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CHANGES NEEDED TO UPDATE POTENTILLEAE AND *ROSA* (ROSACEAE) IN THE JEPSON EFLORA

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ABSTRACT

A summary of pending changes to Potentilleae and *Rosa* (Rosaceae) in the Jepson eFlora is provided here, to share rationale and other information beyond what will be available in the eFlora. *Duchesnea, Horkelia, Horkeliella,* and *Ivesia* will be included within *Potentilla,* while *P. anserina* will be transferred to the segregate genus *Argentina*. Taxa that have been described or resurrected subsequent to the second edition of the Jepson Manual include *Drymocallis modocana* Ertter, *Horkelia tridentata* Torr. var. *illiterata* Ertter & Reveal, *Potentilla amicarum* Ertter (with range now extended into Nevada), and *P. norrelmukana* DiNicola & Ertter. *Rosa gymnocarpa* has been split into two subspecies: subsp. *gymnocarpa* and subsp. *helleri* (Greene) Ertter & Lewis. Several new combinations needed to implement these changes are published herein: **Argentina anserina** subsp. **pacifica** (Howell) Ertter & N.M. House, **comb. nov.**, **Argentina anserina** subsp. **yukonensis** (Hultén) Ertter & N.M. House, **comb. nov.**, and **Potentilla tilingii** var. **illiterata** (Ertter & Reveal) N.M. House, **comb. nov.** *Drymocallis ashlandica* (Greene) Rydb. is added as a new record for California, and *Potentilla gracilis* Douglas ex Hook. var. *owyheensis* Ertter & Mansfield is added as a new record for California and Nevada. *Potentilla indiges* M. Peck is both resurrected and added as a new record for California, using the new combination **Potentilla gracilis** var. **indiges** (M. Peck) Ertter & N.M. House, **comb. et stat. nov.**

In advance of a revised treatment of Potentilleae (Rosaceae) in the Jepson eFlora (https://ucjeps.berkeley.edu/eflora/), several changes are published here in order to validate new nomenclatural combinations and to provide additional information on new taxa being added to the California flora. Genera affected by the revision are *Drymocallis, Duchesnea, Horkelia, Horkeliella, Ivesia,* and *Potentilla,* all of which were authored by the first author in previous versions of the Jepson Manual (i.e., Hickman 1993; Baldwin et al. 2012). In addition, new taxa are added to *Rosa,* also authored by the first author in the Jepson Manual.

Generic realignments

The majority of pending changes to the Jepson eFlora involve the editorial decision to implement consistent monophyletic nomenclature. The first author remains adamant in her long-held

support of paraphyletic groupings (as indicated in Mosyakin et al. 2020) and sees the submergence of evolutionarily and ecologically distinctive groups in polymorphous larger genera as a loss of taxonomic information. As a result, responsibility for the changes resulting from this editorial decision are ceded to the second author (Managing Editor of the Jepson eFlora) and the Jepson Flora Project team. Both authors will nevertheless work together to update keys and modify taxon descriptions for uniformity among species previously placed in separate genera. Species descriptions will all be lengthened as a result, to accommodate features that were previously treated at the genus level.

1. **Duchesnea**. To be incorporated within *Potentilla*, where it is distinctive in its strawberry-like fruit.

2. **Horkelia**, **Horkeliella**, **Ivesia**. To be incorporated within *Potentilla*. The species that have alternately been placed in these segregate genera comprise a well-supported clade that is nested among the basal branches within the *Potentilla* clade (as has most recently been summarized by Eriksson et al. 2022). Previously unavailable combinations needed to transfer the taxa treated as these segregate genera in the Jepson Manual to *Potentilla* were published in Mosyakin et al. (2020); as noted there, other combinations were already available due to the preference of Greene (1887) and his protégé Jepson (1925, 1936) for an inclusive *Potentilla*. Several species bear different epithets when treated as *Potentilla*, due to homonyms with priority in the larger genus — these are summarized in Table 1.

Name in current Jepson Manual	Name to be used in Jepson eFlora
Horkelia cuneata Lindl.	*Potentilla lindleyi* Greene
Horkelia fusca Lindl.	*Potentilla douglasii* Greene
Horkelia tenuiloba (Torr.) A. Gray	*Potentilla micheneri* Greene
Horkelia tridentata Torr.	*Potentilla tilingii* (Regel) Greene
Ivesia arizonica (J.T. Howell) Ertter	*Potentilla osterhoutii* (A. Nelson) J.T. Howell
Ivesia pygmaea A. Gray	*Potentilla nubigena* Greene

Table 1. Names in *Horkelia* and *Ivesia* for which the species epithet changes when treated as *Potentilla*, due to earlier homonyms in the latter genus.

In addition, one more combination is now needed for a recently published, narrowly endemic *Horkelia* restricted to the High North Coast Ranges (Ertter 2024b).

Potentilla tilingii (Regel) Greene var. **illiterata** (Ertter & Reveal) N.M. House, **comb. nov.**
Basionym: *Horkelia tridentata* Torr. var. *illiterata* Ertter & Reveal, Madroño 70: 250. 2024.

3. **Argentina**. While the preceding changes result from the transfer of phylogenetically nested genera to achieve monophyly in a more inclusive genus, in the reverse direction *Potentilla anserina* L. will become *Argentina anserina* (L.) Rydb., in line with emerging international consensus (e.g., Soják 2010, Eriksson et al. 2022, Plants of the World Online [https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:30012271-2; accessed 26 Jan 2024]). The autonymic subsp. *anserina* remains available, and Soják (2010) provided the necessary new combinations for most of the 50 or so mostly Asian species that now comprise *Argentina*. However, two of the subspecies of *P. anserina* used in the Flora of North America treament (Ertter et al. 2015), specifically subsp. *pacifica* (Howell) Rousi and subsp. *yukonensis* (Hultén) Soják ex Elven & Murray, do not currently have counterpart combinations in *Argentina anserina*. Although only the former occurs in California, both of the new combinations are made available here:

Argentina anserina (L.) Rydb. subsp. **pacifica** (Howell) Ertter & N.M. House, **comb nov.**
Basionym: *Potentilla pacifica* Howell, Fl. N.W. Amer.[Howell] 1: 179. 1898.

Argentina anserina (L.) Rydb. subsp. **yukonensis** (Hultén) Ertter & N.M. House, **comb nov.**
Basionym: *Potentilla yukonensis* Hultén, Acta Univ. Lund., n.s., sect. 2, 42(1): 1033. 1946.

Recently described and resurrected taxa. In addition to the recently described variety of *Horkelia* referenced above (Ertter 2024b), one new species of *Drymocallis* and one new species of *Potentilla* sensu stricto in California have been described subsequent to Baldwin et al. (2012). Another species of *Potentilla* has been resurrected from synonymy with a replacement name, and an extralimital new variety affects the nomenclature of another California *Potentilla*. In addition, *Rosa gymnocarpa* has been divided into subspecies. Keys and standardized descriptions will be inserted in the Jepson eFlora, with the following list providing a synopsis with additional notes.

1. **Drymocallis modocana** Ertter. A comment under *Drymocallis hansenii* (Greene) Rydb. in the second edition of the Jepson Manual (Baldwin et al. 2012) mentions "Coarser pls from Wrn probably undescribed taxon." These same plants are addressed under *D. convallaria* in the treatment of the genus in Flora of North America (Ertter 2015): "Excluded here are comparably small-petaled plants from the Warner Mountains of California and Oregon that have the aspect of *D. convallaria* but the blunter, redder achenes of *D. glandulosa*." Subsequent fieldwork has confirmed that this entity is a relatively common and uniform representative of the genus in the Warner Mountains, with comparable plants occurring as far north as Grant Co., Oregon. It has recently been described as a distinct species, *D. modocana* (Ertter 2024a), with "Modoc woodbeauty" as the proposed vernacular name.

2. **Potentilla amicarum** Ertter. A note under *Potentilla drummondii* Lehm. in the second edition of the Jepson Manual (Baldwin et al. 2012) indicates that "Pls in s SNH depauperate, possibly distinct." This entity was subsequently published as *P. amicarum* (Ertter 2017), replacing most references to *P. drummondii* and *P. bruceae* Rydb. in the central and southern Sierra Nevada and White Mountains. As a side result, descriptions and ranges of the last two species will also be adjusted due to the removal of specimens previously included in their respective circumscriptions that are now placed in *P. amicarum*. "Friends cinquefoil" is an appropriate vernacular name.

In the original publication, most of the specimens used in defining the new species (over 100, subsequently annotated and returned to their respective home herbaria) were from Fresno, Inyo, and Tulare counties. North of this core range, scattered populations were accepted as "good" *P. amicarum* from at least as far north as Mono and Tuolumne counties, with more equivocal collections from Alpine and Nevada counties. More recently, the first author has determined that *Tiehm 7566* (Mount Rose, Washoe Co., Nevada [RENO]) fits well in *P. amicarum*, extending the range into Nevada.

3. **Potentilla jepsonii** Ertter var. **jepsonii**. The species was published as the replacement name at the species rank for *P. pensylvanica* var. *ovium* Jeps., using a different epithet to avoid possible confusion with *P. ovina* J.M. Macoun (Ertter 2008). The autonymic variety *jepsonii* now exists due to the publication of *P. jepsonii* var. *kluanensis* Ertter, which ranges from northern Washington to Alaska and Yukon (Ertter 2019).

4. **Potentilla norrelmukana** DiNicola & Ertter. The 2018 rediscovery of uniform populations comparable to the previously ambiguous type specimen of *Potentilla millefolia* var. *algida* Jeps., from at or near the type locality, confirmed that this was a distinct taxon endemic to the Trinity Alps of northern California (DiNicola & Ertter 2024). The replacement name, to honor the Nor Rel Muk Wintu, was needed at species rank due to the priority of *P. algida* Soják. "Nor Rel Muk cinquefoil" is the recommended vernacular name.

5. **Rosa gymnocarpa** subsp. **gymnocarpa** and subsp. **helleri** (Greene) Ertter & Lewis. The species was roughly divided into two subspecies in 2016, with the autonymic subsp. *gymnocarpa* being primarily coastal (i.e., west of the Cascade-Sierra axis) and subsp. *helleri* being primarily more interior, though with extensive zones of intergradation. Subsp. *helleri* occurs from southeastern British Columbia and northwestern Montana south to the northern Sierra Nevada in California. The previously described *R. gymnocarpa* var. *serpentina* Ertter & W.H. Lewis, which is restricted to ultramafic

substrates in the Siskiyou Mountains of northwestern California and southwestern Oregon, occurs in the transition zone between the two subspecies. Although var. *serpentina* combines characters of the two subspecies, it is provisionally treated as a variety within subsp. *gymnocarpa* (Ertter & Lewis 2016).

The rationale for the use of both subspecies (for significant ecogeographic components) and varieties (for more localized variants) within *Rosa* is presented in greater detail elsewhere (i.e., Lewis and Ertter 2007; Lewis et al. 2015). *Rosa woodsii* Lindl. var. *glabrata* (Parish) D. Cole, known only from a few springs on the north foot of the San Bernardino Mountains, is another example of a variety within a subspecies, specifically *R. woodsii* subsp. *gratissima* (Greene) Lewis & Ertter (Lewis & Ertter 2007). This complexity resulted in var. *glabrata* being overlooked in the treatment of *Rosa* in Baldwin et al. (2012); it has already been added to the Jepson eFlora.

New records for California

Ongoing fieldwork and re-evaluation of existing collections has resulted in the addition of a *Drymocallis* and two *Potentilla* not previously included in the California flora.

1. **Drymocallis ashlandica** (Greene) Rydb. (Fig. 1). Although the combination *Potentilla glandulosa* subsp. *ashlandica* (Greene) D.D. Keck was used in the first edition of the Jepson Manual (Hickman 1993) for a common taxon in northern California and adjacent Oregon with openly branched inflorescences and relatively large yellow petals, this was subsequently determined to be a nomenclatural misapplication for what is now called *Drymocallis lactea* var. *austiniae* (Jeps.) Ertter (Ertter 2007, 2015). The name *D. ashlandica* itself reverted to a relatively rare species with compact, densely glandular inflorescences, with the vernacular name of "Mazama woodbeauty." Although known only from the Siskiyou and Cascade regions of southwestern Oregon at the time, the potential presence of *D. ashlandica* in California was noted in the genus discussion for *Drymocallis* in the second edition of the Jepson Manual (Baldwin et al. 2012). A population from Poker Flat in northwestern Siskiyou County collected by the first author is now confirmed as this species, as is an older collection from the Marble Mountains. *Drymocallis lactea* var. *austiniae* also occurs at Poker Flat (*Ertter & DiNicola 23204*, UC), with at least some some habitat partitioning but also apparent intergradation (*Ertter & DiNicola 23206*, UC) with "good" *D. ashlandica*.

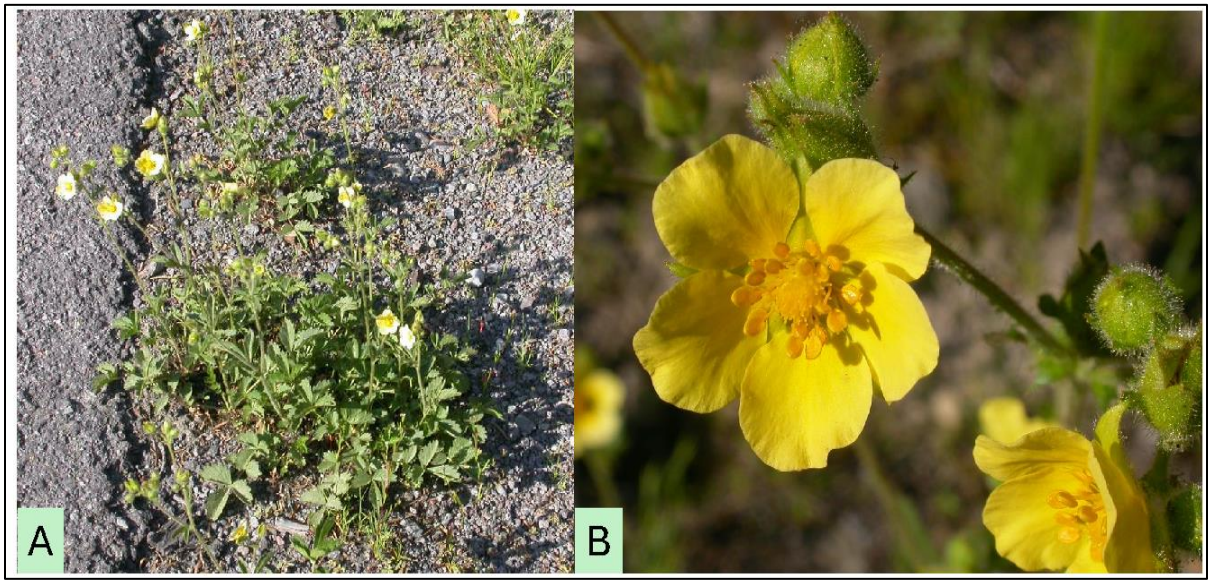

Figure 1. Habit (A) and flowers (B) of *Drymocallis ashlandica* near Crater Lake, Klamath Co., Oregon (vouchered by *Ertter 19209*). Note the relatively compact, densely glandular inflorescence.

Collections of *Drymocallis ashlandica* from California. Siskiyou Co.: Poker Flat, Siskiyou Mountains ca 12 air mi NW of Happy Camp, moist edge of *Veratrum* patch at N end of meadow, 41.9326° N 123.5462° W, 1528 m, 7 Jul 2018, *Ertter & DiNicola 23205* (SRP, UC, +tbd); Marble Mountains, Klamath National Forest, Jul 1945, *Dunkle 9222* (POM).

2. **Potentilla gracilis** var. **owyheensis** Ertter & Mansfield. *Potentilla gracilis* var. *owyheensis* was described for plants in southwestern Idaho and eastern Oregon that had tangled cottony (vs. straight or shaggy) hairs on the petioles (Ertter & Mansfield 2007). As discussed in the original publication, comparable petiole vestiture in the *P. gracilis* complex was otherwise known only on the type specimen of *P. subvillosa* Rydb. (*Hansen 297*) from Carson Spur in Alpine Co., California. Targeted fieldwork by the first author in 2006 failed to locate any extant comparable populations near Carson Spur, and the type of *P. subvillosa* was accordingly interpreted as an atypical extreme of the regionally common form of *P. bruceae*, possibly resulting from hybridization with *P. breweri* S. Watson as the source of the cottony petiole vestiture.

In subsequent years, additional specimens from the northern Sierra Nevada in California and adjacent Nevada have been located with comparable morphology, though petiole vestiture on the collections from Nevada approaches the shaggier condition of *Potentilla bruceae.* With this added information, in 2012 the first author found a small population (*Ertter 21083,* Fig. 2) not far from the type locality of *P. subvillosa* that was morphologically comparable to Idaho and Oregon collections of *P. gracilis* var. *owyheensis*. It is possible that all of these California and Nevada populations are the result of sporadic and/or independent hybridization events between *P. breweri* and *P. gracilis,* locally propagating apomictically as *Potentilla* is prone to do, and var. *owyheensis* itself is speculated to be the stabilized hybrid from such an origin (Ertter & Mansfield 2007). In the absence of strong evidence to do otherwise, however, the pragmatic option at this stage is to treat these scattered northern Sierra Nevada populations as outliers of *P. gracilis* var. *owyheensis*, with *P. subvillosa* accordingly becoming a synonym of this variety.

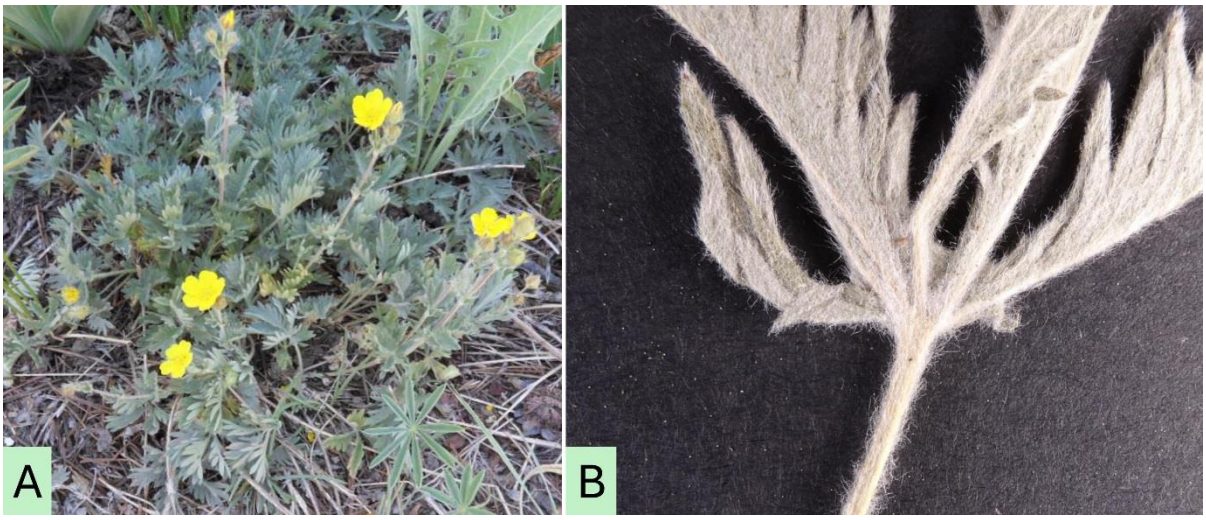

Figure 2. *Potentilla gracilis* var. *owyheensis* on trail to Winnemucca Lake, Carson Pass, Alpine Co., California (*Ertter 21083*). A. Habit. B. Pressed leaf, showing cottony hairs on petiole and leaflets.

Collections of *Potentilla gracilis* var. *owyheensis* from California and Nevada. California. Alpine Co.: At jct to Frog Lake on trail to Winnemucca Lake from Carson Pass, 2704 m, 7 Jul 2012, *Ertter 21083* (SRP, UC, +tbd); Carson Spur, 8500 ft, Jul 1892, *Hansen 297* (TYPE of *P. subvillosa* Rydb.; CAS, MO, UC); rocky shores of Winnemucca Lake, 9000 ft, 24 Jul 1937, *Peirson 12114* (RSA). Tuolumne Co.: below summit of Sonora Pass, 9500 ft, 14 Aug 1930, *Stanford 283* (RSA). **Nevada**.

Washoe Co.: S end of Big Meadows, Carson Range, 8720 ft, 28 Jul 1978, *Genz 8643* (BRY); Mt. Rose, 8 mi E of Incline, 8500 ft, 26 Jul 1935, *Rose 35543* (CAS, UC); NE side of Big Meadows, 8710 ft, 18 Jul 2016, *Tiehm & Nachlinger 17592* (CIC, OSC, RENO, RSA, UC).

A new combination for a resurrected *Potentilla* that is a new record for California.

In the discussion of possible candidates for taxonomic recognition encompassed within *Potentilla gracilis* var. *fastigiata* (Nutt.) S. Wats., the draft treatment for Flora of North America included this statement: "anomalous plants from the John Day Valley [of Oregon] described as *P. indiges* M. Peck are distinct in their narrow, deeply toothed leaflets that are at most sparsely short-strigose on the abaxial veins." Although this sentence did not survive the final editorial cut, the first author has nevertheless long considered this taxon worthy of recognition, at least as a distinct variety of *P. gracilis,* and the provisional inclusion of a couple of collections from California requires that the taxonomic adjustments be made at this time.

Peck (1932) described *Potentilla indiges* with the caveat that "One should hesitate to add another name to this already over-named section of *Potentilla*, but the present form is so well marked by its pubescence and leaf-characters as to demand specific recognition." He did not, however, specifically note which characters in the Latin description were diagnostic, nor did he explain his choice of specific epithet. More clarity is provided in his subsequent flora of Oregon (Peck 1941), in which the species is keyed out on the basis of nearly glabrous, narrowly oblanceolate leaflets that are longitudinally folded and cut more than halfway to the midrib (Fig. 3). The exceptionally skinny appearance of these glossy green leaflets is alluded to by Peck in his proposal of "Starved cinquefoil" as the common name (Peck 1941), with *indiges* therefore being a cognate of indigent.

Potentilla indiges was not addressed in Keck's taxonomic revision of the *P. gracilis* complex (in Clausen et al. 1940), in which the 40 species previously recognized by Rydberg (1908) were collapsed into only six species. Hitchcock et al. (1961) went a step further and recognized only two species in the complex, with most of the variation shoe-horned into seven varieties of *P. gracilis*. As justification, they noted that "It is not uncommon to find small, local populations of a rather uniform composition in one locality, although nearby the plants may be much more variable." In their interpretation, *P. indiges* was closest to *P. gracilis* var. *glabrata* (Lehm.) C.L. Hitchc., varying toward var. *elmeri* (Rydb.) Jeps.

According to Peck (1932, 1941), *Potentilla indiges* was restricted to meadows along the John Day River in Grant Co., Oregon. As part of her ongoing research on the *P. gracilis* complex, the first author has located morphologically similar plants at one site in these wet meadows, which are underlain by a basalt substrate (*Ertter 21223,* which is also the presumed locality of *Cronquist 7311*). However, the majority of comparable populations have been found on the ultramafic substrates of Baldy Mountain, in the Strawberry Mountains south of the meadows along the John Day River. Based on the first author's field observations, populations having the distinctive leaflets of *P. indiges* occur as the only representative of the *P. gracilis* complex on ultramafic substrates on Baldy Mountain, and populations at other sites generally retain their distinctiveness when co-occurring with other morphotypes of *P. gracilis.* Furthermore, living material in cultivation in a common garden setting also keeps its diagnostic morphology. We are therefore resurrecting this entity, using varietal status as is currently being used for most other morphotypes in the complex, while acknowledging that future work on the complex may dictate otherwise.

Potentilla gracilis Douglas ex Hook. var. **indiges** (M. Peck) Ertter & N.M. House, **stat. & comb. nov.**

Basionym: *Potentilla indiges* M. Peck, Torreya 32: 150. 1932.

Figure 3. *Potentilla gracilis* var. *indiges* — leaves of a particularly distinctive plant (*Ertter & DiNicola 22340*) from Baldy Mountain in Grant Co., Oregon.

Because of the apparent ultramafic preference of *Potentilla gracilis* var. *indiges*, we are also provisionally including two morphologically similar collections from ultramafic sites in north-central California in the circumscription of this variety, as indicated below.

Specimens examined. California. Siskiyou Co.: Morgan Meadows on E side of Mt. Eddy, ca 5 air mi due W of Mt. Shasta City, drier edge of meadow, partial shade of conifers, T40N R5W Sec 16 NE¼, ca 5500 ft, 15 Jul 1990, *Ertter et al. 9359* (SRP, UC, +tbd); hillslopes at base of Scott Mts. at mouth of Willow Creek, Shasta Valley, ca 4 mi W of Gazelle, 41°28'30" N 122°33'44" W, ca 3200 ft, wet meadow with *Deschampsia danthonioides-Carex nebrascensis* on ultramafic (gabbro) substrate, bordered *by Pinus jeffreyi-Juniperus occidentalis* woodland, 12 Jun 1997, *Taylor 16059* (JEPS). **Oregon**. Grant Co.: Mt. Baldy, end of road at Wilderness Boundary, open *Pinus ponderosa-Pseudotsuga menziesii* woodland, 44.34938° N 118.81414° W, 6651 ft, 16 Jul 2010, *Birks 2010-9* (WTU); open grassy basaltic slope along Indian Creek, ca 12 mi E of John Day, T14S R33E S4, 4000 ft, 28 Jun 1953, *Cronquist 7311* (UC, WTU); Little Indian Creek Road 1.2 mi S of bend in Indian Creek Road, ca 6 air mi SW of Prairie City, wet seepage meadow with sedge and *Juncus balticus* on grassy basalt flat, 44.385° N 118.768° W, 1245 m, 4 Aug 2012, *Ertter 21223* (CIC, UC, OSC, WTU, +tbd); road to Celebration Mine 0.7 mi beyond Pine Creek Trailhead on Malheur NF Rd 811/1430, NW flank of Baldy Mtn. in Strawberry Range ca 8 air mi SE of John Day, open conifer woodland and grassland on serpentine, with *Penstemon, Lupinus, Linanthastrum, Achillea*, *Bistorta*, 44.353° N 118.818° W, 1860 m, 13 Jun 2015, *Ertter & DiNicola 22340* (SRP, UC, +tbd); switchbacks above timberline on N side of Baldy Mtn., Strawberry Range ca 9 air mi SE of John Day, serpentine substrate, localized outcrops above persisting snowbank, with *Ivesia gordonii, Lupinus, Draba, Frasera*, *Cerastium*, 44.344° N 118.808° W, 2180 m, 13 Jun 2015, *Ertter & DiNicola 22344* (CIC, OSC, WIS, UC, +tbd); switchbacks on Malheur NF Road 1430/5401 to Baldy Mtn. ca 8 air mi SE of John Day, 6 road mi from Hwy 26, disturbed grassland at dogleg in open forest of ponderosa pine and douglas-fir, 44.3692° N 118.8124° W, 1550 m, 13 Jun 2015, *Ertter & DiNicola 22358* (SRP, UC, WTU, +tbd); jct of Malheur NF Roads 5401 and 822, N side of Baldy Mtn. ca 8 air mi ESE of John Day, burnt forest on N-facing slope, ultramafic substrate, 44.355° N 118.808° W, ca 1860 m elev, 26 Jun 2018, *Ertter et al. 23162*

(OSC, SRP, UC, +tbd); meadow along John Day River 15 mi above Dayville, 17 Jun 1930, *Peck 16034* (WILLU in OSC; HOLOTYPE); moist meadow 4 mi W of John Day, 19 Jun 1938, *Peck 19892* (UC, WILLU in OSC).

The collection date for *Potentilla indiges* in the protologue (Peck 1932) is June 17, 1927; however, the label for the holotype in WILLU (*Peck 16034*) specifies 1930 as the collection year. Several other Peck collections in WILLU (e.g., *10311, 19886, 26373*) might also represent this taxon, but since they have not yet been examined and confirmed by the first author they are not included among the cited specimens.

The two collections cited as var. *indiges* from California (*Ertter et al. 9359, Taylor 16059*) are the ones that are most morphologically comparable to plants from Grant Co., Oregon. Whether or not there are any equally comparable populations between these two areas remains to be determined; although new discoveries are regularly encountered in the sparsely botanized intervening area, ultramafic sites are mostly absent. At the same time, other collections from northwestern California and southwestern Oregon share some but not all of the diagnostic characters of var. *indiges,* primarily glossy green glabrate leaves and a propensity for ultramafic habitats. Differences include shorter habit, leaflets that are more broadly oblanceolate and/or less deeply incised, and longer, spreading petiole hairs (vs. short appressed hairs in var. *indiges*). These diagnostic characters are combined in a variety of ways, so that further research is needed to determine the best taxonomic disposition of these ambiguous populations. Ongoing research by the first author is currently underway on the glabrate morphotypes of *P. gracilis,* some of which are interpreted as stabilized hybrids with *P. glaucophylla* Lehm. (e.g., the recently described *P. maryae* Ertter & Mansfield [2023] from central Idaho).

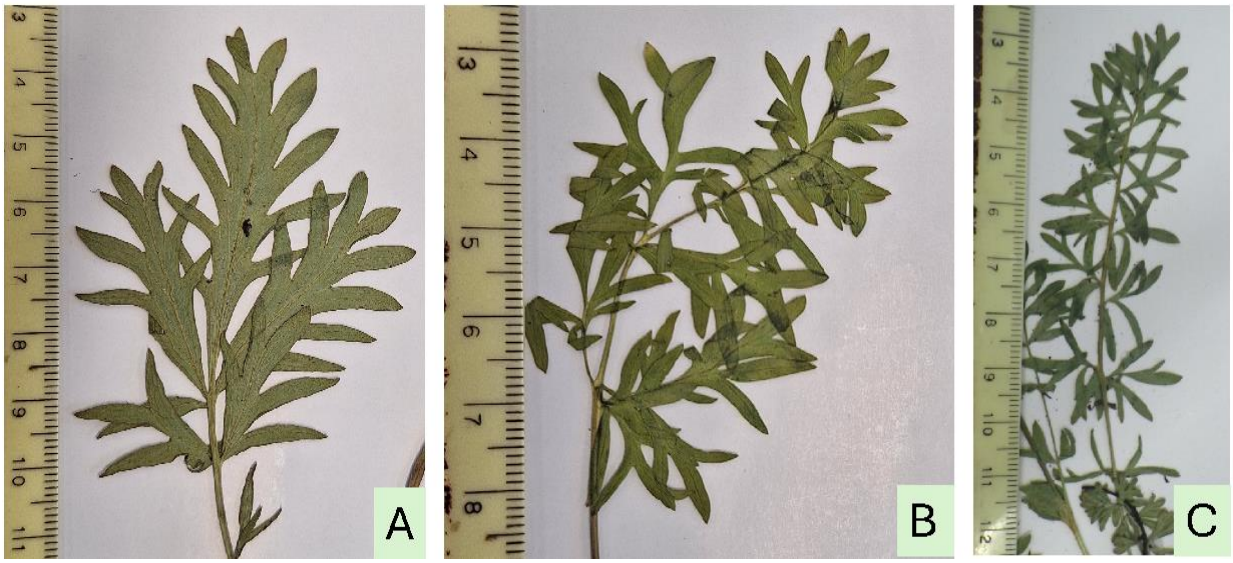

Figure 4. Leaves from probable hybrids and backcrosses between palmate-leaved *Potentilla gracilis* var. *indiges* and pinnate-leaved *P. versicolor* var. *darrachii.* A. Hybrid, possibly backcrossed to *P. gracilis* var. *indiges* (*Ertter et al. 23163*). B. Hybrid, possibly backcrossed to *P. versicolor* var. *darrachii* (*Ertter & DiNicola 22342*). C. Pinnate leaf of *P. versicolor* var. *darrachii,* possibly with some introgression from *P. gracilis* var. *indiges* (*Ertter & DiNicola 22341*).

On Baldy Mountain in Oregon, *P. gracilis* var. *indiges* is sympatric with *P. versicolor* Rydb. var. *darrachii* Ertter & DiNicola, with no other *Potentilla* occurring on the ultramafic sites. This makes it easy to recognize putative hybrids, which provide insights into the possible leaflet shapes that result from crossing a palmate-leaved species (*P. gracilis*) with a pinnate-leaved species (*P. versicolor*), and possible back-crosses (Fig. 4). Collections of putative hybrids are as follow.

Probable hybrids of *Potentilla gracilis* var. *indiges* × *P. versicolor* var. *darrachii*. Oregon. Grant Co.: Pine Creek drainage above Malheur NF Road 5401, N side of Baldy Mtn. ca 9 air mi ESE of John Day, along old path in burnt forest on N-facing slope, ultramafic substrate, 44.348° N 118.804° W, ca 1970 m, 26 Jun 2018, *Ertter et al. 23163* (SRP, UC, +tbd); Pine Creek trail up N side of Baldy Mtn. ca 8 air mi SE of John Day, along streamlet cutting across upper switchbacks, open conifer forest on N-facing slope, serpentine substrate, 44.347° N 118.8045° W, ca 2026 m, 13 Jun 2015, *Ertter & DiNicola 22342* (SRP, UC, +tbd).

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