

**Added to California Rare Plant Rank 2B.2 of the CNPS Inventory on
November 16, 2016**

**Rare Plant Status Review: *Petalonyx linearis*
Proposed Addition to California Rare Plant Rank 2B.32, G4 / S2S3**

Aaron E. Sims (CNPS) and Roxanne Bittman (CNDDDB)
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Changes made to the original document are in blue text.

Background

Petalonyx linearis Greene is a perennial subshrub in the Loasaceae known from the southeastern Mojave Desert and Sonoran Desert of California, extending eastward to southwest Arizona, and south to Baja California and Sonora Mexico. It is included in *The Jepson Manual* (Prigge 1993) and *The Jepson Manual, Second Edition* (Hufford and Prigge 2012); the Loasaceae treatment in the *Flora of North America* (Vol. 12) is not yet published. *Petalonyx linearis* is readily distinguishable from the only two other *Petalonyx* species known from California, *P. nitidus* and *P. thurberi*, in having free petals (versus adherent petal claws) and linear to narrowly (ob)lanceolate leaves (versus lanceolate to widely ovate leaves) (Hufford and Prigge 2012).

Petalonyx linearis is known from sandy or rocky canyons throughout creosote bush scrub. It occurs at an approximate elevation of -25 to 1,115 meters (Google Inc. 2015) and mostly blooms from March to May (Munz and Keck 1973; Hufford and Prigge 2012; Consortium of California Herbaria 2016) with occasional blooming from January to February, and June to December (CalPhotos 2016; Consortium of California Herbaria 2016).

Petalonyx linearis is known from approximately 34 occurrences throughout the southeastern Mojave Desert and Sonoran Desert in California. All but eight of its occurrences are considered historical (sites not seen in over 20 years are considered historical by the CNDDDB), with 18 of the historical occurrences having not been seen in over 50 years. Approximately 24 occurrences of *P. linearis* are on lands managed by state or federal agencies. Nine occurrences are on Bureau of Land Management lands, three are in Joshua Tree National Park, six are in Anza Borrego State Park, and six are in state or federal reserves/preserves; ten occurrences of *P. linearis* have an unknown landownership. Even though not many vouchers exist, and the majority of those that do are very old, this doesn't necessarily mean that *P. linearis* is rare. Sarah De Groot (pers. comm. 2012) suggests that the plant may be under-collected since herbarium records are spotty and show some gaps. Furthermore, *P. linearis* seems to occur in more remote, difficult-to-reach areas, so it may be more common, but under-documented (K. Morse pers. comm. 2016). However, Jon Rebman (pers. comm. 2012) noted that *P. linearis* is quite rare in San Diego County, even with many volunteers looking for it as part of the San Diego Natural History Museum's Plant Atlas project.

Petalonyx linearis is ranked as a G4 taxon by NatureServe (2016), and is ranked S2 by the Arizona natural heritage program.

According to Jim Andre (pers. comm. 2014), some of the larger populations of *P. linearis* are reduced or nearly extirpated by development and agriculture conversion. Other Threats to this species are unknown at this time.

Based on the available information, CNPS and CNDDDB recommend adding *Petalonyx linearis* to California Rare Plant Rank 2B.32 of the CNPS Inventory. We are proposing a threat rank of 2 based on the above comments by Andre and on the fact that 75% of the occurrences have not been reported on for over 20 years. If knowledge on the distribution, threats, and rarity status of *P. linearis* changes in the future, we will re-evaluate its status at that time.

Recommended Actions

CNPS: Add *Petalonyx linearis* to CRPR 2B.32

CNDDDB: Add *Petalonyx linearis* to G4 / S2S3

Draft CNPS Inventory Record

Petalonyx linearis Greene

narrow-leaf sandpaper-plant

Loasaceae

CRPR 2B.32

Imperial, Riverside, San Bernardino, San Diego

Arizona; Baja California, Sonora Mexico

3211466 (001B) Yuma West, 3211474 (011C) Laguna Dam, 3211486 (012B) Picacho Peak, 3211681 (018A) Carrizo Mtn. NE, 3211671 (018D) Carrizo Mtn., 3211683 (019A) Agua Caliente Springs, 3311623 (032A) Borrego Sink, 3311613 (032D) Whale Peak, 3311545 (044A) Frink NE, 3311546 (044B) Frink NW, 3311641 (046A) Oasis, 3311643 (047A) Clark Lake NE, 3311634 (047C) Borrego Palm Canyon, 3311564 (061B) Desert Center, 3311556 (062C) Red Canyon, 3311558 (063C) Mortmar, 3311557 (063D) Orocopia Canyon, 3311651 (064D) Mecca, 3311663 (065A) La Quinta, 3311664 (065B) Rancho Mirage, 3311573 (078D) East of Victory Pass, 3311682 (081B) Keys View, 3311683 (082A) East Deception Canyon, 3311673 (082D) Myoma, 3311687 (084A) Cabazon, 3411422 (094B) Cross Roads

Mojavean desert scrub, Sonoran desert scrub / sandy or rocky canyons; elevation -25 – 1,115 meters.

Perennial subshrub. Blooms (Jan-Feb) Mar-May (Jun-Dec)

~~Threatened by development and agriculture.~~ See *Bulletin of the California Academy of Sciences* 1(4):188 (1886) for original description.

Literature Cited

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Greene, E.L. 1886. Studies in the botany of California and parts adjacent. II. Bulletin of the California Academy of Sciences 1(4): 188. (Original description.)

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Munz, P.A and D.D. Keck. 1973. A California Flora with Supplement. University of California Press, Berkeley and Los Angeles. 1681 pp. and 224 pp.

Prigge, B. 1993. *Petalonyx*. Pp. 745 in Hickman, J.C. (ed.) The Jepson manual: higher - plants of California. University of California Press. Berkeley and Los Angeles, CA.