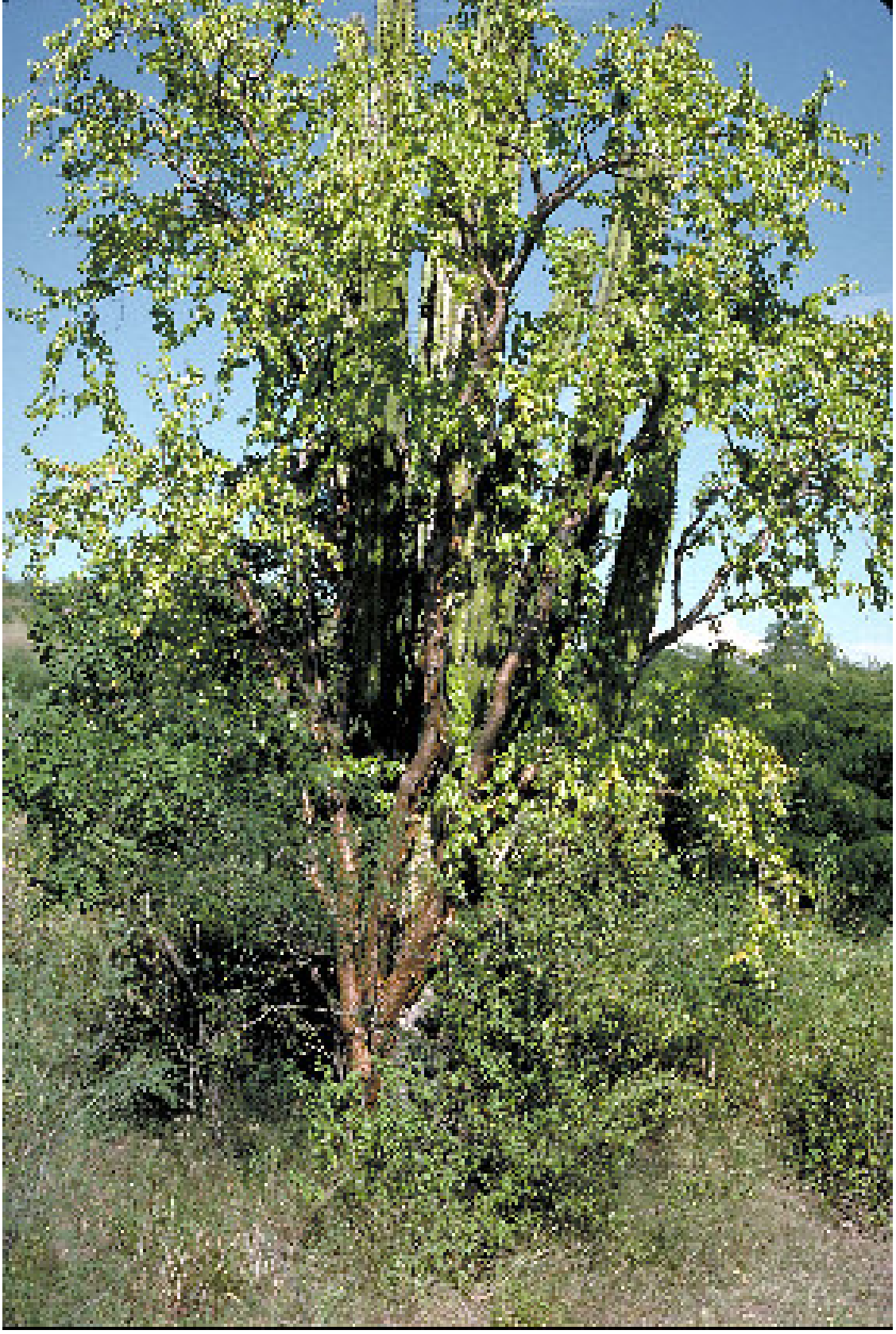
CAMPUS ARBORETUM

Focus on:

Jatropha cordata

"papelio"

Euphorbiaceae



Jatropha cordata photographed in thornshrub west of Alamos, Sonora.
Photo Credit: Mark Dimmitt from: https://www.desertmuseum.org/programs/alamos_trees_jatcor.php

J. cordata is a soft-wooded, somewhat succulent deciduous to semi-evergreen tree or shrub growing as high as 30 feet tall in arid and semi-arid regions of Mexico and the southern United States. It has a well-developed main trunk with a striking, red and gold papery, peeling bark. For this reason, it's earned its common name "papelillo". Leaves are heart-shaped and leaf margins are dotted with glands. From spring through summer, male and female flowers are borne on lateral cymes with many urn-shaped flowers on

each male inflorescence and fewer flowers on pistillate structures. Fruits are <1 inch long, dry, dehiscent, ellipsoid capsules which contain light brown seeds speckled with dark brown spots. Since herbarium specimens of *Jatropha cordata* and *J. cardiophylla* have been often misidentified, watch for these key differences: *J. cordata* has marginal glands on the leaves and a more upright tree-shrub form.

Mexico is the diversity center for this genus with 50 of the 186 known Jatropha species found there and 39 of those being endemic to Mexico! Amazingly, the array of species in this genus are distributed in a wide range of climates with extreme temperatures and variable humidity conditions - a gold-mine for climate adaptation clues!

To learn more, visit this Campus Arboretum Outreach Page.

(Above) Red urn-shaped flowers on the papelio tree.
Photo Credit: José Eugenio Gómez Rodríguezhttps://www.flickr.com/photos/jegomezr/27742826791

(Above/Below)
Photo Credit: Mark Dimmitt https://www.desertmuseum.org/programs/alamos_trees_jatcor.php

Ethnobotanical Uses:
Traditionally, the large papery sheets of bark from the trunk were used to wrap food to preserve freshness, while the papelio root was used by ethnic groups in the state of Sonora to treat toothache and the stem and leaves are used to treat sore gums, bruises, and as a bath soak. These traditional uses spurred a greater number of phytochemical studies of the genus Jatropha as a potential source of bioactive compounds including phenolic acids, lignans, flavonoids, coumarins, alkaloids, and terpenes. As it turns out, *J. cordata* has the highest antioxidant capacity and the highest concentration of phenolic

compounds of the Mexican Jatropha species analyzed. All of the compounds found in Jatropha cordata have shown antioxidant, cytotoxic, antimicrobial, antifungal, and anti-inflammatory activities. As such this and other Jatropha species appear to be a potential source of both antioxidant compounds and potential biotechnological uses.

Thanks for joining me on my journey to see and understand trees! The health of the planet and our fellow humans depends on respectful and understanding tree selection choices. I hope you're inspired to deepen the connection by visiting campus. and using the interactive arboretum map to find the tree featured in this spotlight for a more immersive education and sensory experience.

Enjoy!

Tanya

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