

If breadfruit had a Library of Alexandria it would be the Breadfruit Institute of the National Tropical Botanical Garden in Hawai‘i and Diane Ragone would be its Zenodotus. For decades, until her retirement in 2022, Ragone, whom one journalist has called “a Jane Goodall of breadfruit,” curated and directed the institute’s main tree collection at Kahanu Garden on the island of Maui, where more than 150 distinct cultivars of breadfruit grow. This is the world’s most diverse collection of living breadfruit trees. The first specimens, collected from around the Pacific and beyond, were planted in 1978 and Ragone’s first major breadfruit research and conservation project resulted in the addition of more than a hundred new cultivars in 1991. To visit this living library, I rented a car at Maui’s Kahului airport and took my family along on a drive down the famous “Road to Hana,” pulling off at the dirt road that leads to the garden’s entrance just before the small, picturesque town that serves as the route’s namesake destination.

When we arrived at the Kahanu Garden and Preserve, a woman at the visitor center radioed Mike Opgenorth, director of the garden and the day-to-day overseer of this priceless collection of breadfruit trees. As we waited in the rapidly alternating rain and sunshine for Mike to arrive, I asked whether many tourists come to see the ‘ulu grove. “Almost nobody,” she told me. “They all come for the *heiau*.” In addition to its breadfruit collection, Kahanu Garden is also home to the magnificent Pi‘ilanihale Heiau, a ceremonial structure built in honor of Pi‘ilani, the sixteenth-century chief who united all of Maui. When Mike arrived, he seemed genuinely pleased that someone had come with more interest in ‘ulu than the *heiau*. We set out for a walk through the grove.

Mike explained to me that the garden serves many roles: a site for both research and recreation, but also a repository of transplanted plants that may be endangered in their native environments. Whether due to development, sea-level rise, or the effects of war, some places in the Pacific with unique local breadfruit cultivars cannot support the trees in the numbers they once did. In these situations, Kahanu Garden serves in a role akin to the Svalbard Global Seed Vault, that heavily fortified Arctic storage site perched on a hill outside of the world’s northernmost town, Longyearbyen, containing seeds from more than a million domesticated plant species. The website of the Crop Trust, one of the organizations responsible for the Seed Vault, calls it “the ultimate insurance policy for the world’s food supply.” Since breadfruit is normally propagated

from air-layers, root shoots, and tissue cultures, its future is insured by continuous cultivation, not through the cold storage of dried seeds far above the Arctic Circle. While this may be more precarious, it maintains a closer relationship between people and trees than could be possible with a sterile seed vault. You could imagine an apocalyptic doomsday scenario in which survivors somehow make their way to Svalbard to procure the material to facilitate the renaissance of world agriculture, only to find that they no longer know what will sprout from the seeds they withdraw from the bank or how to care for plants that will grow. At Kahanu Garden, by contrast, you can see the very trees that are being conserved and, at the right time of year, taste their fruits.

Mike emphasized to me that the mission of Kahanu Garden does not overtly include food production. Still, the garden's trees are productive, and it would be irresponsible—against an *'ulu grower's* *skuleana*—simply to let their fruit fall and rot on the ground. Because of breadfruit's short postharvest shelf life, local distribution is the best way to avoid this wasteful fate. The garden has worked out arrangements to sell fruit to a few local Maui producers, including John Cadman, owner of the Maui Breadfruit Company in Kahului, and producer of Pono Pies. *Pono*, Mike explained to me, means "correct, righteous, or proper."

Leaving Kahanu Garden, my family and I drove back toward Kahului to John Cadman's small industrial kitchen, where Pono Pies are made. Walking in, I saw a surfboard hanging from the ceiling and heard Guns 'n' Roses blaring from a speaker. John met me at the door and, even before I sat down, placed an *'ulu*-based, mango-flavored, single-serving pie in my right hand and a small wooden spoon in my left. The label proclaimed "Guilt free from Maui" and touted the locally sourced ingredients—breadfruit, macadamia nuts, mango, and honey—as well as the compostability of the packaging. John spoke about finding the appropriate scale for his business: big enough to be economically sustainable but small enough that he can still surf each morning before work. He told me about his efforts to source ingredients from both small backyard orchards and large growers like Kahanu Garden. The pie was delicious. I managed to get three more for my wife and children to try, but my mind kept returning to the immense variety of breadfruit growing down the road toward Hana.

Before contact with Europeans, the Hawaiian archipelago had one dominant breadfruit cultivar; it's simply called *'ulu* or sometimes *'ulu maoli*,

meaning “authentic breadfruit.” Botanists refer to this primary Hawaiian cultivar simply as ‘Hawaiian.’ These native Hawaiian ‘*ulu*’ trees are still common today, but in recent decades a few tissue-cultured cultivars including ‘Ma‘afala,’ ‘Otea,’ and ‘Ulufiti’ have been widely distributed. In most cases, if you’re eating ‘*ulu*’ in Hawai‘i, you can be reasonably sure that it’s one of these few main cultivars. Except, that is, when you eat a Pono Pie. Since John sources so much of his ‘*ulu*’ from Kahanu Garden, and since he’ll take the fruit of any cultivar they’ll sell him, when you eat a Pono Pie there’s a chance you might be eating breadfruit of an extremely rare cultivar—rare not just in Hawai‘i but, sometimes, in the world.

Some people are entranced by uncommon and “exotic” foods. As a student at Cambridge, Charles Darwin was a founding member of the Glutton Club, which met regularly to dine on “birds and beasts which were before unknown to the human palate.” Later, during his famous and foundational voyage aboard the *Beagle*—recall that Darwin’s official role was not originally that of a naturalist but as the “messmate” or dining companion to the captain, Robert FitzRoy—he took the opportunity to expand his palate further, consuming such Georgian-era novelties as bananas, tamarinds, and “a profusion of oranges.” After his round-the-world voyage Darwin would remain in England for the rest of his life, occasionally satisfying his “taste for exotic fruit” by sampling some of the tropical produce that his friend, Joseph Dalton Hooker, would send from the greenhouses at Kew Gardens.

With Pono Pies, you can satisfy the desire to eat something rare—a kind of breadfruit that may exist only at Kahanu Garden and, perhaps, on one other Pacific island—without endangering a species or yourself. In other words, you can expand your palate with unusual and remarkable foods in a way that actually is *pono*.