A suffrutescent Helianthus from Los Angeles County, California

A suffrutescent individual, belonging to the genus Helianthus, and bearing resemblance to H. annuus, has been observed in Los Angeles County, California. This individual was observed to woody proximally; not a character of the herbaceous annual sunflower, H. annuus. Photographs of this woody individual and a general herbaceous representative H. annuus are presented in this article. Dr. David J. Keil, an Asteraceae (sunflower family) taxonomist, suggests that a new shrubby species of Helianthus may be present in California, and thus, this suffrutescent individual may be a representative of that new woody species. It may also be a woody variety of H. annuus.

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Introduction

As I was studying the flora of the Verdugo Mountains, I came across a sunflower (Asteraceae), whose morphological characteristics matched those of the genus Helianthus, and the species, Helianthus annuus L., yet the individual was suffrutescent. Its proximal stems were hard and woody, and I was unable to pierce them using a sharp probe and minimum force. The single main stem contained a gash, which revealed the presence of lignified xylem tissue, or wood. Moreover, the epidermis of these stems appeared cracked and degenerated; a sign of secondary growth in woody plants. The individual was observed near a disturbed roadside, at the base of the Verdugo Mountains (34.1873° N, 118.2732° W; Elev. 330 m), on May 28, 2014. Samples were collected and deposited into my private herbarium (still being processed). I did not have a wood borer to take samples of the stems. I revisited the site on July 23, 2014 to check on the plant, and unfortunately, it is gone. The area is periodically cleared of invasive plants by the city’s landscaping crew. This individual was 160 cm tall, with > 30 heads, averaging about 8 cm in diameter when fully open. I have taken detailed photographs of the remaining taxonomically important characters (Figs. 1-13).

In addition, I observed individuals of H. annuus in the near vicinity that were entirely herbaceous (Figs. 14-15). The proximal stems of these individuals were fleshy and green, and I was easily able to pierce and traverse them with my sharp probe. Some of these individuals were dry and had reached the end of their season, yet I was still able to pierce and traverse their dried proximal stems using my sharp probe and minimum force (they just contained dried epidermal, cortex, vascular and pith tissues).

Photographs

The photographs in figures 1-5, 7, 9, 12 and 14-15 were taken using a Canon PowerShot digital camera (model SX510 HS). The micrographs in Figs. 6, 8, 10, 11 and 13 and their scales were
produced using a Reichert stereomicroscope (model 569) and a 3.1 MP microscope eyepiece camera with a built in measuring program, respectively. The first 13 figures are of the suffrutescent form of what appears to be *H. annuus*, and the last two figures are representatives of one of the many herbaceous forms of *H. annuus* found in the near vicinity of the suffrutescent form.

**Figure 1:** photo by Aleksi Baznekian. Suffrutescent form of *H. annuus*.

**Figure 2:** photo by Aleksi Baznekian. Suffrutescent form of *H. annuus*.
Figure 3: photo by Aleksi Baznekian. Suffrutescent form of *H. annuus*.

Figure 4: photo by Aleksi Baznekian. Suffrutescent form of *H. annuus*. 
Figure 5: photo by Aleksi Baznekian. Suffrutescent form of *H. annuus*.

Figure 6: photo by Aleksi Baznekian. Suffrutescent form of *H. annuus*. 
Figure 7: photo by Aleksi Baznekian. Suffrutescent form of *H. annuus*.

Figure 8: photo by Aleksi Baznekian. Suffrutescent form of *H. annuus*. 
Figure 9: photo by Aleksi Baznekian. Suffrutescent form of *H. annuus*.

Figure 10: photo by Aleksi Baznekian. Suffrutescent form of *H. annuus*. 

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Figure 11: photo by Aleksi Baznekian. Suffrutescent form of *H. annuus*.

Figure 12: photo by Aleksi Baznekian. Suffrutescent form of *H. annuus*. 

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Figure 13: photo by Aleksi Baznekian. Suffrutescent form of *H. annuus*.

Figure 14: photo by Aleksi Baznekian. Herbaceous form of *H. annuus*. 
It is my understanding that *H. annuus* does not form wood, and it is an annual herb, as its specific epithet, prescribed by Carl Linné, suggests. According to Dr. David J. Keil (2012), a new species of *Helianthus*, with sub-shrub characteristics, and appearing like *H. annuus*, may be present in central California. It is possible that the woody individual I observed belongs to this species, and its range extends farther south. If this is the case, then the available Latin name, *Helianthus suffrutescens*, will properly represent this species. This individual may also be a new woody variety of *H. annuus*.

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**References**


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