

## Expanding Tree Diversity in Hawai'i's Landscapes

# Firewheel tree, *Stenocarpus sinuatus*

This slow-growing relative of the proteas is distinguished for its unusual flowers shaped like the spokes of a wagon wheel. In its native rainforest, it maintains a columnar habit and can reach 100 feet in height with a spread of 20 feet, but it is generally shorter in drier environments or poor soils. A young tree's leaves are deeply lobed, whereas a mature tree's foliage is lance-shaped with sinuous margins.

In its native habitat, the flowers are borne late in the wet season, but in Hawai'i, the heaviest flowering occurs in the summer, with scattered bloom the rest of the year.

### Recommended Use in Landscape

- Specimen
- Street tree
- Parks and public open spaces
- Planters
- Interior use while young as a containerized plant

### Distribution

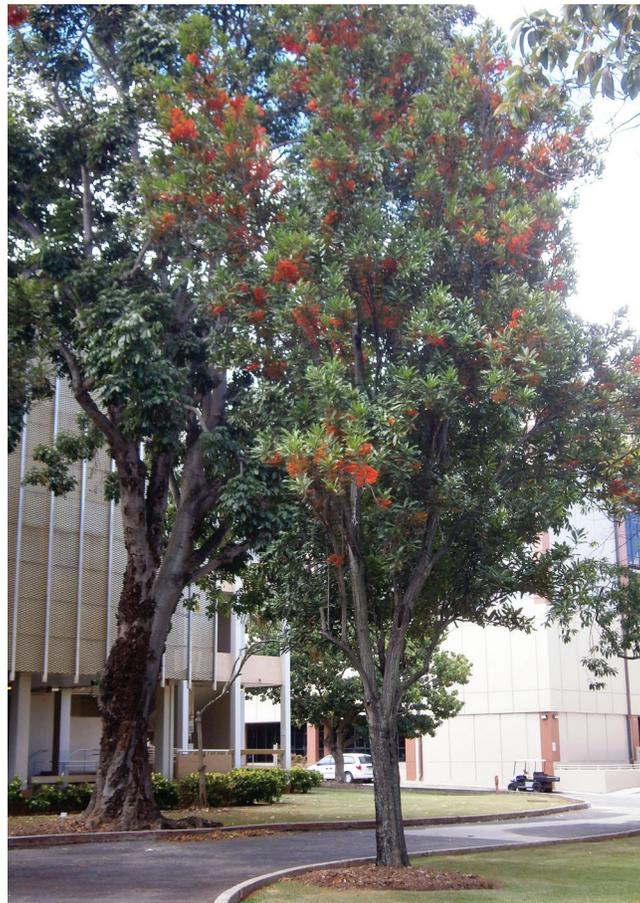
- Coastal Queensland and northern New South Wales (Australia)

### Propagation Techniques

- Seed
- Air layers

### Cultural Requirements and Tolerances

- Deep rich acidic to neutral soil
- Avoid high nitrogen and phosphates



**Figure 1.** *Stenocarpus sinuatus* on the University of Hawai'i at Mānoa campus.

- Full sun
- Considered moderately drought tolerant, but regular watering during the dry season is recommended
- Salt intolerant
- Develops chlorosis on poor soil, high pH

### Flower and Fruit Characteristics

- The 7- to 8-inch flame-red flowers are borne on the trunk, branches, and stems (but not at stem tips) in wheel-like clusters of up to 20 flowers.
- Fruits are boat-shaped follicles about 3 to 4 inches long and shed winged seeds.

### Leaf Characteristics

- Dark olive green, leathery
- Juvenile leaves are deeply pinnately lobed, nearly like those of breadfruit, only smaller.

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- Mature foliage are lance-shaped to obovate, with sinuous margins.

### Advantages of Use in Landscapes

- Slow growing
- Young plants are shade-tolerant
- Narrow, upright habit
- Deep-rooted, non-aggressive root system
- HPWRA: -4 (Low risk of invasiveness)

### Disadvantages of Use in Landscapes

- Intolerant to herbicides
- Intolerant of coastal exposure
- Flowers said to have unpleasant odor at night, which attracts pollinators.
- Tends to develop narrow branch attachment angles so judicious pruning and training might be necessary on young plants.



**Figure 3.** Mature foliage of the firewheel tree.



**Figure 2.** Flowering season in Hawai'i is in the summer months.



**Figure 4.** Flower clusters of the firewheel tree.