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Hort 5051

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## ***Carpenteria californica***

### **Taxonomy:**

*Carpenteria californica*, Tree (or bush) Anemone, is a perennial, evergreen shrub endemic to central California. Falling into the Hydrangeaceae family, it is the only plant with the *Carpenteria* genus.

### **Geographic Distribution:**

*Carpenteria californica* is endemic to Fresno California. It is naturally occurring in only 7 areas ranging in altitudes between 1,115-4400ft<sup>1</sup>. It is used more in cultivation than it is found in the wild. It is found growing in loamy, well-drained soil. It has also been observed to thrive next to rivers/streams.

### **Native Habitat:**

*Carpenteria californica* grows in a Chaparral environment, meaning it grows in a desert landscape alongside bushes and desert trees. *Carpenteria* flowers in the early summer in the months of June and July making it a long-day plant. It is not known if it is a facultative or obligate long-day plant. It is said to be cold tolerant down to 10-23 degrees Fahrenheit and experiences temperatures in the range of 62-

98 degrees Fahrenheit in the summer<sup>2</sup>. *Carpenteria* is also wildfire adapted, meaning seeds can survive the common California wildfires during the dry season. The plant is also drought and flood tolerant<sup>2</sup>.

### **Taxonomic Description:**

*Carpenteria californica* is an evergreen species that, on average, will grow to become 6'x3' in gardens, but can reach heights of up to 12 feet in the wild<sup>2</sup>.

*Carpenteria* sports all white flowers ranging in size from 3-7cm in diameter. Leaves are lanceolate, arranged in an opposite orientation, are bicolor (dark green on top and lighter on the bottom), and range in size from 4-10cm long by 1-2.5cm in width. Seeds are produced in vast number in a capsule about 1.5cm in diameter<sup>1</sup>.

### **Name and Description of Varieties/Cultivars on the Market:**

There aren't many different cultivars on the market for *Carpenteria californica* on the market today. The most notable cultivar is called 'Bodnant,' known for its cold hardiness of being able to endure temperatures as low as 23°F (other sources claim cold hardiness of ~10°F has been reported<sup>2</sup>).

### **Propagation Methods**

#### **From Seed:**

*Carpenteria californica* can be propagated from both seed and semi-hardwood cuttings. It is said the plant is easily propagated from seed, although there is no specific information to be found on how to propagate effectively.

I chose to propagate the seeds in an LC8 Sunshine Soilless Mix on week 9. The seed packet I received had very few clearly visible seeds; the seeds were about

the size of a pinhead making impossible to separate/differentiate from other bits of organic matter found with the seeds; I am not sure of how many seeds I had. The seeds were spread evenly over the top of the soil in a 288-plug tray, which was divided into two sections. One half of the tray was covered lightly with vermiculite and the other was left uncovered. Seedlings were not seen until week 15. The side covered with vermiculite had 3 germinations while the uncovered side had 45 germinations, leading me to believe these seeds are best left uncovered when sowing (which would make sense due to their very small size. Only 4 of the seedlings have reached a size about just less than that of a dime, the other seedlings remained very small (as of week 17). Seedlings remained too small to transplant.

**Product Specifications:**

Displaying numerous white, mid-size flowers, and radiating a pleasant scent, *Carpenteria californica* makes a perfect garden shrub when placed a few feet from a lawn. The plant's resilience to cold, heat, and drought make it an easily maintained feature in just about any garden.

**Market Niche:**

Fans of bushy shrubs displaying numerous white flowers would be potential buyers of this species. People who want a nice looking shrub but don't want to/can't handle constant watering would enjoy the drought/flood tolerant and low maintenance aspects of this plant. This plant would do well up against a wall and can be trimmed into a hedge<sup>3</sup>. Limiting factors for marketability include the limited color potential (only white), and the plant's capacity to withstand cold. This plant would be better suited for drier, warmer climates.

**Anticipated Cultural Requirements:**

Being native to California, this plant typically doesn't experience very cold winters. It would be best planted in zone 8b or higher. This plant is able to survive temperatures up to about 100°F making it very heat tolerant. It has also been observed to survive seasonal flooding and drought<sup>2</sup>. *Carpenteria* prefers fertile, loamy, well-drained soils. The efficacy of PGR's is unknown for this plant to the best of my knowledge. *Carpenteria* has been seen to attract the brown scale insect and leaf spots may also occur<sup>3</sup>.

**Production Schedule:**

Seeds are to be sown thinly on top of well-drained, sandy soil. Transplant when seedlings are about 2 inches tall, transplant to soil with similar drainage capacity but with more. After 2 years in a nursery, they can be planted in the ground. The plant should flower on its third year. Not much information exists about the specifics of the best way to produce this plant.

**Needs for Genetic Improvement:**

Breeding for plants with a variety of colors would make the plant more appealing to more buyers. Also, breeding for further cold tolerance would make the plant marketable in the north; *Carpenteria* is cold tolerant down to ~15°F which deems it unsuitable for Minnesotan temperatures.

Works Cited

- <sup>1</sup>"Carpenteria." *Wikipedia*. Wikimedia Foundation, 21 Apr. 2014. Web. 26 Apr. 2014.  
<http://en.wikipedia.org/wiki/Carpenteria>
- <sup>2</sup>"Carpenteria Californica." *Las Pilitas Nursery*. Las Pilitas Nursery, n.d. Web. 21 Apr. 2014. <<http://www.laspilitas.com/nature-of-california/plants/carpenteria-californica>>.
- <sup>3</sup>"Carpenteria Californica." *RHS Plant Selector / RHS Gardening*. The Royal Horticultural Society, 1999. Web. 21 Apr. 2014.  
<<http://apps.rhs.org.uk/plantselector/plant?plantid=332>>.