

**Added to California Rare Plant Rank 4.3 in the CNPS Inventory on
December 17, 2014**

**Rare Plant Status Review: *Eschscholzia androuxii*
Proposed Addition to California Rare Plant Rank 4.3, G3 / S3**

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Changes made to the original document appear in blue text.

Background

Eschscholzia androuxii Still is an annual herb in the Papaveraceae that is mostly known from in and around Joshua Tree National Park in Riverside and San Bernardino counties of California. It was recently described by S. Still (2014) and is therefore not included in *The Jepson Manual* (Clark 1993), *The Jepson Manual, Second Edition* (Hannan and Clark 2012), or the *Flora of North America* (Clark 1997). Still (2014) also described the novel taxon, *E. papastillii*, a taxon that is similar to *E. parishii*. Unlike *E. androuxii*, however, Still (2014) does not suggest *E. papastillii* be considered for conservation status due to its range and number of occurrences; *E. papastillii* is “found north to the northern Mojave Desert; south into northern Colorado Desert of San Diego Co., and possibly south along the east side of the Sea of Cortez in Mexico; east to the California-Arizona border (Whipple Mountains); west to the western end of Joshua Tree National Park.” *Eschscholzia androuxii* is readily distinguished from most similar taxa in consistently having “a darkened area basipetally located on the stamen filaments” (Still 2014). *Eschscholzia minutiflora* subsp. *twisselmannii* had similar stamen spots in roughly 70% of specimens reviewed by Still (2014), but no other closely related taxa have the same spotting. *Eschscholzia minutiflora* subsp. *twisselmannii* is also similar to *E. androuxii* in flower size, but *E. androuxii* is differentiated from this taxon in having more ultimate lobes on its basal leaves, narrower ultimate lobes, more stamens, and in distribution. *Eschscholzia androuxii* is also similar to *E. minutiflora* subsp. *minutiflora* and subsp. *covillei*, but has larger flowers and consistently occurring stamen spots (Table 1). *Eschscholzia androuxii* differs from *E. parishii* and the recently described *E. papastillii* in having more rounded basal leaf ultimate lobes, and three times the number of cauline leaf ultimate lobes than these two taxa (Still 2014). The species is named for two desert botanists, James André and Tasha La Doux, which were helpful in pointing out the problems with desert *Eschscholzia* identification. *Eschscholzia androuxii* typically flowers from late-February to early-May, but can flower as late as early June (CCH 2014), and may flower in fall during years with summer rain events and cool fall temperatures (Still 2014).

Eschscholzia androuxii occurs in desert washes and flats, and on slopes in course, sandy, gravelly, and/or rocky soil, throughout Joshua tree “woodland” and Mojavean desert scrub (CCH 2014; Still 2014). It is known from an approximate elevation of 585 to 1,685 meters (CCH 2014). Please review the “Localities” tab of the “NewAdd_EschscholziaAndrouxii” spreadsheet for some recorded species associates of *E. androuxii*.

Eschscholzia androuxii is known from approximately 37 occurrences, mostly throughout Joshua Tree National Park in Riverside and San Bernardino counties, with a single occurrence from the Colorado Desert, Imperial County (*Kline 14771*). Nearly 60% (22) of its occurrences are considered historical, with 16 of the historical occurrences not having been seen in over 50 years. However, the historical status of its occurrences may not be significant; there has been little or no land use change in its area of occupancy, so the probability of the plants still being present is considered to be high. *Eschscholzia androuxii* is noted as being common or frequent in eleven occurrences, and as being abundant in one occurrence. It is noted as being infrequent or occasional in two occurrences, and rare in one occurrence in 1980 (*Thorne et al. 54039*) and then common at the same occurrence three years later in 1983 (*Fosberg 64169*). This goes to show that population sizes of desert annuals can fluctuate greatly year to year based on weather conditions and other factors, and population size in one given year is perhaps not helpful for determining the overall conservation status of *E. androuxii* unless it can be consistently quantified. Nearly half (seventeen) of the occurrences of *E. androuxii* are known from Joshua Tree National Monument, two are on lands owned by The Wildlands Conservancy, two are within Bureau of Land Management lands, one is on the UC Natural Reserve System, and the remaining fifteen have an unknown land ownership.

At the time of publication, *E. androuxii* was known from approximately 6 occurrences only from Riverside and San Bernardino counties (Still 2014), and was accurately proposed for addition to California Rare Plant Rank (CRPR) 1B. However, following additional annotations of herbarium specimens after publication, *E. androuxii* is now known from approximately six times more occurrences and an extended range south to Imperial County. This abrupt increase of occurrences based solely on additional annotations is not surprising for a newly described desert species that has similarities to many other common taxa. Nevertheless it brings pause to its proposed addition to CRPR 1B at this time, and field surveys throughout its preferred habitat should be conducted, particularly in the Colorado Desert of Imperial County, in order to better understand its true distribution, range, and rarity.

[Well documented](#) threats to *E. androuxii* are currently unknown. Given that twenty of its occurrences are within Joshua Tree National Park, The Wildlands Conservancy, and the UC Natural Reserve System, it should be considered relatively well protected at this time. [However, on BLM lands it is directly threatened by urbanization and other threats](#) (J. Andre pers. comm. 2014).

Based on the available information, CNPS and CNDDDB recommend adding *Eschscholzia androuxii* to CRPR 4.3 of the CNPS Inventory. Its very recent description, similarity to *E. minutiflora* and other common desert *Eschscholzia* species, and recent sixfold increase of known occurrences based on herbarium annotations brings doubt to its addition to CRPR 1B at this time. If additional information becomes available in the future that might constitute a change in the rarity or threat status of *E. androuxii*, we will re-evaluate its status at that time.

TABLE 1. COMPARISON OF *ESCHSCHOLZIA ANDROUXII* WITH *E. MINUTIFLORA* SUBSP. *COVILLEI*, SUBSP. *MINUTIFLORA*, AND SUBSP. *TWISSELMANNII*. Data gathered from Clark and Faull (1991), Hannan and Clark (2012), and Still (2014).

	<i>Eschscholzia androuxii</i>	<i>E. minutiflora</i> subsp. <i>covillei</i>	<i>E. minutiflora</i> subsp. <i>minutiflora</i>	<i>E. minutiflora</i> subsp. <i>twisselmannii</i>
Stamen spots	yes	no	no	yes; approx. 70% of the time
Stamen number	(16) 22-24 (32)	(6) 14-16 (18)	(6) 12 (18)	(12) 18-20 (28)
Petal length	10.5-23 mm	(4.5) 9 (12.5) mm	less than 5.5 mm (rarely 2-9 mm)	4-20 mm
Basal leaf ultimate lobe number	45-70 (rarely 26-55)	-	-	35-40 (rarely 26-60)
Basal leaf ultimate lobe size	greater than 2x width	generally 2.5x width	generally 4.5x width	less than 2x width
Distribution	vicinity of Joshua Tree NP, Riverside & San Bernardino cos.	northern and central Mojave Desert	outer south coast ranges, e of Sierra Nevada, Desert; to s Nevada, sw Utah, w Arizona, nw Mexico	El Paso and Rand Mtns., Kern Co.

Recommended Actions

CNPS: Add to 4.3

CNDDDB: Add to G3 / S3

Draft CNPS Inventory Record

Eschscholzia androuxii Still

Joshua Tree poppy

Papaveraceae

CRPR 4.3

Imperial, Riverside, San Bernardino

Cottonwood Spring (063A) 3311567, Indio (064B) 3311662, San Bernardino Wash (079B) 3311586, Washington Wash (080C) 3311578, Porcupine Wash (080D) 3311577, Malapai Hill (081A) 3311681, Keys View (081B) 3311682, East Deception Canyon (082A) 3311683, Desert Hot Springs (083A) 3311685, White Water (083B) 3311686, Queen Mtn. (102D) 3411611, Joshua Tree North (103A) 3411623, Yucca Valley North (103B) 3411624, Yucca Valley South (103C) 3411614, Joshua Tree South (103D) 3411613, Rimrock (104A) 3411625, Big Bear Lake (104C) 3411616, Catclaw Flat (104C) 3411616, Morongo Valley (104D) 3411615, Landers (129C) 3411634, Barstow SE (182D) 3411771

Joshua tree "woodland" and Mojavean desert scrub / desert washes, flats, and slopes; sandy, gravelly, and/or rocky; elevation 585 to 1,685 meters

Annual herb. Blooms February to May (June)

Potentially threatened by urbanization. Similar to *E. minutiflora* ssp.; most often confused with *E. glyptosperma* and *E. parishii*. See *PhytoKeys* 35:45-56 (2014) for original description.

Literature Cited

Clark, C. 1993. *Eschscholzia*. Pp. 812-814 in J. C. Hickman (ed.), *The Jepson manual: higher plants of California*. University of California Press, Berkeley, CA.

_____. 1997. *Eschscholzia*. In *Flora of North America Editorial Committee (eds.), Flora of North America North of Mexico, Vol. 3: Magnoliophyta: Magnoliidae and Hamamelidae*. Oxford University Press, New York, NY.

Hannan, G.L. and C. Clark. 2012. *Eschscholzia*. Pp. 982-984 in Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken (eds.), *The Jepson manual: vascular plants of California, 2nd ed.* University of California Press, Berkeley, CA.

Still, S.M. 2014. Two new desert *Eschscholzia* (Papaveraceae) from southwestern North America. *PhytoKeys* 35: 45-56.