Added to California Rare Plant Rank 1B.2 of the CNPS Inventory on May 21, 2013

Rare Plant Status Review: *Cryptantha wigginsii*

Proposed New Add to Rank 1B.2, G2 / S1S2

Danny Slakey (CNPS), Aaron Sims (CNPS) and Kristi Lazar (CNDDB)

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Changes made to the original document appear in blue text.

Background

Cryptantha wigginsii is an annual herb in the Boraginaceae that is only known from southern California and Baja California. It was first described by Johnston (1939) from Baja California material. Since no subsequent collections had been made, it was presumed extinct until it was discovered in California by P. McConnell in 2010 (Simpson et al. 2013). It is not included in any recent treatments, such as *The Jepson Manual* (*TJM* 1993) and *The Jepson Manual*, *Second Edition* (*TJM 2*); the *Flora of North America* (*FNA*) treatment of Boraginaceae is not yet available. *Cryptantha wigginsii* is unique among other members of the genus in that the backsides of the nutlets are smooth lustrous and somewhat mottled on the lower half, and tuberculate, or "roughened by wart-like tuberculations" on the upper half (Johnston 1939). It is morphologically similar to *Cryptantha clevelandii*, but *C. clevelandii* differs in having nutlets that are smooth and glossy throughout (Johnston 1939, Simpson et al. 2013). *Cryptantha wigginsii* has been observed flowering from February to June in California.

Cryptantha wigginsii occurs in coastal scrub habitats of southern California. It is often, but not always, found on clay soils. It grows at elevations of 20 to 274 meters (Simpson et al. 2013).

Until recently, *Cryptantha wigginsii* had only been known from the type locality, 18 miles south of Tijuana, Mexico. In 2010, P. McConnell discovered a new record of it in California. A search of herbarium specimens at RSA-POM, SD, SDSU, and UC-JEPS led to the discovery of six additional occurrences; most of which had been previously identified to *C. clevelandii*. Subsequent field surveys resulted in Simpson et al. (2013) relocating a historical occurrence and discovering a new occurrence on Catalina Island (occurrences 1 and 4, respectfully in the "Localities" section of the attached spreadsheet). Attempts to relocate three other historical occurrences (two on Catalina Island and one in Riverside County) in April 2012 were unsuccessful (Simpson et al. 2013).

Currently, *C. wigginsii* is known from a total of nine ~~eight~~ occurrences within California, three of which are historical. Nearly half of its California occurrences are on Catalina Island, while the other half occur on the mainland. The plants found on the road from Cherry Valley to Howland's Landing (the site of occurrence 1 in the attached spreadsheet) were essentially identical to *C. wigginsii*, except that the tuberculations on the nutlets extended nearly to the base, and the corollas were slightly larger; they also did not conform to the description of any other taxon. Further study is needed to determine if these plants merit recognition as a distinct taxon (Simpson et al. 2013), and

in the meantime they are tentatively included as C. wigginsii due to their high similarity with this taxon compared to others.

The three recent occurrences on Catalina Island are on land owned by the Catalina Island Conservancy (Simpson et al. 2013, S. Ratay pers. comm. 2013), Santa Catalina Island Company, and/or in the City of Avalon (S. Ratay pers. comm. 2013). Occurrences on mainland California are all under conservation easements with the Center for Natural Lands Management (CNLM). Additional populations of *Cryptantha wigginsii* should be searched for, both through herbarium studies and field surveys. Major herbaria that were not examined by Simpson et al. (2013) could house additional specimens. Simpson (pers. comm. 2012) plans to examine *Cryptantha* specimens from San Clemente Island and possibly visit the island in 2013 for additional surveys.

Outside of California, *C. wigginsii* is known from only four occurrences in Baja California, Mexico. Their current status is unknown, but given the proposal by the Mexican government for construction of a massive new port near Colonet, at least two of the occurrences are potentially threatened (Simpson et al. 2013).

Some of the known populations of *C. wigginsii* are protected, while others may be seriously threatened. Occurrences on Catalina Island that are within Catalina Island Conservancy lands are "most likely protected" (Simpson et al. 2013); however, the occurrences on Santa Catalina Island Company lands are potentially threatened by development (S. Ratay pers. comm. 2013). Although the occurrences in San Diego County are partially protected by their occurrence on CNLM lands, they are potentially threatened by edge effects from a neighboring development. They could potentially be extirpated from fuel clearance, over-irrigation, dumping, or erosion, and will require regular monitoring. The Riverside County population is protected in perpetuity under a conservation easement (Simpson et al. 2013).

Based on the available information, CNPS and CNDDB recommend adding *Cryptantha wigginsii* to Rank 1B.2 of the CNPS Rare Plant Inventory. If current records in California are later found to be an under-representation of its actual distribution and frequency, CNPS and CNDDB will re-evaluate its status at that time.

Recommended actions
CNPS: Add to 1B.2
CNDDB: Add to G2 / S1S2

Draft CNPS Inventory Record
Cryptantha wigginsii I.M. Johnst.
Wiggins' cryptantha
Boraginaceae
Rank 1B.2
Los Angeles, Riverside, San Diego
Baja CA

Bachelor Mtn. (068D) 3311751, San Luis Rey (036A) 3311723, Santa Catalina East (SCTE) 3311833, Santa Catalina North (SCTN) 3311844, Santa Catalina West (SCTW) 3311845
Coastal scrub / often clay; elevation 20 – 275 meters.
Annual herb. Blooms February to June.
Discovered in CA in 2010 by P. McConnell. Threatened by non-native plants.
Potentially threatened by development, urbanization, fuel management activities, hydrological alteration, illegal dumping, recreational activities, and erosion. Similar to *C. clevelandii*. Not in *TJM 2.* See *Journal of the Arnold Arboretum* 20:387 (1939) for original description, and *Madroño* 60(1):24-34 (2013) for information on discovery in CA.