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ERIGERON HODGSONIAE (ASTERACEAE), A NEW SPECIES FROM CENTRAL ARIZONA

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ABSTRACT

Erigeron hodgsoniae Nesom, **sp. nov.**, is described from the Sierra Ancha of Gila Co., Arizona, where it is known only by four collections from an extended population in Cold Water Canyon and close vicinity along Cherry Creek. It is the fifth member of the *E. pringlei* group (with *E. anchana*, *E. heliographis*, *E. pringlei*, and *E. saxatilis*) and is from a locality within the geographic range of *E. anchana*. All five species are perennials in rocky habitats and endemic to Arizona. *Erigeron hodgsoniae* is only one with prominently hairy stems and leaves — each of the others is glabrous or nearly so.

The *Erigeron pringlei* group has included four species that are restricted to rocky habitats in Arizona (Nesom 1990; Nesom 2008, as Group B of *Erigeron* sect. *Scopulincola*). Collections since 1990 have shown the previously recognized species to be consistent in morphology. One set of collections, however, from within the geographic range of *E. anchana* is so distinct that it is here formally described as a fifth species of the group. It apparently a narrow endemic, known here only from an extended population in Cold Water Canyon and close vicinity along Cherry Creek, in the Sierra Ancha (Fig. 1).

Erigeron hodgsoniae Nesom, **sp. nov.** **TYPE: USA. Arizona**. Gila Co.: Sierra Ancha Mts, along Cherry Creek ca. 75 yards N of waterfalls on S side of creek, just below (S of) Cold Water Canyon, T6N R14E Sect 3 center of NE 1/4, 110° 53" 56' W, 33° 53" 28' N, partially shaded, steep part of NE-facing quartzite (?) cliff above bouldery creek, 3800 ft, with *Quercus turbinella*, *Quercus emoryi*, *Juniper*, *Arctostaphylos*, *Agave chrysantha*, *Cercocarpus*, *Pinus edulis*, and *Sphaeralcea*, locally frequent, rays white, 2 May 1993, *W. Hodgson 7124* with L. Ecker (holotype: DES digital image!, Fig. 2; isotype: ASU!).

Similar to species of the *Erigeron pringlei* group in its geographic range, rocky habitat, perennial duration, caudex branches with persistent old petiole bases, small heads, and ray florets reflexing at the tube/lamina junction; similar to *E. anchana* in its entire, elliptic-oblanceolate leaves continuing essentially unreduced in size along the stems. Different from the other four species in its villous stems and leaves.

Perennial herbs, taprooted, producing thick caudex branches 1–5 cm long and roughened with persistent, old petiole bases. **Stems** 7–25 cm long, decumbent-ascending to sprawling-pendent, distally ascending, unbranched, moderately villous with irregularly spreading but generally retrorsely oriented, multicellular, acicular hairs 0.4–0.8 mm long, eglandular. **Leaves** villous to hirsute-villous, eglandular, basal 3–5.5 cm long, blades elliptic to obovate or oblanceolate-obovate, 15–20 mm long, 4–11 mm wide, attenuate to a petiole 20–35 mm long and ca. 2–3 times longer than the blade, apices acute-apiculate, margins entire, cauline quickly becoming epetiolate distally but blades slightly or not at all reduced in size upward. **Heads** solitary, 8–10 mm wide (pressed) on minutely bracteate peduncles 3–4 cm long; phyllaries elliptic-oblanceolate, sparsely hirsute in the midregion, without a prominent oil duct, eglandular, in 2–3 series weakly graduate or even in length, innermost 3.5–4 mm long, margins shallowly lacerate. **Ray flowers** 40–50 in a single series, corollas 8–9 mm long, reflexing at maturity at the tube-lamina junction, lamina white, drying pink to light purplish, without a midstripe, 0.6–1 mm wide. **Disc corollas** narrowly tubular-funnelform, 2–2.4 mm long. **Achenes** ca.

1.4 mm long, sparsely strigose; pappus of 10–14 persistent bristles ca. 2.5 mm long, with a few minute squamellae 0.2–0.3 mm long. **Flowering** (Apr–)May–Jun.

Additional collections examined, all from Cold Water Canyon and just outside its mouth on the same day as the type collection, in the same habitat (cliff faces and steep walls) and apparently representing a single, extended population. **Arizona**. Gila Co: Sierra Ancha Mountains in Cold Water Canyon, ca. halfway between Cherry Creek Rapd (FSR 203) and Cherry Creek, 4000 ft, *Hodgson 7120* (DES digital image!, Fig. 4); Sierra Ancha Mountains in Cold Water Canyon, ca. 200 yds. above Cherry Creek, 3900 ft, *Hodgson 7122* (DES digital image!, Fig. 3); Sierra Ancha Mountains along Cherry Creek at and above (S side of creek) waterfalls, just below (S of) Cold Water Canyon, 3800 ft, *Hodgson 7123* (DES digital image!).

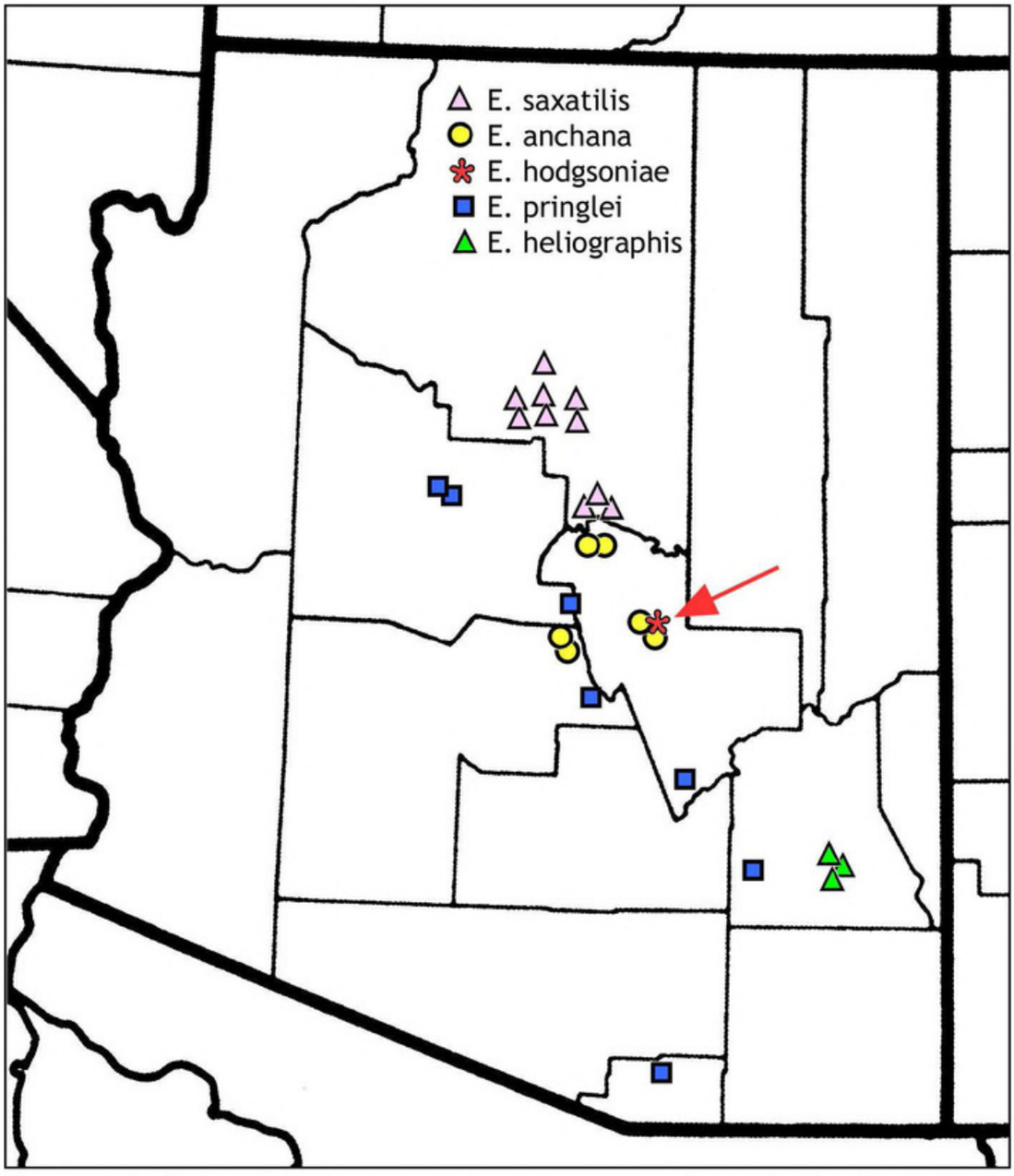

Figure 1. Distribution of the *Erigeron pringlei* group. Arrow points to locality of *E. hodgsoniae*. Map based on previous records and new ones from recent study at the ASU herbarium.

Figure 2. Holotype of *Erigeron hodgsoniae*, DES.

Figure 3. *Erigeron hodgsoniae*, *Hodgson 7122*, DES.

Figure 4. *Erigeron hodgsoniae*, *Hodgson 7120*, DES.

The new species is named for its collector, Wendy Hodgson, Curator of the Herbarium and Senior Research Botanist at the Desert Botanical Garden in Phoenix. She is a long-time student of floristics and ethnobotany of Arizona and the Sonoran Desert, an illustrator and author, and currently a specialist in the taxonomy of Cactaceae and Agavaceae.

Among the *Erigeron pringlei* group, it is a reasonable hypothesis that *E. hodgsoniae* is most closely related to *E. anchana* and *E. saxatilis*, which are similar to it in leaf morphology — but an accurate understanding of evolutionary relationships probably will require molecular evidence. *Erigeron anchana* and *E. hodgsoniae* have cauline leaves relatively even-sized along the stems. Basal leaves of *E. anchana* usually are entire but populational variability sometimes includes plants with 3(–5)-lobed or -toothed basal leaves, perhaps reflecting a residual ancestral tendency (suggesting *E. pringlei* as closely related) or else historical introgression from *E. pringlei*. A good example of this is *Lehr & Weber 990* (DES, digital image!) from the Tonto Creek area in northern Gila County, close to but apparently outside an area of potential sympatry with *E. pringlei*. All leaves of *E. hodgsoniae* are entire-margined.

Erigeron hodgsoniae is sympatric in the Sierra Ancha with *E. anchana*, which is now known from there by numerous collections. Besides the immediately evident difference in vestiture, the two are distinct in other features.

1. Stems villous, leaves villous to hirsute-villous on both surfaces, hairs 0.4–0.8 mm long; leaf apices acute-apiculate; heads 8–10 mm wide (pressed); phyllaries barely or not at all graduate in length, sparsely hirsute, midregion without a prominent oil duct; ray florets 40–50; pappus bristles 10–14 ..... **Erigeron hodgsoniae**

1. Stems glabrous to sparsely strigose, leaves glabrous or sparsely and minutely strigose adaxially (glabrous abaxially), hairs 0.1–0.2 mm long; leaf apices acute with a sharp mucro but not apiculate; heads 5–7 mm wide (pressed); phyllaries strongly graduate in length, glabrous, midregion with a conspicuous oil duct; ray florets 24–36; pappus bristles 19–26 ..... **Erigeron anchana**

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