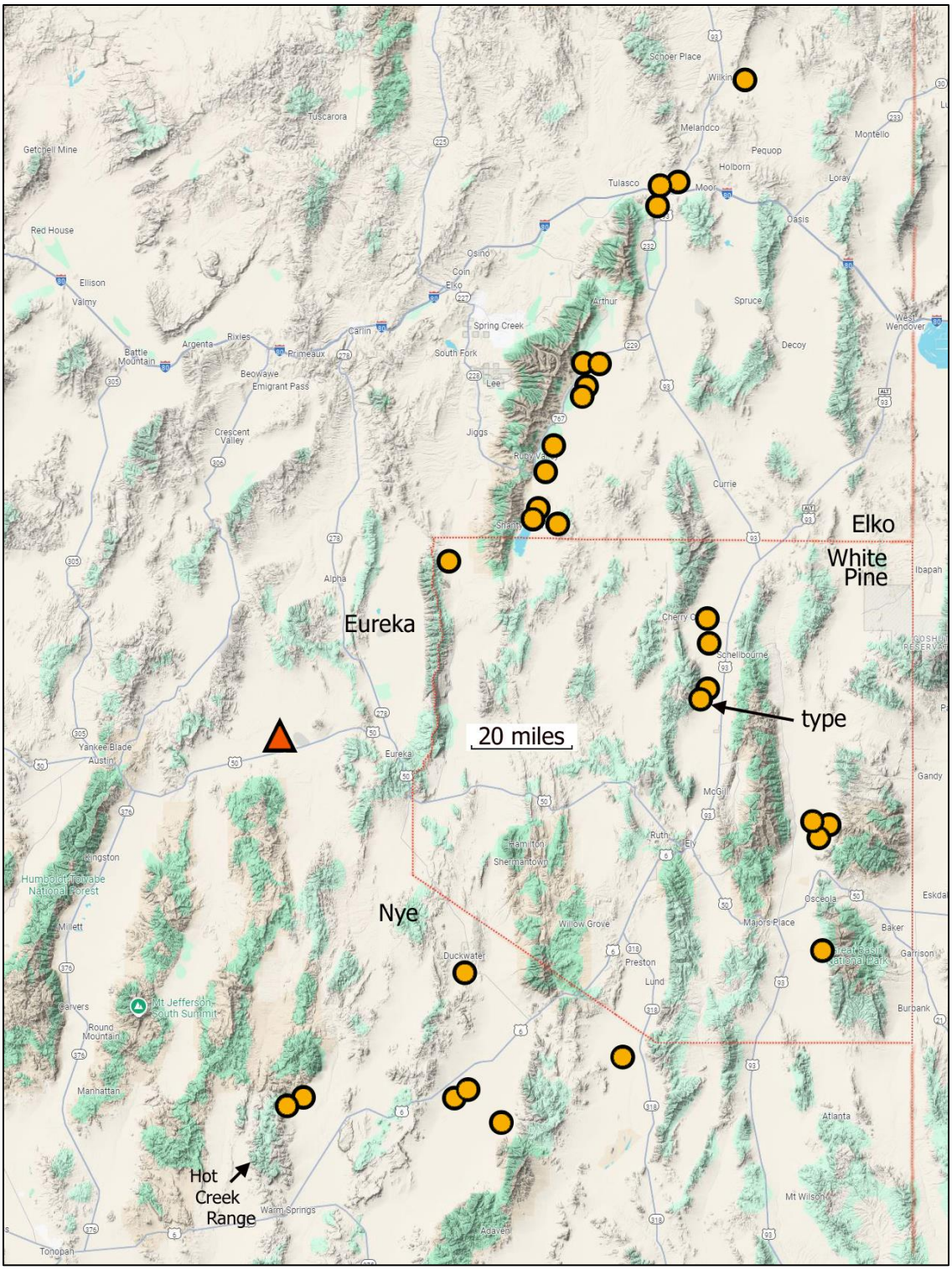
PYRROCOMA TENUICAULIS (D.C. Eat. ex S. Wats.) Greene, Erythea 2: 69. 1894 (not Howell, Fl. N.W. Amer. 1: 298. 1900). *Haplopappus tenuicaulis* D.C. Eat. ex S. Wats., Botany [Fortieth Parallel] 160. 1871. *Haplopappus lanceolatus* var. *tenuicaulis* (D.C. Eat. ex S. Wats.) A. Gray, Synopt. Fl. N. Amer. 1, pt. 2: 129. 1884. *Haplopappus lanceolatus* subsp. *tenuicaulis* (D.C. Eat. ex S. Wats.) Hall, Publ. Carnegie Inst. Wash. 389: 118. 1928. **TYPE**: **Nevada**. Elko Co.: Ruby Valley, alkaline meadow, 6000 ft, Aug 1868, *S. Watson 576* (holotype: GH, mounted with 4 other collections; isotypes: NY-Fig. 1, US-Fig, 3, YU-Fig. 2).

Distinct from *Pyrrocoma lanceolata* in its low habit with decumbent- to ascending-erect stems, relatively narrow basal leaves, smaller and non-clasping cauline leaves, 1-few, small heads on long, slender, ebracteate or minutely bracteate peduncles, and involucres with 2–3 series of short, strongly graduate phyllaries with the green patch tightly restricted to the distal 1/5-1/3.

Stems decumbent-ascending to ascending-erect, 10–33 cm, sparsely villous (sometimes densely villous when young) to glabrate, eglandular. **Leaves**: basal persistent, narrowly oblanceolate, (2–)5–15 cm long, fibrous remnants of basal leaf petioles persistent, blades 4–10 mm wide, faces villous (young) to glabrate or glabrous, petiolar region and proximal portion of blades villous, glabrous distally, margins serrate to serrulate with (1-3–)8–12 pairs of shallow teeth, cauline 6–8, diminishing in size distally, linear-lanceolate to oblanceolate and becoming bracteate, not at all clasping or subclasping. **Heads** 1–2 or more commonly 3–10 in a subracemoid to subcorymboid inflorescence from slender, distal branches (peduncles), sometimes the peduncles long and sparsely bracteate, without immediately subtending bracts. **Involucres** 8–12 mm wide (pressed); phyllaries in 2–3 series of unequal length (strongly graduate), inner 5–6 mm long, oblong-lanceolate with an acute-attenuate apex, green in the distal 1/5-1/3, sparsely villous to glabrous, eglandular, margins with a narrow scarious rim, sometimes

fimbriate-ciliate distally. **Ray florets** 12–25, fertile, corollas 7–10 mm long, 1.5–2 mm wide, coiling. **Disc corollas** 4–5 mm long. **Achenes** 3–4.5 mm long, strigose-villous. Figures 1-20.

Flowering July-August. Alkaline meadows and flats, often around hot springs, often on white-crusty soil; 5400-6100 feet.



Map 1. Distribution of *Pyrrocoma tenuicaulis* (Elko, White Pine, and Nye cos.) and *P. eureka* (Eureka Co.).

Additional collections. **Nevada**. **Elko Co.**, Wells vicinity: Humboldt Wells, 25 Jul 1893, *Greene s.n.* (NY); Wells, 9 Aug 1881 *Jones 3902* (NY); Wells, 8 Aug 1881, *Jones 13432* [2196] (MO); 0.5 mi NW of Wells, 41.135° N, 114.975° W, saline meadow, *Ivesia kingii*, *Crepis*, *Suaeda*, 5600 ft, abundant, 30 Jul 1978, *Williams 78-263-3* (RENO); 0.5 mi NW of Wells, saline meadow, 5600 ft, with *Ivesia kingii*, *Crepis*, *Suaeda*, abundant 30 Jul 1978, *Williams 78-263-3* (NSMC, RENO); 1.2 mi NW of Wells railroad tracks, 41.1204° N, 114.9563° W, wet, with *Juncus* and *Potentilla anserina*, 5620 ft, 23 Aug 1984, *Williams 84-109-9* (NY, RENO, TEX). **Elko Co.**, NE part of county: Thousand Springs Valley, 4 road mi NE of the Winecup Ranch on the main road to Goose Creek, 41.4388° N, 114.6355° W, 5460 ft, 21 Aug 1986, *Tiehm 10905* (BRY, COLO, OSC, NSMC, NY, WTS). **Elko Co.**, Ruby Valley: Ruby Valley, Sulphur Hot Springs, Hwy 11, 16.8 mi SW of jct with Hwy 93, 40.582° N, 115.287° W, 6050 ft, 7 Jul 1969, *Holmgren 3666* (NY); Ruby Valley, around hot springs at NE edge of Ruby Lake Basin, 6.5 km (4 mi) airline distance SE of Harrison Pass Jct, 40.2497° N, 115.405° W, locally common in moist alkaline meadow, 6000 ft, 4 Aug 1980, *Holmgren 9734* (NY); Ruby Valley, around hot springs at NW corner of Maverick Springs Range, 44.5 air mi SSE (155°) of Elko, 40.247° N, 115.4046° W, 6000 ft, 30 Aug 1983, *Holmgren 10300* (NY); 17 mi NNE of Ruby Valley, Hwy 229 in Franklin River bed (dry), E of Ruby Dome, short grass and sparse rabbitbrush, 10 Aug 1990, 2n=12II, *Semple 9266* (BRY, MO); Ruby Valley, S of Ruby Lake Natl Wildlife Refuge, ca. 1 mi SE of the Fort Ruby Ranch, 40.42° N, 115.294° W, alkaline area, with *Poa*, *Crepis*, *Leymus*, 6010 ft, 21 Jul 1997, *Smith 4140* (RENO); extreme N end of Butte Valley, springs on E side of road just S of The Narrows, 40.218° N, 115.004° W, dry areas between the springs, with *Ericameria nauseosa* var. *oreophila*, 6330 ft, 1 Jul 2022, *Tiehm 19170* (CAS, RENO, UNLV); Ruby Lake Valley, *Artemisia* belt, alkali valley bottom, under shallow water in spring months, 5000 ft, 8 Aug 1936, *Train 424* (BRU, MO, MWI, US); near the springs at "Point,"E of Ruby Lake Wildlife Refuge, 40.25° N, 115.4073° W, saline area near the springs, with *Solidago*, *Ivesia*, *Centaurium*, ca. 6300 ft, 17 Aug 1978, *Williams 78-318-7* (NY, RENO); Ruby Valley, 12.9 mi SW of Hwy 93 on Hwy 11, 40.636° N, 115.225° W, damp saline area with grasses, 6000 ft, 14 Aug 1980, *Williams 80-270-8* (NY, RENO); Ruby Valley, Sulphur Hot Springs, 40.583° N, 115.287° W, 6050 ft, 14 Aug 1980, *Williams 80-271-3* (NY, RENO). **Nye Co.**: Just E of Duckwater, dry alkaline meadows, rays 10-17, 5577 ft, 11 Sep 1987, *Cronquist 12081* (NY, UT); along Tonopah-Ely hwy, ca. 97 mi E of Tonopah, vicinity of Lockes Ranch, 38.554781° N, 115.774459° W, damp alkali soil, common, 19 Jul 1937, *Goodner 789* (RENO); White River Valley, Moormon Springs, 2.7 road mi S of the Wells Summit Station road, 38.5967° N, 115.1448° W, 5300 ft, 12 Aug 1985, *Tiehm 10160* (NY); Railroad Valley, Warm Springs, 6.8 road mi S of Lockes on main road on W side of Valley, 38° 27' 51.9" N, 115° 47' 38.3" W, on white crusty soils from the spring deposits, 4800 ft, locally common, 6 Sep 2005, *Tiehm 15097* (ASC, COLO, KANU, NY, RENO, UNLV, UT); Railroad Valley, meadow on W side of Thorn Spring, W of main E side valley road, 38.4352° N, 115.57944° W, dry saline meadow, 4750 ft, with *Ericameria albida*, *Cirsium mohavense*, 13 Sep 2024, *Tiehm 20066* (UNLV, RENO). **White Pine Co.**, Newark Valley: 16 mi N (by road) of Simonsen [Simonsen = 39.843° N, 115.748° W], alkaline sods, with *Potentilla anserina*, *Ranunculus cymbalaria*, *Crepis glauca*, *Carduus acaulis*, *Distichlis*, *Horkelia*, etc., surrounded by extensive fields of *Chrysothamnus nauseosus consimilis*, 19 Aug 1925, *Hall 12163* (UC). **White Pine Co.**, Monte Neva Hot Springs: Monte Neva Hot Springs, 39.89° N, 114.796° W, damp alkaline clay soil on the mound of the hot springs, 30 Jun 1996, *Atwood 20884* (RENO); 16 air mi N of McGill, Duck Creek at road between US 93 and Monte Neva Hot Springs, 39.658° N, 114.801° W, valley floor with standing water on both sides of road, grass along bank of 'puddle,' streamside meadow with *Scirpus*, *Juncus*, uncommon, 19 Jul 1990, *Lyman 1223* (SD, UNLV, UCR, UTEP); Steptoe Valley, 1.8 road mi E of Hwy 93 on the road to Monte Neva Hot Springs, 39.66° N, 114.78° W, 6070 ft, 13 Aug 1985, *Tiehm 10172* (COLO, NY); Monte Neva Hot Spring, on the E side, near the seepage drainages, 39.667° N, 114.806° W, 6050 ft, 31 Jul 1978, *Williams 78-272-7* (RENO). **White Pine Co.**, Cherry Creek vicinity: Steptoe Valley, Rte 489 (to Cherry Creek) 2.5 road mi W of Hwy 93, 39.892° N, 114.799° W, saline meadow, cracked soil, *Centaurium exaltatum*, 5878 ft, 16 Aug 1989, *Pinzl 8843* (NY, UNLV); Steptoe Valley, 3.4 road mi W of Hwy 93 on the Cherry Creek Road, saline flats on the valley floor, 26 Jul 19897, *Tiehm 11453* (COLO, DES, MO, NY, RENO, TEX, UNLV, UT). **White Pine Co.**, Spring Valley: The Cedars, 38.935° N, 114.418° W, subalkaline meadow, ca. 5780 ft, 22 Jul 2003, *Clifton 40959* (RENO); Spring Valley, N end of *Juniperus scopulorum* forest [ca. 39.34° N, 114.43° W], alkaline soil near spring, 7 Aug 1954, *Holmgren 10789* (NY); Spring Valley, Spring Creek, ca. 3 mi S of Yelland Lake, 39.29445° N, 114.44224° W, alkaline meadow along creek, 5564 ft, with

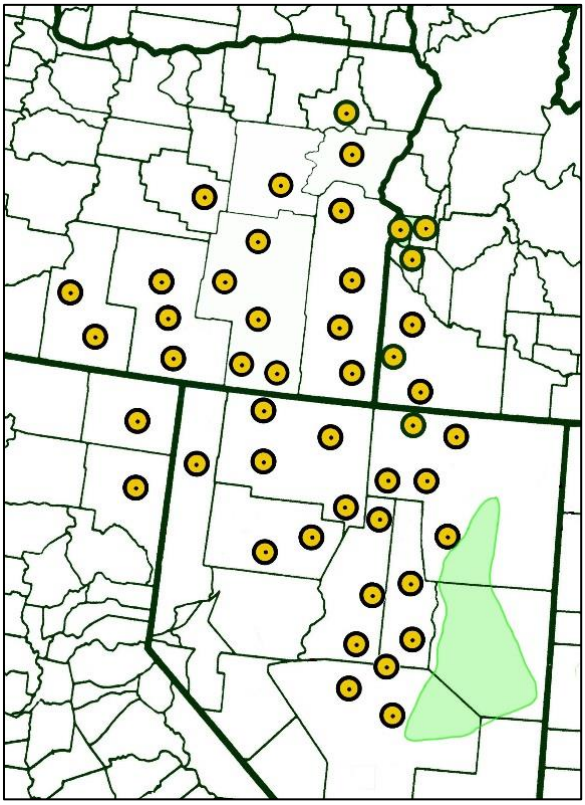
Cirsium scariosum, *Suaeda occidentalis*, and *Aster ascendens*, occasional, 3 Aug 1999, *Niles 5960* (UNLV); Duck Creek Valley, 1.8 road mi S of Worthington Canyon turnoff, by road up Gifford Creek, 39° 19' 40" N, 114° 23' 37" W, sunny hard flat, 2300 m, with *Pentaphylloides fruticosa*, *Achillea*, *Linum*, *Potentilla*, *Iris*, 16 Aug 1989, *Pinzl 14286* (NY, TEX, UNLV).

Pyrrocoma tenuicaulis and P. lanceolata

Pyrrocoma tenuicaulis has mostly been identified as *P. lanceolata*, and it seems likely that the two are closely related. Perhaps as a peripheral isolate, the relationship of *P. tenuicaulis* to *P. lanceolata* may be the similar to that of *P. cheiranthifolia* in Utah (Nesom 2025b).

In raising *Pyrrocoma tenuicaulis* to specific rank, Greene (1894) noted that it occurs with *P. lanceolata* without intergrades, based on his field observations, but the study here indicates that they are essentially allopatric (Map 2). Hall (1928, p. 122) observed that they grew closely together near Wells in Eureka County (see Fig. 00 for his collection of *P. lanceolata* from there), and this perhaps also is where Greene's observation was made, but this apparently is the only place where their ranges so closely approach each other. *Pyrrocoma tenuicaulis* is sympatric with *P. subviscosa* (Nesom 2025a), which often has a habit/aspect like that of *P. lanceolata* (but differs in vestiture, at least in the involucre).

Plants at the southeastern edge of the range of *Pyrrocoma lanceolata*, in the Hot Creek Range of central Nye County (Map 1, Figs. 19-20), have the long-peduncled habit and aspect of *P. tenuicaulis*, but the heads are larger with phyllaries in more series and with a more elongate green patch — *Tiehm 11552* (BRY, NY, RENO, UNLV, WTS), *Tiehm 13757* (BRY, NY, OSC, RENO, UNLV), *Pinzl 2459* (NSMC, UNLV). The identity of these and those cited here as *P. tenuicaulis* from Nye County (Figs. 14-18), which may be a disjunct population system (Map 1), is a working hypothesis.



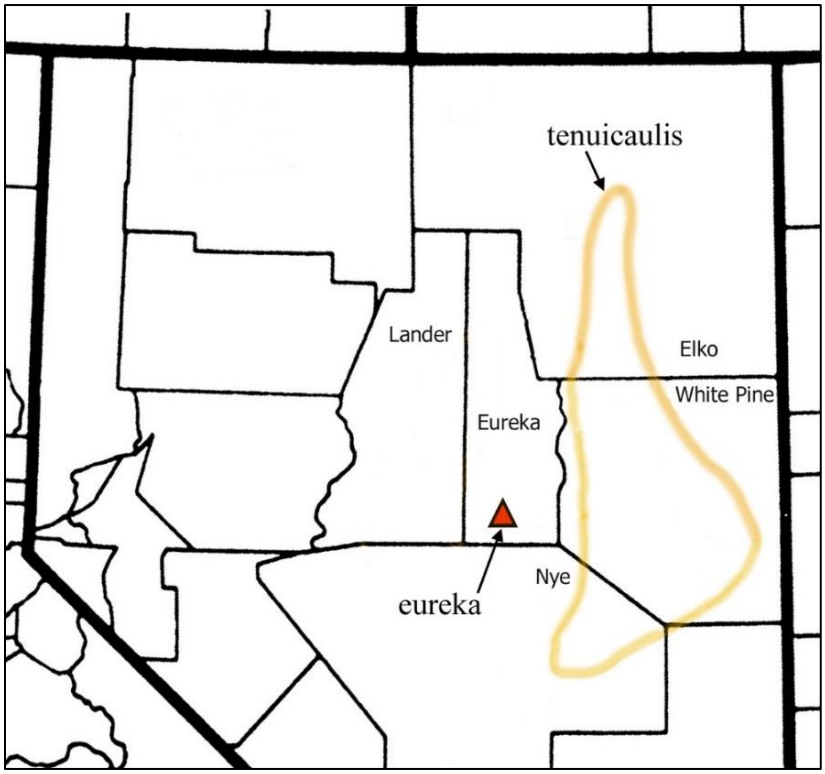
Map 2. Distribution of *Pyrrocoma tenuicaulis* (green-shaded) and the western form of *P. lanceolata* (gold circles, see Nesom 2025c). Nye County populatons of *P. tenuicaulis* appear to be discontinuous in geography from those of Elko and White Pine counties (Map 1).

0. PYRROCOMA EUREKA Nesom, **sp. nov.** **TYPE**: **Nevada**. Eureka Co.: W of Eureka, SW of Lone Mountain, 2 air mi N of Hwy 50, SW side of Hot Springs Hill, T19N R50E, Sec 5 [39.5493° N, 116.3641° W], light-colored clay below springs, alkaline with *Triglochin* and grasses, 6500 ft, occasional, 5 Aug 1983, *B. Ertter 5039* (holotype: NY; isotype: TEX). Figures 23-26.

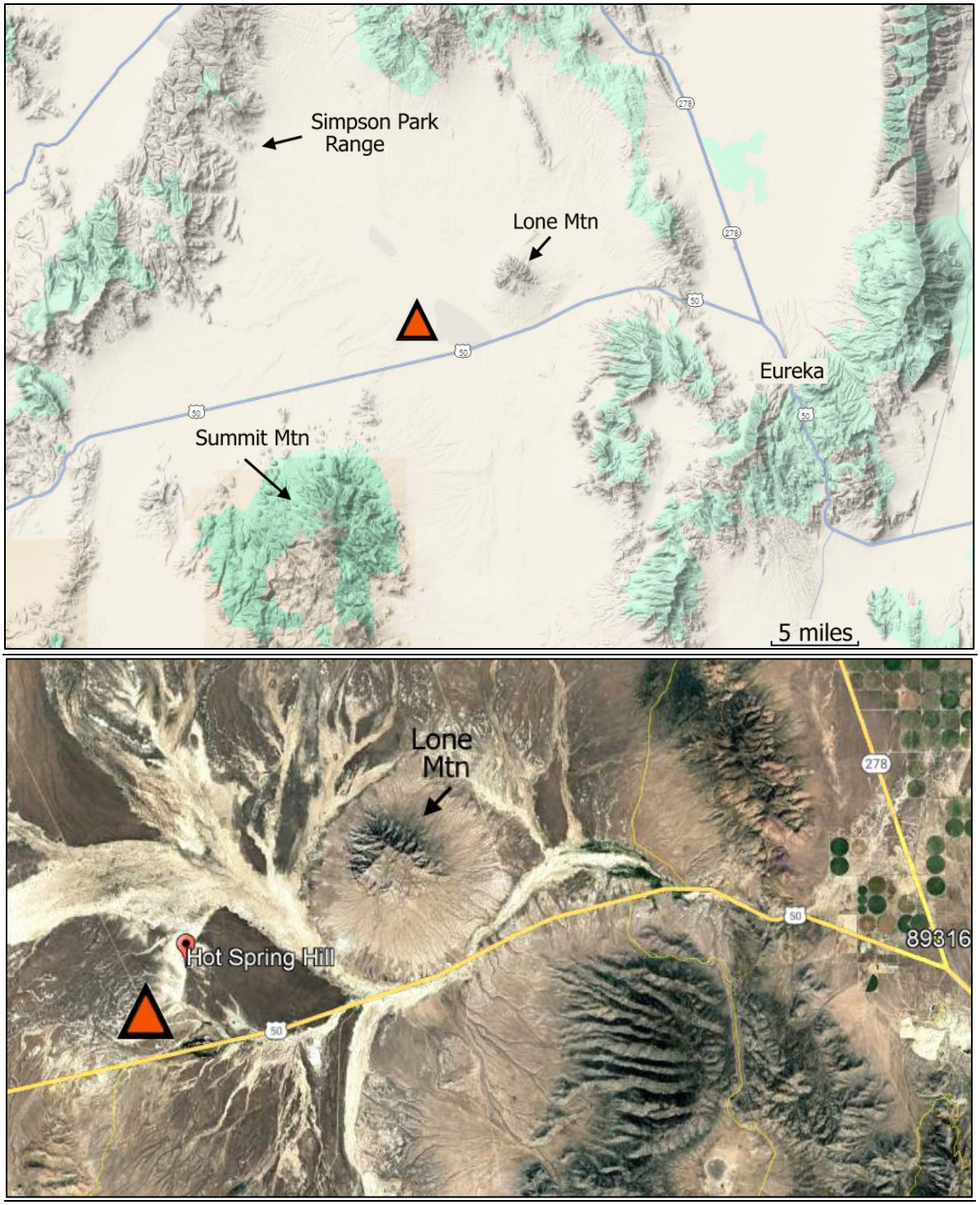
Distinct in its low, small habit, decumbent-ascending stems, lack of glands, linear and densely clustered and persistent basal leaves, leaves with prominently raised-reticulate venation, small and mostly solitary heads on long, minutely bracteate peduncles, and 3–4 series of graduate, villous, eglandular phyllaries with broad, scarious, fimbriate-villous margins.

Stems decumbent-ascending, 3–8 cm, sparsely to densely villous, eglandular. **Leaves**: basal linear-oblanceolate to linear-oblanceolate, 1.5–5 cm long, blades 1–5 mm wide, raised-reticulate venation prominent, margins entire to shallowly serrate with 1–3 pairs of spinulose teeth, surfaces glabrous, densely tomentose at the point where petioles originate, cauline 4–7, diminishing in size distally toward a minutely bracteate peduncular region. **Heads** 1 or sometimes 2 (distally), ebracteate. **Involucres** 7–10 mm wide (pressed); phyllaries oblong with an abruptly acute apex, in 3–4 series of unequal length, inner 5–6 mm long, green patch elongate in the distal 1/3–1/2, villous, eglandular, margins with a broad scarious rim, outer densely fimbriate-villous. **Ray florets** 9–16, fertile, corollas 7–8 mm long, 1.5–2 mm wide, coiling. **Disc corollas** 4–4.5 mm long. **Achenes** ca. 2.5 mm long, sericeous-strigose. Known only from the type collection.

Pyrrocoma eureka is known only from the type collection but is remarkably distinct. Geography and the very small heads suggest that its evolutionary affinity is with the similarly long-peduncled and small-headed but more widespread *P. tenuicaulis* (Map 3), which usually produces branching stems with multiple heads. Unbranched stems sometimes occur in *P. tenuicaulis*, but those are populational variants and the dense cluster of small leaves and the raised venation of *P. eureka* are not produced in *P. tenuicaulis*. Still, the evolutionary status of *P. eureka* as independent of *P. tenuicaulis* remains to be confirmed.



Map 3. Distribution of *Pyrrocoma tenuicaulis* and *P. eureka*.



Maps 4a and b. Distribution of *Pyrrocoma eureka*. Eureka Co., Nevada. Bottom map from Google Earth.

ACKNOWLEDGEMENTS

Thanks to staff at MO, PH, TEX, and US for help while studying there and to Ana Penny at UC-JEPS for the image of *Hall 12163* from White Pine County.

LITERATURE CITED

Cronquist, A. 1994. Intermountain Flora, Vol. 5. Asterales. New York Botanical Garden, Bronx.

Ferris, R.S. 1960. Compositae. Pp. 98–613, in L. Abrams and R.S. Ferris. An Illustrated Flora of the Pacific States, Vol. IV. Bignoniaceae to Compositae. Stanford Univ, Press, Stanford, California.

Hall, H.M. 1928. The Genus *Haplopappus*. A Phylogenetic Study in the Compositae. Publ. Carnegie Inst. Washington 389: 1–391.

Mayes, R.A. 1976. A cytotaxonomic and chemosystematic study of the genus *Pyrrocoma* (Asteraceae: Astereae). Ph.D. dissertation, Univ. of Texas, Austin.

Nesom, G.L. 2025a. Definition of *Pyrrocoma subviscosa* (Asteraceae: Astereae). Phyutoneuron 2025-16: 1–22.

Nesom, G.L. 2025b. *Pyrrocoma lanceolata* (Asteraceae: Astereae) in Utah. Phytoneuron 2025-26: 1–57.

Nesom, G.L. 2025c. Taxonomy of *Pyrrocoma lanceolata* (Asteraceae: Astereae). Phytoneuron 2025-31: 1–32.

Figure 1. *Pyrrocoma tenuicaulis*. Elko Co., Ruby Valley, *Watson 576* (NY). Isotype.

Figure 2. *Pyrrocoma tenuicaulis*. Elko Co., Ruby Valley, *Watson 576* (YU). Isotype.

Figure 3. *Pyrrocoma tenuicaulis*. Elko Co., Ruby Valley, *Watson 576* (US). Isotype.

Figure 4. *Pyrrocoma tenuicaulis*. Elko Co., Ruby Valley, *Williams 80-270-8* (NY).

Figure 5. *Pyrrocoma tenuicaulis*. Elko Co., Ruby Lake area, *Holmgren 9374* (NY).

Figure 6. *Pyrrocoma tenuicaulis*. Elko Co., Ruby Valley, *Holmgren 3666* (NY).

Figure 7. *Pyrrocoma tenuicaulis*. Elko Co., Ruby Lake area, *Williams 78-318-7* (NY).

Figure 8. *Pyrrocoma tenuicaulis*. Elko Co., Butte Valley, *Tiehm 19170* (CAS).

Figure 9. *Pyrrocoma tenuicaulis*. Elko Co., Humboldt Wells, *Greene s.n.* (NY).

Figure 10. *Pyrrocoma tenuicaulis*. Elko Co., NW side of Wells, *Williams 84-109-9* (NY).

Figure 11. *Pyrrocoma tenuicaulis*. Elko Co., Winecup Ranch, *Tiehm 10905* (NY).

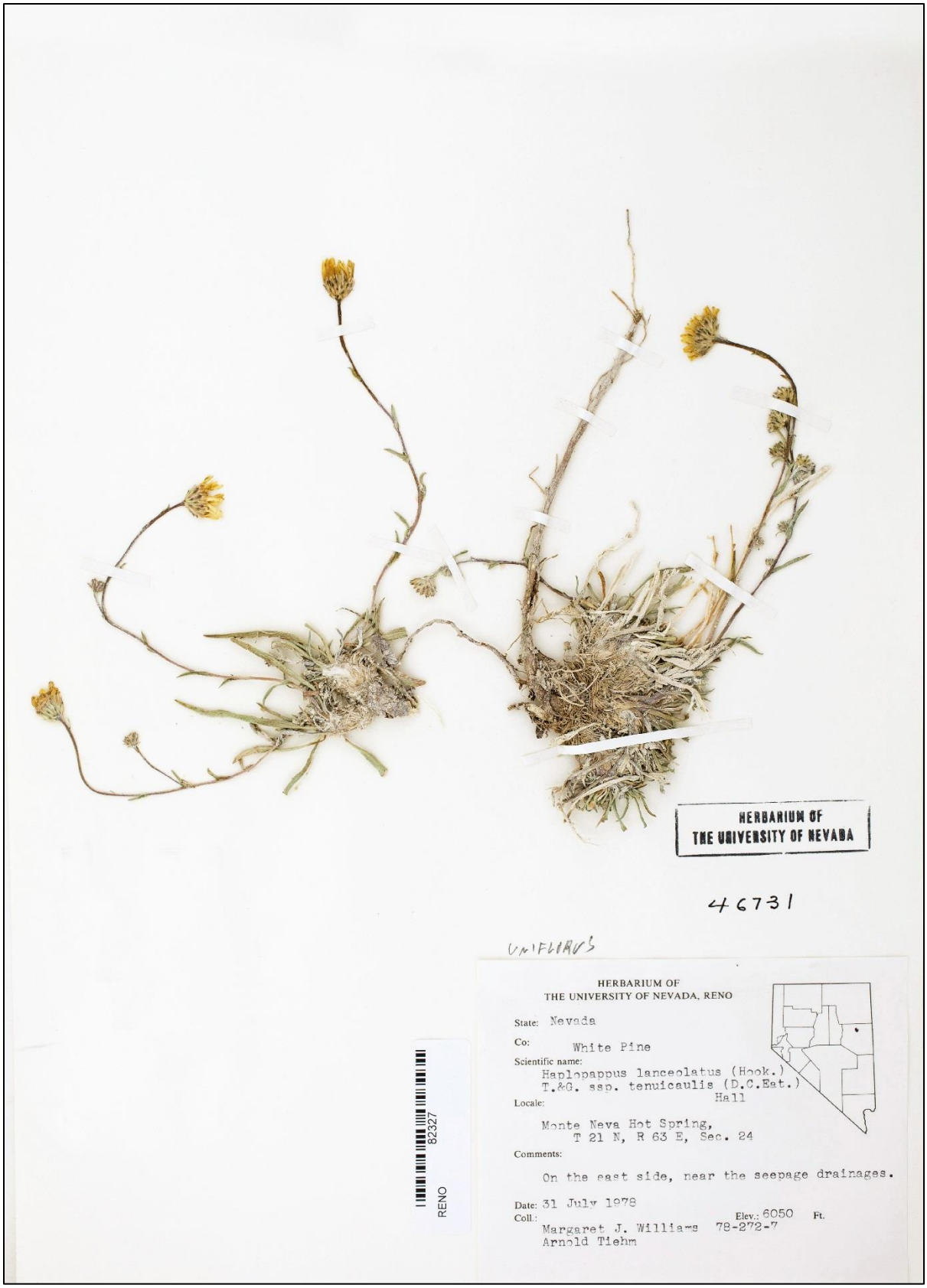


Figure 12. *Pyrrocoma tenuicaulis*. White Pine Co., Monte Neva Hot Spring, *Williams 78-272-7* (RENO).

Figure 13. *Pyrrocoma tenuicaulis*. White Pine Co., N of Simonsen, *Hall 12163* (UC).

Figure 14. *Pyrrocoma aff. tenuicaulis*. Nye Co., White River Valley, *Tiehm 10160* (NY).

Figure 15. *Pyrrocoma aff. tenuicaulis.* Nye Co., Railroad Valley, *Tiehm 15097* (NY).

Figure 16. *Pyrrocoma aff. tenuicaulis.* Nye Co., Railroad Valley, *Tiehm 15097* (RENO).

Figure 17. *Pyrrocoma aff. tenuicaulis*. Detail from *Tiehm 15097* (RENO), Figure 000.

Figure 18. *Pyrrocoma aff. tenuicaulis.* Nye Co., Duckwater, *Cronquist 12081* (NY).

Figure 19. *Pyrrocoma aff. tenuicaulis*. Nye Co., Hot Creek Range, *Tiehm 11552* (NY).

Figure 20. *Pyrrocoma aff. tenuicaulis*. Nye Co., Hot Creek Range, *Tiehm 11552* (COLO).

Figure 21. *Pyrrocoma*. *lanceolata*. Nye Co., Monitor Valley, *Train 4481* (NY).

Figure 22. *Pyrrocoma lanceolata*. Elko Co., Wells, *Hall 11028* (DS).

Figure 23. *Pyrrocoma eureka*. Holotype (NY).

Figure 24. *Pyrrocoma eureka*. Details from the holotype (NY).

Figure 25. *Pyrrocoma eureka*. Detail of involucral morphology, from the isotype (TEX).

Figure 26. *Pyrrocoma eureka*. Raised-reticulate-pitted venation of the leaves, from the isotype (TEX).