

Jasper Ridge Biological Preserve Serpentine Flora

LA=locally abundant/dominant at x scale; C=common; O=occasional; U=uncommon; Ex=usually excluded from serpentine. Gr=grassland; Ch=chaparral; W=broadleaf evergreen woodland; S=seep, drainage, vernal wet areas; E=ecotonal. X=observed 2007-2015. N.B. The main ridge-top road, Road F, was surfaced in 1983 with fractured greenstone from the cliffs by Searsville Lake. Aerial photographs indicate the road earlier ran further to the south. Species abundance can vary dramatically year to year; see charts in RJ Hobbs, S Yates, HA Mooney (2007) Long-term data reveal complex dynamics in grassland in relation to climate and disturbance, Ecological Monographs. See the Preserve Plant List for photo-links <<http://www.stanford.edu/dept/JRBP/plants/PlantList.htm>>.

			Status [1]	Documentation type [2]	typical habitat	Abundance	Affinity [3]
Dryopteridaceae	<i>Dryopteris arguta</i>	coastal wood fern	yesx	SPEC	Ch, W	O	
Polypodiaceae	<i>Polypodium californicum</i>	California polypody	yesx	SPEC	W, rocky areas	O	
Pteridaceae	<i>Adiantum jordanii</i>	California maiden-hair	yesx	SPEC	W	O	
Pteridaceae	<i>Pentagramma triangularis</i> ssp. <i>triangularis</i>	goldback fern	yesx	SPEC	E, open Ch	C	
Pinaceae	<i>Pseudotsuga menziesii</i>	Douglas-fir	yesx	SPEC	Ch,W	U	
Anacardiaceae	<i>Toxicodendron diversilobum</i>	western poison oak	yesx	SPEC	Ch, W, Gr on rock outcrops	U	
Apiaceae	<i>Angelica tomentosa</i>	wood angelica	yesx; R	SPEC	W, trail 1	LA	SI
Apiaceae	<i>Anthriscus caucalis</i> *	bur-chervil	?	SPEC			
Apiaceae	<i>Daucus pusillus</i>	rattlesnake weed	yesx	SPEC	E, bare zone	C	
Apiaceae	<i>Eryngium aristulatum</i> var. <i>aristulatum</i>	Jepson's eryngo	yesx	SPEC	Gr (Area H)	(1 station)	
Apiaceae	<i>Lomatium caruifolium</i> var. <i>caruifolium</i>	caraway-leaved lomatium	yesx	SPEC	GR [4]	U	
Apiaceae	<i>Lomatium dasycarpum</i> ssp. <i>dasycarpum</i>	woolly-fruited lomatium	yesx	SPEC	E, areas dominated by Ch [5]	C	BE/SI
Apiaceae	<i>Lomatium macrocarpum</i>	large-fruited lomatium	yesx	SPEC	Gr, usu rocky areas [6]	C	SI
Apiaceae	<i>Lomatium utriculatum</i>	common lomatium	yesx	SPEC	Gr [7]	O	WI
Apiaceae	<i>Perideridia kelloggii</i>	Kellogg's yampah	yesx	SPEC	Gr		WI
Apiaceae	<i>Sanicula bipinnata</i>	poison sanicle	?	SPEC		U	
Apiaceae	<i>Sanicula bipinnatifida</i>	purple sanicle	yesx	SPEC	Gr	O	WI

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Apiaceae	<i>Sanicula crassicaulis</i>	Pacific sanicle	yesx	SPEC	Ch	C	
Apiaceae	<i>Sanicula tuberosa</i>	turkey pea	yesx; R	SPEC	Gr, northern exposure	U (1 station); map	WI/IN
Apiaceae	<i>Tauschia kelloggii</i>	Kellogg's tauschia	yesx; R	SPEC	Ch	O	SI
Asclepiadaceae	<i>Asclepias fascicularis</i>	narrow-leaf milkweed	yesx; R	SPEC	S	O [8]	
Asteraceae	<i>Achillea millefolium</i>	common yarrow	yesx	SPEC	Gr	C	
Asteraceae	<i>Achyrachaena mollis</i>	blow-wives	yesx	SPEC	Gr		
Asteraceae	<i>Agoseris grandiflora</i>	large-flowered agoseris	yesx	SPEC	edge of scrub Tr 15	U	
Asteraceae	<i>Agoseris heterophylla</i>	annual agoseris	yesx	SPEC	Gr	C	WI/IN
Asteraceae	<i>Artemisia californica</i>	California sagebrush	?	SPEC	Gr, Ch		
Asteraceae	<i>Baccharis pilularis</i>	coyote brush	note	SPEC	Ch [9]	Ex	
Asteraceae	<i>Calycadenia multiglandulosa</i>	sticky calycadenia	yesx; R	SPEC	Gr	LA (summer)	SI
Asteraceae	<i>Centaurea solstitialis</i> *	yellow star-thistle	note	SPEC	E [10]	Ex	
Asteraceae	<i>Eriophyllum confertiflorum</i> var. <i>confertiflorum</i>	golden-yarrow	yesx	SPEC	E, Ch	C	
Asteraceae	<i>Eriophyllum lanatum</i> var. <i>arachnoideum</i>	woolly sunflower	yesx	SPEC	W, trail 1		
Asteraceae	<i>Grindelia hirsutula</i> var. <i>hirsutula</i>	hirsute grindelia	yesx	SPEC	Gr	O	WI/IN
Asteraceae	<i>Helianthella californica</i>		note	SPEC	[11]	LA	
Asteraceae	<i>Hemizonia congesta</i> ssp. <i>luzulifolia</i>	hayfield tarweed	yesx	SPEC	Gr	LA (summer)	
Asteraceae	<i>Hesperivax sparsiflora</i> var. <i>sparsiflora</i>	erect evax	yesx; R	SPEC	Gr, E	C	WI
Asteraceae	<i>Hypochaeris glabra</i> *	smooth cat's-ear	yesx	SPEC	Gr	C	
Asteraceae	<i>Hypochaeris radicata</i> *	rough cat's-ear	?	SPEC			
Asteraceae	<i>Lactuca saligna</i> *	willow lettuce	yesx	SPEC	Gr	O	
Asteraceae	<i>Lagophylla ramoisissima</i>		yesx	SPEC	in annual grassland near serpentine	O	
Asteraceae	<i>Lasthenia californica</i>	goldfields	yesx; R	SPEC	Gr drier soil [12]	LA	
Asteriaceae	<i>Lasthenia gracilis</i>	goldfields	yesx; R	SPEC	Gr drier soil [13]	LA	
Asteraceae	<i>Layia hieracioides</i>	tall layia	yesx	SPEC	[14]	O [C in 2010]	

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Asteraceae	<i>Layia platyglossa</i>	tidy-tips	yesx	SPEC	Gr [15]	O	
Asteraceae	<i>Lessingia glandulifera</i> var. <i>glandulifera</i>	valley lessingia	yesx	SPEC	E, Ch	LA	
Asteraceae	<i>Lessingia hololeuca</i> #	woolly-headed lessingia #	yesx	SPEC	Gr, bare areas, roads		SI
Asteraceae	<i>Madia exigua</i>	threadstem madia	?	SPEC			WI
Asteraceae	<i>Madia gracilis</i>		yesx	SPEC	E, Gr		
Asteraceae	<i>Micropus californicus</i> var. <i>californicus</i>	slender cottonweed	yesx	SPEC	Gr	C	
Asteraceae	<i>Microseris douglasii</i> ssp. <i>douglasii</i>	Douglas' microseris	yesx	SPEC	Gr	O	WI/IN
Asteraceae	<i>Microseris douglasii</i> ssp. <i>tenella</i>	delicate Douglas microseris	yesx	SPEC	Gr	U (1 station)	
Asteraceae	<i>Monolopia gracilens</i>		yes	LRV	n. facing Ch, woodland		
Asteraceae	<i>Picris echioides</i> *	bristly ox-tongue	?	SPEC			
Asteraceae	<i>Psilocarphus tenellus</i> var. <i>tenellus</i>	slender woolly-heads	yesx	SPEC			
Asteraceae	<i>Rigiopappus leptocladus</i>	rigiopappus	yesx; R	SPEC	E	U	WI
Asteraceae	<i>Stebbinsoseris heterocarpa</i>	derived microseris	yes	SPEC			
Asteraceae	<i>Uropappus lindleyi</i>	silver puffs	yes	SPEC			
Asteraceae	<i>Wyethia angustifolia</i>	narrow-leaved mule ears	?	SPEC	Gr near serpentine	O	
Berberidaceae	<i>Berberis pinnata</i> ssp. <i>pinnata</i>	California barberry	yesx; R	SPEC	W		
Boraginaceae	<i>Cryptantha clevelandii</i>	Cleveland's cryptantha	?				BE/SI
Boraginaceae	<i>Cryptantha flaccida</i>	flaccid cryptantha	yesx; R	SPEC	E, bare areas	O; LA in West Serpentine Chaparral	WI
Boraginaceae	<i>Cryptantha torreyana</i>	Torrey's cryptantha	?	SPEC			
Boraginaceae	<i>Plagiobothrys bracteatus</i>	bracted popcornflower	yes; R	LRV	Gr		
Brassicaceae	<i>Athysanus pusillus</i>	<i>Athysanus pusillus</i>	yesx; R	SPEC	E, bare areas	U	
Brassicaceae	<i>Arabis blepharophylla</i>	coast rock cress	yes; R	LRV	Area H serpentine	single collection of three plants	
Brassicaceae	<i>Guillenia lasiophylla</i>	California mustard	yesx; R	SPEC	rock outcrops	U [16]	
Brassicaceae	<i>Lepidium nitidum</i> var. <i>nitidum</i>	shining peppergrass	yesx	SPEC	Gr, roads	C	

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Campanulaceae	Campanula griffinii	Griffin harebell	yesx; R	SPEC	E, bare areas	U	SE
Campanulaceae	Heterocodon rariflorum		?	SPEC		U	
Campanulaceae	Triodanis biflora	small Venus-looking-glass	?	LRV			
Capr	Lonicera hispidula	hairy honeysuckle	yesx	SPEC	Ch	C	
Caryophyllaceae	Minuartia douglasii	Douglas sandwort	yesx; R	SPEC	Gr, openings in Ch	O; LA in West Serpentine Chaparral	SI
Caryophyllaceae	Sagina apetala	dwarf pearlwort	yes	SPEC			
Caryophyllaceae	Sagina decumbens ssp. occidentalis	western pearlwort	yes	SPEC			
Caryophyllaceae	Silene californica	California Indian pink	yesx	SPEC	Ch,W,E	LA	
Caryophyllaceae	Silene gallica *	common catchfly	yesx	SPEC	Gr Rd F	U	
Caryophyllaceae	Spergularia sp. *		yesx		Gr Rd F	O	
Caryophyllaceae	Stellaria media *	common chickweed	yesx	SPEC	Gr [17]	O	
Caryophyllaceae	Stellaria nitens	shining chickweed	yesx; R	SPEC	Gr around rocks, E	U	
Convolvulaceae	Calystegia purpurata ssp. purpurata	morning-glory	?	SPEC			
Convolvulaceae	Calystegia subacaulis ssp. subacaulis	hill morning-glory	yesx	SPEC	Gr	O	
Crassulaceae	Crassula connata	sand pygmy-weed	yesx	SPEC	Roads, bare areas	LA	
Ericaceae	Arbutus menziesii	Pacific madrone	yesx	SPEC	Ch	O	
Euphorbiaceae	Eremocarpus setigerus	turkey mullein	?	SPEC	Gr	O	
Euphorbiaceae	Euphorbia spathulata	reticulate-seeded spurge	yesx	SPEC	Gr	C	
Fabaceae	Acacia dealbata		yesx	SPEC	Bear Creek	LA	
Fabaceae	Astragalus gambelianus	Gambell's dwarf locoweed	yesx; R	SPEC	Gr, Rd. F	C	
Fabaceae	Lotus humistratus	short-podded trefoil	yesx	SPEC	Gr		
Fabaceae	Lotus micranthus	small-flowered trefoil	?	SPEC			
Fabaceae	Lotus scoparius var. scoparius	California broom	?	SPEC	Ch		
Fabaceae	Lotus wrangelianus	Chile trefoil	yesx	SPEC	Gr		
Fabaceae	Medicago polymorpha *	California burclover	yesx	SPEC	Ex, Rd F		

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Fabaceae	Rupertia physodes	California tea	yesx	SPEC	Little b extension under leather oak	U	
Fabaceae	Trifolium albopurpureum var. albopurpureum	common Indian clover	yesx	SPEC	Gr [18]		
Fabaceae	Trifolium albopurpureum var. dichotomum	branched Indian clover	?	SPEC	Gr		
Fabaceae	Trifolium barbigerum var. barbigerum	bearded clover	yes	SPEC	Gr		
Fabaceae	Trifolium bifidum var. bifidum	notch-leaved clover	yesx	SPEC	Gr (Area H)		
Fabaceae	Trifolium bifidum var. decipiens	deceptive clover	yes	SPEC	Gr		
Fabaceae	Trifolium campestre *	hop clover *	?	SPEC	Gr		
Fabaceae	Trifolium depauperatum var. amplectens	fusedbract pale sack clover	yes	SPEC	Gr		
Fabaceae	Trifolium depauperatum var. truncatum	common pale sack clover	yes	SPEC	Gr		
Fabaceae	Trifolium dubium *	little hop clover *	?	SPEC	Gr		
Fabaceae	Trifolium fucatum	sour clover	yesx	SPEC	Gr		WI/IN
Fabaceae	Trifolium gracilentum var. gracilentum	pin-point clover	yesx	SPEC	Gr		WI/IN
Fabaceae	Trifolium microcephalum	small-headed clover	?	SPEC	Gr		WI/IN
Fabaceae	Trifolium microdon	Valparaiso clover	yesx	SPEC	Gr		
Fabaceae	Trifolium oliganthum	few-flowered clover	yesx	SPEC	trail 8 @ Rd D	U	
Fabaceae	Trifolium variegatum	white-tipped clover	yesx	SPEC	Gr		
Fabaceae	Trifolium willdenovii	tomcat clover	yesx	SPEC	Gr		WI/IN
Fagaceae	Quercus agrifolia var. agrifolia	coast live oak	note	SPEC	Ch [19]	O	
Fagaceae	Quercus cf. berberidifolia	hybrid scrub & valley	yesx		W, trail 1 [20]	LA	
Fagaceae	Quercus douglasii	blue oak	yesx	SPEC	E [21]	O	
Fagaceae	Quercus douglasii x Q. durata	hybrid blue & leather oak	yesx; R	SPEC	one known station on tr 15	U	
Fagaceae	Quercus durata var. durata	leather oak	yesx	SPEC	Ch	LA	SE
Garayaceae	Garrya elliptica	silk tassel bush	yesx	SPEC	Ch, tr. 15	U	
Gentianaceae	Centaurium muehlenbergii	June centaury	yesx	SPEC	Rd F, Ch	O [C in 2010]	

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Gentianaceae	<i>Cicendia quadrangularis</i>	timwort	yesx	SPEC	little b [22]	U	
Hydrophyllaceae	<i>Eriodictyon californicum</i>	yerba santa	yesx	SPEC	Ch, tr. 5	C	
Hydrophyllaceae	<i>Nemophila menziesii</i> var. <i>menziesii</i>	baby blue-eyes	yesx	SPEC	E, 2 stations: along Rd D (declining) and Trail 11 (abundant)	U	
Lamiaceae	<i>Monardella villosa</i> ssp. <i>villosa</i>	coyote-mint	yesx	SPEC	Ch	C	
Lamiaceae	<i>Pogogyne serpylloides</i>	thyme-leaved pogogyne	yesx	SPEC	E	C	
Lamiaceae	<i>Scutellaria tuberosa</i>	skullcap	?	SPEC	Ch	O	
Lamiaceae	<i>Satureja douglasii</i>	yerba buena	yesx	SPEC	Ch	O	
Lamiaceae	<i>Stachys pycnantha</i>	short-spiked hedge nettle	yesx; R	SPEC	S	LA	
Lamiaceae	<i>Stachys ajugoides rigida</i>	rigid hedge nettle	yesx	SPEC	Ch	C	
Lauraceae	<i>Umbellularia californica</i>	California bay	yesx	SPEC	mesic Ch, W	C	
Linaceae	<i>Hesperolinon micranthum</i>	small-flowered dwarf flax	yesx	SPEC	E; bare, rocky areas, openings in West Chap.	O	WI
Onagraceae	<i>Clarkia purpurea</i> ssp. <i>quadrivulnera</i>	four-spot	?	SPEC	Gr		
Onagraceae	<i>Clarkia purpurea</i> ssp. <i>viminea</i>	large godetia	?	SPEC	Gr		
Onagraceae	<i>Clarkia rubicunda</i>	farewell-to-spring	yesx	SPEC	Gr		
Onagraceae	<i>Epilobium brachycarpum</i>	panicled willow herb	yesx	SPEC	Gr	O	
Onagraceae	<i>Epilobium minutum</i>	minute willow herb	yesx; R	SPEC	E, roads	O; LA in West Serpentine Chaparral	WI

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Oxalidaceae	<i>Oxalis pes-caprae</i>	Bermuda buttercup	yesx	SPEC	Tr. 1 near Tr. 5 intersection, 10 yards upslope in deer path	U, first observation of plant growing in serpentine 2/5/2013	
Papaveraceae	<i>Eschscholzia californica</i>	California poppy	yesx	SPEC	Gr	O; LA in West Serpentine Chaparral	
Papaveraceae	<i>Platystemon californicus</i>	cream cups	yesx	SPEC	Gr	U (1 station)	WI
Plantaginaceae	<i>Plantago erecta</i>	California plantain	yesx; R	SPEC	Gr	C, LA	WI/IN
Polemoniaceae	<i>Gilia achilleifolia multicaulis</i>	small California gilia; R	yesx	SPEC	Gr (Rd F); West Chap.	O	
Polemoniaceae	<i>Gilia clivorum</i>	grassland gilia; R	yesx	SPEC	Gr		
Polemoniaceae	<i>Linanthus androsaceus</i>	common linanthus	yesx	SPEC	Gr	LA	
Polemoniaceae	<i>Linanthus parviflorus</i>	small-flowered linanthus	yesx	SPEC	Gr	LA	
Polemoniaceae	<i>Navarretia heterodoxa</i>	<i>Calistoga navarretia</i>	yesx	SPEC	E	LA	SI
Polemoniaceae	<i>Phlox gracilis</i>	slender phlox	yesx	SPEC	Gr (Area H)	O	
Polygonaceae	<i>Eriogonum luteolum</i> var. <i>luteolum</i>	wicker buckwheat	yesx; R	SPEC	E, bare areas	LA	BE/SI
Polygonaceae	<i>Eriogonum nudum</i> var. <i>auriculatum</i>	naked-stemmed buckwheat	yesx	SPEC			
Polygonaceae	<i>Pterostegia drymarioides</i>	pterostegia	yesx	SPEC	Ch rocky areas		
Portulacaceae	<i>Calandrinia ciliata</i>	red maids	yesx	SPEC	Gr, disturbed areas		
Portulacaceae	<i>Claytonia exigua</i> ssp. <i>exigua</i>	common montia	yesx	SPEC	O rocky areas in Gr and Ch		SI
Portulacaceae	<i>Claytonia parviflora</i> ssp. <i>parviflora</i>	small-flowered claytonia	yesx	SPEC			
Portulacaceae	<i>Claytonia perfoliata</i> ssp. <i>perfoliata</i>	miner's lettuce	yesx	SPEC			
Primulaceae	<i>Anagallis arvensis</i> *	scarlet pimpernel	yesx	SPEC	Gr		
Primulaceae	<i>Centunculus minimus</i>	chaffweed	? note	LRV	[23]		
Primulaceae	<i>Dodecatheon clevelandii</i> ssp. <i>patulum</i>	lowland shooting star	yesx	SPEC			SI

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Primulaceae	<i>Dodecatheon hendersonii</i>	mosquito bills	yesx	SPEC	Gr		
Ranunculaceae	<i>Delphinium hesperium</i> ssp. <i>hesperium</i>	western larkspur	yesx; R	SPEC	Gr		SI
Ranunculaceae	<i>Delphinium variegatum</i> ssp. <i>variegatum</i>	royal larkspur	yesx; R	LRV	Gr		
Ranunculaceae	<i>Ranunculus californicus</i>	California buttercup	yesx	SPEC	Gr		
Rhamnaceae	<i>Ceanothus cuneatus</i> var. <i>cuneatus</i>	buck brush	yesx	SPEC	Ch, tr. 5	U	
Rhamnaceae	<i>Rhamnus californica</i> ssp. <i>californica</i>	California coffeeberry	yesx	SPEC	Ch	O	
Rhamnaceae	<i>Rhamnus crocea</i>	spiny redberry	yesx	SPEC	Ch	O	
Rhamnaceae	<i>Rhamnus tomentella</i> ssp. <i>tomentella</i>	hoary coffeeberry	yesx	SPEC	Ch, esp tr. 15	O	WI
Rosaceae	<i>Adenostoma fasciculatum</i>	chamise	yesx	SPEC	Ch	D [24]	WI/IN
Rosaceae	<i>Aphanes occidentalis</i>	dew cup	yesx	SPEC	Ch, trails	LA	
Rosaceae	<i>Heteromeles arbutifolia</i>	toyon / Christmas berry	yesx	SPEC	Ch	O	
Rubiaceae	<i>Galium porrigens</i> var. <i>porrigens</i>	climbing bedstraw	yesx	SPEC	Ch	C	
Rubiaceae	<i>Sherardia arvensis</i> *	field madder	yesx	SPEC	Gr		
Salicaceae	<i>Salix lasiolepis</i>	arroyo willow	yesx	SPEC	Little b extension	U	
Scrophulariaceae	<i>Castilleja attenuata</i>	valley tassels	?	SPEC	Gr		
Scrophulariaceae	<i>Castilleja densiflora</i> x <i>C. rubicundula</i> ssp. <i>lithospermoides</i>	hybrid owl's-clover	yesx	SPEC	Gr		
Scrophulariaceae	<i>Castilleja densiflora</i> ssp. <i>densiflora</i>	owl's-clover	yesx	SPEC	Gr		
Scrophulariaceae	<i>Castilleja rubicundula</i> ssp. <i>lithospermoides</i>	cream sacs	yesx	SPEC	Gr		WI
Scrophulariaceae	<i>Collinsia sparsiflora</i> var. <i>collina</i>	blue-eyed Mary	yesx	SPEC	Gr (Tr. 5; Little a)	O [25]	WI
Scrophulariaceae	<i>Cordylanthus pilosus</i> ssp. <i>pilosus</i>	hairy bird's-beak	yesx	SPEC	Gr, Rd D @ trail 5	O	SI
Scrophulariaceae	<i>Mimulus aurantiacus</i>	sticky monkeyflower	yesx	SPEC	Ch, Tr. 5	O	
Scrophulariaceae	<i>Mimulus cardinalis</i>	scarlet monkeyflower	yesx	SPEC	Tr. 1		
Scrophulariaceae	<i>Mimulus douglasii</i>	purple mouse-ears	yesx; R	SPEC	bare areas	U	SI
Scrophulariaceae	<i>Mimulus guttatus</i>	large monkeyflower	yesx	SPEC	S	U	
Scrof	<i>Pedicularis densiflora</i>	indian warrior	yesx	SPEC	Ch	O	
Scrophulariaceae	<i>Triphysaria eriantha</i> var. <i>eriantha</i>	butter-and-eggs	yes	LRV			
Scrophulariaceae	<i>Triphysaria pusilla</i>	dwarf orthocarpus	yesx	SPEC	Gr and along roads	C along roads, O in Gr	
Solanaceae	<i>Solanum umbelliferum</i>	blue witch	?	SPEC	Ch		

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						Graves has 2 populations /clones that overlap with serpentine	
Thymelaeaceae	<i>Dirca occidentalis</i>	western leatherwood	yes	SPEC			
Valerianaceae	<i>Plectritis brachystemon</i>	pale plectritis	?	LRV			
Valerianaceae	<i>Plectritis ciliosa</i> ssp. <i>insignis</i>	pink plectritis	?	SPEC			
Valerianaceae	<i>Plectritis macrocera</i>	white plectritis	yesx	SPEC	Gr	O [26]	
Verb	<i>Verbena lasiostachys</i> var. <i>scabrida</i>	robust vervain	yesx	SPEC	S	O	
Viscaceae	<i>Phoradendron villosum</i>	oak mistletoe	yesx	SPEC	Ch, on Q. durata	O	
Cyperaceae	<i>Carex serratodens</i>	bifid sedge	yesx	SPEC	S	C	BE
Cyperaceae	<i>Carex tumulicola</i>	foothill sedge	yesx	SPEC		[27]	
Iridaceae	<i>Sisyrinchium bellum</i>	blue-eyed-grass	yesx	SPEC	Gr, Ch		
Juncaceae	<i>Juncus bufonius</i>		yesx	SPEC	O	disturbed areas, Rd F	
Juncaceae	<i>Juncus occidentalis</i>	western rush	yesx	SPEC			
Junc	<i>Juncus phaeocephalus</i> var.	brown-headed rush	yesx		path to Phalaris cal. seep [28]	U	
Juncaceae	<i>Juncus xiphioides</i>	iris-leaved rush	yesx	SPEC	S	LA	
Juncaceae	<i>Luzula comosa</i>	common wood rush	yesx	SPEC	Gr, Ch	C	
Liliaceae	<i>Allium ampletens</i>	narrow-leaved onion	yesx; R	SPEC	S [29]	U	WI
Liliaceae	<i>Allium falcifolium</i>	Brewer's onion	yesx; R	SPEC	Gr @ rocky areas; abundant at single location	LA	BE/SI
Liliaceae	<i>Allium lacunosum</i> var. <i>lacunosum</i>	pitted onion	yesx; R	SPEC	S [30]	U	BE/SI
Liliaceae	<i>Allium peninsulare</i> var. <i>franciscanum</i>	peninsular onion	yesx; R	SPEC	Gr,Ch,W [31]	C	WI

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Liliaceae	<i>Allium unifolium</i>		yesx; R	SPEC	Gr [32]	U, 25 yards west of Tr 9 @ contact	
Liliaceae	<i>Brodiaea elegans</i> ssp. <i>elegans</i>	elegant brodiaea	yesx	SPEC	Gr	O	
Liliaceae	<i>Brodiaea terrestris</i> ssp. <i>terrestris</i>	dwarf brodiaea	yesx	SPEC	Gr	O	
Liliaceae	<i>Calochortus albus</i>	white globe lily	yesx	SPEC	Gr	O	
Liliaceae	<i>Calochortus argillosus</i>	clay mariposa lily	yesx	SPEC	Gr [33]	O	
Liliaceae	<i>Calochortus luteus</i>	yellow mariposa lily	yesx	SPEC	Gr	O	
Liliaceae	<i>Chlorogalum pomeridianum</i> var. <i>pomeridianum</i>	soap plant	yesx	SPEC	Gr, Ch	C	
Liliaceae	<i>Dichelostemma capitatum</i> ssp. <i>capitatum</i>	blue dicks	yesx	SPEC	Gr [34]	C	
Liliaceae	<i>Lilium pardalinum</i> ssp. <i>pardalinum</i>	leopard / tiger lily	yesx; R	SPEC	W, trail 1 nr creek	1 station	
Liliaceae	<i>Smilacina racemosa</i>	fat Solomon's seal	yesx	SPEC	W, trail 1		
Liliaceae	<i>Smilacina stellata</i>	slim Solomon's seal	?	SPEC			
Liliaceae	<i>Triteleia hyacinthina</i>	white brodiaea	yesx	SPEC	Gr		
Liliaceae	<i>Triteleia laxa</i>	Ithuriel's spear	yesx	SPEC	Gr		
Liliaceae	<i>Zigadenus fremontii</i>	Fremont's star lily	yesx	SPEC	Ch, tr.5	O	
Poaceae	<i>Agrostis hallii</i>	Hall's bent grass	?	SPEC	Ch	U	
Poaceae	<i>Agrostis microphylla</i>	small-leaved bent grass	yesx	SPEC	S [35]	O, LA	WI/IN
Poaceae	<i>Agrostis pallens</i>	leafy bent grass	yesx	SPEC	E, Ch	O	
Poaceae	<i>Aira caryophyllea</i> *	silver European hairgrass	yesx	SPEC	along trails	C	
Poaceae	<i>Avena barbata</i> *	slender wild oat	yesx	SPEC	Gr	O	
Poaceae	<i>Avena fatua</i> *	wild oat	?	SPEC	Gr, northern exposures		
Poaceae	<i>Brachypodium distachyon</i> *	purple falsebrome	yesx	SPEC	Gr	LA	
Poaceae	<i>Briza maxima</i> *	big quaking grass	yesx	SPEC	along trails, disturbed areas	O	
Poaceae	<i>Briza minor</i> *	little quaking grass	?	SPEC	along trails		
Poaceae	<i>Bromus carinatus</i> var. <i>carinatus</i>	California brome	yesx	SPEC	E, Ch	C	

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Poaceae	<i>Bromus diandrus</i> *	ripgut grass	yesx	SPEC	trails, roads, rocky places	O	
Poaceae	<i>Bromus hordeaceus</i> *	soft chess	yesx	SPEC	Gr, disturbed areas, gopher mounds	C	
Poaceae	<i>Bromus laevipes</i>	woodland brome	yesx	SPEC	E, Ch	C	WI
Poaceae	<i>Bromus madritensis</i> ssp. <i>madritensis</i> *	Spanish brome grass	yesx	SPEC	trails, roads, rocky places	O	
Poaceae	<i>Bromus madritensis</i> ssp. <i>rubens</i> *	red brome	?	SPEC		O	
Poaceae	<i>Bromus trinii</i> *	Chilean chess	yesx; R	SPEC	rocky places, northeast exposure [36]	U	
Poaceae	<i>Cortaderia selloana</i> *	pampas grass	yesx	SPEC	Bear Cr.		
Poaceae	<i>Cynosurus echinatus</i> *	hedgehog dogtail grass	?	SPEC			
Poaceae	<i>Danthonia californica</i> var. <i>californica</i>	California wild oatgrass	yesx	SPEC	S	C, LA [37]	SI
Poaceae	<i>Deschampsia danthonioides</i>	annual hairgrass	yesx	SPEC	S	O, LA	
Poaceae	<i>Deschampsia elongata</i>	slender hairgrass	yesx	SPEC	Trail 1	O	
Poaceae	<i>Elymus glaucus</i> ssp. <i>glaucus</i>	blue wildrye	yesx	SPEC	E, open woodland, Ch	C, LA	
Poaceae	<i>Elymus glaucus</i> x <i>E. multisetus</i>	squirreltail hybrid	yesx	SPEC	Gr	O	
Poaceae	<i>Elymus multisetus</i>	big squirreltail	yesx	SPEC	Gr	C	
Poaceae	<i>Festuca californica</i>	California fescue	yesx	SPEC	Ch, northeast exposures	LA, few serpentine stations	WI
Poaceae	<i>Gastridium ventricosum</i> *	nit grass	yesx	SPEC	Gr, Ch [38]	O, dry areas	
Poaceae	<i>Hordeum brachyantherum</i> ssp. <i>californicum</i>	California barley	yesx	SPEC	S	O	SI
Poaceae	<i>Hordeum marinum</i> ssp. <i>gussoneanum</i> *	Mediterranean barley	yesx	SPEC	roads	C	

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Poaceae	<i>Hordeum murinum</i> ssp. <i>glaucum</i> *	wall barley	?	SPEC			
Poaceae	<i>Hordeum murinum</i> ssp. <i>leporinum</i> *	farmer's foxtail	?	SPEC			
Poaceae	<i>Koeleria macrantha</i>	junegrass	yesx	SPEC	Gr and open woodland	C	
Poaceae	<i>Lolium multiflorum</i> *	Italian ryegrass	yesx	SPEC	Gr	D	
Poaceae	<i>Melica californica</i>	California melic	yesx	SPEC	rocky areas in grassland	O	
Poaceae	<i>Melica subulata</i>	Alaska Oniongrass	yesx	SPEC	W, trail 1	O	
Poaceae	<i>Melica torreyana</i>	Torrey's melic	yesx	SPEC	E, Ch	C	
Poaceae	<i>Nassella lepida</i>	foothill needlegrass	yesx	SPEC	E, Ch	C	
Poaceae	<i>Nassella pulchra</i>	purple needlegrass	yesx	SPEC	Gr	C	
Poaceae	<i>Phalaris californica</i>	California canary grass	yesx	SPEC	S	LA (1 station)	
Poaceae	<i>Poa annua</i> *	annual bluegrass	yesx	SPEC	roads		
Poaceae	<i>Poa howellii</i>		yesx	SPEC	bank below trail 1	rare (1 or 2 stations)	
Poaceae	<i>Poa secunda</i> ssp. <i>secunda</i>	one-sided bluegrass	yesx	SPEC	Gr	C	
Poaceae	<i>Polypogon monspeliensis</i>	annual beard grass	yesx	SPEC	S	O	
Poaceae	<i>Scribneria bolanderi</i>	Scribner's grass	yesx; R	SPEC	E, road F and bare areas [39]	O	WI
Poaceae	<i>Trisetum canescens</i>	tall trisetum	yesx	SPEC	E, Ch	O	
Poaceae	<i>Vulpia bromoides</i> *	brome fescue	yesx	SPEC		O [40]	
Poaceae	<i>Vulpia microstachys</i> var. <i>ciliata</i>	hairy fescue	yesx; R	SPEC	rocky areas	not so common as var. <i>pauciflora</i>	
Poaceae	<i>Vulpia microstachys</i> var. <i>pauciflora</i>	common hairy leaf fescue	yesx	SPEC	Gr, E [41]	C; LA at Brewer's Onion Site [42]	
Poaceae	<i>Vulpia myuros</i> var. <i>myuros</i> *	rattail fescue	yesx	SPEC			
Poaceae	<i>Vulpia octoflora</i> var. <i>hirtella</i>	six-weeks fescue	?	SPEC			

Notes

- [1] yes=record or specimen of plant on serpentinite soils; yesx=observed growing on serpentinite 2007-; R=restricted to serpentine or serpentine-influenced
- [2] SPEC=vouchered, present; LRV=vouchered, not seen in the field in 10 years
- [3] Affinity: After Safford, HD.; Viers, JH.; Harrison, SP. 2005. Serpentine Endemism in the California Flora: A Database of Serpentine Affinity. *Madroño* 52:222-257. SE=Serp endemic, i.e., strict endemic with >95% of occurrences on ultramafics BE=Broad endemic, i.e., 85-94% of their occurrences on ultramafics BE/SI Transition, i.e., 75-84% of their occurrences on ultramafics SI=Strong indicators, 65-74% of their occurrences on ultramafics WI=Weak Indicator, 55-64% WI/IN=Indifferent transition, 50-54%
- [4] *L. caruifolium*: In contrast to *L. utriculatum*, stem leaves of *L. caruifolium* are absent or only 1-2 near base, and these lack prominent sheathing petiole bases of *L. u.*
- [5] *L. dasycarpum* petals gen hairy; fruit ovate-elliptic; bractlets free or fused. Hybridizes with *L. m.*
- [6] *L. macrocarpum* petals glabrous; fruit narrowly elliptic-oblong; bractlets fused, 1-sided
- [7] *L. utriculatum* variable in lf dissection but flrs always bright yellow and petioles of stem lvs with distinctive sheathing bases. In contrast to *L. utriculatum*, stem leaves of *L. caruifolium* are absent or only 1-2 near base, and these lack prominent sheathing petiole bases of *L. u.*
- [8] *Ascepias*: with *Verbena l.*, *Carex s.*, *Stachys p.*
- [9] Coyote brush, which is spreading on the preserve, avoids serpentine but a few plants are on tr 5 (Rocky Road) in an area of possible non-serp soil influence.
- [10] *Centaurea*: usually excluded from serpentine. Adventive in transition soil zones in annual grassland, disturbed areas, e.g., little b
- [11] Blue oak woodland, near serpentine contact
- [12] *L. californica* are the edaphic Race A plants in Rajakaruna, N (1999) The edaphic factor and patterns of variation in *Lasthenia californica* (Asteraceae). *AMERICAN JOURNAL OF BOTANY* 86: 1576-1596. Also <http://nrajakaruna.wordpress.com/research/>
- [13] *L. gracilis* are the edaphic Race C plants in Rajakaruna, N (1999) The edaphic factor and patterns of variation in *Lasthenia californica* (Asteraceae). *AMERICAN JOURNAL OF BOTANY* 86: 1576-1596.
- [14] one station at serp contact at first seasonal drainage on little b
- [15] Tidy tips: declining

Notes

[16] JHT listed as common in 1974

[17] *Stellaria media*: light green form common in open grassland, mostly disturbed areas along road F near Escobar Gate; little b extension in bloom 3/15/10

[18] Brewer's onion site Area C

[19] usually excluded from serpentine but individual trees are sometimes found, usually scrubby individuals in transition zone as found along Tr. 15

[20] *Q. b. x.*: this entity forms short scrub eventually grading into *Q. durata*

[21] Blue oak woodland is usu replaced by chaparral on serpentine.

[22] in trail blooming 4/24/2010 near small drainage

[23] near serpentine contact along Rd F in blue oak woodland; not located in recent years

[24] Chamise: codominant with leather oak.

[25] COLspa: little A; lost serpentine

[26] Brewer's onion site Area C

[27] one occurrence on Tr 6 under leather oak

[28] differs from *J. xiphioides* by having anthers longer than filaments; tepals with green center and dark brown margins, 4 mm l.; capsule tapering.

[29] Tepals white w pinkish midveins, papery when dry, 6 prominent ovary crests. Wet areas in serpentine.)

[30] *A. lacunosum*: perianth < 1 cm long, whitish; ovary w 3 low crests, each 2-lobed; tepals often with rose midvein.

[31] RANK 1B.2. Flrs bright red-purple on long pedicels in open heads.

[32] Plants have 2-3 channeled lvs.)

[33] *C. argillosus*: in the Bay Area can be separated from *C. venustus* by its petals lacking an upper splotch.

[34] *D. capitatum*: anthers 6 in 2 dissimilar series; perianth not narrowed above ovary; bloom early spring.

[35] see note for *Gastridium*, with which it can be confused.

Notes

[36] noticed a small clump along trail 15 and also Rd F in April 2010

[37] *Danthonia californica*: largest stands in non-serpentine grassland

[38] *Gastridium* can be confused w. *A. microphyllum*. *Gastridium* spikelets are swollen at base; 2nd glume much longer than first; lemmas hairy throughout with bristly rachilla extension.

[39] JRBP plants usu one spikelet/node; lemma awn barely exceeding glumes. In bloom West Serpentine 3/15/10

[40] usu. depauperate forms that are hard to distinguish from *V. microstachys*.

[41] *V. m. pauciflora*: lemmas and glumes glabrous.

[42] *Festuca (Vulpia) microstachys*: easily spotted after *Lolium* dies back where they grow together.