Rare Plant Status Review: Six taxa nominated for CRPR 4

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This status review is being expedited in part through agreements between the California Native Plant Society and the Center for Plant Diversity (for *Galium hilendiae* subsp. *hilendiae* and *Swertia perennis*) and the Utom Conservation Fund (for *Clarkia speciosa* susp. *polyantha*).

Background and Taxonomy

The following six plants were nominated for inclusion in the CNPS Inventory of Rare and Endangered Plants of California (2024) between 2014 and 2018: *Acmispon cytisoides* (Benth.) Brouillet, *Aliciella lottiae* (A.G. Day) J.M. Porter, *Clarkia speciosa* F.H. Lewis & M.E. Lewis subsp. *polyantha* F.H. Lewis & M.E. Lewis, *Galium hilendiae* Dempster & Ehrend subsp. *hilendiae*, *Swertia perennis* L., and *Wyethia invenusta* (Greene) W.A. Weber. To expedite this process, we are reviewing them as a group. A location table has been completed for each plant, and a draft taxon page for the CNPS Inventory has been prepared as part of this document. In addition, complete references for all six plants are provided at the end of this document.

All six plants are included in the *Jepson eFlora* (Baldwin 2012, Keil 2012, Lewis 2012, Porter 2012, Soza 2012, Brouillet 2022) and *The Jepson Manual* (Day 1993a, Dempster 1993, Isely 1993, Keil 1993, Lewis 1993, Pringle 1993). However, in *The Jepson Manual*, *Acmispon cytisoides* is treated under the synonym *Lotus benthamii* (Isely 1993), and *Aliciella lottiae* is treated under the synonym *Gilia lottiae* (Day 1993). Three of the taxa have completed treatments in *Flora of North America* (Weber 1999, Lewis 2022, Pringle 2024) with *Wyethia invenusta* being treated under the synonym *Agnorhiza invenusta* (Weber 1999).

Distribution and Abundance

Taxon	CA EOs	Historic EOs	Distribution
Acmispon cytisoides	68	31	Marin, Monterey, San Luis Obispo, San Mateo, and Sonoma counties
Aliciella lottiae	63	32	Inyo, Lassen, Modoc, Mono, and San Bernardino counties and then to WA and UT
Clarkia speciosa ssp. *polyantha*	55	41	Fresno, Kern, Madera, Mariposa, and Tulare counties
Galium hilendiae ssp. *hilendiae*	36	14	Kern, Riverside, San Bernardino, Tulare counties, and then to NV
Swertia perennis	59	37	Alpine, Fresno, Inyo, Mariposa, Siskiyou, and Tulare counties and then to AL, CO, Eurasia
Wyethia invenusta	45	21	Fresno, Kern, and Tulare counties

The numbers of estimated occurrences (EOs) for all taxa were calculated based on georeferenced observations obtained online (CCH2 2022, Calflora 2024, iNaturalist 2024) that were analyzed using the methods of Green and Sims (2018). The total estimated numbers of occurrences for

each taxon are given in the above table with the number of historic EOs (not observed in the past 20 years) provided in a separate column.

Conservation Status, Land Ownership, and Threats

Taxon	Proposed CRPR rank and threat code	Proposed Nature Serve ranks	Conservation Status outside of CA	Land Ownership (#EOs) and Threats
Acmispon cytisoides	4.2	G3 S3	Not applicable	Los Padres NF (26); Unknown (19); Hearst San Simeon State Park (7); Fort Ross State Park (1); Point Reyes National Seashore (1); San Mateo County (1); Rancho Corral de Tierra – National Parks (2); Asilomar State Park (1); Point Lobos State Park and Natural Reserve (2); Garrapata State Park (1); SFB Morse Reserve (1); Rocky Point Open Space (1); Point Sur State Park (1); UC Santa Cruz Landels Hill Reserve (3); Monterey County (1); threatened by development, recreation
Aliciella lottiae	4.2	G4 S3	S3 (vulnerable) in NV	Unknown ownership (23); BLM (20); LA Dept Water and Power (12); Inyo NF (2); Death Valley NP (1); Mojave NP (2); Red Canyon State Park (2); CDFW Fish Slough Res. (1); threatened by grazing, mining, solar panel development
Clarkia speciosa ssp. *polyantha*	4.3	G3 T3 S3	Not applicable	Unknown ownership (36); Sequoia NF (6); Sierra NF (2); Giant Sequoia NM (5); BLM (4); The Nature Conservancy (1); CDFW Springville Ecological Reserve (1); threats are undocumented
Galium hilendiae ssp. *hilendiae*	4.2	G3 T3 S3	This subspecies has no status in NV	BLM (7); Inyo NF (4); San Bernardino NF (17); Joshua Tree NP (2); the Wildlands Conservancy Pioneer Town Mtns Pres. (2); unknown (4); threatened by mining
Swertia perennis	4.2	G5 S3	S1 (critically imperiled) in WA and Yukon Territory; S2 (imperiled) in OR, NV	Eldorado NF (1); Inyo NF (20); Klamath NF (2); Shasta-Trinity NF (2); Kings Canyon NP (15); Sequoia NP (15); Yosemite NP (1); unknown (3); threated by grazing and changes in hydrology
Wyethia invenusta	4.2	G3 S3	Not applicable	BLM (4); Sequoia NF (12); Sequoia NP (6); Kings Canyon NP (1); Giant Sequoia NM (13); Mountain Home State Demonstration Site (3); unknown (6); threatened by timber activities

Summary

Based on the available information, CNPS and CNDDB propose adding the six taxa listed in the above table to California Rare Plant Rank 4 of the CNPS Inventory with the threat codes specified. If knowledge on the distribution, threats, or rarity status of these six taxa changes in the future, they may be re-evaluated at that time.

Recommended Actions
CNPS: Add the six taxa in the above table to the CRPR ranks specified
CNDDB: Add the six taxa in the above table to the NatureServe ranks specified

Draft CNPS Inventory Record – *Acmispon cytisoides*
Acmispon cytisoides (Benth.) Brouillet
common name: Bentham's broom
Family: Fabaceae
USDA Plants Symbol: none in the genus Acmispon
Synonym(s)/Other Name(s): none
CRPR 4.2
Counties: Marin, Monterey, San Luis Obispo, San Mateo, Sonoma
States: CA
Quad name (code): Big Sur (3612137), Burro Mountain (3512173), Cambria (3512151), Cape San Martin (3512184), Drakes Bay (3812218), Fort Ross (3812352), Lopez Point (3612115), Montara Mountain (3712254), Monterey (3612158), Piedras Blancas (3512163), Point Sur (3612138), San Simeon (3512162), Soberanes Point (3612148), Villa Creek (3512174),
General Habitat: Coastal dunes, coastal bluff scrub, coastal scrub, chaparral, coastal prairie, closed cone coniferous forest.
Microhabitat Details: Usually in openings in immediate coastal habitat, including bluffs, rocky slopes, and roadcuts (sometimes serpentinite, metamorphic, talus, or sandy soils) with a variety of vegetation types, including dunes, maritime chaparral, coastal sage scrub, coastal prairie, and open *Pinus radiata* forest.
Microhabitat: Coastal (usually), openings, sandy, rocky, scree, talus (sometimes), metamorphic (sometimes), serpentinite (sometimes).
Elevation: 0–980 meters (0–3215 ft)
Life form: perennial herb
Blooms: (February) March to July (November).
Notes: Highest elevations above 900 meters are in high coastal mountains within 2 miles of the Pacific Ocean.
Threats: Threatened by development and urbanization, potentially threatened by recreational activities, foot traffic, road maintenance, road construction, and hybridization.
Selected References:
- CNPS Status Review: Proposed addition to CRPR 4.2, G3 / S3 (2024)
- Original Description: *The Transactions of the Linnean Society of London* 17: 363–368 (1835)
- Revised Nomenclature: *Journal of the Botanical Research Institute of Texas* 2: 387–394 (2008).

Draft CNPS Inventory Record – *Aliciella lottiae*
Aliciella lottiae (A.G. Day) J.M. Porter
common name: Lott's aliciella
Family: Polemoniaceae
USDA Plants Symbol
Synonym(s)/Other Name(s): none
CRPR 4.2

Counties: Inyo, Lassen, Modoc, Mono, San Bernardino,
States: AZ, CA, ID, NV, OR, WA, UT
Quad name (code): Barstow SE (3411771), Bee Springs Canyon (3611871), Benton (3711874), Benton Hot Springs (3711875), Big Pine (3711823), Blackrock (3611882), Blanco Mtn. (3711842), Bodie (3811921), Buckhorn Canyon (4012071), Cantil (3511738), Casa Diablo Mtn. (3711855), Chalfant Valley (3711853), Chidago (3711854), Cinco (3511831), Constantia (3912081), Coso Junction (3611718), Darwin (3611735), Doyle (4012011), Eagleville (4112031), Fish Slough (3711844), Glasgow (3411587), Haiwee Reservoirs (3611728), Hammil Valley (3711864), Joshua Flats (3711728), Iron Ridge (3411655), Kelso Dunes (3411586), Lancaster West (3411862), Last Chance Mtn. (3711736), Laws (3711843), Lee Vining (3711981), Little Lake (3511788), Nebo (3411688), Negit Island (3811911), Olancha (3611831), Owens Peak (3511768), Parker Canyon (4011938), Poleta Canyon (3711833), Redman (3411778), Rovana (3711845), Station Peak (3711851), Teakettle Junction (3611775), Victorville (3411753), Watterson Canyon (3711866), West of Shenandoah Peak (3511576), White Mtn. Peak (3711863).
General Habitat: Inland dunes, Great Basin scrub, pinyon and juniper woodland, Mojavean desert scrub, chenopod scrub
Microhabitat Details: Found in alkaline flats, inland dunes, canyon bottoms, stream drainages, disturbed roadsides, and various desert vegetation types, often in sandy alluvial soils, sometimes in rocky uplands.
Microhabitat: alkaline (sometimes), sandy (usually), granitic (sometimes), gravelly (sometimes), rocky (sometimes)
Elevation: 400–2100 m (1310–6890 ft)
Life form: annual herb
Blooms: March to July
Threats: Threatened by inappropriate grazing, mining, groundwater pumping, solar development.
Selected References:
- CNPS Status Review: Proposed addition to CRPR 4.2, G4 / S3 (2024)
- Original Description: *Novon* 3: 331–340 (1993)
- Revised Nomenclature: *Aliso* 17: 23–46 (1998)
- Taxonomic Treatment: *Aliso* 17: 23–46 (1998)

Draft CNPS Inventory Record – *Clarkia speciosa* ssp. *polyantha*
Clarkia speciosa F.H. Lewis & M.E. Lewis ssp. *polyantha* F.H. Lewis & M.E. Lewis
common name: red spot clarkia
Family: Onagraceae
USDA Plants Symbol: CLSPP
Synonym(s)/Other Name(s): none
CRPR 4.2
Counties: Fresno, Kern, Madera, Mariposa, Tulare
States: CA
Quad name (code): Alta Sierra (3511865), Auberry (3711914), Breckenridge Mtn. (3511845), California Hot Springs (3511886), Camp Nelson (3611825), Camp Wishon (3611826), Cascadel Point (3711924), Case Mountain (3611847), Chickencoop Canyon (3611838), Coulterville (3712062), Democrat Hot Springs (3511856), Dennison Peak (3611837), Eagle Rest Peak

(3411982), Fairview (3511884), Fountain Springs (3511888), Globe (3611817), Hume (3611878), Kaweah (3611848), Keene (3511825), Kernville (3511874), Lake Isabella North (3511864), Lebec (3411877), Millerton Lake East (3711915), Miracle Hot Springs (3511855), Miramonte (3611961), Mt. Adelaide (3511846), Oiler Peak (3511835), Orange Cove North (3611963), Pastoria Creek (3411887), Patterson Mtn. (3611981), Rough Spur (3611888), Shadequarter Mtn. (3611858), Springville (3611827), Tejon Ranch (3511816), Wahtoke (3611964), White River (3511877), Winters Ridge (3411886), Woodlake (3611941), Woody (3511867).
General Habitat: Cismontane woodland, lower montane coniferous forest, upper montane coniferous forest, chaparral.
Microhabitat Details: Often found on open slopes within woodland or conifer forest.
Microhabitat: granitic (sometimes)
Elevation: 235–2000 meters (770–6565 ft)
Life form: annual herb
Blooms (March) May to June (July)
Taxonomy: Intergrades with ssp. *nitens.*
Selected References:
- CNPS Status Review: Proposed addition to CRPR 4.2, G3 T3 / S3 (2024)
- Original Description: *University of California Publications in Botany* 20: 241–392 (1955)

Draft CNPS Inventory Record – *Galium hilendiae* ssp. *hilendiae*
Galium hilendiae Dempster & Ehrend ssp. *hilendiae*
common name: Hilend's bedstraw
Family: Rubiaceae
USDA Plants Symbol: GAHIH
Synonym(s)/Other Name(s): none
CRPR 4.2
Counties: Kern, Riverside, San Bernardino, Tulare
States: CA, NV
Quad name (code): Bartlett (3611841), Big Bear City (3411637), Big Bear Lake (3411628), Bighorn Canyon (3411635), Chocolate Mtn. (3711748), Fawnskin (3411638), Indian Cove (3411612), Joshua Tree South (3411613), Lamont Peak (3511871), Laws (3711843), Lucerne Valley (3411648), Mt. Langley (3611852), Onyx Peak (3411626), Owens Peak (3511768), Rattlesnake Canyon (3411636), Rimrock (3411625), Westgard Pass (3711832),

General Habitat: Pinyon juniper woodland, Great Basin scrub, Joshua tree woodland, chaparral
Microhabitat Details: Usually found in rock crevices on moderate to steep, rocky slopes in desert vegetation types or scrub oak/canyon oak chaparral. Rarely in sandy washes.
Microhabitat: granitic (sometimes), carbonate (sometimes), talus (sometimes), sandy (sometimes).
Elevation: elevation 1070–2745 meters (3515–9010 ft)
Life form: perennial subshrub
Blooms April to July
Threats: Threatened by carbonate mining activities.
Selected References:

- CNPS Status Review: Proposed addition to CRPR 4.2, G3 T3 / S3 (2024)
- Original Description: *Brittonia* 17: 289–334 (1965)
- Taxonomic Treatment: *Brittonia* 17: 289–334 (1965)

Draft CNPS Inventory Record – *Swertia perennis*
Swertia perennis L.
common name: felwort
Family: Gentianaceae
USDA Plants Symbol: SWPE
Synonym(s)/Other Name(s): none
CRPR 4.2
Counties: Alpine, Fresno, Inyo, Mariposa, Siskiyou, Tulare
States: AL, AZ, CA, CO, ID, MT, NM, NV, OR, UT, WA, WY
Quad name (code): Templeton Mtn. (3611832), Kern Peak (3611832), Moses Mtn. (3611836), Cirque Peak (3611842), Mineral King (3611845), Johnson Peak (3611843), Chagoopa Falls (3611844), Triple Divide Peak (3611855), Mount Whitney (3611853), Mt. Langley (3611852), Sphinx Lakes (3611865), Mt. Brewer (3611864), Mt. Williamson (3611863), Mt. Clarence King (3611874), Kearsarge Peak (3611873), The Sphinx (3611875), Mt. Pinchot (3611884), Mt. Thompson (3711825), Half Dome (3711965), Carson Pass (3811968), China Mtn. (4112245)
General Habitat: Meadows and seeps, upper montane coniferous forest (mesic openings), riparian scrub
Microhabitat Details: Found in wet (often alluvial) soil in mesic openings in coniferous forest or meadows near drainages or lake edges.
Microhabitat: granitic (usually), lake margins (sometimes), streambanks (sometimes)
Elevation: elevation 1935–3400 meters (6345–11155 ft)
Life form: perennial herb
Blooms July to September
Threats: Threatened by inappropriate grazing, trampling, and hydrological alterations. Potentially threatened by fire suppression activities and high severity fire.
Selected References:
- CNPS Status Review: Proposed addition to CRPR 4.2, G5 / S3 (2024)
- Original Description: *Species Plantarum* 1: 226 (1753)

Draft CNPS Inventory Record – *Wyethia invenusta*
Wyethia invenusta (Greene) W. A. Weber
common name: rayless mule's ears
Family: Asteraceae
USDA Plants Symbol: AGIN8
Synonym(s)/Other Name(s): none
CRPR 4.2
Counties: Fresno, Kern, Tulare
States: CA
Quad name (code): Breckenridge Mtn. (3511845), Piute Peak (3511844), Mt. Adelaide (3511846), Alta Sierra (3511865), Lake Isabella North (3511864), Tobias Peak (3511875), Posey (3511876), Sentinel Peak (3611815), Camp Wishon (3611826), Dennison Peak

(3611837), Case Mountain (3611847), Kaweah (3611848), Silver City (3611846), Giant Forest (3611857), Lodgepole (3611856), Triple Divide Peak (3611855), Auckland (3611951), Shadequarter Mtn. (3611858), General Grant Grove (3611868), Miramonte (3611961)
General Habitat: Chaparral, lower montane coniferous forest, upper montane coniferous forest
Microhabitat Details: Found in open conifer forest, sometimes with *Sequoiadendron giganteum* as a dominant species.
Microhabitat: gravelly (sometimes)
Elevation: elevation 600–2300 meters (1965–7550 ft)
Life form: perennial herb
Blooms: (May) June to August (October)
Threats: Threatened by logging and other timber harvest activities.
Taxonomy: Placed in *Agnorhiza invenusta* in the Plants National Database, Flora North America, and iNaturalist.
Selected References:
- CNPS Status Review: Proposed addition to CRPR 4.2, G3 / S3 (2024)
- Original Description: *Pittonia* 1: 280–286 (1889)
- Revised Nomenclature: *American Midland Naturalist* 35: 400–452 (1946); *Phytologia* 85: 19–21 (1998).
- Taxonomic Treatment: *American Midland Naturalist* 35: 400–452 (1946).

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