

## **PYRROCOMA (ASTERACEAE: ASTEREAE) FROM SISKIYOU CO., CALIFORNIA**

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### **ABSTRACT**

Three new species are described from Siskiyou Co., California — ***Pyrrocoma shastensis*** Nesom, **sp. nov.**, from the Shasta Valley and near the Lower Klamath National Wildlife Refuge, ***Pyrrocoma colossus*** Nesom, **sp. nov.**, from the Scott River valley in the vicinity of Fort Jones, and ***Pyrrocoma fimbriata*** Nesom, **sp. nov.**, from the area around Bartle, southeast of Mt. Shasta.

*Pyrrocoma* in Siskiyou Co., California, includes 5 species: one of the "carthamoides group" (Ertter & Nesom in prep.), *P. pinetorum* of the "racemosa group" (Nesom 2025), and three new species described here. *Pyrrocoma shastensis* (sp. nov.) and *P. colossus* (sp. nov.) have persistent fibrous remnants of basal petioles, a spicate to subspicate or racemoid inflorescence, and sterile rays — there is no evident feature that excludes them from the *P. racemosa* group although their range is at its eastern extremity (along with *P. pinetorum*). *Pyrrocoma fimbriata* (sp. nov.) is similar to *P. anemophila* Tiehm & Nesom (2025) in its decumbent ascending habit, lack of persistent fibrous remnants of basal petioles, and spicate/racemoid inflorescence — the latter has a wider range but is essentially parapatric with *P. fimbriata* — it seems a reasonable speculation that the two are closely related.

**1. PYRROCOMA SHASTENSIS** Nesom, **sp. nov.** **TYPE: California.** Siskiyou Co.: Shasta Big Springs Ranch, 3.9 air mi SE of Grenada, 6.3 air mi NW of Dwinnel Dam, 2.6 air mi NW of Big Springs Lake, 41° 36' 32" N, 122° 27' 29" W, riparian corridor surrounded by juniper woodland, moist soil of riparian terraces near spring, 2555 ft, common, 30 Jul 2010, *L. Ahart 16969* (holotype: CHSC; isotypes: HSC, JEPS, RSA, SBBG, US).

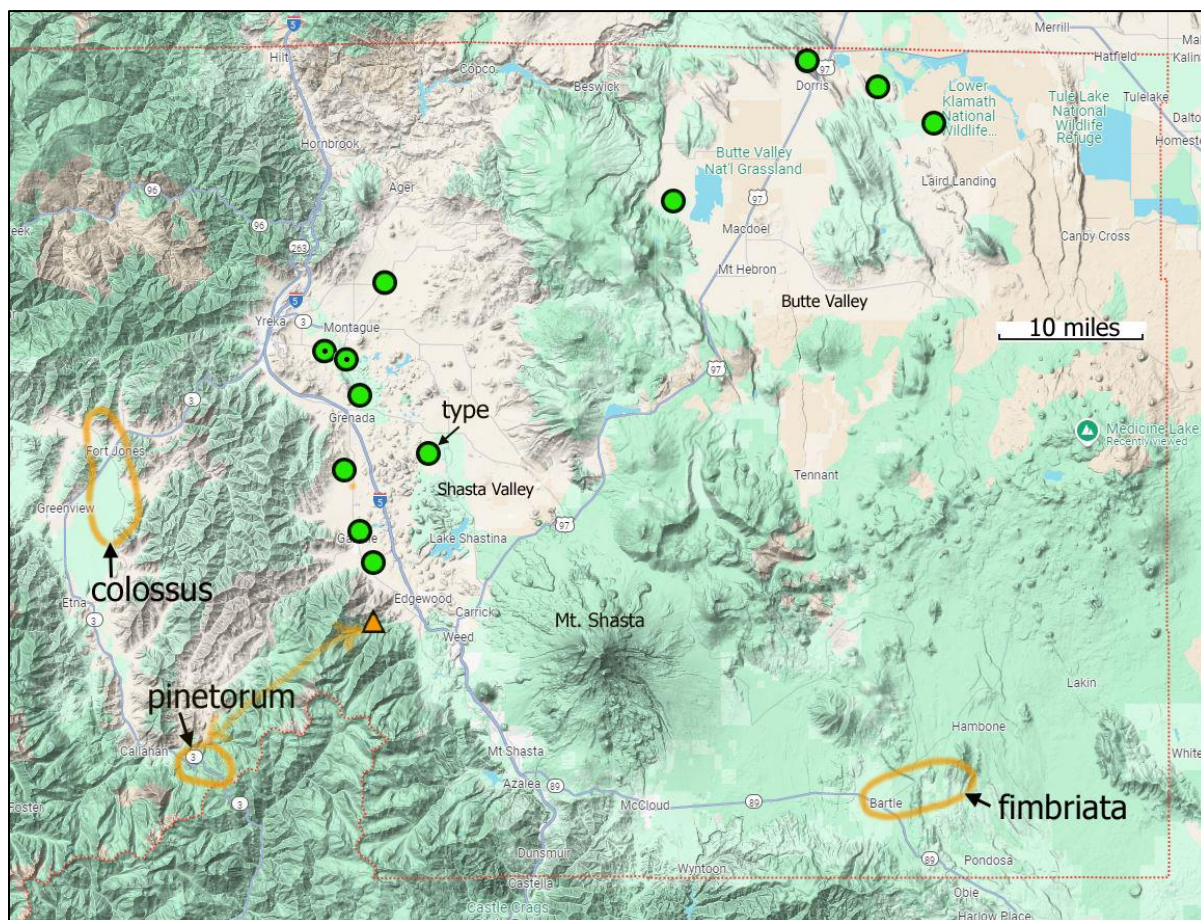
Probably a member of the *Pyrrocoma racemosa* group in its eglandular vestiture, persistent fibrous remnants of old petiole bases, spicate inflorescence, sericeous-strigose achenes, and Northwest geography; similar among these species to *P. elata* in its relatively small heads, narrow, elongate basal leaves, and short green patch of the phyllaries.

**Stems** erect to ascending erect, 25–50 cm, completely glabrous, eglandular, not viscid. **Leaves:** basal persistent, elliptic-oblongate, 5–15 cm long, attenuate to a petiolar region 1/4–1/3 the leaf length, fibrous remnants of petiole bases persistent, blades 6–12 mm wide, glabrous, eglandular, not viscid, slightly thickened with slightly raised (but not reticulate) venation, margins evenly minutely serrulate to denticulate, cauline (proximal) clasping-sheathing, quickly reduced in size distally and bracteate near the inflorescence. **Heads** spicate to racemoid on peduncles 1–6(–18) mm long, without immediately subtending bracts. **Involucres** 10–12 mm wide (pressed); phyllaries oblong with a rounded-deltate apex, indurate, slightly keeled (raised midregion), in 3–4 series of unequal length (strongly imbricate), inner 6–7 mm long, green on distal 1/3, glabrous, eglandular, margins with a narrow hyaline flange. **Ray florets** (14–)18–28, sterile?, corollas 10–11 mm long, 1–1.5 mm wide, slightly coiling or not at all. **Disc corollas** 5 mm long. **Achenes** ca. 4–5 mm long, sericeous-strigose; pappus bristles distinctly flattened distally. Figures 1–9.

Flowering July through September. Alkaline flats, damp meadows; 2600–4450 feet. Although *Pyrrocoma shastensis* closely approaches the Oregon border, no records from Oregon have been seen.

The Shasta Valley and Butte Valley population systems (Map 1) are separated by the southern end of the Cascade Mountains with top elevations at 6000-8000 feet, ending with Mt. Shasta at 14,000+ feet. A difference between the two systems is not apparent but further study is warranted.

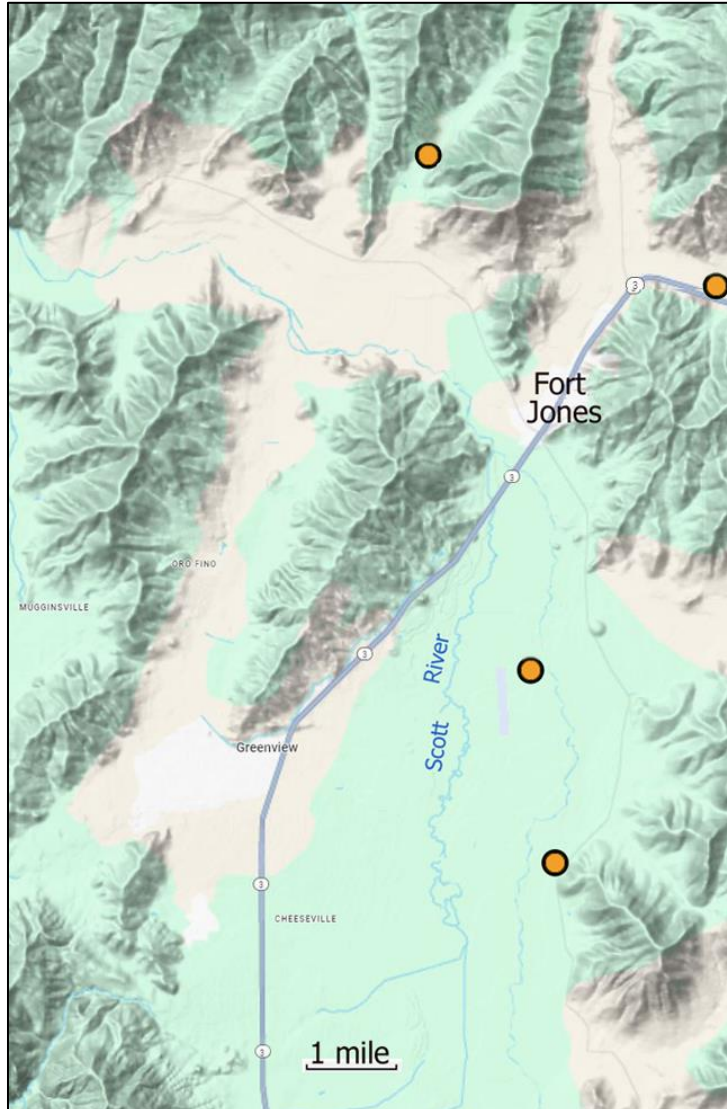
With an earlier understanding of the definition of *Pyrrocoma shastensis*, it would have been included, along with *P. colossus* (below), in the overview of the *P. racemosa* group (Nesom 2025). Morphology and geography both place it there. The non-ultramafic habit of both these newly recognized species suggests that adaptation to serpentine (as in *P. congesta* for the most part, *P. nivis*, *P. ebulliens* in part, and *P. benitoana*) in an adaptation developed in parallel.



Map 1. Distribution of *Pyrrocoma shastensis* (green circles). *Butler 1821* and *1843*, which give only "Shasta Valley" as locality, are indicated by a dotted circle. *Pyrrocoma pinetorum* (with a range extension), *P. colossus*, and *P. fimbriata*. have more restricted ranges. The Siskiyou County boundary is outlined in red.

**Additional collections. California. Siskiyou Co.: Shasta Valley:** 3 mi S of Grenada, Pumphouse Rd, T43N, R6W, Sec 3 [41.60363° N, 122.52502° W, ca. 2600 ft], 8 Sep 1989, *Benton/Hale s.n.* (KNFY); Shasta Valley, damp meadow, 21 Aug 1910, *Butler 1821* (UC); Shasta Valley, damp meadow, 21 Aug 1910, *Butler 1843* (CAS, DS, HSC, MO, OSC, RENO, RSA, UC, US); meadows on Shasta River [NNE of Grenada], *Greene 975* (GH-not seen, NDG); Shasta valley, 5 mi S of Gazelle in meadows in moist alkaline soil, ca. 3000 ft, 7 Sep 1917, *Heller 12980* (CAS, DS, MO, PH, UC, US); 20 air mi S of Oregon border, 8 mi E of Yreka, Shasta Valley Wildlife Area, T45/44N, R6W, Sec 1,36 [41.78° N, 122.48° W], area of alkali soil and emergent wetland, [ca. 2650 ft], Jul 1993, *Marr 194* (CHSC). **Butte Valley:** Willow Creek, S of Lower Klamath Marsh [ca. 41° 55' N, 121° 46' W], low alkaline flat, [ca. 4100 ft], 21 Aug 1923, *Applegate*

3925 (DS, UC); State Line Road, 42.001° N, 121.906° W, alkaline flats, 4040 ft, 23 Jul 1979, *Clifton s.n.* (PUA); Stateline Rd, 3 mi E of Hwy 97, [ca. 1000 ft S of Oregon state line, ca. 4100 ft], 41.999° N, 121.835° W, 28 Sep 1985, *Hale s.n.* (KNFY, SCDA); Butte Valley Wildlife Area, ca. 7 air mi NW of the town of MacDoel, meadow NW of Meiss Lake, 41.865° N, 122.132° W, gently sloping meadow bordered on N and W by oak-juniper woodland, 4428 ft, 1 Jul 1993, *Marr 114* (CHSC).



Map 2. Distribution of *Pyrrocoma colossus*. Scott Valley in the Fort Jones vicinity.

**2. PYRROCOMA COLOSSUS** Nesom, **sp. nov.** **TYPE: California.** Siskiyou Co.: Scott Valley, 5 mi S of Fort Jones, roadside, [ca. 2730 ft], 13 Aug 1958, *T.C. Fuller s.n.* (holotype: CAS).

Distinct in its tall stature, eglandular vestiture, large basal leaves, persistent fibers from the petiole bases, elongate, spicate to columnar-paniculate inflorescence, relatively large heads with strongly graduate phyllaries, and ray flowers with narrow, erect corollas. Probably a member of the *Pyrrocoma racemosa* group

**Stems** erect, 40–70 cm, glabrous, eglandular. **Leaves:** basal obovate 15–26 cm long, attenuate to a petiolar region ca. 1/5–1/6 the leaf length, fibrous remnants of petioles persistent, blades 15–30 mm wide, glabrous, eglandular, slightly thickened with raised-closely reticulate venation, margins



shallowly serrate-dentate above the petiole, cauline gradually rediced and oblong-lanceolate or abruptly reduced and mostly narrowly oblong, subclasping to clasping, not basally ampliate. **Heads** in a spike or columnar panicle 40–50 cm long, without immediately subtending bracts. **Involucres** 11–15 mm wide (pressed); phyllaries in 3–4 series of unequal length (strongly graduate), inner 8–9 mm long, oblong-triangular, glabrous, eglandular, green patch in the distal half or the triangular apex. **Ray florets** 14–18, sterile?, corollas 8–10 mm long, 1–1.5 mm wide, erect, not coiling. **Disc corollas** 4–5 mm long. **Achenes** ca. 3 mm long, sericeous-strigose. Figures 10–16.

Flowering August through September. Roadsides in the Scott River valley near Fort Jones, apparently non-ultramafic substrate; ca. 2700–2850 feet.

**Additional collections. California.** Siskiyou Co.: Fort Jones, Island Road, T43N, R9W, Sec 23 [41.56306 N, 122.84841 W], [ca. 2730 ft], 16 Aug 1977, *Horn 360* (SCDA); near Fort Jones, 41.6462° N, 122.86821° W, dry roadside, 2800 ft, 1 Sep 1948, *Roos 3954* (CLARK, RSA, UCR); Scott Valley, E of Fort Jones on Hwy 3, roadside, 41.62396° N, 122.81252° W, disturbed ground along road prism into adjacent ponderosa pine forest, 2850 ft, 1 Aug 2021, *Whipple 8067* (OBS, not seen).

*Pyrrocoma colossus* appears to be a member of the *P. racemosa* sensu stricto group (Nesom 2025), which is characterized by "a mostly spicate inflorescence, eglandular vestiture, persistent fibrous remnants of old petiole bases, sericeous-strigose achenes, and a near-Pacific geographic range." Within the group, sterile rays also occur in *P. racemosa*, *P. congesta*, *P. pinetorum*, *P. nivis*, and *P. ebuliens*. The large heads of *P. colossus* have parallels in *P. racemosa*, *P. pinetorum*, and *P. longifolia*, and exceptionally large leaves also occur in *P. elata* and *P. longifolia*.

**3. PYRROCOMA FIMBRIATA** Nesom, **sp. nov.** **TYPE: California.** Siskiyou Co.: E of McCloud along Hwy 89, 7.7 mi W of Shasta County line, 41.25119° N, 121.8204° W [at or near Bartle], lodgepole pine forest, [ca. 4150 ft], local on roadside, 24 Jul 1992, *Keil 23572* (holotype: OBI 163870; isotype: OBI 163872).

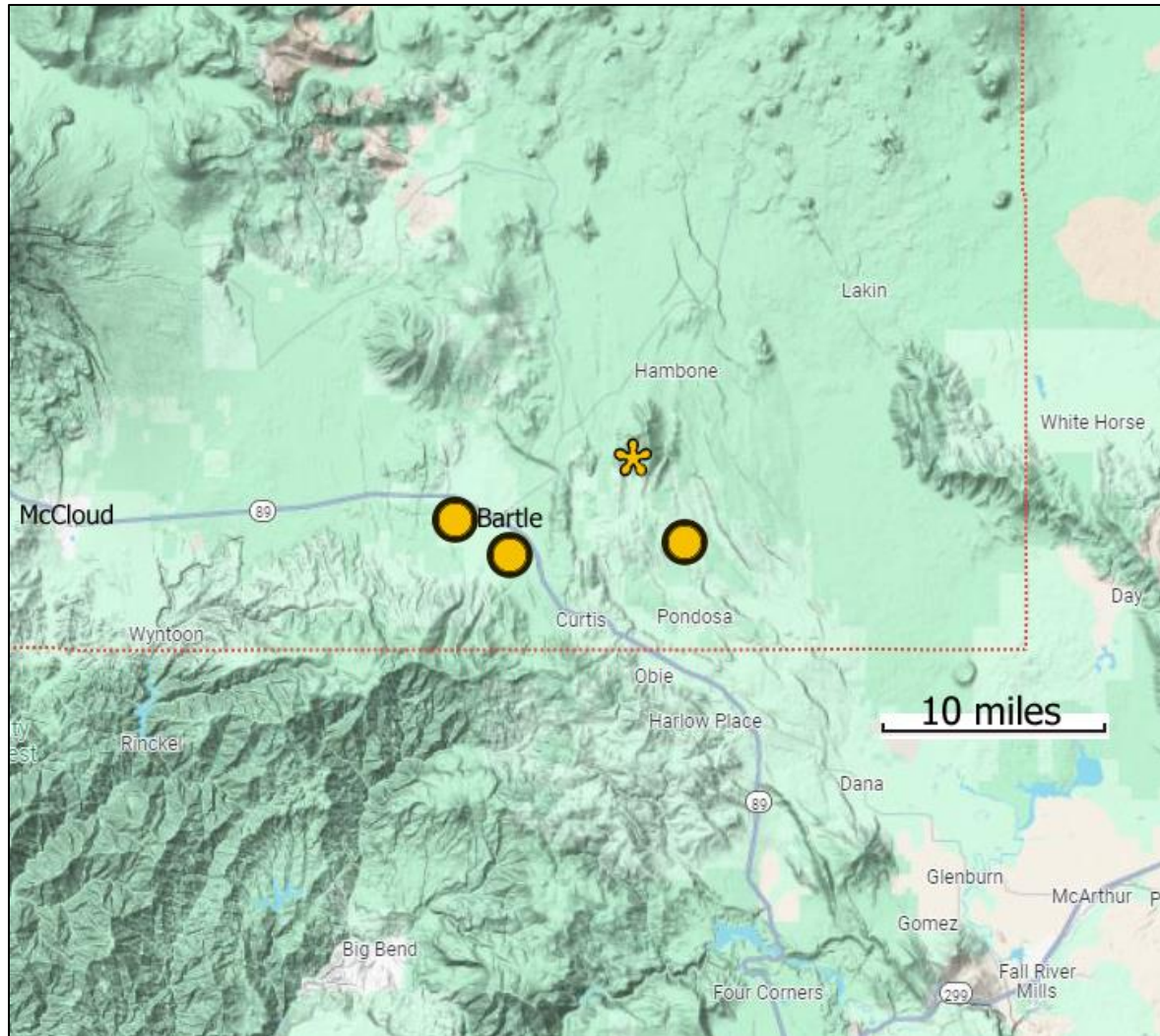
Distinct in its low, decumbent ascending habit, eglandular vestiture, small basal leaves, lack of fibrous remnants of petioles, heads in a spike or narrow raceme, and numerous, fertile rays. Distinct from *Pyrrocoma anemophila* in its white-fimbriate phyllary margins.

**Stems** decumbent-ascending to ascending-erect, 15–30 cm, sparsely hirsute, eglandular. **Leaves:** basal narrowly elliptic-ob lanceolate to elliptic-lanceolate, 3–8 cm long, attenuate or rounded to a petiolar region 1/3–1/4 the leaf length, without fibrous remnants of petioles, blades 7–10 mm wide, glabrous, eglandular, margins entire. **Heads** 3–8 in a spike 3–7 cm long, sometimes on peduncles 1–2 mm long, without immediately subtending bracts. **Involucres** 10–12 mm wide (pressed); phyllaries in 3(–4) series of subequal to unequal length, narrowly oblong with a narrowly triangular apex, inner 7–8 mm long, glabrous, green patch on distal 1/2–2/3, eglandular, margins entire, prominently fimbriate with white hairs. **Ray florets** 16–22, fertile, corollas 10–12 mm long, 1.5–2 mm wide. **Disc corollas** 5 mm long. **Achenes** not seen. Figures 17–24.

Flowering July through August. Area dominated by ponderosa pine and lodgepole pine with sparse understory; 3950–4900 feet. The localities are south of the newly designated S  ttla Highlands National Monument, slightly southwest of the edge of the Medicine Lake lava flows, although label data indicate that sites are on pyroclastic soil.

**Additional collections. California.** Siskiyou Co.: Tom Young Flat, Pondosa Quad, 41.226917° N, 121.694861° W, bare pyroclastics soil, gravelly, 4150 ft, 6 Aug 1987, *Clifton s.n.* (PUA-not seen); near Bartle [ca. 41.25° N, 121.82° W, ca. 3950 ft], 15 Aug 1899, *Dudley s.n.* (CAS).

An iNaturalist observation and photos show *Pyrrocoma fimbriata* in situ: 41.28976° N, 121.72695° W [ca. 5.5 air mi NE of Bartle, SE ridge of Bear Mountain, ca. 4900 ft], July 2022, Amy Rachkowski (Fig. 24).



Map 3. Distribution of *Pyrrocoma fimbriata*. The asterisk shows the locality of the iNaturalist record. The Siskiyou County boundary is outlined in red.

#### Range extension for *Pyrrocoma pinetorum*

The geographic extent of *Pyrrocoma pinetorum* (Keck) Nesom, as mapped (Nesom 2025 - Map 3) is limited to less than 5 square miles. A collection recorded here apparently is slightly disjunct (about 13 miles northeast) of the main range (Map 1). The identity should be verified, but the habit is on ultramafic soil, as characteristic of the species.

Siskiyou Co.: [Klamath Natl Forest, ca. 6 mi W of Weed], E side of USFS logging road [42N17] between road and canyon bottom, T41N, R6W, Sec 2 [41.429° N, 122.506° W], openings in sparse Jeffrey pine-incense cedar woodland on ultramafic soils, with *Eriogonum siskiyouense* and *Solidago multiradiata*, 4100 ft, common, 18 Aug 1981, *Jokerst 1462* (CAS, CHSC).

#### LITERATURE CITED

- Nesom, G.L. 2025. Taxonomy of the *Pyrrocoma racemosa* group (Asteraceae: Astereae). *Phytoneuron* 2025-08: 1–64.
- Tiehm, A. and G.L. Nesom. 2025. *Pyrrocoma anemophila* (Asteraceae: Astereae), a new species from northeastern California. *Phytoneuron* 2025-25: 1–15.



Figure 1. *Pyrrocoma shastensis*. Shasta Valley, Ahart 16969 (CHSC).





Figure 2. *Pyrrocoma shastensis*. Shasta Valley, Ahart 16969 (US).



Figure 3. *Pyrrocoma shastensis*. Shasta Valley, Benton/Hale s.n. (KNFY).





Figure 4. *Pyrrocoma shastensis*. Shasta Valley, Heller 12980 (UC).



Figure 5. *Pyrrocoma shastensis*. Detail from Heller 12980, Figure 4.



Figure 6. *Pyrrocoma shastensis*. Shasta Valley, Butler 1821 (UC).



Figure 7. *Pyrrocoma shastensis*. Butte Valley, Applegate 3925 (DS).

Figure 8. *Pyrocoma shastensis*. Butte Valley, Applegate 3925 (UC).





Figure 9. *Pyrrocoma shastensis*. Detail from Applegate 3925, Figures 7 and 8.





Figure 10. *Pyrrocoma colossus*. Siskiyou Co., Fuller s.n. (CAS). Holotype.



Figure 11. *Pyrrocoma colossus*. Detail from Fuller s.n., Figure 10.





Figure 12. *Pyrrcoma colossus*. Detail from Fuller s.n., Figure 10.





Figure 13. *Pyrrocomma colossus*. Detail from *Fuller s.n.*, Figure 10.



Figure 14. *Pyrocoma colossus*. Siskiyou Co., Roos 3954 (UCR).



Figure 15. *Pyrrocoma colossus*. Siskiyou Co., Horn 360 (SCDA).





Figure 16. *Pyrrocoma colossus*. Detail from *Horn 360*, Figure 15.



Figure 17. *Pyrrocoma fimbriata*. Siskiyou Co., E of McCloud, Keil 23572 (OBI). Holotype.





Figure 18. *Pyrocoma fimbriata*. Detail from Keil 23572 (Fig. 17).





Figure 19. *Pyrrocoma fimbriata*. Siskiyou Co., E of McCloud, Keil 23572 (OBI). Isotype.



Figure 20. *Pyrrocoma fimbriata*. Detail from Keil 2372, isotype.



Figure 21. *Pyrrocoma fimbriata*. Detail from Keil 2372, holotype.





Figure 22. *Pyrrocoma fimbriata*. Siskiyou Co., near Bartle, Dudley s.n. (CAS).



Figure 23. *Pyrrocoma fimbriata*. Detail from Dudley s.n. (Fig. 22).





Figure 24. *Pyrrocoma fimbriata*. Siskiyou Co., 41.28976° N, 121.72695° W [ca. 5.5 air mi NE of Bartle, SE ridge of Bear Mountain]. iNaturalist photo by Amy Rachkowski, July 2022.